Bundesnetzagentur

Annual Report 2010

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Bundesnetzagentur für Elektrizität, Gas,
Telekommunikation, Post und Eisenbahnen

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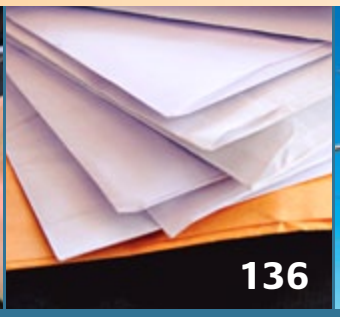

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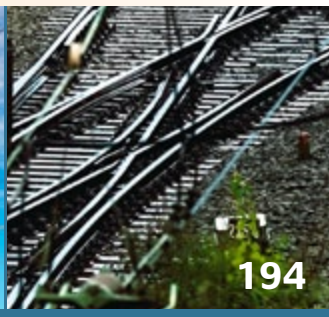

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President's message

Innovation and system change cycles are becoming ever shorter. After the UMTS auction in 2000 it took several years for the first applications of this technology to be used routinely. But after the auction of the digital dividend spectrum in 2010 it took just a few months for us to receive the first applications for site certification for the new LTE mobile systems and for the first sites to become operational.

For regulation, fast response is therefore of the essence. The set of flexible, highly suitable instruments that the Bundesnetzagentur has to hand makes this easier.

And the Internet, in particular, sets a fast pace. It has locked broadband potential and data transfer requirements into a fascinating contest, giving the Bundesnetzagentur the opportunity to test once more the suitability of its instruments. In the recent award of spectrum certain conditions were stipulated, for instance, to noticeably improve coverage for those in hitherto underserved areas, so-called white spots. Use of some of the spectrum required deployment of the wireless networks in these white spots first. That the companies are doing so swiftly is no secret to the Bundesnetzagentur, as the recipient of progress reports. There are some concerns, however, that wireless access will not be sufficient to cover all the white spots, but we shall first have to await developments. In centres of population, wireless networks alone cannot secure broadband coverage, as all too often too many users are active in the same radio cell. This problem, of course, does not exist in the sparsely populated areas.

With regard to the fixed network, too, the Bundesnetzagentur has continued to improve the framework conditions with balanced measures. Only recently, Telekom Deutschland GmbH declared its intention of offering its competitors an attractive wholesale product for access to its fibre loops from the very beginning. And for the local electricity distribution system operators we have clarified the matter of the eligibility of the costs and revenues in self-built fibre networks for inclusion in regulation of the network charges.

In particular, competition between the different telecommunications networks has been a great accelerating factor. The upshot is that those not investing in powerful networks could find themselves soon falling behind. It is highly debatable whether we would experience this pace, absent competition.

The Bundesnetzagentur is also active in other regulated sectors to help achieve the aims of the federal government. For some years now, restructured energy supply has been on the political agenda. Fossil fuels are to be increasingly replaced by energy from renewable sources. A large number of questions will have to be resolved and details clarified before the aims can be achieved. Here, too, the Bundesnetzagentur's cross-sectoral expertise and decision-taking competence is proving highly valuable.

2010 was a significant year in this respect, for several reasons, with the federal government's energy concept having additionally speeded developments.

The end of the year saw the launch of the market coupling project with France, the Benelux countries and Scandanavia. This project links up the markets in highly efficient manner, giving real shape to the European internal market. 2010 was the first year in which renewable energy was sold on the exchange, giving rise to noticeable changes in the electricity wholesale markets. The Bundesnetzagentur has set and revised the rules in light of current developments. 2010 was also the year that witnessed unforeseeable

growth in the number of photovoltaic systems, with the first appreciable volumes of electricity from this source being generated. It showed, however, that the tools for forecasting PV electricity generation left much to be desired – a situation which is to be remedied by a regulatory initiative.

The first offshore windfarms also went live in 2010, bringing entirely new challenges for all concerned. One of these was the huge level of investment needed. But the regulatory framework proved sufficiently robust, despite all the discussions, a fact that is reflected in the large number of further applications for windpower projects.

The dena Grid Study II again underlined the need for prompt and comprehensive expansion. New routes for high voltage lines will have to be found on a large scale – this will be an issue first and foremost for the coming years, not just one that featured in the year under review.

Finding new routes will involve concentrating the complex planning and approval procedures, making full use of synergies and achieving a similar degree of acceptance among the population for grid expansion as for restructured energy supply. Vital to such expansion will therefore be a flexible and diverse set of regulatory instruments.

A tool that we have used extensively in the energy markets for some years now is monitoring, of which we have a great deal of experience and for which we have just set up automated data channels. Thanks to the insights our monitoring activities have given us we have been able to establish that the frequently found electricity price increases of an average of seven percent do not mirror the trend in wholesale prices. Wholesale price levels have fallen strongly – and simply focusing discussions on the increase in the renewables surcharge does not reflect the complex changes properly. Particularly those still with their expensive 'default' supplier should think about switching.

We have also enjoyed a good measure of success in an entirely different area. Persistence and diligence, two essential tools, have enabled us to work our way through thousands of consumer complaints about number misuse and telephone spam. In many cases we have issued orders for numbers to be disconnected, we have prevented victims from being billed and we have imposed fines. By the end of 2010 our efforts on the consumers' behalf had paid off most satisfactorily, we are happy to say: the number of complaints

has fallen considerably, encouraging us to pursue this path so that the downward trend will continue in 2011.

On balance, our experience in 2010 has shown that flexible and appropriate regulatory action can progress competition, protect the consumer and also contribute to the attainment of political objectives.

Matthias Kurth
President

New networks secure future prospects

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ACCEPTANCE AND SYNERGY

Modern societies are distinguished by a high and continually increasing degree of differentiation. Increasingly complex and specific solutions are being developed to deal with every conceivable problem of day-to-day life. The Bundesnetzagentur unites under its umbrella responsibility for a small section of this diversity: it is responsible for regulating the telecommunications, postal, railways and electricity and gas sectors. Particularly the first and last of the above-mentioned sectors are in the throes of fundamental rebuilding.

REBUILDING IN THE TELECOMMUNICATIONS MARKET

In the last few years, the Internet has become an indispensable part of professional and private life. In today's world, maintaining social contacts, conducting business, tracking parcel shipments, implementing educational programmes, making use of directory inquiries, timetables and much more besides is hardly conceivable without this tool. This development is not without consequences: both in the fixed network and in the mobile communications sector, consumers and companies expect more and more bandwidth. However, the urgently needed network expansion requires significant investment. The Bundesnetzagentur is doing everything it can to ensure that the regulatory framework facilitates this investment in a competitive environment.

The Bundesnetzagentur, together with prominent representatives of the telecommunications industry, has set up the NGA Forum. Joint efforts are being made to find joint solutions to the challenges of the future – initially without the need for a regulatory decision.

Since it was established in the spring of 2010, the NGA Forum has been dealing particularly with issues relating to open access, joint ventures and co-investment, technical and operational aspects of access to fibre-optic and other NGA networks (interoperability) as well as the joint use of infrastructure (e.g. in-house cabling). The aspect of "broadband and rural areas" has also been a key theme of the forum.

Work on these themes will continue in a constructive and solution-focused manner in 2011 with the aim of clarifying the extent to which solution approaches to improving broadband provision are viewed equally by all. In terms of the other work being performed, with regard to the issue of open access, it needs to be explored, in particular, to what extent the positions, which in some cases are still heterogeneous, can be brought into closer alignment. In this context, it needs to be considered that there is little or no point in expanding a fibre-optic infrastructure in parallel. Conditions therefore need to be formulated to facilitate shared use of existing or still-to-be-built networks.

With regard to the theme of "interoperability", it seems realistic to propose technical interface definitions or specifications for selected wholesale products. In addition, descriptions of standard processes for key operations and proposals for standard agreements or standardised interfaces are to be presented. The results of the NGA Forum, particularly in these areas, are also intended to provide a relevant contribution to the next IT summit.

Many citizens are already benefiting from the competition between different infrastructures with triple broadband connectivity – telephone cable, television cable and powerful mobile communications. However, there are still regions in Germany which have inadequate broadband connectivity, the so-called white spots. Closing up these white spots is also one of the goals of the Federal Government's broadband initiative. The Bundesnetzagentur has undertaken efforts at many levels to bring this goal closer to fruition as quickly as possible. The infrastructure atlas is providing a good service to investing companies. Shared use of existing infrastructure means companies save costs, citizens are not faced with construction sites and no damage is done to the environment.

With the infrastructure atlas, the Bundesnetzagentur is creating an effective planning tool for broadband expansion and is facilitating joint ventures for the joint installation and use of the infrastructure. This reduces the cost of broadband expansion, which makes expansion more economical, even in more sparsely populated regions. The amendment to the Telecommunications Act is to give the Bundesnetzagentur the possibility to oblige companies to provide data for the infrastructure atlas. This will give the Bundesnetzagentur the necessary resources to further develop the infrastructure atlas into a complete and hence more reliable and considerably more effective tool for broadband expansion.

Currently, companies and regional and local authorities that wish to invest in the expansion of broadband networks are faced with the difficulty that there is a lack of adequate transparency regarding existing infrastructure. This is causing a lack of planning certainty and hence delays in improving the provision of efficient broadband connections to the public. At the same time, there is sometimes a mistrust of providers, particularly in municipalities that are less well catered for, because all kinds of reasons are being cited as to why no expansion is taking place.

The infrastructure atlas provides the necessary transparency in this area and enables all of the parties involved in broadband expansion to make a realistic assessment of the expansion options and costs jointly based on the infrastructure that actually exists. In order to implement this in a practical, modern and unbureaucratic process, the Bundesnetzagentur has commissioned the creation of an online version, which is intended to enable regional and local authorities and companies to access the relevant data directly via the Internet from the end of 2011 onwards. To this end, a geodata infrastructure is being developed that is state-of-the-art and creates extensive data analysis options which assist with planning. In addition, it will be possible, using Web Map Services (WMS), to link the infrastructure atlas to the Federal Ministry of Economics and Technology's broadband atlas and to relevant geo information systems run by the Federal Länder which, for example, display current construction projects or development areas. This enables further analyses to be conducted, making the infrastructure atlas a key tool for broadband expansion.

A particularly important point in this context is that a condition imposed on companies as part of the so-called digital dividend frequency auction in spring 2010 was that they must first use these frequencies to close up the

white spots in Internet provision in rural areas. At least 90 percent of the population in underserved regions are to have broadband Internet before more densely populated regions are penetrated. Companies that acquired 800 MHz frequencies at auction have begun, more quickly than initially expected and much more quickly than after the UMTS licence auction in 2000, to expand their networks and close up the first white spots. The Bundesnetzagentur has received, and is continuing to receive, applications for approval of the technical radio parameters for thousands of antennas, which it is processing at full speed – an automated electronic application procedure was set up specifically in anticipation of this flood of applications.

As the new antennas are, in many cases, being erected at old sites, the expansion is proceeding particularly rapidly and – contrary to the initial development of mobile networks – generally without any major protests from citizens; however, new antenna sites are still the subject of discussion at local level today. Our society is characterised by the fact that groups will form in support of or in opposition to anything and will actively represent their interests. This facilitates the discussion process because there are dialogue partners to help reach appropriate compromises. Mobile network operators need to strike a balance between citizens' and companies' interest in the provision of effective mobile communications and some citizens' fears regarding electromagnetic pollution and unspoilt views. This has always been successful in the past and it will also be achieved during the upcoming network expansion. Reaching agreement will be made easier by the fact that the majority of the opponents of a specific antenna site are at the same time mobile phone users which means that they basically approve of expansion.

Comprehensive and complete transparency regarding the sites of mobile communications transmitters and the electromagnetic pollution emanating from them, which the Bundesnetzagentur ensures via its online database, is helping to put the debate on a more objective level. The fact that the database has been accessed almost 18 million times to date shows that citizens have had an opportunity to make sure that all of the statutory threshold values are being complied with and that values are significantly below the latter almost everywhere. In the summer of 2010, the Bundesnetzagentur was able to post an updated version of this database on the Internet.

REORGANISATION IN THE ELECTRICITY MARKET

Particularly since the oil crises of the 1970s and the debates about nuclear power in the 1980s, the supply of energy has also been the focus of political debate. In the summer of 2010, the Federal Government presented its energy strategy which continues to consider the expansion of renewable energy sources as being a key task of energy policy and hence also of energy regulation.

In the area of energy regulation, numerous issues that are of major importance to the success of energy policy need to be clarified. The Bundesnetzagentur is adhering to its responsibility by initiating a large number of activities, a few examples of which will be mentioned here.

On 1 January 2010, an implementing ordinance on the Equalisation Mechanism Ordinance set suitable rules for the marketing of renewables on the stock exchange so that the right market signals can be conveyed; at the end of 2010, the rules were fine-tuned based on the insights gained.

In order to enable the feed-in priority of renewables to be implemented in an appropriate manner, in October 2010, the Bundesnetzagentur consulted a guide on EEG (Renewable Energy Sources Act) (Erneuerbare-Energien-Gesetz) feed-in management which contains clear rules for the order in which conventional power stations are to be decommissioned. However, the renewable energy sources themselves also need to become increasingly flexible because very soon a stage will be reached where in certain areas more renewable energies will be fed in than are used by all consumers together. In this sector, too, market or price signals are to reward correct energy management behaviour by plant operators and punish wrong behaviour.

A relevant judgement handed down by the Federal Court of Justice in November 2010 clarified that the Energy Industry Act (Energiewirtschaftsgesetz) (EnWG) has replaced rates regulation for traction current lines under the General Railway Act (Allgemeines Eisenbahngesetz) (AEG). This means traction current regulation is subject to the rates regulation regime under energy law. The consequence of this is that the economic and technical integration of traction current lines can now also play a role in the energy policy debate over expansion prospects for the electricity transmission grid. It will need to be examined to what extent synergies can be leveraged in this area.

In this environment, the electricity market as a whole needs to be further developed. An example is the nationwide grid control cooperation which was introduced by the Bundesnetzagentur in May 2010 and the determination procedure for the procurement of system balancing energy which was introduced in July 2010. Both measures significantly reduce the cost of system balancing energy. In addition, the Bundesnetzagentur is also successfully advocating the international integration of electricity markets. This includes, for example, the market-coupling of Scandinavia via Germany and the Benelux countries with France, which was introduced in November 2010.

Expansion of the grids requires major effort on the part of companies involved. Whether it be the connection of offshore wind farms or the refurbishment of electricity infrastructures in Germany and Europe: everywhere, investments on a gigantic scale are required – relative to company size – calling for a great deal of farsightedness on the part of companies and the regulatory authorities in order to minimise the environmental impact while maximising the efficiency of the investments at the same time. DENA Network Study II comes to the conclusion that a further 3,600 km of new extra high voltage lines need to be built in the German electricity grid. Investment budgets totalling several billion euros have already been approved in the transmission grids. The TSOs' brisk investment activity shows that the regulatory framework conditions are appropriate. The expansion of wind power and photovoltaic systems is also creating a significant need for rebuilding in many electricity

distribution systems. The Bundesnetzagentur is collaborating intensively to help maintain or create a favourable and predictable environment for these investments and, at the same time, to ensure that network costs do not rise unreasonably for consumers and industry. In May 2010, new rules for calculating so-called expansion factors were established for distribution systems in order to enable the expansion of wind power and solar power systems to be accompanied by relevant network expansion.

Local interest groups are frequently opposed to the expansion of energy supply. Quite often it is citizens who are worried about the preservation of our natural resources who sharply criticise the actual locations of high-voltage pylons although they specifically support the reorganisation of energy supply. The Bundesnetzagentur has participated in these debates at town hall meetings, at hearings conducted by Regional Parliaments and in many other places. It is firmly in favour of continuing to improve community participation processes so that communication can be conducted in a timely and successful manner. At the same time, it supports the objective of standardising and simplifying approval procedures to enable the period between the start of planning and commissioning to be significantly reduced.

The Bundesnetzagentur's responsibility for the European Network Development Plan creates new tasks for it with regard to the official supervision of expansion plans, which it will perform with prudence and vision, thereby playing its part in helping to achieve the Federal Government's energy policy objectives.

AT THE INTERFACE BETWEEN THE ENERGY AND THE TELECOMMUNICATIONS MARKET

The leveraging of cross-sectoral synergies is one of the foremost tasks of a regulator that is responsible for different markets. The electricity market and the telecommunications market are on the point of becoming integrated. Electricity supply grids are no longer able to manage without intelligent control and monitoring systems, intelligent meters are to enable industry and households increasingly to respond independently to electricity offerings. The integration of all kinds of areas of life is now also reaching the energy and telecommunications sectors. When will the first applications arrive that will enable people to control their washing machine while they are travelling, to operate their roller blinds or to sell the electricity stored in electric cars on the stock exchange? Security technology, energy supply and data supply are converging.

In March 2010, the Federal Ministry of Economics and Technology commissioned the Bundesnetzagentur to draw up a "Report on competitive developments and possible avenues of approach in the area of metering and metrology and in the case of variable rates", in which it points out the potentials that it identifies in the area of smart metering and the legal and technical prerequisites that need to be created in order to leverage them. The development will, however, remain incomplete unless we manage to come up with a smart market design: in an intelligent electricity market, every market player possesses the information and intervention options required to be able to take the best possible action both in business terms and in terms of the electricity industry. A key factor in this

regard will be that end consumers are not only familiar with the market prices for electricity via variable electricity rates but are also able to respond to them.

The development of the infrastructure required for this particularly affects the distribution network operators who, at the same time, must also create the technical prerequisites for electromobility and for the local integration of renewables. A completely pragmatic synergy comes into play here: if grid operators lay empty conduits or fibre-optic cables at the same time as they expand and rebuild their grids, the operators themselves or third parties can use and market them both for electricity purposes and for broadband telecommunications services. The Bundesnetzagentur recently clarified that under certain conditions the associated costs and revenues can generally be taken into account in the regulation of electricity grid charges. Individual cases are examined by the Bundesnetzagentur. Future revenue, for instance, generated by marketing free fibre-optic capacity, must of course benefit the grid user who has paid in advance as a cost-reducing factor in the event of marketing success. A grid operator's fibre-optic infrastructures must be marketed in a transparent and non-discriminatory manner based on competitive criteria in accordance with the efficiency specification included in the Energy Industry Act.

Especially in rural areas, it may be a viable, cost-effective option to benefit from the synergy between the transformation of the electricity grid and the expansion of the telecoms network while pressing full steam ahead with the modernisation of both networks at the same time. This fits in seamlessly with the objective of closing up the white spots in broadband provision as quickly as possible.

Consumer protection and advice

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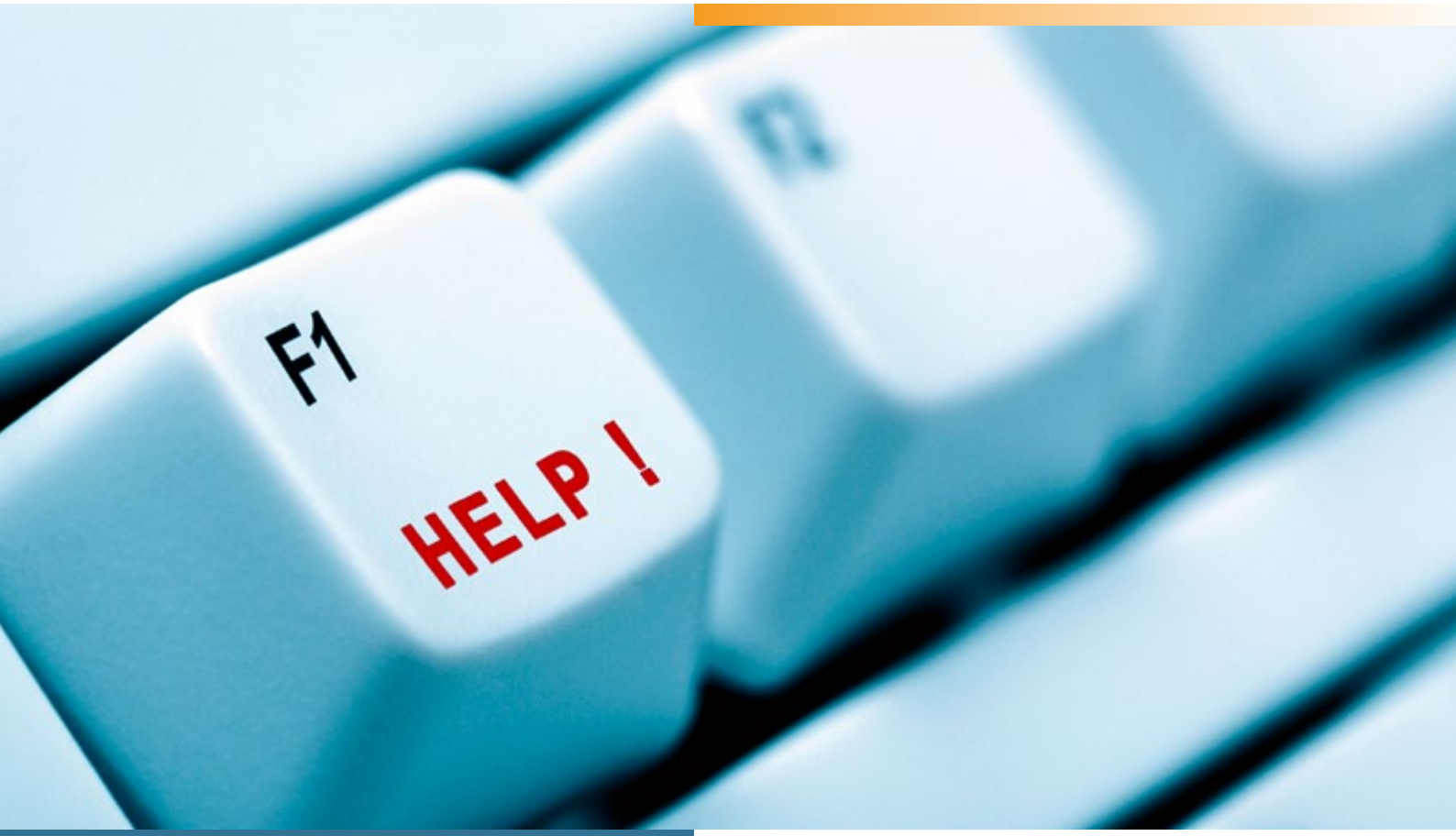
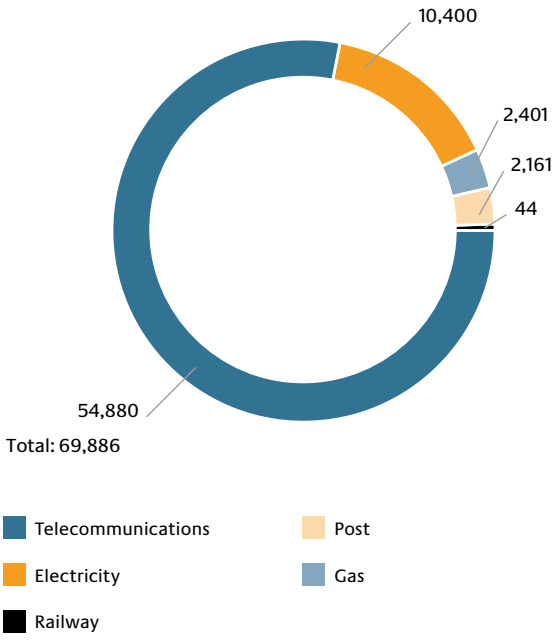


Consumer Advice service

Consumer protection is a central concern of the Bundesnetzagentur. In the year under review the Consumer Advice service again functioned as a primary address for the enquiries and complaints of consumers in connection with telecommunications, energy, postal services and railways.

In 2010 the number of enquiries received by the Bundesnetzagentur's consumer protection service was about 21% up on the previous year. The total was 69,886 and the bulk of them, as in the year before, came in by phone. However, an increasing number of consumers are now approaching the Bundesnetzagentur by email.

Enquiries and complaints broken down by sector

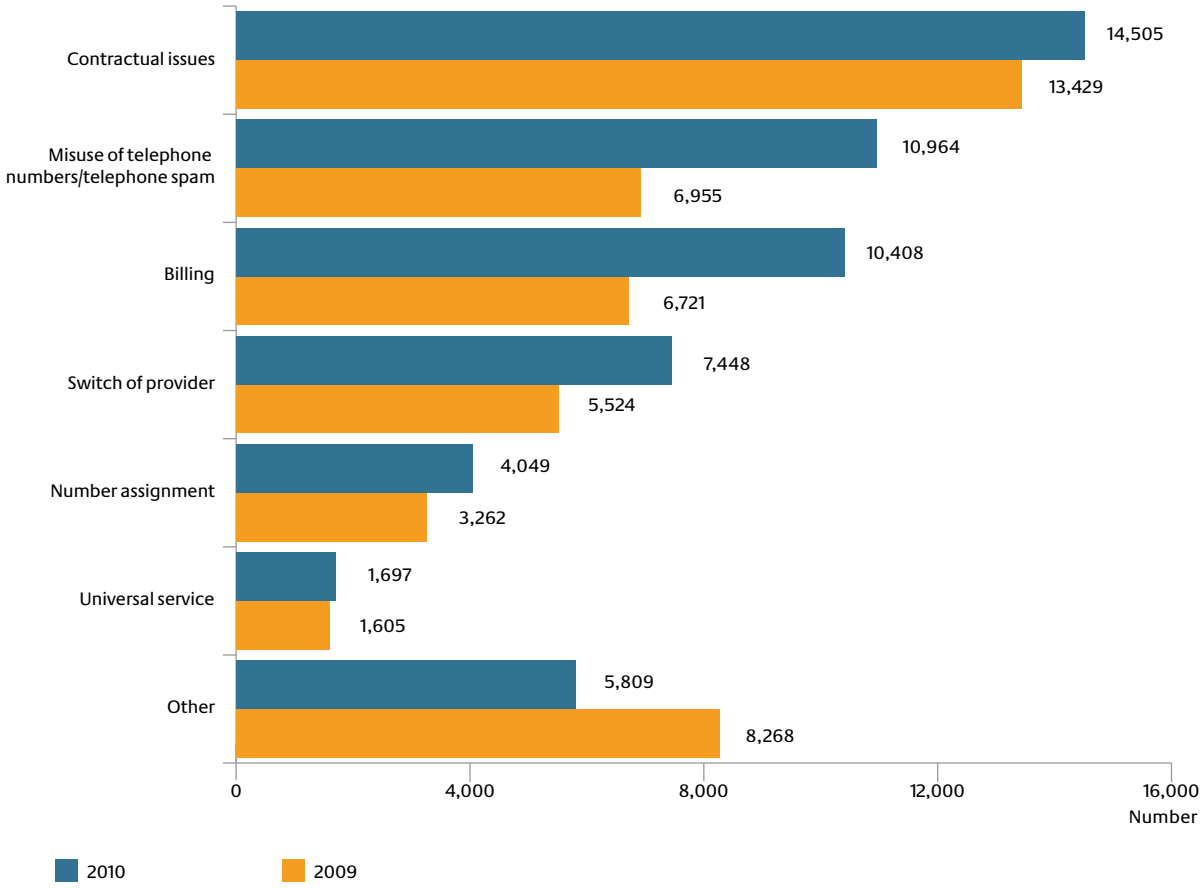


TELECOMMUNICATIONS

Consumers' concerns continued to focus chiefly on telecommunications services. The enquiries and complaints received by the Bundesnetzagentur showed strong growth rates for the areas of billing and switching providers. The number of contractual disputes in which consumers were involved also remained at a very high level, with another increase in the number of cases reported on by consumers.

The Consumer Advice service was also used as the address for complaints about the misuse of telephone numbers and telephone spam. The substantial increase in enquiries and complaints in this area was undoubtedly due, firstly, to the level of media coverage of the Bundesnetzagentur's powers and the measures it can take and, secondly, to consumers' increasing awareness of their rights. For the measures taken against telephone number misuse and telephone spam, see pages 28 ff.

Major subjects of enquiries and complaints in 2009 and 2010



The rise in the number of enquiries and complaints concerned with contractual issues in the review year must basically be put down to the business methods of the telecommunications providers. There were for example persistent complaints about unsatisfactory customer service responses to problems such as faulty connections. There were also many complaints about contract performance and, as a logical consequence, about the existing possibilities for contract termination. Criticism was directed at providers which in many cases did not deliver the transmission speeds they had promised on the basis of DSL connections (the so-called "up to ..." problem). Consumers complained that, against the backdrop of a broad range of products and charges from a very wide variety of providers, they did not get the details they needed on performance and contractual conditions.

As in the year before, most of the complaints about billing disputes came under the heading of civil or contractual law and referred for the most part to the conclusion, alteration or cancellation of contracts. The main reason for the significant increase in complaints about billing problems was the conclusion of contracts for the supply of a service which customers said they had not specifically asked for. The large majority of these so-called subscriber contracts were concluded online. In many cases the customers did not become aware that they had concluded a contract and that the relevant services had to be paid for until they were confronted with the provider's bill. Another issue that billing complaints

were frequently concerned with was the use of - or failure to use - information services.

The sharp increase in the number of enquiries and complaints following a switch of provider was, as in the past, due to the problems connected with retaining a subscriber number. One reason is probably that consumers are increasingly inclined to make a switch. It was striking that the switch is no longer only from the dominant market player to a competitor but also from one of those competitors to another. The difficulties were particularly intractable when customers terminated the contract direct and not via the new provider, and when they tried to switch provider again because of a delay in the implementation of the initial switch.

There was also an increase in the number of enquiries about queues for special rate numbers. In many cases an undertaking's customer service department can be reached only by using costly special rate numbers, such as services ((0)180) or value added service numbers ((0)900). The chief point of criticism here was that customers often had to wait a long time before they made personal contact with customer service. There was also a larger number of complaints about changes at short notice in rates for internet-by-call and call-by-calls. The complaints were sparked off by substantial short-term increases in the rates charged by a few providers at the beginning of 2010.

In addition the Customer Advice service was able to clarify the process by which certain consumers had had their ten-digit numbers withdrawn by the provider. In doing so the providers had followed the disconnection directive of the Bundesnetzagentur in strict sequence. The directive had laid down the use of eleven-digit numbers because of the constant growth of demand for telephone numbers in a number of local networks.

The so-called EU Roaming Regulation was again the subject of consumer enquiries in the year under review. As in the previous year, the questions focused on the regulated EU rates and the regulated prepayment data roaming services. A new area which questions referred to was the cost limitation function for final customer data roaming, which came into effect in 2010.

The future could see some of consumers' concerns getting reinforced support from the provisions of telecommunications law. One of the primary aims of the lawmakers who are currently revising the TKG (Telecommunications Act) is to ensure that at least some of the disputes relating to contract law are made subject to the Bundesnetzagentur's dispute resolution procedures (see page 43 ff). Another is to reduce the obstacles to a switch of providers - and in particular the risk of service interruptions. Revision of the act has been made necessary by the amendment to the EU rules at the end of 2009.

The lawmakers have also realised how important it is for the services offered to be transparent, comprehensible and user-friendly. The wider the variety of offers on the telephone market and the better the performance of the internet connections that are marketed, the more vital it is that consumers have access to transparent information which will enable them to select the right providers and products. This includes details of the relationship between the contractually agreed data signal-

ling rate and the actually realised rate for internet connections. As the institution responsible for applying the new rules, the Bundesnetzagentur's Customer Advice service seeks close interaction with the various market players. The first step towards this goal was a formal dialogue with the relevant specialist agencies on the subject "Consumer protection on the telecommunications market" in Berlin on 10 November 2010. The dialogue was organised with the help of the Verbraucherzentrale Bundesverband (Federation of German Consumer Organisations).

ENERGY

A total of 12,801 enquiries and complaints connected with energy landed on the Consumer Advice desk in 2010, which means an increase of about one quarter compared with the year before.

A large number of these enquiries and complaints focused on irregularities in energy bills and the concomitant disputes over contractual matters. The increase in enquiries and complaints in this area was due to growing competition for energy customers and the resultant growing complexity of the contractual arrangements, which included bonuses for new customers and existing customers, rate and household bonuses, advance payments, special deductions and free kilowatt hours. Consumers grumbled about long delays in the delivery of their annual and final accounts and also about irregularities in the refund of credit balances.

It was against this backdrop that the Bundesnetzagentur welcomed the regulations in the Third EU Package for the Internal Energy Market which were aimed at strengthening consumers' rights and giving consumers more information. It can be expected that when the European directives are transposed into national law there will be legislative adjustments to the requirements related to the prompt issue of energy bills.

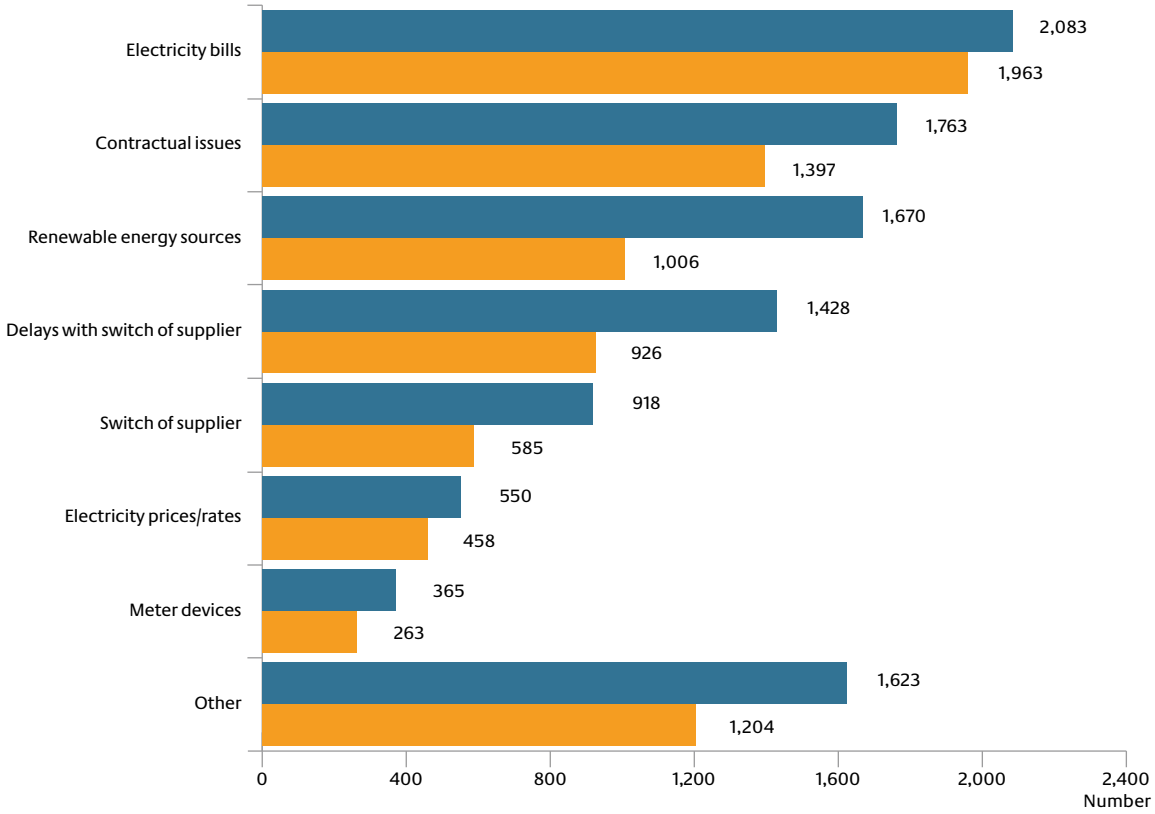
As in the previous year, the growing propensity of consumers to switch suppliers produced a large number of complaints about the time it took to make the switch.

There was a further rise in the number of enquiries about renewable energies. Most of the questions were concerned with connection to decentralised power generating systems and with compensation claims from the EEC. In response to such claims the Consumer Advice service referred in particular to the so-called EEC billing clearinghouse as the responsible authority.

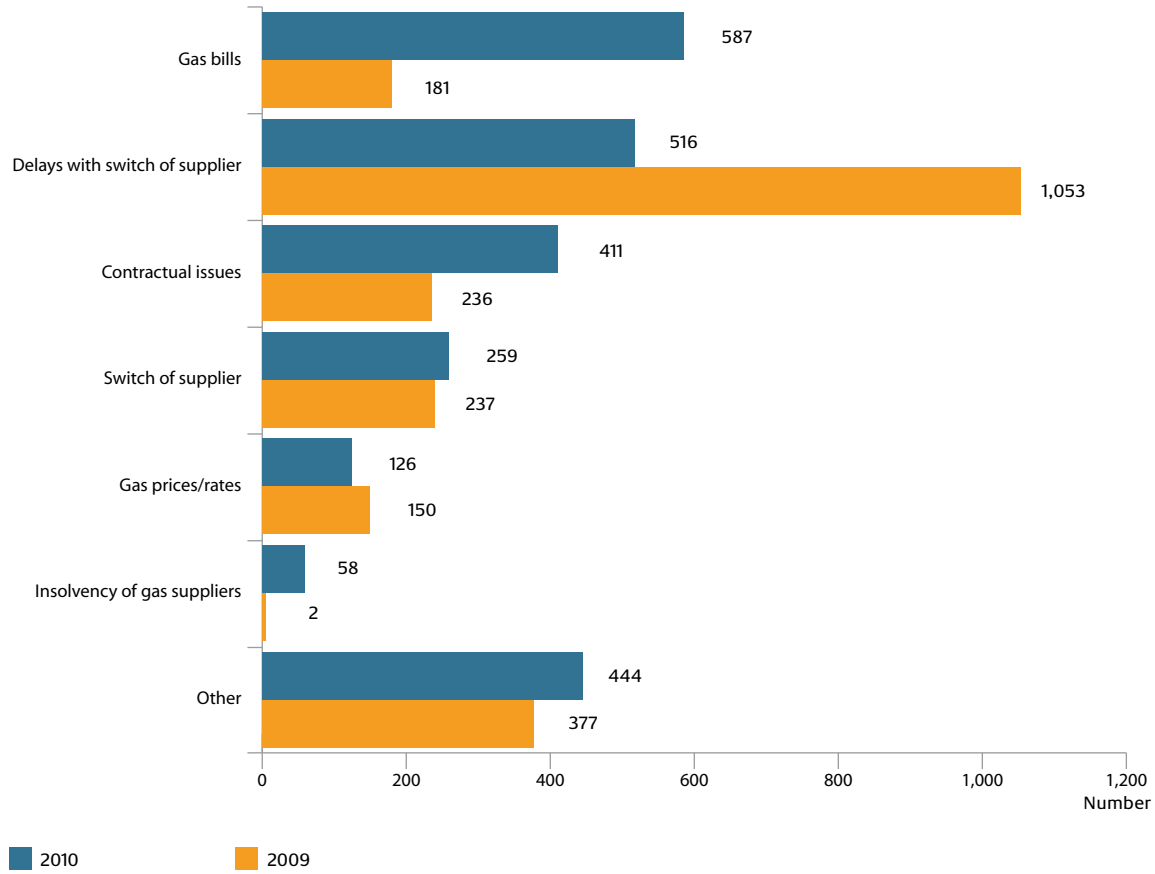
In 2010 the Bundesnetzagentur took further action in support of consumer interests by collaborating in the ERGEG Customer Working Group. The particular consumer interest that the group focused on was the installation of smart meters. Recommendations were also drawn up on the handling and classification of consumer enquiries and complaints. Definitions of indicators were required - and formulated - in view of future duties connected with the monitoring of final consumer markets. Minimum requirements for the contents of a transparent and informative end user bill were worked out in collaboration with the European Commission.

Principal subjects of enquiries and complaints in 2009 and 2010

Electricity



Gas

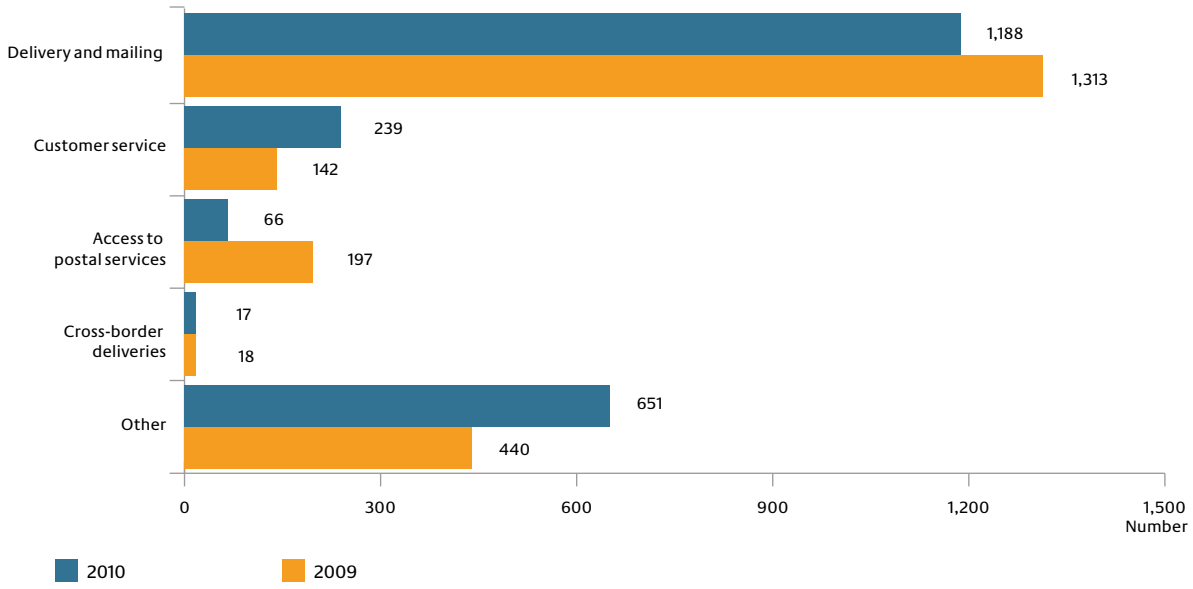


POST

A total of 2,161 complaints were received in 2010 in connection with postal services, most of them being concerned with postal delivery problems. The number of complaints about the poor quality of service for the delivery of registered and insured items, eg mail with advice of delivery, was relatively high - strikingly high in fact - and was substantially up on the previous year.

A large number of the total complaints were directed at Deutsche Post AG (DPAG) as the undertaking with a dominant position on the market. Apart from the problems with registered and insured items, the complaints were about late deliveries, non-delivery, delivery to the wrong address and failure to forward mail as requested. There was criticism of post office closures and conversions, with particular reference to the problems this created for the collection of letters and parcels. In certain areas this means that some people have long distances to travel to get to the nearest collection point. As regards the parcel delivery service, some complaints referred to the illiberal assessment of claims, which gave the impression of a claims settlement policy that is not orientated to customer interests. There was also a conspicuous increase in the number of complaints which criticised the way the DPAG handles deliveries of items accepted by, for example, a neighbour.

Principal subjects of enquiries and complaints 2009 and 2010



RAILWAY

The enquiries and complaints about the railways were chiefly concerned with enforcing passengers' rights and with questions about fare setting by the railway undertakings. Reference was made to the Bundesnetzagentur's responsibilities in connection with regulating the railway companies.

Universal Service

Universal services are those which are generally regarded as indispensable. The universal services defined in the Telecommunications Act (TKG) are currently provided by Deutsche Telekom AG. In the post sector there are a number of market players which deliver the universal services that Deutsche Post AG is, since 2008, no longer obliged by law to provide.

TELECOMMUNICATIONS

In the period under review, 1,697 enquiries and complaints were sent to the Bundesnetzagentur in connection with the provision of basic supplies. Basically the problems mentioned were about connection to the public telephone network and access to telecommunication services. It proved possible to find mutually acceptable solutions to specific problems on the basis of the relevant provisions of statute law.

The fully comprehensive provision of public payphones falls within the scope of universal service as defined in law (section 78 subsection 2 para 4 of the TKG). Deutsche Telekom AG (DTAG), which currently provides this universal service, continued to cut back on on public payphones in 2010. DTAG agreed with the federal association of local-authority umbrella organisations that a total of 11,000 public phones at highly unprofitable locations would be removed, in each case subject to the approval of the local government authority concerned. The local authority always has the alternative of requiring DTAG to provide a public telephone for basic services. See page 72 for information on the total stock of public telephones.

The cuts were carried out on the basis of mutual agreement and did not cause any major problems in the 2010 review period, but the Bundesnetzagentur will continue to keep the matter under close observation. In addition, a start was made at the end of 2010 on formal discussions with DTAG and the above-mentioned federal association on continuing to ensure the comprehensive provision of public payphones.

At the European level the Bundesnetzagentur is represented in the Enduser Working Group set up by the Body of European Regulators of Electronic Communications (BEREC). The job of this working group is to determine how far the solutions proposed by other European regulators can be applied to national problem areas. During the period under review a report was compiled on the detailed forms taken by the universal service regimes in EU member states. An opinion was also submitted on the

consultation of the European Commission on the future shape of the universal service. [1]

POST

Universal postal services are provided by the undertakings operating on the postal market subject to section 87 ff of the Grundgesetz (German Basic Law), which is implemented under the Postal Act. The extent and quality of universal postal services are defined in the Postal Universal Services Ordinance (PUDLV). Universal service in postal terms basically means the delivery of letters, parcels, newspapers and magazines and the operation of stationary facilities (branch offices, agencies and the like) where delivery services for letters and parcel are offered. The PUDLV also stipulates the required degree of service coverage and the frequency of collection from post boxes.

The universal postal service provided in 2010 was, all in all, in conformity with the provisions of statute law. The statistics available to the Bundesnetzagentur on average transit times for letters and parcels in Germany for the year under review show that the quality targets set by statute were again met, as in the past.

The minimum number of stationary facilities prescribed by the PUDLV is 12,000, a figure which was exceeded in the year under review. This was mainly due to the fact that a large number of providers offered their services in their own branches, particularly in the parcel delivery segment.

In 2010 DPAG continued its policy of ending its own operation of stationary facilities and instead having them run by retail operators, so-called agencies. However, customers welcomed this trend, above all because it tended to produce longer opening hours.

As the requirements stipulated by the PUDL are neutral in terms of competition, the crucial point is not who operates a stationary facility but whether the total number of stationary facilities is adequate to consumer needs. In the review year that number was more than sufficient.

[1] On this, see http://berec.europa.eu/.

Text and video relay service for deaf and hearing-impaired persons

In the year under review the Bundesnetzagentur again commissioned Tess GmbH to provide a text and video relay service for deaf and hearing-impaired persons. For the first time Tess GmbH had to compete against the bids of other undertakings following an invitation to tender.

The aim of the text and video relay service is to ensure that the access of deaf and hearing-impaired persons to "spoken" telephoning is of the same standard as that enjoyed by other users, so as to guarantee them unimpeded telephone contact with family members, friends, doctors, authorities, and so on. For this purpose the deaf or hearing-impaired person uses a PC to make a video or a text connection with the sign or written language interpreter provided by the text and video relay service. The interpreter converts the message into spoken language for the person called, and then translates the reply into sign or written language for the benefit of the caller.

Under section 45 subsection 2 para 1 of the Telecommunications Act (TKG), every provider of publicly available telephone services is obliged either to set up its own relay service for deaf and hearing-impaired persons or to commission a third party for the purpose by means of a written agreement under private law. It was once more necessary in the year under review for the Bundesnetzagentur to issue an invitation to tender for the provision of the relay service as a means of ensuring the whole sector would be involved. In the past the novelty of the service suggested it would be better to award the contract to the selected services provider for just one year. However, increasing experience of the service has shown that the need for greater planning and costing security is more important - both for the services provider and for the telecommunications undertakings financing the service. For that reason the Bundesnetzagentur put the service out to public tender for a period of two years (2011 and 2012).

Tess - Sign & Script - Relay Dienste für hörgeschädigte Menschen GmbH was only one of several companies which followed the invitation to tender. The breadth of participation underscores the market's growing interest in the provision of the service. In the event the contract was awarded to Tess GmbH, which

was then commissioned to provide the service until the end of 2012.

The Bundesnetzagentur is required to ascertain the necessary scope and degree which the text and video relay service must provide, and for the first time the needs analysis differentiated between the volume required for private and for professional use. In consequence the financing obligation under which the Bundesnetzagentur places the providers will apply in future solely to private use of the service. Tess GmbH can therefore offer its relay services for use only at the private level at a favourable rate. This differentiation as to the contents of the call - whether private or work-related - was necessary in order to prevent the telecommunications sector coming under twofold financial pressure. The relevant providers, together with other private and public sector employers, already put up the funds needed, in the form of a compensation levy, to enable deaf and hearing-impaired persons to play their full part in working life through the work-related use of the text and video relay service. Furthermore, at the end of 2010 the Bundesnetzagentur took the steps necessary to ensure the financing of the service by the telecommunications undertakings in 2011 as well.

Further information on the relay service can be found on the Bundesnetzagentur's website at www.bundesnetzagentur.de.

Special control of anti-competitive practices

After the Bundesnetzagentur had ordered a large number of phone numbers to be deactivated and had issued prohibitions on billing and collections, there was an enormous decrease in the number of complaints about calls which promised subscribers prizes. The renewed rise in the number of administrative proceedings that were instituted resulted, as from the middle of 2010, in a significant decrease in consumer complaints about phone number misuse.

In 2010 the Bundesnetzagentur received a total of 140,748 written and telephoned enquiries and complaints from consumers requesting action on phone number misuse and cold calls. The number of complaints about phone number misuse showed marginal decline, but remained at a high level. 2010 also saw a decrease in the volume of cold calls over the year. Whereas at the beginning of the year the number of complaints, month by month, was distinctly higher than in the corresponding months of the previous year, a comparison of the total for the second half of the year with that for the first shows an appreciable drop - by 23 percent.

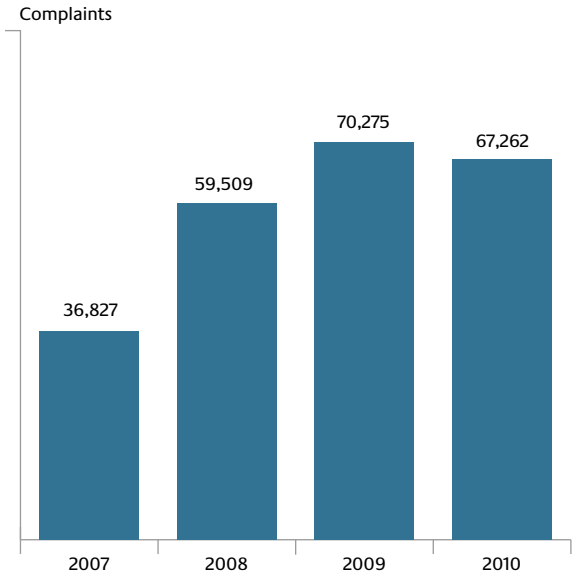
In spite of the general increase in complaint numbers compared with 2009, when the total was 108,141, the massive decline in complaints about pre-recorded phone calls promising prizes and/or profits, as from mid-year, shows that the steps taken by the Bundesnetzagentur did indeed have their effect and in fact put a lasting end to business models based on number misuse. The Bundesnetzagentur is thus continuing, unswervingly, to pursue its policy of rigorously protecting consumers and guaranteeing fair and lawful competition on the telecommunications market.

COMBATING PHONE NUMBER MISUSE

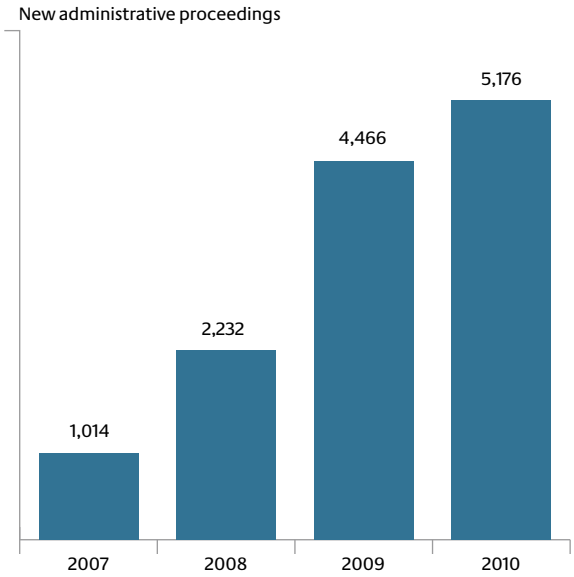
Overview

In 2010 the number of complaints calling for action on number misuse fell slightly for the first time. To be exact, the difference in the number of enquiries and complaints in this area, compared with the previous year, came to 3,013.

Complaint numbers 2007–2010

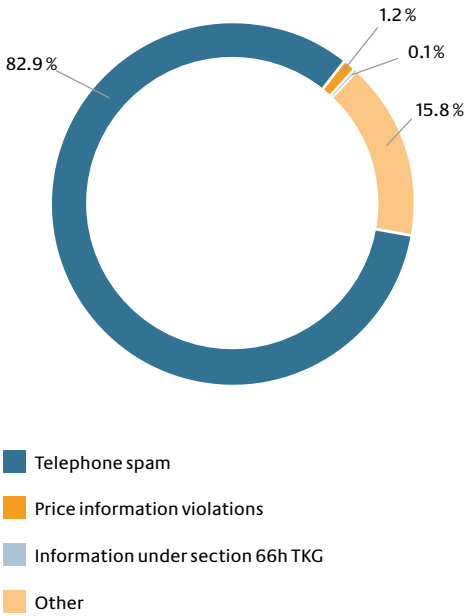


Number of administrative proceedings 2007–2010



The subjects of complaints and enquiries break down as follows:

Complaints and enquiries 2010



Many spam cases also included price information violations, which are here subsumed in the telephone spam category.

In 2010 the Bundesnetzagentur instituted a total of 5,176 new administrative proceedings aimed at combating phone number misuse, an increase of about 16 percent on the year before.

Section 67 of the Telecommunications Act (TKG) furnishes the basis in law for the Bundesnetzagentur to take action when it has certain knowledge of number misuse. What it can do is issue orders and take other measures designed to ensure compliance with statutory provisions and with the conditions it has laid down for the assignment of numbers. The measures include warnings, orders to network operators to deactivate unlawfully used numbers, cancelling unlawfully used numbers and issuing prohibitions on billing and collection.

A ban on specific business models also proved effective in certain misuse scenarios. As a rule the bans issued had the effect of forbidding specific service providers to use a business model which was unlawful in that it constituted a form of advertising in breach of section 7 subsection 2 of the Unfair Competition Act (UWG). Whereas a total of ten such prohibitions were issued against undertakings or private persons in 2009, the number issued by the Bundesnetzagentur in 2010 totalled 17.

The most frequently used measure continues to be the deactivation of numbers, with a total of 620 deactivation orders being issued in the review period. In the case of 299 numbers, all network operators and service providers were prohibited from billing and collecting, as a way of protecting consumers from unjustified demands for payment.

In the case of large-scale competition scams giving numbers for premium rate services, there were several proceedings where the Bundesnetzagentur took an additional step: as well as ordering the deactivation of already used numbers it prohibited the activation of a total of 29 numbers not yet activated or actually shown. These steps were applied simultaneously to all network operators and service providers and were intended to have a preventive effect.

In cases when the measures to combat number misuse were challenged in the courts by the undertakings in question, the administrative courts consistently ruled in favour of the Bundesnetzagentur. In just two summary proceedings, the North Rhine Westphalia Higher Administrative Court ruled in favour of the number holder and overruled the decisions of the Cologne Administrative Court, which meant that the deactivation orders appealed against could, provisionally, not be enforced. The facts of the case were identical in the two proceedings: the Bundesnetzagentur had ordered the deactivation of local network numbers in response to a very small number of complaints about spam sent by fax. The Bundesnetzagentur does not share the higher court's assessment and is considering what further course of action to take in the context of appeal proceedings which have not yet been completed.

Number misuse in the form of incorrect price indications and pricing messages

The number of complaints calling for action by the Bundesnetzagentur on number misuse in this particular area showed little change compared with the previous year. Some of the complaints referred to activities performed with unequivocally criminal intent, such as press advertisements offering mobile phones or fitted kitchens as free gifts, or cars at rock-bottom prices, subject to return calls using costly (0)900 or (0)137 phone numbers, without indication of what such calls cost.

However, the Bundesnetzagentur also received a large number of enquiries about the price indication rules for companies offering their services via return calls using specified phone numbers. Many of the enquiries were about the price indication rules in connection with (0)180 numbers, a matter relevant to the amendments to the TKG which came into effect on 1 March 2010. Since that date the services rendered in this phone number segment are no longer called "shared-cost services" but "medium-rate services". Since that date, too, a price ceiling has been in effect for calls from the landline network (14 ct/min or 20ct/call) and for calls from the mobile radio network (42 ct/min). These changes made it necessary for a large number of statements of (0)180 numbers on websites and television and in visiting cards and print media to be reformulated, and the Bundesnetzagentur provided the relevant advisory services.

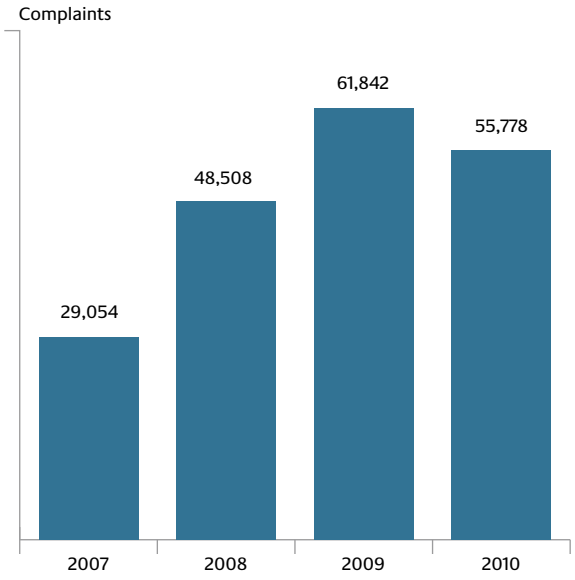
In a number of cases of incorrect statement of (0)180 numbers by undertakings which had not previously made any negative impression, the Bundesnetzagentur issued formal warnings and supplied them with information on their price indication obligations under statute law, bearing in mind the legislative changes which were to be implemented. Depending on particular circumstances, however, orders were also issued to deactivate numbers, and administrative offence proceedings were instituted.

In a large number of cases the investigation of other complaints - particularly those related to number spam - brought to light infringements of the regulations on price indications and pricing messages. In the administrative proceedings that were instituted, the rule was for action to be taken on all infringements, ie breaches of both the Unfair Competition Act (UWG) on grounds of spamming and the Telecommunications Act (TKG). If for example an unsolicited direct marketing text message gave a number with an incorrect price indication or none at all, this was deemed to be a breach of section 66a of the TKG and prosecuted as a breach of the UWG.

Combating number spam

As in the past, the bulk of the number misuse complaints received by the Bundesnetzagentur referred to cases of number spam in the three categories telephone, fax and email spams. 69 percent of the complaints were about telephone spam, many of them including criticism of the lack of price indications for the phone numbers given.

Total complaints about number spam 2007–2010



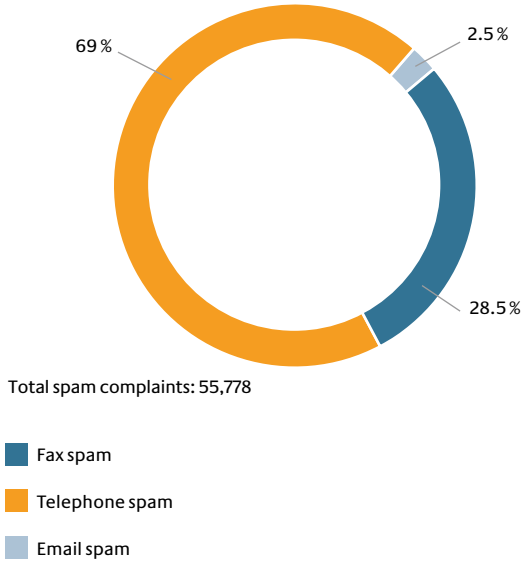
Under the heading of email spam there were complaints from consumers who had launched personal ads or car ads in the internet and then received emails giving value added service numbers, the idea being to provoke a return call on the pretence of genuine interest in making contact.

In recent years there has been a decided change in the area of fax spam. Earlier it was usual for premium rate value added service numbers to be given for the desired return call, but in 2010 the complaints referred almost exclusively to faxes which offered a wide variety of articles, from rubber tree saplings to securities and cars, and the numbers given as the means of making contact were in most cases geographically determined.

The use and display of foreign telephone numbers in advertising faxes is a growing problem. The undertakings engaged in this sort of activity use foreign numbers in an attempt to evade the Bundesnetzagentur's sanctions. The Bundesnetzagentur recorded

an average of 650 complaints per month about the misuse of foreign phone numbers, and there is a definite upwards trend. The action taken by the Bundesnetzagentur was to report the numbers in question to the ITU.

Breakdown of complaints into the various types of number spam 2010



The number of phone number spam complaints fell for the first time in 2010. The Bundesnetzagentur believes that this was due to the speed and rigour with which it took action. In particular, the prompt imposition of prohibitions on billing and collecting by the network operators and service providers which had made illegal use of phone numbers meant that phone number spam became less and less lucrative for such undertakings. Especially in the cases where prizes were promised, the Bundesnetzagentur not only had the numbers that were given deactivated but also issued numerous prohibitions on billing and collection.

On its website the Bundesnetzagentur has published a list of the measures taken against number misuse, giving details both of the billing and collection prohibitions issued and of the deactivated numbers.

Selected proceedings

Promises of prizes with return call to value added service numbers

The early part of 2010 saw massive waves of automatic recorded messages pouring in, promising subscribers prizes. The calls were illegal and the callers fictitious, using names like “Friedrich von Haber”, “Carmen Götz” and “Lara Stern”. The complaints received by the Bundesnetzagentur went into thousands. Subscribers were offered prizes of various kinds, including cars and sums of money. To arrange delivery of the prize, subscribers were asked to dial a premium rate number. These automated calls were made without obtaining the consent of the consumer. And, in breach of the law, the price of the costly (0)900 numbers was not stated.

All told, the Bundesnetzagentur followed up more than 30,000 complaints in cases of this kind within a single year, 2010. A peak was reached in February, with over 13,000 complaints, but by December the monthly rate of complaints about such cases of number misuse had fallen below one hundred.

The numbers in question were deactivated at once, and billing and collection were prohibited, which gave subscribers protection against unlawful billing. The fact that fewer promises of this kind are now being made shows that the steps taken by the Bundesnetzagentur are having the desired effect, putting a lasting end to business models based on number misuse.

The Bundesnetzagentur saw to it that a total of 350 misused numbers were deactivated in the review year in response to just one type of misuse: automatic recorded messages promising prizes as a lure for a return call to an expensive number. The deactivation made it technically impossible for the number to be reached. As a rule this was accompanied by a prohibition on billing and collection, which meant that connections made to the number could neither be billed nor payment collected. The prohibition incidentally also protected consumers who had not contacted the Bundesnetzagentur, and it forbade the network operators in general to bill for calls which had been generated unlawfully. In cases where the calling number used by the undertaking was known, the Bundesnetzagentur acted against that number too, ordering it to be deactivated.

Furthermore, the Bundesnetzagentur took preventive measures against service providers of uncertain reputation, ordering deactivation and prohibiting activation. The effect of the latter measure is to prevent assigned telephone numbers from being technically activated in the public telephone network at any time in the future.

The great waves of automated misuse that occurred on an increasing scale in the first half of 2010 had, for the most part, criminal motives. For the measures taken by the Bundesnetzagentur to counter misuse to have continuing, sustained effect they must be supplemented by systematic and repeated action on the part of the criminal prosecution authorities. All the enquiries that the Bundesnetzagentur gets from the police and the state prosecutors are given comprehensive replies based on the specialist knowledge available here and the facts that have come to our attention. The actions we take, such as deactivation orders, are timed to coincide with those taken by the police under criminal law.

Bait phone calls using (0)137 numbers

During the period under review there was, at times, an increasing number of complaints about so-called "ping" calls using (0)137 numbers. Consumers explained in their complaints that they had received a "ping" call on their mobile phones. The phone rang only once, and a (0)137 number appeared in the caller list. The idea is to induce the consumer to call back on a chargeable number on the assumption that he (or she) has missed a call. When the consumer called back, all that came was a recorded message thanking the caller and saying that the number had been counted. As a rule the mandatory statement of the price was not made.

Ping calls constitute unsolicited marketing calls for which the called party has not, according to information available to the Bundesnetzagentur, given prior consent. The practice is also illegal on two other counts: the absence of a price indication and the unlawful transmission of the (0)137 number to the consumer's caller ID.

Unlawfully offered competition entry services

In February 2011 the Bundesnetzagentur extended the range of its ban on billing and collection in respect of specified demands for payment by telomax GmbH. The prohibition covers the undertaking itself and all affected network operators by means of whose telephone bills telomax GmbH charges consumers, under the product IDs 12001 to 12007, for

competition entry services which are said to be performed by third party firms. The first step is that the entry services are unlawfully offered by telephone, eg under the name "www.gluecksfinder.net". The stated product IDs correspond to to article/service numbers 83918 to 83924 at Telekom Deutschland GmbH. The prohibition has retroactive effect as from 23 December 2010.

Billing and collection were also prohibited, as a preventive measure, for 45 other product IDs or article/service numbers. It can be concluded from the product texts accompanying the product IDs or article/service numbers that they could be used for billing for the charges mentioned. This prohibition is effective as from 11 February 2011.

The Bundesnetzagentur had already, in December 2010, imposed a ban on telomax GmbH and Telekom Deutschland GmbH billing and collecting under article/service numbers 61404 and 83917. Under these numbers telomax GmbH had demanded payment by Telekom Deutschland GmbH's customers, using the latter's telephone bills, of amounts for competition entry services performed by third parties. The services had previously been offered by way of unlawful marketing calls, in which the persons called were first offered the prize of a cosmetics voucher worth 100 euros. They then allegedly concluded a contract, during the call, committing them to use a competition entry service. The entry service cost EUR 9.90 gross or EUR 8.32 net per week.

On the basis of the large number of resulting complaints it was possible to ascertain which were the underlying product IDs. Product IDs 11004 and 12000, which corresponded to the article/service numbers on the bills, had also been used by other network operators to bill for competition entry services. The prohibition issued in January 2011 in respect of the product IDs therefore protected the relevant consumers from demands for payment.

Deactivation of directory enquiry service number 11861

Under section 66b subsection 3 of the TKG the operator of a directory enquiry service is obliged, before a call completion, to state the price the offered call will cost. The statement of price must fulfil the statutory purpose of protecting the consumer and making rates transparent. Under section 66g para 1 of the TKG the end user is under no obligation to pay if no information is given, during the use of the service and before the call completion, on the price charged, as required under section 66b subsection 3 of the TKG.

After consumers had complained and the Bundesnetzagentur had carried out a number of test calls and investigations, directory enquiries number 11861 was ordered deactivated by notice of 20 December 2010. In addition the service operator was ordered, under the same notice, to effect immediate refunds in relation to call connections effected via the directory enquiries number 11861 in the period from 16 April 2010 to the time the number was deactivated. The refunds were to go to all consumers who had already paid fees and whose legal position was based on section 66g para 1 of the TKG: namely the lapse of any claim to payment owing to breach of the obligation to state the price before effecting the call completion. The service operator was also ordered not to collect unpaid bills from

consumers in the situation described above. The notice and public reporting on it are currently the subject of legal proceedings.

Proceedings under the Administrative Offences Act and charges under section 67 subsection 3 of the TKG

19 new administrative fines proceedings were instituted in the period under review in connection with the breach of the obligation to indicate and formally state prices; some of the proceedings are still pending. In seven cases administrative fines were imposed, and six of these rulings are final and absolute. The violations thus penalised focused on the fact that the price indications related to an offer or advertisement of (0)900 phone numbers were absent or insufficient. Administrative action was also taken against some cases of failure by the relevant service operators to give any or an adequate price message, and some of these also concerned (0)137 numbers.

National and international cooperation in the combating of phone number misuse

At the national level detailed questions were put by several parliamentary parties as to the evaluation of existing laws. The waves of misuse described above, identified by the names “Friedrich von Haber”, “Carmen Götz” and “Lara Stern”, triggered a particularly large number of questions. In reply the Bundesnetzagentur was consistently able to refer to the prompt and numerous measures taken and the effect of financial sanctions, which were decisive at least in the medium term.

Apart from intensive exchange with various associations in the telecommunications, advertising and media sectors, there was, again, effective and unbureaucratic cooperation with consumer advice centres in 2010. It continued to be of great value and importance.

In 2010 a large number of questions came at international level about the combating of number misuse. In dealing with them the Bundesnetzagentur explained the system underlying relevant German legislation and its role in implementing it, with a view to supplying other countries with a framework for their own structural and legislative adjustments. It also handled questions of cooperation and cross-border administrative action on number misuse.

Cooperation at the level of international organisations, such as ECC, IARN, CNSA and ITU, was successfully continued. Notes were compared in these bodies on methods of misuse, the international undertakings which operate outside the relevant laws, and effective strategies for combating number misuse. There was also discussion of legislative and law solutions to cases of cross-border number misuse. Finally, subject to the required statutory limits, public authorities and organisations at similar level in other countries were given information on particular administrative proceedings, and they were informed of circumstances which could potentially require them to take action.

COMBATING ILLEGAL TELEPHONE SPAM

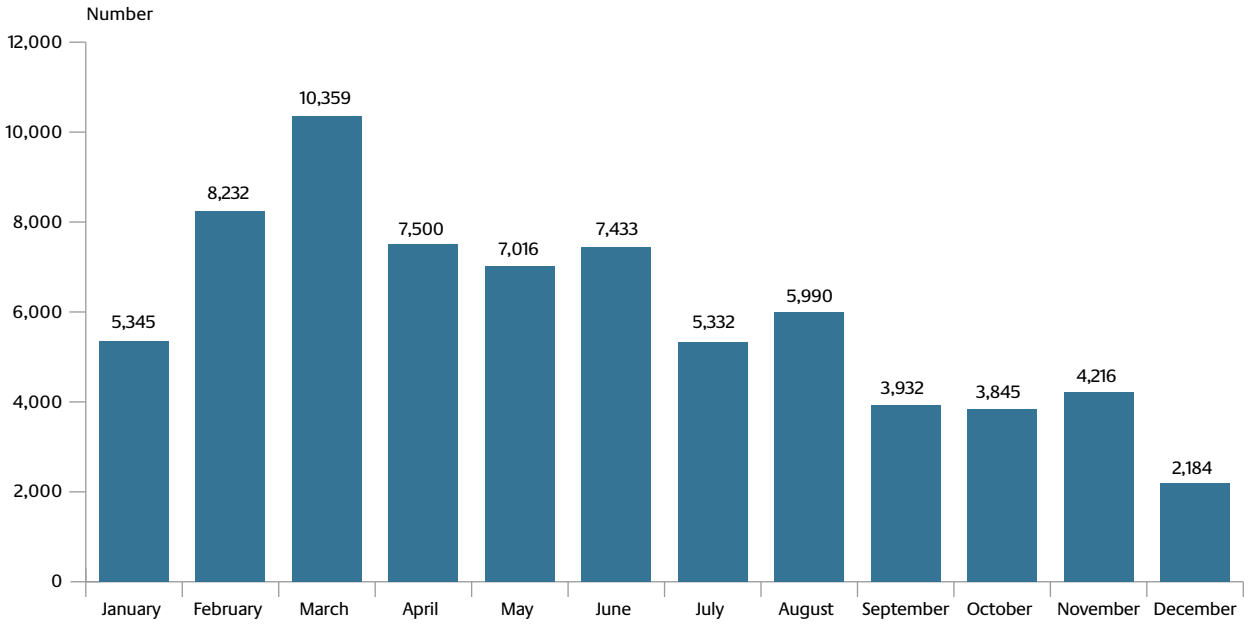
Since 4 August 2009, illegal telephone spam and failure to fulfil the calling line identification presentation requirement for cold calls have been administrative offences. The Bundesnetzagentur responded to the large number of subscriber complaints by instituting numerous preliminary proceedings

directed against illegal telephone spam. After extensive investigations in connection with eight proceedings, fines totalling about 600,000 euros were imposed in 2010.

The volume of complaints reached a peak in March 2010, most of them being concerned with competitions, lotteries and betting. Since September 2010, however, there has been a significant decline. The total received by the Bundesnetzagentur in connection with telephone spam, by phone or in writing, came to 73,270 for the full year. This figure does not include cases of consumers receiving calls in which a recorded message promised a prize. As such illegal misuse of phone numbers is a violation of section 7 subsection 2 para 3 of the UWG (Unfair Competition Act), these complaints enter the statistics as phone number spam. Section 7 subsection 2 para 2 of the UWG classifies as illegal telephone spam - so-called cold calls - only calls made by natural persons and not automated advertising by means of recorded messages which are aimed at inducing return calls to an expensive number.

A large number of the complaints, however, referred to circumstances over which the Bundesnetzagentur has no jurisdiction and to which criminal law may well in some instances be applicable. Complaints were made with particular frequency to the police and the public prosecutors about so-called phishing by phone. The term phishing is used for cases in which sensitive personal data, including bank details, are asked for on some pretext or other, as a rule with the sole purpose of subsequently making illegal use of them, eg to withdraw money from an account. In the majority of cases reported to the Bundesnetzagentur in this connection, the sole matter at issue is phishing, and because there is no offer of a specific product the calls cannot be classified as marketing calls within the meaning of section 7 subsection 2 para 2 of the UWG. Thus the Bundesnetzagentur cannot take action here. Cases of this kind are collected and forwarded in consolidated form to the responsible prosecutors for possible prosecution under criminal law, or alternatively returned to the prosecuting authorities. If these authorities had considered closing or had already closed proceedings, the Bundesnetzagentur in every case advocated a resumption of proceedings and provided information on the amount of the administrative fine under section 20 of the UWG. The Bundesnetzagentur drew particular attention to the existing public interest in a prosecution.

Number of written complaints about illegal telephone spam 2010



In the period under review the Bundesnetzagentur gave active support to the German Ministry of Justice (BMJ) in the evaluation of all types of telephone harassment. The evaluation involves a thorough check on whether the law as it currently stands is fit for purpose, that is, for dealing not only with illegal telephone spam but with all forms of harassment by phone. The evaluation therefore examines the question of the use of dialling programmes by call centres, so-called predictive dialers, stalking, phishing and harassment in the form of automated calls promising prizes (section 7 subsection 2 para 3 of the UWG) and requesting a return call to a (0)900 number. The Bundesnetzagentur has made available all the information at its disposal for the evaluation process and reported in detail on the measures it has taken.

ACTIVITIES OF THE RADIO MONITORING AND INSPECTION SERVICE

The Bundesnetzagentur's radio monitoring and inspection service (PMD) makes an important contribution to consumer protection. It is the primary job of the PMD to ensure both the efficient and interference-free use of the frequency spectrum and electromagnetic compatibility with the environment (EMVU) throughout the country, and to do so it uses not only cutting-edge stationary and mobile measuring technology but also the Bundesnetzagentur's service centres at many locations in Germany. The PMD's complex and comprehensive radio monitoring and inspection activities include eliminating interference, monitoring frequency use, market surveillance, EMVU measurements and the identification but not allocation of frequency use. Some of these duties can only be performed efficiently in the context of international cooperation.

Interference elimination

Dealing with cases of electromagnetic and radio interference (investigating interference) continues to be one of the PMD's core tasks. This activity is particularly concerned with the safety-related radiocommunication services and applications used by the aviation sector, the authorities and organisations concerned with public safety (BOS) and other public bodies. Depending on the needs of particular cases, purpose-built monitoring vehicles and various specially equipped vehicles are used, in addition to stationary measurement and direction-finding stations, in order to identify domestic and foreign sources of interference.

As in previous years the bulk of the processed interference cases related to radio broadcast reception and other transmitters and receivers. However, there were also many cases of interference in safety-related radiocommunication services, well over 700 of them affecting aeronautical radio alone, and the latter cases are always given top priority by the PMD. Only a relatively small proportion concerned electromagnetic incompatibilities in "other" electrical and electronic equipment, eg faulty heating controls.

An increasing number of reports are received from operators of UMTS networks in the conurbations that other frequency use impairs the services of their base stations, preventing them from meeting their network quality parameters. The PMD's investigations revealed that the sources of interference are satellite receiving equipment with insufficient attenuation of interference radiation and cordless telephones (DECT phones) transmitting in the UMTS reception band because of faulty equipment. Those responsible for the sources of interference were required to remove them.

The PMD has a special anti-interference function to fulfil at major events. At certain events the PMD is present for the entire duration and can thus start investigating any interference immediately, while the event is in progress and even before it starts. The fact that the PMD is there on the spot means that the causes of interference are found and dealt with in nearly all cases, which helps to ensure trouble-free radio and TV broadcasts of important events. It is also vitally important that the organisers and security organisations present at such events can communicate without interference.

The Leeheim satellite radio monitoring station (located between Darmstadt and Mainz) gives the PMD the technical facilities to investigate radio interference and monitor the frequencies used by the satellite radio services. This is of direct benefit to consumers who use satellite receiving equipment, GPS navigation systems and (in future) Galileo services. The Leeheim monitoring earth station also performs a number of functions directed at the trouble-free and efficient use of communication and broadcasting satellite systems.

The Leeheim satellite radio monitoring station not only performs the measuring functions required by German law. It can also, up to a point, perform measuring functions for other European administrative bodies. The formal basis for the service, for which a fee is charged, is a memorandum of understanding, to which the relevant bodies in five countries have so

far signed up: France, the UK, the Netherlands, Switzerland and Spain.

Interference to radio broadcasts can be reported to the Bundesnetzagentur by private individuals, companies and institutions on a 24-hour basis. The service number made available by the Bundesnetzagentur, 0180 3 232323, applies all over Germany; fixed network calls cost 9 ct/min and the maximum charge for calls from mobile networks is 42 ct/min). Heavy use was again made of the number in the review period, with several hundred thousand calls.

Market surveillance under the EMVG and FTEG

The Bundesnetzagentur conducts tests on electrical appliances available on the market. The tests are performed subject to Directive 2004/108/EC on the electromagnetic compatibility of operating equipment (EMC Directive) and Directive 1999/5/EC on radio equipment and telecommunications terminal equipment (R&TTE Directive). These two Directives were transposed into national law by the Electromagnetic Compatibility Act (EMVG) and the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG).

In fulfilment of its market surveillance function the Bundesnetzagentur checks whether the appliances meet basic requirements. This is done on the basis of spot checks and by examination of documentation or, when required, by laboratory tests. The principles of risk assessment are taken into account.

The Bundesnetzagentur carried out a total of some 4,620 market surveillance activities in 2010, with measuring or administrative tests on 2,723 series/single devices. 1,865 of these devices came under the EMC Directive and 858 under the R&TTE Directive. Deficiencies in respect of CE marking and other administrative requirements were found in 318 devices under the EMC Directive and in 455 devices under the R&TTE Directive.

766 series and 368 single devices were tested using measuring equipment in 2010. 227 series and 90 single devices tested positive in the sense that they failed to meet prescribed requirements, a percentage rate of 29.6% and 24.5% respectively. In 2010 the focus was again on radio sockets, certain mobile phones and radio-controlled toys.

During 2010 a total of 505 follow-up measures aimed at restricting market activity were taken on non-compliant products (219 sales bans and 286 notices of assessment).

The Bundesnetzagentur's market surveillance activity involved cooperation with various internet platforms, and it turned up a total of 80 providers of devices which did not conform to requirements, 73 of them from EU member states and seven from third countries. The collaboration made it possible to block a total of 293 internet offerings, covering 239,979 products.

In pursuance of EC Directive No. 765/2008 the Bundesnetzagentur was informed by customs authorities about 613 import shipments of non-compliant products from third countries. In 78.8 percent of these cases it was possible for the customs to effect a permanent cancellation of approval for the products in question to be be bought and sold freely on the EU market.

Under the terms of an administrative agreement with the Federal Environment Agency

(UBA), the Bundesnetzagentur also checks that marking conforms to the requirements of Directive 2002/96/EC on waste electrical and electronic equipment (the "Electrical Scrap Directive"). 841 checks were carried out in 2010.

Notice of radio equipment which operates on frequencies whose use is not harmonised throughout the EU must, in pursuance of the FTEG, be filed with the Member State authorities responsible for frequency management at least four weeks before it is intended to be placed on the market. The Bundesnetzagentur gives the person placing it on the market information on the type of frequency assignment necessary for the operation of the radio equipment (general or individual assignment) and, where appropriate, specifies any existing restrictions on frequency use in Germany. The number of such notices received by the Bundesnetzagentur averaged 105 per month in 2010.

Electromagnetic compatibility and the environment (EMVU)

The information offered by the Bundesnetzagentur on the internet on the subject of electromagnetic compatibility and the environment (EMVU) was considerably expanded, particularly in response to the request - frequently made via the EMF internet portal - for more technical background information. The number of visits to the EMVU websites continued at a high level in 2010. Members of the public often use the EMF (electromagnetic field) database as an aid for monitoring the installation of new radio transmitter stations in their neighbourhood, or alterations to an existing station, and send their questions to the email address provided for the purpose. This kind of transparency has prevented a great deal of misunderstanding and incorrect information and thus made the EMF debate more businesslike.

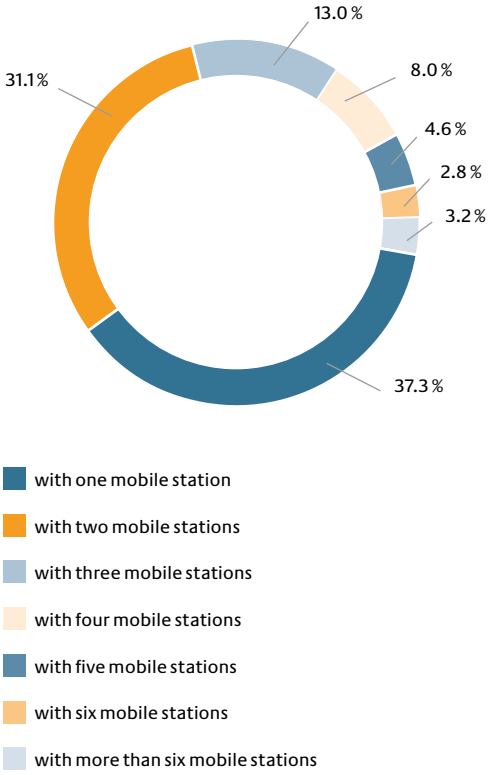
The high-frequency radio spectrum is tested and evaluated at 1,780 measuring points in Germany as a check on whether the prescribed limits are being exceeded. The checks showed that the limits were being observed. As with previous measurement activities, the location of the measuring points was done in cooperation with the federal state authorities.

Particular interest was focused on the automatic measuring system for recording the local immissions of radio transmitting equipment. The system makes it possible to record the field strength of such equipment round the clock, and the degree of observance of immission limits can then be accessed on the Bundesnetzagentur's websites. The 13 systems were set up exclusively at the request of local authorities or state environment ministries, to enable them to answer questions on immission levels at various times of day. The measuring stations need no maintenance, and can be put in operation simply by connection to a local power supply. In most cases this is done by the local authorities, which are thus in a position to select the exact location they want.

To operate a new installation or to alter radio transmitting equipment which is subject to official approval, it is necessary to obtain a certificate of safety from the Bundesnetzagentur as proof of compliance with the limits stipulated for the protection of persons in electromagnetic fields. In 2010 the Bundesnetzagentur issued a total of 18,962 such safety certificates. Since spring 2010 it has been possible for the certification to be applied for and

issued online. An extra online portal has been added to the EMF database for the purpose..

Shared use of mobile equipment locations 2010



Further information on the above subjects can be accessed at the Bundesnetzagentur's EMF website (http://emf.bundesnetzagentur.de/).

DATA PROTECTION IN TELECOMMUNICATIONS AND POST

The Bundesnetzagentur is responsible for ensuring compliance with data protection rules, as regulated in the Telecommunications and Postal Acts and the PDSV, the central requirement being to keep postal and telecommunications services confidential. The PDSV is the ordinance regulating data protection for companies providing postal services. The regulations, which have to be enforced with the utmost strictness, are directed at the commercial service providers. This is a sensitive area, and the Bundesnetzagentur's responsibility is correspondingly vital.

In its ruling of 2 March 2010 the Federal Administrative Court (BVerG) decided that so-called data retention, as required by sections 113a and 113b of the TKG, was in breach of Article 10 of the GG (German basic law, ie constitution) and that the pertinent provisions were null and void. Consequently all the questions and legal issues raised in the past on the technical implementation of the principle of data retention are, for the moment, irrelevant. At the same time the Court suggested that data retention was conceivable on certain, legally narrowly framed conditions.

The practical effect of the ruling is that as from the date it was pronounced no customer data may be retained and no information may be given on any such data that may still exist; also that all stored customer data must be deleted immediately. In this connection the Bundesnetzagentur lost no time in contacting telecommunications undertakings with a view to assisting with and checking on the implementation of the ruling.

Another aspect of security is concerned with the technical measures of protection which must be taken by service providers and network operators under section 109 of the TKG; the undertakings are required to draw up a security concept specifying the situation of hazard and the relevant protective measures. Between January and the beginning of December a total of 196 security concepts (127 of them new and 69 revised or adapted) were submitted in pursuance of section 109 of the TKG and scrutinised by the

Bundesnetzagentur, a 70 percent increase on the figure for 2009 (115). In addition, 37 on-site inspections were conducted on the operating or office premises of service providers and spot checks were carried out on the implementation of their security concepts and compliance with the provisions of data protection law.

In the period under review, both routine and incident-related checks were made all over Germany on data protection and the confidentiality of postal deliveries. A total of 547 reports on such checks were generated, 84 of them referring to incident-related on-site checks.

As the subject of data protection is very much in the public eye, during these checks regular questions came from the licensees about data protection and the confidentiality of postal deliveries. The questions answered by the Bundesnetzagentur covered a wide range, including eg an appropriate and effective way of placing licensees' staff under a formal obligation to preserve the confidentiality of data and postal deliveries. In response the Bundesnetzagentur provided explanations of the relevant statutory requirements.

2010 saw the continuation of the successful collaboration between the Bundesnetzagentur and the Federal Commissioner for Data Protection and Freedom of Information. The effect was to achieve effective coordination on policy issues related to data protection.

Dispute resolution

The number of requests for dispute resolution received by the relevant Bundesnetzagentur service demonstrates the need felt by final consumers for the efficient settlement of disputes by an impartial third party. The Bundesnetzagentur's service saw a particularly strong increase in enquiries in the telecommunications sector.

The job of the dispute resolution services is to settle individual disputes between users and providers in the postal and telecommunications sectors arising from the obligations to protect the customer imposed by the Telecommunications Act (TKG) and the Postal Services Ordinance (PDLV). The dispute resolutions proceedings aim at achieving amicable agreement between the parties, with a view to avoiding legal action. Consumers are therefore offered an efficient means of enforcing their rights.

The precise powers of the dispute resolution services are laid down in the provisions of section 74a of the TKG and/or section 10 of the PDLV. For complainants to make an admissible request for resolution it is necessary to assert an infringement of the rights to which they are entitled under the TKG or the PDLV. It is also necessary for there to be, or to have been, no legal or other arbitration proceedings pending, and for an attempt to have been made beforehand to reach agreement with the opposing party.

Disputes are as a rule resolved by way of written proceedings. Participation in these proceedings is voluntary, which means inter alia that the proceedings are closed as soon as one party refuses to participate in them. Hearings of the parties involved are conducted with the aim of reaching amicable agreement. The dispute resolution body can make a concrete proposal aimed at settling the dispute. The result of the proceedings largely depends on the extent to which both parties help to clarify the facts of the case and are prepared to reach agreement on a settlement.

Fees are charged for the use of the dispute resolution service. The fee amount depends on the sum at issue, with a minimum of 25 euros. The fee becomes due as soon as the opposing party formally agrees to take part in the dispute resolution proceedings.

TELECOMMUNICATIONS

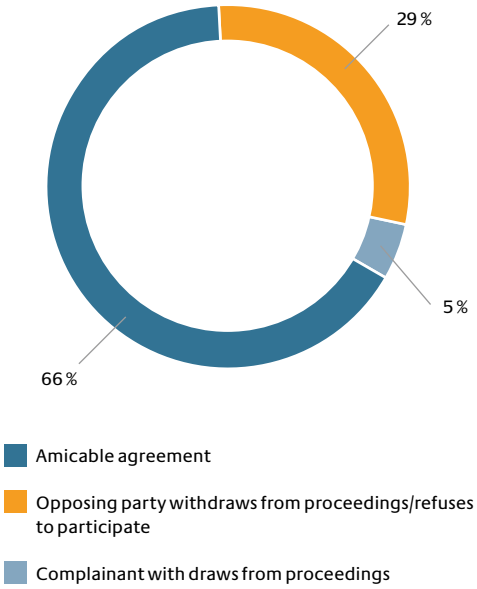
In 2010 the dispute resolution service was requested to conciliate in 703 cases, which was 31 percent up on the previous year (2009: 537 requests). In addition 174 other requests

for help reached the service, which focused its response on informing consumers about their rights and assessing whether the facts as presented warranted formal resolution proceedings.

The total number of proceedings concluded in the period under review came to 679, nine percent of them by way of withdrawal of the request for conciliation. 46 percent of the remaining cases had to be refused on grounds of inadmissibility - ie there was no infringement of consumers' rights under the TKG. The facts as presented came under general civil law and cannot at present be submitted to the dispute resolution service. However, it is intended that the upcoming amendment of the TKG will have the effect of broadening the scope of the dispute resolution service. For example, consumers are also to be able to use the dispute resolution proceedings in cases when the terms and the performance of contracts, in relation to the TKG's provisions for the protection of consumers, are the subject of dispute. The dispute resolution body would then be able to act as a mediator in conciliation proceedings in a large number of the cases which have hitherto been turned down.

In 29 percent of the proceedings that were instituted, the opposing parties saw no basis for a clarification of the facts with a view to amicable settlement and refused to take part in dispute resolution proceedings. In 94 percent of all the other cases it proved possible - continuing the trend of good results in the past - to achieve agreement between the parties. There were only isolated cases of proceedings which had been opened having to be terminated because the application was withdrawn or the opposing party revoked its consent to take part part in the proceedings. The success rate for admissible dispute resolution proceedings was therefore 66 percent, matching the high level attained in recent years.

Results of admissible proceedings concluded in 2010



The dispute resolution proceedings that were conducted were in most cases concerned with a switch of provider. In addition to the numbers of complaints which involved contract law, the dispute resolution was also able, in particular, to solve problems connected with continued use of the same phone number. At 43 percent, the proportion of admissible proceedings related to the continued use of a number was strikingly high, and mirrors the general rise in this type of complaint to the consumer advice service. The large majority of these requests for dispute resolution - 80 percent - were concerned with use of the landline service.

POST

2010 saw the opening of ten dispute resolution proceedings, three of which were successfully concluded. Three were unsuccessful in the sense that the parties failed to reach agreement. Four proceedings have not yet been concluded. One request for the resolution of a dispute had to be turned down because the conditions for the opening of proceedings had not been met.

International cooperation

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Telecommunications

2010 was dominated by the setup of BEREC or the "transformation" of the former body of European regulators into this new body. BEREC started its operations successfully and continued the work of the European Regulators Group (ERG). Thus major steps on the way towards next generation networks or in the area of international roaming were successfully completed.

REGULATORY GROUPS: BEREC/IRG/ERG

For years, the Bundesnetzagentur's work in the international arena has been dominated by intensive involvement in the European regulatory groups, such as the Independent Regulators Group (IRG), which has been coordinating the regulatory practice in European states, or in the ERG, which was set up by the EU Commission in 2002.

In the context of reviewing the EU legal framework for electronic communication, the Body of European Regulators for Electronic Communications (BEREC) was created in 2009 and replaced the ERG. The EU legislator agreed - primarily as a response to the large EU agency proposed by the EU Commission - on a model which consists of the advisory body BEREC and an office assuming an administrative support role. The latter is controlled by an administrative committee consisting of representatives of the NRAs and a delegate of the EU Commission. Task forces provide the common organisational structure for the contents of the work - as before in the ERG -, with experts of the NRAs drawing up the documents and preparing the Board of Regulators decisions. It is the responsibility of the new body to encourage cooperation and coordination between national regulatory authorities, as well as between NRAs and the EU Commission. In addition BEREC will provide advice upon request of the EU Commission as well as the European Parliament and the Council upon request. To fulfil this responsibility, BEREC shall develop and disseminate best regulatory practices, such as common approaches, methodologies or guidelines. In addition, BEREC shall deliver opinions on the draft decisions, recommendations and guidelines of the EU Commission and, upon request of the Commission or on its own initiative, issue reports.

Setup of BEREC

During an extraordinary meeting of the ERG on 28 January 2010, the new body was formally established and all steps required to launch BEREC's operation were implemented. This

includes in particular the adoption of the Rules of Procedures, the approval of the first Work Programme for the year 2010 and the election of the chairman (John Doherty of the Irish NRA ComReg for the year 2010 and Chris Fonteijn of the Dutch NRA OPTA for the year 2011). In the first official plenary assembly of BEREC on 25 and 26 February 2010, the Task Force structure used until then was affirmed, thus signalling the launch of the BEREC's work as regards content. For this reason the ERG decision[1] was cancelled by a decision of the EU Commission on 21 May 2010[2].

Setup of the BEREC Office

In a decision of the Council dated 31 May 2010 Riga was chosen as headquarters of the office to be set up under the BEREC regulation. This office aims to support BEREC in its work in an administrative and professional capacity and has been headed up by administrative director Ando Rrehemaa since 01 October 2010.

In addition to its participation in the administrative committee of BEREC, the Bundesnetzagentur has accompanied the process of setting up the organisational and HR structures in Riga, which began in 2010, in order to ensure the setup of the office in line with the objectives and targets of the regulations.

NGN project team

The next generation network (NGN) project team, which is headed up by the Bundesnetzagentur, has drawn up three papers last year, which were approved by BEREC. In March 2010[3] BEREC published a report on the topic "Next Generation Access – Implementation Issues and Wholesale Products"[4]. The concept of the investment ladder forms the analytical basis of this report. As a general rule, different access points in the network (e.g. unbundling at the main distribution frame) and different wholesale products for reaching these access points (e.g. conduit access) are relevant for different network expansion scenarios - Fibre to the Home/Building/Cabinet. The report investigates aspects of the practical implementation for all these wholesale products, such as the issue of possible elements of a reference offer or the specifics of transparency obligations. The measure of regulation based on significant market power and symmetric regulation are also analysed. Furthermore, issues of migration from "old" to "new" wholesale products are highlighted (e.g. if hitherto existing locations of main distribution frames are given up).

The identification of a charging mechanism that is suitable in the long term for call terminating services in the NGN was the subject of a Common Statement[5] published in May 2010. BEREC came to the conclusion that the Bill-and-Keep-System was more promising in the long term than the CPNP system currently in use for voice call termination. The analysis included both static and dynamic welfare aspects and took into consideration the objective of simplifying regulation. A strict cost orientation, by which call termination charges are reduced to an efficient level, can be considered an important step in the direction of Bill and Keep. However, in the eyes of BEREC the

[1] Cf. decision (EC) no. 1002/627.
[2] Cf. decision (EC) no. 1002/299.
[3] Cf. http://register.consilium.europa.eu/pdf/de/10/st09/st09880.de10.pdf.
[4] Cf. BoR (10) 08.
[5] Cf. BoR (10) 24.

question of a suitable system must always be answered against the background of a country's specific situation. It would also be important to diligently flesh out the transition process to a new system.

In May 2010 BEREC also delivered an opinion on the EU Commission's third draft recommendation about next generation access (NGA). Under the new legal framework, the EU Commission had to take this into consideration to the fullest extent possible. In this recommendation BEREC supports the objective of creating an internal market in the transition to NGA by providing increased legal certainty and ensuring a high level of investment and innovation through enhanced competition. From BEREC's point of view, compatibility between the EU recommendation and the EU regulatory framework is of great importance. In this respect the imposition of remedies requires a thorough market analysis and the determination of significant market power in the relevant market. At the same time the regulators must have sufficient discretion in their decisions to be able to take national conditions into consideration. This is the only way to ensure that imposed obligations are relevant to the problem that has arisen, as well as being appropriate and justified, as is required by the EU regulatory framework. The EU Commission's final recommendation regarding regulated access to NGA was published in September 2010.

Roaming Regulation

The Roaming Regulation[6], which entered into force on 01 July 2009, once again brought about some changes in 2010. Since March 2010 mobile phone operators must offer their customers the option of having their data connections in other EU countries interrupted at a certain amount, in order to protect end customers from exorbitant bills. Since July 2010 phone calls for end customers using the Eurotariff have become cheaper than in the previous year. Since then outgoing calls must cost no more than 0.39 Euro per minute and incoming calls no more than 0.15 Euro per minute. In the same way the wholesale charges for data roaming have been reduced from 1.00 Euro per MB to 0.80 Euro per MB since July 2010.

As in previous years BEREC/IRG continued to monitor compliance with the Roaming Regulation by mobile phone operators and other providers of roaming services. In this connection, BEREC conducted extensive data surveys and submitted a total of four reports on roaming development in 2010.

The Sixth Roaming Report[7] of October 2010, for example, covers the development of roaming prices for the first half of 2010. During this period the average Eurotariff in most member states was exactly on or just below the set maximum. The Euro-SMS tariff was close to the regulated maximum, with a slight downward trend. The wholesale tariff for voice and data roaming has also decreased and was, in both cases, below the regulated maximum tariffs. However, the decreased wholesale tariff for data roaming has had no effect on end customer tariffs. At the same time the data volume in II/2010 increased by 50 percent, compared to the same quarter in the previous year.

[6] Cf. Regulation (EC) no. 544/2009.

[7] Cf. BoR (10) 50.

According to the Roaming Regulation mobile phone operators still have the option of offering alternative - i.e. unregulated - end customer tariffs for voice, SMS and data. These were surveyed in the Alternative Tariffs Report[8], which was published in March 2010. Overall, there are signs that end customers in the EU have a multitude of tariffs to choose from. The report revealed over 330 tariffs by over 70 providers in a total of 24 member states.

In addition to monitoring compliance with the Regulation (cf. for example the Compliance Report[9] of March 2010), another focus of BEREC's activities was the evaluation of the results, with a view to the upcoming reform of the Roaming Regulation. In this context BEREC published a report on 8 December 2010 on the future organisation of the roaming market as well as proposals for alternative measures, taking into consideration the current conditions on the roaming markets as well as technological developments.[10] The report recommendations are limited to the period from July 2010 to June 2015, in conjunction with a proposed new evaluation by June 2014. At present BEREC supports retention of the price cap regulations with the glide path regulation used to date. After that, the roaming market and alternative measures should be investigated again. Different tariff structures are analysed as possible alternatives for voice roaming at end customer level, aimed at the selection of cheaper providers or tariffs abroad (Carrier Select, Roam like at Home, Roam like a Local). In addition, the investigation of an introduction of end customer tariff regulation for data roaming will be continued.

At the same time as publishing the BEREC report, the EU Commission launched an EU-wide consultation for reviewing the EU roaming rules, which will provide the basis for reviewing the existing Roaming Regulation, which the Commission must finish by June 2011. Based on the report of 8 December 2010, BEREC delivered an opinion on this consultation, in order to constructively drive the further development of the roaming rules.

Network neutrality

On 30 September 2010 BEREC published an opinion on the EU Commission's "Public Consultation on the Open Internet and Net Neutrality in Europe". [11]

The main aspects of this opinion are explained further on page 105 under the heading "Network Neutrality". In the context of a BEREC plenary meeting, a workshop on the subject of network neutrality was held on 29 September 2010. During this workshop the chairman of the American Federal Communications Commission, Julius Genachowski, also presented the current discussion on network neutrality in the USA, as well as the measures taken by his authority in his context. The subsequent discussion dealt, inter alia, with a comparison of the situation in the USA and Europe.

Other BEREC publications

Other future-oriented topics dealt with by BEREC and/or the IRG in 2010 concerned the

[8] Cf. BoR (10) 13.
[9] Cf. BoR (10) 12.
[10] Cf. BoR (10) 58.
[11] Cf. BoR (10) 42.

future of universal services or specific aspects of the new revised legal framework. Regarding the future of the universal service,[12] BEREC delivered an opinion, thus actively participating in the Commission's EU-wide consultation on this topic. The BEREC report on universal services also offers an overview of the relevant universal service systems in the BEREC countries, while at the same time commenting on the different national plans for promoting broadband and their relation to universal services. With a view to the new provisions of the revised legal framework in the area of electronic communication, BEREC drew up a report on guidance on the new regulatory instrument of functional separation[13], which points out the new common targets and describes practical experiences of individual BEREC countries with this instrument. With a view to the new objectives, BEREC also dedicated itself to a series of consumer protection issues, such as the conditions and practices when changing providers[14], measures for promoting access for disabled end users[15] or cross-border issues of access to telephone numbers and services pursuant to article 28 of the Universal Service Directive.[16]

[12] Cf. BoR (10) 33.
[13] Cf. BoR (10) 44.
[14] Cf. BoR (10) 34 Rev 1.
[15] Cf. BoR (10) 47.
[16] Cf. BoR (10) 62.

Post

In the postal sector, the Bundesnetzagentur plays a firm part in different European and international bodies on regulatory issues. This reflects the fact that decisions made there are increasingly having an impact on current national issues, such as the electronic postal service or strengthening consumer rights.

UNIVERSAL POSTAL UNION

The meeting of the Postal Operations Council in April 2010 was attended by over 600 delegates and over 100 observers. Apart from different decisions in terms of operational measures, it was in particular decisions in the area of terminal dues, quality control and the further development of the top level domain "post" that were made.

The Council of Administration convened in November 2010. During the plenary meeting, a forum on regulation in the postal sector was held, in which several representatives from the member states presented their view of the current and future shape of postal regulation. The most important decisions and discussions in the plenary meeting concerned security measures regarding the recently attempted parcel bomb attacks, the evaluation of the domain management policy for the top level domain "post" and information on the current state of plans for the Universal Postal Congress in Doha, Qatar, to be held in 2012.

REGULATORY BODIES AND EXPERT PANELS

CERP/CEPT/CEN

The European Committee for Postal Regulation (CERP) is a committee of the European Conference for Post and Telecommunications Administrations (CEPT) and as such responsible for regulatory aspects in the postal sector. 48 European countries are members of CEPT (and therefore also of CERP). Germany is represented by the Federal Ministry of Economics and Technology (BMWi). The Bundesnetzagentur performs functions in agreement with the BMWi - sometimes also independently. Since May 2008 the Bundesnetzagentur has been heading up CERP and thus also the Office.

The work of CERP focuses on introducing the new EU member states to the full implementation of the internal market. Cooperation with the European Commission and the Universal Postal Union are also primary tasks of CERP.

With regard to establishment of the European Regulators Group for Postal Services (ERGP),

the current structure was revised with the help of nine project groups to date. In future CERP will focus on political issues, such as the extent and orientation of the universal service and participation in the Universal Postal Union. As stakeholder of European regulators in the postal sector, CERP regularly takes part in conventions of the European Commission's policy committee.

As an umbrella organisation, CEPT has two further committees apart from CERP: the Electronic Communications Committee (ECC), which is also chaired by the Bundesnetzagentur, and the Committee for ITU Policy (Com-ITU), chaired by Sweden. Following the reorganisation of the CEPT in spring 2009, the chairmen of the three committees are now joint presidents. As a "closely related association" of the Universal Postal Union, CEPT takes part in the meetings of the Council of Administration and the Postal Operations Council.

The European Committee for Standardisation (CEN) draws up standards for the postal sector in its Technical Committee 331. Standards for quality measurements are developed in Working Group 1, which is particularly important from a regulatory point of view. Here, the standard for measuring delivery time (EN 13850), which must be applied within the European Union, was revised until the end of 2010.

Committee according to article 21 of the Postal Services Directive

This comitology committee, which supports the Commission in its work, convenes twice a year. In 2010 the additionally set up working groups dealt specifically with the set-up of the ERGP, with cross-border services and issues of advantages resulting from the provision of universal services.

In addition, the results of two studies, collated upon request of the Commission, were presented in three workshops. They examined, inter alia, major developments in the postal sector for the period 2008 to 2010, as well as conducting a study on the international dimension of the EU acquis. In the committee the Bundesnetzagentur put forth in particular its experience with complete market liberalisation since 2008.

High level conference

At the end of April 2010 the European Commission's second high level conference, entitled "Delivery Services for a Digital World", was held in Valencia. This conference was aimed at both, the political level and the regulators as well as postal operators and the economic environment. The Bundesnetzagentur took part in a panel discussion on the role of regulators in the postal sector.

ERGP

The ERGP, established by a decision of the Commission on 10 August 2010 as an expert panel, along the lines of the ERG and ERGEG, is made up of the NRAs of the 27 EU member states and the NRAs of the accession countries and EFTA countries as observers. Its key task is to advise and support the Commission in the consolidation and development of the internal market for postal services by consistently and systematically applying the regulatory framework for postal services in all member states. In addition, the newly established regulatory body is also responsible for carrying out extensive and early consultations with market players, consumers and end users, which shall be

performed transparently and in consultation with the Commission.

The Bundesnetzagentur has contributed significantly to the preparations in connection with the establishment of the ERGP and the details of its policies and its first work programme, and in doing so was also able to draw on positive experiences and synergies from international cooperation in other sectors.

On 1 December 2010 the constituent meeting of ERGP was held in Brussels. In this context the Rules of Procedure were also adopted, the chairman and vice-chairmen were elected and the first Work Programme was adopted. This entails the following issues: Allocation of common costs, the net cost calculation of the universal service obligation with special emphasis on the effects of VAT exemption, benefits for end customers, measurement of service quality, monitoring of market outcomes, cross-border trade with postal services (in particular parcels) and matters of access regulation.

The Bundesnetzagentur, with its longstanding experience in regulation, will contribute in particular to the operative work of this newly established post regulators body at European level.

Electricity and Gas

In 2010 the international work in the energy sector focused on the first steps of implementing the third package for the internal energy market. The Bundesnetzagentur was, for example, actively involved in drawing up the first framework guidelines in the electricity and gas sector. On the other hand the preparations for setting up the Agency for the Cooperation of Energy Regulators took centre stage.

Since 2005 the Bundesnetzagentur has been a member of the Council of European Energy Regulators (CEER) and of the European Regulators Group for Electricity and Gas (ERGEG), established by the Commission in June 2003.[17] One of the objectives of these European institutions is to use recommendations, statements and studies to draw up best practice standards or guidelines in the electricity and gas sector to guide market participants with respect to regulatory issues. In addition these bodies have in particular enhanced the cooperation between national energy regulators and between regulatory authorities and the European Commission.

Following the constituent meetings of its Administrative Board on 22 March 2010 and of its Board of Regulators on 4 and 5 May 2010, the Agency for the Cooperation of Energy Regulators (ACER), envisaged in the third package for the internal energy market, began its work. On 6 May 2010 Alberto Potoschnig was appointed director of the agency. ACER will become formally operational on 3 March 2011 in Ljubljana.

The Commission intends to dissolve ERGEG, which was established in June 2003, once the third package for the internal energy market has entered into force, as its tasks and functions will now be assumed by ACER. The CEER will be continued as a platform of exchange between independent energy regulators and will be dedicated primarily to those issues that are not part of ACER's responsibilities.

THIRD PACKAGE FOR THE INTERNAL ENERGY MARKET

In agreement with the European Commission, the energy regulators have decided to use the transitional period after adoption of the third package for the internal energy market in July 2009 and its complete entry-into-force on 3 March 2011 for preparatory work, in order to

[17] http://www.energy-regulators.eu

facilitate a quick start of the agency, and to act as if the agency had already taken up its work.

This preparatory work dealt primarily with developing draft framework guidelines for ACER in the following areas: Rules for capacity allocation and congestion management (electricity), rules for network access of third parties and to ensure the safety of network operations, rules for capacity allocation (gas), equalisation and balancing rules and rules for harmonised structures for transmission system charges.

Market players were extensively involved in this process by means of public consultations and participation in expert panels. ACER's framework guidelines form the basis for a development of network codices by the European Network of Transmission System Operators for Electricity (ENTSO-E) and the European Network of Transmission System Operators for Gas (ENTSOG). The Commission can juridify network codices by means of a comitology procedure.

In addition, the energy regulators have also drawn up opinions on a draft Community-wide ten-year-network development plan by ENTSO-E and the first ten-year-network development plan 2009 to 2019 by ENTSOG, and have provided ACER with criteria for their formal review of the plans at a later stage. They have also delivered opinions on ENTSO-E's and ENTSOG's draft Statutes and the Rules of Procedures.

Since 2009 the Bundesnetzagentur has been chairing the ERGEG Task Force, which has dealt with setting up the agency and has, inter alia, submitted proposals on its internal organisation. Thus, the establishment of working groups under the chairmanship of the agency's Board of Regulators was discussed and decided with the Commission and the agency's director. The objective of these working groups is to ensure the integration of the regulatory authorities at an early stage and the participation of the agency in the decision process, as well as accelerating the latter.

The agency's director will execute his office with the involvement of the Board of Regulators. The Board of Regulators consists of senior representatives of the National Regulatory Authorities. The Board of Regulators' Rules of Procedures and the codes of practice for drawing up framework guidelines and network codices were also adopted successfully. As the designated agency director was not yet in office in June 2010, the agency's work programme was drawn up by the energy regulators.

FOCUS OF WORK IN CEER

In the Electricity Working Group the framework guidelines were adopted as well as the third report on the implementation of the targets of Regulation (EC) 1228/2003 on conditions for access to the network for cross-border exchanges in electricity. However, the fundamental progress in congestion management by price coupling in the region Central Western Europe and the parallel introduction of the Interim Tight Volume Coupling between Central Western Europe and the Nordic market in November 2010 could not be taken into account in time. In addition the energy regulators published a recommendation to the Commission for a comitology guideline regarding transparency requirements for fundamental data in the energy market, such

as generation, consumption, transmission and interconnectors.

In the Gas Working Group a recommendation to the Commission for a comitology guideline regarding congestion management procedures was adopted, inter alia. In Cologne, ERGEG and the Institute of Energy Economics (EWI) cooperated to perform a model-based analysis of the European gas infrastructure in terms of market integration and security of supply. According to the study, the European gas infrastructure will measure up to the future challenges, provided the planned infrastructure projects such as NordStream or Nabucco will be implemented. In addition there is also considerable need for expansion at some points in the network (e.g. Germany towards Ellund - Denmark).

In the context of European regional cooperation under ERGEG, the Bundesnetzagentur participated in particular in drawing up the Status Review Report in 2010, which checks the work of the Regional Initiatives for coherence and convergence and submits, from a European perspective, suggestions for improvement of the work in the individual regions. Moreover, the EU Commission published its preliminary ideas on the future role of the Regional Initiatives in November 2010, in particular on their tasks in the implementation of the third package for the internal energy market, governance issues, and the delineation of the regions. The CEER working group RIG draws up the positioning of the European energy regulators on these proposals as well as the overall further details of the Regional Initiatives.

The Customer Working Group developed guidelines for best practice, for the handling of consumer complaints and for indicators for monitoring retail markets. Furthermore, the implementation of recommendations regarding billing for residential customers was checked. ERGEG also updated the overview on the practice of retail price regulation in the EU member states. Recommendations on regulatory aspects of the introduction of smart metering in electricity and gas sector were consulted publicly. The energy regulators also participated actively in the Commission's smart grids task force. Here, functionalities of smart meters and smart grids are defined, regulatory requirements for data protection developed, the roles of market players determined, and standardisation work is driven ahead.

In the Unbundling, Reporting and Benchmarking Task Force (URB TF), a "Status Review on the Liberalisation and Implementation of the Regulatory Framework" was drawn up as a synopsis of the national monitoring reports. The Efficiency Benchmarking Workstream, chaired by the Bundesnetzagentur, continued its close exchange on methodical matters of tariff regulation.

Railways

In 2010 European cooperation in the railways sector was further increased. Thus the Bundesnetzagentur, together with four other regulatory authorities, launched an initiative for setting up a network of independent regulatory authorities. The EU Commission presented its proposals for a revision of the European legal framework for the railways sector, which are to ensure improvements in the passenger and freight service at national and international level.

NETWORK OF INDEPENDENT REGULATORY BODIES

In 2010 the Bundesnetzagentur, together with the regulatory authorities of Great Britain, the Netherlands, Austria, and Switzerland, launched an initiative to strengthen cooperation with the independent regulatory authorities in the railways sector. The long-term objective is the exchange of experiences and expertise and to promote the development of Best Practices, thereby harmonising the internal European market by the consistent application of the European legal framework.

A first formal step is the signing of a Memorandum of Understanding, which is to set out the details of this closer cooperation. Initial subjects are practical matters in connection with the entry-into-force of the new Rail Freight Traffic Regulation ("Schienengüterverkehrsverordnung") and related aspects of the economic balance and market observation. For this purpose, initial consultations and examinations were already carried out in working groups. Further steps towards setting up a network of independent railway regulators are planned for spring 2011.

IQ-C MEETINGS

Last year the International Group for Improving the Quality of Rail Transport in the North-South Corridor (IQ-C) met three times. The IQ-C consists of representatives from the regulatory authorities of the member states Netherlands, Germany, Switzerland, and Italy. Due to the connection of RailNetEurope, which is headquartered in Austria, with the freight corridor, delegates of the Austrian regulatory authority were also present as observers. One focus of work was on the discussion of the undefined term "discrimination".

In January 2010 discussions were held with numerous infrastructure managers (e.g. DB Netz AG) and companies dealing with the allocation of train paths, regarding which proce-

dures of an infrastructure manager actually or potentially discriminate against petitioners for access. Each regulator from the IQ-C member states presented case studies from its own regulatory practice.

During the course of the IQ-C meetings, capacity in terminals, the pending implementation of the contents of the Rail Freight Traffic Regulation and the issue of market monitoring were discussed. In addition, contacts were established with the Florence School of Regulation, which has also taken up operations in the railways sector.

REVISION OF THE FIRST RAILWAY PACKAGE

On 17 September 2010 the EU Commission presented a proposal for improving railway services for passengers and freight service customers, which - in the eyes of the Commission - aims to increase competition in the railway service market, to increases competencies of the NRAs and their cooperation, and to improve the framework conditions for investments in the railway sector. The proposal for a guideline for the creation of a standardised European railway zone is also intended to simplify and consolidate the existing legal provisions; for this reason the already existing three regulations, including their amendments, will be merged to one coherent text.

The issues affecting the Bundesnetzagentur in the course of this draft regulation can be divided into two areas: The first area concerns organisational changes. Particularly noteworthy here is the expansion of the EU Commission's competencies. Organisational changes that affect the regulatory authorities directly are the publication of the network statement (SNB), the administrative measures for efficiency incentives, the regulatory authorities' information rights, the publication of decisions, the temporary legal protection, the independence and cooperation of the regulatory authorities, and the provisions on unbundling.

The other area of the draft regulation concerns amendments of specific content, e.g. provisions on the network statements and the service facilities statement (NBS). This refers to the content of the network statement, the pricing criterion, the charges for service facilities, exemptions from the tariff principle, the cost allocation, tariffs for infrastructure capacity kept available, the network timetable, the business plan, and market monitoring by the EU Commission.

In summary, the draft contains a multitude of proposed changes that could contribute to strengthening competition in the railway networks.

RAIL FREIGHT TRAFFIC REGULATION

Regulation (EU) 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight[18] (Rail Freight Traffic Regulation) was published in the Official Journal of the European Union on 20 October 2010. It entered into force on 9 November 2010 and contains new provisions, which concern, inter alia, the expansion, modernisation, and access to railway infrastructure (setting up of corridors and of a "One-Stop-Shop" etc.).

[18] Cf. Regulation (EU) no. 913/2010.

The Bundesnetzagentur has begun to examine the implications of these new provisions, in particular with a view to the regulatory work, and will continue to do so in 2011. This is not only done bilaterally, in cooperation with the EU Commission, or in the various European expert panels, but in particular also in the joint working groups with representatives of the regulatory authorities from Great Britain, the Netherlands, Austria and Switzerland.

Bilateral Projects

The partnership with other regulatory authorities and the close exchange of experiences at European and international level has encouraged mutual understanding. At the same time they show that the Bundesnetzagentur is a sought-after participant in discussions across the world.

The course for the Bundesnetzagentur's work is set increasingly at European level. In order to realise a standardised internal market, a legal framework is created by guidelines, regulations etc., within which the EU member states and their NRAs have to act. In the telecommunications sector, for example, 2009 saw a review of the existing package of common rules, in the energy sector the third package for the internal energy market was adopted, in the postal sector the Postal Services Directive was amended in 2008 and in the railways sector a proposal for a recast of the Railways Directive has been received. The NRA's cooperation in regulatory bodies or panels at European level regarding the creation of the internal market is becoming increasingly important.

Against this background the Bundesnetzagentur's international work is also becoming increasingly important. Because only if the national ideas and perceptions are incorporated into the relevant international panels as early as possible, can they be taken into consideration. In this context the Bundesnetzagentur benefits from its role as cross-sector regulator. The stages of regulation in the five sectors, for which the Bundesnetzagentur is responsible, vary. At the same time, many of the questions arising are identical, despite market-specific idiosyncrasies. The Bundesnetzagentur is better able to identify such commonalities, but also necessary differences, than a sector-specific regulator. This creates maximum synergies.

INTERNATIONAL COOPERATION

From 25 to 28 October 2010 the Bundesnetzagentur hosted the 8th EU-US Energy Regulators Roundtable in Berlin, which was attended by more than 30 representatives from energy regulators. The American side was represented by the U.S. Federal Energy Regulatory Commission (FERC) and the National Association of Regulatory Commissioners (NARUC), while the European side was represented by presidents of the NRAs or senior deputies. After an exchange about current developments of energy politics in the USA and the EU, the participants discussed select regulatory issues. Obstacles to the planning and construction of cross-border transmission networks on both sides of the Atlantic were

identified among the core problems for the creation of sufficient infrastructure capacity. Even if the underlying developments in the USA and Europe may well differ, the energy regulators are of the common opinion that security of supply can and should be promoted primarily by means of market processes.

Due to the financial crisis, transparency and integrity of the energy trade have engaged the attention of the G20 nations. In the USA new rules for the energy trade have already become law, while in the EU a proposed regulation by the European Commission for a sector-specific supervisory body in the energy trade is currently undergoing the legislative procedure. The European energy regulators have already delivered relevant opinions to the Commission in 2008 and 2009 and are willing to constructively accompany the legislative procedure.

STUDY VISITS

In 2010 the Bundesnetzagentur once again hosted a number of international delegations. In the energy sector, the matter of renewable energy was the main focus of interest for these international guests. In this context the Bundesnetzagentur provided information about the challenges of network and market integration of renewable energy sources. In addition the specifics of the Bundesnetzagentur's incentive regulation also attracted great interest among foreign energy regulators.

In the telecommunications sector matters of market regulation were of primary interest. Here, fundamental issues such as the identification of markets requiring regulation as well as the specifics of access and rates regulation were of interest. Further topics were issues of technical regulation or numbering.

Representatives of regulatory authorities, e.g. from China, France, Morocco, Tanzania and Vietnam, also gathered information from the Bundesnetzagentur about the authority's structure and about sector-specific regulatory approaches, such as cost accounting systems or the control of licensees. During consultations, the various concepts were presented and discussed in great detail.

PROJECTS IN A EUROPEAN CONTEXT

Twinning projects are financed by the EU and represent an instrument to foster partnerships between authorities from EU member states and public administrations in accession countries and potential accession countries as well as countries bordering Europe. The aim of twinning projects is to establish public structures in line with European administrative practices. Partner countries and neighbouring countries of the EU are supported in the set-up of the administrative structures by means of a partnership process between public administrative structures from EU member states and the authorities in the partner land.

In 2010 the Bundesnetzagentur and the Italian regulator AGCOM successfully continued a twinning project with the Egyptian regulatory authority for telecommunications, which was begun in 2008 to support the Egyptian colleagues in setting up and further developing sector-specific regulation of the telecommunications market and adapting the statutory foundations.

In addition the Bundesnetzagentur was also awarded a twinning project with the Israeli

ministry of communications. This is the first twinning project between the Federal Republic of Germany and Israel. AGCOM and the Spanish regulatory authority CMT are involved in this project as junior partners of the Bundesnetzagentur. In terms of content, the focus of the project is on market regulation; it covers the following topics in particular: Legal framework for wholesale regulation, rates regulation in the wholesale sector with a focus on NGA, arbitration at wholesale level, enforcement of regulatory decisions, consumer protection, and surveys and data acquisition.

In addition to twinning, the EU Commission's Directorate-General "Enlargement" conducted various projects in 2010, involving the introduction of states to the European Union in the context of the Technical Assistance Information Exchange (TAIEX) programme, which supports countries with regards to the approximation, application and enforcement of EU legislation. In this context, representatives of the Bundesnetzagentur took part in workshops in Serbia and Armenia as well as in expert missions in Turkey and Serbia.

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Telecommunications

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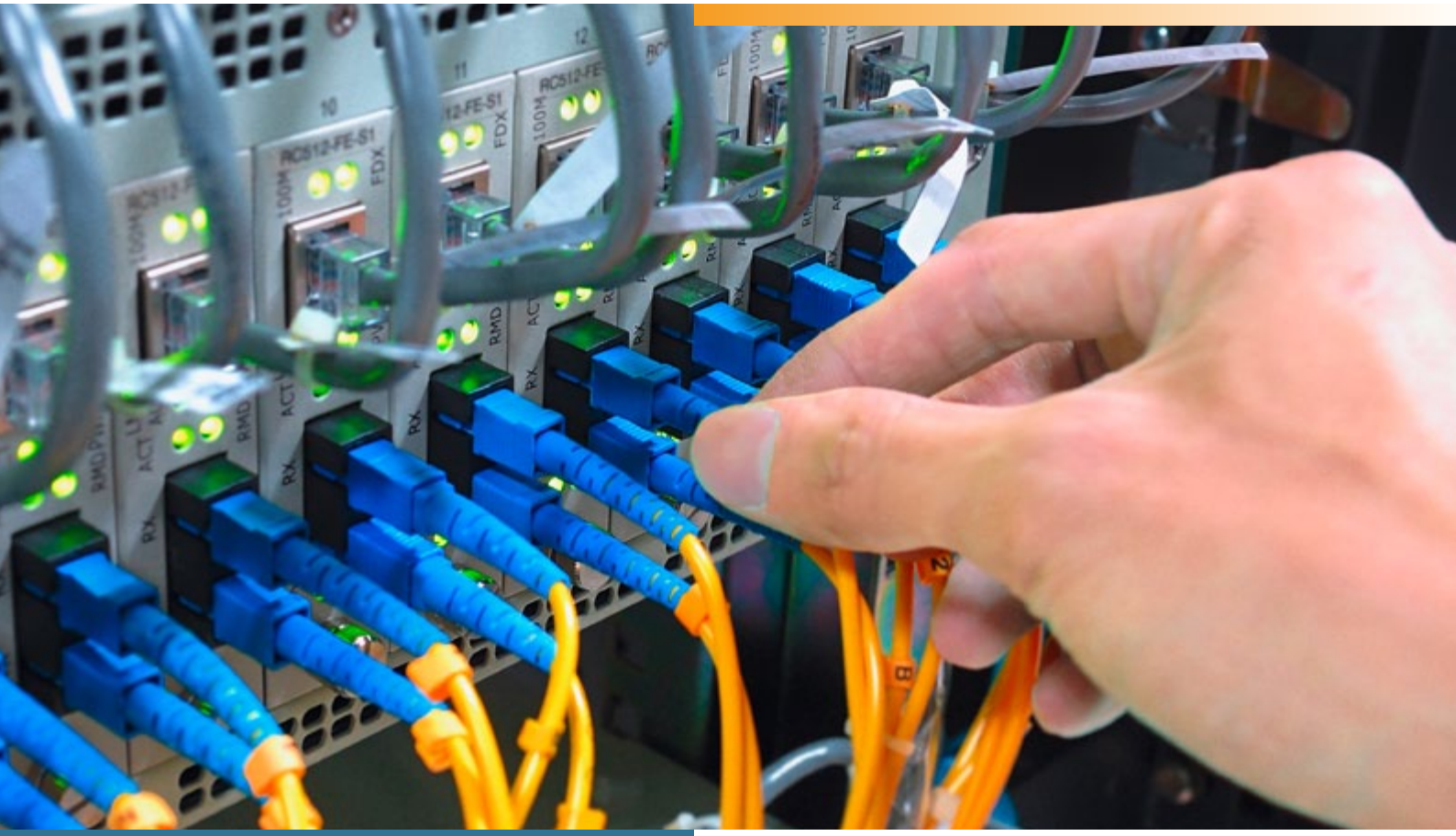


Market watch

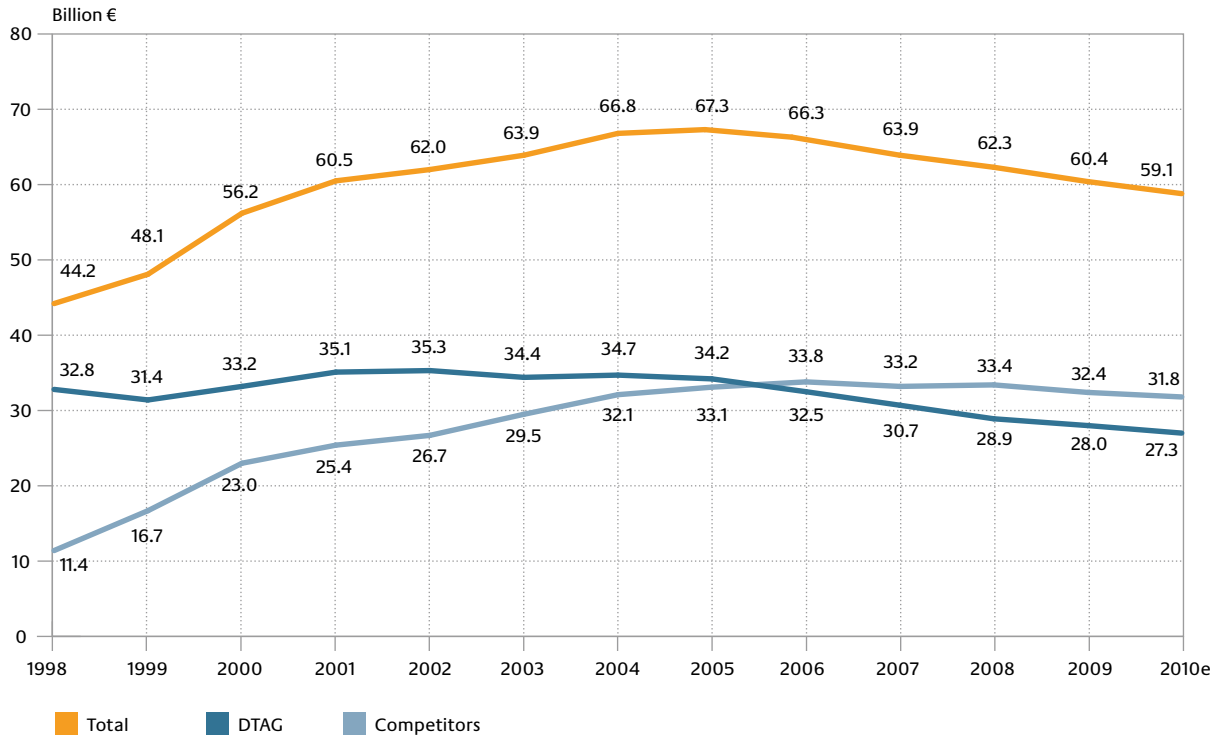
A well-developed broadband infrastructure for cable TV networks – growing substitution of traditional telephone lines by VoIP – continuing increase in data transmission and internet access via mobile communications

TELECOMMUNICATIONS SERVICES AS A WHOLE

Revenues

Provisional figures show that revenues[1] on the German telecommunications market were around €59.1 billion in 2010. Compared to the previous year this corresponds to a fall of approximately 2.2 percent.[2]

Revenues generated on the German telecommunications market 1998–2010



[1] Cumulative revenues comprising external sales of DTAG and alternative providers in Germany.

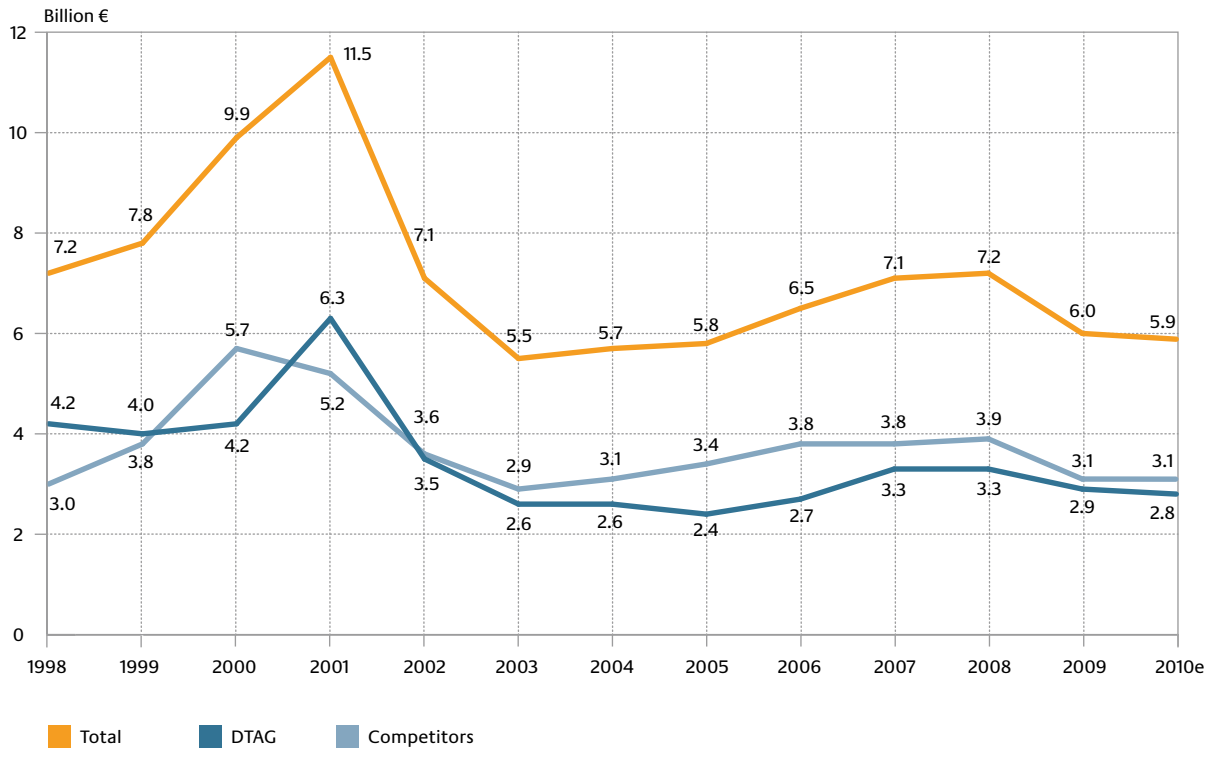
[2] The sum totals indicated in tables and charts may deviate from cumulative values which have been rounded up or down.

Alternative providers reported revenue of around €31.8 billion for 2010. This was €0.6 billion less than in the previous year. The downward trend reported by Deutsche Telekom AG (DTAG) in recent years also continued with a drop in revenue in 2010 to €27.3 billion.

Real investment

Around €5.9 million was invested in fixed assets on the German telecommunications market in 2010, including in the almost completed VDSL roll-out and the largely existing capability of cable networks to receive back channel signals and their upgrading to DOCSIS 3.0, despite the financial crisis. Alternative providers invested a total of around €3.1 billion and DTAG approximately €2.8 billion in 2010.

Investments in fixed assets on the telecommunications market 1998–2010

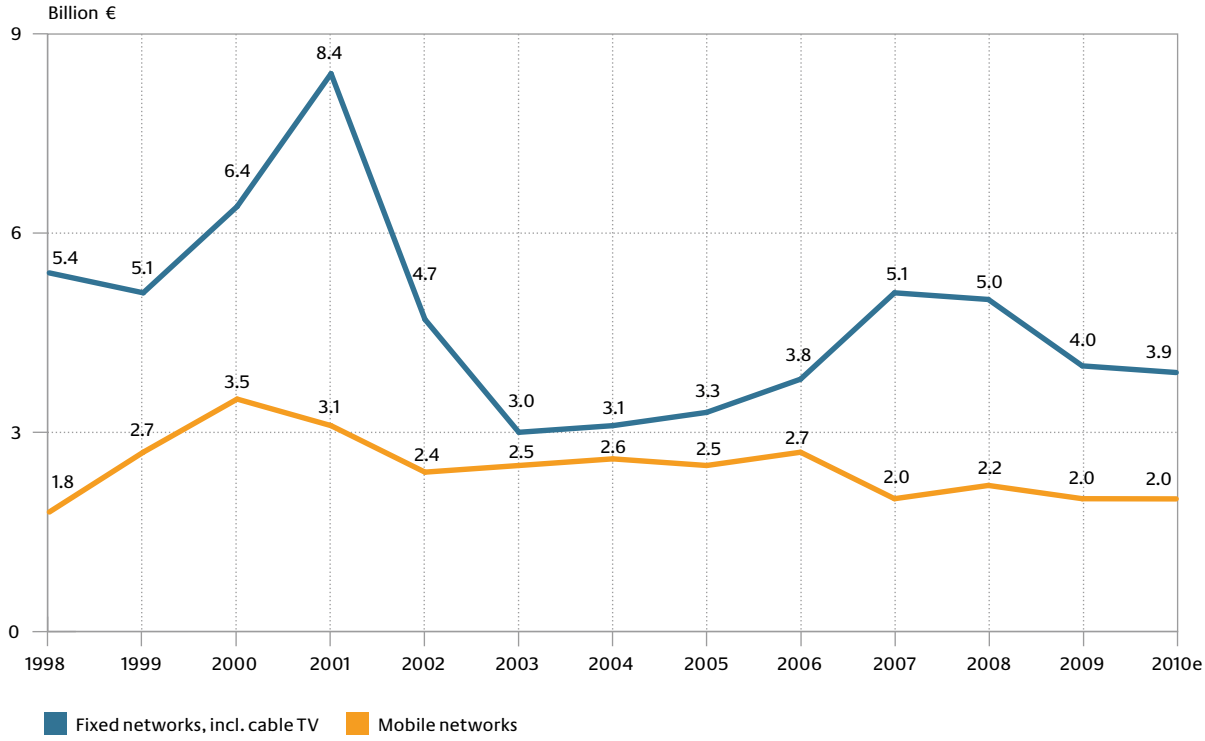


Investments in the period 1998 to 2010 totalled around €93.2 billion, of which €48.4 billion (or 52 percent) were made by alternative providers and €44.8 billion by DTAG.

As in previous years, the lion's share (around 66 percent) of this investment volume found its way into the fixed network in 2010. Investments in landline declined to about 3.9 billion euros from the high levels of 2007 and 2008.

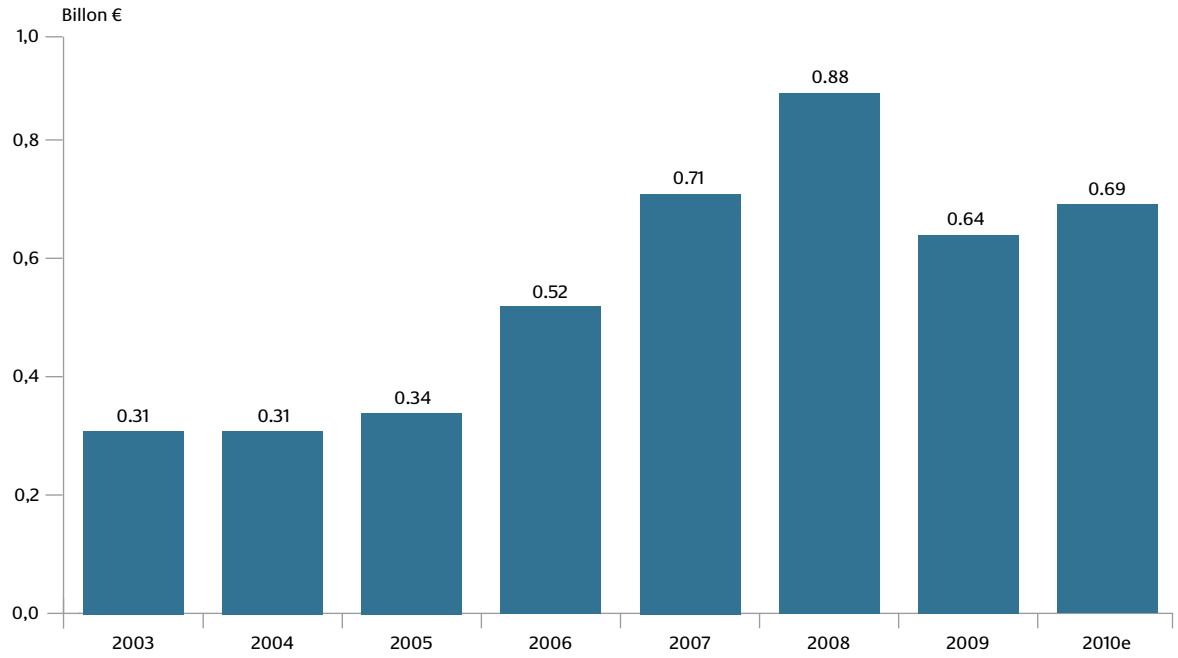
Investments in mobile remained constant at around €2 billion.

Investment in fixed assets in fixed networks and mobile networks 1998–2010



After a peak year in 2008, approximately €0.69 billion were invested last year in the cable TV infrastructure.

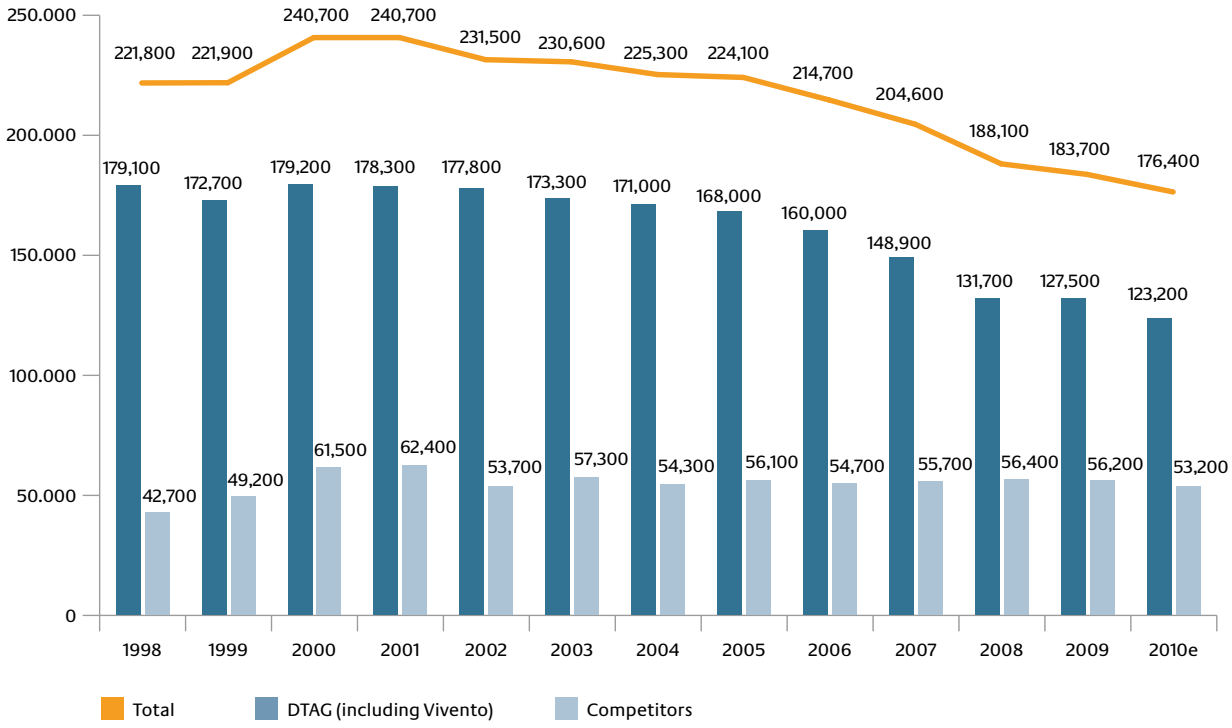
Investments in fixed assets in the cable TV infrastructure 2003–2010



Employment

At the end of 2010, companies operating on the German telecommunications market employed 176,400 people. This represents a decline of around four percent compared to late 2009. DTAG reduced its workforce in Germany to 123,200. The number of people employed by alternative providers - 53,200 in 2010 - has remained fairly constant for a number of years.

Employees on the telecommunications market 1998–2010



TELECOMMUNICATION SERVICES BASED ON FIXED NETWORK CONNECTIONS

Access points for voice communication

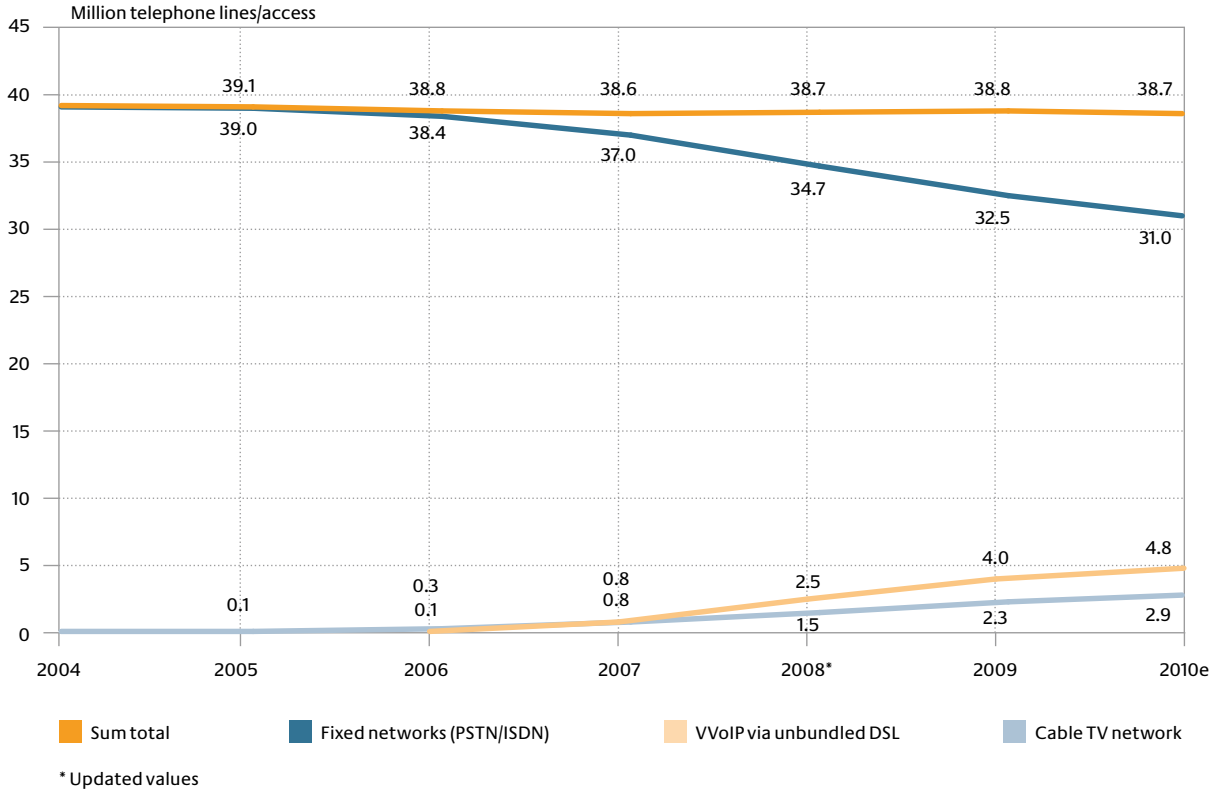
Access points for landline voice communication via traditional telephone connections (PSTN/ISDN) on the one hand and VoIP via unbundled DSL connections and telephony via the cable TV infrastructure on the other have developed differently in recent years. The apparent demise of the traditional landline is accompanied by more and more telephony via DSL and cable TV. In the next few years there will also be growth in fibre access to telephony. Overall the number of access points for voice communication in fixed networks remained relatively constant at around 39 million.

By the end of 2010, the number of unbundled DSL connections used for VoIP (full connections) totalled around 4.8 million.[3] During the same period the number of cable TV lines used for telephone calls also rose to about

[3] In the case of unbundled DSL connections, the provision and operation of DSL connections is not bound to a traditional analogue or ISDN telephone connection. By mid-2010 DTAG's competitors experienced a sharp decline in the number of bundled DSL connections with switched VoIP that simultaneously had a traditional DTAG telephone connection.

2.9 million. These positive DSL and cable TV telephony trends all but compensated for the number of lost lines in traditional fixed networks.

Access possibilities for voice communication 2005–2010



Telephone lines/access and competitor shares in fixed networks 2008–2010[4]

	2008*			2009*			2010e		
	Total basis	Competitor share		Total basis	Competitor share		Total basis	Competitor share	
	Mio.	Mio.	%	Mio.	Mio.	%	Mio.	Mio.	%
Analogue lines	21.99	1.930	8.8	20.33	2.030	10.0	19.19	2.090	10.9
ISDN basic lines	12.46	4.150	33.3	11.95	4.000	33.5	11.65	3.880	33.3
ISDN-PMX lines	0.1101	0.0291	26.4	0.1063	0.0293	27.6	0.1025	0.0295	28.8
Public telephone stations	0.102	0.0019	1.9	0.084	0.0017	2.0	0.079	0.0016	2.0
Voice access points via cable TV networks	1.530	1.530	100.0	2.300	2.300	100.0	2.900	2.900	100.0
Voice access via unbundled DSL connections used for VoIP	2.471	2.460	99.6	3.980	3.924	98.6	4.778	4.710	98.6
Total lines/access	**38.66**	**10.10**	**26.1**	**38.75**	**12.29**	**31.7**	**38.70**	**13.61**	**35.2**

* Updated values

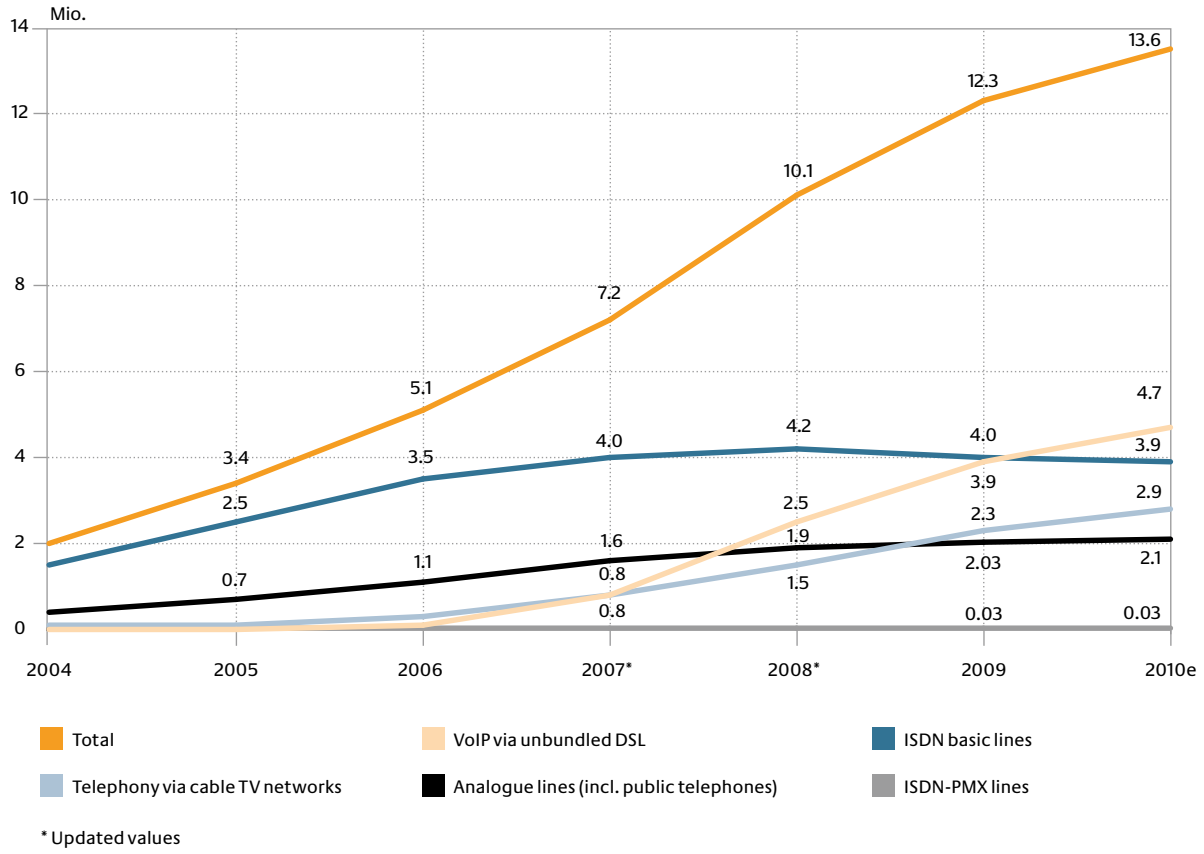
Data including personal needs

[4] As a result of new information becoming available corrections have had to be made to the number of analogue and ISDN basic lines for the years 2008 and 2009.

The total number of analogue lines has declined sharply in recent years while still representing the most important type of connection and accounting for a total of approximately 19.2 million at the end of 2010. At the same time the total number of ISDN basic lines fell by the end of 2010 to around 11.7 million. There has also been a decline in overall ISDN primary multiplex lines (ISDN-PMX).[5]

There was dynamic growth in voice access points via unbundled DSL connections which are used for VoIP and in telephony via cable TV networks. In 2010, the number of VoIP via unbundled DSL rose by around 4.8 million, easily outpacing the simultaneous increase in the number of cable TV networks used for telephone calls. Traditional fixed networks were replaced by a corresponding number of alternative technologies. The total number of public telephone payphones, including coin and card telephones, continued to fall throughout 2010 and was estimated to be around 79,000 by the end of the year.

Telephone lines/access of alternative subscriber network operators 2005–2010

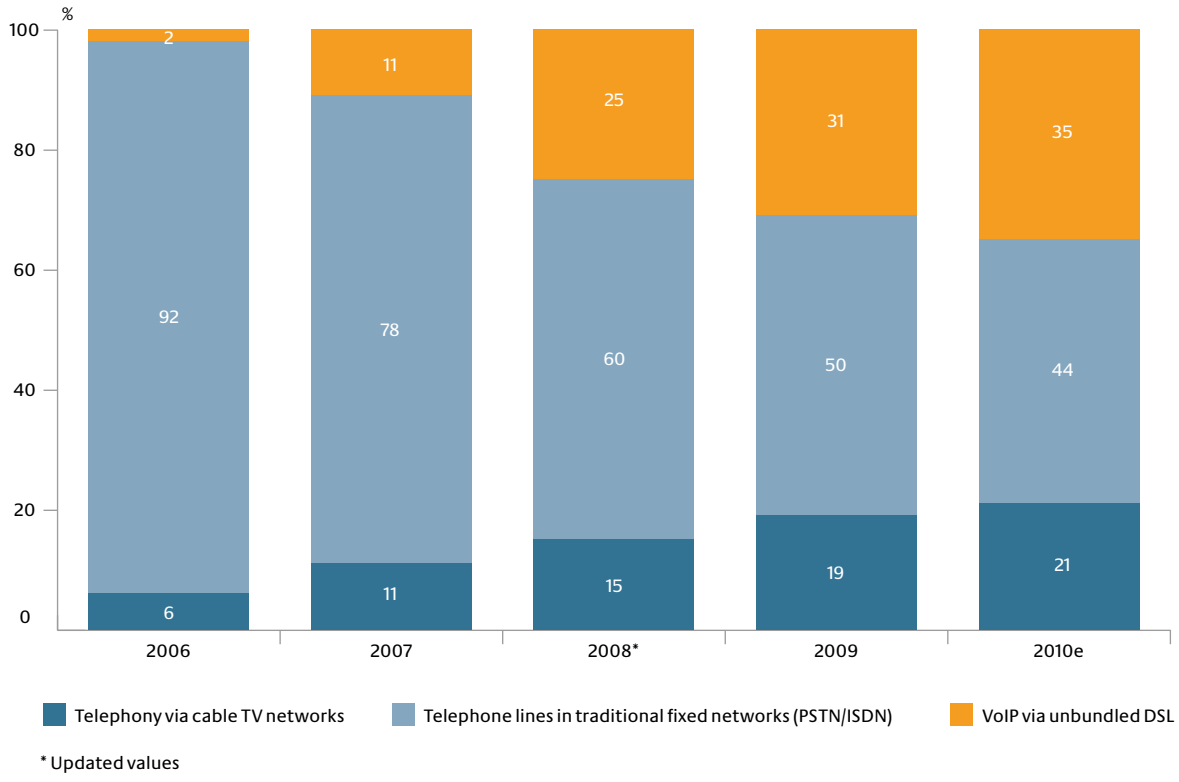


[5] The figures provided on ISDN-PMX connections are based on an unreliable database in respect of DTAG's competitors.

At the end of 2010, the fixed networks of alternative subscriber network operators had an estimated total of approximately 13.6 million telephone lines/access points. The number of lines rose in 2010 by 1.3 million compared with an increase of 2.2 million the previous year. VoIP via unbundled DSL and cable TV telephony technologies are as popular as ever among alternative subscriber network operators. Very few new analogue lines were set up and the share of ISDN basic lines declined.

There was very strong growth in the number of voice access points using VoIP via unbundled DSL in particular from 2008 through to 2009. Rates of growth of almost 60 percent in this field were somewhat higher than the growth rates for voice access points via cable TV networks (with a good 50 percent). The growth curve tailed off again in 2010 and, at around 20 percent for VoIP access, was even lower than the number of voice access points via the cable TV infrastructure which continued to grow at a rate of around 26 percent.

Share of telephone lines/access points in the fixed networks of alternative subscriber network operators 2006–2010



* Updated values

At the end of 2010, around 130 alternative subscriber network operators were offering analogue access points, ISDN access points, voice access points via unbundled DSL connections and DSL connections used for VoIP or voice access points via cable TV networks. The connections/access points offered by these operators were provided on the basis of contracts on access to the DTAG subscriber line or based on DTAG's "stand alone ATM/IP bit stream" and "stand alone resale" wholesale products or based on their own subscriber

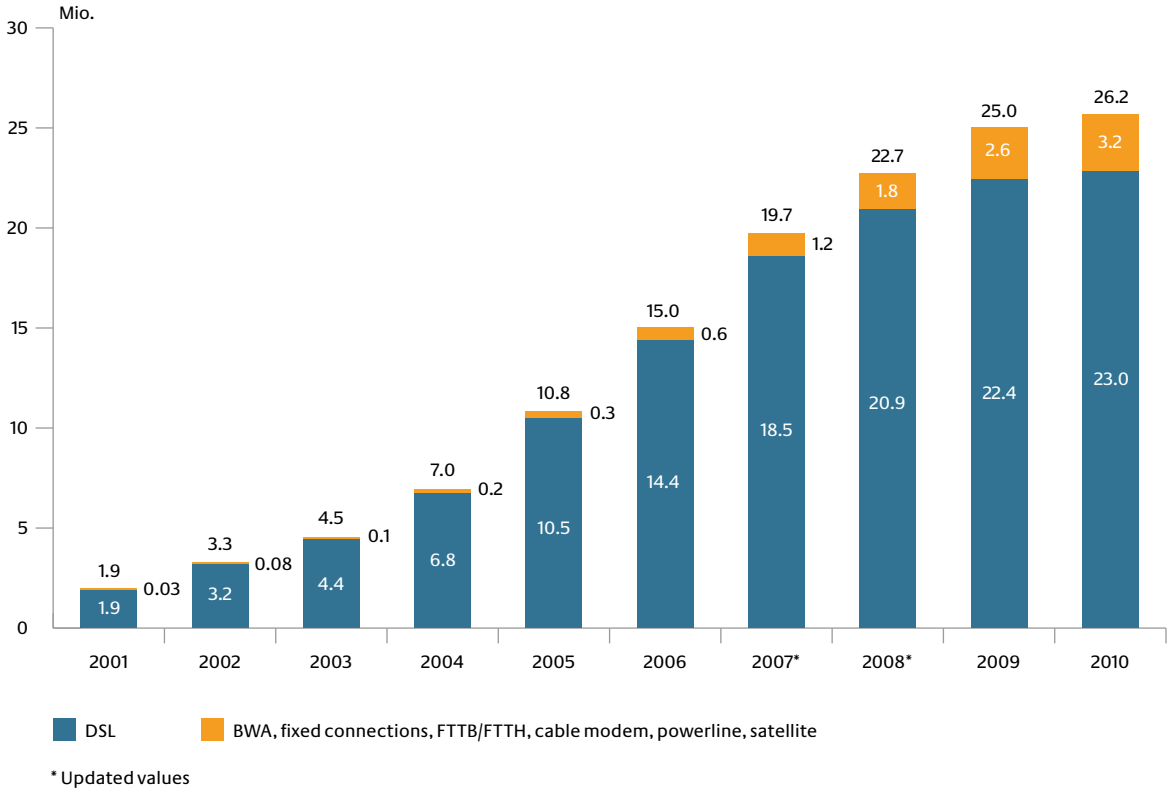
lines or bit stream products offered by alternative carriers (bit stream resale).

Broadband access technologies

In Germany, landline broadband access is mainly provided via digital subscriber lines (DSL) and cable TV connections (cable modem). Other access technologies used include satellite, power lines, glass fibre and radio-based infrastructures.

In 2010, there were 26.2 million broadband lines in the German landline network. With a total of some 23 million, DSL remains the dominant access technology. Cable network providers also reported relatively high rates of growth for broadband services, with around 2.9 million lines. The remaining access technologies, including fibre optic (FTTB/FTTH), were used for around 0.26 million lines, demonstrating that fibre optic has not yet gained much ground as a broadband access technology.

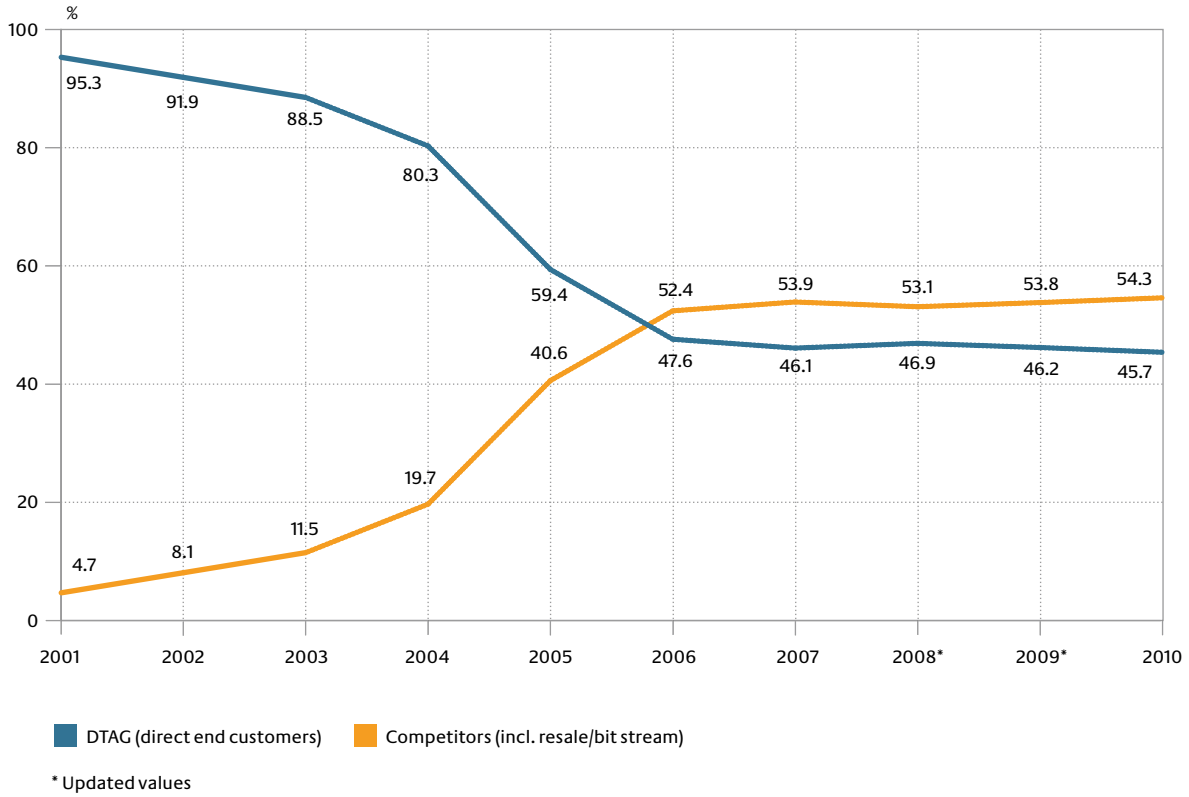
Total number of broadband lines 2001–2010



* Updated values

Competitors of DTAG were able to claim approximately 54 percent of the market for broadband lines as things stood at the end of 2010.

Share of retail broadband connections 2001–2010

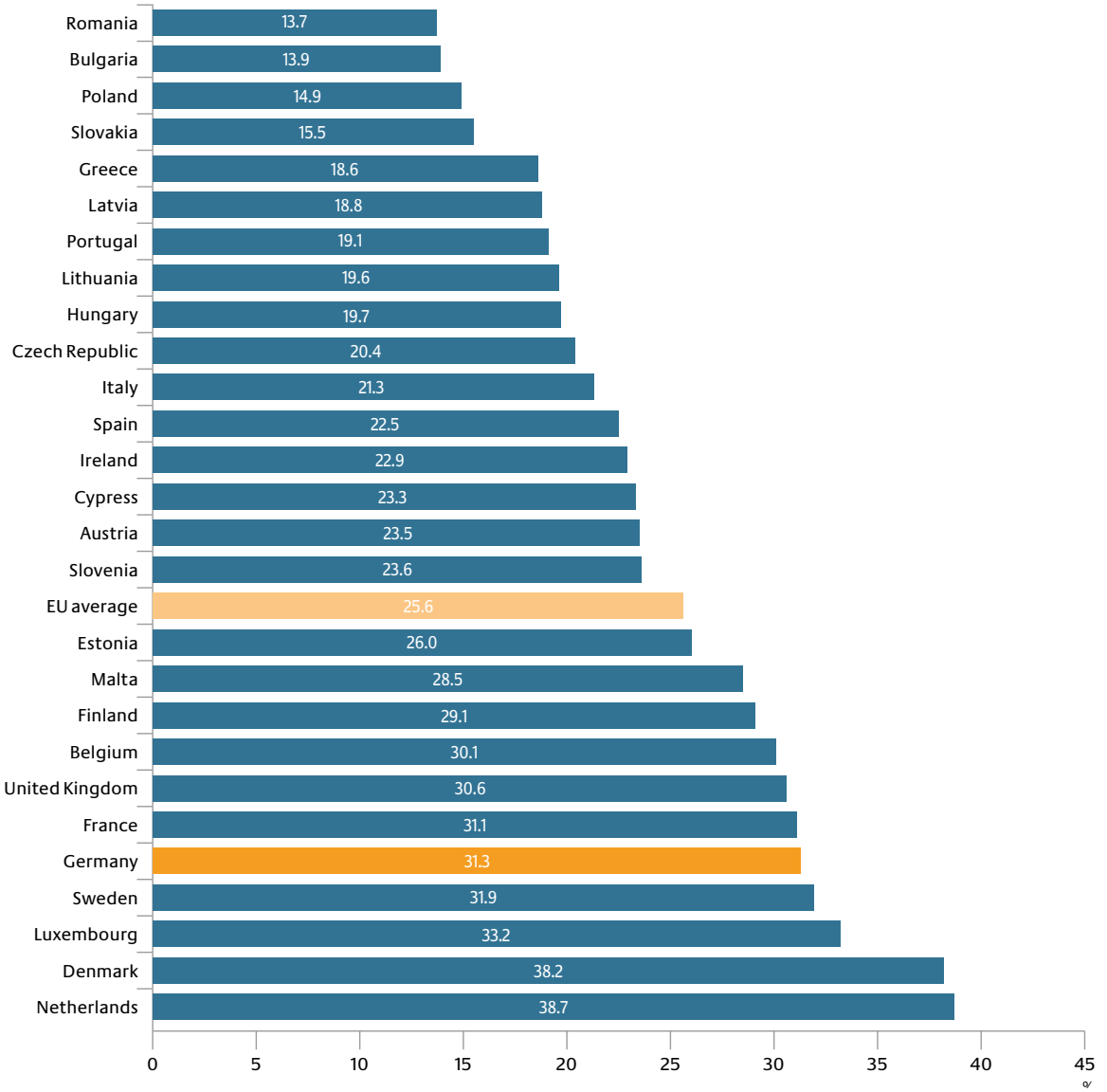


The development of the broadband market is unique in the European context, even if account is taken of the recent slowdown in growth. Statistics provided by the European Commission[6] demonstrate that, in the first half of 2010, Germany had a fixed broadband penetration rate (as measured by population) of 31.3 percent, considerably higher than the average rate for all EU Member States of 25.6 percent. Germany consequently has a higher rate of fixed broadband penetration than any of the other large European countries. Owing to their geographical features it is very difficult to compare Germany with those countries which have even higher rates of fixed broadband penetration. Most broadband connections in Germany currently offer download rates of between 2 Mbit/s and 30 Mbit/s. Although telecommunications undertakings offer higher speeds of 50 Mbit/s or 120 Mbit/s only a very small proportion of broadband customers has actually been willing to purchase such high bit rate services to date. Of the 40 percent of German households which, according to the German government's Broadband Atlas, could theoretically subscribe to bandwidths of at least 50 Mbit/s less than one percent actually makes use of such high bit rate services despite the attractive prices at which they are offered. According to Cullen

[6] European Commission, Broadband access in the EU (COCOM10-29)

International, a similarly large gap between the high bit rates on offer and the actual bandwidth demanded by customers also exists in other EU Member States[7]. The average downstream nominal bit rate of all broadband connections in Germany at the end of 2010 has been estimated at around 9.2 Mbit/s

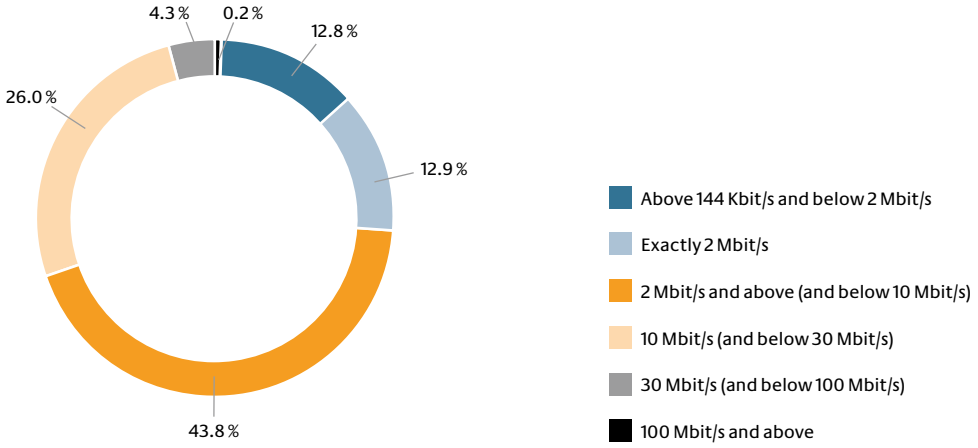
Total fixed broadband penetration in Europe 2010



Source: European Commission (COCOM 10-29) Q2/2010

[7] Cullen International: NGA deployment plans, December 2010

Retail broadband lines by speeds 2010

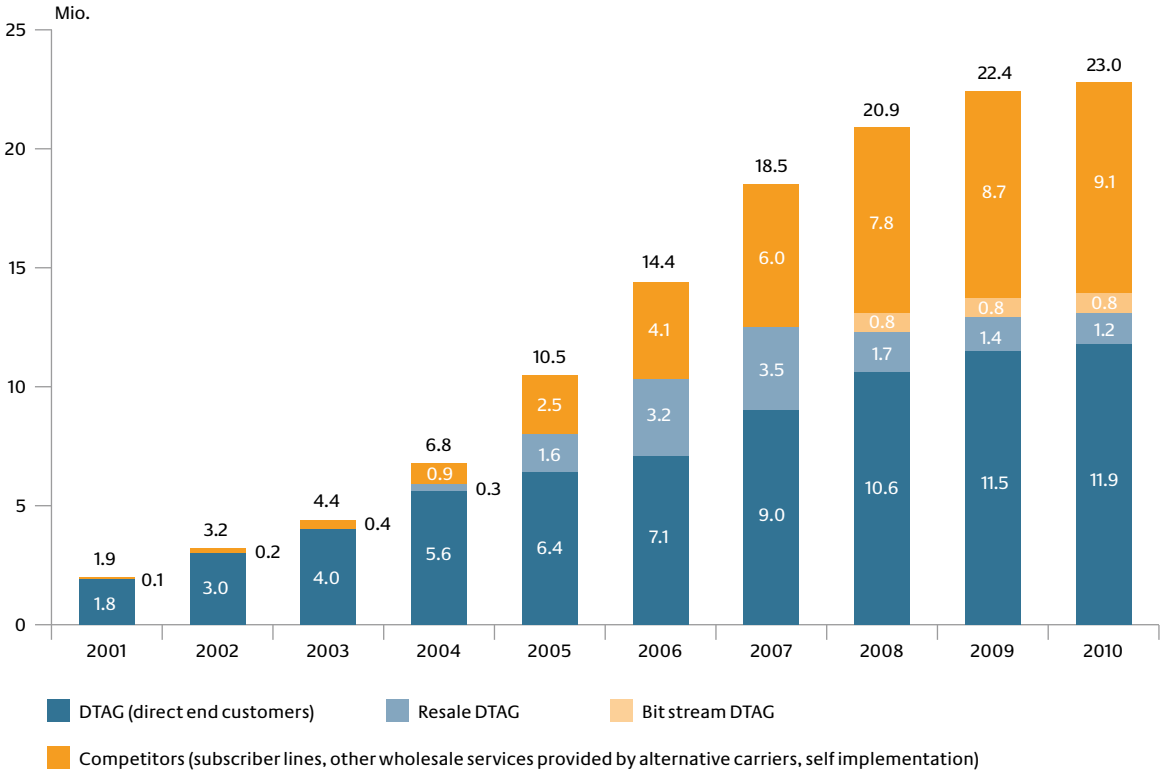


DSL lines

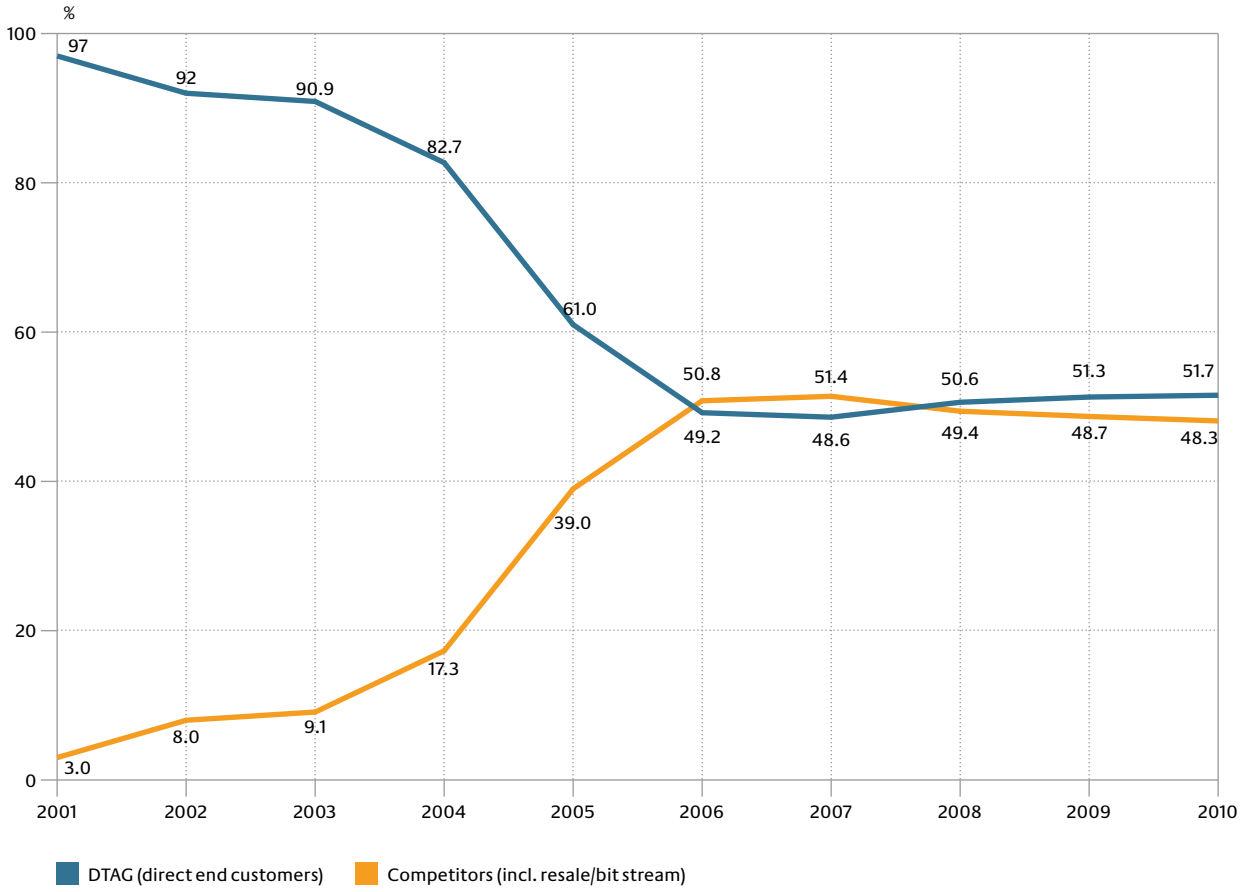
23 million DSL lines were in service at the end of 2010. DSL providers acquired around 600,000 new customers in the course of 2010.

11.9 million DSL lines, or around 52 percent of the total retail market, were operated directly by DTAG. In comparison, around 11.1 million DSL lines were retailed by DTAG's competitors corresponding to around 48 percent of end customer sales.

DSL lines in operation 2001–2010



Share of retail DSL connections 2001–2010



Fewer and fewer DTAG DSL lines are being resold by alternative providers (resale DSL). Greater use is being made of wholesale products which include routing data traffic and creating internet connectivity (bit stream offers, simple resale) as well as providing the DSL line. Wholesale products of this kind are offered by alternative operators as well as by DTAG. Around 0.8 million of the DSL lines sold to end customers by competitors were based on DTAG bit stream products.

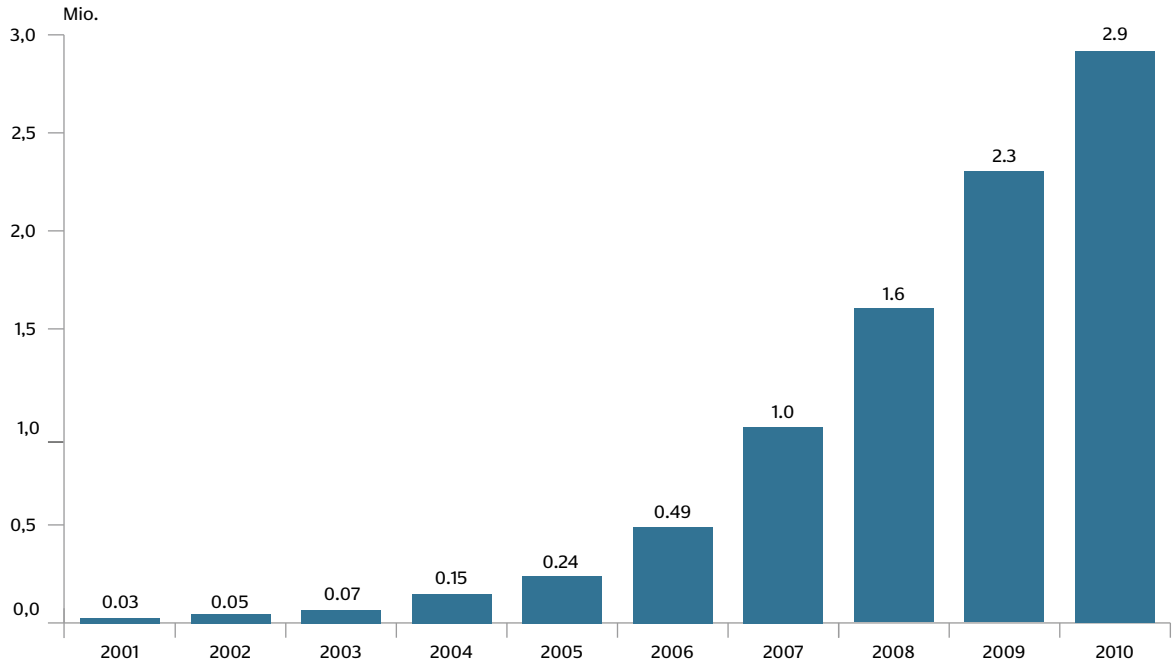
The wholesale products offered by alternative carriers in the DSL market have grown in importance in recent years. Alternative carriers of DTAG competitors provide special wholesale products on the basis of access to the DTAG unbundled subscriber line. Wholesale products of this kind are used to offer DSL-based "full connections" to end customers. As well as access to the Internet, telephone connections using these lines are handled exclusively on the basis of an IP backbone (VoIP) doing away with the need for a conventional telephone line. According to DSL providers, there were already over four million such full connections in operation by mid-2010.

Broadband lines via the cable TV infrastructure

Fast Internet access via the cable TV infrastructure is becoming increasingly popular. This access option is available to over 24 million of the around 40 million households in Germany identified by the Federal Statistical Office. Many operators have now all but completed the modernisation of their infrastructures to DOCSIS 3.0 and offer bandwidths which are often far higher than those of DSL providers. The new transmission standard currently supports download speeds of up to 128 Mbit/s which, if corresponding customer demand is there, could be increased to several hundred Mbit/s in the future.[8]

A comparison of bandwidth demand in recent years shows a trend towards higher speeds. 80 percent of cable customers had internet connections above 10 Mbit/s at the end of 2010, for example. Competitive charges and ever wider coverage motivated 2.9 million customers of around 60 cable network providers[9] to opt for this type of Internet access. Wherever it is available locally cable Internet access offers a real alternative to traditional fixed networks. It is also noticeable that by the turn of the year 2010/2011 operators had upgraded the cable network to such an extent that around 13 million households could be supplied with download rates of 100 Mbit/s. Even if relatively few subscribers actually had such fast connections at the end of 2010, the infrastructure nonetheless has considerable potential for the future.

Internet access via cable television networks 2001–2010



[8] As shared media, the user bandwidths actually available could vary or be lower.

[9] This figure includes all individual companies regardless of whether they belong to the same group.

Powerline

Powerline is another technology for accessing the Internet. This networking technology, which is also known as Digital Powerline (DPL), uses the mains cable to transmit data as well as supply households with electricity. There has been very little change at all in the use of powerline over the last six years. Of the 300,000 households which could potentially be supplied, fewer than 10,000 actually had this access option at the end of 2010.

Satellite

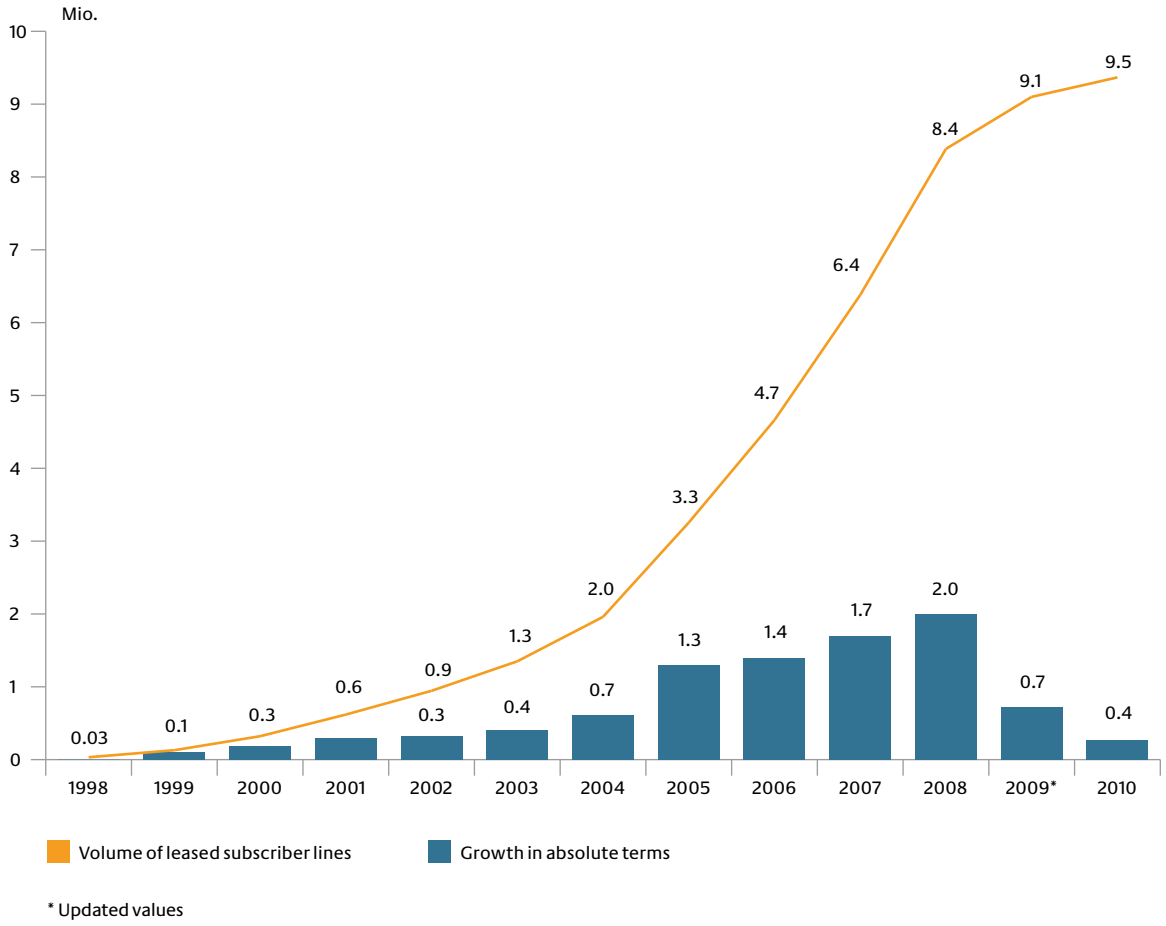
The satellite systems offered by Astra and Eutelsat provide Internet access from practically anywhere. Typically bi-directional services transmit data in the uplink and downlink via satellite. By the end of 2010 approximately 42,000 customers were making use of the two-way communication technology retailed by around ten providers. Although the purchase price and monthly charges for systems of this kind have fallen sharply in recent years, connections via broadband DSL and cable TV network have been even cheaper. However, satellite services can play an important role in ensuring that the Internet can be accessed absolutely everywhere in Germany, including in regions which are not served by landline, cable TV or mobile telephone services.

Wholesale access services

In addition to self-installed subscriber lines and radio-based solutions, the majority of DTAG's competitors use DTAG's existing subscriber lines to provide telephone and broadband connections. These lines, which are usually made of copper, are purchased under contractual arrangements by alternative providers as a wholesale service from DTAG. DTAG's wholesale service encompasses numerous different subscriber line products, with unbundled copper pairs wires accounting for the majority of leased lines.

Growth in demand slowed for the first time in 2009. The figures for 2010 indicate that this trend has now settled in. At the end of 2010 around 9.5 million subscriber lines were being leased from DTAG's competitors.

Volume of leased subscriber lines 1998–2010



* Updated values

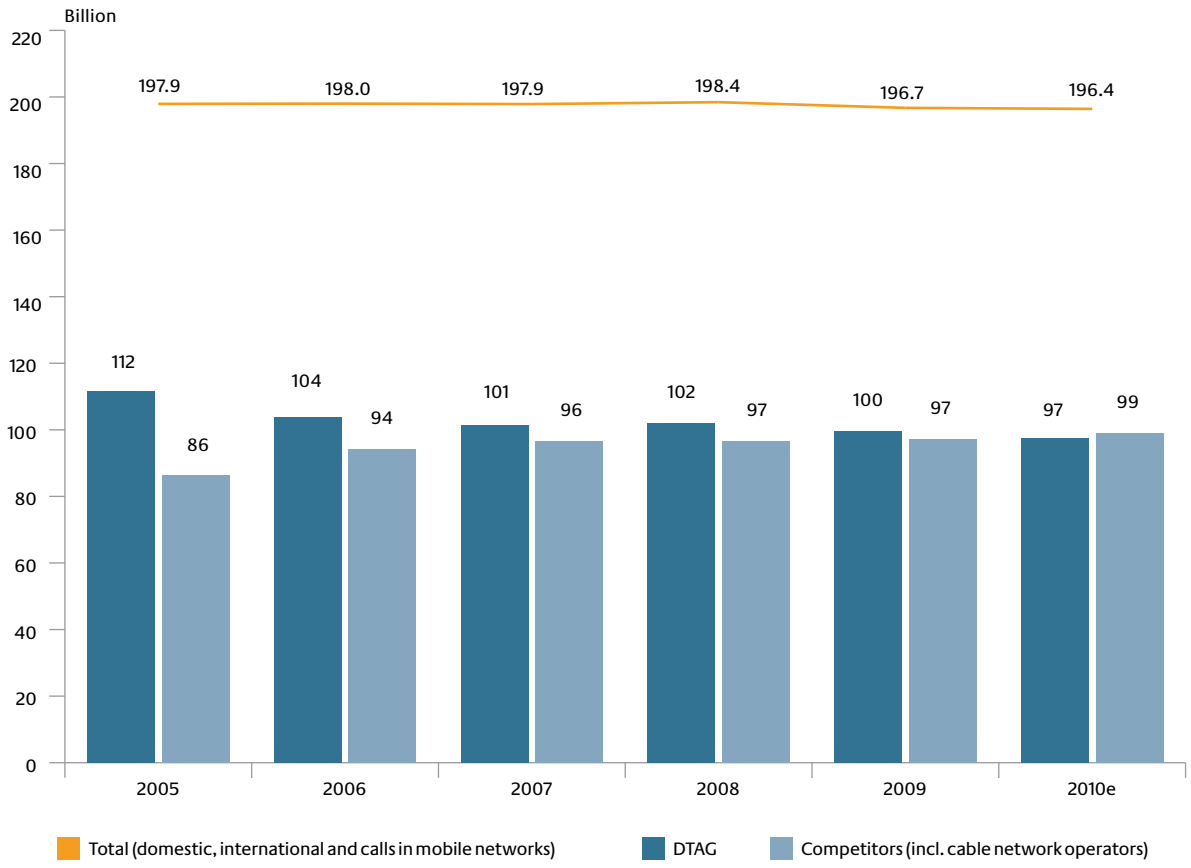
One of the reasons for the tailing off of growth is likely to be that regions offering favourable economies of scale have already been almost fully developed by DTAG's competitors. As a result there is little if any profit to be gained from expanding services into more areas. In October 2010 over 3,800 DTAG main distribution frames had been developed by competitors. Another reason for slower growth is the incipient saturation of the broadband market and the associated fall in demand for additional high bit rate lines. In the past much of the momentum for growth came in particular from the high bit rate subscriber lines used by competitors for the provision of DSL lines.

Volume of landline calls

There has been a slight fall in the number of call minutes[10] using traditional telephone networks as well as cable and IP-based networks. According to preliminary calculations undertaken by the Bundesnetzagentur the volume of traffic fell by the end of 2010 to around 196.4 billion minutes compared with around 196.7 billion minutes the previous year. DTAG competitors accounted for around 99 billion minutes by the end of 2010.

[10] Domestic calls, connections to international fixed and mobile communication networks as well as to national mobile networks and fax numbers

Call minutes 2005–2010

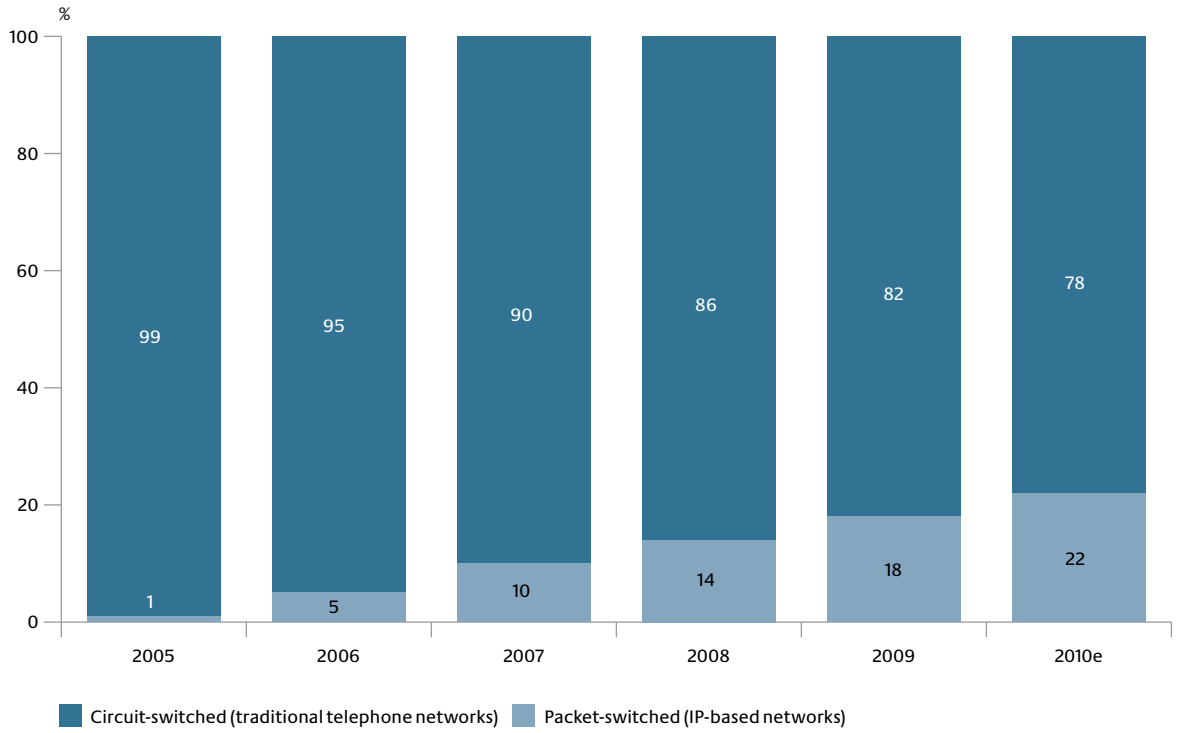


The number of call minutes have tended to fall as more traffic volume has shifted from the fixed network to mobile networks. The substitution effects created by mobile calls are as yet minor owing to the intensive use being made of flat rates in the fixed network as part of bundled products. By mid-2010 around 22.3 million customers had bundled products.

In contrast, the volume of indirect call-by-call or preselection calls made via DTAG competitors continues to decline sharply. Whereas in previous years up to 6.3 million customers had preselected alternative connection network providers in DTAG's network, this number had fallen to around 2.2 million by July 2010. Despite this development, since 2006 the volume of calls routed via alternative connection network providers has exceeded the volume of traffic handled via call-by-call. Overall the volume of calls transported indirectly by competitors declined by six percentage points in the course of 2010 to around 13 percent of the total volume of alternative providers by the end of 2010.

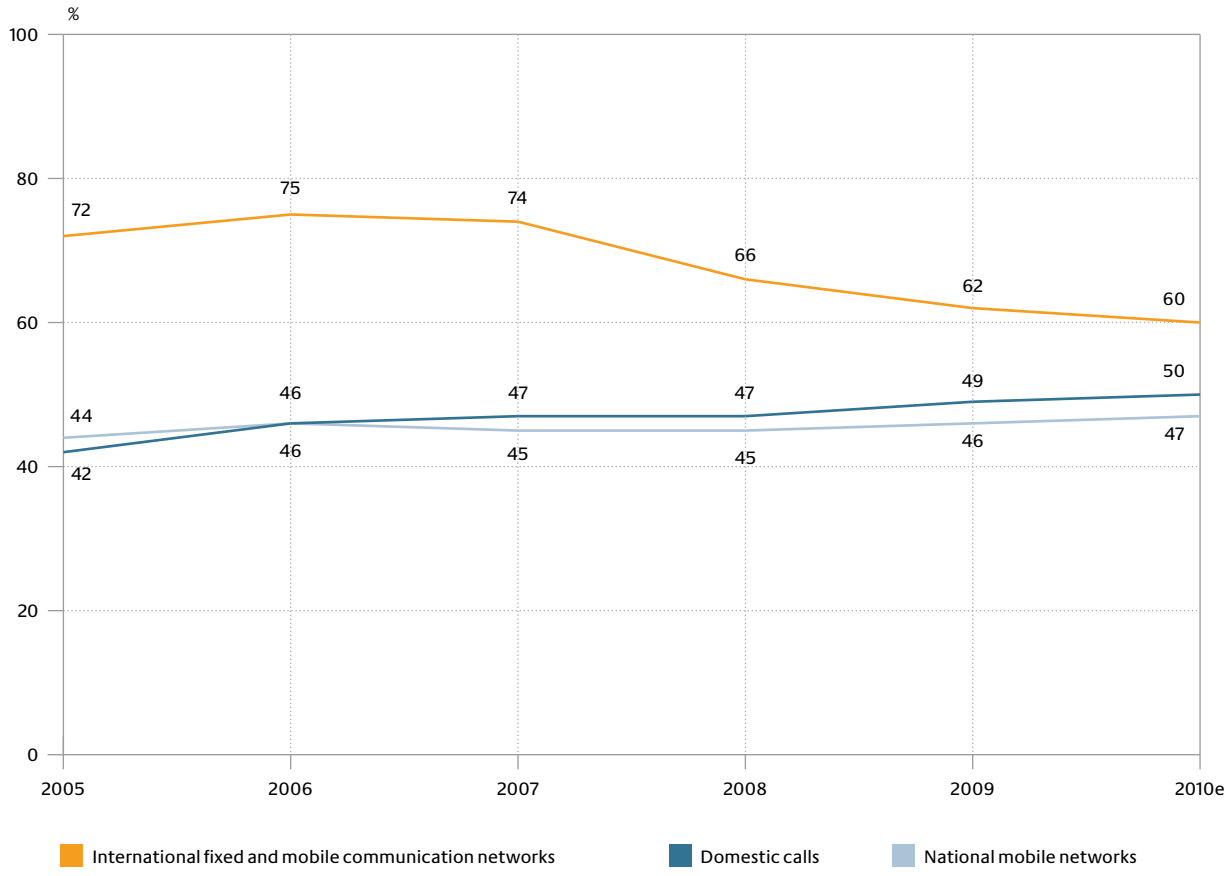
In the fixed network more and more telephone calls are being made via DSL or cable connections. Traditional analogue or ISDN connections make up an ever smaller part of the competitors' new business in particular. There has hence been a migration in traffic volumes from traditional telephone networks to IP-based networks. By the end of 2010 an estimated 22 percent of fixed network call minutes were handled via IP-based networks.

Share of packet-switched technologies 2005–2010



Alternative providers successfully boosted their share of traffic volumes both in the domestic call and in the fixed to national mobile network segments. Around half of all call minutes in these two segments were handled by DTAG competitors.

Share of alternative providers according to call segment 2005–2010



Calls made using peer-to-peer technologies are not included in the data on calls in international fixed and mobile communication networks, although these providers[11] are likely to account for a considerable volume of traffic in the international call segment.

MOBILE TELEPHONE SERVICE

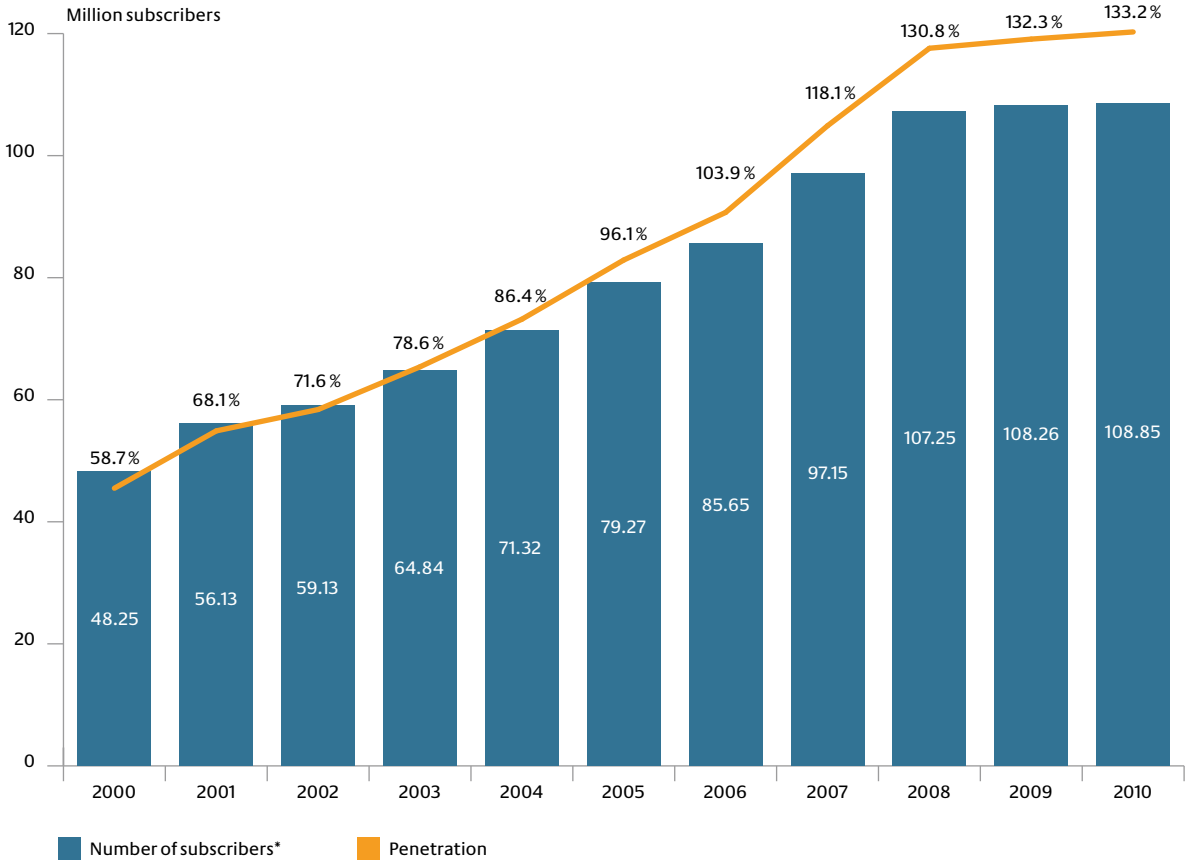
Subscribers

For the first time since figures have been published by the Bundesnetzagentur the number of mobile telephone subscribers did not increase substantially in the course of the year compared with the previous year. While there is still some growth in certain areas, such as in the number of SIM cards for mobile Internet access, the number of subscribers fell temporarily owing to the elimination of inactive prepaid subscribers, particular for Telekom Deutschland GmbH. On average the number of SIM cards per inhabitants remained the same as in the previous two years at around 1.3.

In addition, some SIM cards (around 1.3 million at the end of 2009) are also used for automatic data communication (machine to machine) purposes.

[11] These include provide such as Skype, for example. However, as it was not possible to include this traffic in the Bundesnetzagentur's data survey, this effect cannot be accurately quantified.

Subscribers and penetration in German mobile communication networks 2000–2010



* Contract conditions. One user can maintain several contract relations.

At the end of 2010 around 55 percent of subscribers used prepaid SIM cards. The mobile telecommunications operators E-Plus and Telefónica O2 Germany GmbH & Co. OHG managed to increase their market share of SIM cards again in 2010 and more than one third of all cards now use the networks run by these two operators.

The "no-frills" business model[12] is becoming increasingly popular. By the end of the first six month period of 2010 more than 23 million SIM cards were in circulation offering simple and relatively low price charges. This sector had a market share of over 21 percent, up from just 20 percent at the end of 2009. The typical misconception that discount providers offer poor service is contradicted, for example, by a study of service quality[13] in which six no-frills operators ranked among the top ten providers.

The number of customers of independent service providers[14] continues to fall. While more than 24 million SIM cards (or 22 percent of all subscribers) were still serviced by these operators at the end of 2009 this figure had fallen to around 22 million cards (or 20 percent) by the end of 2010.

[12] This model adopts a simple and low price charging model. At the same time it offers only limited customer service by Internet or telephone. Mobile phones are not usually subsidised either.

[13] Study by the market research company Deutsches Institut für Servicequalität (DISQ) in November 2010

[14] Independent service providers are those which have neither corporate nor sales cooperation links with network operators.

As flat-rate charges are now common for calls into both the German fixed network and for on-net calls, mobile telephone offers which offer an additional landline number have become less attractive. While around 7.5 million subscribers still used such services at the end of 2009 this figure had fallen to just 7.1 million subscribers in the first half of 2010.

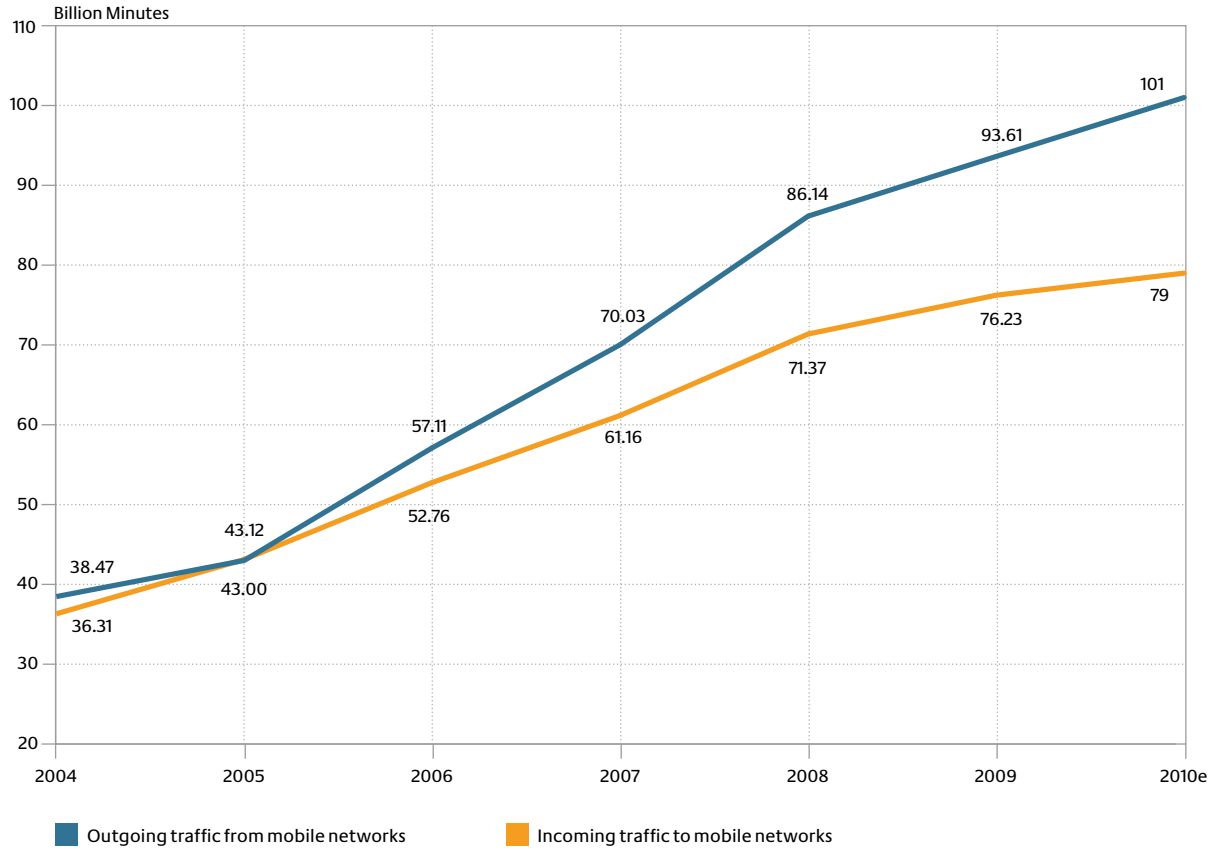
Mobile call minutes

Although the volume of calls made in mobile networks again grew substantially in 2009, the figures were nonetheless somewhat lower than in previous years. The volume of outgoing domestic calls rose by just nine percent to 93.6 billion minutes. The majority of calls were made in the subscriber's own network and to the German fixed network. Subscribers using international SIM in Germany also generated a volume of outgoing calls of 0.8 billion minutes.

The number of incoming calls to German mobile communications networks also rose in 2009 to 76.2 billion minutes. On average subscribers made 140 minutes of calls per month, just under 78 minutes of which were for outgoing calls. It is also striking that an estimated two thirds of all outgoing call minutes are charged as inclusive or flat rates calls.

The volume of domestic outgoing calls exceeded 100 billion minutes for the first time in 2010.

Volume of calls made in mobile networks 2004–2010[15]

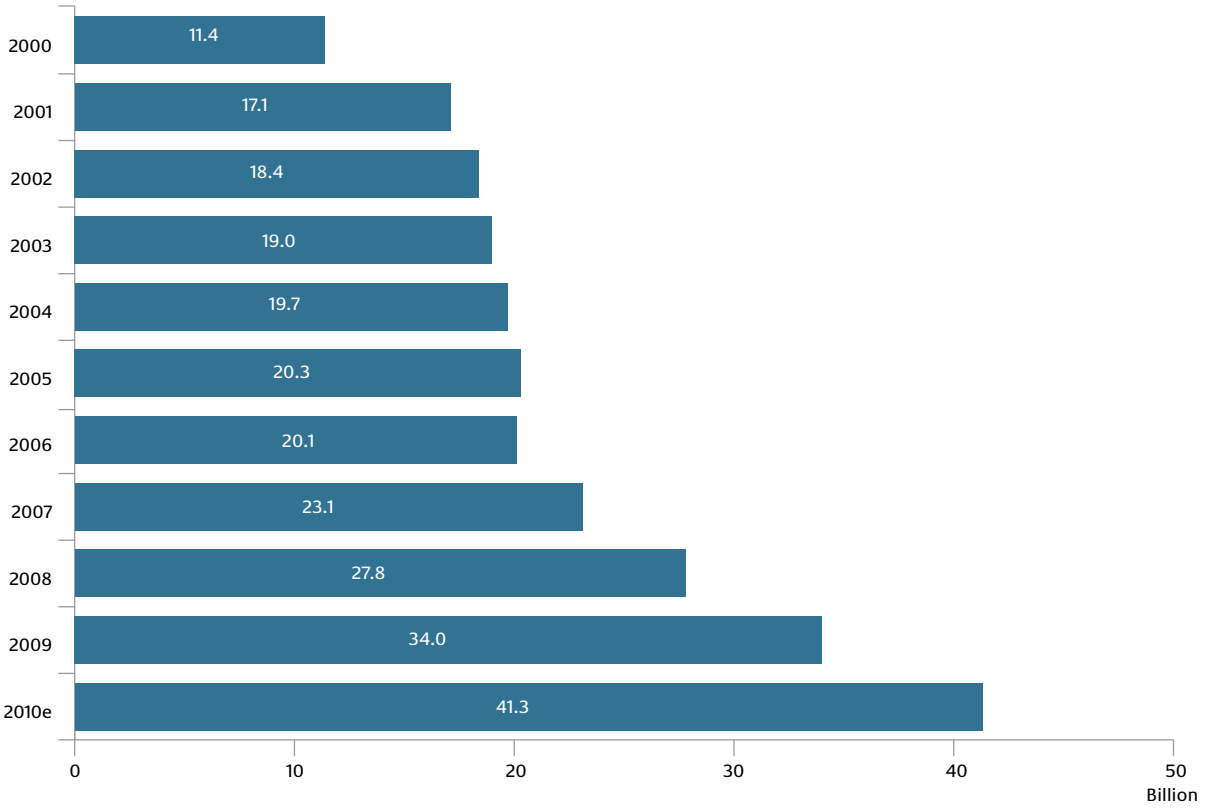


[15] Excluding volume using international SIM cards (international roaming)

Text and multimedia messaging

In 2009 around 34 billion text messages were sent domestically, almost 22 billion of which were sent in the subscriber's own mobile phone network. Similar to call volume, an estimated two thirds of all text messages sent in 2009 were charged at flat rates. Half a billion text messages were sent in Germany via international SIM cards (international roaming).

SMS sent 2000–2010



In 2010 around 41.3 billion text messages were sent within Germany. This corresponds to growth of over 20 percent and thus continues the trend which began in previous years.

The number of other messages sent was relatively negligible in comparison. In 2009 170 million MMS, a good 200 million premium SMS[16] and approximately 3.2 million premium MMS were sent domestically.

Mobile broadband

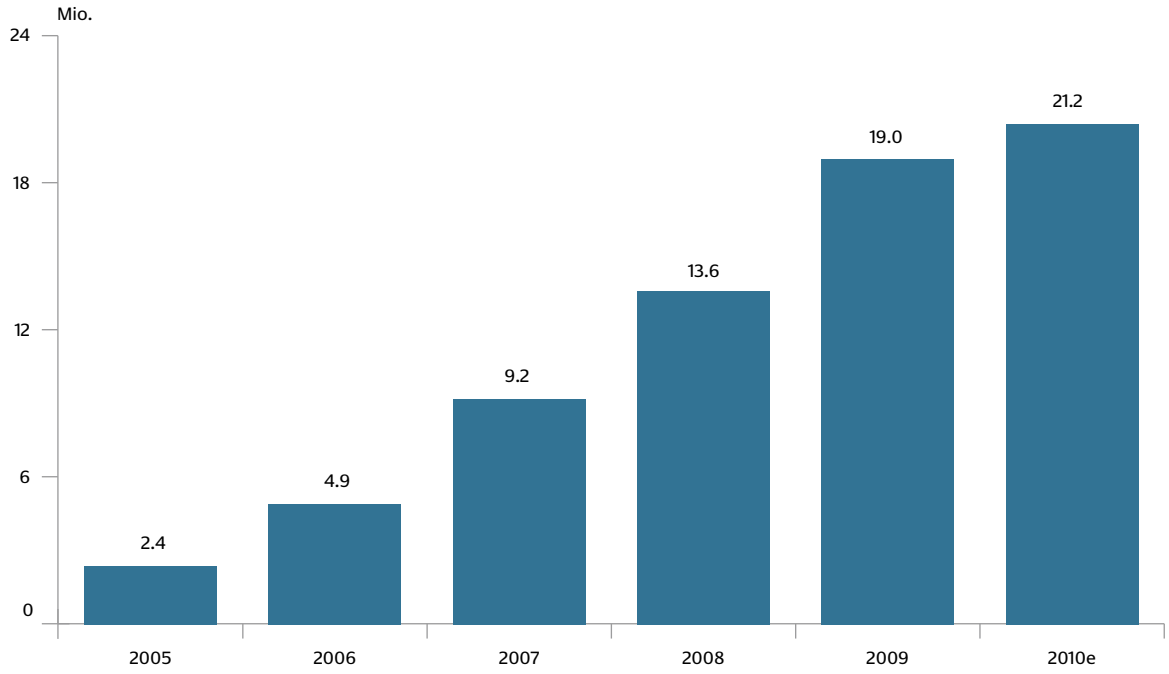
BITKOM projects that one in three mobile phones purchased in 2011 will be a smartphone.[17] The number of regular users of mobile broadband is not growing particularly dramatically, however. By the end of 2009 19 million people were active users of 3G data services; by the end of 2010 there were around 21.2 million users. Almost 4.3 million of these cards were used exclusively to communicate

[16] Premium-rated short messages are sent to short dial numbers and are used to provide value-added services such as entries for competitions or to download ring-tones, music and videos.

[17] Press released issued by BITKOM on 15 November 2010

data, eg by data card, surfstick or modem (3.3 million at the end of 2009). Accordingly, the number of broadband users per mobile telephone rose by just eight percent to 16.9 million.

Number of regular[18] UMTS users 2005–2010

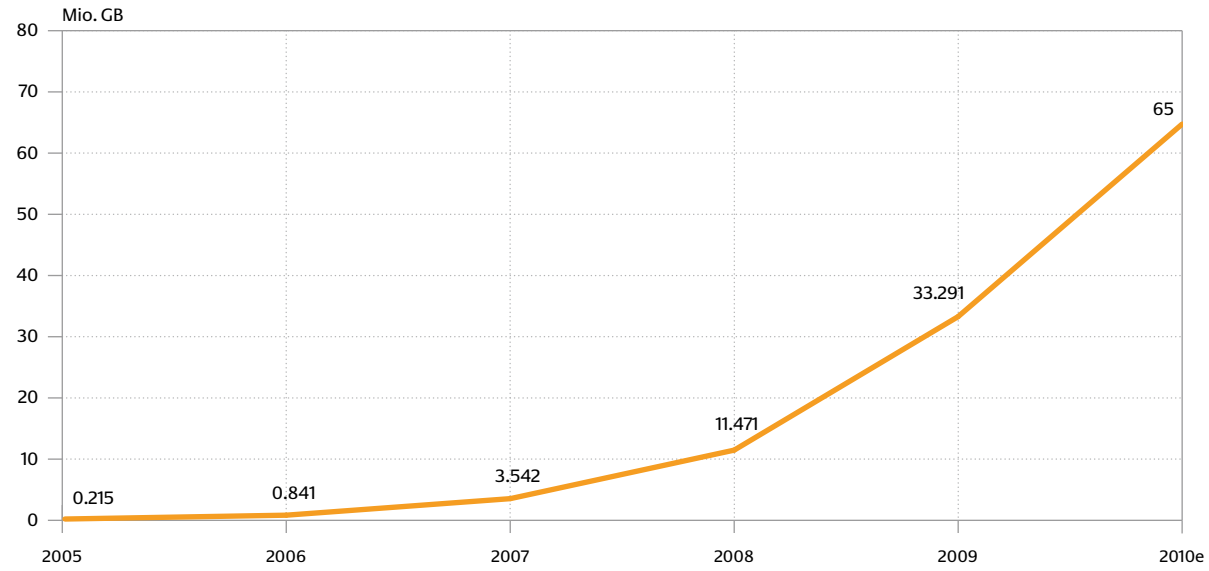


Not all data users also use a UMTS connection for mobile Internet usage, either because they do not have a UMTS capable mobile telephone or because UMTS is not available from their network operator where they are. In 2009 this was the case for around 10 million users.

The growth curve for mobile generated data is still as steep as ever. In 2009 the volume of data in Germany was 33.29 million GB (incl. 0.052 million GB by international roaming using international SIM cards). The volume grew substantially again in 2010 doubling to around 65 million GB.

[18] Used at least once during the previous three months

Data volume in mobile communication networks in Germany 2005–2010



The availability of UMTS services has improved again. Relative to the population UMTS network coverage in mid-2010 varied between 65 and 82 percent depending on the respective network operator. As these services are expanding primarily in densely-populated areas, geographic UMTS coverage is substantially lower. By mid-2010 this was between 20 and 49 percent, depending on the operator. Of the good 110,000 radio base stations in existence in mid-2010 (following 107,00 at the end of 2009), just under 40 percent were suitable for UMTS use.

HSDPA, which significantly enhances the maximum possible as well as average download speed per user, is also available in many areas which have UMTS services. In the whole UMTS network DTAG has been offering a downstream rate of up to 21 Mbit/s since early 2011, for example[19]. Average data transmission rates are usually considerably lower, however.

The development of LTE networks by the three network operators which acquired the digital dividend frequencies in the 800 MHz band in an auction in May 2010 has improved broadband mobile access to the Internet in rural areas in particular. The use of lower frequencies enables a considerably larger area to be covered by each radio mast. However, LTE is also suitable for use in urban areas given that building penetration is considerably better in the lower frequency ranges. The three network operators Vodafone D2 GmbH, Telekom Deutschland GmbH and Telefónica O2 Germany GmbH & Co. OHG announced their intention to provide LTE to 1,500 locations each by the end of 2011 at the latest.

INTERNET

Internet use

According to a survey undertaken by the Federal Statistical Office in the spring of 2010 around 55.8 million people aged ten years and

[19] Press release issued by DTAG on 11 January 2011

older had used the Internet from home, their place of work or elsewhere during the previous three months[20]. People now spend a considerable amount of each day using the Internet. According to an ARD/ZDF online study undertaken in 2010 Internet users spend an average of two hours or more on the Internet every day. There has in particular been a discernible increase in the use of moving images, alongside consumption of "conventional" television products. The study shows that Internet-based video and TV contents are growing increasingly popular. Around 17 million online users watched moving images on the Internet at least once a week in early 2010.

A growing proportion of mobile terminal devices are capable of accessing the Internet. According to a study undertaken by Fittkau & Maaß (W3B) in the spring of 2010 almost half of all mobile terminal devices could use the Internet. Interestingly, the Internet is not always accessed from mobile devices when people are away from home or work. In fact, according to the (N)Onliner Atlas 2010 survey, the share of the population[21] which used mobile networks as the main point of access to the Internet at home actually doubled over the course of the year to 1.3 million. The study results show that UMTS sticks play a key role in this development. With the increasingly widespread use of the LTE mobile network technology Internet use via mobile telecommunication networks is set to increase even further.

Internet traffic based on fixed network connections

While more and more data traffic is using broadband connections, narrowband Internet use is becoming increasingly insignificant. In 2010 only around 3 billion minutes of Internet use was accessed from dial-up connections.

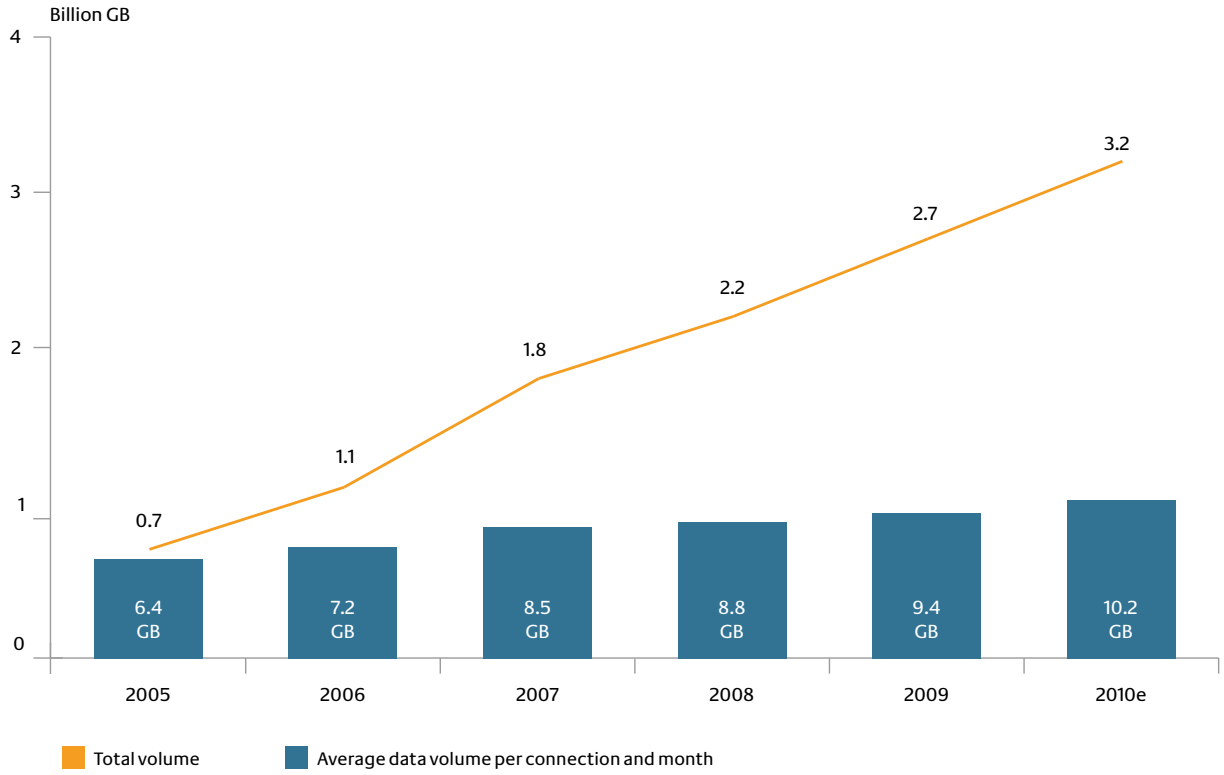
In the period under review almost 3.2 billion GB (incl. VoIP) was already being generated via broadband connections in the fixed network. This corresponds to an average data volume used of around 10 GB per month and broadband connection and an increase of around nine percent compared with the previous year.

Data use is expected to rise even further in the years ahead despite the increasing saturation of the broadband market. Data-intensive applications such as television (IPTV) or video-on-demand are expected to contribute the lion's share of this increase in traffic although greater use of IP-based telephone services (VoIP) is also expected to play a significant role.

[20] Private households in the information society (IKT) – Fachserie 15 Series 4 – 2010

[21] In relation to the German-speaking resident population aged 14 years and older with a landline telephone connection in the household

Traffic volume broadband 2005–2010



Voice over IP

VoIP is a service which enables voice transmission via an IP infrastructure. The use of VoIP services generally requires broadband access to the Internet. In order to guarantee certain quality characteristics access to the Internet must have a defined minimum bandwidth.

The VoIP services of DSL or cable providers in particular are geared to private use. According to information from providers around 6.8 million customers made calls exclusively via VoIP at the end of the first half of 2010. By the end of 2010 this figure is thought to have risen to an estimated 7.7 million users. This group of customers no longer has conventional telephone connections; instead they use "full connections" to access the Internet and for telephone calls.

The competitors of DTAG in particular are trying to motivate their existing customers to switch to full connections. In new customer business IP-based telephone service are often offered on their own.

In addition, broadband customers who also have conventional telephone connections can make occasional use of a VoIP service, although a special provider charging model is usually required for this purpose.

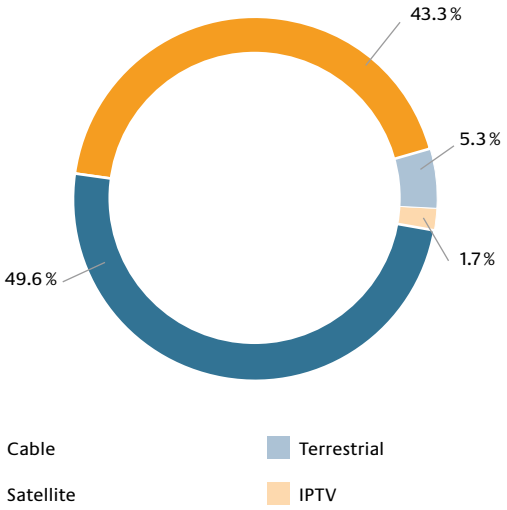
In 2009 all VoIP users generated call volume of[22] around 36 billion minutes, rising by the end of 2010 to an estimated 43 billion minutes. In this segment competitors continued to achieve shares of over 90 percent.

BROADCASTING

At the end of 2009 the figures produced by Société Européenne des Satellites (SES) showed that 49.6 percent of the around 37.4 million German households with television received their signal via cable (this includes households with shared satellite systems or their own satellite receiver). 43.3 percent received their signal via their own satellite dish and 5.3 percent used DVB-T. 1.7 percent received Internet protocol television (IPTV) which is widely available over DSL broadband.

There was a slight increase in reception over cable and satellite compared with the end of 2008 (cable: 0.6 percentage points; satellite 0.3 percentage points). IPTV use more than doubled in the same period (one percentage point). With just 0.6 million households, Internet television is still used by relatively few people. DVB-T terrestrial television is the only transmission technology to lose ground (two percentage points) to other technologies.

Infrastructural connection of TV households 2009



source: SES/ASTRA

The trend towards digitalisation continued in 2010. The changeover of many viewers of satellite and cable TV from analogue to digital technology resulted in 25 million TV-viewing households watching digital TV programmes by the end of 2009. This represents an increase of seven percent compared with the previous year. Further momentum towards digital technologies will be given by the agreement between the Land media institutes and programmers to discontinue analogue broadcasts on 30 April 2012.

The three broadcasting avenues of satellite, cable and IPTV – if the right terminal devices are used - enable high-resolution HDTV. While programmes offered by public service broadcasters are free for television viewers, it is also possible to receive pay HDTV programmes over satellite and cable. In early 2011 these additional programmes were being broadcast by around ten stations with more planned for the future. The satellite company ASTRA plans to add further fee-based TV channels with its

[22] Call volumes encompassed domestic calls, connections to international fixed and mobile communication networks as well as to national mobile networks Minutes handled by peer-to-peer technology are not included in the data.

HD+ package. ASTRA will be able to offer a total of 24 high-definition television channels by the end of 2011. This means that there will be an even broader range of programmes available to viewers in the near future.

The cable network, which was originally only developed to broadcast TV and radio programmes, has been upgraded in many places in recent years to enable additional services such as voice telephony and Internet to be offered. At the same time, DSL providers are also enhancing their services with IPTV and are moving towards offering television services.

PRICE TRENDS

According to the Federal Statistical Office annual average telecommunication prices for private consumers fell by 2.1 percent in 2010. Prices fell in the mobile telephone segment by 2.9 percent and by 1.8 percent for fixed network/Internet. Producer prices in the third quarter of 2010 fell year-on-year across the board further (by two to three percentage points) than consumer prices.

Offers consisting of telephone access with flat rate and a broadband connection for Internet access are being offered at prices of around 20 euros. In many cases this price also includes a mobile phone card. These prices are often offered as reduced starter prices in order to encourage customers to change provider. In some cases offers are made more attractive by extending the range of services without increasing the price, eg in terms of retailed bandwidths.

Call-by-call and preselection

One of the first regulatory measures aimed at strengthening competition in Germany's telecommunications market was the introduction of call-by-call and pre-selection from the DTAG network. This form of access is no longer as attractive as it once was. The reasons for this are changed tariff structures. Call-by-call is mainly interesting for customers who have a DTAG line and who wish to make calls into the mobile network to make calls to specific places abroad. Call-by-call or preselection is not available from alternative providers.

The study of over 60 call-by-call offers for nationwide calls at the end of 2010 and beginning of 2011 showed that prices ranged between 0.43 ct/min and 9.90 ct/min. The mean price on offer was around 4 ct/min. The highest price in the busiest period from 9 a.m. to 6 p.m. among providers which announced the cost of their calls was 4.9 ct/min; the lowest price was 0.85 ct/min. The average price per minute was 2.43 ct/min.

Call-by-call connections in the mobile network are usually charged at rates which vary according to the time of day. An analysis of around 30 all-day announced price offers at the turn of the year 2010/2011 revealed savings potentials of up to 79 percent compared with the use-related charges made by DTAG[23]. Providers' call-by-call charges were between 3.97 and 32.5 ct/min and averaged 12.3 ct/min. This means that some providers of call-by-call services pass on to end customers the reduced wholesale rates which fixed network operators have already paid to mobile network operators.

[23] Call Start, Call Basic and Call Comfort

Call-by-call charges for connections to international networks differ markedly according to the country and network to which the call is made. Savings of around 70 percent can be made for calls in Europe itself and to places much further away (eg Japan or the USA) compared with the use-related charges made by DTAG.

KEY FIGURES AND COMPETITORS' SHARES IN THE GERMAN TELECOMMUNICATIONS MARKET

Key figures	2008	2009	2010e
Revenues (—billion)	62.3	60.4	59.1
Investment (—billion)	7.2	6.0	5.9
Employees	188,100	183,700	176,400
Telephone lines/access points (million)	38.66*	38.75	38.70
– PSTN/ISDN (incl. öTel)	34.66*	32.47	31.02
– Telephony via cable TV networks	1.53	2.3	2.9
– Voice access points via unbundled DSL connections use for VoIP	2.47	3.98	4.78
Total broadband connections (million)	22.7*	25.0	26.2
Broadband penetration rate (relative to households)	56.6 %*	62.2 %	65.3 %
– DSL	20.9	22.4	23.0
> Deutsche Telekom (DTAG)	10.6	11.5	11.9
> Competitors	10.3	10.9	11.1
of which * Subscriber lines	7.8	8.7	9.1
* Bit stream (DTAG))	0.8	0.8	0.8
* Resale (DTAG)	1.7	1.4	1.2
– Cable modem (competitors)	1.6	2.3	2.9
Subscriber lines leased from DTAG (million)	8.4	9.1*	9.5
Mobile subscribers (million contractual relationships)	107.3*	108.3	108.8
Mobile network penetration rate (relative to households)	130.8 %	132.3 %	133.2 %

Competitors' shares	2008	2009	2010e
Revenues	54 %	54 %	54 %
Investment	54 %	52 %	53 %
Telephone lines/access points	26 %*	32 %	35 %
Broadband connections	53 %	54 %*	54 %
DSL (incl. resale/bit stream)	49 %	49 %	48 %

* Updated values

Ruling Chamber decisions

Frequency auction – Flexibilisation of existing frequency usage rights – Measures in the area of price regulation – New mobile communication termination rates approved – Far-reaching radio broadcasting deregulation decided

RULING CHAMBER 1

Frequency auction

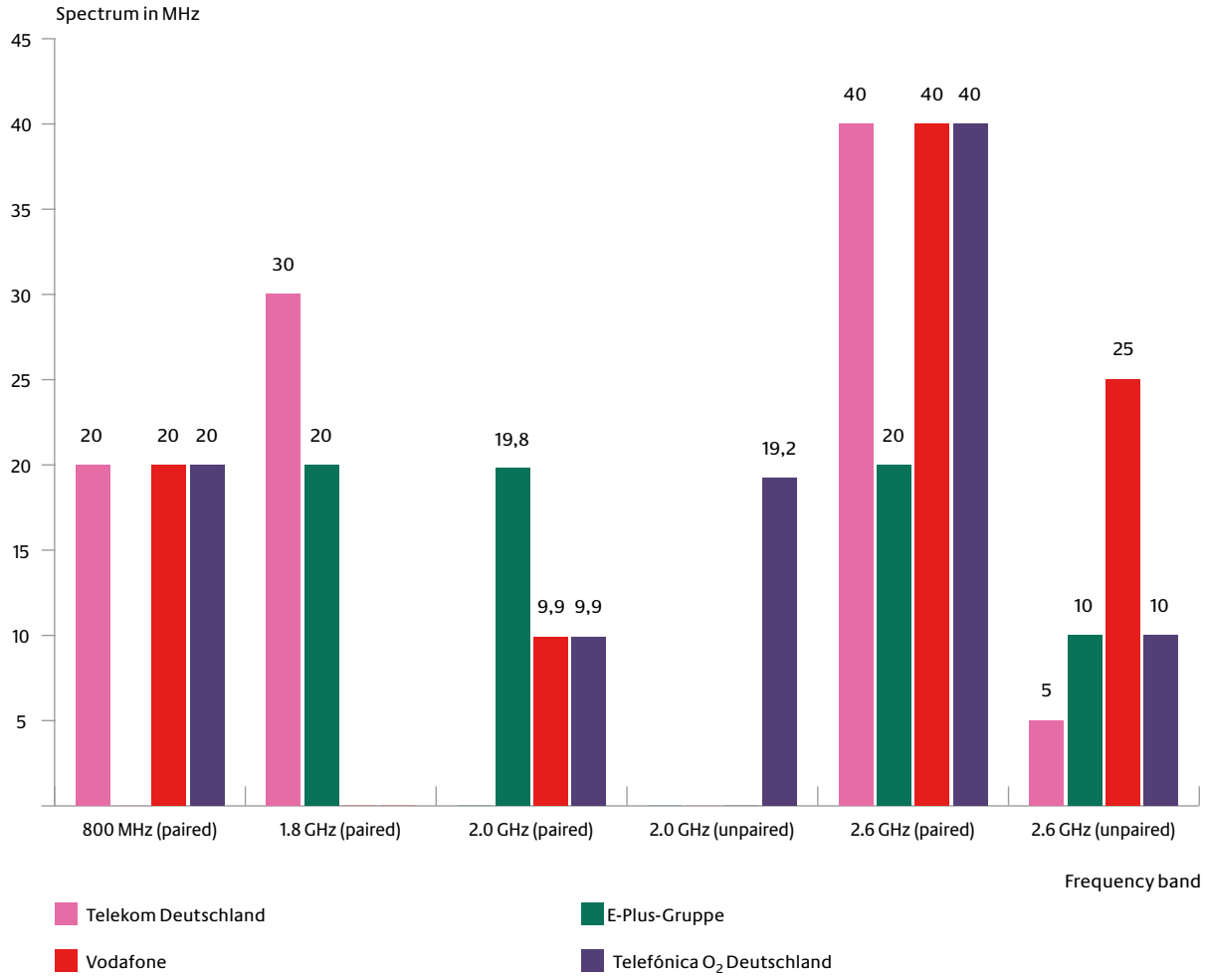
The President's Chamber in Mainz auctioned frequencies in the bands 800 MHz, 1.8 GHz, 2 GHz and 2.6 GHz from 12 April to 20 May 2010. By allocating valuable frequencies to provide wide sweeps of land with broadband mobile Internet access as well as frequencies to expand capacities at the earliest possible time the conditions have now been created which will give mobile operators considerable new scope for development in the future. This is likely to stimulate continued dynamic competition.

The newly acquired spectrum offers the opportunity of establishing the latest technologies in Germany immediately and of pressing ahead with innovations for broadband applications. This means that the basis has now been created for more quality, greater capacity and higher speed data use and for new services. However, the allocation of the frequencies also arouses high expectations of mobile network operators which must now quickly start work on building networks and ensure that frequencies are put to use as soon as possible.

In the context of a Qualification Procedure the President's Chamber reviewed whether six applicants had the minimum competencies required by law for participation in the auction. The four mobile telecommunications companies Erste MVV Mobilfunk Vermögensverwaltungsgesellschaft mbH (E Plus), Telefónica O2 Germany GmbH & Co. OHG , Telekom Deutschland GmbH and Vodafone D2 GmbH were admitted to the procedure.

The auction awarded around 360 MHz (25 frequency blocks à 2 x 5 MHz; four frequency blocks à 2 x 4.95 MHz; eleven frequency blocks à 5 MHz and one block à 14,2 MHz) most of which were auctioned on an abstract basis (without a specific spectral position) to achieve the greatest possible flexibility for bidders.

Spectral distribution – Auction results



The outcome of the auction was that Erste MVV Mobilfunk Vermögensverwaltungsgesellschaft mbH (E-Plus) successfully acquired 69.8 MHz of spectrum at a price of €283,645,000, Telefónica O2 Germany GmbH & Co. OHG 99.1 MHz at a price of €1,378,605,000, Telekom Deutschland GmbH 95 MHz at a price of €1,299,893,000 and Vodafone D2 GmbH 94.9 MHz for €1,422,503,000. All bidders were thus able to more than double their existing spectrum. The total auction price for the spectrum amounted to around €4.4 billion.

The frequency blocks auctioned on an abstract basis in the frequency ranges of 800 MHz and 2.6 GHz were officially allocated to the successful bidders at the end of August 2010 in a transparent random procedure after expiry of a three-month negotiation period. The frequencies were then allocated according to the applications made. The President's Chamber has now therefore laid the groundwork which will enable work to proceed rapidly on building the network, particularly in existing "white spots". Mobile network operators had already launched a number of locations in rural areas by the end of 2010.

The award of spectrum conforms in particular with the EU Commission Decision (2010/267/EU) of 6 May 2010 on harmonised technical conditions of use in the 790-862 MHz frequency

band; the auction makes Germany the first European country to have implemented this decision.

Flexibilisation of existing frequency usage rights

However, awarding available spectrum on a technology and services-neutral basis on the market can only be the first step in achieving all the goals of the German government's broadband strategy and implementing the EU's pan-European harmonising spectrum policy (WAPECS). The frequency policy objective of ensuring nationwide coverage with mobile broadband services also demands that network operators are released as far as is possible from the frequency regulations affecting existing rights of use. The flexibilisation decision reached by the President's Chamber on 12 October 2009 (BK 1a-09/001) played a decisive role in specific measures taken in 2010.

A frequency allocation study was launched in June 2010 with the objective of implementing Art. 1 (2) of Directive 87/372/EEC as amended by Directive 2009/114/EC (amended GSM Directive). The purpose of the amended GSM Directive is to ensure that the use of the 900 MHz band is also available to technologies other than GSM for the provision of additional compatible pan-European services that would coexist with GSM. The aim is to contribute to the objectives of the internal market and the i2010 initiative while maintaining the availability of GSM for users throughout Europe and maximising competition by offering users a wide choice of services and technologies. Whether the current allocation of the 900 MHz band to mobile operators could possibly result in competitive distortions on the relevant mobile markets is under study. If it becomes apparent that such distortions exist, they must be eliminated where this is equitable and reasonable. The investigation will be concluded in 2011 and will result in a decision being taken by the President's Chamber.

Bit stream access

The Bundesnetzagentur completed its market definition and analysis of market no. 5, broadband access for large customers (bit stream access), on 16 September 2010. The Agency has defined two segment markets (layer 2 and layer 3 bit stream access). DTAG (more specifically the DTAG subsidiary Telekom Deutschland GmbH) has been classified as the dominant incumbent and required to grant competitors bit stream access on request at various levels of the network hierarchy.

Bit stream access enables competitors to use DTAG's transport and concentration network and to retail DSL lines created by DTAG in their own name. In this way bit stream customers are able to provide their end customers broadband lines (xDSL lines and fibre optic connections) and broadband services, such as Internet access, at varying levels of quality. Bearing in mind the future development of the network bit stream access is also a way of ensuring that consumers are given the widest possible selection of high quality broadband services. Bit stream access closes the gap in the value chain for broadband services in the spectrum of wholesale products between access to unbundled subscriber lines and resale products.

The markets defined by the Bundesnetzagentur cover all DSL infrastructures, including VDSL and fibre optic infrastructures as access prod-

ucts based on conventional xDSL infrastructures and pure fibre optic infrastructures are regarded as mutually interchangeable. They cover both transport in the concentration network as well as in the IP core network.

As part of the market analysis the Bundesnetzagentur also examined the regionalisation issue in great depth, ie the spatial differentiation of markets. This topic has been the subject of very broad discussion for some time. After weighing up all the issues involved, the Bundesnetzagentur concluded that the markets which are relevant in this respect should be defined along national lines as the evaluation showed that they did not meet the criteria for regional markets.

RULING CHAMBER 2

Access to the public telephone network at fixed locations (Market 1 according to Relevant Market Recommendation 2007)

Regulatory order BK2c 09/002-R of 25 January 2010 imposed the obligation on DTAG and all of its affiliated companies to offer call-by-call and preselection immediately also in respect of IP-based connections (so-called full IP connections). The obligation to indicate rates for products subject to general terms and conditions and the obligation to give notice of individual contracts imposed with regulatory order BK2a 06/001-R were not upheld as the ex-post rates regulation provided for under TKG was deemed adequate. The resale obligation for connections did not need to be imposed as a regulation as DTAG had agreed in advance to develop an offer specifically for service providers.

DTAG contested the obligation to also enable carrier (pre)selection on "full IP connections" and, on 22 March 2010, petitioned the Bundesnetzagentur to order delaying effect of execution until 31 December 2010. The application was rejected by the Bundesnetzagentur on 5 May 2010. On 4 June 2010 DTAG then petitioned the Cologne Administrative Court for a court order with suspensory effect. The court issued an order on 20 September 2010 (Re 21 L 799/10) ruling that the legal action of 25 January 2010 had suspensory effect until 31 December 2010.

Dispute resolution procedure

In the period under review the Ruling Chamber ruled on 19 cases brought for dispute resolution under Section 133 of the Telecommunications Act (TKG) for the "disclosure" of telephone subscriber data under Section 47 subsections 1 and 2 TKG. The matter in dispute was a contractual offer made by Telekom Deutschland GmbH on the basis of which subscriber data was to be provided in future under Section 47 TKG.

Measures in the area of price regulation

Access regulation on leased lines

The regulatory order BK 3b-07/007 of 31 October 2007, under which the rates which DTAG charges for access to termination segments of leased lines at wholesale service level are subject to approval as defined in Section 31 TKG, was largely revoked by the ruling issued by the Cologne Administrative Court on 26 March 2009 (Re 1 K 5114/07) and the Federal Administrative Court (BVerwG) on 1 September 2010 (Re 6 C 13.09). This means that the regulatory order can only be the basis for an approval requirement for the rates for the carrier fixed connection (CFC) 2 Mbit/s. However, CFVs bandwidths of between Mbit/s

and a maximum of 622 Mbit/s continue to be subject to approval on the basis of the previous final decision on part of the provisional regulatory order BK2b 04/027 of 30 November 2004. This provisional regulatory order cannot be applied to CFCs with bandwidths of over 622 Mbit/s, ie these are not subject to such approval requirements. This ruling also means that Ethernet leased lines are also currently exempt from approval regardless of bandwidth or throughput.

On this basis the Ruling Chamber approved a rate application made by Telekom Deutschland GmbH for CFC termination segments limited to bandwidths from 2 Mbit/s up to and including 622 Mbit/s. The rate applications for CFC termination segments in the bandwidths 2.5 Gbit/s and 10 Gbit/s as well as a further application by Telekom Deutschland GmbH for approval of rates for Ethernet-based CFCs were dismissed.

Ex-post rates regulation

On 19 July 2010 the Ruling Chamber instigated proceedings for the ex-post regulation of rates under Section 47 subsection 4 sentence 1, Section 38 subsections 2 to 4 TKG and Section 28 TKG for the review of rates for the provision of subscriber data under Section 47 subsections 1 and 2 TKG. The proceedings were launched following the conclusion of a prior dispute resolution procedure. The ruling of 20 September 2010 (BK 2a 10/023) held that the rates being demanded were unfair. Telekom Deutschland GmbH was called on to charge future rates on the basis of the eligible cost volume for the provision of basis, third party and additional data in a way which does not exceed the applicable annual total revenues of €1,652,151.28 (net).

Special control of abusive practices

In the area of special control of abusive practices under Section 42 TKG a petition was rejected which had been submitted by a competitor objecting to the discontinuation of a product and the associated termination of services no longer sold by Telekom Deutschland GmbH. The connections which had been discontinued were ISDN-Komfort, ISDN-Standard and T-Net 100. Telekom Deutschland GmbH had already provided various assurances, in the context of preliminary hearings prior to the application under Section 42 TKG, that it would inform the end customers affected about possible equivalent successor products and the continuing use (at no charge) of existing pre-selection settings.

An action brought by a competitor under Section 42 TKG in connection with issues concerning legal succession in the event of a "line transfer" was discontinued following agreement between the parties subsequent to the oral hearing.

RULING CHAMBER 3

Rates for access to DTAG's connection infrastructure

The Ruling Chamber ruled at the end of March 2010 on the rates which DTAG is allowed to charge competitors for access to its connection infrastructure. The Bundesnetzagentur adopted an initial ruling as early as December 2009 on the technical and operational terms on which DTAG is obliged to grant access to its infrastructure. This ruling states that in future network operators will be allowed to deploy their own active transmission systems to provide broadband access, so-called DSLAMs (Digital Subscriber Line Access Multiplexer), in the multi-functional casings of DTAG. DTAG is

also obliged to permit competitors to deploy fibre-optic cables in the cable conduits themselves and to grant access to the cable conduits in order to do so.

The monthly rate for a slot in the multi-functional casing, the special cable distributors which are installed in grey casings on public roads and paths, is €113.94. This amount is the initial value for the distribution among all users of a multi-functional casing, including DTAG; this means that a competitor would be required to pay a maximum of half of the amount. Where multi-functional casings are used by three companies, only a third would be payable etc.

The monthly charge per meter for the use of an empty DTAG cable duct by the competitor was fixed at €0.12. The grounds for the substantial reduction ruled by the Bundesnetzagentur on the application made by DTAG included in particular the efficiency-related modelling of the investment value based on the analytical cost model produced by the Scientific Institute for Communication Services (WIK) for cable routes and demand bundling. Optimisations of this kind were necessary owing to the use of replacement prices. Compared with recourse to historical costs a calculation based on replacement values guarantees sufficient investment incentives, particularly in new technologies.

In addition to monthly rates for the shared use of DTAG's multi-functional casing and empty cable duct the decision also ruled on further access charges, such as offer, planning and provisioning charges. These rates are limited until 30 June 2011.

New rates for subscriber lines

On 1 July 2010, new rates payable by competitors to DTAG for the switching or return of leased subscriber lines, the so-called last mile were approved. DTAG is now entitled to charge €30.83 for transfer of a subscriber line without any work at the end customer's end. The current rate for what is presently the most frequent variant, the new connection of copper wire pairs at high bit rates without any work on the cable distributors at the end customer's end, is €53.35.

DTAG required to modify standard contract for cross connect

In its decision of 30 November 2010 the Ruling Chamber called on DTAG to make changes to important clauses in its standard contract for access to subscriber lines at the cross connect. DTAG is usually required to set up a cross connect on the outskirts of a town which has previously been provided poor broadband services or none at all. By being able to access the local loop (TAL) at a cross connect, the length of the lines between the provider's active technology and the end user is reduced, which is a prerequisite for providing Internet connections with high bandwidth. Furthermore the bundling of the required DSL technology at just one central point makes it easier to provide services in remote areas. This eliminates in particular the otherwise necessary connection of each individual cable distributor and the extensive civil engineering works needed for this.

The company submitted the draft standard contract at the request of the Bundesnetzagentur in August 2010. The standard contract should enable competitors to conclude specific cross connect access contracts with

DTAG on the basis of this model contract without having first to enter into time consuming negotiations or, in the event of a dispute, even having to call on the Bundesnetzagentur.

After a comprehensive examination DTAG has now been required in particular to include clear and verifiable provisions in the standard contract on the preconditions for a right to access, as well information and ordering periods and contract penalties. Possible technical or other reasons for refusing to install cross connects must be precisely defined.

The examination revealed that a number of provisions in the standard contract for use of the cross connect needed to be revised if the requirements of the Telecommunications Act for equal opportunities, promptness and cost effectiveness were to be met appropriately.

DTAG was given to the end of January 2011 to modify the contract text to the ruling. The amended contract text was then submitted to the Bundesnetzagentur for renewed consideration.

Mobile communication termination rates approved

On 24 February 2011, the Bundesnetzagentur announced its final rates approvals for call termination in the mobile networks of the four German mobile network operators, known as mobile communication termination. Accordingly the following mobile communication termination rates apply retrospectively from 1 December 2010:

Telekom Deutschland GmbH	3.38 ct/min
Vodafone D2 GmbH	3.36 ct/min
Telefónica O_2 Germany GmbH & Co. OHG	3.39 ct/min
E-Plus Mobilfunk GmbH & Co. KG	3.36 ct/min

The mobile communication termination rates were initially approved at the end of November 2010 on a provisional basis as a national consultation procedure needed to be performed and a statement then issued by the EU Commission before a final decision was taken. As a result of the insights gained from the national consultation procedure the rates which were ultimately fixed are marginally higher than those which were proposed and provisionally approved at the end of November 2010.

The significant fall in rates since the end of November 2010 (6.59 ct/min for both D networks and 7.14 ct/-min for both E networks) is largely due to the substantial increase in traffic volumes in mobile networks. This in turn is due to a sharp increase in data volumes, partly as a result of the highly successful smartphone marketing undertaken by mobile network operators. However, the increase in the total volume of traffic has so far been accompanied by a stable cost situation in the mobile sector; in other words, the costs have not risen in proportion to use. Both effects lead to significantly lower minute rates.

In contrast to previous approval rounds this time it proved possible to determine the rates of all four network operators on the basis of the cost documentation submitted. Separate decisions reached as early as the end of April 2010 required companies to use a pricing procedure stipulated by the Bundesnetzagentur. The idea is to ensure that all four companies submit sufficiently informative and

mutually comparable data on their costs and volumes of traffic in order to enable the Bundesnetzagentur to determine the key costs for efficient service provision.

The cost of efficient service provision is determined, as in the fixed network area, on the basis of current replacement costs. The Ruling Chamber geared its evaluation of the license costs at replacement values included in the calculation of termination rates to the frequency auction held in spring 2010. The Chamber extrapolated the results to the actual spectrum of each mobile network operator. For the first time in the telecommunications sector, a market-oriented approach, the "capital asset pricing model" (CPM), has been used to determine the applicable rate of return.

These rates are limited until 30 November 2012.

Far-reaching radio broadcasting deregulation decided

With its decisions of 12 October 2010 the Ruling Chamber discontinued most of its regulatory activities in the radio broadcasting sector. In the cable area (signal delivery and feed-in markets) previously applicable obligations have been revoked and the companies Kabel Baden-Württemberg GmbH, Kabel Deutschland Vertrieb und Service GmbH as well as Unitymedia GmbH released from sector-specific telecommunications regulation.

Previous obligations were retained in the market for VHF radio broadcasting services which is dominated by Media Broadcast GmbH.

Further decisions

Discussion on net neutrality – NGA Forum starts work – Call numbers allocated for "harmonised services of social value" – Updated Frequency Usage Plan – Infrastructure atlas in successful operation for over a year

NET NEUTRALITY

This issue of net neutrality was a topic of discussion at various levels in 2010 – both in Europe and in Germany. Until now all Internet traffic has basically been treated equally, regardless of source, destination, content, application or service, and data has been delivered neutrally without any guaranteed quality of service (best effort principle). Traffic loads may be expected to increase substantially in the future. This depends on the use which is made of broadband-intensive applications (such as streaming) and the growing rollout of mobile Internet services. As a result, issues concerning differentiated quality and network management are under increasing discussion.

In this context net neutrality has grown in importance. The Bundesnetzagentur regards competition as the most effective guarantee of net neutrality. The behaviour of network operators can be sanctioned or rewarded if customers are able to switch provider easily and do in fact make use of this option. This depends, however, on customers being provided with transparent information. At the same time, it must be possible to change provider smoothly without fear of service interruption. The Bundesnetzagentur is working hard to achieve this goal as part of the forthcoming revision of the Telecommunications Act (TKG). A large number of potential net neutrality problems are the result of the abuse of dominance. The legal framework of the TKG provides an effective instrument for dealing with this problem.

In Germany the discussion has been particularly intense in the framework of the German Bundestag's "Internet and the Digital Society" Enquete Commission The Bundesnetzagentur has stated its views on specific issues.[24] The Enquete Commission has also held a hearing with the Bundesnetzagentur President. The aim of the Enquete Commission is to submit findings and recommendations for action by the summer 2012 parliamentary recess.

At the European level the Bundesnetzagentur has participated in the work undertaken by a net neutrality project team under the auspices of BEREC. BEREC has published a position paper on "Public Consultation on the Open Internet and Net Neutrality in Europe".[25] In the

[24] http://www.netzpolitik.org/2010/netzneutralitat-im-telekommunikationsgesetz/

course of this work it became apparent that the topic of net neutrality had not yet been intensively discussed in many other countries and that so far only very few cases of the blocking or throttling of file-sharing or video streaming have been reported. In several countries, including Germany, VoIP services have been blocked in mobile networks. Most of these cases have been discussed publicly and the majority were resolved voluntarily between companies, in some cases following informal intervention by regulators. The small number of net neutrality problems may be taken as evidence of a functioning competition.

Potential future net neutrality problems will be closely related to technological changes. IP nets will increasingly allow different classes of data transport and consequently of service quality. At the same time, traffic management measures might also be implemented which result in unfair discrimination between services, protocols or applications. BEREC does not regard traffic management measures per se as being either good or bad. In reality a huge number of very different measures are actually taken. The fundamental principles of traffic management apply to both fixed and mobile networks, even if traffic management in mobile networks poses a greater challenge owing to the scarcity of resources.

The new EU legal framework adopts two approaches of major significance in guaranteeing net neutrality. Firstly it imposes broader transparency requirements. Transparency, such as in terms of the levels of quality offered or possible restrictions on access to or use of services and applications, enables consumers to make rational decisions. This depends, however, on information being provided in a form which consumers can understand.

Secondly, the new EU legal framework envisages the introduction of minimum quality levels. This instrument counteracts the potential danger that the quality of best effort Internet access might be deliberately impaired in order to fuel consumers' willingness to pay for premium services. The option of introducing minimum quality requirements may provide incentives which ensure that the market automatically generates such minimum standards. The minimum quality concept relates to best effort Internet access which does not, of course, provide any quality guarantees. In contrast, minimum quality has nothing to do with managed services where quality issues are contractually specified.

NGA FORUM

The German government adopted its broadband strategy in February 2009. Massive investment will be necessary in order to implement this strategy and ensure high bit rate service everywhere in Germany.

Taking this broadband strategy as its starting point, and following public discussion, the Bundesnetzagentur published its "Key points on the regulatory framework conditions for the further development of modern telecommunications networks and the creation of an efficient broadband infrastructure" in March 2010. These key points also included the initiation of a high level NGA Forum aimed at promoting dialogue between regulators, network operators, manufacturers, federal states and local authorities.

[25] BoR (10) 42, www.erg.eu.int

The NGA Forum is a consultative body which, whenever possible, seeks to reach consensus in the industry. It is, however, also empowered to take decisions which are subject to the subsequent formal procedures provided for in the Telecommunications Act (TKG). The work of the NGA Forum is transparent and whenever possible all its findings and presentations have been posted on the Bundesnetzagentur's own website. An interim report was published in December 2010.

The NGA Forum mainly focuses on topics such as open access, cooperation and coinvestment, technical and operational issues concerning access to fibre optic networks and other NGA networks (interoperability) as well as the shared use of infrastructure (eg inhouse cabling). The Forum also discussed broadband in rural areas.

The topic work will be continued in a constructive and solution-oriented manner in order, for example, to clarify shared understandings of open access and interoperability. The Forum will also determine to what extent opinions on ways of improving broadband provision are generally shared. The aim is to develop practical solutions specifically for open access and interoperability for inclusion in the final report scheduled for the spring of 2011. This will also entail picking up on the positive results of the IT summit held on 7 December 2010 in the framework of the NGA Forum, pressing ahead with work on practical implementation and elaborating transparent and precise open access offers.

NUMBERING

Various number resources are required for the operation of telecommunications networks. The Bundesnetzagentur ensures that all resources required on the liberalised telecommunications market are available on a non-discriminatory basis, in good time and in sufficient quantities. It also determines the purposes for which and the framework conditions under which each type of number is to be used and allocates numbers in blocks or individually to providers and retail customers. Given the ceaseless, dynamic development of technologies and business models on the telecommunications market, the Bundesnetzagentur reviews on a regular basis whether existing arrangements need to be adapted or new number resources need to be created in order to promote competition and technological developments and to protect consumers' interests.

Allocations made in 2010

In the range of local network call numbers and national subscriber numbers (number range (0)32), allocations developed as follows in the years from 2007 to 2010:

Year	Blocks of local 1,000 local numbers assigned	Total number of blocks of local 1,000 local numbers assigned	Total number of assignees by year end
2007	22,349	148,203	96
2008	11,995	160,198	99
2009	15,445	175,643	103
2010	27,195	202,838	110

In terms of the most important service telephone numbers, allocations have developed as follows:

Service	Numbering range	Numbers allocated in 2007	Numbers allocated in 2008	Numbers allocated in 2009	Numbers allocated in 2010	Total number of phone numbers allocated
Freephone services	(0)800	9,216	16,105	9,512	8,699	188,878
Shared cost services	(0)180	9,620	9,564	13,561	6,662	147,078
Premium rate services	(0)900	10,497	5,819	6,737	4,756	86,558
Personal numbers	(0)700	2,177	1,774	2,042	915	101,486

Call numbers for "harmonised services of social value"

The EU has defined a series of "harmonised services of social value" and designated the six-digit "116" number range for this purpose. In essence calls to services of social value, ie calls which serve the safety or well-being needs of callers or of particular sections of the population or provide a life-line for people in distress, can be made at any time, from anywhere in the country, using the 116 prefix, 'free to caller' regardless of whether the call is made from a fixed or mobile network.

If a call number for a specific service is added to the list, the number can be put out for allocation by the Bundesnetzagentur and applied for by potential service providers. Three numbers have already been assigned in Germany and are already in use: 116 111 has been in use as a "child helpline" since 5 December 2008; 116 123 as an "emotional support helpline" since 4 March 2009 and 116 006 as a "helpline for victims of crime" since 10 September 2010. The 116 117 number was assigned on 15 June 2010 as a "non-emergency medical on-call service". This service will become available in the course of 2011. After being put out for allocation unsuccessfully on two previous occasions an application was made for the 116 000 "hotline for missing children" by a service provider following a third attempt in December 2010. This number is

expected to be allocated and service launched by the end of 2011.

In Germany the call number 116 116 is used by Sperr e. V. to block electronic authorisations, particularly for bank and mobile phone cards. The Bundesnetzagentur supports Sperr e. V.'s concern that the EU Commission should also add this number to its list of reserved numbers for services of social value.

Enquires about number management

In 2010, the Bundesnetzagentur number management call centre in Fulda handled 18,753 enquiries, the majority of which concerned the allocation of telephone numbers. Most queries were to do with local numbers and value added service ranges (0)800, (0)180, (0)900 and (0)137 with a large number of enquiries also being received about charges for calls made to these numbers.

Issue	Number of enquiries received in 2009	Number of enquiries received in 2010
Allocation of telephone numbers	24,818	16,729
Allocation charges	883	572
Other matters	1,067	1,452
Total	26,768	18,753

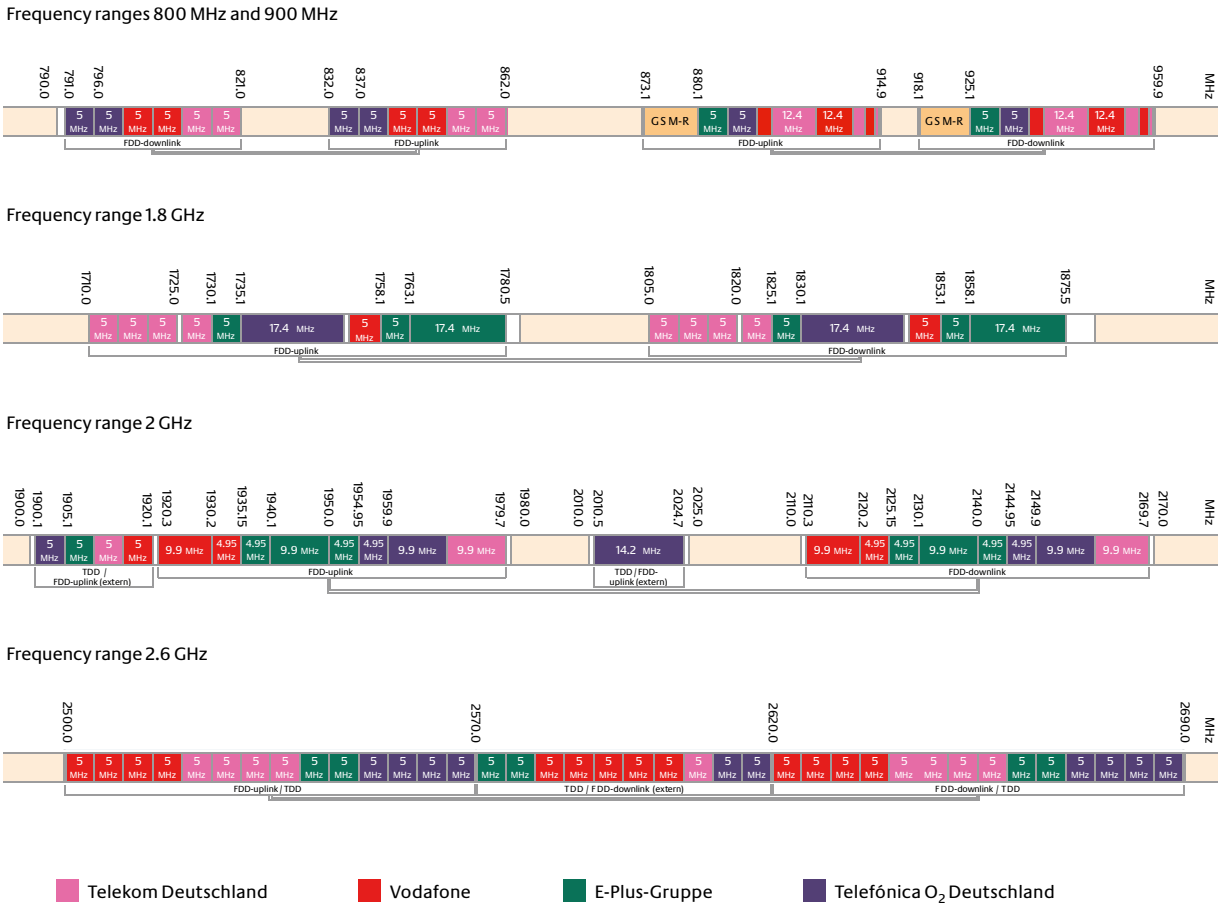
FREQUENCY REGULATION

Award proceedings for wireless network access

Following on from the decision of the President's Chamber of 12 October 2009 on the allocation of frequencies in the bands 800 MHz, 1.8 GHz, 2 GHz and 2.6 GHz for wireless network access for the purpose of offering telecommunication services the Bundesnetzagentur in Mainz auctioned the relevant frequencies in the period 12 April to 20 May 2010 (see page 97 f.). A total of 224 rounds of bidding were held making for the biggest auction of mobile spectrum to date in Germany. During the auction a total spectrum of around 360 MHz was awarded in abstract form and in specific blocks.

The mobile network operators Telefónica O2 Germany GmbH & Co. OHG, Telekom Deutschland GmbH and Vodafone D2 GmbH all bought spectrum under 1 GHz at the auction which is particularly suitable for providing services to rural areas and which must also primarily be used for this purpose. The obligation on the three network operators to provide services to "white spots" will initially limit the free use they can make of their newly acquired frequencies. As of 1 January 2016 providers must ensure that coverage extends to 90 percent of the population in the towns and local communities designated by all the federal states in Germany. This will entail a step-by-step increase in coverage in relation to the number of inhabitants while, at the same time, taking into account provision by other service providers or technologies which offer equal or higher-value broadband solutions.

Frequency spectrum in the ranges 800 MHz, 1.8 GHz, 2 GHz and 2.6 GHz after the auction



The use of the 800-MHz frequencies also requires coordination with radio broadcasting under 790 MHz. Under usage provision 36 of the Frequency Band Allocation Ordinance (FreqBZPV) the mobile service may not cause any disturbance to radio services. Under the stipulations issued by the Bundesnetzagentur to protect radio broadcasting, applicants must submit evidence of interference-free frequency usage. Using an advanced computer-assisted process, the Bundesnetzagentur assesses each individual application to ensure that DVB-T reception is adequately protected.

By the end of 2010 the Bundesnetzagentur had issued almost 7,000 stipulations. This procedure has ensured that mobile network operators set up operational locations to provide services to rural areas on a large scale as early as 2010 and have been able to offer consumers innovative broadband mobile network access since 1 December 2010.

Infrastructure sharing

Concerning the issue of possible shared used of wireless network infrastructures the Bundesnetzagentur expressed its views as early as 2001 in a position paper on the conditions under which infrastructure sharing would be considered unobjectionable. In this position paper the Bundesnetzagentur fleshed out the deliberations of the President's Cham-

ber in the UMTS award conditions concerning shared use of the infrastructure.

As announced in the Chamber Ruling of 12 October 2009 the position paper on infrastructure sharing dating from 2001 was revised subject to the requirement for technological neutrality to take account of more recent technological developments. Further cooperation options were also addressed with regard to the broadband strategy, particularly as concerns the provision of services to rural areas.

Flexibilisation of frequencies

As a result of the flexibilisation decision BK 1a-09/001 of 12 October 2009 frequency usage rights in the frequency ranges 450 MHz, 1.8 GHz, 2 GHz and 3.6 GHz have been flexibilised on application from the frequency assignees. This means that the frequencies in these ranges can be used on a technology and service-neutral basis. In this respect the Bundesnetzagentur has created the framework conditions for possible investments by network operators in innovative broadband services.

The Bundesnetzagentur also permitted the mobile network operator Erste MVV Mobilfunk Vermögensverwaltungsgesellschaft mbH (E-Plus) to make flexible use of 900 MHz frequencies which were previously limited to GSM systems at specific locations from mid-December 2010. E-Plus had submitted an application in November 2010 to be allowed to deploy UMTS technology in four districts pending completion of the frequency distribution study (see page 99). In this context the network operator must comply with certain conditions to ensure contractual use with higher and lower neighbouring radio services. This means that this company too – as is the case for the assignees of the 800 MHz frequencies – is able to use frequencies under 1 GHz to provide broadband services to people living in rural areas.

European and international harmonisation and preparations for the World Radiocommunication Conference

International harmonisation decisions, particularly those taken in Europe, as well as national requirements are important in the development of frequency usage. The Bundesnetzagentur frequency management function plays an active role in the corresponding bodies of the European Conference of Postal and Telecommunications Administrations (CEPT). CEPT's Electronics Communication Committee (ECC) is also responsible for radio and frequency issues within Europe. The Bundesnetzagentur manages and provides the secretariat of the ECC.

The Bundesnetzagentur has promoted European policy objectives through its participation in working groups set up by the EU Commission, RSC and RSPG. The fundamental groundwork for ongoing development of broadband applications was laid in 2010, the year under review. The first multiannual spectrum policy programme was submitted by the EU Commission as part of the "Digital Agenda 2020".

The Bundesnetzagentur also plays an active role in ITU working groups. In 2010 particular attention was focused on concluding preparatory studies for the 2012 World Radiocommunication Conference (WRC-12). The WRC-12 is the only body responsible for making relevant amendments to the radio regulations and

taking important decisions about global frequency use.

The three working parties chaired by the Bundesnetzagentur addressed the following issues in particular: unmanned aircraft, use of state-of-the-art radio applications for climate observation, worldwide use of the so-called digital dividend and innovative radio applications in the THz range. Another focal point was rendering the international agreement on frequency management more flexible.

A key topic was also the harmonisation of frequencies for wireless production resources. Following the auction of frequencies for wireless network access in spring 2010 several frequency bands will no longer be available for wireless production resources. The envisaged harmonisation provides active support at the international level for both users of wireless microphones and cameras and the German government's broadband strategy. In the telecommunications division of the International Telecommunications Union (ITU-R) the evaluation process for standards of the fourth mobile communications generation (IMT advanced) were completed in the responsible working group (WP5D). The plan for next year is to implement the results in corresponding recommendations for the IMT advanced radio interfaces which will then be used as a global solution. Efficient use of the spectrum facilitating large numbers of terminals that are available at affordable prices can only be achieved via global solutions.

Frequency Band Allocation Plan

The third Ordinance Amending the Frequency Band Allocation Ordinance (FreqBZPV) of 22 April 2010 changed the annexes Part A and B and the Frequency Band Allocation Plan (FreqBZP) with the usage provision. Usage provision 37 in the frequency range 2,500 to 2,690 MHz enables mobile, nomadic and fixed applications within the allocation to the mobile service. Frequency can also be used between fixed stations at any undefined points.

Updated Frequency Usage Plan

The Frequency Usage Plan provides a comprehensive overview of all frequency uses in the frequency band between 9 kHz and 275 GHz in the Federal Republic of Germany. It is drawn up by the Bundesnetzagentur pursuant to Section 54 TKG on the basis of the Frequency Band Allocation plan adopting the procedure specified in the Frequency Band Allocation Ordinance of April 2001. The Frequency Usage Plan contains information about frequency band allocations for radio services, the terms and conditions of use set forth in the Frequency Band Allocation Ordinance and on the frequency uses and terms and conditions of frequency use permissible in the individual frequency sub-plans.

The Frequency Usage Plan was comprehensively updated during the period under review and in April 2010 was adapted to the amended Frequency Band Allocation Ordinance which implements the findings and decisions of WRC-07 in national law. This led to expanded flexibilisation of further frequency bands and frequency uses in accordance with the WAPECS concept of the RSPG.

As in the past the updated Frequency Usage Plan also included the latest outcomes of the international harmonisation by the CEPT/ECC and the community stipulations arising from EU "implementing decisions" (previously

decisions) as well as the findings of the Bundesnetzagentur on new technological developments, including any user requirements which have emerged or are foreseeable. Measures were also taken to support the German government's broadband strategy by dedicating frequency ranges for infrastructure networks ("backbone") and wireless radio applications (eg microphones, cameras).

On 29 November 2010 the Bundesnetzagentur Advisory Council was consulted on the planned updating of the Frequency Usage Plan; this was followed by hearings of the relevant supreme authorities of the federal government and Federal Länder. The draft paper for the initial inclusion of interested parties will be published in the Bundesnetzagentur Official Gazette and the Federal Gazette after the comments submitted have been reviewed and assessed. Statements submitted will be reviewed and evaluated after a two month involvement period. The completion of the updated Frequency Usage Plan will be published in the Bundesnetzagentur Official Gazette and in the Federal Gazette.

Experimental radio

Based upon Section 58 of the Telecommunications Act, approximately 780 frequencies were allocated in 2010 for developing and testing new technologies and as part of frequency research projects. Deviations from the Frequency Band Allocation Plan and the Frequency Usage Plan are permitted for frequency allocations to provide innovative radio service. However, the radio services and frequency uses entered into the plans must not be affected. New developments focused on fourth generation mobile communications systems (LTE) in the frequency ranges 800 MHz and 2.6 GHz.

Trunked radio

164 assignees currently operate a total of 250 trunked radio networks with approximately 5,600 frequencies throughout the Federal Republic of Germany. 40 percent of these frequency assignments are based on TETRA technology with a bandwidth of 25 kHz. The remaining allocations – analogue and digital 12.5-kHz trunked radio systems – are for the remaining technologies. 57 percent of the assigned spectrum is now used by TETRA technology. The frequencies referred to above are primarily used by companies operating in the energy, industrial, chemical fields as well as by major public networks, airports, transport services and local authorities.

Satellite radio

The Bundesnetzagentur re-registered three satellite systems with the ITU in 2010. Subsequent registrations for EUMETSAT weather satellites were also managed. The Bundesnetzagentur also submitted 275 coordination requests on behalf of German satellite operators to the International Telecommunications Union (ITU) for hundreds of frequency allocations. This resulted in bilateral negotiations with other countries and their satellite operators aimed at guaranteeing interference-free operation of all satellite systems in the frequency spectrum.

Short-term assignments

Short-term assignments, eg for wireless cameras and microphones, are made by the Bundesnetzagentur when sporting and cultural events, state visits and other occasions that attract significant media coverage are held. In 2010, the

Bundesnetzagentur issued a total of 1,590 short-term assignments, providing a total of 8,016 frequency uses in extremely varied frequency ranges between 40 MHz and 22 GHz for 990 events. The majority of short-term assignments were issued for motor sports events, cycling races, music events and winter sport events. To ensure interference-free and efficient use of these frequencies, Bundesnetzagentur staff and measuring vehicles were present at 72 events.

General assignments

Pursuant to Section 55 subsection 2 of the Telecommunications Act, general frequency allocation represents the norm. In 2010, general assignments were made, for example, for mobile radio use on board sea-going craft, SRDs, inductive radio equipment, hearing aids and UWB applications.

Private mobile radio

Private mobile radio (PMR) is used by and large for in-house communication of companies and organisations. What distinguishes PMR from commercial mobile radio such as GSM is that users have full functional control over the radio network. This enables them to cater for their own individual communication needs and to make necessary adjustments at short notice. Great importance is attached to frequency coordination by the Bundesnetzagentur not least because of the individual nature of PMR and because there is no external network operator involved. Private mobile radio is the backbone of trunked radio systems. It is used for in-house communication in the industrial and commercial sector, for instance, by transport and logistics companies and in the field of administration. Other important areas are, for instance, voice messaging and outside broadcasting (wireless microphones, wireless cameras) as well as remote data and remote control (remote control of machinery, remote data retrieval, traffic management systems, alarm systems). 13,845 operations were processed in private mobile radio in 2010.

Amateur radio

The Bundesnetzagentur conducts amateur radio examinations and certifies the successful demonstration of the required knowledge (amateur radio certificate). Persons who wish to participate in amateur radio services must furnish proof that they have special technical know-how and have their own personal amateur radio admission and call sign. In 2010, 56 amateur radio examinations were conducted and 605 amateur radio certificates issued. 1,030 amateur radio licenses and additional call signs were also issued.

TECHNICAL COMPATIBILITY AND STANDARDISATION

EMC and standardisation

In 2010, worldwide EMC standardisation activities for Powerline Communication (PLC) shifted to Europe. The Bundesnetzagentur played a key role in bringing about the inclusion of fundamental requirements for ensuring extensive interference-free short wave radio reception in the European harmonised EMC product standards for PLC products for home networking and PLC terminal equipment for connection to public telecommunications networks which is expected in 2011. This was made possible by binding requirements for adaptive power management of the transmit level of PLC products in the cable and an additional, autonomous cognitive decrease in

this transmit level on frequencies which are assigned local radio service signals.

The CISPR series of reports was completed. These reports include measuring methods and recommendations for limits for assessing potential interference caused by high-voltage overhead line routes, switchgear and substations at their erection and operating locations.

This report series is produced for operators of high-voltage electrical equipment and is intended to ensure the effective planning, installation, commissioning and maintenance and servicing of such facilities. Appropriate measures for determining the radio interference emitted by such facilities are also available for the relevant regulatory authorities.

The Bundesnetzagentur also contributed to the amended (EN) 50160 European standard with regard to voltage quality and security of supply in European smart grids. The Bundesnetzagentur assumes that the new version of this EMC standard will be accepted by CENELEC in 2011.

The Bundesnetzagentur will continue to play an active role in current work being undertaken by IEC/CISPR on additions to EN 55011 concerning EMC requirements for inverters for PV systems which are intended for connection to low-voltage distribution systems (smart micro grids). The aim is to see all the requirements for the limitation and control of interference emissions from PV systems included in the CISPR 11 and EN 55011 by 2014. Compliance with these requirements will ensure that such power generators for low voltage grids are electromagnetically compatible with any other electrical and electronic equipment connected to low-voltage distribution systems and will consequently improve the potential uses of the low-voltage grid for smart metering purposes.

As far as the use of alternative assessment procedures in EMC product standards is concerned the Bundesnetzagentur adopted the position that assessment procedures should only be included in EMC product standards where such standards are found to provide equally good assessment results and may be assumed to comply with the key protection requirements of the EMC Directive and the Electromagnetic Compatibility Act (EMVG). Work continues in the CENELEC standardisation committees on implementation of this principle which is also supported by the EU Commission.

Radiocompatibility of transmitting and receiving equipment

CEPT and ITU compatibility studies were also started, continued or completed in 2010. With regard to wireless network access for the purpose of offering telecommunication services the “2 GHz UMTS Core Band” studies were completed as part of the EU Commission’s WAPECS initiative even before the frequency auction. The study findings and the parameters of minimum technical conditions for radio compatible use of all the bands up for auction were included in both the CEPT reports and the ECC and EU Commission decisions. Several field measurements were made in test networks for expansion of the network in the 790 to 862 MHz band (“digital dividend”). The results of the tests of compatibility with neighbouring digital TV broadcasts (DVB-T) and cable networks, most of which were based on simulations, were verified.

As the GSM bands should be opened for technologically neutral use, basic investigations of the radiocompatibility between various GSM, UMTS, LTE and WiMAX mobile communications standards were carried out. The Bundesnetzagentur also supported radiocompatibility studies undertaken with measurements on meteorological radar systems. These measurements were the basis on which changes were made in spurious emission limits for high power radar systems in the CEPT recommendations.

Consideration is being given to using the "white spaces" (regionally non-assigned channels) in the UHF band (470 to 790 MHz) for cognitive radio systems. A technical report was drawn up for this purpose which presented procedures to guarantee the parallel operation of radio broadcasts, wireless microphones, radio astronomy and applications alongside cognitive techniques.

The Bundesnetzagentur developed a "toolbox" of procedures and techniques to achieve compatibility between railway GSM-R networks and public mobile networks (GSM, UMTS, LTE).

In the field of SRD and UWB applications the Bundesnetzagentur performed studies on fuel radar gauges, WLAN in aircraft, professional wire microphones, active medical implants and vehicle radars. These will serve as the basis for potential future frequency assignments.

In preparation for the WRC-12 the frequency range from 2,483.5 to 2,500 MHz was also studied with the aim of enabling interference-free use of the GALILEO European satellite system.

The Bundesnetzagentur also carried out technical measurements on almost 10,000 cable systems in centres of population, where the interference emissions of these systems are well above the limits in the SchuTSEV (Order on the protection of public telecommunications networks and radio receiving and transmitting stations operated in defined frequency ranges for safety purposes). Cable network operators stated that they were able to rectify around 80 percent of the "leaks" on notified equipment. Measurements performed again this year on 21 transmitting and receiving installations, which in the interests of public safety must be provided special protection, showed that there had been no increase in ambient man-made noise.

Amended EMC radio standards

EMC standards need to be amended to take account of the use made of the 790 to 862 MHz frequency range for mobile communications. The EMC standards are intended to guarantee equal frequency and interference-free use of these frequencies for mobile communications of the fourth generation (LTE) with TV cable networks and equipment which can (also) be connected to TV cable networks. The interference immunity requirements for DVB-T tuners also need to be revised. The Bundesnetzagentur took part in a joint ETSI and CENELEC working party which elaborated proposals on the basis of changed electromagnetic ambient conditions to stipulate stricter interference limits for DVB-T tuners, TV cable networks and equipment which can be connected to TV cable networks. This not only concerns tuner-based terminal equipment such as TVs, but also and in particular set top boxes or modems.

Work began as early as mid-2010 in the respective ETSI and CENELEC committees on revising the corresponding standards. The Bundesnetzagentur played a major role. The standardisation work itself will be carried out in an accelerated procedure to comply with an EU Commission requirement for standards to be ready by August 2011. This will not only guarantee the medium and long-term building of LTE networks in Germany will not be subject to any delays, the equipment-producing industry will also be required to launch an interference-free generation of tuner-based terminal devices on the market. TV cable network operators will also be given a clear framework within which to upgrade and make their networks immune to interference.

Smart metering and smart grids

Smart metering and smart girds have for a long time been generally perceived as issues of relevance to the power supply industry. However, the crucial distinguishing features of a smart meter compared with a conventional Ferraris meter are the former's ability to record, process and communicate data in definable periods of time.

For the most part proprietary solutions have been used for pilot projects in Germany. The wide introduction of electrical meters which are capable of two-way communication (initially for electricity and later for gas and other consumables) depends on the construction of a corresponding communication infrastructure based on standardised communications solutions. In this context the energy market is coalescing with the telecommunications market; a smart meter cannot really said to be "smart" without a communication module.

In order to meet criteria such as conformity with directives, data security and interoperability, devices must be designed for standardised interfaces, protocols and services. The legal foundations have been firmly laid in the TKG, FTEG and EMVG; they apply to both the TK components of the smart meter and to the requisite communications structure.

In addition to the concrete use of the smart meter protection of the recorded and communicated data (including in particular the personal data) is a criterion for acceptance by end customers and their impact on the success of smart technologies. The Bundesnetzagentur consequently takes active part in the development of a data protection profile for smart meters with the BSI and in national and international standardisation bodies.

Involvement in TCAM

The TCAM is both an advisory and regulatory body in the area of European conformity assessment and market surveillance for products in the telecommunications industry and radio equipment. The TCAM is chaired by the EU Commission. The members of the TCAM are the EU Members States, as represented by their respective national ministries and market surveillance authorities, as well as industrial and consumer associations and standardisation organisations.

2010 was dominated by intensive preliminary work on the forthcoming audit of R&TTE-RL. Three TCAM working groups were formed for this purpose. One working group under the leadership of the Bundesnetzagentur will study the potential improvements which can be made to equipment traceability and to an overall improvement in the compliance of

equipment with Directive requirements. Two other working groups will concentrate on bringing the Directive into line with the "New Legal Framework" and with problems which might potentially arise with the market launch of innovative radio equipment. The Bundesnetzagentur has actively supported these activities. A commission draft on the audit of R&TTE-RL is expected to be produced in the coming year based on this work.

Treatment of intellectual property rights in ICT Standardisation Organisations

Intellectual property rights (IPR) – such as patents – have grown in importance in recent years. Standards which included patented technologies represent a considerable competitive advantage for the patent holder. For this reason it is essential that existing patents are disclosed in the standardisation process at an early stage. The disclosure of relevant patents is also intended to help prevent patent ambushes. In the recent past the IPR groups in the ITU and ETSI which are supported by the Bundesnetzagentur have consequently worked on additions and modifications to the relevant IPR directives.

In the field of radio terminal equipment in particular, where an ever wider range of functions is on offer, manufacturers have to take account of more and more patents. In the future software patents may also play a more significant role. The ITU is already working on a revision of its existing Software Copyright Guidelines and the ETSI may be expected to begin drawing up corresponding guidelines in the course of 2011.

Technical regulation for aeronautical radio

Growing passenger and air cargo volumes combined with higher ecological and safety-related stipulations have a direct impact on air traffic management and, as a result, on reliably functioning radio-supported communication and navigation systems (aeronautical radio). The EU Commission has consequently introduced new regulative conditions as part of its "Single European Sky" initiative to encourage effective use of airspace. These new conditions concern both traffic law and telecommunication law issues.

Work on the corresponding and specific EN and community specifications for various aeronautical radio systems was pursued consistently throughout the reporting period. The foundations are provided by several EU mandates (e.g. M/405, M/438).

The Bundesnetzagentur has taken part in meetings of ETSI working groups with the aim of implementing regulation objectives in the standards and specifications (eg interference-free frequency usage) as well as practicable standardisation texts which comply with regulations. The rapporteur for the creation of a harmonised EN for specific aeronautical radio systems comes from the Bundesnetzagentur.

Interoperable reception apparatus for television

The European telecommunications regulatory framework and the German Telecommunications Act (TKG) includes regulations on the interoperability of television reception apparatus. The liberalisation of these regulations arising from changes in the Universal Service Directive now directly requires greater

responsibility from market players themselves as far as taking on board consumer interests is concerned when this equipment is offered. End users wish to make use of purchased television reception apparatus to access specific transmission paths as a minimum, in all cases independently of network access carriers. They also wish to use radio services and non-encrypted content as well as content protected by conditional access systems and digital rights management (CA/DRM system).

The suggestions proposed by the Committee on Technical Regulation in Telecommunications (ATRT) which advises the Bundesnetzagentur on the standardisation of an interoperable CA/DRM system have been taken up. A workshop on this topic was held at the end of May 2010. As well as the Federal Association of Consumer Advice Centres and the Conference of Land Media Institute Directors high-ranking representatives of the market players also support the initiative for a "Campaign alliance of consumer friendly terminal devices for horizontal markets – interoperable CA/DRM systems". These representatives also agreed to take part in standardisation work on software-assisted, loadable solutions. The Initiative steering committee, which met for the first time in December 2010, includes decision-makers from the companies operating on this market (content providers, network operators, providers of CA and DRM systems and terminal manufacturers) as well as a consumer protection representative and the Conference of Land Media Institute Directors.

The Bundesnetzagentur has already been involved in supporting these activities in the framework of European and international standardisation. The "Media Content Distribution" Technical Committee set up by ETSI deals with important topics in this field. The Bundesnetzagentur collaborated on the production of a guide on the regulatory aspects and played a key role in formulation and setting up of a new work item on the interoperability of CA/DRM systems. At the international level the Bundesnetzagentur has also contributed initial work to regulatory aspects of the selection and implementation of encryption algorithms in the context of its work on ITU-T's IPTV Global Standards Initiative. This contributory work involved collaboration in the relevant bodies with the market players who are active in standardisation at the national level.

Mobile communications of the fourth generation (IMT-Advanced)

In October 2010, the two technical proposals submitted by 3GPP and IEEE for IMT Advanced (LTE Advanced and WirelessMAN Advanced) were accepted as part of the ITU evaluation process for standards of the fourth mobile communications generation. 3GPP and IEEE are now working flat out on the completion of technical specifications which will form the basis of the equipment which will be developed. This work will continue through to 2012.

In these phases of completion of the technical specifications and equipment it is particularly important for the Bundesnetzagentur to ensure that account is taken in standardisation of regulation objectives which also include ensuring compatibility with other radio services. As concerns radio, this mainly concerns the use of multiple transmitting and receiving antennas (MIMO), the aggregation of physically separated bands (carrier aggre-

gation), relaying technology and coordinated multipoint reception and transmission. Furthermore, subjects such as "global circulation of IMT advanced mobile stations" and "femto cells" will pay an important role in the years ahead.

Intelligent transport systems

Work has proceeded apace on international standardisation activities for specific applications - which is also in the interest of the German automotive and component supply industry - based on the European Profile Standard for ITS, which lays the groundwork for vehicle to vehicle and vehicle to infrastructure applications. This involves many traffic telematics applications as well as applications for improved road safety.

A harmonised European standard has already been completed for the 63 to 64 GHz band. There is currently a great deal of interest in the 5.9 GHz band in which there are plans to allow local stations and mobile units, in vehicles for example, to engage in mutually intelligent communication. The Bundesnetzagentur has assumed the chair in the ETSI working groups responsible for the digital air interface.

Long-term development of intelligent technical concepts for flexible frequency usage

The relevant technical concepts and requirements for SDR/CR have been defined and corresponding specifications drawn up in the ETSI Technical Committee RRS. In 2010, the Bundesnetzagentur worked with industry partners on the development of technical concepts for flexible spectrum use. The Bundesnetzagentur also supported newly established EU research projects, such as FARAMIR, OneFit and Quasar and will contribute the relevant research findings in the standardisation. In this connection a flexible certification concept will also be developed for the R&TTE-RL for reconfigurable radio systems. The EU Commission has integrated the results so far into the current draft for the new R&TTE-RL.

Digital enhanced cordless telecommunications

Work has been underway for several years on modifying and updating the DECT standard to take account of the new technical requirements arising from the ongoing development of mobile communication. Particularly noteworthy are the technical innovations such as improved speech transmission quality arising from the use of broadband voice codices, the ability to use DECT in IP networks for applications such as Internet radio or RSS feeds and improved compatibility of equipment from various different manufacturers. DECT is now also actively used in the field of M2M technology for building automation. A new working group was set up for this purpose in 2010.

Technical directive for emergency calls

The first draft of a technical directive for emergency calls (TR emergency call) to implement Section 108, subsection 3 of the Telecommunications Act (TKG) was published for comments in October 2010. The draft contains organisational regulations on the description and definition of the catchment areas of emergency call centres, technical details on emergency telephone numbers, on the identification and transmission of location data and for emergency call connection requirements. Rules have also been specified for the forwarding of emergency calls.

In parallel, the Bundesnetzagentur has also initiated the development of the required standards at the European level for identifying and transmitting location data bearing in mind that existing international concepts and specifications do not take sufficient account of existing structures and the legal framework conditions. The standardisation mandate has been submitted to the EU Commission and must now be agreed by the EU Commission and the European Standardisation Organisations.

Accounting accuracy of volume-based rates

Section 45g of the Telecommunications Act (TKG) requires that providers demonstrate to the Bundesnetzagentur the proper functioning of accounting systems on an annual basis. This has been the case for around ten years for time and distance-based connection services. Evidence of this kind in over 240 instances was submitted in 2010.

While traditional, line switched call services are mostly billed based on time and international calls also based on distance, volume based billing is mainly used for packet-switched telecommunication networks. Here, the actually transmitted data volume is recorded and billed to the end customer. The volume is also recorded in the case of "unreal" flat rate offers so that, if a contractually determined threshold is reached, reducing influence can be exercised or the volume which has exceeded the threshold can be billed in detail.

The technical requirements which must be met by volume-based billing procedures and systems were presented in draft form in April 2010. In this context a compromise was sought between consumers' wish to record volumes as accurately and reliably as possible and providers' desire to use the most cost effective and available technologies which are mainly influenced by the US market. Finally, the technical requirements for volume-based billing procedures and systems were agreed and adopted. This has given providers the planning security needed for implementation on this dynamic and growing market and, thanks to transparency, consumers can rely on correct recording and billing of volume-based service charges. The inspection bodies and the Bundesnetzagentur will also be provided with a tool which will enable them to evaluate these billing procedures and systems in a standardised manner.

MONITORING AND INSPECTION SERVICE

In the area of frequency regulation, decisions taken by the radio monitoring and inspection service (PMD) are prepared and supported in numerous ways. Measurements are used generally and in specific cases to safeguard efficient and interference-free use of frequencies and to support important decisions on frequency development. Knowledge of the actual use made of frequencies and their technical characteristics is the basis for ongoing frequency spectrum development.

Automatic measurements in the short wave band to determine frequency occupation

The measuring stations of the Bundesnetzagentur took part in a measurement campaign once again in 2009 which was launched in early 2008 and is due to end in late 2010. Within the framework of this campaign, measured values obtained using the Bundesnetzagentur's automatic measuring devices are processed. The data on the occupancy of short wave bands between 1.6 and 27 MHz

determined in this way can be used for the WRC-12 and also reveal separate developments in the use of the entire short wave spectrum.

Measurements carried out in the short wave frequency

The PMD also performed observational measurements in certain sub-areas of the short wave frequency band during 2010. These measurements will be used both by the Bundesnetzagentur for further plans and as the basis for frequency allocation and will be made accessible after an international agreement of the ITU has been concluded and published. Manual measurements will include the identification of transmitter locations, the transmission system used as well as the time of radio application.

Measurements of SRD frequencies

As part of an international measurement campaign, the PMD of the Bundesnetzagentur is taking part in measurements carried out in the frequency band from 863 to 870 MHz for short range devices (eg headphones, microphones, chips used to identify goods). The measurements allow conclusions to be drawn on the current occupancy of this frequency band and on the need for changes in the allocation of frequencies to the individual applications.

Research project FARAMIR

In the long term the FARAMIR research project is intended to enable terminal equipment to be allocated highly flexible free frequencies in mobile networks for current use. The first automatic measurements, in which the Bundesnetzagentur also took part, were made for this purpose in the 0 to 3 GHz band at the end of October 2010 at several locations in Europe.

Measurements prior to the establishment of an earth station

An earth station in the frequency band 26 GHz for a satellite project is planned for southern Germany. Measurements were made in the relevant area in June 2010 to gather information about any radio applications and systems already in place and to determine whether it will be possible to make the intended use of the planned system at the envisaged location with as little interference as possible.

Pan-European measurement campaign in the frequency range above 6 MHz

Above the 49-m band there is a band for maritime communication which is frequently misused by “pirate stations”. These are stations which broadcast programme-like material but which do not appear to have been assigned the necessary frequency spectrum by their home country. A measurement campaign undertaken in 2010 provided a stock of data and supported action against the continued operation of these stations. Particular importance was attached to protecting the emergency frequencies 6,215 and 6,312 kHz.

Compatibility tests for LTE

The PMD took part in “public measurements” as part of the LTE Project NRW. The project examined the influence of an LTE base station and the LTE terminal devices on the neighbouring DVB-T television broadcast. A practical test showed that, under the given circumstances, DVB-T reception interference caused by LTE emissions may be effectively prevented in some cases by using band elimination filters and precisely orientating DVB-T receiving antennas.

Measurement of mobile coverage along the border of the Federal Republic of Germany

As part of a comprehensive measurement campaign, in recent years the PMD of the Bundesnetzagentur has measured radio coverage along the border of the Federal Republic by international mobile network operators. In 2010, studies focused on radio waves from international UMTS mobile networks.

The study results for UMTS border measurements were similar to those for GSM border measurements where networks are fully developed on both sides of the border. Coverage on German territory is only somewhat lower owing to higher operating frequencies. For this reason it is reasonable to assume that if UMTS networks are developed even further in the future that this will lead to the same problems which have already been encountered with GSM border measurements.

From the technical perspective, it is possible to avoid these levels of coverage even if international roaming is desirable when crossing borders. The Bundesnetzagentur will therefore continue to monitor this problem closely and will conduct talks at the international level to find out how this problem can be solved in the interest of mobile phone customers.

Interference in digital GSM-R radiocommunications for railways

Since the launch of the enhanced GSM mobile frequency band the operating frequencies of public mobile services and of digital mobile communications-rail (GSM-R) have moved closer together. This led to more interference in radiocommunications for railways. A total of 82 interference locations were reported to the Bundesnetzagentur in 2010 (2009: 117). The PMD determined the exact cause of interference in each case on location.

Comprehensive investigations by the PMD identified railway cab radios as the main weak point. While cab radios comply with normative requirements in the same way as all the other participating radio systems, the operation of a public mobile radio base station in the vicinity of a railway line nonetheless results in blocking and intermodulation interference to cab radios. Proposals for short and long-term solutions have been elaborated and submitted to the groups involved (operators, railway companies, international bodies). A short-term solution would be to achieve agreement among the relevant operators (GSM and GSM-R) and for the Bundesnetzagentur to play a mediating role in this respect. In the long term the PMD's findings may contribute to improved immunity to interference in the forthcoming revised specifications for cab radios which, owing to the development of the GSM-R band, are currently being negotiated at the international level.

Monitoring frequency uses

In 2010, the PMD again checked approximately 6,000 frequency assignments for a variety of radio applications in order to ascertain whether operators were complying with the provisions on the assignment of frequencies. Monitoring will enable a representative profile to be produced for all radio services. In addition to traditional, private mobile radio services, public mobile networks (GSM/UMTS), radio broadcasting allocations, radio relay allocations and maritime radio allocations are also being reviewed. In 2010, particular atten-

tion was given to monitoring WiMAX use for wire broadband access.

Protection of amateur radio against interference from abroad

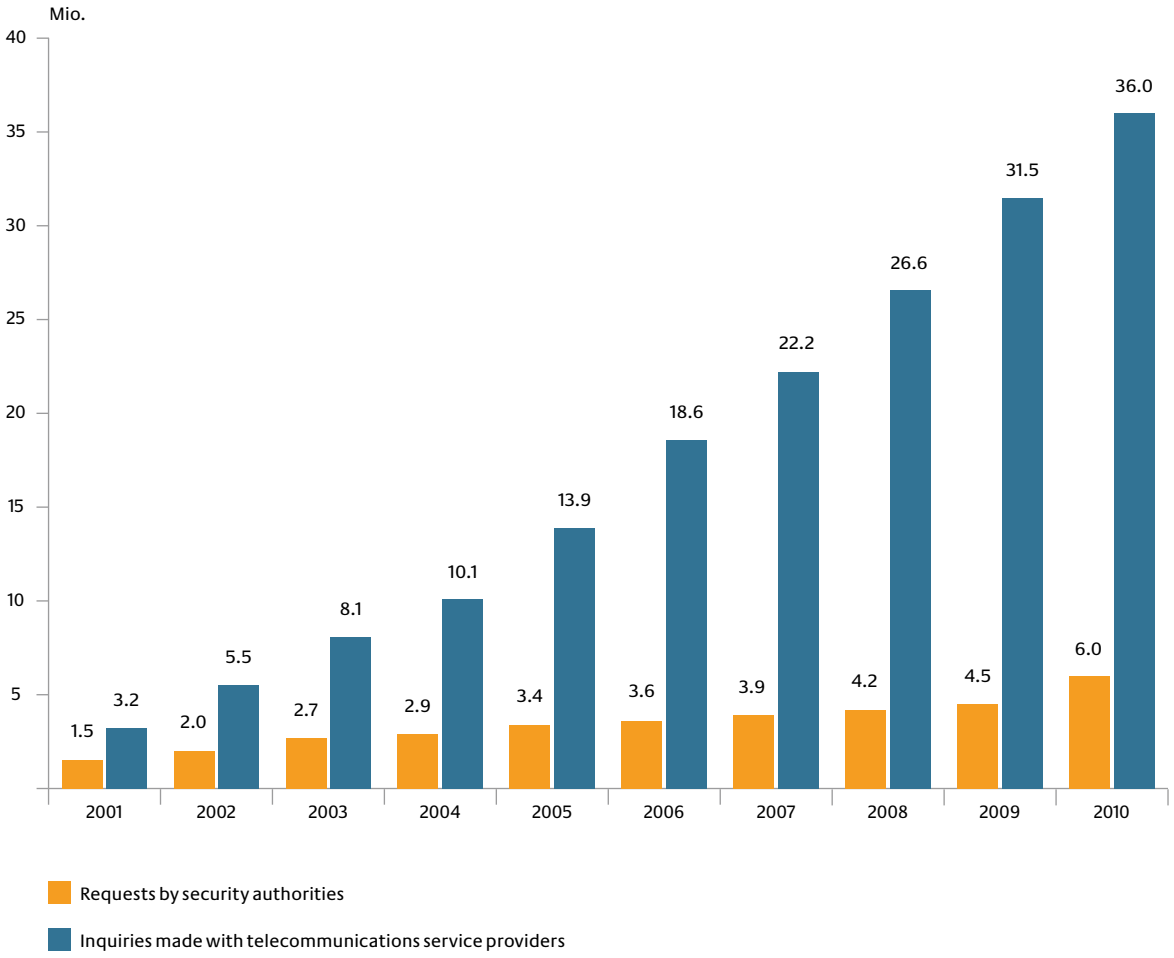
In order to protect the frequency bands, some of which are assigned exclusively for amateur radio, around 30 interference reports were sent to foreign administrations in the course of the year on whose territory interfering transmitters were detected; according to international agreements, they are not permitted to use amateur radio frequencies for any other purposes. In some cases transmitters causing interference were shut down or repaired in the interest of radio amateurs.

PUBLIC SECURITY

Automatic information procedure under Section 112 TKG

To assist the security authorities in the performance of their statutory duties, telecommunications companies provide information from their customer files about the names and addresses of individuals with telephone numbers to the authorities via the Bundesnetzagentur. At present, around 250 authorities registered with the Bundesnetzagentur are able to access customer data from 135 telecommunications companies.

Information requests made by security authorities and inquiries made with telecommunications service providers 2001–2010



Technical implementation of intercepts and provision of information pursuant to Section 110 TKG

In carrying out its duties in relation to the technical implementation of intercepts, the Bundesnetzagentur makes an important contribution to maintaining public security in Germany. In particular, the Technical Directive pursuant to Section 110 subsection 3 TKG is an important basis for the development of interception technology by the telecommunications companies, manufacturers and security authorities involved. The Directive is amended to take new telecommunications technologies into account whenever it becomes necessary to do so. To this end, the Bundesnetzagentur - as required by legislation - contributes to the discussions about the new topics initially in the standardisation bodies.

In 2010, comprehensive rules were added to the standard in this respect for the LTE new generation of mobile radio. The Bundesnetzagentur introduced the national monitoring requirements in response to the ongoing introduction of this new technology by German mobile network operators. National monitoring technology requirements were also included in ongoing standardisation work for the continuing development of the VoIP specifications.

Qualified electronic signature

The Bundesnetzagentur is the competent authority under the Act governing Framework Conditions for Electronic Signatures (SigG) and as such received registration of operation from a new large certification service provider in 2010, the Federal Employment Agency (Bundesagentur für Arbeit). The Trust Centre run by the Bundesnetzagentur issued all accredited certification service providers with the certificates they required to perform their duties during 2010 and kept a record of them in a directory service that is open to the public. As in previous years a large number of supervisory measures implemented in respect of German certification service providers ensured that the Act governing Framework Conditions for Electronic Signatures and the Ordinance governing Framework Conditions for Electronic Signatures were observed. Initial ambushes on confirmed products for qualified electronic signatures were promptly and effectively warded off.

In 2010, the launch of the qualified electronic signature in the documentation process for the disposal procedure for German waste management methods (eANV) and the issue of the new personal ID (nPA), which has been prepared for the use of qualified electronic signatures, are two major projects which have had a substantial and tangible positive impact on market activities and which also gave rise to new issues and challenges.

These major projects led to a large increase in the amount of advisory work being undertaken for industry, public authorities and citizens on the topic of qualified electronic signatures at both the national and international levels. Extensive updating has resulted in the information published by Bundesnetzagentur on the Internet on qualified electronic signatures and the ZDA becoming much more transparent, up to date and usable.

The Bundesnetzagentur continued to cooperate successfully with CAST e. V., a competence centre for IT security in Darmstadt, and other bodies. Cooperation and involvement at the international level was intensified at a meeting of the Forum of European Supervisory Authorities for Electronic Signatures (FESA) at its offices in Mainz and by the representation of German interests concerning European standardisation of qualified electronic signatures with the European Standards Institute (ESI) and European Telecommunications Standards Institute (ETSI). The Bundesnetzagentur continued to chair the working group of the Association of Accredited Evaluation and Certification Bodies, thereby providing a platform for the coordination and development of work processes used by the evaluation and certification bodies.

One particular challenge in 2010 was to create and update the “trusted list” for the Federal Republic of Germany, a collection of informa-

tion on the certification service provider. Important committee work was undertaken in this context on the co-development and harmonisation of lists of all EU Member States with a view to checking international, qualified electronic signatures.

In 2010, the Bundesnetzagentur complied with its statutory obligations to publish product certifications for qualified electronic signatures, manufacturers' declarations that comply with the Act governing Framework Conditions for Electronic Signatures and the Ordinance governing Framework Conditions for Electronic Signatures as well as suitable algorithms and the associated parameters for qualified electronic signatures.

INFRASTRUCTURE ATLAS

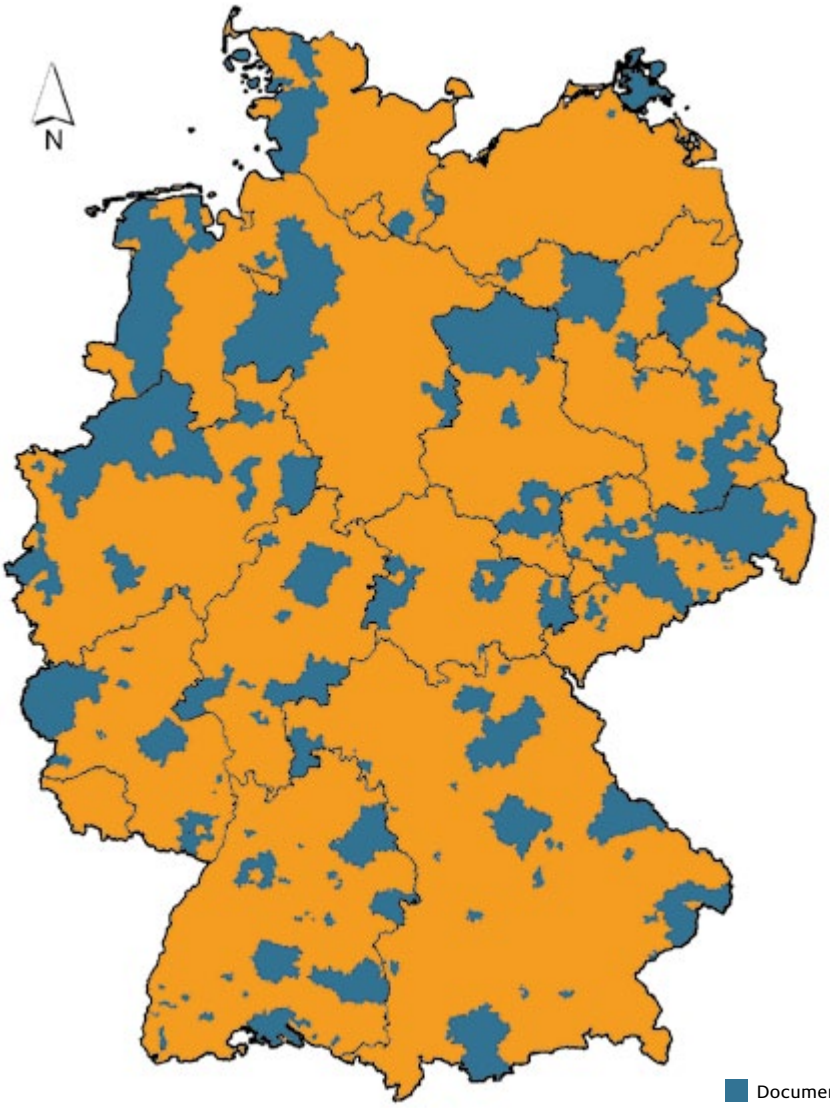
The Bundesnetzagentur has created a nationwide infrastructure atlas which has been in use since 8 December 2009. The infrastructure atlas comprises data on the existing infrastructure in Germany which can in principle be used n the expansion of broadband. The data provides information about existing fibre-optic cables, empty ducts, main distribution frames, special cable distributors, transmitter masts, antennae locations and other suitable infrastructure. Data is currently provided by around 130 companies which are participating on a voluntary basis in the development of the infrastructure atlas. The atlas itself implements part of the German government's broadband strategy and is geared to all those involved in advancing provision of broadband connections, such as companies, regional authorities and planning offices.

The infrastructure atlas will be launched in several phases: the first phase will involve representatives from the German states, districts and self-governing towns - all of which are authorised users - making applications to the Bundesnetzagentur to use the infrastructure atlas. Municipalities which belong to a district, telecommunications firms and planning offices are entitled to use the infrastructure atlas. They can also make inquiries with the Bundesnetzagentur via the authorised users in the regions.

Up to the end of 2010, 291 local authorities applied to use the infrastructure atlas – about half of them in Saxony, Baden-Württemberg and North-Rhine Westphalia. The most frequent applicants were planning offices and municipalities; all planning offices submitted their applications in the name of regional authorities. This means that the infrastructure atlas has so far primarily been used by regional authorities in the framework of their plans to expand broadband provision.

As part of the process of handling applications the Bundesnetzagentur produces overviews of the notified infrastructure in each region and makes this information available to applicants. On average, applicants are given the names of eight companies which have infrastructure which can in principle be shared in the process of extending broadband provision. In this respect the Bundesnetzagentur's main role is that of a match maker. The extent to which cooperative use agreements are feasible depends on negotiations with the infrastructure proprietors. However, the Bundesnetzagentur has established a feedback mechanism which ought to provide some initial insights during the course of 2011.

Areas in the Federal Republic of Germany for which information is available, 2009–2010



The applications which have been processed to date represent an area in which around 12,500.000 inhabitants live. The fact that most applications originate from largely rural areas shows that the infrastructure atlas is well used.

In the second phase the Bundesnetzagentur plans to draw up topographical maps in PDF format which will show the relevant infrastructure. This phase, which was originally due to begin on 1 May 2010, has been delayed as not all the parties have as yet agreed to their data being used in this way. The voluntary solution currently only gives the Bundesnetzagentur limited scope for pressing ahead with the integration process. In the medium term the idea is for the infrastructure atlas to be available to the authorised group of users as a WebGIS solution in the Internet.

Court proceedings

After a number of summary and main proceedings to deal with extensive disputes under considerable time pressure the frequency auction was held as planned in April 2010. Diverse court decisions have provided legal clarity for the expansion of broadband.

Overall 154 main proceedings and 28 summary proceedings challenging decisions taken by the Bundesnetzagentur in the telecommunications field were brought before administrative courts in 2010. 136 main proceedings and 44 summary proceedings were ruled on in the same year. The Bundesnetzagentur won 117 main proceedings and 44 summary proceedings. One main proceedings ended with a draw. The court proceedings dealt with issues ranging from basic market regulation through to frequency disputes.

FREQUENCY DISPUTES

The Chamber Ruling of 12 October 2009 initiated the allocation procedure for frequencies in the 800 MHz ("digital dividend"), 1.8 GHz, 2.0 GHz and 2.6 GHz bands. Several companies brought unsuccessful actions against this decision.

In proceedings for expedited relief the Cologne Administrative Court ruled on 29 December 2009 (references 21 L 1861/09 and 21 L 1869/09) and 5 January and 2 March 2010 (reference 21 L 1886/09) against a petition for an interim order and, in its rulings of 5 March 2010 (reference 21 L 1851/09), 19 March 2010 (reference 21 L 1861/09) and 22 March 2010 (reference 21 L 1886/09) against further petitions for a court order with suspensory effect for the action against the Chamber Ruling.

Oral hearings had already been held on 17 March 2010 in several main proceedings before the Cologne Administrative Court. Rulings on the same day dismissed the actions brought by two mobile network operators (references 21 K 7671/09 and 21 K 7769/09) as well as the actions of an operator of regional wireless networks (references 21 K 6772/09, 21 K 7172/09, 21 K 7173/09 and 21 K 8150/09). Appeals have been lodged against all the rulings. A petition for expedited relief was also submitted to the Federal Administrative Court (BVerwG) which was dismissed on 8 April 2010 (reference 6 VR 2.10). After completion of the frequency auction the mobile network operator also withdrew its appeal (reference 6 C 4.10) and the relevant judgement of the Cologne Administrative Court is now final and absolute. Oral hearings will be held before the Federal Administrative Court on the appeals brought by the other mobile network operators on 23 March 2011 (reference 6 C 6.10). In

the second quarter of 2011 oral hearings will also be held before the Federal Administrative Court on appeals brought by the operators of regional wireless networks (references 6 C 3.10, 6 C 5.10, 6 C 40.10 und 6 C 41.10). Appeals had already been allowed in two actions by the Cologne Administrative Court and in the two other cases were referred to the Federal Administrative Court in rulings on 2 November 2010 owing to their fundamental importance (references 6 B 33.10 and 6 B 34.10).

The Cologne Administrative Court dismissed the actions brought by three broadcasting corporations on 9 February 2011 (references 21 K 8146/09, 21 K 8147/09 and 21 K 8148/09).

Initial actions brought by two cable network operators (references 21 K 8194/09 and 21 K 8195/09) and a broadcasting network (reference 21 K 8149/09) are still pending.

A ruling of 27 April 2010 (reference 21 K 7731/09) suspended further proceedings brought by a mobile telecommunications company after their withdrawal by the latter.

Other court proceedings concerned decisions taken by the Bundesnetzagentur in connection with the award proceedings. One company filed an urgent petition to enforce its participation in the auction. This application was dismissed by the Cologne Administrative Court in its ruling of 2 March 2010 (reference 21 L 252/10). The main proceedings following rejection of the petition for participation are currently pending at first instance (reference 21 K 1601/10). Two companies which took part in the auction have also brought actions against the price determined at the end of the auction (reference 21 K 3807/10 and 21 K 3811/10) and payment notices (references 21 K 3808/10 and 21 K 3811/10) to maintain deadlines. One of the companies has also brought an action against the specific allocation of frequency blocks (reference 21 K 6040/10). All these proceedings are currently suspended.

Finally, court proceedings have also taken place before the Cologne Administrative Court in relation to a frequency relocation in connection with the “digital dividend”. The proceedings were suspended with the ruling of 6 October 2010 (reference 21 L 1314/10), however, after the relevant broadcasting corporation had withdrawn its petition for expedited relief.

ACCESS REGULATION TO MULTI-FUNCTIONAL HOUSING IN THE FRAMEWORK OF SUBSCRIBER LINE ACCESS

DTAG filed an urgent petition against the obligation imposed by the Bundesnetzagentur to allow competitors access to multi-functional casings, including to those built prior to the issue of the subscriber line regulatory order of 27 June 2007 (subscriber line regulatory order 2007). Rules on access based on the timely priority principle, the obligation to take space-creating measures in the multi-functional housing and the obligation to virtual collocation were also attacked.

The Cologne Administrative Court ruled on 18 October 2010 (reference 1 L 1289/10) against the petition to order the suspensory effect of the action against the access regulation issued by the Bundesnetzagentur. The court held that the disputed collocation in the multi-functional housing which must be provided by DTAG, including the virtual collocation, also

applies to multi-functional housing which was installed prior to the issue of the subscriber line regulatory order in 2007. The order requiring space-creating measures in the multi-functional housing and on virtual collocation are legally compatible with the obligation to grant access in the subscription line regulatory order of 2007. The fact that, in the event of virtual collocation, DTAG – and not its competitors – must set up the additional multi-functional casing is not unreasonable given that it is a dominant operator and as such has much greater ability to realise the virtual collocation efficiently and rapidly.

ACCESS REGULATION TO SUBSCRIBER LINE VIA A DISTRIBUTOR SWITCH

After Division 21 of the Cologne Administrative Court ruled in favour of the Bundesnetzagentur in the (first) "distributor switch" proceedings (summary proceedings references 21 L 941/09 and 21 L 1304/09) Division 1 of the Cologne Administrative Court has now reached a decision in parallel proceedings with its ruling of 21 January 2010 (reference 1 L 1435/09) to reject the urgent petition brought by DTAG against the decision of the Bundesnetzagentur of 3 July 2009 (BK 3e-09/035). In contrast to Division 21, Division 1 did in fact address the disputed issue as to whether the ordered access to the subscriber line via a distributor switch on the main cable is covered by the subscriber line regulatory order of 2007 and held that access to the subscriber line must also be granted at other points (other than on the cable or terminal box), such as by means of a newly installed distributor switch on the main cable between a main distribution frame or a special cable distributor.

RATES CHARGED FOR ACCESS TO THE SUBSCRIBER LINE VIA THE NEWLY INSTALLED DISTRIBUTOR SWITCH ON THE MAIN CABLE

With its judgement of 11 January 2010 (reference 21 L 1304/09) the Cologne Administrative Court dismissed the urgent petition filed by DTAG ordering the provisional payment of rates for access to the distributor switch without taking account of maximum prices. A key issue in this context was the finding that the standard process in Section 35 subsection 5 sentence 2 half-sentence 2 of the Telecommunications Act (TKG) is not relevant because its scope is not applicable owing to the failure to reach contractual agreement on the disputed rates. What is more, the private contract arising between the parties on the basis of the decision ruling by the Bundesnetzagentur does not, in the view of the Chamber, constitute an agreement pursuant to Section 35 subsection 5 of the TKG because this regulation distinguishes between the sovereign rate regulation and the private contractual arrangements. If the rate regulations are officially mandated rather than agreed voluntarily the situation of trust protected by Section 35 subsection 5 sentence 1 of the TKG no longer applies.

SUBSCRIBER LINE REGULATORY ORDER 2007

With its judgement of 27 January 2010 the Federal Administrative Court (BVerwG) partly accepted the action brought by DTAG in proceedings 6 C 22.08 against the regulatory order concerning the market for access to the subscriber line (BK 4a-07-002) and to that extent corrected the ruling in the court of first instance by the Cologne Administrative Court

in proceedings 21 K 2701/07 of 23 April 2008. The matter in dispute was the (initially) imposed obligation to grant - for the purpose of access to the local loop on the main distribution frame - access to the cable channels between the special cable distributors and the main distribution frames and – if this is not possible for technical or capacity reasons – alternatively access to unconnected fibre optic cables.

The Federal Administrative Court confirmed the decision of the Bundesnetzagentur concerning access to the special cable distributors and the cable channels between the special cable distributors and the main distribution frames. On the other hand, the court did not consider it legitimate that competitors should be granted access under certain conditions to the fibre-optic cables between the main distribution frame and the special cable distributors and consequently overturned this obligation.

REGULATORY ORDERS OF ALTERNATIVE COMPETITORS IN THE FIELD OF FIXED NETWORK CALL TERMINATION

In a total of seven proceedings (references 1 K 6671/09, 1 K 6679/09, 1 K 6745/09 and 1 K 6680/09 to 6683/09) regulatory orders of alternative competitors for the field of fixed network call termination (Market No. 3 of the Market Recommendation) were attacked by the same competitors. The orders each contained regulations revoking previously imposed payment obligations pursuant to Section 21 TKG, ie interconnection obligations, obligations to provide call services and collocation. The Cologne Administrative Court was called upon in the proceedings referred to above to rule for the first time on legal actions brought by companies with dominant market power for regulatory orders directed against themselves with an onerous obligation to provide access. The court dismissed the actions with its judgements of 1 July 2010. In the view of the court the access obligation sought pursuant to Section 21 subsection 3 sentence 2 and TKG does not give rise to any subjective legal protective effect in favour of the dominant company. It is not possible to obtain an onerous administrative act against one self. The party's own rights have not been violated. The claimants have appealed against the judgements.

BILLING ARRANGEMENTS PURSUANT TO SECTION 29 SUBSECTION 1 TKG

With its notification of 30 April 2010 (BK3a-10/032) the Bundesnetzagentur called on mobile network operators to bill customers termination rates in compliance with a pricing procedure stipulated by the Bundesnetzagentur. The purpose of this measure was to enable the Bundesnetzagentur to launch an efficiency evaluation across all operators as part of the forthcoming rate approval procedure.

In its ruling of 13 July 2010 (reference 21 L 797/10) the Cologne Administrative Court rejected the petition submitted by the relevant mobile network operators to order the suspensory effect of the legal remedy in the main action. At the same time the court stated that a transparent and effective rates regulation procedure should have precedence over the expense of the operators.

APPEAL AGAINST DENIAL OF LEAVE TO APPEAL FREQUENCY AUCTION

The Federal Administrative Court (BVerwG) ruled on 7 June 2010 (reference 6 B 69.09) in favour of an appeal against denial of leave to appeal submitted by a former UMTS license holder against the judgement issued by the Münster Higher Administrative Court (OVG Münster) on 30 June 2009 (reference 13 A 2069/07). The legal background to this case was the revocation of a UMTS license that had been issued at auction in 2004 after the operator's failure to provide the services which the conditions attached to the license required. According to the Federal Administrative Court leave to appeal will help clarify the conditions under which an auctioned license can be revoked and to what extent license holders may in such circumstances be entitled to claim reimbursement of the purchase price.

REGULATORY ORDER FOR THE WHOLESALE MARKETS FOR LEASED LINES

With its judgement of 1 September 2010 (reference 6 C 13.09) the Federal Administrative Court (BVerwG) dismissed the appeal by the Bundesnetzagentur against the judgement of the Cologne Administrative Court rescinding the regulatory order for wholesale markets for leased lines where other than traditional leased line with bandwidths of up to 2 Mbit/s were affected. The court consequently effectively confirmed the ruling of the Cologne Administrative Court despite finding it not entirely free of legal error. The logical corollary of this ruling is to rescind the obligation to submit a standard offer. In its judgement the court again confirmed the existence of a margin of discretion for the regulatory authorities with regard to market demarcation and addressed in detail the limits to such leeway and its legal verifiability. In this specific case the court regarded the limits of discretion has having been exceeded.

OBLIGATION TO ENABLE CARRIER (PRE) SELECTION ON FULL IP CONNECTIONS

The Cologne Administrative Court ruled on 20 September 2010 (reference 21 L 799/10) against the urgent petition submitted by DTAG to order the suspensory effect of the action against the obligation in the regulatory order for market 1 of the market recommendation for carrier (pre)selection. The court did, however, order (alternatively) the suspensory effect of the action as petitioned until 31 December 2010.

In the view of the Cologne Administrative Court the key factor for the legality of the imposed call-by-call and preselection obligation on full IP connections is initially that the relevant authority provided under Section 40 subsection 1 of the Telecommunications Act (TKG) does not envisage any regulatory discretion and that a linked decision by the Bundesnetzagentur therefore exists where significant market power exists. The court also held that Section 40 subsection 1 TKG is not restricted to narrowband connections. Ultimately DTAG must enable call-by-call and pre-selection on full IP connections by implementing the necessary network functionalities.

The court did not, however, address the issue of whether the contested regulatory order is unlawful in as far as it does not allow DTAG any time to implement its carrier (pre)selection obligation. After weighing up the

conflicting interests separately from the chances of the action being successful, the court took the view that the company's interest in being temporarily released from the implementation obligation must have priority.

APPROVAL OF MOBILE COMMUNICATION TERMINATION RATES FOR HOMEZONE PRODUCTS

With its judgements of 20 October 2010 (references 6 C 18.09 and 6 C 19.09) the Federal Administrative Court (BVerwG) overturned two decisions reached by the Cologne Administrative Court turning down actions by two fixed network operators against rates approved in the field of mobile communication termination for "homezone" products. The Federal Administrative Court also overturned the rate approvals where these allow mobile communication rates lower than those approved in cases where a call to a geographical call number is terminated. In the view of the court permitting lower price ranges would open the floodgates for abusive pricing practices.

TERMINATION RATES OF ALTERNATIVE SUBSCRIBER NETWORK OPERATORS

With its judgement of 23 June 2010 (reference 6 C 36.08) the Federal Administrative Court (BVerwG) decided that the issue of abusive increases in charges made by a dominant company (in this case alternative subscriber network operators) on a telecommunications market must be primarily considered according to the comparative market principle and not on the basis of actual documented costs. According to the Federal Administrative Court not even the monopolistic structure of regulated termination markets excludes a comparative market perspective. On regulated markets it is regulation which assumes the economic function of controlling and limiting the leeway of service providers which is otherwise performed by competition. Prices on regulated markets are therefore in principle just as appropriate as competitive prices in ensuring that market power is not abused to increase prices.

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Post

Market watch

The market environment has improved for players in this sector. In 2010 there was a greater focus in the letter segment on technical innovations, notably hybrid letter services. These changes are expected to revive competition in the letter market in the long run.

COMPETITION IN LETTER MARKET REQUIRES ENCOURAGEMENT

Although the letter market became fully competitive in 2008, there have not yet been any material changes in the market environment. Competitors' market share has remained at around 9 percent, strongly suggesting that there is still no self-supporting, functioning competition for letter services in Germany. The dominant market player is hence subject to continued regulation.

Competitors have adopted a variety of strategies, such as forming nationwide partnerships to achieve the necessary critical mass. These are welcome developments that may lead to more competition. An analysis of influential factors has also revealed a tendency to compete on network access. Accordingly, there is the danger that end-to-end competition may weaken, with several competitors building their own delivery infrastructures. The Bundesnetzagentur is favourably disposed towards either strategy.

The Bundesnetzagentur believes it necessary to continue encouraging competition through regulation, ideally with a more effective set of regulatory instruments following the impending amendment to the Postal Act, and to put a new framework in place for more sustainable competition in what is a changing market. That said, it must be borne in mind that the Bundesnetzagentur does not "hand out" market shares – rather, it is responsible for creating an environment in which competition can flourish. It is up to the market players to recognise the resulting opportunities, take the right decisions and introduce innovative business models.

Competition in the market for courier, express and parcels (CEP) has developed positively for a long time, proof that well-functioning competition in the letter segment is possible on principle. Public requests for tender for postal services are yet another way to stimulate more competition.

HYBRID LETTER SERVICES INTRODUCED IN RESPONSE TO CUSTOMERS' CHANGING REQUIREMENTS

The traditional letter segment continues to change as new products are introduced. In July

2010 DPAG introduced E-Postbrief, a hybrid product involving electronic letters plus physical delivery, in direct competition to existing hybrid products offered by other market players as well as providers of upstream services. Purely electronic products, made possible by the introduction of new legislation known as the De-Mail act, will appear on the market in 2011 as an attractive option for a wider circle of users. This is anticipated to bring further change to what is already a shifting market.

These developments are taking place not least in response to consumers' changing requirements. For a variety of reasons, traditional letter services are increasingly being substituted by electronic services. It is still too early to quantify precisely what impact these substitute products will have on the classic letter market.

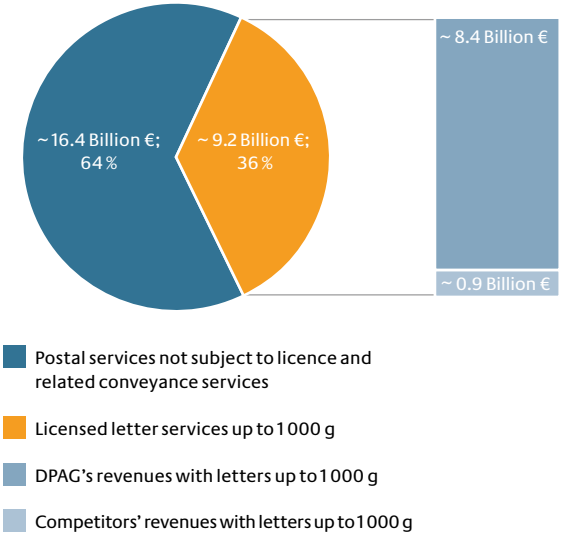
However, it is clear that new opportunities are opening up for providers. Hybrid and E-Postbrief/De-Mail products may cause the market to grow in the long term. The dynamic growth and strong competition in the neighbouring telecommunications market could rub off on the postal sector and lead to structural changes. For instance, once the De-Mail services are launched some major online providers plan to offer hybrid letter products on a large scale using alternative letter service providers.

The Bundesnetzagentur will monitor the introduction of new letter services and continue to encourage competition in this area.

THE POSTAL MARKET – FACTS AND FIGURES

In 2009 the German postal market[1] posted revenues of around € 25.6 billion, with postal services not subject to licence and related conveyance services accounting for approximately € 16.4 billion and the licensed letter market contributing around € 9.2 billion.

The German postal market in 2009



Rounding differences
Source: MRU 2011

Postal services not subject to licence and related conveyance services

The segment for postal services not subject to licence and for related conveyance services (letters over 1 000 g, parcels and goods up to 20 kg, unaddressed advertising, books, catalogues, newspapers and magazines) generated total revenues of € 17 billion in 2010. Rather than breaking down the figure by service quality (courier or express) and product type (parcel), as before, for the first time this Report shows revenue volumes only by product type. To enable a comparison with prior-year figures,

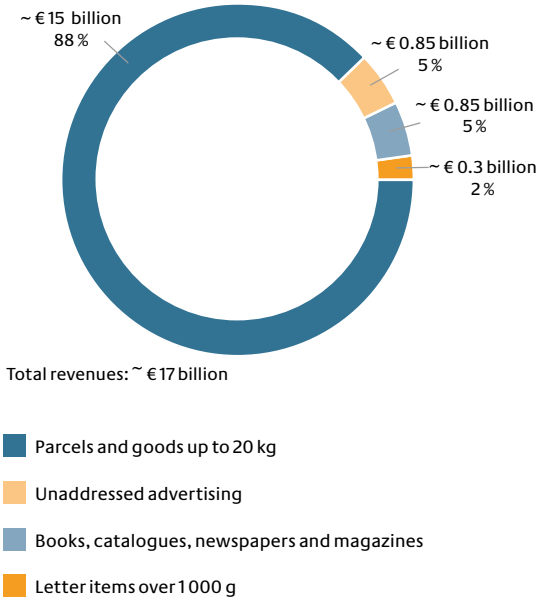
[1] All revenues and volumes for 2010 have been estimated on the basis of market analyses by MRU (postal services not subject to licence and related conveyance services) and by the Bundesnetzagentur (licensed postal services).

this analysis was also performed on data from 2008 and 2009. Owing to the crisis, total revenue during these years stood at only approximately € 16.4 billion (2009) and € 17.4 billion (2008).

A comparison of total revenues in this market sector in 2010 with the figure for 2009 demonstrates that as expected, the sector has recovered, an assessment that is confirmed by industry associations.

In 2010 parcels and goods up to 20 kg, an area that also includes volumes not subject to licence and CEP providers' revenues, accounted for around 88 percent of total revenues in the market for postal services not subject to licence and related conveyance services. Unaddressed advertising[2] and books, catalogues, newspapers and magazines lagged far behind at around 5 percent each. Letter items over 1 000 g only contributed around 2 percent of total revenues.

Revenues generated with postal services not subject to licence and related conveyance services in 2010e

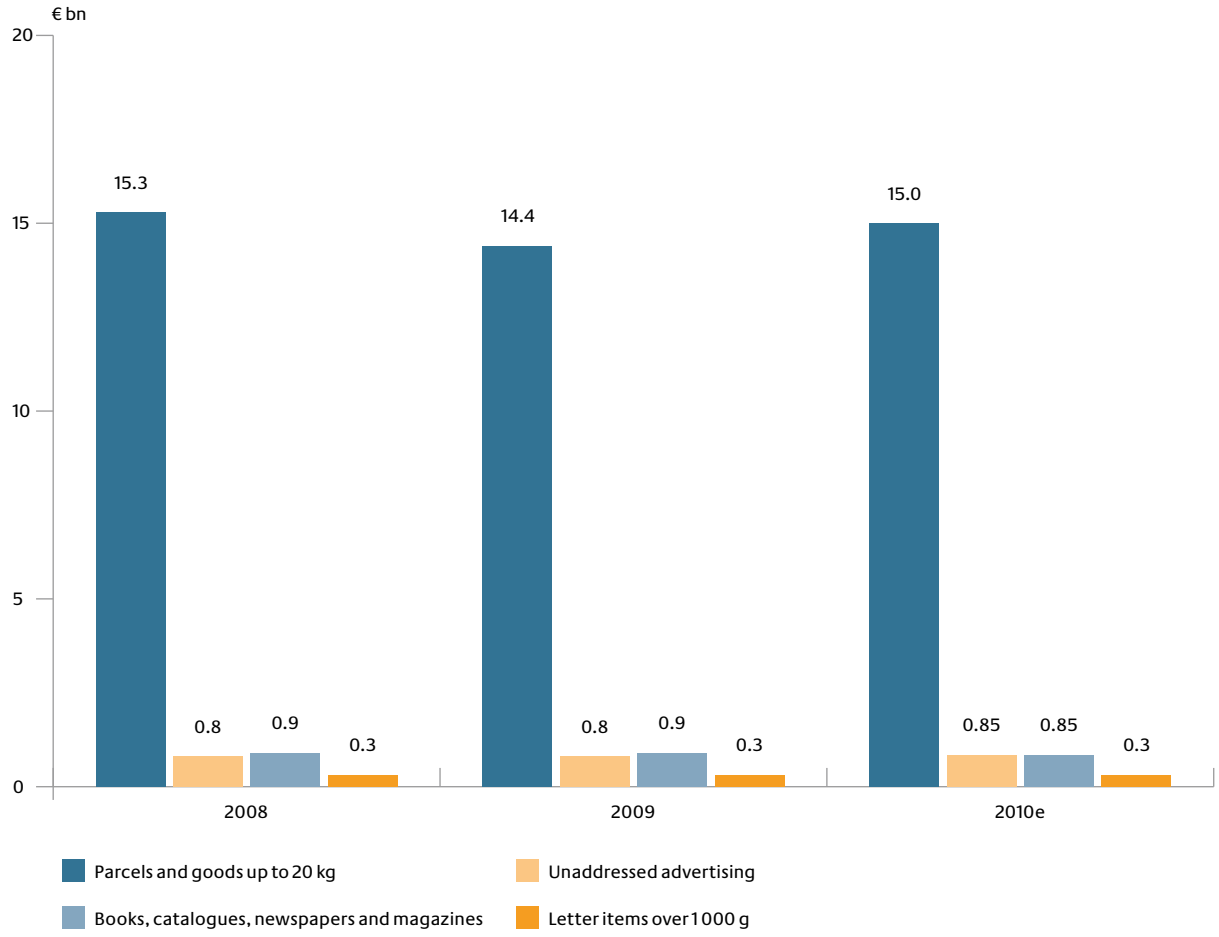


Source: MRU 2011

In 2010 the three largest providers in this market accounted for one third of total revenue, indicating that competition in this sector is strong.

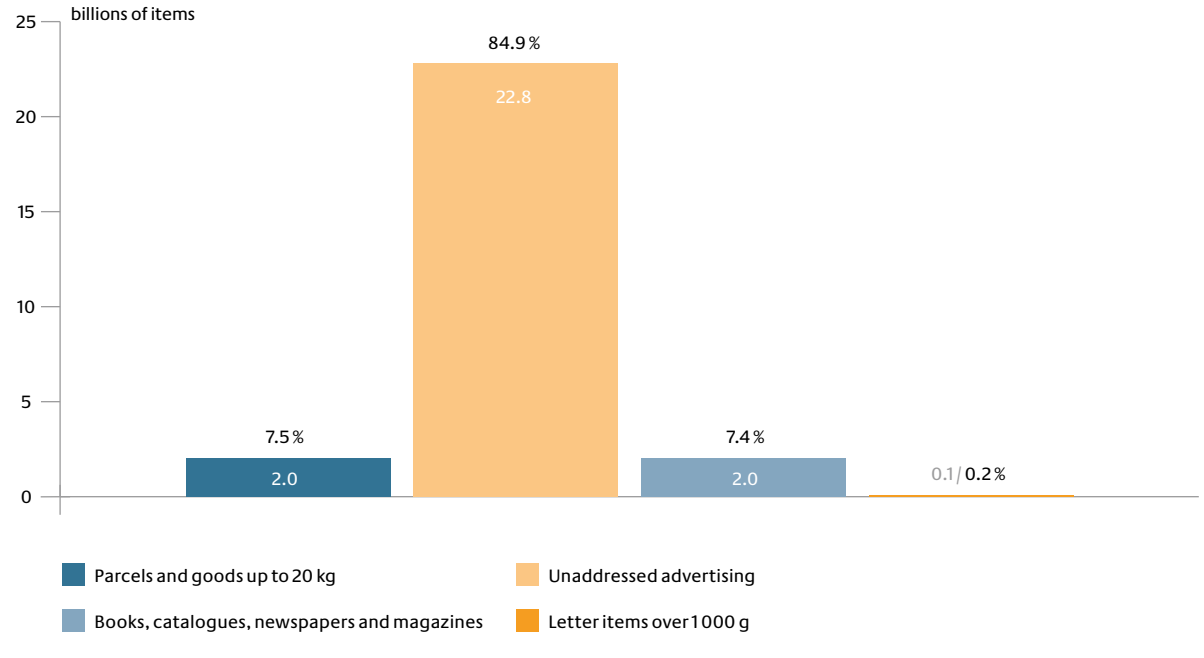
[2] Includes leaflets, mailings, flyers etc. This is a new category that also includes "mini-catalogues".

Revenues by segment 2008-2010



Source: MRU 2011

Volumes by segment in 2010e



Source: MRU 2011

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At around 85 percent or 22.8 billion items, unaddressed advertising accounted for the largest part of this market. Volumes were around 3.5 percent higher than in 2009 (22 billion items). The volume for 2008 was 21.7 billion. Although overall volumes were dominated by this type of item, unaddressed advertising revenues were less significant.

The second largest type of item in this market is parcels and goods up to 20 kg. 2.0 billion items were sent in 2010, an increase of approximately 5 percent over 1.9 billion in both 2008 and 2009.

Around 2 billion books, catalogues, newspapers and magazines were sent in 2010, after 2.1 billion in 2009 and 2.2 billion in 2009. Accordingly, in each of these three years volumes declined by around 5 percent. At less than 0.1 billion in 2010, the smallest volumes were accounted for by letter items over 1 000 g, with levels remaining stable compared to previous years.

Licensed postal services [3]

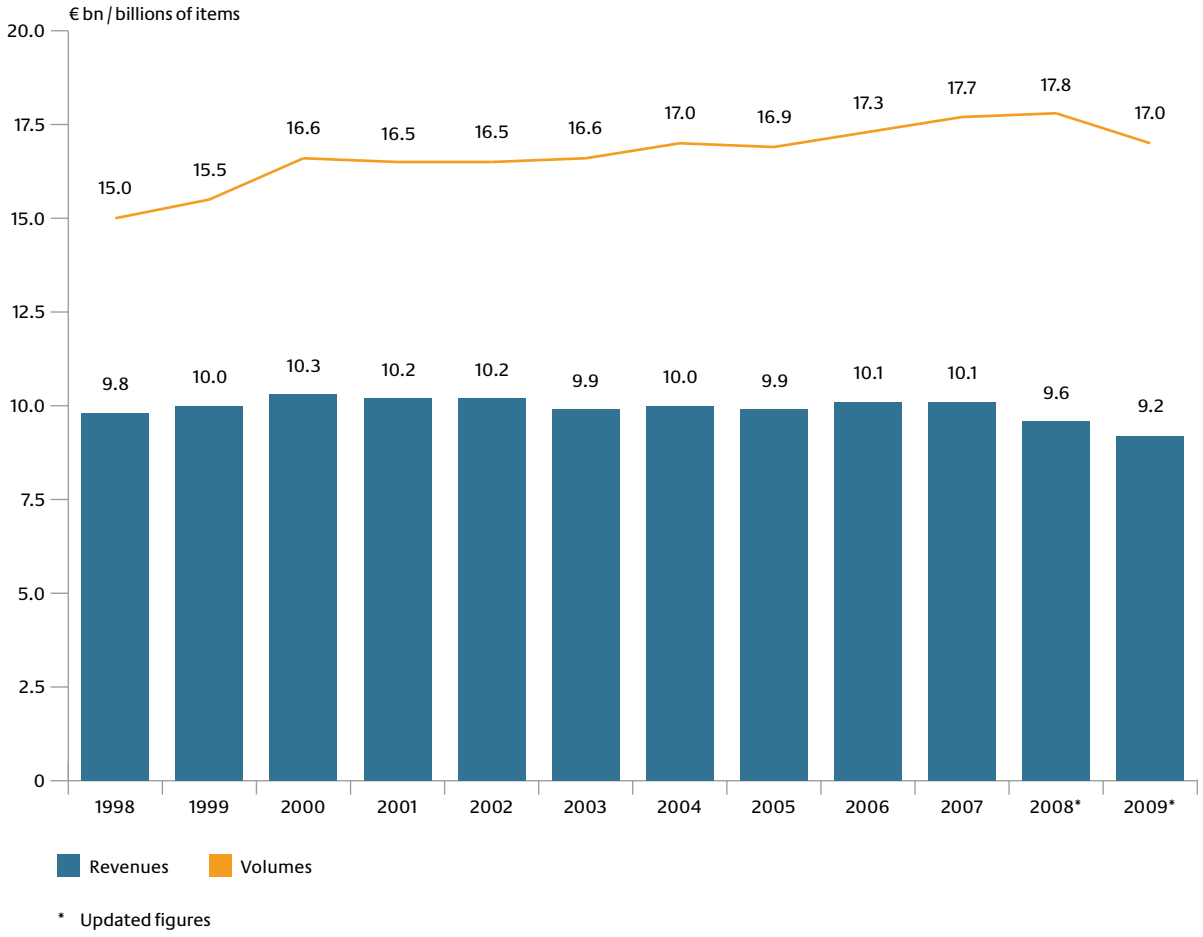
In 2009 the licensed letter market posted an overall decline of € 0.4 billion to € 9.2 billion. Figures for 2010 are expected to continue declining, even though the economic crisis appears to be over.

Revenues in this sector reached as much as € 9.6 billion in 2008 before dropping to € 9.2 billion in 2009. In 2010 DPAG raised the discounts it grants on worksharing services, causing competition on prices in the business mail and bulk customer sectors. This is anticipated to lead to a further decline in revenues going forward.

After unchanged or slightly increasing volumes prior to 2008 (17.8 billion), providers posted a crisis-induced decline in volumes down to 17.0 billion. The figures for the first half of 2010 indicate a continued downward trend.

[3] The 2010 market study saw a partial change in survey methods, which has led to the restatement of some prior-year figures.

Revenues and volumes in the licensed letter market 1998-2009



The market share held by the 650 competitors who were independently active in the market in 2009 has remained stable compared to the prior year, which in consideration of the 2009 crisis is remarkable. This stability continued on into the first half of 2010. Competitors' share of revenues rose to around 10 percent, which may be due to a decline in DPAG's revenues generated with end users and competitors after it raised its discounts for worksharing services. In 2008 and 2009 the total number of items where competitors performed preparatory conveyance and/or sorting services and then handed them over to DPAG for conveyance and delivery under a worksharing agreement stood at around 1.2 billion, which corresponds to around 45 percent of competitors' total volumes.

Despite the crisis, the number of items conveyed by competitors without any preparatory services remained fairly stable, which indicates that those competitors that are still active in the market have succeeded in weathering the crisis reasonably well. It appears that the market is mainly shaped by structural factors such as technical innovation, more capital-intensive production which produces greater economies of scale, and general structural fragmentation.

Market shares in terms of revenues and volumes 2008-2009

	Revenues		Volumes*	
	2008	2009	2008	2009
Deutsche Post Group**	91.5 %	90.7 %	92.1 %	91.2 %
Competitors	8.5 %	9.3 %	7.9 %	8.8 %

* Worksharing volumes are included under Deutsche Post Group.

** Including subsidiaries (DHL, First Mail Düsseldorf, DP Com & Williams Lea)

WORKFORCE DEVELOPMENT

In 2008, competitors employed over 16 000 staff (converted to full time equivalents) in the licensed area. In 2009, that figure rose to almost 17 000.

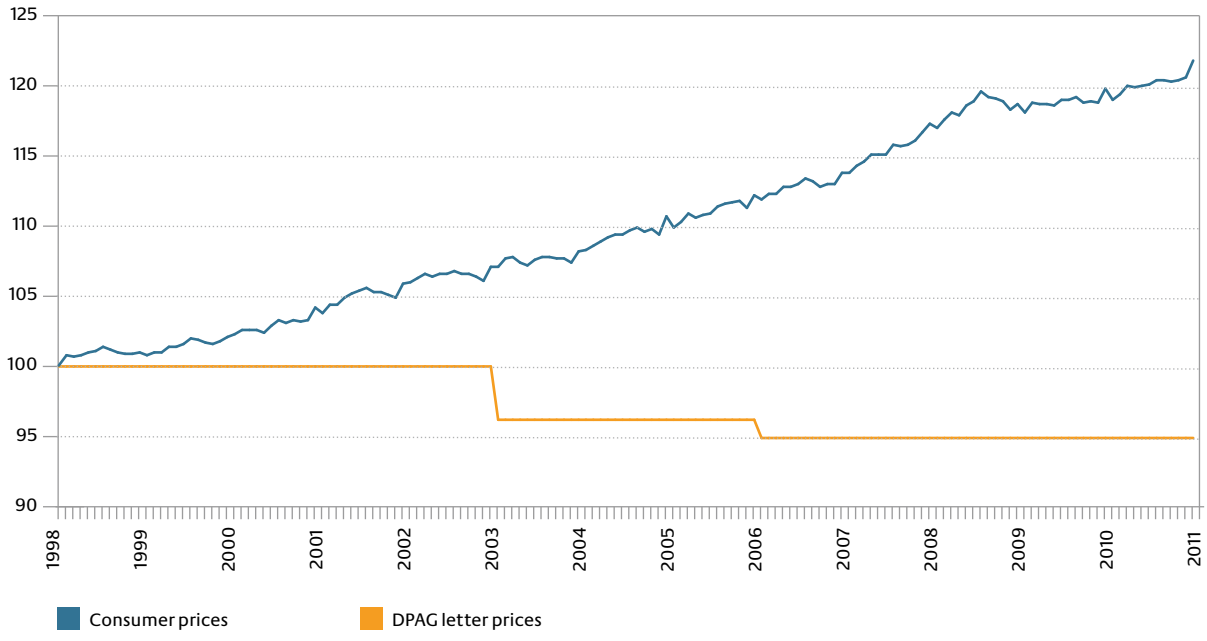
Deutsche Post Group's workforce in the licensed area (converted to full time equivalents) declined from around 162 000 in 2008 to approximately 159 000 in 2009, with employees moving within the Group from DPAG and DHL to its subsidiaries Williams Lea and First Mail.

PRICE LEVELS

Prices in Germany

Since the German Postal Act came into force in 1998, DPAG's prices for single national letters (e.g. postcards, standard and compact letters) have either declined or remained stable, thanks to intervention from the Bundesnetzagentur, whose rates regulation is based on the cost of efficient service provision and prescribes productivity gains under the price cap rates approval procedure. Adjusted for inflation, real prices for letter services dropped more than 20 percent between 1998 and 2010.

Development of general price levels and DPAG's letter prices between 1998 and 2011



January 1998 = 100

Last updated: January 2011

International comparison of letter prices

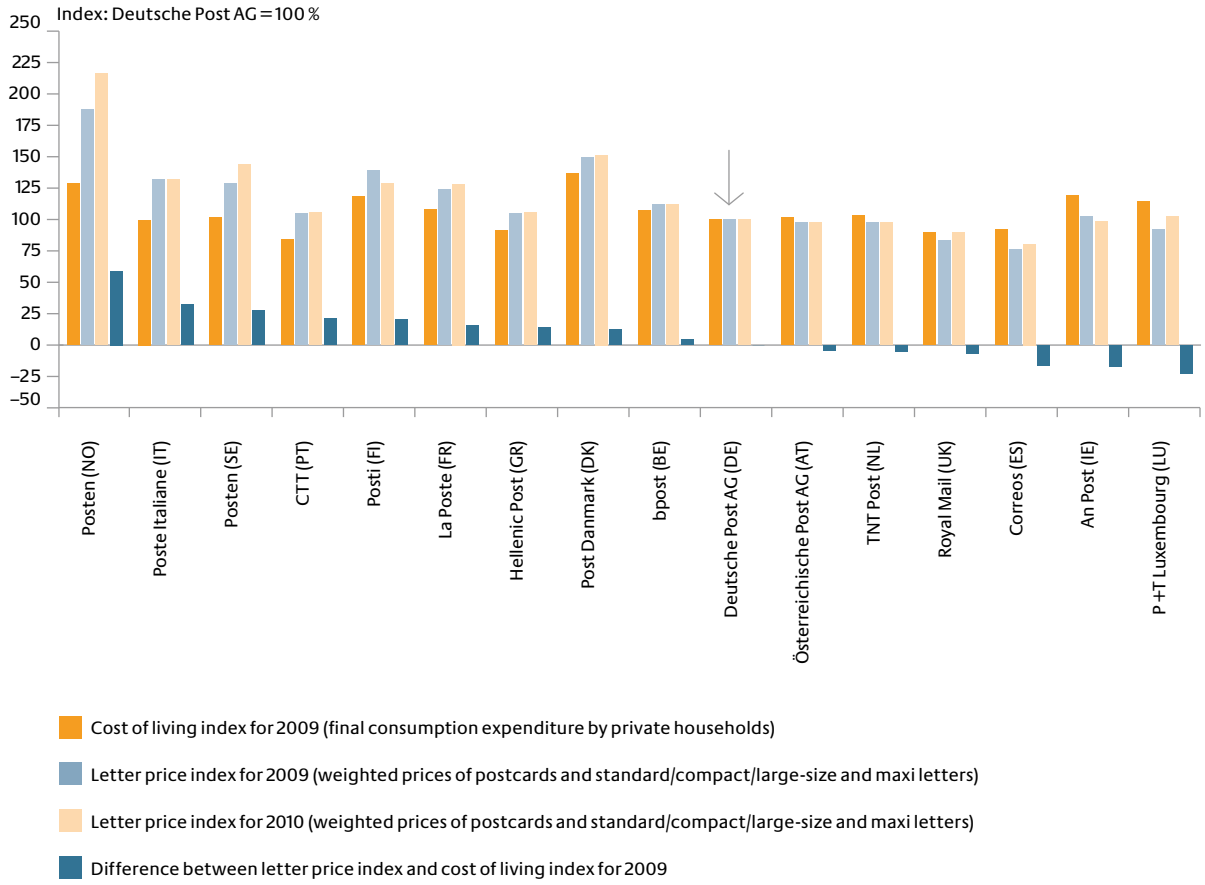
To compare letter prices internationally, a basket of products offered by the incumbents in the compared countries is used, which virtually eliminates the systematic distortion of results that would occur if only one single product – such as standard letters up to 20 g – were compared. A comparison is drawn of the prices charged by the dominant postal operators in 16 selected countries. The products in question correspond as far as possible to DPAG's postcard, standard, compact, large-size and maxi letter products.

As for quality, the comparison included the fastest conveyance option using the regular postal system. Like DPAG, the operators do not guarantee a certain delivery time for these products; instead, they indicate a probable transit time.

The prices for these selected products in the national currency are identified and given a standardised weighting, regardless of provider. The sum total of these individual weighted prices represents the price level in the respective national currency. These amounts are converted to Euro where necessary, using Eurostat's average exchange rates for the year in question.

The cost of living is compared on the basis of Eurostat's comparative price levels of final consumption by private households. These price levels are calculated based on defined household consumption expenditure. If the letter price index in a given country is higher than the cost of living index, the letter prices of that particular dominant operator are (relatively) higher than those of DPAG. By contrast, if the letter price index is lower than the cost of living index, letter prices in that country are (relatively) lower than those of DPAG.

Comparison of letter prices and cost of living in 16 European countries



ACCESS TO WORKSHARING SERVICES, P.O. BOXES AND CHANGE-OF-ADDRESS INFORMATION

Access to worksharing services

To encourage competition in the market for licensed postal services the incumbent (in this case DPAG) is obliged to grant other providers access to its network, an arrangement referred to as worksharing. A worksharing service is a service that is normally offered as a full conveyance service under licence but in this case, minus those parts that are rendered by the requesting provider. The incumbent's worksharing agreements are subject to approval by the Bundesnetzagentur. Access to worksharing services is available to all competitors and end users under equal terms and conditions.

Since 1 January 1998 DPAG has signed around 343 000 worksharing agreements with a variety of providers. In 2010 DPAG raised the discounts it grants for worksharing services. The Bundesnetzagentur terminated its price control proceedings (see page 153).

DPAG offers both end users and competitors access to worksharing services in its outbound mail sorting centres (BZA)[4] as well as its inbound mail sorting centres (BZE). [5]

[4] where outbound mail is posted that is destined for conveyance and delivery to recipients in other regions.

[5] where inbound mail is posted that is destined for recipients in that region.

Worksharing agreements (access to mail sorting centres) in 2010

	Type of item			
	Individual items		Infopost	Total
Point of access	BZA	BZE	BZE	BZA/BZE
Contracting party				
End users	55	75	20	150
Competitors	20	25	13	58
Total	**75**	**100**	**33**	**208**

The number of worksharing agreements on access to mail sorting centres in 2010 was around 36 percent lower than in 2009, a trend that already became apparent that year. By contrast, in 2008 – the year the market was opened to full competition – the number of agreements underwent a pronounced rise compared to 2007. In other words, the post-liberalisation enthusiasm seems to have levelled off.

Worksharing agreements (access to mail sorting centres) 2007-2010

	2007	2008	2009	2010
	Total	Total	Total	Total
Point of access	BZA/BZE	BZA/BZE	BZA/BZE	BZA/BZE
Contracting party				
End users	288	436	243	150
Competitors	37	121	66	58
Total	**325**	**557**	**309**	**208**

Besides agreements on access to mail sorting centres DPAG also offers other types of worksharing agreement that have to be submitted to the Bundesnetzagentur for approval (Federal Administrative Court ruling dated 12 May 2009, reference 6 C 14.08). Their number, too, declined by almost 40 percent between 2009 and 2010.

Other worksharing agreements 2009–2010

Type of agreement	2009 Number of agreements	2010 Number of agreements
Franking of items	20,434	12,775
Electronic franking (letter service)	139	96
Electronic franking using mail dispatch systems	31	52
Infopost cooperation agreements	69	26
Supplementary agreements on Infopost cooperation	23	8
Total	**20,696**	**12,957**

Access to change-of-address information and P.O. boxes

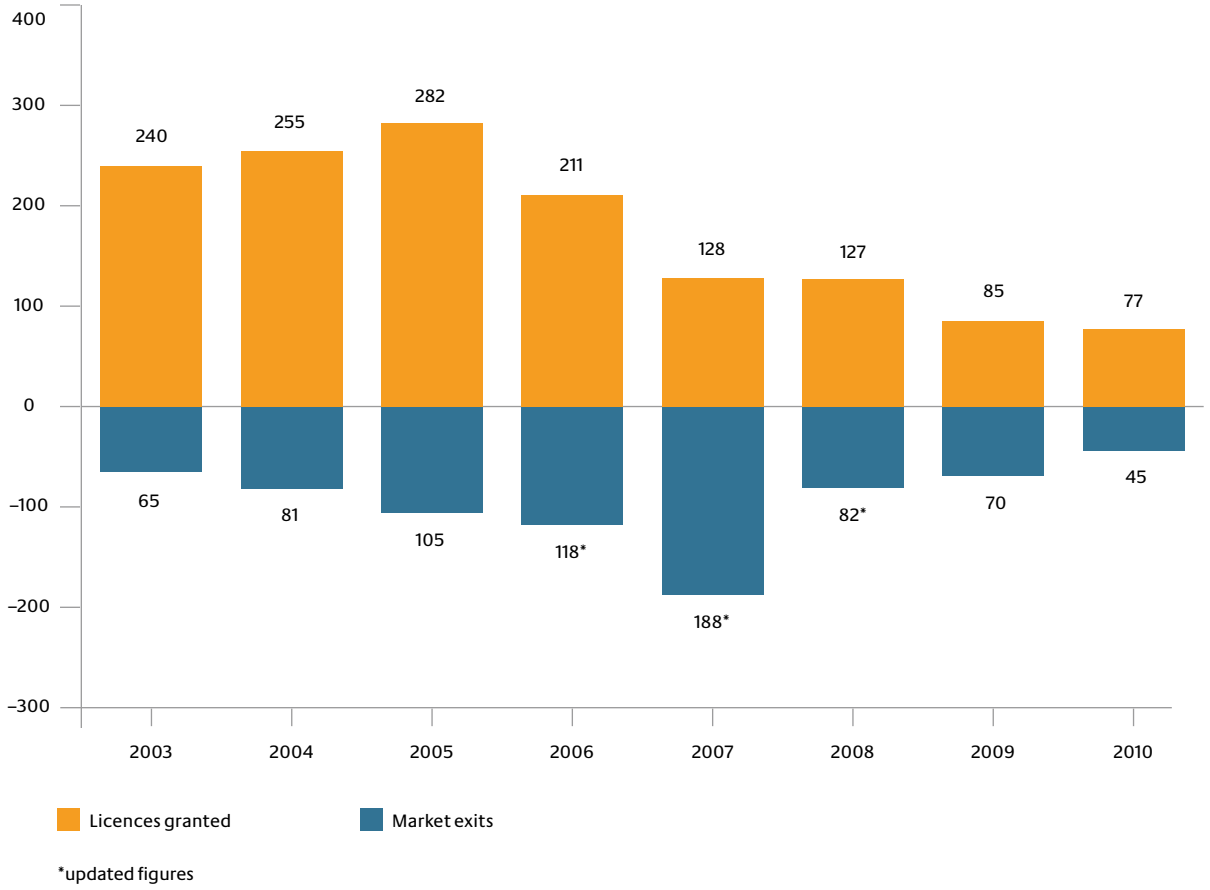
The incumbent is also obliged to grant competitors, for a fee, access to any information it may have on changes of address and to the incumbent's P.O. box facilities so they can post items addressed to a P.O. box number. In 2010 DPAG submitted nine agreements on access to change-of-address information and 14 agreements on P.O. box access to the Bundesnetzagentur for approval.

LICENSING

Between 1998 and the end of 2010 the Bundesnetzagentur granted almost 2 670 companies and individuals a licence for the conveyance of letter items up to 1 000 g, 77 of which in 2010. During the year a total of 45 licences were either withdrawn, or returned to the Bundesnetzagentur by licensees surrendering all associated rights and obligations, or they ceased (e.g. owing to a company windup or the death of a licensee).

The prolonged rise in the number of licences granted slowed down in the last two years. Several providers exited the letter market, with most of these businesses becoming insolvent or ceasing to exist for another reason. After the number of market exits peaked in 2007 in particular (the year of the minimum wage debate), levels once again began to drop.

Licences – Market exits[6] 2003–2010



*updated figures

In 2010 the Bundesnetzagentur wrote to more than 130 postal licence-holders to announce it would review whether they still fulfilled all requirements. Most of these licensees were operators with insolvency proceedings pending against them or those whose application for such proceedings had been dismissed by the courts for lack of sufficient assets. In many cases the liquidators waived the rights and obligations arising under the licence because the business in question was wound up.

Overall, the group of licensees was highly heterogeneous. Once again there was a disproportionately high density of licences granted in the new federal states compared to population size in these states. The providers in question mainly offered services that were aimed mostly or even exclusively at business customers with large letter volumes.

Only a small number of licensees generated revenues above € 10 million; their number remained stable in 2008 and 2009. Most licensees only provide local or regional letter services themselves. The majority are very small enterprises with only little capital and few assets.

[6] From 2010 onwards the number of market exits represents the sum total of licences that were withdrawn or returned or which ceased as published in the Bundesnetzagentur's Official Gazette. Under the old system, these amount to 48.

Revenues by provider (excluding DPAG)

Number of providers according to revenue volume*

Year	< € 10 000	€ 10 001 to € 100 000	€ 100 001 to € 500 000	€ 500 001 to € 1 000 000	> € 1 m to € 10 m	> € 10 m
1999	108	167	62	11	15	4
2000	91	178	129	23	15	4
2001	77	192	143	21	30	5
2002	96	186	149	32	41	7
2003	138	225	162	50	54	8
2004	181	263	175	53	77	10
2005	127	209	152	47	91	12
2006	133	225	130	46	116	22
2007	~ 200	127	133	57	107	23
2008	~ 250	129	82	38	101	18
2009	~ 200	185	102	44	97	18
2010e	~ 200	~ 171	~ 111	~ 36	~ 101	~ 19

* The number of providers included in this breakdown is lower than the total number of active providers, since in many cases the respective parent company or group provided one set of figures covering all affiliated licence-holders.

Updated figures.

Over the course of the past year it became apparent that DPAG's competitors were increasingly forming alliances and networks, if they had not already done so, to assert their interests more effectively and create synergies. These forms of cooperation help providers to offer more extensive coverage and hence serve the needs of large customers. They also help to repair what has become a fragmented market.

Notifications in accordance with section 36 of the Postal Act

To date the Bundesnetzagentur has received some 42 000 notifications in accordance with section 36 of the Postal Act.[7] Around 85 percent of notifications were filed by providers acting as licensees' agents, the remainder by courier companies and providers conveying items over 1 000 g, parcels over 20 kg and books, catalogues, newspapers and magazines. The Bundesnetzagentur has begun to publish incoming Section 36 notifications in the Official Gazette and on its website to give operators a better insight into the postal market.

[7] Among the reasons for the significant discrepancy between this figure and the 24 000 mentioned in the Bundesnetzagentur's 2008/2009 Activity Report is that licensees' agents were also counted in connection with the request for information on working conditions in the postal sector, and that additional parcel shops were included.

Exemption from value-added tax for universal postal services

Since 1 July 2010 all providers have been entitled to apply for an exemption from VAT for their universal postal services. Prior to that, all of DPAG's postal revenues were automatically exempt from VAT by law.

In over 30 cases the Federal Central Tax Office appealed to the Bundesnetzagentur for a legal opinion concerning applications for VAT exemption for universal postal services. In particular, the Bundesnetzagentur was asked to clarify which postal services are considered universal services under the Postal Act and may hence be exempted from VAT under the German Turnover Tax Act (Umsatzsteuergesetz). Ultimately, however, only the tax authorities can decide whether a given service may be exempted or not. To date, the only provider to have been granted an exemption under section 4 (11b) of the Turnover Tax Act is DPAG.

Ruling Chamber decisions

The Bundesnetzagentur's approval of fees for hybrid online letters triggered the launch of DPAG's E-Postbrief product, a legally binding electronic letter. The approval paves the way for the introduction of other innovative letter products. Prices for traditional domestic letter products remained stable in 2010, while international letter rates underwent a slight decline.

PRICE CAP REGULATION

In price cap proceedings the Bundesnetzagentur approved DPAG's application for letter prices for 2011. Its decision was based on the price cap formula for 2007 to 2011 which prescribes an annual productivity increase of 1.8 percent. This rate was compared to the inflation rate of the prior year as calculated by the Federal Statistical Office to produce the applied and approved price changes.

Domestic letter rates only underwent a slight change. The price of the cash on delivery (COD) special service increased by € 0.02 to € 2.02. By contrast, the surcharge for a Business Reply item without a machine-readable address was dropped, and the price for Infopost returns decreased from € 0.22 to € 0.11 citing economic efficiency reasons and in turn, lower costs.

Until the end of 2010 prices for international letters varied according to whether the destination was in Europe or not. From 2011 onwards, this distinction will no longer be made. The new, cost-oriented price system reflects the actual circumstances surrounding delivery to international destinations and will also make it easier for consumers to find out the correct postage. Overall, the price adjustments have led to a slight increase in international letter rates for items destined for Europe, and to a pronounced decrease for letters to non-European destinations.

In addition, DPAG eliminated the surcharge for non-machine-readable International Business Reply items as well as the charge for Infopost International returns, since the cost of collecting and debiting these charges would exceed the profit.

The price approvals do not extend to the charges due on minimum volumes of 50 letter items. Since the expiry of the exclusive licence in early 2008, these charges – which are largely relevant to business customers – have only been subject to ex post control of anticompetitive practices (section 25 of the Postal Act) on the part of the Bundesnetzagentur. The approval expires on 31 December 2011.

ABUSE PROCEEDINGS FOR EX POST CONTROL OF WORKSHARING DISCOUNTS

DPAG enables large customers as well as competitors and consolidators to pre-sort major letter volumes and deliver them directly to its mail sorting centres. Since the items are collected, franked and pre-sorted by routing region the incumbent can cut its costs and pass on the savings to its partners in the shape of worksharing discounts.

On 1 July 2010 DPAG raised these worksharing discounts quite considerably when VAT was introduced for these postal services, with the aim of compensating non-VAT-registered posters for the disadvantages resulting from the amendment to the Turnover Tax Act. For VAT-registered posters, the higher discounts potentially mean a considerable decrease in costs.

DPAG stated that its higher discounts would cause prices in the postal market to drop, would also benefit competitors and consolidators, and increase network capacity utilisation and make universal services more affordable. In addition, competitors with their own infrastructures would benefit, it claimed, since they injected surplus volumes into DPAG's network under a worksharing agreement.

The competitors responded that the higher discounts prevented the development of alternative end-to-end networks, and that the measure was hence an obstacle to competition for alternative providers. Since they had no comparable volumes, they argued, they were not able to offer postal services at rates that would cover their costs.

The Bundesnetzagentur conducted an ex post review of the approved rates to verify whether they involved any abusive discounts that prevented other postal service providers from competing, and whether the increase was in breach of the ban on discrimination. It found that the worksharing rates exceeded the cost of efficient service provision and also contributed significantly to covering DPAG's own particular burdens. The new worksharing discounts hence do not constitute an abusive practice. The Bundesnetzagentur also found that DPAG was not in breach of the ban on discrimination since the discounts were available without restriction to all worksharing partners, including competitors and consolidators. There was no discrimination between partners who took full advantage of all worksharing options and competitors with their own delivery network, since they either made use of DPAG's other services or did not use its services at all. However, the ban on discrimination only prohibits the unequal treatment of customers who use the same services.

During the review the Bundesnetzagentur made it clear that it would not accept an arbitrary distribution of burdens by DPAG, since this would enable anti-competitive practices.

RATES APPROVAL FOR E-POSTBRIEF PRODUCTS WITH PHYSICAL DELIVERY

The E-Postbrief is posted electronically by customers who have to register with DPAG beforehand. Their letters are then delivered either electronically to other registered participants, or physically. In the latter case, DP COM GmbH (the applicant) or its agent prints out the electronic letter, folds it, places it in an envelope and applies the postage required for a

comparable, physical letter product by DPAG, e.g. € 0.55 for a standard letter. The items are subsequently handed over to another provider for delivery to the recipient.

In 2010 the Ruling Chamber approved the rates for E-Postbrief products with physical delivery twice.

The rates to be approved only related to part of the service provided by the applicant, namely that involving the physical delivery of licensed letter items. They hence only form part of the charges invoiced to the customer. Senders are also charged for the cost of electronic posting, the production of the physical letter and VAT, so that the cost of a standard E-Postbrief item is not just € 0.39 (the approved rate), but € 0.55.

The first approval of 23 February 2010 put the prerequisites in place for a trial run of the product, which was initially scheduled to run through 31 August 2010. During this time, certain customers – as listed in the application – would be able to use the service for free. Following the trial phase, the approved rates would apply to all customers.

DP Com GmbH applied for a second rates approval in order to reduce the rate effective 1 July 2010, since it had found that its production costs were considerably lower than expected. The application was approved on 30 June 2010, which also marked the end of the trial period.

DPAG and DP Com GmbH introduced the E-Postbrief (electronic and physical) in July 2010, from when on customers could start sending electronic letters. At this point in time the postal market entered the digital age, a move that is anticipated to revolutionise the world of written communication in the long term. The E-Postbrief product is fundamentally different from e-mail since it enables the legally binding delivery of an electronic document.

In its rates review the Ruling Chamber verified specifically whether the applicant enjoyed preferential treatment over external customers when availing itself of services provided by other companies in the Group. This would violate the non-discrimination rule enshrined in the Postal Act, which would have to be considered anti-competitive and be rejected However, it was found that DP Com GmbH is subject to the same terms and conditions as other competitors and large customers. The services DP Com GmbH provides are based on the cost of efficient service provision, the Ruling Chamber found, and involve no anti-competitive markups or discounts.

To the extent that DP Com GmbH avails itself of services offered by other companies in the Group, whether or not its postal services can be approved also depends on whether these preparatory services involve anti-competitive rates. Should it emerge that the rates for these preparatory services are not in line with approved levels, this approval, too, would have to be subjected to another review. Accordingly, the Ruling Chamber has reserved the right to revoke its approval to ensure that any information that comes to light later can be used.

RATES FOR WERTBRIEF NATIONAL SERVICE

On 19 November 2010 the Bundesnetzagentur partially approved DPAG's rate application for the Wertbrief National service, setting it at €

3.15. Customers can use this special service to insure domestic letter items (standard, compact, large-size or maxi letters) with valuable contents up to an amount of € 500 (€ 100 maximum coverage for cash) against loss or damage while in transit. To this end they have to purchase a voucher that is affixed to the item in question, as they would with a registered letter, and affix the normal postage.

DPAG had applied for an extension to the existing approved rate of € 4.00 per item. Having examined the documentation evidencing DPAG's costs in detail, the competent Ruling Chamber lowered the rate by € 0.85 to € 3.15. In response, DPAG has announced that it will discontinue the service.

RATES FOR THE SERVICE OF DOCUMENTS

The rates approval procedure for the service of documents is a special form of rates regulation. All competitors, not just incumbents, have to have their rates approved in line with efficiency criteria. In 2010 the Ruling Chamber conducted a number of rates approval proceedings. Some applicants were intending the offer the service nationwide, others locally.

In addition, the Ruling Chamber also approved rates for the electronic variant of this service, where providers digitise and archive the document electronically before making it available to the customer as a downloadable file or uploading it to an internet portal.

The market for the service of documents is continuing to consolidate. A rising number of large-scale orders for this service are being put out to public tender, which only competitors with the required technical and operational capacities and a full-coverage delivery network can execute. Competitors have formed partnerships in order to manage these public tenders.

The Ruling Chamber has responded to the trend towards public tenders by no longer publishing the approved rates in a move to maintain the necessary confidentiality.

Court proceedings

Where court proceedings in the postal market are concerned, 2010 was a very quiet year. Only a small number of cases were filed.

Only a small number of cases were filed in 2010, with no substantive court rulings at all. Some cases were closed.

Two companies filed an objection with the Cologne Administrative Court against the Bundesnetzagentur's rates approval for DP Com's E-Postbrief with physical delivery (references: 22 K 1930/10 and 22 K 1813/10). The rate in question applied during a trial period for the new product (see page 154).

During this trial period DP Com GmbH had applied for a reduction in the approved rate effective 1 July 2010, citing lower production costs. The existing approval was withdrawn on 30 June 2010 and the new rate approved. The complaints filed against the first approval were subsequently withdrawn and new complaints filed against the second approval (VG Köln, references: 22 K 4958/10 and 4959/10). The court did not examine the lawfulness of the approved rates since both competitors withdrew their complaints before they had to explain the grounds for the complaints.

At the end of 2010 a constitutional challenge was filed with the Federal Constitutional Court against two decisions by the Higher Administrative Court of North Rhine-Westphalia dated 19 March 2009 (reference: 13 A 798/09) and 23 June 2009 (reference: 13 A 476/08).

These decisions were based on three rulings by the Cologne Administrative Court dated 27 November 2007 (references: 22 K 3808/03, 22 K 8715/03 and 22 K 9007/04). In the case in question, an association with legal status, a customer of DPAG, had filed a complaint against the rates approvals the Regulatory Authority issued for 2003, 2004 and 2005 in price cap proceedings. Besides citing material concerns about the lawfulness of the approvals, the German plaintiff claimed that as a DPAG customer, its rights had been infringed since section 20 (2) sentence 1 of the Postal Act afforded protection to third parties.

Citing its rulings of 27 November 2007, the Cologne Administrative Court rejected the plaintiff's claim that its rights had been infringed. On 19 March 2009 the Higher Administrative Court of North Rhine-Westphalia ruled on the plaintiff's non-admission complaint, concurred with the Cologne Administrative Court and rejected the application to allow appeal. On 23 June 2009 the Higher Administrative Court also rejected the

plaintiff's appeal for the right to be heard in this case. These decisions are legally incontestable.

The plaintiff has appealed to the Federal Constitutional Court against the two latter decisions, claiming that its right to take recourse to the courts under article 19 (4) of the German Basic Law has been violated. In rejecting its right to appeal on unjustified grounds, the plaintiff continued, the Higher Administrative Court had failed to acknowledge the protection afforded to third parties under section 20 (2) sentence 1 of the Postal Act and in turn, had unreasonably barred the plaintiff from taking their case to the appellate court.

Electricity and Gas

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Market development

In the energy sector, the wholesale markets are becoming ever more critical to competition, opening up opportunities for energy suppliers and end customers to benefit from more procurement sources.

GENERAL DEVELOPMENTS IN THE ELECTRICITY AND GAS MARKETS

To follow developments in the energy markets, the Bundesnetzagentur monitors the electricity and gas markets annually, looking at developments in all areas of the value chain – production, networks, wholesale, retail. The findings from the 2010 monitoring exercise, as of 1 April 2010 and 31 December 2009, were published in a separate report in autumn 2010. Chiefly noticeable is that the integration of renewables has had an impact on all parts of the energy market. Selling the growing volumes of renewables on the exchange since January 2010, in particular, has intensified competition.

Installed production capacity in Germany rose clearly from 2008 to 2009 by 8.6 GW to 152.7 GW, with renewable plants and gas power plants being the chief contributors. With demand for electricity remaining constant, the priority given to feeding in power from renewables is putting considerable pressure on the conventional power plants. This also applies in respect of peak periods. That some coal-fired power stations, for instance, possibly offer power below the output price from time to time to delay a decision about decommissioning indicates a radical structural change in electricity trading. This may also explain why it has not been possible as yet to find evidence of capacity retention in the electricity market.

The importance of trading in electricity and gas both at organised trading points and in purely bilateral OTC trading is growing rapidly. The energy industry and industrial consumers, too, are increasingly using trading as a way of protecting themselves from the growing price volatility and of benefiting from further procurement sources. Smart procurement strategies have become a key differentiator for companies competing in the market. A number of traders from the SME sector – in addition to the "classical" business enterprises of the major electricity and gas utilities – have established a foothold in the market. Beneficiaries of this have also been the municipal utilities, which have improved their competitive position in relation to the "big" utilities by the use they have made of trading. Trading some time ago became the third pillar alongside production and transport that energy policy is increasingly addressing.

Market design, ie the trading mechanisms, and market integration are being further developed, not least thanks to the Bundesnetzagentur's activities. One of the outcomes was considerable improvements in 2010 in cross-border trading. Short-term trading in western and northern Europe is now coupled, potentially boosting competition from other countries and bringing prices down. To strengthen competition in trading in both electricity and gas, the Bundesnetzagentur is seeking to increase transparency as well as to optimise market design. Publication of fundamental data, in other words of information that is relevant to pricing such as the availability of power plant and transport capacity, is key, in the view of the Bundesnetzagentur and the other NRAs, to market participants being able to follow price movements in the electricity and gas markets. Transparency reduces the scope for speculation and abuse and is thus essential to protecting competition.

The Bundesnetzagentur's part in enhancing transparency in the markets has been crucial. In response to an initiative from the Federal Economics Ministry and the Bundesnetzagentur the EEX has been publishing information for the German market on its website since late 2009 on available capacity for electricity generation. In 2010, the European energy regulators drew up comprehensive transparency provisions for fundamental data in order to create a level playing field. The Bundesnetzagentur also supports the introduction of an efficient, sector-specific trading regime for the energy market with a lean, efficient reporting system. Accordingly, it welcomed the fact that the European Commission, on 8 December 2010, presented a proposal for a regulation to prevent market manipulation and insider trading in Europe. The Bundesnetzagentur is also actively involved in introducing European monitoring. Thus in 2010, as part of a European pilot market watch project, an IT system was set up to transfer and analyse trading data.

In the German gas market, the amended Gas Network Access Ordinance enacted in 2010 is expected to push competition. Particular points to be mentioned are the reduction in the number of market areas, the restrictions on long term capacity bookings and the new mechanism to allocate transport capacity, an auction for shippers. The amended Ordinance requires the gas TSOs to reduce the current six market areas to three by April 2011 and to two by August 2013. The year 2010 saw intensive talks between the Bundesnetzagentur and the market participants about further consolidation of the German gas market areas. A growing tendency became apparent among the TSOs to bring about the reduction not, as hitherto, by merging market areas with the same gas quality, but by integrating the H-gas and the L-gas areas. The creation of such areas will have far-reaching development potential for the German gas market. In particular, the market areas will be larger, have greater liquidity and many competitors. The public consultation showed that most players, by far, are in favour of market areas with combined gas quality. Controversy has arisen, however, over the question of whether a special conversion charge should be payable for transporting gas of different quality. The Bundesnetzagentur has decided that it should, at least in the initial phase. The conversion charge is an important instrument for controlling the extent, and the associated costs, of divergent feed-in caused by merging the market areas and for creating a suitable frame. Accordingly,

in November 2010, the TSOs submitted a joint concept to the Bundesnetzagentur for the design of the conversion charge.

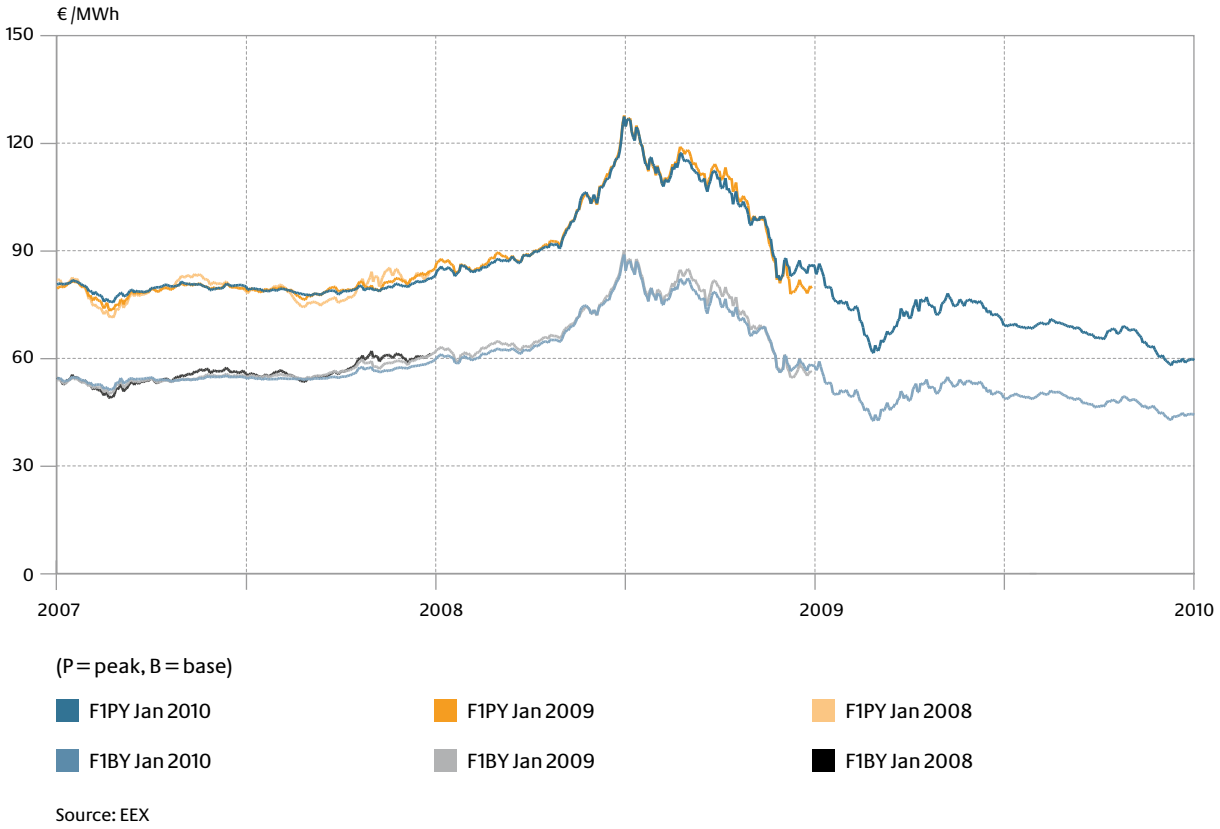
ELECTRICITY PRICE TRENDS

The development of wholesale prices is well reflected in the development of futures for the subsequent year in the EEX futures market. Baseload electricity, for instance, reached its maximum price in July 2008 with 90 euros per MWh. By February 2009 prices had fallen to about half of this, where they remained in 2010.

Over the period from 2006 to 2010 average electricity prices for industrial and business customers rose by 10.5 and 11.2 percent respectively. For industrial customers, prices rose by 3.4 percent in the period from 1 April 2009 to 1 April 2010. For business customers, prices rose by 2.1 percent over this period. Unlike household customers, industrial and business customers paid on average the same, or even lower, prices with the default supplier than with alternative suppliers.

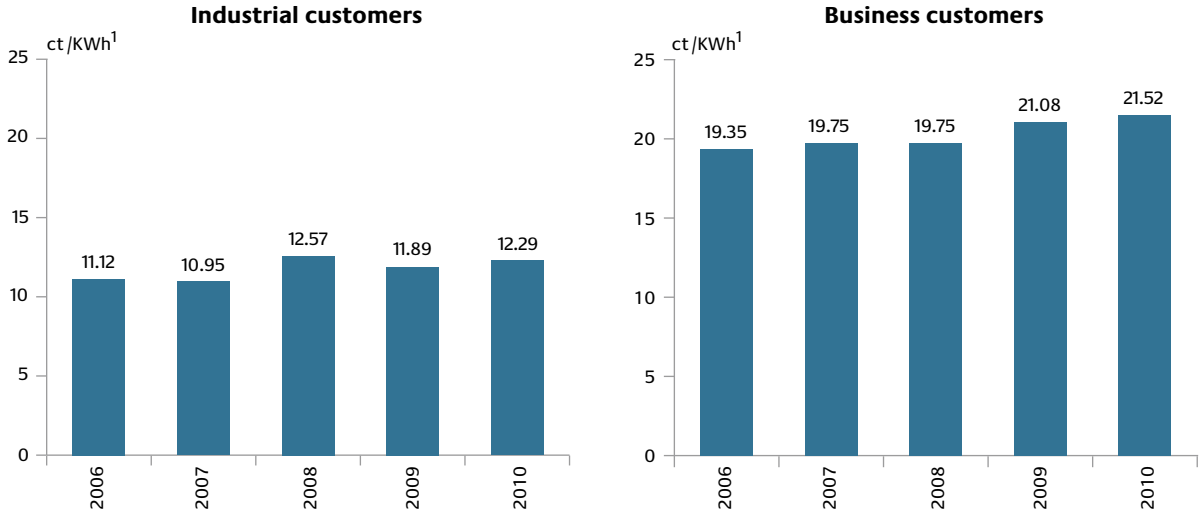
Household customers saw retail prices go up by almost 24 percent between 2006 and 2010. A comparison of the prices payable on 1 April 2010 with those payable on 1 April 2009 shows an average increase of 2.9 percent over this period.

Prices on the EEX futures market 2007–2010



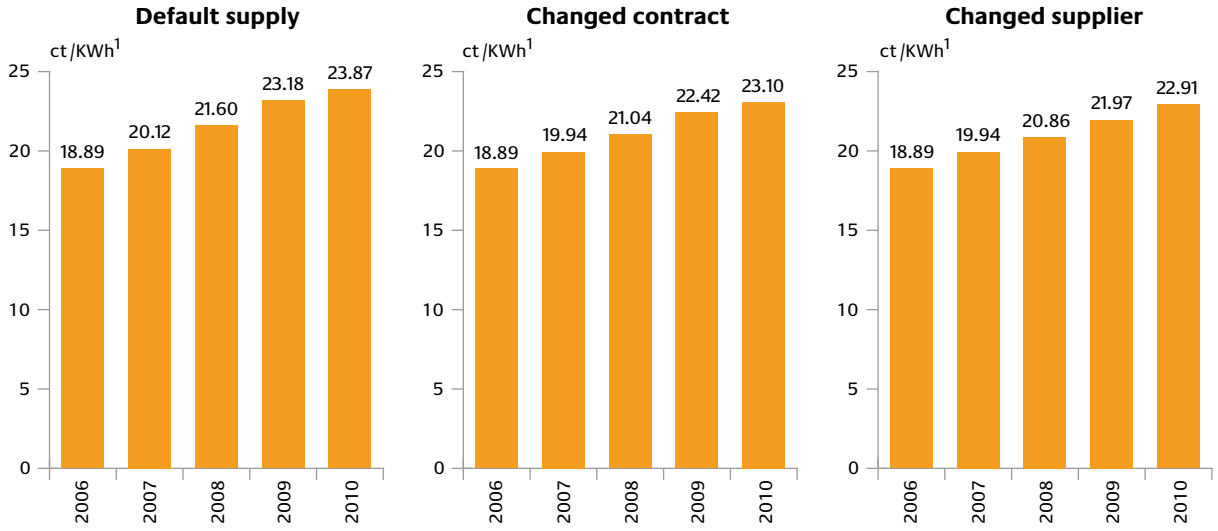
Source: EEX

Business and industrial electricity prices 2006–2010



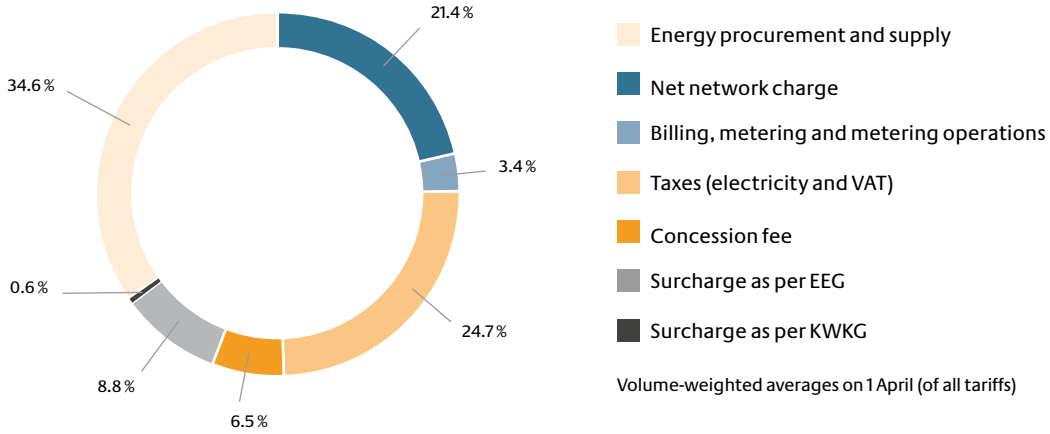
[1] Volume-weighted averages on 1 April

Household electricity prices 2006–2010



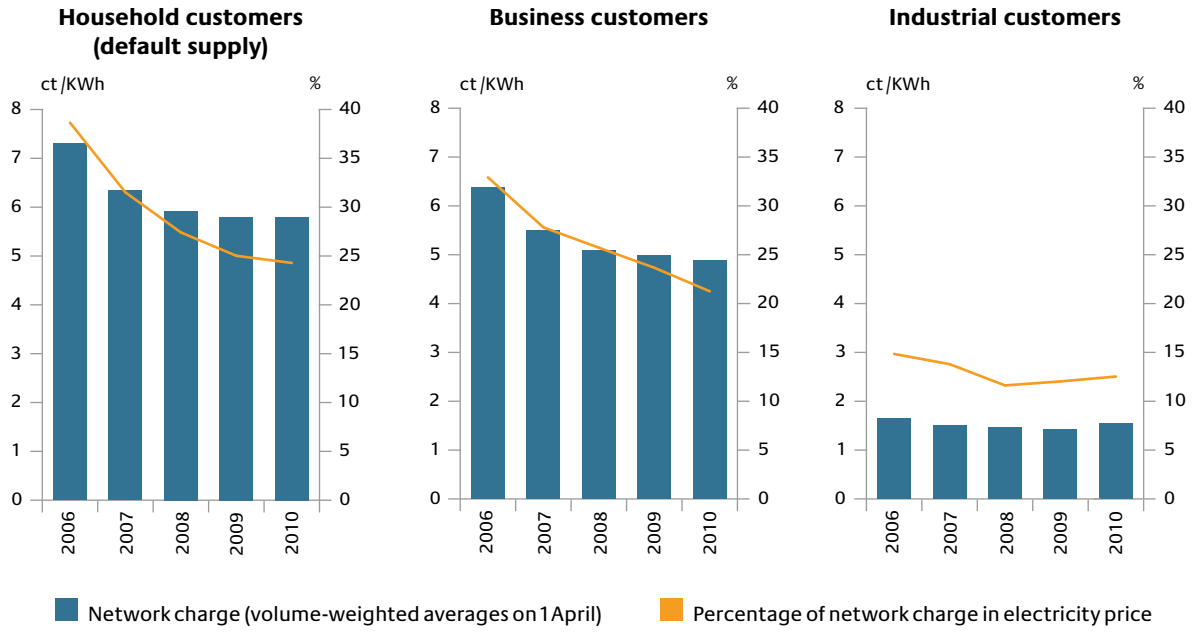
[1] Volume-weighted averages on 1 April

Composition of the electricity price for household customers in 2010

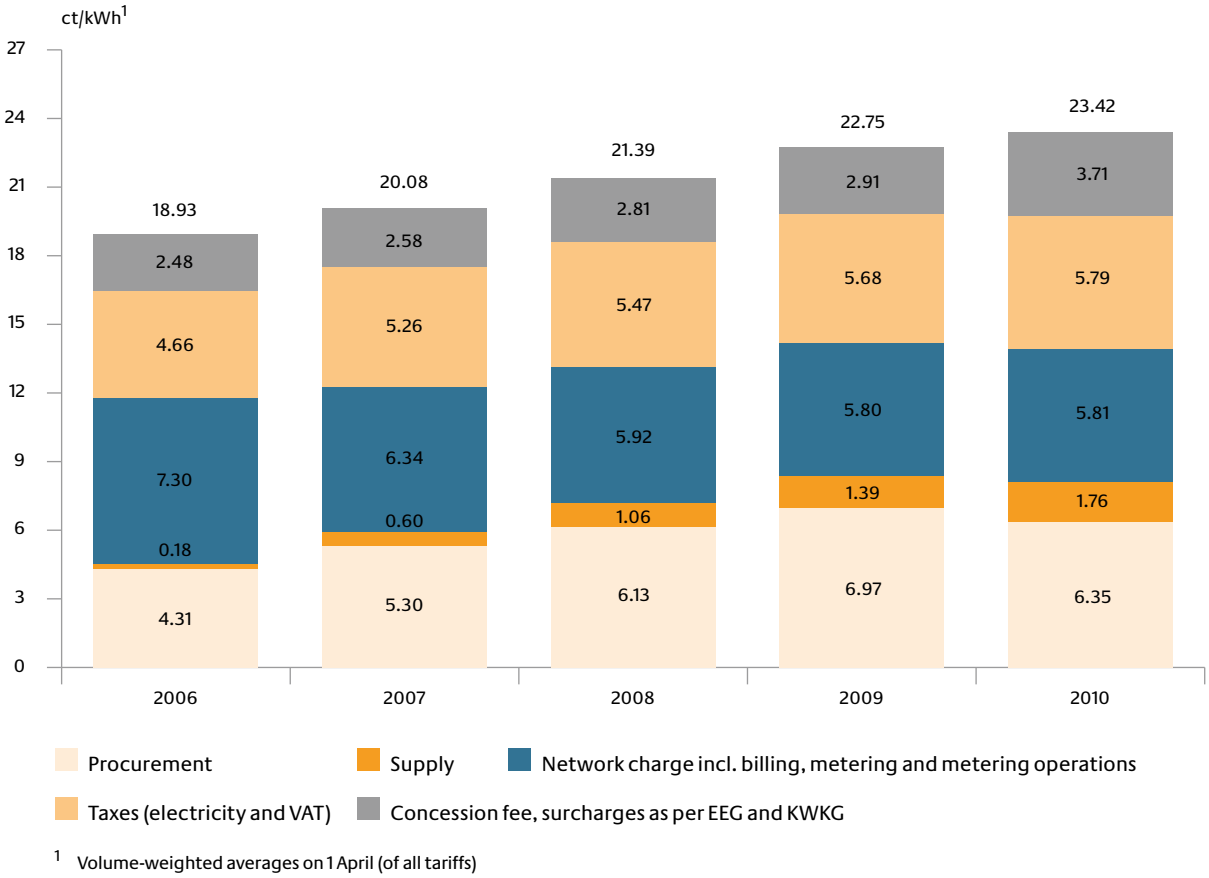


Volume-weighted averages on 1 April (of all tariffs)

Electricity network charges 2006–2010



Composition of the electricity price for household customers 2006–2010



[1] Volume-weighted averages on 1 April (of all tariffs)

A household customer with annual consumption of 3,500 kWh saw prices rise between 1 April 2006 and 1 April 2010 by an average 4.5 ct/kWh, which corresponds to some 158 euros a year. Taxes contributed to this, as did other statutory price components (eg

concession fee, renewables surcharges required under the Renewable Energy Sources Act and the Combined Heat and Power Act), each by around 1.2 ct/kWh. Most of the average price rise was caused by the "Energy procurement and supply" component, which went up by 3.6 ct/kWh. Without the network tariffs falling by an average 1.5 ct/kWh, which makes around 53 euros a year, the price rise would have been yet greater. Hence regulation of the tariffs did help to keep the total electricity price down, but was not able to bring about price reductions. The reason for this is that the majority of energy suppliers compensated for the reduced network tariffs, at least in part, by increasing the "Supply" price component.

The default supply contract continues to be the most expensive form of contract. By contrast, consumers making use of the opportunity to switch supplier or requesting a different pricing plan from their default supplier had noticeably lower bills. As every supplier basically has the same costs as regards network tariffs, taxes and levies, the differences in tariffs are attributable to the "Energy procurement and supply" price component. Electricity suppliers are in competition with one another on this. In all tariff categories this price component went up steadily between 2006 and 2009 by almost four ct/kWh. From 2009 to 2010, however, an average fall of 0.25 ct/kWh was recorded. This was caused by the partial passing on of lower wholesale prices. Thus the wholesale prices that had been falling since the second half of 2008 had a positive effect on retail prices in 2010 for the first time. The main reason for the much slower decline in the price component compared to the wholesale prices is the longer term procurement strategies of the energy suppliers. The electricity prices for consumers in 2009 were noticeably lower whenever the procurement strategies were short term. The long term procurement strategies practised by default suppliers, above all, reduce the effect of fluctuating exchange prices on the retail price.

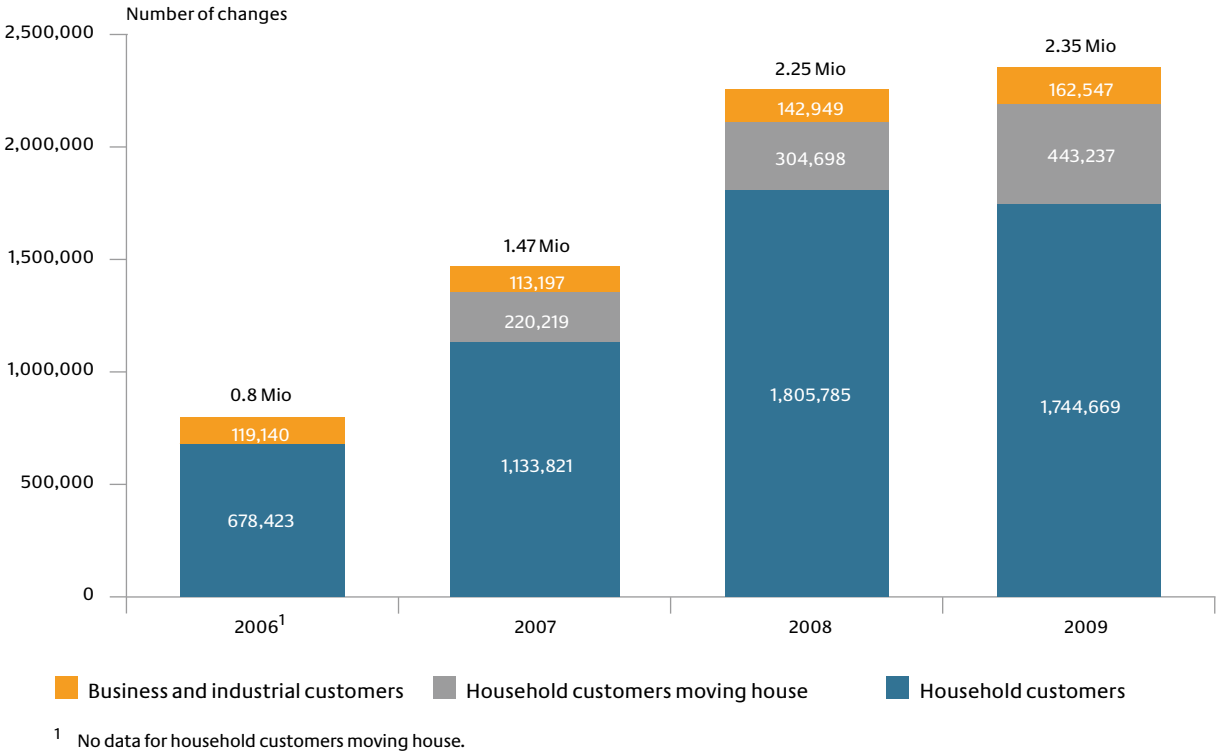
SWITCHING ELECTRICITY SUPPLIER

An increase of almost 20,000 industrial and business customers switching supplier to some 162,500 was recorded in 2009 over the previous year. The volume-weighted rate of supplier switch for small business customers rose by 1.3 percent to 7.6 percent. For large business customers it rose by 2.1 percent to 14.7 percent. For industrial customers it remained virtually constant at 10.7 percent.

The volume-weighted rate of supplier switch for household customers stagnated in 2009 at five percent. Of just under 2.2 million household customers who changed supplier in 2009, some 440,000 did so in connection with moving. Assuming that some four million customers move house every year, every tenth customer that moves can be expected to choose a different supplier than the default one.

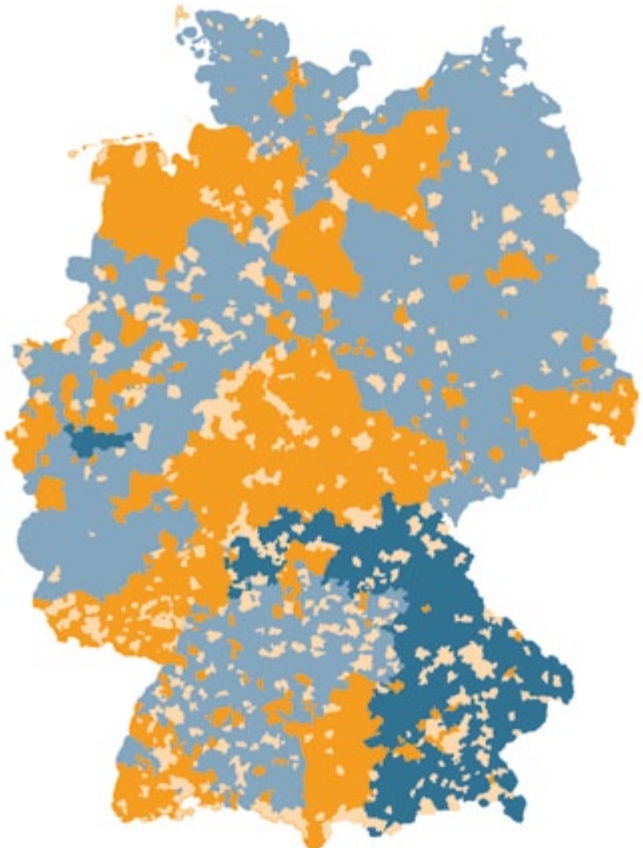
In 2008, only around ten percent of switches were accounted for by customers that had already switched supplier in previous years. Just under half of all household customers that had changed supplier in 2009 had done so before. The percentage of consumers taking the opportunity to switch supplier for the first time was thus clearly lower in 2009 than in 2008.

Change of electricity supplier 2006–2009



[1] No data for household customers moving house.

Competition in the electricity market 2010

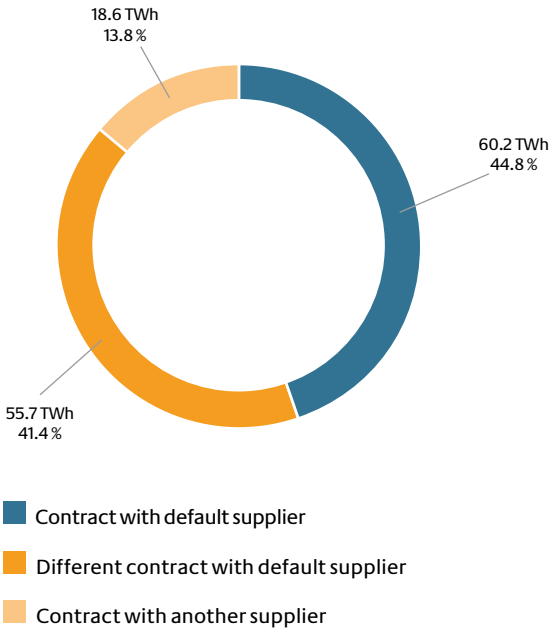


Number of suppliers supplying household customers (per area)

- 1–50
- 51–120
- 121–200
- > 200

Source of map: Bundesamt für Kartographie und Geodäsie

Household customers electricity contracts in 2009

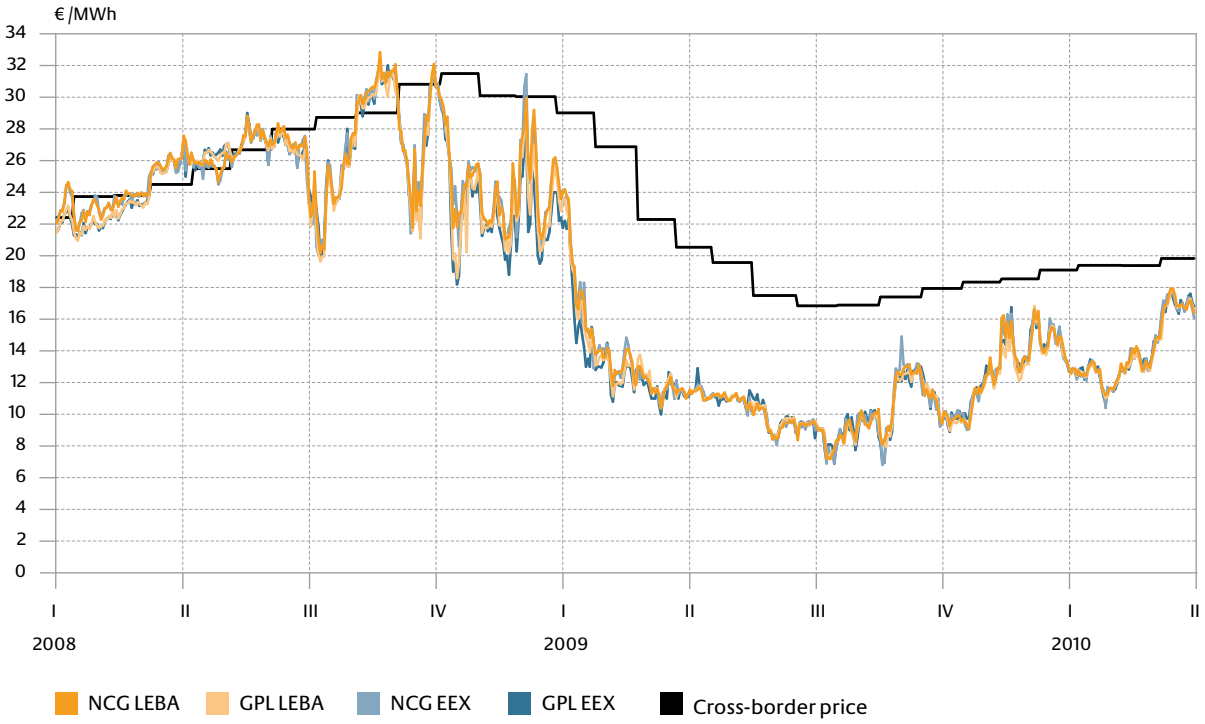


The percentage of household customers with a contract with their default supplier fell in 2009, compared with 2008, by a good six percent to just under 45 percent. Household customers tended to go for a different pricing plan with their default supplier. Thus 2009 saw a rise of a good three percent to a total of over 41 percent in the number of household customers supplied under a different pricing plan from their default supplier. The percentage of other electricity suppliers serving household customers rose from 2008 to 2009 by almost three percent to almost 14 percent. Overall the default suppliers, accounting for around 86 percent, are dominant as regards supply to household customers. The four major suppliers accounted directly, or via other supply channels, eg subsidiaries, for almost half of all household customers switching supplier.

GAS PRICE TRENDS

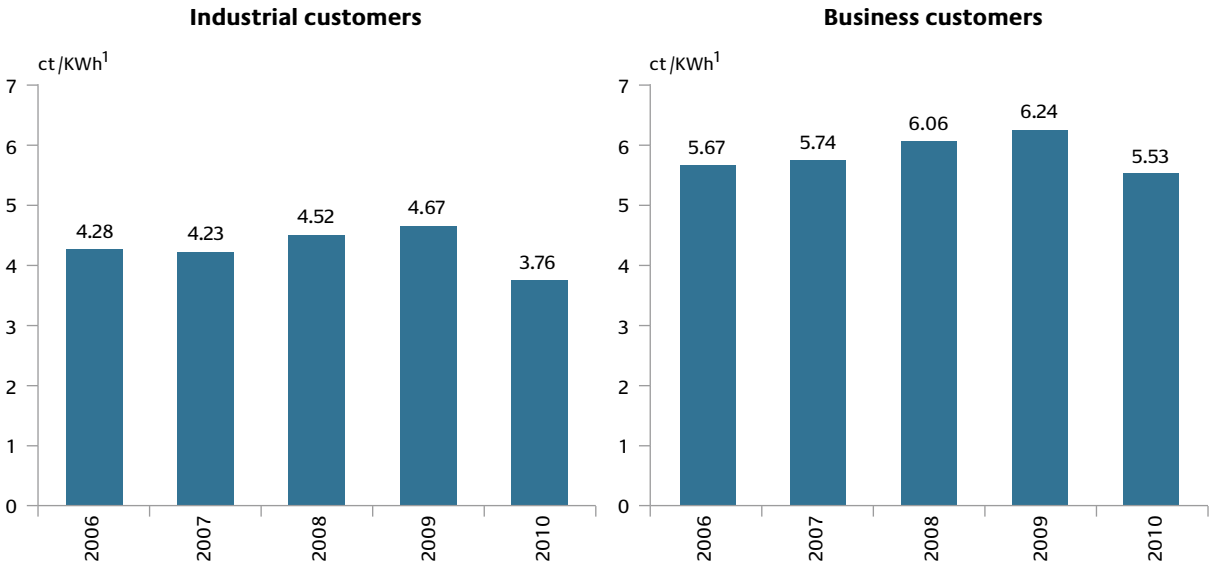
The strong growth rates on the German gas trading market again continued in 2010. In the two main H-gas market areas, Net Connect Germany and Gaspool, greater volumes were sold than in the peer countries Belgium (Zeebrügge) and the Netherlands (Title Transfer Facility). With its favourable geographic position as a transit country in central Europe, Germany was thus the second most liquid gas trading location in Europe in 2010 after the UK (National Balancing Point). A particular contributory factor was the improved transport conditions as a result of the further reduction in the number of market areas to six. There was no change, however, in the predominance of OTC trading. The volume of gas traded on the EEX, in relation to the total volume traded at the six German virtual trading points, was a single digit percentage. Yet compared with other European power exchanges the volumes traded on the EEX were high. The favourable situation on the spot markets remained unchanged in 2010. However, the difference in the second half of 2010 between the spot market prices and the prices obtained with long term import contracts reflected in the cross-border price was two to three euros only. In 2009 the difference had been as much as 10 euros.

H-gas trading prices 2008–2010



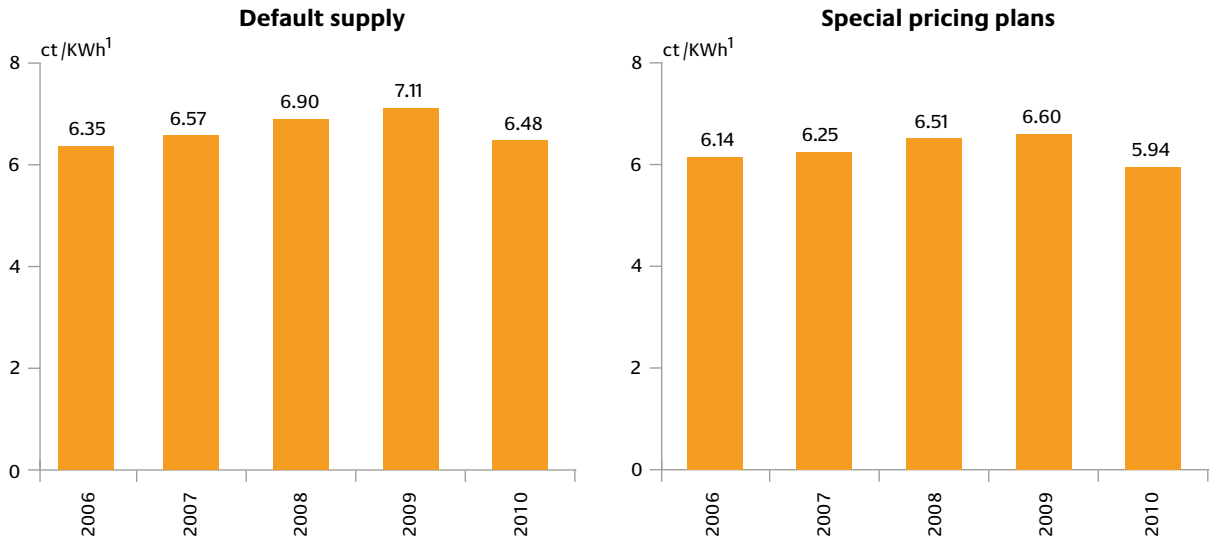
Sources: BAFA, EEX, LEBA

Business and industry gas prices in 2006–2010



[1] Volume-weighted averages on 1 April

Household gas prices 2006–2010



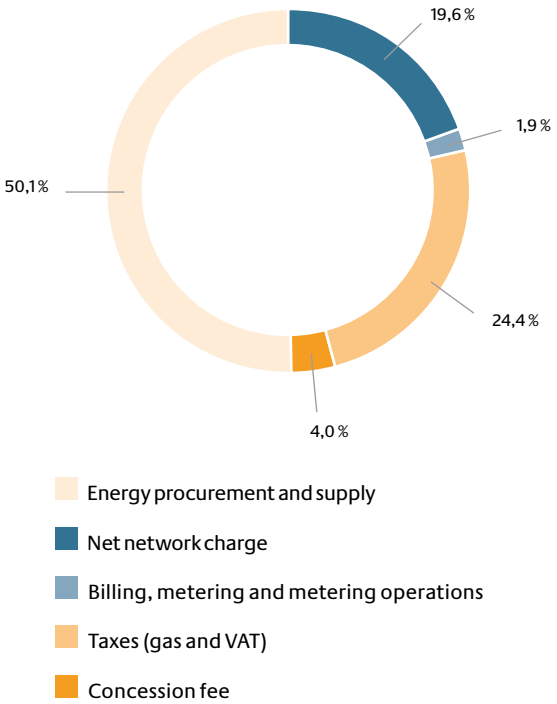
[1] Volume-weighted averages on 1 April

Considerable reductions in retail prices were expected in 2010 as a result of the fall in spot market prices. Yet the lower spot market prices were not all passed on to the customers to the same extent. The difference between cross-border and spot market prices could only be made use of by suppliers with relatively flexible procurement strategies that enabled them to respond to short term price developments. Thus there were also isolated increases in gas prices in 2010. On average, however, the gas price in 2010 fell below the level of the previous year and reached the 2006 level, the lowest to date. The main driver of the increases in the years from 2006 to 2009 was the "Energy and supply" component. In 2010 this component fell for the first time since the Bundesnetzagentur began its records in 2006.

Tariffs in the special pricing plans offered by the default suppliers fell by an average of ten percent from 2009 to 2010. The average decrease from 6.60 ct/kWh to 5.94 ct/kWh meant savings of 132 euros for a household with an average annual consumption of 20,000 kWh. The price on 1 April 2010 for gas supplied at special rates was around eight percent lower than the price for gas from the default supplier. Customers consuming 20,000 kWh were able to save an average of 108 euros annually on their bills if they made use of the possibility of switching to special rates with their default supplier. Customers switching supplier were able to save even more on their bills.

On the reference date 1 April 2010 the gas prices for household customers that had switched supplier were raised for the first time. The average total price was 5.92 ct/kWh, only 0.02 cent lower than the average price in the default supplier's special pricing plan. Besides savings from a change of contract or supplier, household customers were also able to benefit more from special incentive bonuses. For example, some suppliers offered additional one-off payments ranging between ten and 120 euros. There was also an increase in the number of contracts offering customers a fixed price for a particular period, typically twelve months.

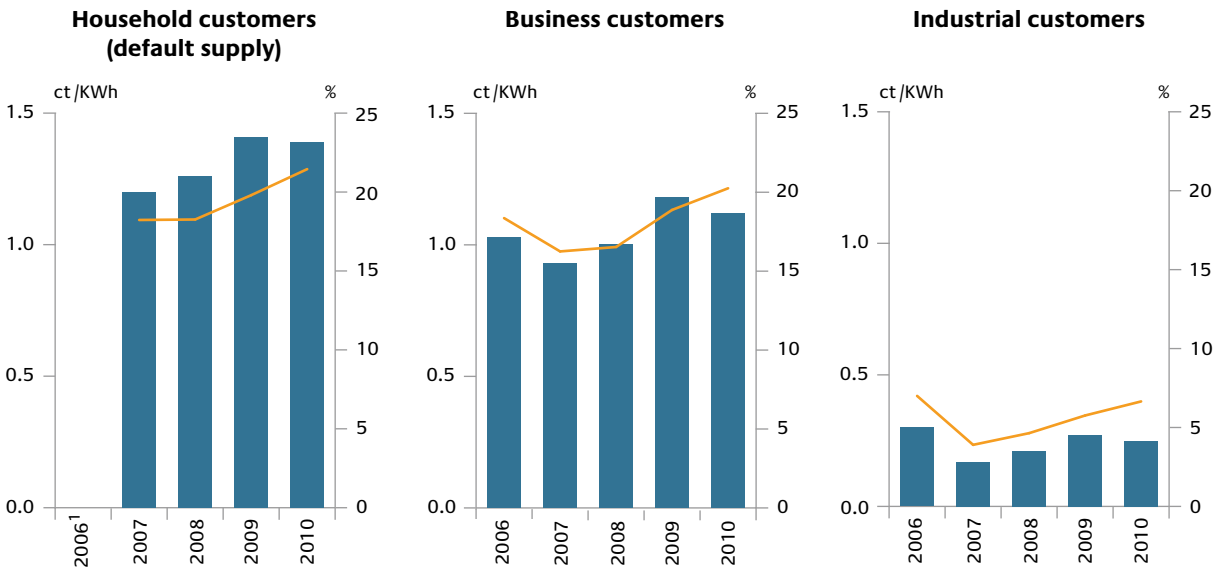
Composition of the gas price for household customers 2010



Volume-weighted averages on 1 April (default supply)

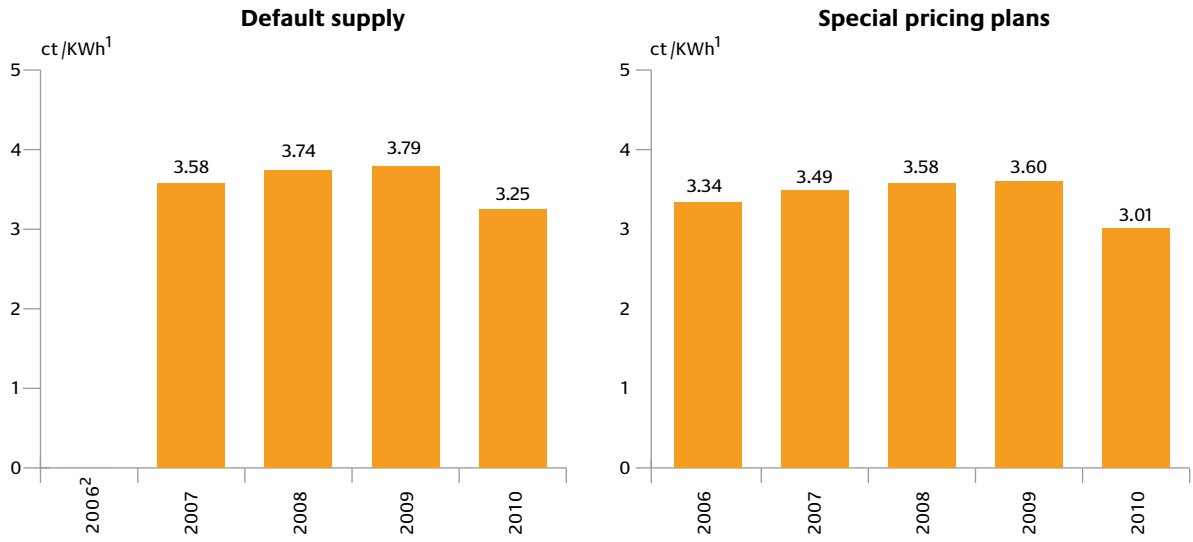
Household customers receiving default supply paid, on average, almost nine percent less in 2010 than in 2009. Responsible for the drop from 7.11 ct/kWh to 6.48 ct/kWh was the "Energy and supply" price component. Whereas the other price components hardly changed, the "Energy and supply" component fell by some 14 percent.

Gas network charges 2006–2010



[1] No data collected.

"Energy procurement and supply" component of household gas prices 2006–2010



[1] Volume-weighted averages on 1 April

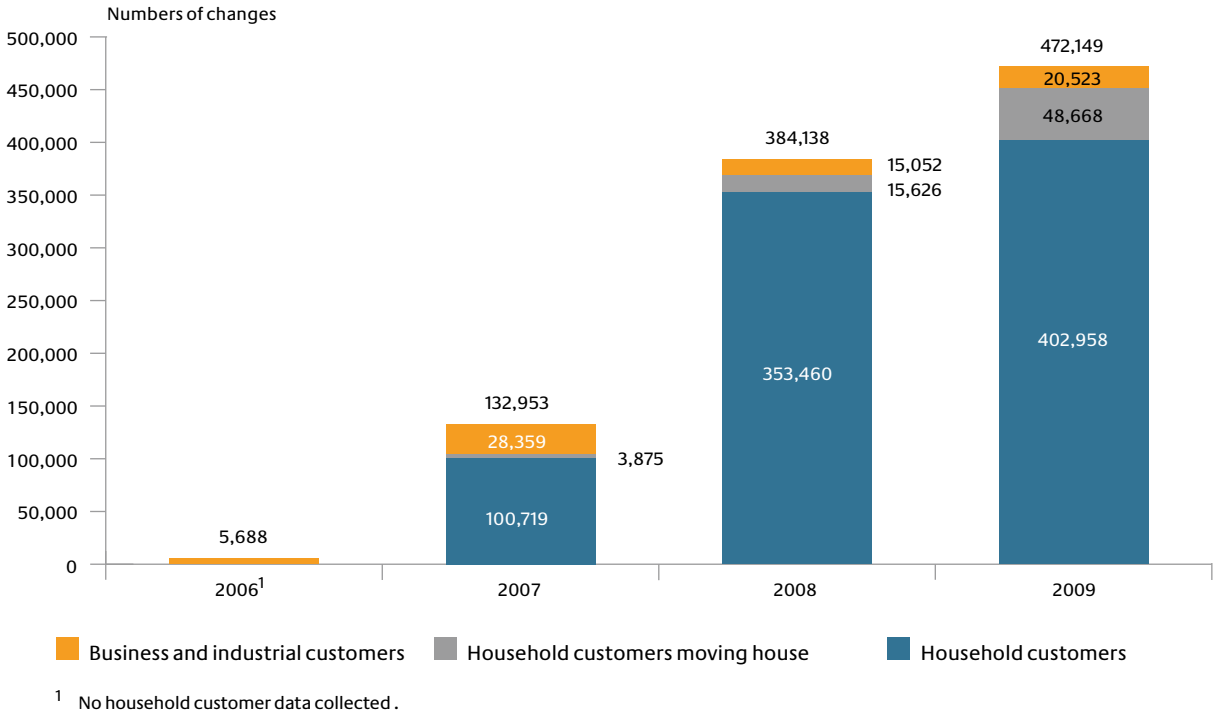
[2] No data collected.

CHANGE OF GAS SUPPLIER

The supplier switch volume rose from 42.53 TWh in 2008 to 47.18 TWh in 2009, corresponding to a volume-weighted supplier switch rate of 5.2 percent compared to 4.4 percent in 2008 and a rise of some ten percent. Hence the increase was less than in 2008 and 2007. In 2007 the volume of supplier switch was 33.5 TWh and in 2006 11.74 TWh.

The year 2009 saw 472,149 end consumers switch supplier, the highest level to date. A good 450,000 of these were household customers. More than ten percent opted for a different supplier when they moved. In 2009 these changes totalled 48,668, compared with the vastly lower number of 15,626 in 2008.

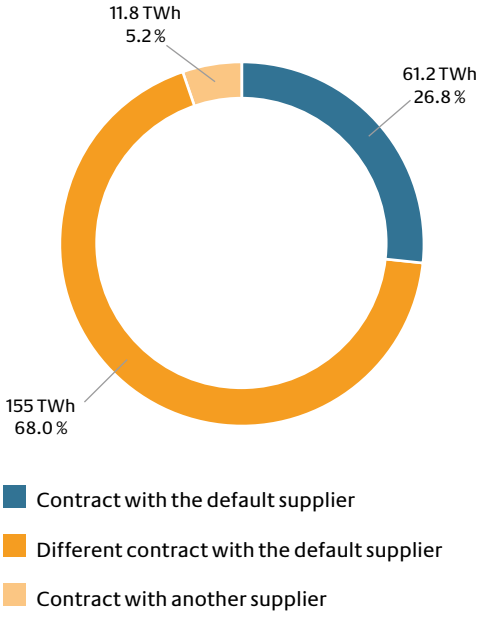
Change of gas supplier 2006–2009



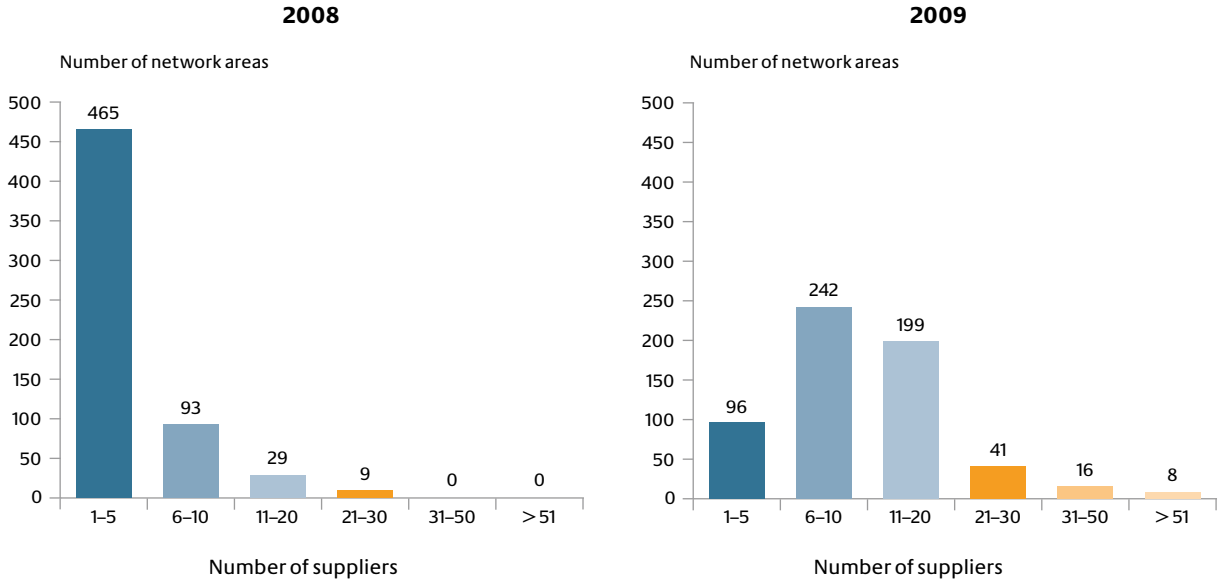
[1] No household customer data collected .

Almost 27 percent of household customers were contracted to their default supplier at the close of 2009. The majority of household customers, 68 percent, were supplied under special contracts. The main reason for this is that most of the heating gas contracts from the default supplier are classed as special contracts. Alternative suppliers had captured only five percent of the market by the end of 2009. In most of the 600 or so network areas, consumers could choose in 2009 between at least six different suppliers. Eleven or more suppliers were active in over 40 percent of the network areas.

Household customers gas contracts 2009



Competition in the gas market 2008 und 2009



Activities and proceedings

Integrating the growing share of renewables into the markets and grids gained greater urgency in 2010, with the main priority being expansion of the power grids. The flexible incentive regulation system is designed for this, without compromising the efficiency of the expansion measures.

GRID EXPANSION AND INCENTIVE REGULATION

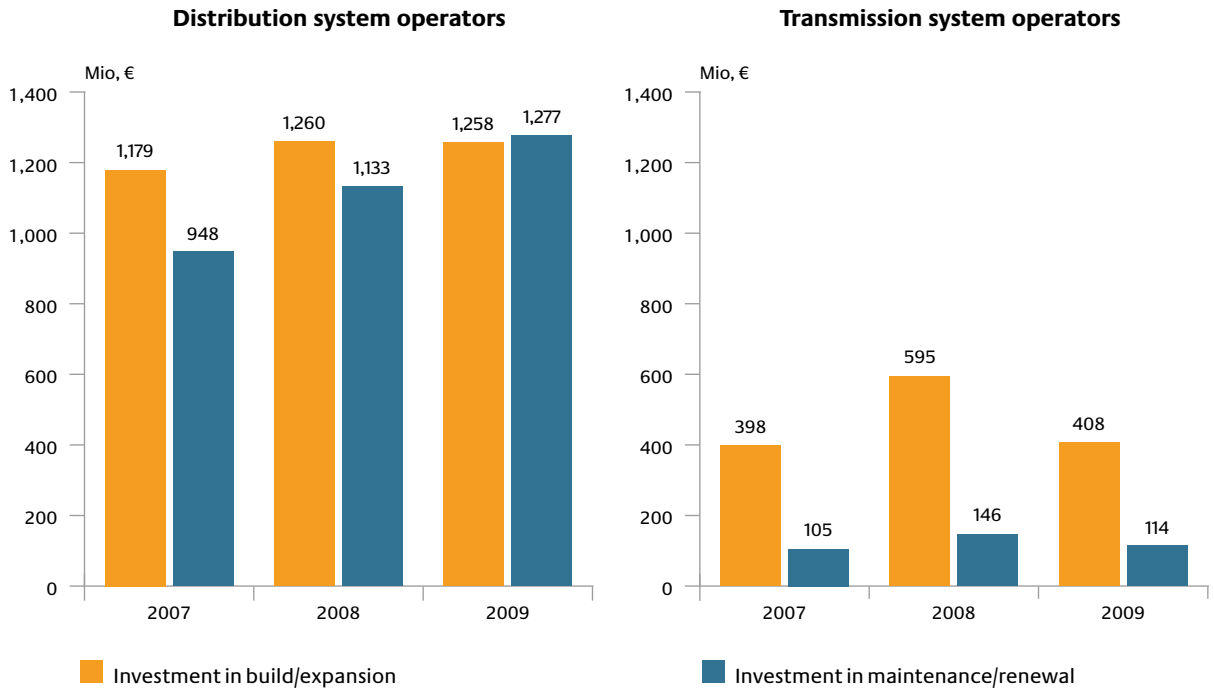
Investment

Considerable investment is needed in the German transmission system, mainly to integrate the growing share of electricity from renewable sources. And expansion planning – for onshore and offshore windfarms as well as for photovoltaic systems – will require even more investment in the future.

In 2009 the TSOs spent a total of 739 million euros (2008: 994m euros) on expanding and upgrading the infrastructure and on its maintenance. Specifically, some 408m euros (2008: 595m euros) on investing in build/expansion, some 114m euros (2008: 146m euros) on investing in maintenance/renewal and around 217m euros (2008: 253m euros) on grid-related applications. The share of investment and expenditure on cross-border connections totalled around 5m euros (2008: 13m euros).

The TSOs' planned investment for 2009 was set at 851m euros (686m euros for build/expansion and 165m euros for maintenance/renewal), 329m euros more than the level that was actually invested in 2009, which reached 522m euros only. With regard to expenditure, the actual level for 2009 was roughly 76m euros less than the planned level. These significant differences are chiefly accounted for by delays in the expansion projects. The TSOs reported delays in 49 of the 151 expansion projects for the period 2010 to 2014, as of 31 December 2010. The main reason cited for the delays was legal action against planning approval decisions.

Power grid investment 2007–2009



Investment budgets

Under incentive regulation, investment budgets can be approved for expansion and restructuring projects. Such investments are mainly needed to connect new power plants, to secure the connection of plants generating power from renewables, offshore windfarms in particular, or to maintain the stability of the energy systems.

In 2010, too, the Bundesnetzagentur received a large number of applications for approval of investment budgets. One hundred applications for the electricity networks and 30 applications for the gas networks are impressive evidence of the willingness to invest. The volume of investment applied for in 2010 was approx 6.9 billion euros, hence more than that of the previous year. The major share of the investment budgets applied for in 2010 was accounted for by the power grids with an approximate total of 5.6bn euros, with around 5bn euros being accounted for by the transmission systems and some 4.1bn euros of this by the connection of offshore wind farms.

To date, around 12.6bn euros has been approved from the applications submitted in 2008 and 2009 – some with subsequent modifications – totalling 16.1bn euros. By the close of 2010, 423 of the 491 proceedings had been completed. For 22 of the 24 projects falling under the requirements of the Power Grid Expansion Act (EnLAG) investment budgets totalling 3.9bn euros had been submitted and approved for the most part.

In April 2010 the Bundesnetzagentur distilled its experience of examining these budgets into revised guidelines for investment budgets. The guidelines have a twofold purpose: to provide transparency on the Bundesnetzagentur's decision-making practice and to provide clarity about the require-

ments to be met in applying for or modifying an investment budget. This is to make sure that the documents submitted meet minimum quality requirements and can be processed swiftly.

The amendment of section 23 of the Incentive Regulation Ordinance in September 2010 meant that, in future, not just the cost of capital but operating costs, too, could be approved. Until 31 December 2010 it was possible, if an investment budget had already been applied for, to submit a supplementary application for the recognition of operating costs. The first approvals have already been issued.

Individual investment budgets for renewables-driven expansion had to be revoked as of 31 December 2010 due to a change in establishing the expansion factor, to avoid network tariffs being credited twice. As from 1 January 2011 renewables-driven expansion will be reflected in the expansion factor.

With regard to the investment budgets for gas networks there were intensive discussions in the course of 2010 with the major TSOs about the investment requirements resulting from open season procedures. The practice of recognising costs for motive power in compressor systems and operating costs was identified as a possible obstacle to investment. A modification to the Incentive Regulation Ordinance was made to rectify this.

Connection of offshore wind farms

The alpha ventus wind farm began operating officially in the North Sea in April 2010. And since the fourth quarter of 2010 the BARD Offshore 1 wind farm has been feeding electricity into the German grid over a 400 MW direct current connection completed at the end of 2009. The Baltic 1 wind farm set up in 2010 will become operational shortly.

The Bundesnetzagentur is holding bilateral and trilateral talks with wind farm developers and TSOs in order to help with issues arising from the position paper published in October 2009 on the connection obligation set out in section 17(2a) of the Energy Act. The Bundesnetzagentur's requirements regarding connection criteria and key dates allow, in particular, shared wind farm connections. Thus the operator in June 2010 awarded the contract for an 800 MW shared connection for the BorWin cluster. This was followed in July 2010 by contracts for shared connections with a capacity of 800 MW and 576 MW for offshore wind farms in the DolWin and HelWin clusters. There were calls for tenders for further shared connections in May 2010 for wind farms in the SylWin cluster and in November 2010 for the DolWin, BorWin and HelWin clusters.

Since 2008 the Bundesnetzagentur has received 22 applications for approval of investment budgets for the connection of offshore wind farms totalling 9.5 bn euros. Of these, 13 applications worth 5.4bn euros have been approved to date (as of 31 December 2010).

Electricity cable between Norway and Germany

On 25 November 2010 the Bundesnetzagentur granted NorGer KS an exemption for its NorGer interconnector, the first direct electricity cable between Germany and Norway, exempting the project from particular regulatory requirements. The decision to do so will promote the integration of renewables and

marks an important contribution to European market integration.

Exemptions may be granted for new DC interconnectors under Regulation (EC) No 1228/2003. Specifically, they may be exempted from the requirements on the use of congestion income and on connection and access to the grid. The main requirements for an exemption are that the investment must enhance competition in the market and that the level of risk attached to the investment is such that the interconnector would not be built if the exemption were not granted. Responsible for granting the exemption for the NorGer interconnector are the Bundesnetzagentur in Germany and the Ministry of Petroleum and Energy in Norway. NorGer KS is a company comprising the Norwegian Agder Energi AS, Lyse Produksjon AS, Statnett SF and the Swiss electricity company Elektrizitäts-Gesellschaft Laufenburg AG. The high voltage DC cable is 600 kilometers long and will have a transmission capacity of 1,400 MW. It is to couple the German and Norwegian electricity markets as from 2015. The entire capacity is to be made available to market participants through implicit auctioning on the EPEX Spot and Nordpool Spot power exchanges, and the fluctuating wind power to be supplemented by the hydroelectric power that is a feature of the Norwegian market. This will considerably ease the situation in the German market in times of oversupply.

New transmission technologies

While new transmission technologies have the potential to complement expansion, they cannot be a substitute for it. This is the main finding of the workshop "Technology options for transmission networks" that the Bundesnetzagentur held in July 2010, in which some 90 representatives from the scientific community, industry, network operations, public authorities and citizens' action groups took part.

The goal of developing low-carbon or carbon-free power generation after 2015 will need requirements-driven restructuring and expansion of the grid. None of the scientific or industrial experts saw a realistic alternative to the 24 expansion projects named in the Power Grid Expansion Act. Nor did they believe the challenge of carrying a further 12 GW from renewables from north to south Germany from 2020 could be met with any of the technologies deployed today. The potential and the cost of the use of high voltage direct current technology and high temperature lines were the key topics of the event. A further option discussed was the build of a new three-phase network in traction current frequency. This technology could play a significant part in connecting offshore wind farms. The Bundesnetzagentur will commit to ensuring that the transmission networks are future-proof and that the network tariffs do not rise unduly. This will mean sufficient study of the technical alternatives and communication of their potential in Germany to a wider audience. Only in this way will it be possible to overcome the tangible resistance to expansion.

Investment ability of the distribution system operators

The WIK consultancy, in conjunction with the Bundesnetzagentur, in April 2010 published a report "Incentive Regulation and Network Investment" that focused on distribution system operators' replacement investments in the electricity and gas sectors. The conference of federal state economics ministers commis-

sioned the report in 2008 with a view to assessing the investment ability of the DSOs. The assessment is based on a total analysis simulating the effects of previous and prospective investment decisions. Taking an investment horizon of 20 years, the report shows the operators' ability to invest under the given regulatory conditions. The Incentive Regulation Ordinance allows them a suitable return on equity, economic operation and a steady upgrading of the grid.

Expansion factor for distribution systems

Distribution system operators introducing lasting changes in their supply services during a regulatory period can apply for an adjustment to the revenue cap under section 4(4) para 1 in conjunction with section 10 of the Incentive Regulation Ordinance, based on the so-called expansion factor. To date, the parameters used to determine the expansion factor have been "area served", "number of connection points" and "annual peak load". However, these parameters do not always adequately reflect the expansion of decentralised generation plants. First, the connection of decentralised generation plants to an electricity distribution system can bring about lasting changes in the DSO's supply services. And second, the integration of decentralised generation plants can give rise to expansion investment costs that may negate the effect at the upstream level. So that these costs can be included in the revenue caps as from 2011 the Bundesnetzagentur in 2010 decided to introduce a new parameter "number of feed-in points for decentralised generation plants" for DSOs. This decision reflects the legislative aim of securing access for decentralised generation plants on a long term basis by having the financial resources needed for expansion of the supply network taken into account in the network tariffs via the expansion factor.

In 2010, a total of 99 applications was received in the electricity sector for approval of an expansion factor. Of these, 18 DSOs were making their first application and 81 were modifying the application they had already made in 2009 as a result of the new calculation method. By the end of 2010, 97 had been completed. In 91 cases the Bundesnetzagentur approved the proposed expansion factor; in six cases the operators withdrew their application during proceedings. In 2010 in the gas sector, 71 operators applied for approval of an expansion factor, 18 of these for the first time. By the close of 2010 decisions had been taken on 43 applications, while one operator withdrew its application during proceedings.

Expansion of the European gas networks

To assess ENTSOG's first European Ten Year Network Development Plan the Bundesnetzagentur initiated a study for ERGEG on a model and scenario-based analysis of the European gas infrastructure and expansion projects. The findings of the study published in May 2010 by EWI identify – under different assumptions on supply and demand and infrastructure development – existing and anticipated congestion and areas of undersupply.

The findings of the study are based on an economic gas flow optimisation and infrastructure model developed by the EWI. Besides fresh insights into the possible impact of crises such as a transit halt in Ukraine – with or without consideration of major infrastructures like Nabucco or Nord Stream – one of the main findings of the study, as regards technical security of supply, is adequate

capacity in most European countries over the next decade for expected "typical" transport requirements. Yet congestion and gaps in supply between individual countries that are likely to require expansion of the grid were also identified. This holds good for instance for gas transportation from Germany to Denmark/Sweden, from Hungary to Serbia and from Bulgaria to Macedonia.

Additionally, potential economic congestion was identified that could lead to differences in market prices on some days, thus hindering European market integration. Each case of congestion should be looked at closely so as to decide whether expansion or congestion management measures were needed. Congestion could also arise in future as a result of a possible LNG glut in carrying gas from western to central Europe.

The findings of the EWI study were not just presented to participants at workshops in Brussels but also to German stakeholders in Bonn in July 2010. On these occasions stakeholders also discussed the possibility of taking the model methodology further, especially in view of national grid expansion planning. At present, however, specific assessment of the need for expansion in Germany cannot be derived from the study alone. Two of the reasons for this are the European nature of the study and thus the limited regional degree of detail, and inherent assumptions in the model such as the efficiency of all the gas exchange transactions and optimal capacity allocation and congestion management. In reality, these assumptions are not yet met. However, the Bundesnetzagentur is particularly involved at present with improving capacity management, at national level through determination proceedings and at European level through helping to draw up framework guidelines.

The European Commission requested ERGEG at the 18th Madrid Forum to devise a target model. This is to describe the gas market in 2015 and point the way for the framework guidelines. Market participants are to take an active part in the development process, in a similar way to the target model in the electricity sector. A first workshop was held in Vienna in December 2010. A second is planned for spring 2011 and the process is scheduled for completion in the third quarter of 2011.

Adjustment of revenue caps

In 2010, the second year of the first incentive regulation period, TSOs could adjust the revenue cap set by the Bundesnetzagentur themselves, applying cost shares that cannot be controlled on a lasting basis within the meaning of section 11 of the Incentive Regulation Ordinance for statutory approval and compensation obligations, concession fees and operating taxes. This was done on the basis of the costs for 2008, in other words with a two-year delay. The upstream costs and expenditure on paid avoided network tariffs were incorporated in the revenue caps in 2010 on the basis of forecast levels. Other influencing factors on the revenue caps were the consumer price index 2008 and established inefficiencies on the part of the operators. Additionally, the DSOs were able to make adjustments in 2010 for the first time on the basis of an expansion factor approved by the Bundesnetzagentur.

In adjusting the revenue caps the Bundesnetzagentur must exercise a measure of control. A number of individual questions of relevance

to the network tariffs needed clarification in 2010 so that the operators could follow the same approach. The Bundesnetzagentur thus published general explanatory notes on the adjustment of particular items. These address most notably a uniform calculation for avoided network tariffs in particular special situations to provide suitable, uniform compensation for decentralised feeders for avoided network tariffs. Thus in isolated cases there can be changes in supply from the upstream network or voltage level to less than 2,500 hours of use annually as a result of decentralised generation plants. This change in the structure of use occurs in decentralised generation plants that are over-dimensioned in relation to the network load, and have in the past triggered the use of different methods of calculation of the charges for decentralised feed-in. The notes also make clear that DSOs operating an extra high voltage network carrying electricity to the coupling point with the distribution network cannot include any avoided network charges for decentralised generation plants directly or indirectly connected to the extra high voltage network via a transformer station. Also, the costs avoided at the particular upstream or transformer level must be allocated to the individual decentralised entry quantities in differentiated manner, according to the particular degree and type of avoidance.

In the gas sector, provisional revenue caps were set for the supraregional TSOs. Prior to this, the Bundesnetzagentur had approved the network tariffs under section 23a of the Energy Act with effect from 1 October 2009. The fact that the revenue caps were initially provisional was due to problems with determining the efficiency value, resulting from the low number of operators and from faulty data transfer. The caps are to be definitively set in the first half of 2011.

While the second regulatory period under the incentive regulation scheme starts for the electricity network operators on 1 January 2014, the second regulatory period for the gas network operators begins a year earlier, on 1 January 2013, so that preparatory work was called for in 2010. The examination of cost statements scheduled for 2011 to establish the base level for setting the revenue caps is based on data for the financial year 2010. The costs established for each operator are incorporated in nationwide efficiency benchmarking, the data for which are likewise to be collected in 2011. Details of the economic data for collection were clarified after consultation with the industry.

Energy loss

The term energy loss denotes the amount of energy lost every time electricity is transported and that needs to be replaced by the TSO buying the corresponding amount in the market. In 2008 the Bundesnetzagentur specified how companies with more than 100,000 customers should do this. The specification, however, did not provide for any annual adjustment of the revenue caps. Under a concept drawn up by the Bundesnetzagentur in 2010 fluctuations in the price for buying this energy can now be taken into account annually in the revenue caps for DSOs, unless the operators apply the simplified procedure set out in section 24 of the Incentive Regulation Ordinance. This concept was implemented on the basis of voluntary agreement by the operators and determinations from the Bundesnetzagentur. Incentives for efficient energy

procurement were also set by means of a reference price. The reference price is established annually from the prices on the exchange (Phelix Futures). It is calculated as a weighted average of the base price (80 percent) and the peak price (20 percent). The target level of eligible costs is derived from multiplying the reference price by the volume of lost energy underlying the revenue cap. No subsequent comparison with the actual costs is made. If the operator's actual costs are higher than the target level, the operator must pay the added costs itself as a penalty. If the costs are lower than the target figure, the operator can keep the savings as a bonus. The future-oriented incentive system comes into effect in 2011 for the first time, initially until the end of the first regulatory period in 2013. In 2010 the Bundesnetzagentur issued corresponding determinations for 91 DSOs.

Transfers

The expiry of many concession agreements meant that many networks and network elements were transferred to other operators in 2010. Whenever networks are transferred, merged or split, both the donor and the recipient operator must submit an application for the revenue cap to be reset, stating what percentage of the revenues are to be assigned to the part of the network being transferred and what percentage to the remaining part. In its decisions the Bundesnetzagentur must take particular care that the sum of both does not exceed the revenue cap set. It often happens that the operators cannot agree on the percentage of the revenues to be transferred. This unnecessarily increases the administrative effort and presents considerable practical problems for all concerned.

Quality regulation

Incentive regulation harbours the risk that network operators will comply with the cap by not investing in their networks or not carrying out other measures to maintain or improve quality of supply, in order to save costs. This can lead to poorer quality of supply. To counter this, the Incentive Regulation Ordinance provides for the introduction of a quality element as part of the formula for determining the revenue caps. Operators whose network has above-average quality levels will have an amount added to the cap, while operators whose networks have comparatively poor quality levels will have amounts deducted (bonus / penalty system).

Under section 19(2) of the Ordinance, quality regulation for electricity must begin not later than the second regulatory period, but can begin sooner if sufficiently robust data are available. In 2010 the Bundesnetzagentur developed a concept detailing the "electricity network reliability" quality element. The basic variant of this quality regulation is to apply as from 1 January 2012. It draws on the SAIDI and ASIDI indices to depict the duration of interruption to supply. Interruptions of less than three minutes are disregarded. The SAIDI and ASIDI indices, in turn, are based on the interruptions to supply notified by the operators under section 52 of the Energy Act. Reference figures are derived from the indices, with load density as a parameter to replicate structural differences between the individual network areas. If an operator's SAIDI/ASIDI levels differ from the reference value, the operator will be given the corresponding bonus or penalty. The reference values are not target figures showing, for each network operator, the level of reliability the network is to achieve. This is done

by every operator performing integrated cost and revenue optimisation, that is to say matching the anticipated cost of network reliability improvement measures with their effect. It is intended that this will optimise quality levels for the economy as a whole in the long run.

The basic variant of the incentive scheme is to be applied solely to low and medium-high voltage networks taking part in efficiency benchmarking as set out in section 12 of the Incentive Regulation Ordinance. Hence it is not applicable to network operators taking part in the simplified procedure as per section 24 of the Ordinance or to high and extra high voltage networks. Nor does the basic variant accommodate the aspect of performance.

Quality regulation for gas network operators is not planned for the first regulatory period. Initial studies have already been made, however. These included projects in 2010 on the scope for a quality element for gas networks, some of which were carried out by the WIK consultancy. Defining the quality element for performance will need further attention, particularly as it is a relatively new quality regulation parameter concerning which there is no international experience as yet.

NETWORK AND CAPACITY MANAGEMENT

Security of electricity supply

Operators of power grids must notify the Bundesnetzagentur once a year of interruptions to supply in the previous year. Security of supply is measured in Germany using the internationally recognised SAIDI method, which gives the average outage duration in minutes for each customer served. Included in the SAIDI index are only unscheduled interruptions of more than three minutes caused by atmospheric effects, third party intervention or ripple effects from other networks occurring in the area of responsibility of the operator. Interruptions on account of force majeure are disregarded, as these fall outside the operator's area of control.

The SAIDI index for 2009 was calculated on the basis of notifications from 821 operators for 842 networks. In 2009 the SAIDI index and thus the non-availability of electricity was an average of 14.63 minutes per end consumer.

This represents a further improvement over previous years. For instance the figure for 2008 was 16.89 minutes, for 2007 19.25 minutes and for 2006 21.53 minutes. The current figure also documents the high degree of reliability by international standards.

Grid control cooperation across Germany

The Bundesnetzagentur issued a decision on 16 March 2010 for the introduction, not later than 31 May 2010, of grid control cooperation across Germany, concluding the proceedings opened in 2008 to determine arrangements for the use of system balancing energy. This commits the four TSOs to greater cooperation in the use of reserves in their networks. Accordingly, the TSOs introduced these cooperation arrangements on 1 May 2010 for all four control areas. This cooperation will deliver savings of hundreds of millions in annual costs. It will be not only the TSOs and electricity suppliers that benefit, but the consumers, too, indirectly, in the form of lower prices.

One of the TSOs' main tasks is to balance generation and consumption. Each TSO does this on its own responsibility, in its own control area. Previously, the separate arrangements in the four control areas had led to reserves being used inefficiently. While so-called negative system balancing energy was used in one control area to offset surplus feed-in, positive system balancing energy was needed in another to counteract too little power being fed in. The use of system balancing energy is particularly costly, as power plant capacity has to be kept available at all times. Under the new cooperation arrangements such inefficient use will become a thing of the past. The imbalances in the control areas are now netted, so that only the residual imbalance has to be offset. The level of system balancing energy to be kept available can also be reduced as a result of these grid control arrangements. Another outcome is further cost reduction as a result of greater competition between system balancing energy suppliers, made possible by the concentration of previously fragmented markets.

Three TSOs, 50 Hertz Transmission GmbH, EnBW Transportnetze AG and TenneT TSO GmbH, have been operating in this way since 2009 already. Thus the proceedings had to decide whether these cooperation arrangements should be introduced across the country, ie for all four control areas. An alternative was a proposal from the fourth TSO, Amprion GmbH, for a central entity. Studies showed that both concepts were equally good on the main points. The grid control cooperation option was then chosen because it could be introduced rapidly and had potential for quick savings of 16 million euros a month.

This decision does not, however, rule out further steps leading to yet greater cooperation. It could prove, for instance, the precursor to further grid integration, such as a central entity or a single control area. It is also conceivable to widen the scheme to include the European neighbour countries, on an equitable basis.

Cross-border congestion management

Under section 56 of the Energy Act in conjunction with Article 9 of Regulation (EC) 1228/2003 the Bundesnetzagentur ensures compliance with the Regulation and its guidelines. The Bundesnetzagentur aims to continuously improve congestion management on Germany's external borders and is therefore heavily involved in the four Regional Initiatives, Northern (Denmark, Germany, Finland, Norway, Poland and Sweden), Central-West (Benelux countries, Germany and France), Central-East (Germany, Austria, Poland, Slovakia, Slovenia, Czech Republic and Hungary) and Central-South (Germany, France, Greece, Italy, Austria and Slovenia). Good progress was made in 2010 in the regional coordination of congestion management. Cross-border intraday trading at the borders was improved further, harmonisation of the auction rules progressed and the calculation of cross-border capacities taken forward.

The successful introduction of market coupling in the Central-West region in November 2010 was a particular milestone in further market integration. Under this project the capacities for cross-border electricity exchanges between Germany, France and the Benelux countries are no longer allocated in auctions but directly on the exchange. One of

the reasons why this new market coupling is particularly valuable is because it could be combined from the outset with the market coupling already in place between Germany and northern Europe (Denmark, Finland, Norway and Sweden). The Bundesnetzagentur led the negotiations on the creation of the mechanisms needed, making a vital contribution to successful coordination between the two regions. The market couplings bring about considerably more effective cross-border exchanges in electricity and help reduce differences in the wholesale prices in the participating countries.

In 2010 the Bundesnetzagentur also made every effort to further improve the transparency of production data for the market. The transparency platform set up on the EEX website in 2009 now covers almost all of the German market.

Gas capacity management

In the gas sector, activities in 2010 focused on preparations for a determination on capacity management. This determination is intended to provide legal certainty on the capacity management system and on transparent, non-discriminatory capacity allocation for all stakeholders. The proceedings for issuing the determination did not reach completion in 2010 because the amendment of the Gas Network Access Ordinance made it necessary to widen the proceedings, involving additional consultations.

The availability of capacity is key to competition in the gas sector. Currently, demand far outstrips supply, particularly at the points of interconnection and in cross-market-area gas flows. However, there is reason to believe that more efficient use of capacity could be made, given the actual degree of physical utilisation at some points of interconnection. The central aspects of the proceedings that opened in spring 2010 on capacity management restructuring were capacity bundling, capacity product standardisation, setting rules for returning booked capacities, establishing day-ahead capacity trading and establishing a primary capacity platform on which capacities could be obtained by auction as from 1 August 2011.

In December 2010, with major input from the Bundesnetzagentur, ERGEG adopted a revised Pilot Framework Guideline on capacity allocation. It is chiefly concerned with the non-discriminatory award, Europe-wide, of standardised capacity products by way of auction. The Framework Guideline creates the basis for the development of network codes by ENTSOG.

Under Article 6(4) of Regulation (EC) No 1775/2005 the relevant entry and exit points on which information must be made public are to be approved by the competent authorities after consultation with network users. The Bundesnetzagentur issued such approval to sixteen TSOs in December 2010. Altogether, 310 entry and exit points in Germany were classified as relevant points within the meaning of the Regulation. The information to be made public includes the maximum technical capacity, booked and available capacity, capacity utilisation rates and flows. Publication of this information will provide greater transparency in the gas market.

To manage scarce resources, it must be known initially how much capacity is available at all. That this is a highly complex question was

illustrated by a workshop on this matter. The research project carried out by the Zuse Institute Berlin (ZIB), commissioned by the Federal Economics Ministry and supported by the Bundesnetzagentur, is exploring capacity calculation mathematical and physical conditions, limits, potential and methods. To begin with, the project concentrates on modelling the framework conditions. Current methods for calculating the capacity of gas networks provide solutions that are viable to a very limited extent only. In many cases, they are simply assessments from experts. Preconfigured software that calculates marketable capacities "at the touch of a button" is not yet in sight. There is optimisation potential mainly as regards the forecasts for distributing network load both in place and time.

Gas balancing rules

Network operators had to implement extensive new processes for the new system balancing and portfolio balancing regime introduced on 1 October 2008. These processes are now essentially in place. However, there is still a time lag in the financial settlement of higher and lower volumes than allocated, which is taking time to clear. The Bundesnetzagentur is following operation of the system and asked the balancing group operators for relevant data in 2010. At the same time, it requested DSOs to provide information on accumulated differences between transported and balanced gas volumes in local distribution networks and carried out a separate data survey with the TSOs, also intended to help evaluate the regime.

No major changes to the balancing energy services were needed as a result of the new Gas Network Access Ordinance of 3 September 2010. The new arrangements are in line with the GABi Gas determination. In particular, the principle of daily balancing is now explicitly laid down in section 23(1) of the Ordinance. The Bundesnetzagentur will present a report in 2011, evaluating the balancing energy regime.

In a letter dated 6 August 2010 the European Commission requested ERGEG, under Article 6 of Regulation (EC) No 715/2009, to submit to it within a period of six months a non-binding framework guideline on balancing rules for gas transmission networks. This is currently being drawn up with the participation of the Bundesnetzagentur. One of the main points of the framework guideline is the establishment of a uniform, 24-hour balancing period at the end of which the balancing positions of TSO and network user are brought into equilibrium. Portfolio energy balancing prices are to be based on the marginal price that the TSO has obtained or paid for buying or selling system balancing energy on the wholesale market or on a system balancing energy platform. If TSOs have not bought or sold any system balancing energy, the wholesale price, plus an extra charge or a discount if appropriate, can be used as the basis for the portfolio balancing energy prices. If the wholesale markets are not sufficiently liquid, the portfolio balancing energy prices can be based, as an intermediate step, on reference prices. System balancing energy can be procured via a balancing platform. The framework guideline should require ENTSOG to standardise system balancing energy products and to procure these on the wholesale market. The TSOs are to provide every network user, during the balancing period, free of charge, with information on the volumes it has entered and

taken off, so that the network users can keep their portfolios in equilibrium. The framework guideline will create the basis for the development of network codes by ENTSOG. The network codes can become legally binding in Europe following a comitology procedure.

SMART METERING AND SMART GRIDS

In March 2010 the Bundesnetzagentur presented its report "Competition developments and possible action in the fields of metering and variable pricing" to the Federal Economics Ministry. This is the basis on which the Bundesnetzagentur is engaged in developments in respect of smart metering and smart grids.

Thus it published recommendations in June 2010 on implementing minimum requirements for advanced meters within the meaning of section 21b subsections (3a) and (3b) of the Energy Act. Proceedings were also opened to standardise and progress standard load profiles. Amongst other things, the obligation to introduce additional standard load profiles for day/night should provide feedback on changed consumer patterns, assisting balancing and enabling suppliers to offer a minimum of variable pricing within the meaning of section 40(3) of the Energy Act. A key elements paper was published on this in December 2010 and put up for consultation.

Talks began at the end of 2010 with representatives from the Federal Economics Ministry and the Federal Office for Information Security (BSI) on the development of a protective smart meter concept. There was also close cooperation with the authorities on metrological arrangements. Experience was gathered in two workshops on smart grids in which representatives of the E-Energy projects and companies of the supply industry participated. At the European level, too, the Bundesnetzagentur is bringing its influence to bear on smart metering and smart grid developments. For instance, it was involved in 2010 in the European regulatory organisations ERGEG and CEER in drawing up consumer-oriented Guidelines of Good Practice and a position paper on smart grid issues. Additionally, the Bundesnetzagentur is following the European Commission's standardisation activities.

Issuing determinations on switching processes, the Bundesnetzagentur created uniform conditions for more competition in metering. These determinations concern the processes for changing metering operator and service provider, carrying out metering and electronic data exchange and drawing up standard contracts. These new, uniform rules are vital if companies are to be able to compete across the country with the network operators in offering electricity and gas meters. The standardised business processes, which are basically identical for electricity and gas, encompass above all the procedure for meter provider-consumer connection assignment, organisation of the installation and removal processes and meter data transfer issues. In future, the new providers will be able to carry out the formalities of change electronically and automatically with the network operator.

RENEWABLES

Biogas feed-in

A number of disputed issues arising from the Gas Network Access Ordinance were clarified

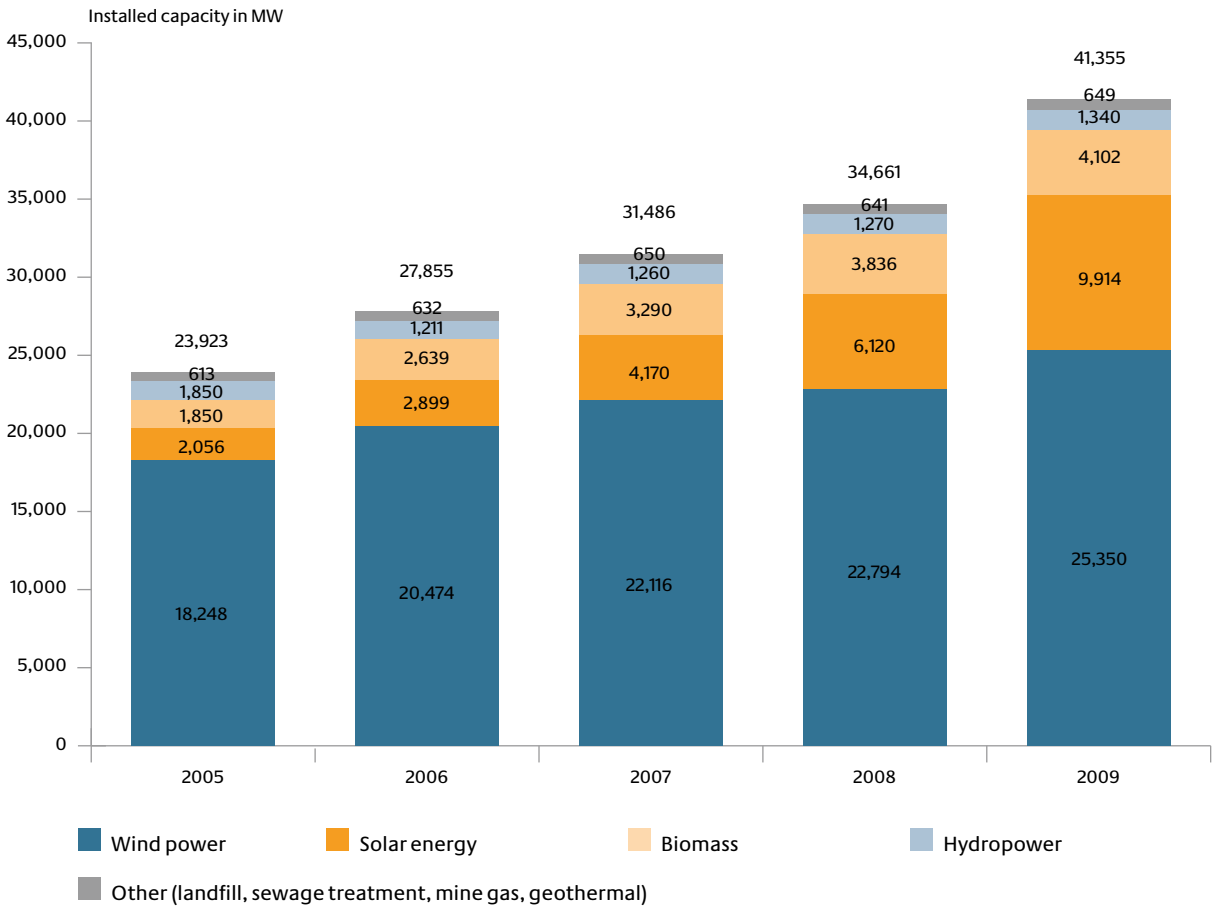
between the operators of biogas plants and gas network operators in an abuse case in 2010. Specifically, these were the refusal to include any blanket clauses on passing on costs, the quality of the gas to be put into the system, biogas components and the treatment of planning and tender documents.

Final financial statement for renewables

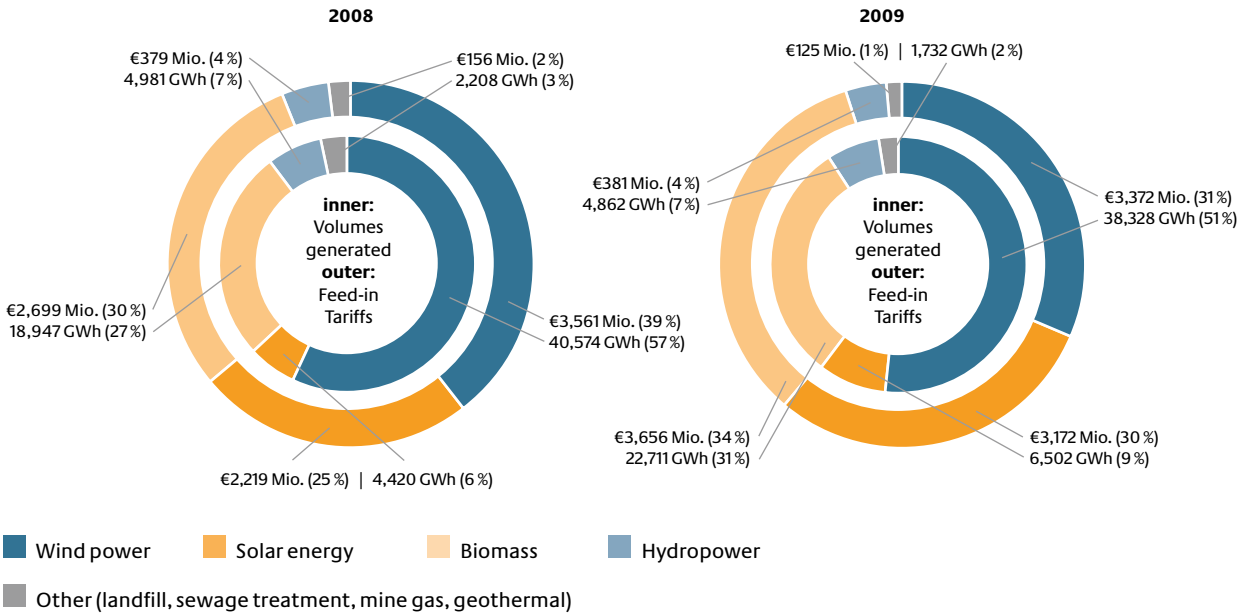
As part of monitoring how the costs of the tariffs as per the Renewable Energy Sources Act are passed on the Bundesnetzagentur, annually, checks whether the electricity suppliers have really been charged only for the tariffs as per the Act less the avoided network charges. Some 900 operators and more than 1,000 electricity suppliers are required to send electronically their final financial statement for renewables for the previous year to the Bundesnetzagentur by 31 May. TSOs must transfer these data by 31 July. The main results of the data survey are compiled in a renewables statistics report and published on the Bundesnetzagentur's website.

The volume of power generated from renewable energy sources rose by four percent from 2008 to 2009 to exceed 74,000 GWh, while total feed-in tariffs increased by some 19 percent to top ten billion euros. The share of wind in the volume of power generated from renewables, 51 percent, was considerably higher than its share in total feed-in tariffs, 31 percent. In comparison, solar energy is much more expensive.

Generation capacity of renewables 2005–2009



Installations 2008 and 2009 – Volumes generated and feed-in Tariffs



Notification of photovoltaic systems

Operators of photovoltaic systems must notify the Bundesnetzagentur of the location and power when new systems go live, otherwise the network operator is not legally obliged to pay feed-in tariffs. An online portal was provided for this purpose in October 2010. These notifications are the basis on which the Bundesnetzagentur establishes the degression rates and feed-in tariffs for new photovoltaic systems, in line with the specifications of the Renewable Energy Sources Act.

In 2010 the Bundesnetzagentur received some 250,000 such notifications. The feed-in tariffs for photovoltaic systems going live after 1 January 2011 have fallen by 13 percent.

Equalisation Mechanism Ordinance

The Equalisation Mechanism Ordinance issued by the Bundesnetzagentur took effect on 27 February 2010. It details the selling of power from renewable energy sources by the TSOs. It provides incentives for optimum selling and sets out publication duties, on the contributions forecast also. The Ordinance allows the TSOs to limit the offer of renewables in times of extremely negative prices on the exchange, following set rules. This arrangement was initially limited to the end of 2010. It was modified, however, at the end of 2010 by an amending ordinance and extended until February 2013. The amending ordinance also requires the TSOs to publish day-ahead forecasts for solar energy feed-in, as well as day-ahead forecasts of wind power. The reason for this is the much greater part played by power from photovoltaic systems. In this connection the Bundesnetzagentur in November 2010 also published a position paper on improved forecasting and balancing of solar power feed-in.

Significance of the renewables contribution for the electricity price

A number of suppliers announced price rises at the end of 2010, citing the increase in the renewables contribution from 2.047 ct/kWh to 3.53 ct/kWh with effect from 1 January 2011. This contribution offsets the difference between the feed-in tariffs payable for power

from renewables and revenues from selling it on the exchange. The Bundesnetzagentur checks that the contribution is properly arrived at. The big increase is attributable primarily to the higher expected total of feed-in tariffs payable to the operators of renewable plants. Whereas the forecast for 2010 was 12.7 bn euros, it jumped to 17.1 bn euros for 2011.

However, there is no justification for asking higher prices from the consumer as a result of the higher renewables contributions. The growing volumes of power from renewables will cause the wholesale prices to fall as costly power plants are squeezed from the market. Thus the prices on the exchange for long-term contracts fell in 2010 despite the economic recovery. The high wholesale prices of spring/summer 2008 were still reflected in the end customer prices of many electricity suppliers that had bought on a long-term basis. These peaks, however, are not likely to play a significant part in the electricity prices for 2011. Suppliers' costs for supplying domestic customers ought therefore to fall by at least half a cent per kilowatt-hour. Consumers should thus study the offers in the market and, where appropriate, change to a supplier passing on these lower prices.

Court proceedings

Court proceedings in 2010 were primarily concerned with revenue caps and investment budgets, with the courts largely upholding the Bundesnetzagentur's decisions.

At the close of the year 743 court cases were still in progress, with 537 of these concerning Bundesnetzagentur decisions. 206 cases were appeals against decisions taken by the federal state regulatory authorities. The Bundesnetzagentur also takes part in these by law.

REVENUE CAPS

Under its own or an official delegation of powers, the Bundesnetzagentur establishes in its incentive regulation scheme the total revenues from the network tariffs that a network operator is permitted, the so-called revenue caps. At the end of the year 240 cases on these determinations were pending.

The rulings of the higher regional courts reflected different views on particular issues. For instance, the Celle, Düsseldorf, Rostock and Thuringia courts affirmed the Bundesnetzagentur's approach to establishing the base level for setting the revenue caps. The Schleswig-Holstein court, on the other hand, found it unlawful that the Bundesnetzagentur had used the findings of the last examination of cost statements as the base level unchanged, without making, or considering, any adjustments.

All the courts of appeal assessed the Bundesnetzagentur's flat rate investment markup as legitimate. They confirmed that it should not be applied in simplified proceedings and also confirmed the Bundesnetzagentur's view that the markup must not have annual cumulation.

The Düsseldorf, Rostock, Thuringia and Schleswig-Holstein courts deemed application of the sectoral productivity factor as per section 9 of the Incentive Regulation Ordinance lawful. The Celle court, however, considered there to be insufficient authorisation in the Energy Act, so that inclusion of the sectoral productivity factor in setting the revenue caps was unlawful. In appeal proceedings against the relevant federal state regulatory authorities the Naumburg and Brandenburg courts had already declared inclusion of the sectoral productivity factor unlawful, on similar grounds.

With the exception of the Schleswig-Holstein court, the higher regional courts all upheld the Bundesnetzagentur's view that the expansion factor referred to in section 10 of the Incentive Regulation Ordinance should not be applied in the first year of the regulatory period.

The Düsseldorf court revoked rejections of applications requesting hardship to be taken into account in the revenue caps in those cases in which operators had an efficiency level of 100 percent. Because there was no scope in these cases for adjustment as per sections 15 and 16 of the Ordinance, reasons of proportionality called for a wider interpretation of the hardship clause, it found. The hardship clause constituted a default rule which also had to be applied when the event referred to by the operator was predictable in a certain sense but was not, or could not be, recognised by the regulatory authority at the relevant time. The Bundesnetzagentur would have to revisit the applications and consider whether the overall cost situation for the party concerned had changed to such an extent that keeping the revenue cap as set would lead to unreasonable hardship, the court declared.

At present, 24 appeals on points of law are being heard by the Federal Court of Justice concerning determinations on revenue caps. The oral proceedings for the first of these are scheduled for the end of March 2011.

EFFICIENCY BENCHMARKING

The efficiency benchmarking carried out nationwide by the Bundesnetzagentur and typically used by both the Bundesnetzagentur and the regulatory authorities of the federal states in setting the revenue caps is the subject of a number of appeal proceedings. Rulings were issued on this in 2010 by the higher regional courts of Düsseldorf, Munich and Stuttgart.

In a decision taken on 25 March 2010 (ref: 202 EnWG 20/09) which is now final, the Stuttgart court affirmed the lawfulness of the Bundesnetzagentur's efficiency benchmarking practice. The appellant had not provided a conclusive case that the efficiency level had been established in breach of the requirements of the Incentive Regulation Ordinance. The regulatory authorities had discretionary powers on this. Nor were there any grounds for the criticism that efficiency benchmarking was carried out on the basis of faulty data, it declared. Completely accurate data at all times was a virtually unattainable ideal that was neither prescribed nor could be regarded as required. Nor was there a lack of reasoning or consultation. The communicative nature of the proceedings did justice to the complexity of the subject matter in terms of due process of law.

In its ruling of 26 July 2010 (ref: VI-3 Kart 184/09(V)) the Düsseldorf court found that the Bundesnetzagentur had an assessment prerogative in selecting the output parameters, and wide discretionary scope. The court affirmed that the Bundesnetzagentur had established the output parameters correctly, with reference to a comprehensive scientific study and in compliance with the requirements of the Ordinance, in a cost-driver analysis. Similarly, the Munich court, in its ruling of 25 November 2010 (ref: Kart 17/09) assumed an assessment prerogative and wide discretionary scope for the Bundesnetzagentur in selecting the output parameters for efficiency benchmarking. It was not evident that the choice of parameters failed to meet the requirements of the Ordinance or were otherwise flawed. Nor had the appellant referred to any relevant errors of law in collecting the data.

Further proceedings on efficiency benchmarking issues are pending at the Düsseldorf, Koblenz, Stuttgart, Brandenburg, Schleswig-Holstein, Thuringia and Bremen courts.

ENERGY LOSS

The Düsseldorf court in 2010 rejected appeals against the Bundesnetzagentur's refusal to recognise the procurement of energy loss, agreed in a voluntary commitment, as effective procedures regulation within the meaning of section 11 of the Ordinance and thus as cost shares that could not be controlled on a lasting basis. Appeals on points of law are pending with the Federal Court of Justice in two cases.

INVESTMENT BUDGETS

The Düsseldorf court had 103 appeals pending in 2010 on the approval of investment budgets.

In its ruling of 8 December 2010 (ref: VI-3 Kart 237/09(V)) the court called on the Bundesnetzagentur to reconsider one application for approval of an investment budget as per section 23 of the Ordinance. There were no grounds in the Ordinance, the court found, for reducing the investment budget for the avoidance of recognition twice. Moreover, there were inconsistencies with section 8 of the Gas Network Charges Ordinance. The Bundesnetzagentur has appealed this decision.

The Düsseldorf court will hear further appeals in the first half of 2011.

APPROVAL REQUIREMENT FOR RAIL TRANSMISSION NETWORK ACCESS CHARGES

Back in December 2008 the Bundesnetzagentur established that the charges for accessing the rail transmission network were subject to approval under section 23a(1) of the Energy Act. The Düsseldorf court rejected the appeal against this in 2009. The Federal Court of Justice upheld this ruling in its decision of 9 November 2010 (ref: EnVR1/10), turning down the appeal against the Düsseldorf court's ruling. Accordingly, the access charges for the rail transmission network are also subject to rates regulation under the Energy Act.

INDIVIDUAL NETWORK TARIFFS FOR PUMPED STORAGE PLANTS

In its ruling of 19 May 2010 (ref: VI-3 Kart 162/09(V)) the Düsseldorf court rejected the appeal against approval of an individual network tariff for a pumped storage plant. The legal dispute centred on the question of whether agreeing an individual tariff within the meaning of section 19(2) of the Electricity Network Charges Ordinance could include a reduced charge for energy consumed as well as a reduced charge for capacity. The rationale for the arrangement in section 19(2) of the Ordinance is that network users whose peak contribution in light load periods, in all probability, will be considerably higher than the expected peak load contribution in peak periods should be able to benefit from an individual tariff, as they help to reduce physical load and thus make a real contribution to lowering costs in the long term. The court confirmed the Bundesnetzagentur's view that consideration could only be given to reducing the charge for capacity. The

aim of the arrangement in section 19(2) of the Ordinance was to have individual tariffs reflect the particular usage patterns of the final consumers. These differed from the usage patterns of the other network users only in respect of the flow curves, as the sole point of reference was whether the peak contribution of this final consumer could be foreseen to diverge considerably from the simultaneous annual peak load of all offtake from the network or voltage level concerned. The volume of electricity procured by the final consumer and the charge for the offtake were therefore not significant.

In its ruling of 30 June 2010 (ref: VI-3 Kart 197/09(V)) the Düsseldorf court rejected a further appeal against approval of an individual tariff for a pumped storage plant. Expounding on what it said in its ruling of 19 May 2010 the court declared that agreeing the procurement of pumped power without a capacity charge breached the provision of section 19(2) first sentence of the Ordinance.

In both cases leave to appeal before the Federal Court of Justice was denied. Decisions on the denial of leave to appeal are still pending.

TARIFFS FOR POWER FROM RENEWABLES

The Düsseldorf court, in a ruling of 8 December 2010 (ref: VI-3 Kart 18/10(V)) upheld a decision from the Bundesnetzagentur rejecting an application for investigation of abuse by a plant operator. The question had to be clarified of whether abuse was constituted by asking tariffs for the fictitious offtake of volumes of electricity supplied solely for commercial and accounting purposes within the meaning of section 8(2) of the Renewable Energy Sources Act. The court affirmed the Bundesnetzagentur's decision and denied abuse. The term "offtake" used in section 17(2) second sentence of the Electricity Network Charges Ordinance was not limited to physical offtake.

GABI GAS DETERMINATION

In two rulings of 5 October 2010 (ref: EnVR51/09 and EnVR52/09) the Federal Court of Justice decided on the appeals from two shippers that had brought action against a determination issued by the Bundesnetzagentur on 28 May 2008 on the gas balancing arrangements known as GABi Gas. The Düsseldorf court had not allowed the appeals. The Federal Court of Justice turned down the appeals and confirmed that the complainants lacked the necessary entitlement to appeal. Shippers were not, it said, directly affected in their protected area of law by the gas balancing determination, which was addressed to the balancing group managers. The determination did not directly affect their legal situation, but required contractual modification by the balancing group managers. The prescribed lowering of the tolerance volume as per section 30(1) of the Gas Network Access Ordinance, which, moreover, did not afford third-party protection, also needed to be realised for the manager-shipper relationship. And finally, legal applicability was not given in light of metrological provisions. Shippers were not in legal limbo, however. As the determination, simply setting out their claim to access in compliance with the law, had no regulatory effect for them and thus could not be final and absolute, shippers could have determinations that had economic implications in relation to the TSOs reviewed by the courts in civil law proceedings.

Railway

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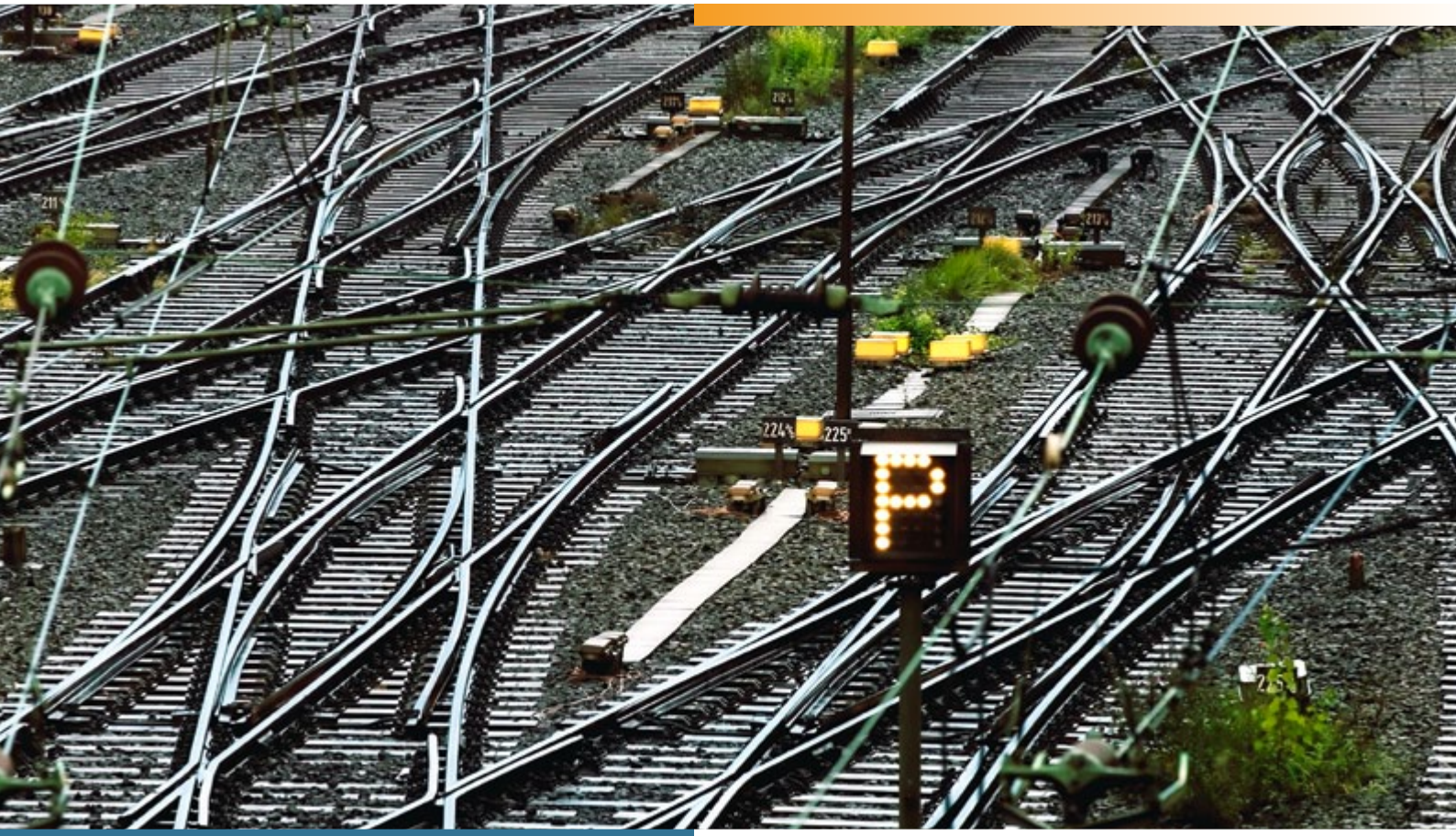


Market watch

Owing to the swift economic upturn, rail freight transport managed to offset the bulk of the losses in revenue generated in 2009. The rail passenger transport sector managed to achieve moderate increases in performance, although competitors' market share held largely firm.

KEY TRENDS

The swift economic recovery in the aftermath of the global economic crisis of 2009 allowed for steady growth in rail freight transport although transport services have not quite met their former peak of 2008. Rail passenger transport, however, was little affected by economic developments.

At European level, cross-border rail passenger transport was liberalised under terms monitored by the regulator. The Bundesnetzagentur welcomes the pan-European liberalisation of cross-border markets.

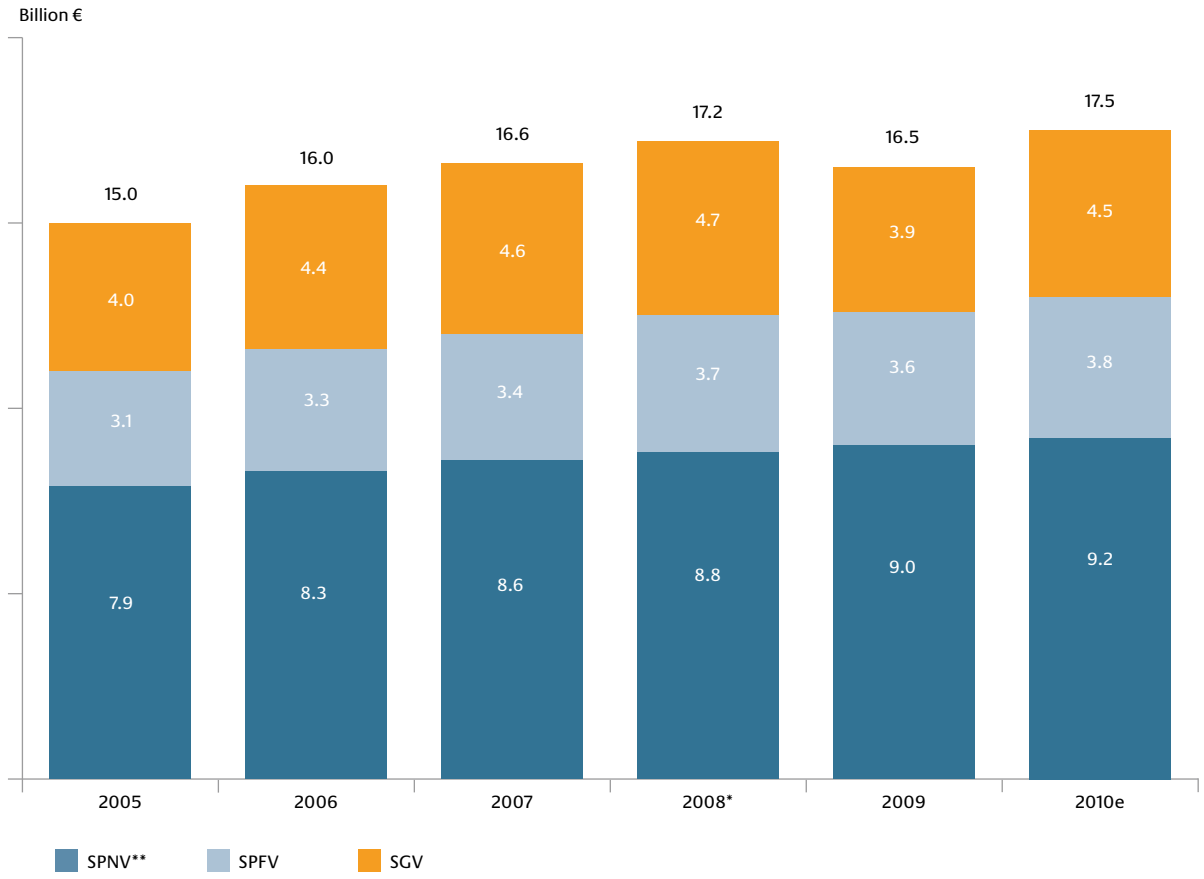
SALES REVENUES

Revenue generated in the rail freight transport market rose by around 15 percent to just € 4.5 billion in 2010 following initial estimates of € 3.9 billion in 2009, hence almost achieving the same revenue as 2007. After initial signs of recovery began to manifest themselves in the market in the second half of 2009, this trend continued in 2010 as anticipated.

In long-distance rail passenger transport, revenue grew from € 3.6 billion in 2009 to more than € 3.8 billion in 2010. In addition to a slight increase in the number of passengers using rail services, the increase in rail fares in December 2009 contributed in no small measure to this trend.

The trend was similar in short distance rail passenger transport. Railway undertakings generated revenue of € 9.2 billion in 2010 in this sector, around 2 percent more than in 2009. As services in the short distance passenger sector are normally ordered on behalf of the competent authorities of the Länder, this market segment is not prone to external influences and therefore shows a comparatively stable trend in revenue.

Revenue in the rail passenger transport 2005–2010



* Updated figures

** including user charges paid by the public transport authorities

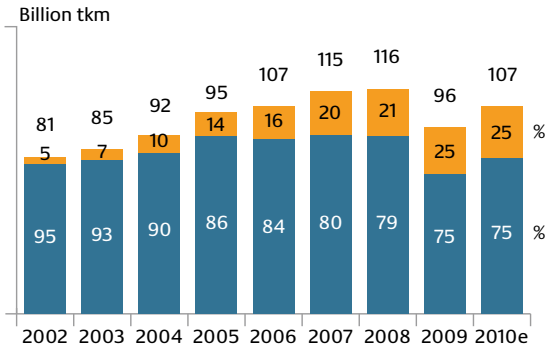
TRAFFIC TRENDS AND COMPETITIVE TRENDS

The volume of traffic generated by the railway freight sector as a whole totalled around 107 billion ton kilometres according to initial estimates by the Federal Statistical Office and was hence a good 11 percent higher year-on-year. Despite the major increase in the volume of traffic, it fell way short of the record volume of 116 billion ton kilometres achieved in 2008. Competitors did not succeed in translating the economic upswing into growing market share either. Nonetheless, DB Schenker Rail AG which was hit particularly hard by the economic crisis last year managed to stabilise its market share. Accounting for 75 percent of the total transport performance in the railway freight sector, the company continues to be the dominant provider of rail freight services in the German market.

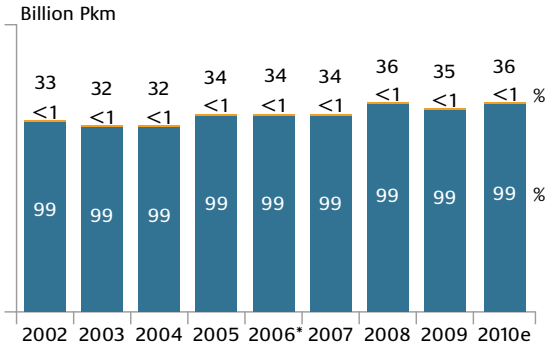
The anticipated performance in long-distance rail passenger transport is around 36 billion passenger kilometres, representing a growth rate of around 3 percent compared to 2009. Competitors' share of the long-distance passenger transport segment stagnated at less than 1 percent following the announcement in 2010 that two competitors were about to introduce new long-distance passenger services, although they failed to do so in the end. One of the competitors is planning to introduce a service on the route from Cologne to Hamburg in the autumn of 2011. The Bundesnetzagentur will support further developments in this market segment in a bid to revive the market.

Transport performance and competition in the railway market 2002–2010

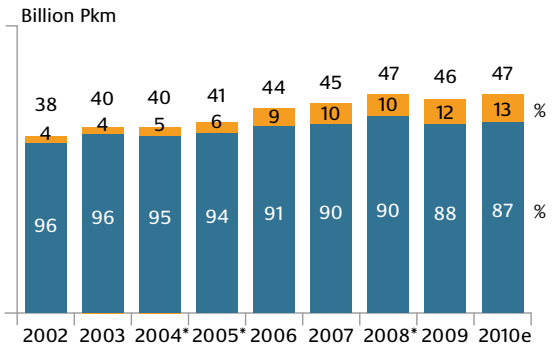
Freight transport



Long-distance passenger transport



Short-distance passenger transport



Competitors' share

DB AG'S share

Tkm = ton kilometres
Pkm = passenger kilometres
* Updated figures
Source: Bundesnetzagentur, DB AG, Federal Statistical Office

The volume of traffic generated by the short-distance rail passenger transport grew slightly year-on-year. The Federal Statistical Office expects the volume of traffic to increase to just under 47 billion passenger kilometres. Companies belonging to DB AG managed to win 70 percent of the transport services put out to tender from transport agreements that entered into force after the change in schedule 2009/2010. This means the competitors operating in the market only managed to increase their market share slightly. According to initial estimates by the Bundesnetzagentur, around 87 percent of the total transport performance was provided by subsidiaries of DB AG in this market segment in 2010.

RAILWAY INFRASTRUCTURE

In an annual market survey, the Bundesnetzagentur also gives railway undertakings the opportunity not only to assess important market-relevant aspects such as access to the infrastructure, charging structures and levels but also to grade operational processes. The railway undertakings criticised the price-performance ratio once again in 2010 in relation to the infrastructure usage charges levied which can account for up to 50 percent of railway undertakings' total costs in short-distance passenger transport. However, reasonable and marketable infrastructure usage charges are one of the basic prerequisites for the competitiveness of railway undertakings not belonging to DB AG in intramodal competition.

In the current survey, the railway undertakings once again critically assessed both the quality of the railway infrastructure and passenger stations. They said infrastructure capacity was being steadily reduced owing to

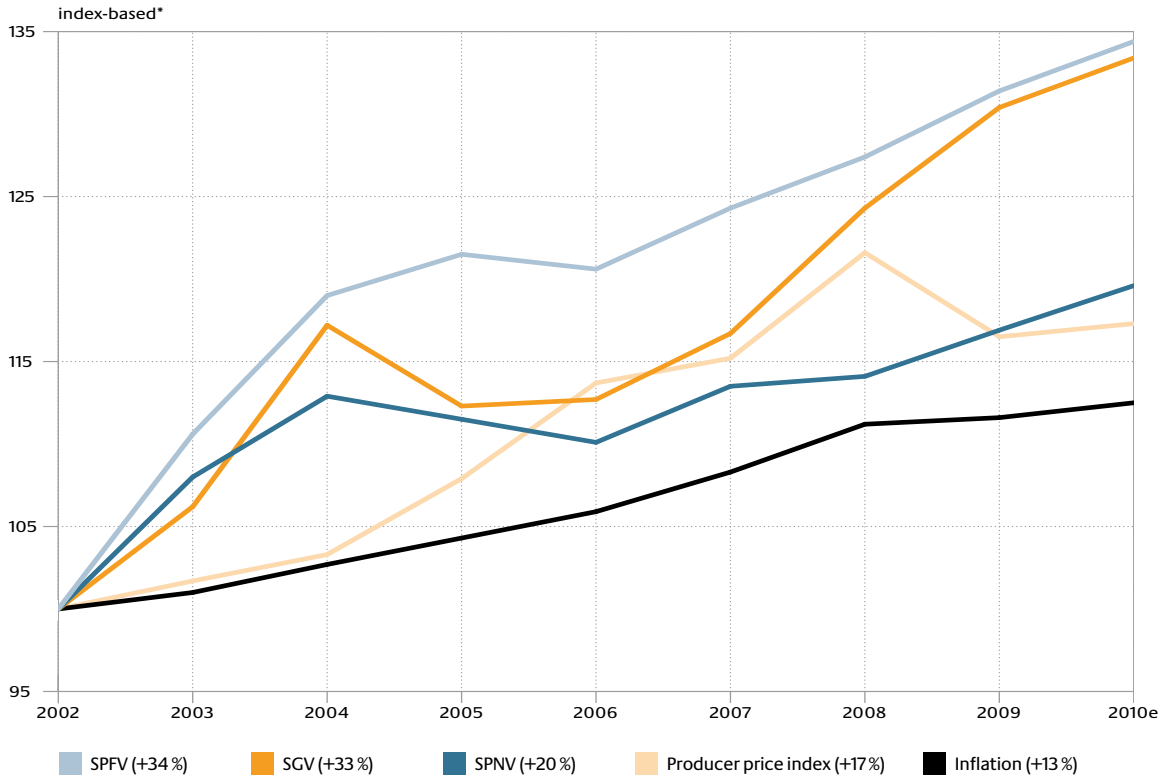
the removal of sidings; adding that some passenger stations were extremely run-down. By contrast, the customer-friendliness of infrastructure managers was assessed positively by the majority of railway undertakings although federally-owned infrastructure managers lagged slightly behind the non-federally-owned infrastructure managers. In order to preserve the efficiency of the non-federally-owned railway infrastructure in the long term, a relevant finance model would need to be examined.

For the first time, railway undertakings were able to rate important aspects of the sales and tariff systems of DG AB in rail passenger transport that are not subject to regulation. In order to offset revenue generated from rail fares across the company and the nationwide sale of rail tickets, railway undertakings are fully reliant on their uptake. It was quite remarkable that both access and the process involving the distribution of revenue generated from rail fares as well as the level of sales commission paid to DB AG received extremely poor ratings compared to all the other sectors.

USAGE CHARGES

The prices DB Netz AG charges for use of the railway infrastructure have increased steadily in recent years. The average prices charged by DB Netz AG rose between 20 percent and 34 percent between 2002 and 2010 depending on the transport segment. By contrast, the general rate of inflation between 2002 and 2010 will probably be around 13 percent only. Other specific indices, for instance, for producer prices are also below the price increase rate of train path prices. The rate of inflation and infrastructure usage charges have developed at a different pace in the last two years in particular, whereas the general rate of inflation between 2008 and 2010 was around 1.5 percent, the average train path price paid per train kilometre in the railway freight sector rose by around 9.1 percent during the same period.

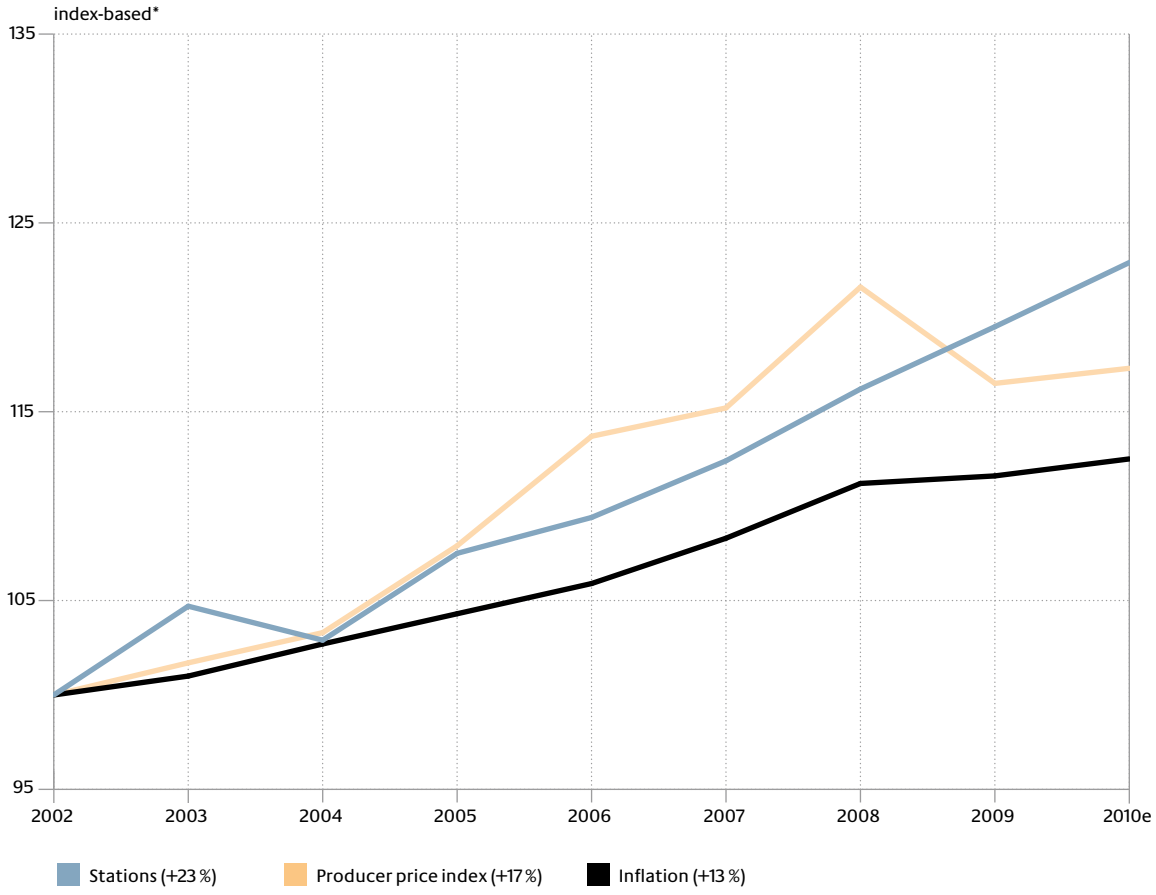
Average train path price per train kilometre (DB Netz AG) 2002–2010



* Calculated as a quotient of the train path prices and operating performance of DB subsidiaries as per services billed
2002 = 100
Source: Bundesnetzagentur, DB AG, Federal Statistical Office

The usage prices for passenger railway stations charged by DB Station & Service AG have also risen steadily in recent years. Since 2002, the average usage charge per passenger railway stations has risen by around 23 percent.

Average revenue per station stop (DB Station & Service AG) 2002–2010



* Calculated as a quotient of the station prices and station stops
2002 = 100
Source: Bundesnetzagentur, DB AG, Federal Statistical Office

IMPLEMENTATION OF RAILWAY REGULATIONS

Public railway undertakings are obliged to draw up rules for use of their infrastructure and to grant all users non-discriminatory access to their infrastructure. Railway infrastructure operators are required to draw up and publish a so-called Network Statement and operators of service facilities are required to draw up and publish a so-called Service Facilities Statement.

By 2010, around 80 percent of railway infrastructure operators and 52 percent of operators of service facilities had drawn up relevant network statements and service facilities statements. The Bundesnetzagentur therefore once again drew the attention of companies that had hitherto failed to issue any valid relevant codes of rules in 2010 to their statutory obligations and advised them how to do so. The Bundesnetzagentur is expecting to see a noticeable decline in the number of companies that fail to meet the statutory obligation.

Besides drawing up terms of use, railway infrastructure companies are also required to produce price lists for the services they provide which include all the prices parties using the infrastructure are required to pay, even affiliated companies. The price lists are generally drawn up at the same time as terms of use are drawn up. Over 90 percent of the railway infrastructure operators that have

drawn up terms of use have also produced relevant price lists. 75 percent of operators of service facilities have drawn up Service Facilities Statements.

Activities and proceedings

With the legal agreement on the abolition of regional factors concluded in 2010 between the Bundesnetzagentur and DB Netz AG, the Bundesnetzagentur sent out a clear signal in favour of competition. Railway infrastructure operators were reminded of their statutory obligation to draw up Network Statements, in parallel, the Bundesnetzagentur reviewed terms of use in order to ensure they are compliant with the law and it took numerous decisions on access to the railway infrastructure.

ACCESS TO THE RAILWAY INFRASTRUCTURE

Operations control centres

The day-to-day running of rail traffic on DB Netz AG's rail network in Germany is monitored and dispatched by the Network Control Centre in Frankfurt am Main and by seven regional operations control centres. Every day deviations from timetables occur as a result of disruptions and irregularities meaning that dispatchers at the operations control centres decide in which sequence the trains are to travel. For instance, they may arrange for the passenger trains to be overtaken or for extended downtimes of freight trains which result in delays. Since up to now, the operations control centres have been staffed only by dispatchers of DB Netz AG together with staff of DB Netz AG's subsidiaries, they frequently receive more detailed information more promptly than their competitors which offers them considerable advantages regarding their own punctuality and costs. The current arrangements were rated as unlawful also in terms of their potential discriminatory impact, for instance, in reducing delays.

The Bundesnetzagentur thus obliged DB Netz AG to open its operations control centres in 2010 which means the unlawful information lead has been eliminated. The company is now required to outline in a concept the criteria according to which other railway undertakings can obtain workstations for dispatchers within the operations control centres. It was also specified that DB Netz AG is obliged to provide railway undertakings with a continuous overview of rail traffic on the routes, e.g. in the form of a state-of-the-art Internet system so that the decisions taken by DB Netz AG's dispatchers at the operations control centres can be closely monitored

Extraordinary weather conditions

In the summer of 2010, DB Netz AG issued an amendment at short notice of the operational-technical code of rules it had drawn up, contrary to the commitment it had undertaken vis-à-vis

the parties with the right of access. This code of rules contains technical, operational and legal requirements in addition to rules that apply within the Group. By and large, railway undertakings will be obliged in future to notify DB Netz AG of any extraordinary weather conditions. Furthermore, railway undertakings are to decide independently at what speed they will travel under extreme weather conditions.

Owing to this amendment issued at short notice, a large number of railway undertakings filed a complaint about the shift in liability at their expense and the fact that they did not have enough time to train their staff because they had been given such short notice. The Bundesnetzagentur decided that this unilateral amendment to access agreements by DB Netz AG was unlawful and obliged DB Netz AG to apply the amendments only if they had been mutually agreed with the railway undertakings.

In a ruling handed down on 16 December 2010, Cologne Administrative Court granted an application to grant suspensive effect to the objection filed against the notification issued by the Bundesnetzagentur on 7 December 2010. The Bundesnetzagentur decided to desist from lodging an appeal in expedited proceedings and is pressing ahead with administrative appeal proceedings in this matter.

Travelling and building

In 2010, the Bundesnetzagentur ensured the Code of Rules "Travelling and Building" ("Fahren und Bauen") drawn up by DB Netz AG were being implemented properly in terms of the operating inconveniences affecting parties with the right of access. Operating inconveniences cover all negative effects of scheduled rail services provided by parties with the right of access as a result of construction work planning. According to the Code of Rules "Travelling and Building", the effects of construction measures on parties with the right of access are to be minimised. The operating inconveniences which parties with the right of access have complained about and the other aspects must now be carefully considered and weighed up in a comprehensible way when construction measures are being planned.

Framework agreements

A new framework timetable period began with the change in timetable in December 2010 for which just under 30,000 individual bandwidths were requested in the autumn of 2009 that were subsequently coordinated by DB Netz AG. The envisaged entry of two new competitors to the market in the long-distance passenger transport segment gave rise, for the first time, to a large number of disputes that could not be solved with the result that DB Netz AG planned to refuse framework agreement notification in a total of 81 disputes. The Bundesnetzagentur did not object to the envisaged refusals.

After 76 framework agreements to be concluded with a total of 52 railway undertakings and parties with the right of access had been reviewed as part of the four-week ex-ante review provided for in Section 14e subsection 1 no. 3 of the General Railway Act (Allgemeine Eisenbahngesetz) (AEG) after 8 February 2010, an objection was filed against the intended conclusion of framework agreements in three cases. The objection was filed in particular about the intention to allocate virtually all track capacity on the route between Niebüll and Westerland as part of framework agreements whereas the Rail Infrastructure Usage

Regulations (Eisenbahninfrastruktur-Benutzungsverordnung) (EIBV) envisage that at most 75 percent can be allocated.

After the ex-ante review had been brought to completion, the two new competitors in the long-distance passenger transport segment decided not to accept the offers by DB Netz AG for company-internal reasons. This freed up rail infrastructure capacity for framework agreements to be concluded for terms of more than one timetable period, which DB Netz AG had only intended to allocate, with major delays, after an application period in the autumn of 2010. By contrast, Section 13 subsection 11 of the Rail Infrastructure Usage Regulations stipulates that framework agreements can be concluded at all times for terms of more than one timetable period. In a notice issued on 29 April 2010, the Bundesnetzagentur ordered DB Netz AG to accept and process framework agreements according to which operations are not due to start directly at the beginning of the next framework timetable period but at a later date.

The decision handed down by the Bundesnetzagentur was confirmed in expedited proceedings both by Cologne Administrative Court and by the Higher Administrative Court of North Rhine-Westphalia. Since the notice came into effect immediately, DB Netz AG is complying with the above-mentioned decision and has meanwhile begun processing the 17 applications filed with the result that that some framework agreements were actually concluded in 2010.

ACCESS TO SERVICE FACILITIES

Working group on marshalling yards and other train formation facilities

Railway undertakings particularly in freight transport need to re-marshal their wagons (sometimes extensively) at the start or end of a journey. However, depending on the requisite service facilities' location in the network, the facilities may cause considerable bottlenecks. To be able to cope with estimated rail transport growth rates and competition in the railway infrastructure, both infrastructure enhancements and optimised use of available service facilities are essential.

In 2010, the Bundesnetzagentur analysed and evaluated the general conditions under which access is granted to railway infrastructure at these service facilities together with a working group composed of representative market players. The objective was to develop general, regulatory permissible solutions in connection with access to these service facilities that meet the practical demands of parties with the right of access as well as infrastructure managers. The Bundesnetzagentur published the results of the working group along with its own conclusions and demands in a position paper. Many railway undertakings and infrastructure managers as well as associations seized the opportunity to comment. At the end of 2010, the Bundesnetzagentur published a relevant final report as well as a supplementary position paper.

Working group on maintenance facilities

Railway undertakings that operate repair shops for maintenance and repairs of trains are obliged to draw up terms of use for their repair shops. Major uncertainties and discrepancies came to light when the terms of use submitted were

reviewed. Although some market players continue to call the obligation to grant access to the infrastructure into question, the Bundesnetzagentur set up a working group in coordination with the Federal Ministry of Transport, Building and Urban Development in order to analyse the terms of use with market players and to help to formulate them in a constructive manner. Railway undertakings and associations are helping to develop practical implementation solutions particularly in relation to the scope of services to be provided and on the lawful pricing.

In parallel, the Bundesnetzagentur is involved in litigation proceedings against DB Regio AG in this context. In the expedited proceedings, Cologne Administrative Court and the Higher Administrative Court of North Rhine-Westphalia confirmed the legal opinion of the Bundesnetzagentur and advocated regulatory intervention vis-à-vis all operators of maintenance facilities.

Implementation of the obligation to draw up Service Facilities Statements in accordance with new recommendations issued by the Association of German Transport Companies

Against the backdrop that infrastructure managers are obliged to draw up Service Facilities Statements and Network Statements, the Association of German Transport Companies (Verband Deutscher Verkehrsunternehmen) (VDV) drew up and published regulatory recommendations as far back as 2005 which were revised in 2007. The Bundesnetzagentur was involved in this process as it has been in the past and once again helped the Association of German Transport Companies to update its recommendations in 2010.

Review of Service Facilities Statements

The Bundesnetzagentur once again examined a large number of Service Facilities Statements in 2010. DB Station&Service AG, for instance, submitted a completely new version of its Service Facilities Statements. The main focus was placed not just on the new structure of the station pricing system, but also on the provision of information to passengers and the entitlement of steam engines to access service facilities. Market participation was very high, with the Bundesnetzagentur receiving around 80 statements.

When reviewing the Service Facilities Statements of Deutsche Umschlag Gesellschaft Schiene-Straße mbH, the Bundesnetzagentur objected to a rule that would have limited the group of potential contracting parties. According to this rule, so-called shipping agents, i.e. companies that want to have goods transported by rail, would have been prevented from concluding agreements. Furthermore, the Bundesnetzagentur reviewed regulations issued by Hamburg Port Authority on the introduction of a new telematic shunting concept and the terms of use of the marshalling yard operator RLC Wustermark.

PRICES

DB Netz AG

Abolition of regional factors

The price component referred to as “regional factors” in the train path pricing system of DB Netz AG are charged exclusively for short-distance rail passenger transport on certain, less-frequented regional routes. Regional factors are intended to offset alleged cost deficits. The Bundesnetzagentur declared the regional factors invalid effective from 12 December 2010 (when the new timetable period 2010/2011

began) as they are incompatible with the ban on discrimination enshrined in the General Railway Act (Allgemeines Eisenbahngesetz). DB Netz AG has filed an objection against the decision.

The Bundesnetzagentur decided to find a timely yet legally certain solution instead of embarking on potentially long-drawn-out judicial proceedings involving all the price and planning uncertainties in the market that go hand in hand with them. It therefore concluded a public agreement with DB Netz AG on 19 August 2010. This agreement says that regional factors in the train path pricing system of DB Netz AG will be gradually reduced from December 2011 onwards and that they will be fully abolished by December 2011.

The Bundesnetzagentur not only managed to conclude an agreement on the abolition of regional factors, it also sent out a clear signal in favour of competition since private railway undertakings have been disproportionately encumbered by regional factors for quite some time now. Against the backdrop that the majority of the nationwide short-distance rail passenger transport services are due to be reallocated in the coming few years, this has created a level playing field.

Reduction in train path prices

Since December 2009, greatly expanded reductions in train path prices have applied at the initiative of the Bundesnetzagentur because of the insufficient quality of the railway infrastructure. Section 21 subsection 6 sentence 2 of the Rail Infrastructure Usage Regulations provides the basis for reductions in train path prices which from the Bundesnetzagentur's perspective was not being implemented fully by DB Netz AG. At a total of six hearings held at the regional branches of DB Netz AG, hence covering the entire federal territory, railway undertakings were given the opportunity to report on the experience they had gained in 2010.

All things considered, the majority of market players drew a positive conclusion. Many railway undertakings were pleased that they had received compensation for infrastructure-related train delays without having to explicitly file an application for compensation and that this has been incorporated direct into train path accounting. However, they were reluctant to elaborate on the level of reductions granted. They range between € 1 and € 4 for each minute of delays once a certain minute threshold has been exceeded for each train path product, with the maximum eligible reduction limited to 50 percent of the regular train path price. Many market players pointed out that they face greater financial burdens owing to penalties ensuing from agreements and compensation they are potentially required to pay to passengers.

The Bundesnetzagentur is reviewing whether there is further need for adjustment to reductions in train path prices. To this end, it is also evaluating data of DB Netz AG which it requested as part of the notice requesting information. It was agreed initially that the monthly supply of data which was originally to be limited was to be extended until 2011. However, in the proceedings themselves, decisions are still pending in the principal proceedings after the measures implemented by the Bundesnetzagentur had been confirmed by way of temporary relief.

DB Station&Service AG

Development of a new station pricing system

DB Station&Service AG developed a new station pricing system which it introduced on 1 January 2011. This had been preceded by an intensive review of the current pricing system conducted by the Bundesnetzagentur that led to a notice being issued on 10 December 2009 declaring the list of station prices void. Although DB Station&Service AG has since managed to achieve suspensive effect to its objection before the courts by way of temporary relief, it is still attempting to change the station pricing system and is discussing plans with the Bundesnetzagentur in advance. The adjusted pricing principles include a new calculation model for the level of pricing that is intended to rule out objections being filed by the Bundesnetzagentur. In addition, the prices are now shown broken down by public transport authority segments and an additional seventh category was introduced for very small railway stations. The Bundesnetzagentur has taken a very close look at the future station pricing system and price increases and attributed great importance to the comments submitted by market players. All in all, a positive conclusion was drawn regarding compliance with railway law. Nonetheless, there are still individual components of the pricing system whose impact will need to be monitored and which are hence subject to a proviso. This applies, in particular, to the so-called train length factor which is associated with a charge on longer trains, generally long-distance trains, and which it has not yet been possible to compute. The notice on the terms of use submitted therefore contained instructions issued by public authorities on pricing principles which DB Station&Service AG is obliged to implement.

Although no objections have been filed against the new station price lists initially , the cost basis is to be reviewed in detail, the revenue generated by sales and the appropriateness of profits are yet to be reviewed. The incentive system to reduce disruptions is also to undergo a thorough review. The operators of passenger railway stations are also obliged to introduce performance-based pricing. A large number of parties with the right of access consider the pricing system used by DB Station&Service AG to be inadequate.

Other activities

Cost of capital

In the past few years, determination of the cost of capital in the railway sector has steadily gained momentum. It is necessary to determine the permissible cost of capital in order to establish as part of price increase reviews whether the profits infrastructure managers intended to generate are permissible. The Bundesnetzagentur therefore commissioned an expert's report to determine the cost of capital in 2009. This expert's report was discussed by the market players in the second quarter of 2010.

The evaluation of comments submitted shows that the interest rates derived on the basis of the expert's report were rated differently by the providers and users of railway infrastructure services. This was also highlighted within the framework of the Second Bonn Regulation Forum entitled "Costs of capital in the railway infrastructure sector". During the one-day event held in November 2010, around 50 representatives of the scientific community, associ-

ations of trade and industry, infrastructure managers and railway undertakings as well as public authorities and Ministries discussed the various positions.

Non-discriminatory price regulations at repair shops of DB Regio AG

After the Bundesnetzagentur had filed an objection to the price regulations in the Service Facilities Statements issued by DB Regio AG in a notice of 31 July 2008, the Higher Administrative Court of North Rhine-Westphalia handed down a decision in subsequent expedited proceedings on 19 November 2008 that DB Regio AG is obliged to issue non-discriminatory price regulations (ref. 13 B 1543/08). The Bundesnetzagentur subsequently instituted proceedings under Section 14c subsection 1 of the General Railway Act in order to participate actively in enforcing the notice and in doing so to seek to achieve non-discriminatory price regulations and a price list for DB Regio AG's maintenance facilities.

These proceedings were brought to a successful conclusion on 30 August 2010. The regulations entered into force on 1 October 2010.

Court proceedings

In 2010 the Bundesnetzagentur managed once again to enforce important decisions to promote competition. The Bundesnetzagentur is also consistently endeavouring to eliminate competitive barriers in proceedings still pending.

DB NETZ AG

Network Statements 2008

With its decision of 17 June 2010 (ref. 13 A 2557/09), the Higher Administrative Court of North Rhine-Westphalia ruled on the appeals lodged by DB Netz AG and the Bundesnetzagentur in relation to Network Statements 2008, overriding the initial ruling handed down by Cologne Administrative Court on 21 August 2009 (ref. 18 K 2722/07). The Court confirmed the right of the Bundesnetzagentur to issue a notice requesting that the envisaged clause pursuant to Section 14c subsection 1 of the General Railway Act be amended (in addition to merely filing an objection pursuant to Section 14e of the General Railway Act), also denying that the notice was unlawful owing to an alleged prohibition of participation and infringement of the duty of ex proprio motu investigation.

In addressing the issue of discrimination, the Higher Administrative Court of North Rhine-Westphalia applied a very narrow review criterion and aimed in particular to establish whether the wording of the relevant clause actually prevented a party with the right of access from gaining access, claiming that if the wording is unclear, it is reasonable to expect parties with the right of access to make inquiries at infrastructure managers. In principle, sufficient potential for discrimination should only be presumed if the reliable conclusion of imminent discrimination can be drawn from experience gained. For some clauses, it is sufficient for DB Netz AG to provide parties with the right of access with the respective information (for instance, via the Internet). The Court did not deem it necessary to incorporate the information into the Network Statement itself. In relation to additional clauses in the Network Statement, the court held the view that civil courts should review the relevant content.

Both DB Netz AG and the Bundesnetzagentur have filed an appeal with the Federal Court of Justice against the decision handed down by the Higher Administrative Court of North Rhine-Westphalia.

Network Statements 2011 – operational-technical rules

The Bundesnetzagentur objected to the removal of numerous guidelines from the

operational-technical rules in the Network Statement 2011 submitted by DB Netz AG as far back as 2009. Cologne Administrative Court rejected the expedited application filed by DB Netz AG in a decision handed down on 18 December 2009 (ref. 18 L 1846/09). By contrast, the appeal filed by DB Netz AG against the decision was successful. The Higher Administrative Court of North Rhine-Westphalia granted suspensive effect to the appeal filed by DB Netz AG against the notice issued by the Bundesnetzagentur in a decision handed down on 2 March 2010 (ref. 13 B 10/10).

The main proceedings are still pending before Cologne Administrative Court (ref. 18 K 2771/10).

Legal action in construction work

The test case "Network Statements – Construction work/construction work planning" was concluded on 19 November 2010 before Cologne Administrative Court when a settlement was reached between DB Netz AG and the Bundesnetzagentur (ref. 18 K 7707/08). DB Netz AG had instituted proceedings because it objected to the Code of rules "Fahren und Bauen" ("Travelling and Building") being incorporated into the Network Statement as a rule that is relevant for access to the infrastructure.

With the settlement reached, DB Netz AG has now acknowledged that "Fahren und Bauen" is part of the Network Statement. By contrast, the Bundesnetzagentur confirmed that DB Netz AG has met all the requirements by implementing the notice so far. In addition, it confirmed the rule specified in the objection notice that DB Netz AG was permitted to carry out construction work in the course of the year.

Service Facilities Statement 2008

The decision handed down by the Higher Administrative Court of North Rhine-Westphalia on 23 September 2010 (ref. 13 A 172/10) represented the first decision by a Higher Administrative Court in the main proceedings involving Service Facilities Statements. As in the preceding proceedings on Network Statements conducted in parallel in 2008 involving DB Netz AG, the Higher Administrative Court of North Rhine-Westphalia basically confirmed the legal opinion of the Bundesnetzagentur although in a second step it greatly limited the details of the Bundesnetzagentur's right of review. The Court ruled once again that although unlawful prohibition of discrimination can exist in concealed discrimination, it set a very high benchmark as to when there is sufficient scope for discrimination. The Court ruled that sufficient potential for discrimination should only be presumed if the reliable conclusion of imminent discrimination can be drawn. Furthermore, the Court confirmed its case law on the issue of the right of the regulatory authority to issue amendments within the framework of ex-ante reviews of terms of use and confirmed this pursuant to Section 14c subsection 1 of the General Railway Act in accordance with the decision it handed down on the Network Statements 2008 on 17 June 2010 -(ref. 13 A 2557/09).

With regard to the minimum content of Service Facilities Statements, the Higher Administrative Court of North Rhine-Westphalia ruled, in order to provide parties with the right of access with planning security, that railway infrastructure companies are obliged

to incorporate general criteria into the Service Facilities Statement. The Court considered any such minimum content to be, for instance, opening hours, requirements parties with the right of access are expected to meet and the vehicles they use. The Court said that an incentive system should not be "unserviceable or generally unsuitable", but that it was not possible for the Bundesnetzagentur to order that the incentive system be optimised.

Both DB Netz AG and the Bundesnetzagentur have filed an appeal with the Federal Court of Justice against the decision handed down by the Higher Administrative Court of North Rhine-Westphalia.

DB STATION&SERVICE AG

Station prices

The notice issued by the Bundesnetzagentur on 10 December 2009 declaring in a notice to DB Station&Service AG that the prices it was charging for use of passenger railway stations would be invalid as and from 1 May 2010 was the subject matter of expedited proceedings instituted before Cologne Administrative Court (ref. 18 L 51/10) and the Higher Administrative Court of North Rhine-Westphalia (ref. 13 B 247/10). Cologne Administrative Court confirmed the opinion of the Bundesnetzagentur in the decision handed down on 26 February 2010 and dismissed the application filed by DB Station&Service AG. The Court ruled in formal and substantive-legal terms that the notice was lawful and that the prerequisites for infringing the prohibition of discrimination provided for in the General Railway Act were evidently met.

The Higher Administrative Court of North Rhine-Westphalia overruled this decision in a ruling handed down on 23 March 2010 and granted suspensive effect to the objection filed by the Bundesnetzagentur against the notice. In the Court's opinion, the contested station prices do not result in any major disadvantages for competitors in the railway sector. Considering that a notice declaring the station prices charged by DB Station&Service AG invalid would result in financial disadvantages for the company, the Court ruled that immediate enforcement of the notice would be inappropriate. However, the Court did confirm that there were shortcomings in the explanation of DB Station&Service AG's pricing system, adding that although DB Station&Service AG had a consistent pricing and calculation system it had not made it transparent enough even though it had been obliged to do so. In the opinion of the Higher Administrative Court of North Rhine-Westphalia, the pricing system of DB Station&Service AG does not meet regulatory requirements. The Court pointed out explicitly that there was a possibility of the Court's decision being amended unless DB Station&Service AG provided sufficient information about its pricing system in the further course of the proceedings.

General Terms and Conditions for Use of Passenger Railway Stations 2007

The subject matter of the decision handed down by Cologne Administrative Court on 20 August 2010 (ref. 18 K 3807/07) is a notice issued by the Bundesnetzagentur in late 2006 regarding the review of DB Station&Service AG's General Terms and Conditions for Use of Passenger Railway Stations. The application filed by DB Station&Service AG was granted in most respects.

In its decision, Cologne Administrative Court defined its case law in relation to the review

criterion within the framework of ex-ante regulation (Section 14e subsection 1 no. 4 of the General Railway Act), delimiting it slightly from the (narrow) case law of the Higher Administrative Court of North Rhine-Westphalia. The review criterion according to the wording of Section 14e subsection 1 no. 4 of the General Railway Act is whether the envisaged provisions comply with the provisions set forth in the railway law on access to the railway infrastructure. It is not necessary for there to be an infringement of the prohibition of discrimination set forth in the General Railway Act at the same time. The prohibition of discrimination can already be the review criterion – in accordance with the case law of the Higher Administrative Court of North Rhine-Westphalia – if there has not yet been any actual discrimination against parties with the right of access, but if there is sufficient potential for any such discrimination.

However, Cologne Administrative Court only partially followed the definition of the prohibition of discrimination by the Higher Administrative Court of North Rhine-Westphalia. If the Higher Administrative Court of North Rhine-Westphalia insists that it must be possible to draw the reliable conclusion of imminent discrimination from documents or facts when establishing or determining whether there is (tangible) potential for discrimination, this is too narrow a criterion in the view of Cologne Administrative Court. It says that sufficient discrimination or the strong likelihood of discrimination is sufficient to represent sufficient grounds for filing an objection. In addition, Cologne Administrative Court did not agree with the narrow definition of access represented by the Higher Administrative Court of North Rhine-Westphalia and construes it as an obligation to grant non-discriminatory participation in the infrastructure. The Bundesnetzagentur has lodged an appeal against the decision.

DB REGIONETZ GMBH – GENERAL TERMS AND CONDITIONS FOR USE OF THE INFRASTRUCTURE AT PASSENGER RAILWAY STATIONS

In its decision of 10 September 2010, Cologne Administrative Court (ref. 18 K 4250/07) granted the application filed by DB RegioNetz GmbH in relation to General Terms and Conditions for Use of the Infrastructure at Passenger Railway Stations. The decision taken by the Bundesnetzagentur on 28 November 2006 to appeal against the envisaged revised General Terms and Conditions for Use of the Infrastructure at Passenger Railway Stations submitted by DB RegioNetz GmbH was the subject matter of the proceedings. Insofar as an objection was raised about reference being made to other terms of use, Cologne Administrative Court ascertained that Section 10 subsection 1 of the Rail Infrastructure Usage Regulations was not to be construed as a general prohibition from referring to another company's terms or use. It said that this Section neither contains specific information about the composition or structure of the code of rules nor does it require companies to issue their own, self-contained code of rules. It said that determining the structure and external form of terms of use is an expression of a company's occupational freedom and that they are not subject to review by the regulatory authority. In the view of Cologne Administrative Court, making reference to another company's code of rules does not, in principle, infringe upon the transparency requirement. However, Cologne Administrative Court did issue one reservation regarding

reference being made to other companies' terms of use: if it involves so-called active reference being made – as in this particular case – this represents a violation of Section 10 subsection 1 sentence 5 in conjunction with Section 4 subsection 4 of the Rail Infrastructure Usage Regulations, as revised versions or significant amendments to another company's code of rules automatically apply also to the General Terms and Conditions for Use of the Infrastructure at Passenger Railway Stations. This means they apply regardless of whether the procedures for the General Terms and Conditions for Use of the Infrastructure at Passenger Railway Stations pursuant to Section 10 subsection 1 sentence 5 were implemented.

DB AUTOZUG GMBH – DRAWING UP SERVICE FACILITIES STATEMENTS

The notice issued by the Bundesnetzagentur on 14 October 2010 obliging the company to issue Service Facilities Statements for its Autozug (car train) terminals in Niebüll and Westerland (providing a shuttle service to Sylt) was the subject matter of the decisions handed down by Cologne Administrative Court on 10 December 2010 (ref. 18 L 1710/10) and the Higher Administrative Court of North Rhine-Westphalia on 13 January 2011 (ref. 13 B 1818/10) in the expedited proceedings instituted by DB Autozug GmbH. Both Cologne Administrative Court and the Higher Administrative Court of North Rhine-Westphalia dismissed the expedited application.

The (car train) terminals in question are covered by Service Facilities Statements. They are classified as service facilities in the form of combined passenger and freight railway stations within the meaning of Section 2 subsection 3c of the General Railway Act. Any actual obstacles encountered do not dispense with the need to draw up terms of use

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Vice-President | **Vice-President**

General Staff Council, Staff Council, General Spokesperson for Disabled Persons, Data Protection Commissioner

Ruling Chamber1 President's Chamber
Decisions under Sections 10, 11, 55 (9), 61, 2, 81 TKG, Section 13, 14 PostG

Equal Opportunities Commissioners

Department Z
Central Department

Department IS
Information Technology and Security

Department 1
Telecommunications Regulatory Economics

Department 2
Legal Telecommunications Regulation Issues, Frequency Regulation

JP
Legal Office

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Organisation, Personnel

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Augsburg	Landshut, München, Regensburg, Rosenheim
Berlin	Magdeburg, Kolberg
Dortmund	Detmold, Kassel, Meschede, Münster
Eschborn	Neustadt, Saarbrücken, Darmstadt, Leeheim
Hamburg	Kiel, Rostock, Schwerin, Itzehoe
Hannover	Bremen, Leer, Göttingen
Karlsruhe	Konstanz, Reutlingen
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Nürnberg	Fulda, Schwäbisch Hall, Würzburg

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Organisation Chart

as of: September 2009

Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen

Tulpenfeld 4
53113 Bonn

Location Bonn
Other locations (Berlin, Mainz, Saarbrücken)

The Bundesnetzagentur's core tasks and organisation

FUNCTIONS AND STRUCTURE

The Bundesnetzagentur, originally called Regulatory Authority for Telecommunications and Post, was set up on 1 January 1998 and established as an independent higher federal authority within the scope of business of the Federal Ministry of Economics and Technology. It took over the responsibilities of the former Federal Ministry of Post and Telecommunications and the Federal Office for Post and Telecommunications. On being assigned responsibilities under the new Energy Act and the amended General Railway Act it was renamed Bundesnetzagentur for Electricity, Gas, Telecommunications, Post and Railway in 2005.

First and foremost, the Bundesnetzagentur's remit is, through regulation, to promote competition in the telecoms, postal, energy and rail sectors, to guarantee non-discriminatory network access, to ensure the provision of appropriate and adequate services across the country in the telecoms and postal sectors, and to provide frequency regulation and numbering arrangements. These responsibilities are laid down in the Telecommunications Act (TKG), the Postal Act (PostG), the Energy Act (EnWG) and the General Railway Act (AEG), and are detailed additionally in ordinances and other implementing provisions.

Further tasks of the Bundesnetzagentur flow from various other special laws such as the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG), the Amateur Radio Act (AFuG) and the Electromagnetic Compatibility of Equipment Act (EMVG) in the telecoms sector, and the Renewable Energy Sources Act (EEG) in the energy sector. The Bundesnetzagentur is the competent authority under the Electronic Signatures Act (SigG) and as such is tasked with setting up and monitoring a secure and reliable electronic signatures infrastructure.

The Bundesnetzagentur's tasks and activities are complex and wide in scope. They range from cases addressed in quasi-judicial proceedings in regulation areas right down to the nationwide presence for investigating and processing interference complaints.

A higher federal authority of the Bundesnetzagentur's size needs constant development of its organisation. The Bundesnetzagentur there-

fore analysed and evaluated business processes and determined its staff requirements. This was done mainly with a view to developing a task-oriented organisational structure, ensuring both the efficient performance of its statutory duties and its ability to assume new duties in an open and flexible way.

The Bundesnetzagentur comprises Ruling Chambers and departments, beside the management level. The President's Chamber takes decisions on, in particular, award proceedings for scarce radio spectrum resources and the imposition of universal services. In the telecoms sector, it also determines which markets require regulation and which companies have significant market power in these markets. On the basis of these determinations, the Ruling Chambers then decide on the regulatory measures to be imposed on SMP undertakings. They decide on details of obligations in the field of network access conditions for example, and, as part of their responsibility for the ex-ante or ex-post examination, they decide on rates. In the postal sector the Ruling Chamber also focuses on (ex ante and ex post) rates regulation and the control of anti-competitive practices, including the regulation of access to the postal network. In the energy sector the Ruling Chambers are responsible for all decisions which the Bundesnetzagentur is required to take in the gas and electricity sectors under the Energy Act and the implementing ordinances, including regulation of the use of system charges.

The departments perform specialised and central administrative functions. These include economic and legal policy issues of telecoms, postal, energy and rail regulation and technical aspects of frequencies, standardisation and numbering. The Bundesnetzagentur is active in international standardisation bodies, cooperating in the development of new generation networks and radio systems. A major departmental function is to give Ruling Chambers specialist assistance in their decision-making. In respect of rail regulation, all relevant tasks are performed by the rail department as the General Railway Act does not provide for a Ruling Chamber.

All of the Bundesnetzagentur's responsibilities also have a strong international component. Coordination at European level, in particular, is becoming an increasingly important element of its regulatory activity. This is reflected by the fact that the international functions have mostly been concentrated in one department along with the functions of postal regulation.

In respect of telecommunications, combating abuse of premium rate services and telephone spam – also referred to as "cold calls" – continues to be a great challenge. Another function refers to the database of sites of fixed transmitters operating above a specified power level. Also of particular importance for the public are the dispute resolution procedure under section 47a of the Telecommunications Act and section

10 of the Postal Services Ordinance (PDLV), and consumer protection.

In the energy sector it has been the Bundesnetzagentur's duty since 2005 to create and secure the basis for efficient competition in the gas and electricity markets, mainly through unbundling and regulation of non-discriminatory access to the energy networks, including rates regulation. Furthermore it is monitoring the development on upstream generation and import markets and consumer markets.

Since 2006 the Bundesnetzagentur has also been responsible for monitoring compliance with the legislation on rail infrastructure access. The core task here is to secure the non-discriminatory use of the rail infrastructure by railway undertakings and other access beneficiaries. The term rail infrastructure includes the infrastructure and services connected with both tracks and service facilities (eg stations, freight terminals). Rates regulation means examination of the amount and structure of infrastructure charges and of other charges levied by the infrastructure managers.

To ensure a consistent appearance throughout the country, the Bundesnetzagentur's regional offices, the contact point with consumers and the industry, are managed and coordinated centrally by a single department.

The regional offices are mainly responsible for technical matters. They provide advice, for instance, on compliance with the Telecommunications Act, on electromagnetic compatibility provisions and the Electromagnetic Compatibility of Equipment Act. They are also responsible for frequency assignment, eg for mobile radio and PMR systems. Another important area is the investigation and processing of radio interference using state of the art measuring equipment, monitoring compliance with regulations generally and carrying out radio monitoring and inspection orders under the TKG and the EMVG.

Within the current government programme Networked and Transparent Administration the Bundesnetzagentur is also taking part in the Establishment and Extension of Shared Services Centres project, providing other authorities and allowance beneficiaries – mainly within the scope of business of the Federal Ministry of Economics and Technology – with services related to family allowances, remuneration, pay, travel expenses, separation allowances, relocation allowances and medical allowances. The executing functions involved in these tasks are also performed by the regional offices.

As a result of tasks being transferred to the regional offices, the headquarters can focus on its core tasks and structural changes requiring local staff redeployment can be accommodated. To adjust its current path to future requirements and ensure a homogeneous distribution of functions, the Bundesnetzagentur undertook organisational reviews in its regional offices, the results of which have been considered in a medium to long-term regional office concept.

STAFF MANAGEMENT

A modern staff management system is a top priority at the Bundesnetzagentur. Amid ever greater constraints on staffing levels, it is important both to deploy staff optimally and to recruit new qualified staff. This is only possible

when human resources planning takes account of work requirements and staff skills and preferences equally. Only with a combination of proactive staff deployment planning and motivated staff can the Bundesnetzagentur perform its tasks efficiently and cost-effectively at times of tight budgets.

In recruiting new staff the Bundesnetzagentur not only requires excellent specialist knowledge but also conceptual ability and team skills, backed up by the feel for the practical requirements of the markets and their mechanisms.

The Bundesnetzagentur employs a total of 2,500 specialists from a wide range of backgrounds for its highly interdisciplinary fields of activity. These include law, economics, different fields of engineering, physics, mathematics, information technology, and administration.

The Bundesnetzagentur has already been providing places for apprentices since 1999. In 2010, a total of 10 young people joined the Bundesnetzagentur at the headquarters in Bonn and Mainz to begin training as office communication trainees. Within the scope of apprenticeships in electronic equipment and systems offered since 2003, a total of 24 places for apprentices were filled in 2010 at the Augsburg, Bremen, Göttingen, Magdeburg and Münster regional offices. In addition, apprenticeship places for IT specialists were created in 2010; of these, four places were offered in Mainz for systems integration specialists and two in Berlin for application development specialists.

Thus in 2010, a total of 136 young people were trained at the Bundesnetzagentur in various occupations.

BUDGET

The Bundesnetzagentur's income and expenditure is budgeted for in the federal budget, in the departmental budget of the Federal Ministry of Economics and Technology.

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The table below shows the income for the years 2010 (target and performance) and 2011 (budget).

Type of income	Target 2010 in 1,000 €	Performance 2010 in 1,000 €	Target 2011 in 1,000 €
Telecoms fees, contributions and other charges	221,867	4,468,347	77,761
Fees and other charges in the postal sector	65	43	40
Fees and other charges in the rail sector	328	124	74
Fees and other charges in the electricity and gas sector	433	1,129	431
Other administrative income, eg fines, rents and disposals	1,532	5,121	1,749
Administrative income	**224,225**	**4,474,764**	**80,055**

The high additional income – deviating from the 2010 target and performance figures by more than 4 billion euros – is attributable to the auctioning of spectrum for wireless access in 2010.

Proceeds	in 1,000 €
Auctioning of 800-MHz spectrum	3,576,475
Auctioning of 1.8-GHz spectrum	104,355
Auctioning of 2.0-GHz spectrum	359,521
Auctioning of 2.6-GHz spectrum	344,295
Total auction proceeds	**4,384,646**

The table on the right-hand side shows the expenditure for the budget years 2010 (target and performance) and 2011 (budget).

Type of expenditure	Target 2010 in 1,000 €	Performance 2010 in 1,000 €	Target 2011 in 1,000 €
Staff costs	104,437	108,538	111,281
General administrative expenditure, appropriations	34,879	37,154	37,968
Investment	18,391	10,541	10,607
Total expenditure	**157,707**	**156,233**	**159,856**

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Strategic Plan 2011

The Bundesnetzagentur is required under section 122(2) of the Telecommunications Act (TKG) to include a strategic plan in its Annual Report, listing matters of legal and economic policy in telecommunications to be addressed by the Bundesnetzagentur in the current year. In addition, the Bundesnetzagentur is reporting here on all its main projects in all its fields of activity in which issues of fundamental importance are expected in 2011.

The international aspects of the Bundesnetzagentur's work are becoming more prominent. Especially at European level, the establishment of new bodies in all sectors regulated by the Bundesnetzagentur culminates in increased cooperation between the national regulatory authorities (NRAs). A greater degree of coordination of regulatory activites will contribute to the implementation of a European Single Market. To optimally exploit synergies, it is necessary to observe all regulatory sectors from an all-embracing viewpoint. This approach allows both the commonalities and the differences to be identified, and enables the Bundesnetzagentur to internally coordinate a uniform image to present to the outside world.

TELECOMMUNICATION

TKG amendment

The Bundesnetzagentur is assuming that a new Telecommunications Act will come into effect in 2011. Two topics are of prime importance during the discussions being held in the run-up to the TKG amendment. One concerns questions about how powerful broadband access can be made available throughout the country as soon as possible and how regulation can contribute to investments and innovation in the telecommunications sector. The second topic concerns questions focussing on consumer protection.

As far as boosting the nationwide implementation of powerful networks is concerned, the TKG amendment primarily aims to improve the prerequisites for investments in infrastructure and competition. This involves improving the predictability of regulation, promoting efficient investment and innovation in line with competition, and strengthening planning security.

With regard to consumer protection, discussions focus on "change of supplier" and "holding patterns". The TKG amendment is intended to bring about substantial improvements for consumers.

All issues entail numerous tasks which the Bundesnetzagentur will have to deal with in order to be able to implement the relevant regulations. Steps have already been taken to incorporate the TKG amendment issues. For example, an expertise has already been initiated that will serve as the basis for determining a risk-adequate interest rate for broadband investments. As such, the Bundesnetzagentur is well aware of the importance of its tasks and will pursue them with the diligence required.

Accompanying the NGA Forum

Against the backdrop of the Federal Government's broadband strategy, the Bundesnetzagentur published key elements for the regulatory conditions required to further develop modern telecommunication networks and to create a powerful broadband infrastructure. One result of these key elements is the establishment of a NGA Forum initiated by the Bundesnetzagentur to promote a dialogue between the authority, network operators, manufacturers, Länder and municipalities.

The NGA Forum was launched in March 2010 as an advisory body to promote consensus in the sector. However, it is not empowered to take any decisions, these are left to the formal procedures foreseen by the TKG. The Forum has carried out its work in a transparent manner and published results and presentations on the Bundesnetzagentur's website.

Since its inception the NGA Forum has dealt with the following subjects: Open Access, cooperations and co-investment, technical and operational aspects of the access to glass fibre networks and other NGA networks (interoperability) and the shared use of infrastructure (eg inhouse cabling). The Forum also dealt with "broadband and rural areas".

Work on these subjects is to continue in 2011 on a constructive and solution-oriented basis, eg to promote a common understanding of Open Access and interoperability and to clarify as far as possible where the Forum unanimously identifies feasible solutions for improving broadband coverage.

With a view to the work scheduled for 2011, the following should be borne in mind regarding the four subjects listed above:

- Open Access: here it is important to explore the extent to which the current divergence in views can be solved. Endeavours should also be made to identify a mode of procedure, should this prove impossible.
- cooperations: the question that needs to be dealt with is whether and if so how the difficulties in establishing cooperations can be overcome and how the NGA Forum can contribute towards this goal.
- interoperability: it is deemed a realistic goal to complete the descriptions still outstanding in the technical field within the envisaged time frame and to propose interface definitions or specifications for

the selected wholesale products at levels 0 and 2. As far as the business processes are concerned, the aim is to present descriptions of the standard processes relating to the major processes involved in level 2 wholesale products together with proposals for standard agreements or standardised interfaces. The Forum's mandate has been extended to include a description of a NGA level-2 bit stream access product.

- shared use of infrastructure: the NGA Forum is unanimously of the opinion that the next phase in the legislative procedure should be awaited. While doing so, the NGA should probe into the extent to which the issue could be solved.

The Bundesnetzagentur intends to publish a final report for public consultation to ensure the participation of all market players.

Net neutrality

In the past year, net neutrality aspects have been discussed at various levels more intensively in Europe and in Germany as well. The EU Commission has carried out a hearing to which BEREC submitted the regulatory authorities' view. BEREC plans to tackle various net neutrality aspects in the coming year. The proliferation of mobile Internet access is a key factor in increasing the topic's significance in Germany as well. As a consequence, the Bundesnetzagentur closely monitors market developments. The Bundestag's fact-finding commission on the Internet and New Media has also established a project team on Net Neutrality.

The EU's new legal framework sets out two fundamental starting points for Net Neutrality discussions: (increased) transparency obligations and the possibility of introducing a minimum quality level. These two points have been incorporated in the Ministry draft of the TKG amendment in the form of a power to issue statutory instruments.

It is assumed that in practise the transparency regulations will substantially mitigate many Net Neutrality problems. Yet transparency, even if it covers the quality of accesses, constitutes merely one vital but not adequate prerequisite to this end. A situation in which customers are only informed about possible restrictions regarding access or the use of services or applications leaves much to be desired.

As long as there is sufficient competition on the network level and end customers are not unduly hindered to change their provider, consumers may punish blockages and declining quality levels by quickly changing their provider. In addition, the European legislative framework and the TKG allow for a punishment of misuse in case of market domination and for the establishment of access to markets requiring a regulation. If no significant market power exists, the Agency may impose access obligations in justified cases, in accordance with sec. 18 of the TKG.

Under the title of service quality Art. 22(3) of the Universal Directive contains a new regulation under which the regulatory authorities must be in a position to define minimum service quality requirements for telecommunication network operators to prevent a deterioration of the services and an impediment or slowdown in the networks. The chance to define a minimum quality level provides the regulatory authority with a tool to counter degradations in quality: the threat of specifying a minimum quality level may act as a deterrent to the operators of public telecom-

munication networks, hence preventing a deterioration in quality and rendering the need for the specification of a minimum quality obsolete. In 2011 the Bundesnetzagentur will deal with the issue of measuring quality at national level and within the framework of BEREC in the coming year.

Consumer protection

Consumer protection has long been one of the Bundesnetzagentur's main concerns. The relevant legal framework was revised in large parts at European level at the end of 2009, contributing to current discussions on the TKG amendment. Customer protection (TKG Part 3) is one of the TKG amendment's key items. For this reason the Bundesnetzagentur will pursue the following major tasks as soon as the new rules have come into effect.

Provider Changes in Telecommunications

A smooth changeover from one provider to another is of vital importance to the willingness of consumers to undertake such a change and as such of significant importance to the positive development of sustainable competition. It should be possible for consumers to change from one provider to another speedily and preferably without service disruption or the need to deal with technical questions. The Bundesnetzagentur will take advantage of the emerging new legal framework to improve the current situation.

Transparency in the retail market

Apart from the diversity, there are other consumer needs such as comprehensibility and user friendliness of the price and tariff structures. The more diverse the offers in the telephone market and the more sophisticated the Internet accesses on offer are, the more important the issue of transparency of the offers in telecommunications. Consumers need easily accessible and transparent information to know what they are ordering and which facilities they will obtain. For example, in the case of Internet access this includes the data rate specified in the contract and the rate actually provided once the access has been activated.

Broader telecoms mediation scope

As a result of the new legal framework the Bundesnetzagentur assumes that the scope of the mediation process in the telecommunications sector will expand. The process will include disputes between consumers and telecommunications providers concerning the terms and execution of contracts relating to those provisions in the Telecommunications Act serving to protect consumers. Since an increasing number of disputes revolve around contract terms and contract compliance, this is an appropriate response to current consumer needs, broadening the mediation process in its scope as an unbureaucratic and flexible conflict resolution tool.

Number misuse and cold calls

The prosecution of number misuse and the implementation of the Act to combat illegal telemarketing will continue to be two prominent tasks in 2011.

Rapidly averting danger by solving number misuse cases and putting financially effective measures such as billing and encashment prohibitions in place is a major goal. Abusive use of call numbers such as provoking a return call to an expensive premium service number must not be worth the trouble for the culprit. The Bundesnetzagentur will therefore actively continue its effective means of avert-

ing danger and will fully exploit all legal remedies available.

The Bundesnetzagentur will follow up conclusive consumer complaints and confront companies who violate the long-standing ban on unsolicited marketing calls with their unlawful behaviour within administrative fines proceedings. All legal and factual findings from current administrative fines proceedings and administrative procedures and especially the experience gained from the court cases will be considered in the forthcoming amendment of the Telecommunications Act and in the evaluation of the Unfair Competition Act. In 2011 the Bundesnetzagentur will continue to provide wide-ranging support to the Federal Ministry of Justice in its evaluation activities and will ensure that consumer needs are duly taken into consideration in the legislative work. Also in demand is the Bundesnetzagentur's considerable experience gained in its battle against number misuse, eg in the form of unlawful gain promises. The Bundesnetzagentur will continue to support endeavours to establish a systematic method for the prosecution of telephone fraud.

Another focus in 2011 will involve dealing with diallers for which fees are paid in the mobile payment sector. The key aspect is the placement of such business models in the relevant legal framework conditions. An analysis of current consumer protection problems may culminate in measures stipulated in section 67 of the Telecommunication Act, a revision of the minimum requirements for diallers or a procedure governing prohibition under section 66f of the Telecommunications Act.

Since there are signs indicating that the Bundesnetzagentur will still have to deal with consumer complaints regarding incorrect price information, pricing messages and price displays, another of its key tasks will be to combat such violations and inadequate adherence to the law.

Market definition and analysis procedure

2010 saw the publication of a draft consultation on the market for the wholesale termination segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity (market no. 6 of the 2007 Commission Recommendation on relevant product and service markets within the electronic communications sector) and the comments submitted by companies (2nd round). Owing to the Federal Constitutional Court's appeal decision of 1 September 2010 which also concerned the market definition and analysis in this sector (1st round) and as such criticised the lack of justification, further investigations into this market segment were necessary. In order to comply with the court's decision, additional information was asked for by means of an official information request issued at the end of 2010. The data provided in response to the formal information request issued on 26 March 2009 was to be updated and further data to be furnished. The responses will be evaluated in 2011 and a new consultation may be launched.

In 2010 a request was issued for information on the market for voice call termination on individual mobile networks (market no. 7 in the aforementioned 2007 Commission Recommendation) on the basis of which a market analysis is being carried out.

As far as markets no. 2 (call origination on the public telephone network provided at a fixed location, 2007 Commission Recommendation) and no. 3 (call termination on individual public telephone networks provided at a fixed location, 2007 Commission Recommendation) are concerned, after comprehensive investigations in 2010 it is planned to draw up and publish a draft consultation in 2011.

The Bundesnetzagentur also intends to start investigations on the market for access to the public telephone network at a fixed location for residential and non-residential customers (market no. 1 in the 2007 Commission Recommendation).

Regulation of the telecoms wholesale market

Of the many decisions to be taken in 2011, special attention is drawn to the following basic issues regarding regulation of the telecommunications wholesale market:

- specification of the monthly charge for the local loop,
- specification of the fixed network interconnection charges,
- examination of the IP bit stream reference offer,
- completion of the regulatory order on the local loop,
- drafting of the regulatory order on fixed network interconnection.

Basic rates regulation

In its Recommendation of 7 May 2009 on the regulatory treatment of fixed and mobile termination rates (2009/396/EC) the EU Commission recommends that Member States use a bottom-up model and implement it by 31 December 2012. The model should merely consider the cost of call termination.

Against this backdrop the Bundesnetzagentur plans to develop, in a transparent manner, an analytical cost model for mobile communications which takes the specifications in the EU Recommendation into account. Initially, the model will be elaborated in a consultation document for interested parties to be able to submit their views.

Infrastructure atlas

In 2011 the Bundesnetzagentur will continue to expand the infrastructure atlas it runs on a nationwide basis, ensuring that users of the new version have access to significantly more detailed information about the location of existing infrastructure such as fibre-optic lines, ducts and radio towers. To this end the Bundesnetzagentur will draw up maps in PDF format illustrating the position of relevant infrastructure. This will make it easier for regional or local authorities and for companies using the infrastructure atlas to assess the extent to which available facilities can be used for expanding broadband networks. The Bundesnetzagentur is planning to make the atlas available online to current users in the medium term. These activities are coordinated with the Länder, as required.

In this way the Bundesnetzagentur is making yet another contribution to implementing the Government's broadband strategy and to improving broadband coverage in Germany.

Frequency management

Special attention is drawn to the following frequency management activities.

Implementation of the decision of the President's Chamber on the award of frequencies in the ranges 800 MHz, 1.8 GHz, 2 GHz and 2.6 GHz

Under the broadband strategy, the frequencies in the ranges 800 MHz, 1.8 GHz, 2 GHz and 2.6 GHz are to be used as soon as possible to improve the provision of innovative, mobile radio applications and broadband Internet, especially in rural areas. It is the Bundesnetzagentur's goal to facilitate the rapid installation and expansion of radio networks – especially in areas not yet served – and at the same time to ensure that the determinations in the decision of the President's Chamber of 12 October 2009 (BK1a-09/002) are adhered to. This approach is to guarantee that the frequencies are used as soon as possible to provide the population with broadband Internet and to ensure interference-free frequency use, duly considering broadcasting interests.

Frequency distribution analysis

Under Art. 1(2) of the modified GSM Directive it is necessary to investigate whether the current allocation of the 900-MHz band to mobile operators is likely to cause competitive distortions on the relevant mobile markets. Should such distortions be identified, they have to be eliminated where this is justified and reasonable.

As agreed with the EU Commission, in 2009 the Bundesnetzagentur decided to carry out the frequency distribution analysis ex officio after the 2010 auction.

The investigation launched with the stimulus paper in August 2010 will be concluded in mid-2011.

Meeting roll-out requirements at 800 MHz

The holders of the 800-MHz frequency assignments are obliged to ensure a degree of coverage in all Länder of at least 90 percent of the population in the towns and regions specified by the Länder, starting on 1 January 2016. Although the coverage ensured by other providers or technologies with comparable or higher bit rate broadband solutions is taken into account, for regulatory reasons and also from the broadband strategy viewpoint it is necessary to define the minimum coverage at an early stage and to draw up a concept for verifying this minimum so that transparency and clarity vis-à-vis the network operators is ensured.

Implementation of the Digital Dividend

Under the Government's broadband strategy especially the frequencies from the Digital Dividend should be used to improve the population's access to broadband Internet, particularly in rural areas. To achieve this goal, the Bundesnetzagentur will monitor the use of Digital Dividend frequencies and the gradual installation and expansion of the network and will do so taking the need for rapid broadband provision and the broadcasting sector's interests into account. The Bundesnetzagentur will also accompany the future development of the Digital Dividend at national and European level. In this context it will be necessary to give due consideration to broadcasting interests and consumers' growing demand for more bandwidth.

Future use of the 900-MHz frequencies

The consultation on the stimulus paper which formed part of the frequency distribution analysis revealed that the question concerning frequency distribution in the 900-MHz band must be dealt with in connection with the

question concerning the use of the GSM frequencies when their assignment expires in 2016. The market expects an early answer from the Bundesnetzagentur, irrespective of the issue whether or not the current frequency distribution is causing competitive distortions, in order to be able to make investment and planning decisions.

This reinforces the Bundesnetzagentur's intention expressed in its flexibilisation decision BK 1a-09/001 to decide on the award of the 900-MHz frequencies starting in 2017 well ahead in time, i.e. about three years before the assignment expires in 2016.

The Bundesnetzagentur will bear market players' need for investment and planning security in mind. To be able to do so, a "road map" is to be established, setting out the procedure for granting frequency usage rights after 2016. In preparation of this decision with its far-reaching consequences for the market it is planned to draw up initial considerations in 2011 in an open and transparent dialogue with the market.

Management of the trunked mobile radio frequencies

Although trunked mobile radio frequencies have been assigned since 1990, the demand for digital trunked mobile radio frequencies using TETRA technology has only increased dramatically in recent years. The Bundesnetzagentur assumes that demand will not decline in the next few years. It is therefore necessary to manage the frequency spectrum available in such an economical way that it will be possible to meet demand for a very long time. To this end a concept will be elaborated which takes the prerequisites and framework requirements to be met into account in frequency assignments to provide assignment holders and assignment applicants not only with legal certainty and clarity but also with planning and investment security. In this connection it will be necessary to consider the possibilities of extending the assignments beyond 2015 and to bear the implementation of cooperation agreements already concluded with neighbouring countries on 25-kHz systems in mind.

New coordination philosophy in broadcasting

The 2006 Geneva Agreement contains not only the frequency plan but also the regulatory procedures for its dynamic adaptation in the 470 - 862 MHz range (UHF band). As part of the Digital Dividend implementation in the 790 - 862 MHz range, one of the requirements to be dealt with is the need to continue to ensure equal access to the frequency spectrum in light of the new demarcation line between broadcasting and the phased introduction of mobile services (LTE). In border coordination special attention must be paid to the implementation and assessment of neighbouring countries' scope of demand. Whereas France, for example, is aiming at a total 13 of DVB-T networks, current plans in Germany envisage 7 DVB-T networks. The Bundesnetzagentur has developed a mode of procedure in which in the long term merely the outer wanted signal coverage range of a channel on national territory needs to be agreed. This implies a forward-looking renunciation of singular frequency position allocations.

German coordination initiative WEDDIP/NEDDIF

With a view to maximising an efficient and smooth transition in the Digital Dividend implementation, two multilateral coordina-

tion groups were initiated: WEDDIP (Western European Digital Dividend Implementation Platform – Belgium, Germany, France, Holland, Ireland, Luxemburg, Switzerland, United Kingdom) and NEDDIF (North-Eastern Digital Dividend Implementation Forum – Germany, Estonia, Finland, Latvia, Lithuania, Poland, Slovakia, the Czech Republic, Hungary).

The coordination groups' key elements concern overriding issues relating to the implementation of mobile services above 790 MHz:

- relocation of broadcasting applications below 790 MHz, giving due consideration to the equitable access concept,
- accommodation of the new coordination approach,
- solution strategies in connection with other primary services which could have a restricting impact on the implementation of the Digital Dividend in the 790 - 862 MHz range. This aspect primarily concerns the East-European coordination round in relation to Russia's military applications.

Update of the frequency usage plan

When updating the frequency usage plan, due consideration has to be given, inter alia, to further flexibilisation and to steps supporting the Government's broadband strategy by earmarking frequency ranges for backbone networks and wireless production appplications.

The Bundesnetzagentur also plans to broaden the frequency usage plan's concept and the associated compilation procedure in light of the forthcoming TKG amendment.

Preparations for World Radiocommunication Conference 2012

The Bundesnetzagentur plans to take an active part in European preparations for the ITU's World Radiocommunication Conference 2012 (WRC-12), especially where innovative aeronautical applications, wireless production technologies, implementation of the Digital Dividend, earth observation applications and flexibilisation of international rules are concerned. Of particular relevance in 2011 are active participation in the compilation of the ITU's report in preparation of WRC-12 in ITU's CPM 11-2 and the completion of RSPG's statement for WRC-12. Furthermore, an anticipatory contribution is to be made for the drawing up of suggestions for WRC-15's agenda on broadband developments and highly accurate Earth Observing Systems.

New frequency ranges for innovative applications

When opening up new frequency ranges for innovative applications within the conference of CEPT and the EU, the regulatory and technical criteria and ancillary conditions relating to the implementation of concepts for flexible frequency use, eg in the frequency ranges 900 MHz, 1.800 MHz and 2 GHz and in relation to WAPECS (Wireless Access Policy for Electronic Communication Services), and the identification of new frequency ranges for future applications of the public safety services are of special relevance.

Participation in international bodies

The Bundesnetzagentur will actively accompany BEREC[1] which took up its activities in

[1] Cf. Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office; OJ L 337 of 18.12.2009, p. 1-10.

[2] Cf. Consultation paper „Draft Work Programme 2011 BEREC Board of Regulators" BoR (10) 43 Draft BEREC WP 2011; http://berec.europa.eu/workprog/index.

2010 to be in a position to input its expertise and views in discussions at European level. To this end the Bundesnetzagentur will take part in the work of the Board of Regulators, BEREC's decision-making body, and of various BEREC Working Groups to make its expertise available. BEREC's work programme[2] focusses on the three issues of improving harmonisation, current challenges and the set-up of BEREC, and implementation of the revised framework. Important themes will be

- drawing up statements in phase II of the Art.7/7a procedure („serious concerns" letter of the Commission) in the future also at regulatory order level,
- practical implementation of the Commission recommendation on Next Generation Networks,
- accompanying the Commission's initiatives on regulatory accounting and non-discrimination embedded in the Digital Agenda,
- accompanying the Review of the Roaming Regulation,
- accompanying and developing measures to support the promotion of broadband,
- accompanying the net neutrality issue,
- examining various aspects regarding the practical application of the EU's revised legal framework (eg cross border aspects or consumer protection issues under the Universal Service Directive).

The Bundesnetzagentur will also support the setting up of the BEREC office which is to provide administrative support to the body. Apart from participating in the Management Committee, the Bundesnetzagentur will actively partake in the process of establishing organisational and staff structures in Riga to ensure that they will be in line with the goals of the Regulation. Under current plans, the BEREC office, whose Administrative Manager has meanwhile been appointed and who took up his post on 1 October 2010, is to expand to 22 staff members in 2011. Its maximum staff capacity of 28 is to be reached by the end of 2012.

The RSPG's role in formulating the EU's frequency policy must be maintained and even strengthened, especially In view of the RSPP.

Twinning project with the Israel Ministry of Communications

At the start of 2011 the Bundesnetzagentur will embark on a 15-month twinning project in the telecommunications sector with the Israel Ministry of Communications. The project will be carried out by the Bundesnetzagentur in cooperation with two junior partners, the Italian regulatory authority AGCOM and the Spanish regulatory authority CMT.

The twinning instrument is financed by the EU and promotes partnerships between authorities in EU Member States and public institutions in candidate countries, potential candidate countries and European Neighbourhood countries. The aim of twinning projects is to establish public structures In line with European administrative practice.

Key element of the project in Israel is to support the Ministry of Communications in its endeavours to create the regulatory framework for efficient wholesale regulation. To this end experts from the Bundesnetzagentur will present the European legal framework and regulatory practice to their Israeli colleagues on their premises and portray German experiencee.

Standardisation in the field of electromagnetic compatibility (EMC)

One of the Bundesnetzagentur's prime tasks in 2011 will be to complete standardisation projects on the immunity of apparatus and wired telecoms infrastructures designed for 800-MHz frequencies. In the next few years the use of co-frequency radio (radio access networks for the offer of telecommunication services) and cable (eg in cable TV networks) is expected to increase. In Europe, ETSI and CENELEC are responsible for this field. Moreover, it is planned to present this issue to IEC's International Committee on Radio Interference (CISPRE).

In 2011 the Bundesnetzagentur will continue to actively monitor and accompany the standardisation projects on EMC for smart grids and smart metering, the focus being on system standards (voltage quality and energy supply security in low-voltage distribution networks) and on EMC product standards. By way of example, reference is made to the planned specification of EMC requirements for photovoltaic systems and their components.

Market surveillance

Under Directive 2004/108/EC on the electromagnetic compatibility of equipment (EMC Directive) and Directive 1999/5/EC on radio equipment and telecommunications terminal equipment (RTTE Directive) the Bundesnetzagentur's role in market surveillance is to verify adherence to the requirements by means of product samples and in such a way to prevent or restrict the placing on the market of non-conforming products to protect consumers and to ensure a level playing field for market participants.

Since 1 January 2010 the market surveillance authorities have to apply the EU's Goods Package (NLF, Regulation 765/2008, Decision 768/2008). Cooperation between the market surveillance authorities of Member States is improving and a pan-European harmonised market surveillance campaign is being planned and initiated.

Technical compatibility studies

Radio-related compatibility studies are drawn up by international bodies of the CEPT and ITU-R in cooperation with stakeholders. A number of compatibility studies need to be carried out in 2011 as well:

- compatibility analyses for new UWB applications (eg in aircraft or monitoring systems),
- various analyses for SRD,
- studies on the compatibility of various satellite systems and terrestrial services,
- studies on satellite applications with complementary ground components (CGC) need to be completed,
- examination of the use of unoccupied broadcasting channels (white spaces) in the UHF range from 470 to 790 MHz by cognitive radios,
- compatibility analysis to assess the impact of a DECT telephone power increase to 4 W within the scope of a general assignment,
- investigation into the possible mutual impairment of radar signals in the 2,700 - 2,900 MHz band and mobile radio in the 2,500 - 2,690 MHz band and, if necessary, into the effectiveness of mitigation techniques,
- examination of the band plan to be drawn up with respect to compatibility with other neighbouring-frequency applications and specification of the air interface parameters

for future technology-neutral use of the frequency range 3,400 - 3,800 MHz for mobile applications (eg IMT advanced, LTE),
- drafting minimum requirements for future system-neutral frequency awards (least restrictive technical conditions) in the form of block edges masks for the current GSM bands on the basis of the experience gained with the WAPECS bands (Digital Dividend included),
- various compatibility studies as input to World Radiocommunication Conference 2012.

Protection of public telecommunication networks and safety-related radio installations

The Bundesnetzagentur coordinates the measures for verifying and eliminating inadmissible radiation from cable networks and the monitoring activities for the protection of safety-related transmitting and receiving radio installations in accordance with sections 3 and 5 of the Safety Radio Protection Ordinance (SchuTSEV). Various measurement campaigns are planned for 2011, especially in dense urban areas.

The investigations will target the following areas:
- protection of the 75-MHz marker of the instrument landing system (ILS),
- protection of aeronautical and air navigation applications in the VHF/UHF range,
- protection of the radio applications used by the public safety services,
- protection of the Bundeswehr's radio applications,
- disconnection of analogue signals in the cable TV network operating in the 112 -137 MHz range,
- protection of aeronautical radio in the HF band,
- protection of radio clarification in the HF band.

Review of the EMC Directive and the RTTE Directive

In 2011 the EU Commission will present draft modifications to the EMC Directive and the RTTE Directive. Whereas the modification of the EMC Directive basically merely involves adapting its wording to the reference provisions in Annex I of Decision 768/2008 EC, the revision of the RTTE Directive will include this adaptation but other content-related changes are also planned which are intended to simplify the Directive. The Bundesnetzagentur will actively accompany the modification process in TCAM and in other bodies and will take special care that the modification fulfills the simplification requirement and that market surveillance is put on a stronger footing by the improved traceability and easier identification of products. Should modifications affect the Directive's scope, then the Bundesnetzagentur will certainly participate in resulting follow-up activities, especially in the standardisation arena, to contribute to the timely availability of harmonised standards.

During the review of the Directives, the responsibilities and tasks of the market players (manufacturers, importers, trade) will be restructured. In 2011 market surveillance must prepare the market players for the new arrangements in advance of the transposition of the Directives into national law. Since online trade with electronic gadgets is on the rise, market surveillance needs to pay special attention to this area.

EMF monitoring by the Bundesnetzagentur

The Bundesnetzagentur's EMF database with information on the protection distance for radio installations requiring a site certificate and on EMF measurement campaigns has been functionally enhanced and rendered even more user-friendly.

In a next step the EMF database will be restructured in such a way that the measurement results for the entire measurement range from 9 kHz to 3 GHz can be displayed in frequency fractions. This will make it easier for citizens to obtain an insight into the composition of local emissions from radio installations. Hence in 2011 the EMF database will fully meet the requirements in the INSPIRE Directive (Infrastructure for Spatial Information in Europe).

Standardisation activities within the ITU, 3GPP, ETSI, CEN and CENELEC

Global Standard for IMT

In the course of the ITU's evaluation for fourth generation mobile standards, two technical proposals for IMT Advanced were adopted at the end of 2010. The IMT-Advanced concept envisages data rates of up to 100 Mbit/s at high and medium mobility and up to 1 Gbit/s in the case of stationary use. The packet-oriented data transmission technique offers high-level flexibility, especially for the transmission of multimedia applications. Meanwhile, work is under way at full speed within 3GPP and IEEE to complete the technical specifications which will form the basis for the equipment to be developed. This work will extend to 2012.

Cellular public mobile radio and short-range radio

In the cellular public mobile communications sector, ETSI transposes the standards drawn up by the international standardisation organisations 3GPP and IEEE into harmonised European standards (ENs).

From a technical perspective, more advanced versions of the air interfaces for UMTS and new interfaces for LTE and mobile WiMAX will be incorporated in the ENs. Under current plans ETSI will publish twelve new or updated parts for the fifth version of multi-part EN 301 908 on cellular public mobile communications in 2011.

In view of the dramatic increase in short-range radio applications demand for suitable spectrum has risen. Technologies need to be deployed which in the long term will ensure interference-free use in the relevant frequency bands vis-à-vis other applications. Taking appropriate experimental measurements carried out at its own test laboratory Kolberg as its basis, the Bundesnetzagentur will contribute its findings to the standardisation activities within ETSI on RFIDs and short-range devices.

In view of the EU's standardisation mandate M/441 on smart metering, several standardisation projects on short-range air protocols have been initiated within ETSI. The Bundesnetzagentur supports the activities undertaken by the German SRD and metering industry to achieve uniform protocols and architectures by means of harmonised standards.

As in the past, the Bundesnetzagentur will contribute to the elaboration of harmonised European standards by ETSI in 2011 as well.

Concepts for flexible frequency use

At the Bundesnetzagentur's initiative and through cooperation with other regulatory authorities a separate agenda item has been devoted to SDR and CR for World Radiocommunication Conference 2012. The national

preparatory group specially created by the Bundesnetzagentur for this purpose is pressing ahead with a common German stance.

SDR/CR-related technical concepts and requirements having been defined in 2010, at the start of 2011 ETSI will embark on the actual standardisation work needed. Together with industrial partners the Bundesnetzagentur will develop technical concepts for flexible spectrum use in newly established EU research projects (FARAMIR[3], OneFit[4] and Quasar[5]) and will contribute relevant research results to standardisation activities (eg ETSI, ITU).

Interoperability in broadcasting

Interoperability in broadcasting, being in the consumers' interest, is a high-priority goal of European telecoms regulation. Standards and specifications for digital TV sets are to create a market allowing buyers to purchase terminals which can be used for the protected services and broadcast-related services offered by different network operators and service providers. In addition, such solutions should also promote competition between the other market players. A basic prerequisite for both goals is that the devices must be capable of supporting different CA/DRM systems.

In close cooperation with high-level representatives from all directly affected market players, the development of appropriate standards for exchangeable and especially loadable CA/DRM systems is to be accelerated in the relevant standardisation bodies to achieve the desired results in a tight time schedule. The forum for this is the action alliance on user-friendly terminals for horizontal-market exchangeable CA/DRM systems specially launched by the Bundesnetzagentur for this purpose.

Intelligent transport systems

The specifications for car-to-car and car-to-infrastructure applications are based on the European Profile Standard for ITS. The Bundesnetzagentur supports the international standardisation of specific applications, bearing the interests of the German automobile industry and automobile suppliers in mind.

The system planned for the 5.9-GHz range stands out in that it is not based on a network with conventional base stations but that it communicates intelligently by means of local stations and mobile units located, for example, in the vehicles.

The EU Commission's mandate M/453 specifies joint activities between CEN, CENELEC and ETSI until 2012 for elaborating a series of specific standards which ensure interoperability, specify the communications architecture and ensure the safety of applications and systems. To achieve this, it is necessary to intensify cooperation with American and Asian organisations. ETSI is currently primarily responsible for the development and standardisation of the ITS infrastructure. The Bundesnetzagentur chairs the ETSI Working Group responsible for the digital air interface (ITS WG 4).

ICT gateway in smart metering

The large number of standards and diverging interests of the energy and telecommunications industries are aspects that have hitherto

[3] FARA MIR (Flexible and spectrum-Aware Radio Access through Measurements and modelling In cognitive Radio systems), http://www.ict-faramir.eu/
[4] OneFit (Opportunistic networks and Cognitive Management Systems for Efficient Application Provision in the Future InterneT), http://83.212.238.249/
[5] Quasar (Quantitative Assessment of Secondary Spectrum Access), http://www.quasarspectrum.eu/

hampered the widespread, market-driven roll-out of smart meters in respect of end consumers.

The Bundesnetzagentur is assisting the national and European telecommunications standardisation bodies with the development and modification of standards and rules. Some focal points from the ICT perspective are, inter alia, functionality and modularity, open interfaces and standards, interoperability, data security and integrity as well as network integrity and availability.

Transparent systems in standardisation organisations

In May 2010, the EU Commission published a draft of the revised "Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements". Disclosing patents before a standard or specification is adopted (so-called positive disclosure) and the associated irrevocable commitment in relation to licensing IPR on FRAND (fair, reasonable & non-discriminatory) terms is intended to create greater legal security for market players and standardisation organisations. For the Bundesnetzagentur's participation in standardisation organisations, this means proactively working towards ensuring that the relevant, internal regulations of organisations meet the requirements defined in the Guidelines.

Telecommunications standardisation and energy efficiency

A number of standardisation bodies at national, European and international level are dealing with the issue of energy efficiency in the telecommunications sector. The Bundesnetzagentur will participate in the development of a concept within the framework of a study that will allow the telecommunications sector to be subdivided into energy efficiency categories in order to ensure that a neutral, modular assessment system can be derived for creating energy footprints. The results of the study are to be presented at a symposium held at the Bundesnetzagentur.

Technical Directive for Emergency Calls

The Emergency Calls Ordinance (Verordnung über Notrufverbindungen) (NotrufV) of March 2009 provides details on the basic requirements set forth in Section 108 of the Telecommunications Act. It creates the framework for specifying the technical details in a Technical Directive for Emergency Calls (Technische Richtlinie Notrufverbindungen) (TR Notruf). The first draft of the Technical Directive for Emergency Calls was published in October 2010, giving telephone service providers, network operators, public authorities of the Federal Länder, manufacturers and trade associations the opportunity to submit their comments.

The first version of the Technical Directive for Emergency Calls is to enter into force, taking the various stakeholders' comments into account. It will specify the technical details, inter alia, on emergency numbers using ISDN technology (including the forwarding of emergency calls to another emergency call centre if and when faults occur), traffic management involving the forwarding of emergency calls to the competent routing

[3] FARAMIR (Flexible and spectrum-Aware Radio Access through Measurements and modelling In cognitive Radio systems), http://www.ict-faramir.eu/
[4] OneFit (Opportunistic networks and Cognitive Management Systems for Efficient Application Provision in the Future InterneT), http://83.212.238.249/
[5] Quasar (Quantitative Assessment of Secondary Spectrum Access), http://www.quasarspectrum.eu/

centres and on the determination and transmission of location data particularly in relation to emergency calls made from mobile networks. The subsequent version of the Technical Directive for Emergency Calls will include initial specifications for emergency calls made using IP technology and – if necessary – technical details on the exchange of information between telephone service providers and network operators that is used to establish the whereabouts of the person placing VoIP-based emergency calls. In addition, international standardisation in this area needs to be designed specifically to ensure that the statutory requirements and network structures in Germany are taken adequately into account.

Technical implementation of intercept measures

The Bundesnetzagentur's activities for the technical implementation of intercept measures are an important contribution towards maintaining public safety. In particular the technical directive Telecommunications Interception Ordinance ((TR TKÜV) as per Section 110 subsection 3 of the Telecommunications Act provides the basis for the implementation of intercept systems by telecommunications companies, manufacturers and security authorities. The Directive must be amended, as necessary, to accommodate new telecommunications technologies.

The findings of a study on the VoIP market segment commissioned by the Bundesnetzagentur and the subsequent involvement of companies concerned will be incorporated into the standardisation measures that are still in the pipeline in this area at the ETSI in 2011.

The areas "requests for information about call data" and the "electronic transmission of judicial intercept orders" that have been incorporated into the current TR TKÜV 6.0 will be optimised in the newly amended TR TKÜV 6.1 to be published before the end of 2011. In addition, most of the specifications that have been reached in standardisation for the new generation of mobile communications, LTE, will also be incorporated into the new TR TKÜV 6.1.

Concept for regional offices

The area of regional offices has been undergoing constant change at the Bundesnetzagentur for many years. Since it has taken over a large number of new statutory tasks, for instance, from the area of combating number misuse, preventing cold calls and registering photovoltaic plants, it has become repeatedly necessary to transfer existing tasks to a single location, if possible, and to make the necessary human resource capacities available at a single location, if possible.

In parallel, a concept was developed in the radio monitoring and inspection service (PMD concept) to this end to compensate for staff losses in order to meet the rising technical requirements and to be able to cope with the wide range of technical tasks in rural areas with the help of efficient structures.

The target structure was defined in the 2020 Concept for Regional Offices and the PMD concept was incorporated into the implementation concept for a more critical approach for 2015. An important, integral part of the PMD concept is merging the three 24-hour monitoring offices into one radio monitoring and inspection office at Service Centre 8 in

Konstanz. This merger is to be completed before the end of 2011.

A schedule will need to be drawn up and coordinated in early 2011 for the other measures that need to be implemented within the framework of the implementation concept for a more critical approach for 2015. Further structural improvements are to be implemented over the course of 2011.

ELECTRONIC SIGNATURE

In addition to their current features as photo, proof of identity and an electronic authentication feature stored on a microchip, the new ID cards that were introduced on 1 November 2010 also enable holders to use qualified electronic signatures. It is anticipated that there will be an increasing uptake of electronic signatures by the public owing to the growing use of electronic signatures in systems used by the business community.

As this large-scale project in the area of electronic signatures is implemented, the consulting services provided by the Bundesnetzagentur will not only increase in relation to companies and citizens in the year to come, the public perception of qualified electronic signatures is bound to change fundamentally too.

In the area of the legal evolution of qualified electronic signatures, far-reaching amendments will be made to the Electronic Signatures Act and the Electronic Signatures Ordinance in 2011 which have been initiated by the Federal Ministry of Economic and Technology. The Bundesnetzagentur is involved in this planned amendment in an advisory capacity.

At European level, the Bundesnetzagentur will continue to work towards the technical transposition of the European Services Directive (Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market). In this context, it is particularly relevant to transpose Commission Decision 2009/767/EC which obliges each Member State to establish, maintain and publish, in accordance with the technical specifications set out in the annex, a “trusted list” containing the minimum information related to the certification service providers issuing qualified certificates to the public who are supervised/accredited by them. The Bundesnetzagentur is responsible for the transposition. In doing so, it will continue to participate in the respective EU bodies to further develop the technical requirements to be met by this list. At European level, the EU Commission is also planning to amend Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures. The Bundesnetzagentur will participate in this by submitting its comments.

In addition, European standardisation in the area of qualified electronic signatures needs to be continued and monitored. In order to do so, the Bundesnetzagentur is involved in national, European and international bodies, with the work focusing mainly on cooperation in the Forum of European Supervisory Authorities for Electronic Signatures (FESA), where it has been on the Executive Board since April 2010. It is also involved in ETSI/ESI (European Telecommunications Standards Institute/Electronic Signatures and Infrastructures).

Furthermore, the Bundesnetzagentur provides consulting services to foreign governments regarding the establishment of signature infrastructures based on the German model, in particular to nations striving to join the EU and non-European countries striving for increased cooperation with the EU.

POST

The following activities should be emphasised from the large number of activities in the area of regulation of the postal market regulation planned for 2011.

Amendment to the Postal Act

It is anticipated that the Postal Act will be amended in 2011. The Bundesnetzagentur will participate in the preparations in an advisory capacity focusing particularly on technical issues and will also monitor the legislative procedure.

The amendment to the Postal Act must be seen in particular against the backdrop of the Third Directive 2008/6/EC of the European Parliament and of the Council of 20 February 2008 amending Directive 97/67/EC with regard to the full accomplishment of the internal market of Community postal services. One of the major changes of Directive 2008/6/EC of the European Parliament and of the Council of 20 February 2008 amending Directive 97/67/EC with regard to the full accomplishment of the internal market of Community postal services vis-à-vis former Community regulations involves access to elements of postal infrastructure (Article 11a).

The obligation of postal service providers to provide information was also expanded by Directive 2008/6/EC. Pursuant to Article 22 a of Directive 2008/6/EC, Member States shall ensure that postal service providers provide all the information, particularly to the national regulatory authorities to ensure conformity with the provisions, or decisions made, in accordance with this Directive.

Irrespective of this, the Federal Government has announced that it is planning to issue suitable provisions within the framework of amendments to the Postal Act that will rule out as extensively as possible the potential for abusive practises in relation to discount agreements in the area of bulk mail (Bundestag printed paper 17/2567 of 9. July 2010, no. 94). It is also considering a number of proposals that are aimed at strengthening the Bundesnetagentur's powers to launch ex-officio investigations in the area of the control of abusive practices.

New price-cap procedure

In view of the fact that the current price cap regime is due to expire on 31 December 2011, the formation of baskets and price caps for price approval will be a focus of activity in 2001 based on the new regime.

The price cap procedure is an efficient procedure for preventing unlawful cross-subsidisation between the monopoly and competitive area on the one hand. It fosters non-discriminatory and efficient competition. On the other hand, the price cap procedure enhances price flexibility for regulated companies and planning security for other market players.

The price cap baskets are to be defined initially within the framework of this procedure on the basis of which baskets will be allocated and formed. Basket formation calls for a thorough

analysis of market conditions and competitive conditions on postal markets. The markets are to be examined in particular under the aspect of levels of competition on the relevant markets, taking any substitution competition into account. On this basis, the Bundesnetzagentur will need to specify whether all products need to be combined into one basket or into several baskets. In connection with basket formation, it will be defined whether and to what extent hybrid letter products can be included in the price cap procedure.

Based on the baskets specified with this procedure, the anticipated growth in productivity will be determined in addition to the rate of price increases as a significant determinant within the framework of the price cap procedure. This can be derived by analytical means on the basis of cost modelling or benchmarking. Given that in particular the ratio between the level of current prices in the base year relevant for the regime and the costs of efficient service provision needs to be taken into account when the anticipated rate of growth in productivity is determined, the basket-related costs and efficiency criteria need to be evaluated and analysed.

To this end, it will be necessary to inspect and evaluate comprehensive process-based and product-based cost documents and evaluations of DPAG. As such, it will need to be examined whether an international price comparison can be used in future to estimate cost savings potential in addition to cost analyses that have already been carried out. In this event, the necessary methods and criteria for relevant price benchmarking considerations will need to be developed.

By specifying objectively justified rates of productivity growth (the so-called X factor) for DPAG within the framework of price cap regulation, the concept of efficiency in particular will be taken into account. In the past few years, this has fortunately led to a steady increase in the company's efficiency as well as to stable, lower levels of prices. However, precautions need to be taken to ensure that any changes in the ratio between costs and quality can be taken into account even during the current (dynamic) price cap period.

Regulatory treatment of bundled products, hybrid mail in particular

The Bundesnetzagentur considers it necessary to develop principles governing the review of bundled products and special types of contracts as DPAG is offering a growing number of bundled products and special contracts on the market in response to growing pressure from competition.

A growing trend towards product and price differentiation has been observed in relation to postal services. More and more bundled products are being sold in connection with integrated logistics services. As such, DPAG is offering mail and parcel services with customised system solutions (mailrooms etc.) that cover the wholesale and retail value-added chain. DPAG is also showing a growing trend towards customised and regional pricing. It is therefore necessary to specify the criteria applicable to rates approval enshrined in Section 20 of the Postal Act in greater detail.

This applies all the more so considering the fact that hybrid products also represent bundled products as they include the necessary preparatory mail services (printing,

enveloping, franking). The Ruling Chambers will therefore be keeping a very close eye on the development of DPAG's E-Postbrief digital letter. The rival "De-Mail" product is to be launched in the year to come and the company TNT Post Holding Deutschland GmbH has been offering a hybrid product of its own called "print my post" since November 2010. Other postal service providers have also incorporated similar hybrid products into their portfolios. It will be interesting to observe the market development of these services.

Measuring transit times for letter mail (universal service)

The quality standards defined in the Postal Universal Service Ordinance (PUDLV) include, inter alia, standards for transit times of letters and parcels. Since the discontinuation of the exclusive licence on 1 January 2008, these standards in the postal service are no longer oriented to any specific company, meaning that no particular company is obliged to provide the universal service. Rather the Postal Act which is based on Article 87f of the Basic Law specifies that the universal postal service will be rendered by the companies operating in the postal market.

The Bundesnetzagentur has the statutory responsibility for ensuring that quality standards are met taking all the services provided in the market into account. The Bundesnetzagentur had to discontinue the transit time measuring system for letters it had originally developed at the end of 2004. Notwithstanding this, it continues to be a statutory responsibility for the Bundesnetzagentur to ensure the quality standards defined in the PUDLV are met. This becomes all the more important given that the liberalised postal market provides for the provision of the universal service in a multi-operator environment. In addition, independent monitoring of quality standards defined in the PUDLV is only required where the quality standards reached cannot be deemed sustainable in areas where there is no pressure from competition.

Instead of using its own transit time measuring system, the Bundesnetzagentur currently uses the transit time measuring system of DPAG which is not suitable from the methodical perspective for reliably determining the mail transit time standards defined in the PUDLV. On the other hand, the system does not comply with legal requirements as it only uses the services provided by a single company as a basis. In addition, DPAG's measuring system does not record the entire transit time of a letter from sender to receiver but only the part which DPAG needs for transport and delivery of mail even though the measuring of transit times should be oriented to the customer's perspective.

In order to ensure the quality standards defined in the PUDLV are met, it is therefore necessary to develop a new measuring system that enables an independent body to measure the transit times for letter mail services provided in the postal market (or an independent body to commission any such measurement of transit times). The implementation of any such measuring procedure will be subject to the availability of relevant budget funds which means it will be subject to finance and the creation of relevant statutory requirements.

Postal secrecy und postal data protection in respect of hybrid mail services

The postal sector is currently undergoing a major structural upheaval and faces huge

challenges in view of the growing substitution from electronic products and services. Companies providing postal services are responding to these challenges by developing new products and services and are paving the way for electronic mail services and for so-called hybrid services (i.e. a combination of electronic handling and paper delivery).

This trend is also having implications for the postal secrecy and data protection in relation to postal services. As such, the basic question is being raised as to what data protection regulations new products and services such as hybrid mail and online mail coming onto the market are subject to and what data protection regulations need to be observed. In this context, it is envisaged investigating more closely how postal secrecy and data protection in relation to postal services can be safeguarded with hybrid mail services. As such, special importance will be attached to conducting a thorough analysis of the so-called transformation phase. This relates to the transition between electronic and physical media within the framework of the service provided ("discontinuity of media").

International experience gained by other countries such as Italy, Austria and Switzerland which have a wealth of experience under their belt with the categorisation of relevant products and services in terms of data protection is also to be taken into account in the coordination process and legal analysis of these problems.

Cooperation in the ERGP

The ERGP (European Regulators Group for Post) held its first meeting on 1 December 2010 following its establishment as an expert advisory group by the European Commission on 10 August 2010[6]. However, it will not launch its operational activities until 2011 after the general assembly has adopted the rules of procedure, has elected the Chairperson and Vice-chairperson and has adopted the first working programme on 1 December 2010.

The group will be composed of the national regulatory authorities in the field of postal services, hence the Bundesnetzagentur.

The group's tasks are as follows:

- to advise and assist the Commission in consolidating the internal market for postal services, to advise and assist the Commission on any matter related to postal services within its competence and as to the development of the internal market for postal services and as to the consistent application in all Member States of the regulatory framework for postal services;
- to consult, in agreement with the Commission, extensively and at an early stage of its expert work with market participants, consumers and end-users in an open and transparent manner.

The Bundesnetzagentur will cooperate actively in this Group and will contribute the entire wealth of its own regulatory experience in order to help the Group perform these tasks as efficiently as possible.

ENERGY

The Bundesnetzagentur's responsibilities in terms of the energy markets will focus on rates

[6] Official Journal C 217 of 11 August 2010, p. 7.

regulation, support for necessary network expansion, improvement of market structures to stimulate competition, creation of the foundation for increased European integration of networks and energy trading markets and reinforcement of the integration of renewable energy sources into market economy structures.

Rates regulation

Rates regulation will play a key role in 2011, particularly in the gas networks. 2010 was the base year for the second gas network regulatory period. Following the concept of incentive regulation, the network operators were allowed to keep all rationalisation and efficiency gains achieved in the first regulatory period, to create a greater impetus for more efficient network management. With the base year costs, it must now be determined to what extent this concept has proved successful. The costs of this base year will form the foundation for the revenue cap applicable from 2013 and will then allow network users to also benefit from the efficiency progress made by the network operators.

Cost examination in the gas sector

To this end, in the second half of 2011 the Bundesnetzagentur will establish the initial parameters for determining the revenue caps applicable to gas network operators in the second regulatory period using a comprehensive cost examination based on data from the base year 2010 - this being the first complete cost examination as per the requirements of the Gas Network Charges Ordinance since the introduction of incentive-based regulation. The authority's evaluation method will not change dramatically from that used for the last cost examinations. However, amendments to the legal framework which have occurred in the interim must be adequately adopted in the examination.

Efficiency benchmarking preparations

Along with the data for the cost examination, structure data for efficiency benchmarking as of 30 June 2011 should also already be collected. A consultation on the data to be collected and the corresponding data entry form was already held in 2010 for the DSO structure data. A consultation on content and scope of data collection regarding structure data for TSOs and cost data for DSOs and TSOs will be held in 2011. The cost blocks or input parameters ultimately to be taken into account should be determined by the end of 2011. Efficiency benchmarking can then be carried out in 2012 and consequently the revenue caps set for the second regulatory period for gas network operators.

In order to be able to carry out DSO efficiency benchmarking in 2012 for the gas sector and to record the individual efficiency values, in 2011 the Bundesnetzagentur will collect the load, structure and sales data from the network operators for the business year which ended in 2010 as required under sections 12 to 14 of the Incentive Regulation Ordinance (ARegV), and check this data for plausibility. Moreover, the first preparatory work for structure data collection from the DSOs in the electricity sector, due to take place in 2012, is already being carried out.

Determination of rates of return on equity

Preparation for the second regulatory period in the gas sector which begins in 2013 also involves determining an appropriate rate of return on equity. For gas network operators, this should occur by the end of 2011 for the next period. Currently, a rate of return of 9.29 percent applies

to electricity and gas network operators for new facilities. As the first period for the gas sector lasts only four years, the rate for the second regulatory period in this sector must be determined earlier than the electricity sector.

Special rates for avoiding direct line construction

The Bundesnetzagentur will also attend to special rates within the context of rates regulation for gas networks. Section 20(2) of the Gas Network Charges Ordinance (GasNEV) provides for the possibility of ensuring a special rate for the network operator in question in order to avoid direct line construction (generally connection to the upstream network). In the past, these charges have increasingly been agreed without any basis for calculation being in place that is sufficiently transparent, comprehensible and comparable for all involved. The Bundesnetzagentur plans to draft a guideline for calculating these special rates. The aim is to develop the guidelines in cooperation with the state regulatory bodies, so that it can be applied nationally as a uniform basis for the creation of these special rates.

Quality regulation

The Bundesnetzagentur plans to start quality regulation in terms of network reliability on the 1 January 2012 for the DSOs in the electricity sector. For this reason, the quality elements for all network operators who are not participating in the simplified procedure will be collected and communicated to the network operators in 2011.

Furthermore, it should be investigated how quality regulation in terms of network performance could be established. Unlike regulation of network reliability, for which there is already a wealth of experience on an international level, network performance is a relatively new quantity for quality regulation and needs to be investigated in detail before application.

Implementation of gas quality regulation should, under section 19(2) of the ARegV, take place at the beginning or during the second regulatory period, if sufficiently robust data are available. As, unlike in the electricity sector, no established parameters are available for the gas sector, it should first be analysed – based on initial findings in gas network reliability resulting from two projects involving the sector – which parameters can be used constructively to regulate quality of gas supply.

Analysis of key business processes in network operation

Serious changes to the depiction of the network companies' balance and profit-loss statements occur through the creation of "smaller" companies in particular. While previously, write-downs and financing costs were, alongside personnel expenditure, the biggest items for large integrated companies, it is now the other operational costs which constitute the largest item, as all amounts from the service contracts fall under this area. In future this requires more transparent presentation of the areas of responsibility for the electricity network sector for which current outlay costs (arranged according to the key business processes) occur in a business year. Description of possible business processes should provide clear information about the key cost drivers.

Network expansion

Expansion of the network infrastructure, particularly in the electricity sector, and within that in the transmission networks especially is one of the central tasks for the coming years.

This is backed not only by numerous studies and concepts such as the Dena network studies, the federal government's energy concept and the Commission's communication of 17 November 2010 regarding an integrated European energy network. It is also reflected in the day-to-day work of the Bundesnetzagentur as an intermediary and information provider for line construction plans and the approval of various investment budgets. In this context, special focus will be on the following tasks in 2011.

Network expansion plans

The third Internal Energy Market Package, to be implemented by the Energy Act, requires TSOs from 2012 to submit a so-called ten-year network development plan on an annual basis, in which they must record their mid and long-term plans for investment. To this end, future capacity requirement must be calculated and scenarios developed regarding the development of supply and demand for electricity and gas. The Bundesnetzagentur will assume responsibility for examining these plans, requesting changes where necessary and overseeing their implementation. In order to appropriately be able to manage these new and complicated tasks immediately after the laws implementing the EU Directives have been issued, a concept for checking such plans is to be developed over the next year, setting out in greater detail the sequence of events and the content requirements for authority checks. The aim is to limit the amount of bureaucracy for all involved, however at the same time to ensure that all interested parties are involved and able to express their opinion to a sufficient degree and at the right time.

Furthermore, greater understanding of actual flow developments and expansion requirements in Germany, along with possible supply and demand scenarios should be achieved for the gas pipelines sector - most likely with expert support. The first step for the electricity sector is regionalisation of the relevant scenario framework - this being necessary for network expansion - and the second is the creation of a network expansion model.

Determining operating cost flat rates

Along with further support for the network expansion plans, a closer examination of the operating costs for new infrastructure is on the agenda for 2011. Following the amendment to the ARegV in summer 2010, from now on not only capital costs but also operating costs are approved within the investment budget (section 23(1) sentence 3 of the ARegV). In individual cases the Bundesnetzagentur may set values which deviate from the flat rate of 0.8 percent generally applicable here. It will exercise this authority in the course of the year.

Improvement of market structures

Rates regulation and network expansion on their own may be necessary, however, they do not provide sufficient conditions for the development of effective and sustainable competition on the energy markets. There are numerous additional issues which could and must lead to the improvement of market structures in order for competition to truly be able to come into effect.

Smart Metering, Smart Grid and Smart Market

Adaptation of market structures to increasingly volatile electricity generation is a prominent topic within these areas. This goes far beyond enhancing the networks to deal with volatile feed-in. Probably of greater significance is activating the consumers' own market interests in generation and consumption in order to achieve

considerably more flexible behaviour and adaptation to fluctuating energy supply and demand that is oriented towards market prices.

For this reason, the Bundesnetzagentur will add a contribution on a smart market concept to the discussion on smart metres and publish a key elements paper on this. This aims to provide a foundation for future discussion of this highly heterogeneous topic. The Bundesnetzagentur will draw a distinction between a physically intelligent network and a "smart market" characterised by contractual relations and market roles. The Bundesnetzagentur strives to present guiding principles regarding which market role beyond the network operators could intervene with the customer by switching loads on or off, or whether customers primarily assume this control themselves due to the incentives (eg via price signals as a result of variable tariffing) and how this could be organised.

This context also incorporates the topic of electromobility. In addition to questions of non-discriminatory access to, for example, load infrastructures, direct starting points can be found in smart metering, battery storage capacity, remote-controlled and cost-optimised load situations via variable tariffs and switching options, as well as avoiding inefficient network expansion resulting from too much simultaneity.

Restructuring of accounting system for balancing energy

In order to balance discrepancies between forecast and actual electricity consumption, the balancing groups responsible for supplying the electricity consumers make use of so-called balancing energy. This first involves balancing groups in which the actual consumption is lower than forecast being netted with balancing groups in which the actual consumption is higher than forecast. The remaining discrepancy – ie the surplus or shortfall in the total of all balancing groups – is balanced by the TSOs through system balancing energy.

The costs incurred through the use of this energy are billed to the balancing groups under the so-called balancing energy price. In this way the balancing group managers should be encouraged to operate their group in as balanced a way as possible, so that the forecast and actual consumption are as close as possible. However in some situations, the current system for determining balancing energy prices as set out in the Electricity Network Access Ordinance (StromNZV) leads to an apparent lack of sufficient financial incentives for careful and balanced management of the balancing groups. Moreover, the Bundesnetzagentur has received indications of systematic long or short portfolios over a longer period of time, resulting in arbitrage revenue being made. This leads in part to considerable usage of balancing energy and increased use of expensive system balancing energy.

The Bundesnetzagentur intends to investigate any abnormalities in the balancing groups' forecasts for possible systematic false incentives or other undesirable developments. Based on this, it then intends to develop solutions which involve stronger incentives for balanced management of the balancing group. It is planned for the relevant market participants to be involved with the discussion.

Report on balancing energy systems

One significant improvement in the gas market structures was the determination of the basic model for the balancing regime in the gas networks (GABi Gas). The Bundesnetzagentur will not merely stand by, but will instead evaluate the economic effects of the balancing energy system and report these to the BMWi as per section 30 of the amended GasNZV.

The report will be drafted with the particular involvement of the business circles concerned (section 30 sentence 3 of the GasNZV) and will likely shed light on the following aspects: impact of the introduction of daily balancing, balancing energy rates, the appropriateness of various regulations on the customer groups, the situation in the balancing energy market and the differences accumulated in the network as per Communication no. 4 regarding GABi Gas. This evaluation will be flanked by consideration of the European balancing regimes and lead to proposals regarding the further development of the current regime.

Capacity management

Another topic area is the adoption and monitoring of the implementation of the determination on capacity management in the gas sector. The availability of capacity is key to competition in the gas sector. Currently demand far outstrips supply, particularly at the cross-border points of interconnection and interconnection points between entry/exit zones. At the same time it can be presumed that much more efficient use could be made of capacities, as suggested by the actual physical use of some, at least, of the points of interconnection. In light of this, in early 2010 the Bundesnetzagentur opened proceedings for determinations on capacity management restructuring. This has been changed in two respects compared to the notification. On the one hand, the new GasNZV has come into force in the interim, containing various provisions regarding capacity management. Furthermore, the gas TSOs presented a concept detailing a primary capacity platform and the auction design as of 15 October 2010. The procedure was therefore expanded to encompass establishing the primary capacity platform in particular, upon which capacities will be allocated in an auction from 1 August 2011. There are plans to make additional determinations here where necessary. In 2011, monitoring the implementation of the new capacity management will be one of the Bundesnetzagentur's main focal points.

Reducing the number of market areas

The reduction and set-up of the German gas market areas will be another core area of activity for the Bundesnetzagentur in 2011. The TSOs are obligated to reduce the number of market areas from six to three by 1 April 2011. The Bundesnetzagentur will follow the market area consolidation process closely with the aim of ensuring that the network operators are aware of their cooperative duties. As the network operators have for the first time taken the approach of merging H-gas and L-gas market areas into one, particular attention will be paid to the question of how efficient framework conditions could be established for multi-quality market areas.

Future function of the gas networks and new gas market structures

The gas market in Germany is currently undergoing a phase of fundamental changes, triggered partially by regulation (eg competition

development, increase in new providers) and also in part by changing international market structures (eg price erosion on trade markets, pressure on link between gas and oil prices, influence of LNG gas on the European market, influence of shale gas on Europe). Changes can also be observed in the structure of procurement contracts (eg more short-term contracts, price maintenance) and the nature of long-term import contracts (duration, price maintenance). Over the next few years, these developments will likely spread further as a result of changes to market share, contracts and market structures in terms of the actors involved (role of import companies, increased market entry by producers, self-organisation of producers).

At the same time, the demand situation is also constantly changing, with far-reaching effects expected – particularly in light of the significant expansion of heat source providers (wood pellet heating, heat pumps etc) in the household sector in particular on the one hand, and increasing energy efficiency measures (heat insulation and passive housing) on the other, the demand for natural gas as a source of heat energy for first connections has decreased and a reduction in existing demand is also expected. Last but not least, combined heat and power facilities and the expansion of district and local heating supplies are also currently being promoted by politicians. This leads to reduced usage of existing gas distribution networks and therefore a trend towards increasing specific network charges.

The tremendously well-expanded natural gas infrastructure can help to transport SNG (substitute natural gas = biogas, hydrogen and synthetic gas, produced using hydrogen and carbon dioxide) to heat sinks and areas with a high level of electricity consumption and to store it, or to direct it towards usage in the traffic or heating sectors. For this reason, from a regulatory perspective it is of central importance to develop a greater understanding of the changing market structures in order to take appropriate regulatory measures, for example the development of regulatory framework conditions, for integrating SNG as a link between the electricity and gas networks or of reasonability criteria regarding if and when network users are to accept a reduction in distribution networks no longer used.

Creation of an integrated European energy market

Creation of an integrated European energy market has been a principal objective of European and subsequently national regulation, even prior to the Commission's communication of 17 November 2010. Since its foundation, the Bundesnetzagentur has been active in almost all European entities and organisations to uphold the foundation of cross-border energy trade, coordinated network management and constructive and sustainable implementation of the packages of directives.

Implementation of Third Energy Package

After the EU's third internal energy market package came into force on 14 August 2009, acts of transposition for Directives 2009/72 and 2009/73 must follow by 3 March 2011. In the face of numerous new and altered duties for national regulatory authorities, the Bundesnetzagentur will be actively involved in the anticipated discussion process on a national and European level. The new regulation coincides with the revision of the Renewable Energy Sources Act (EEG), which is of key significance for achieving the energy and

climate-associated political objectives and has strong repercussions for the networks. From the perspective of the Bundesnetzagentur, central issues in both legislative procedures are a consistent regulatory framework for unbundling electricity and gas TSOs, measures for coordinating and accelerating necessary energy line construction, ensuring system security and cost control when integrating renewable energy sources, and effectively-designed energy consumer protection.

Involvement in ACER

The Bundesnetzagentur intends to take a constructive role in the creation of ACER. The Agency's work will officially commence on 3 March 2011 in Ljubljana, with all personnel involved onboard however by the end of the year. In addition to its involvement in the Board of Regulators, the Agency's decision-making body, the Bundesnetzagentur will also actively participate in preparatory regulator working groups and introduce its knowledge and experience to discussions on a European level in order to represent its position in a way befitting the weight of the German energy market.

The Agency's[7] working programme for 2011 includes, amongst others, the following principle items:

- Drafting of framework guidelines and communicating these to the Commission;
- Commenting on draft statutes and rules of procedure as well as the membership list for ENTSO-E and ENTSOG;
- Commenting on ten-year-network development plans by ENTSO-E and ENTSOG;
- EU-wide evaluation of the transmission structure required for cross-border electricity flows under ITC guidelines[8].
- Preparation for assuming monitoring duties.

What is more, the Bundesnetzagentur will also be involved in the activities of the Council of European Energy Regulators (CEER), which complement those of the Agency. The CEER will, amongst other things, deal with the topics of supply security and infrastructure, consumer protection, climate change and renewable energy sources, energy trade and international relations.

Certification of transmission system operators

As required under the Third Energy Package, all electricity and gas TSOs will in future be subject to certification of compliance with the unbundling rules by the Bundesnetzagentur. This process primarily concerns corporate law and intra-company relations between a TSO and its owners. The complex procedure should be prepared in 2011 on the basis of the Energy Act framework in close cooperation with the relevant parties in order to ensure swift completion.

Congestion management at German borders

The constant development of congestion management plays a key role in further strengthening competition and promoting the internal electricity market. The Bundesnetzagentur will continue to actively accompany the various initiatives on a regional and European level for improving congestion management. On the agenda for 2011 in particular is the determination of detailed European

[7] "2011 Work Programme of the Agency for the Cooperation of Energy Regulators" of 21 September 2010, http://www.energy-regulator.eu
[8] "European Energy Regulators' 2011 Work Programme" of 8 September 2010, http://www.energy-regulators.eu

specifications within the context of the procedures provided for in the Third Energy Package (framework guidelines and network codes). Following the successful coupling of the markets in Northern and Western Europe in 2010 with the support of the Bundesnetzagentur, marking an important step in the creation of an internal market, market coupling should now be instigated in Eastern and Southern Europe. Furthermore, the introduction of load flow-based allocations in Central Eastern and Western Europe is planned for 2011/12. Another focal point of harmonisation is the development of cross-border intraday capacity allocation. Improvements are expected here in the short-term allocation of these capacities by 2012, particularly between Germany and its neighbours in Northern and Western Europe.

Security of electricity supply

In 2011, the Bundesnetzagentur will continue its commitment to improving security of supply. To achieve this, it will actively participate in the development of European framework guidelines. It is important to expand upon the possibilities associated with the market-neutral influence of the TSOs on the way plants are run to avoid short-term network restrictions (redispatching, countertrade). Moreover, both security of supply and competition will be improved by the expansion of possibilities offered by cross-border system balancing energy.

Improved transparency in fundamental data

Improving transparency is crucial for strengthening energy trade and competition. In 2011, the Bundesnetzagentur will therefore remain committed to further improving transparency of fundamental data, particularly of generation data in the electricity sector and gas flow data in the gas sector, in order to achieve equal competitive conditions for traders throughout Europe. In this respect it will actively follow discussions on a European level regarding the creation of binding transparency requirements via comitology guidelines.

Strengthening market integrity at energy trading points

The Bundesnetzagentur views improvement of the legal framework for energy trading as indispensible. The suggestions made by the European energy and financial markets regulators (ERGEG/CESR) in 2008 for improving transparency and combating market abuse have been taken up by the European Commission. The Bundesnetzagentur will advise the federal government on the implementation of the legal requirements. Furthermore, through its involvement in the European regulator's association, it will advise the commission on the details of the suggestions. It will also present the Commission in 2011 with suggestions for establishing a European energy trade licence.

Since mid-2010 the Bundesnetzagentur has also supported the German tax authorities in preventing VAT fraud in energy trading. In 2011, the Bundesnetzagentur will continue these activities, in order to safeguard fair competition in energy trading and to protect the government from tax fraud.

European target model for gas market harmonisation

In the gas sector in 2011, one focus for the European regulatory bodies will be the development of a European target model for European gas market design. This target model should

develop aims regarding such elements as market coupling, market merging, entry-exit systems structure; define overarching harmonisation aspects (eg gas day harmonisation) and clarify the context between the individual legal instruments. The underlying concept for the project, which the Commission called upon the ERGEG to oversee in 2010, is the development of a coherent set of so-called framework guidelines, including time specifications, via an overall conceptual approach.

The Bundesnetzagentur will cooperate intensively on this topic, incorporating its experiences of national regulatory activities. It will be involved in accompanying scientific studies and aims to assume a leading role in the project. The project includes various workshops and consultations with experts and market participants.

Guidelines for the gas market

Another focus of European activity is work on the framework guidelines, which provide specifications for the European network of transmission system operators for gas (ENTSOG) across a range of topic areas. These specifications are then to be followed by the network operators in their network access, management and usage codes. For the gas market in 2011, this concerns the guidelines for capacity allocation, congestion management and balancing.

The aim is to promote competition through, amongst other things, the reduction of contractual congestion at central connection points in the European gas network association. A comitology procedure is expected for congestion management, which will also be overseen by the ERGEG.

Harmonized Transmission Tariffs

Ultimately, the Bundesnetzagentur plans to become intensively involved in the European Commission's intended harmonisation of regulations for transmission charge structures on a European level. In this respect ACER is obligated under Regulation (EC) No. 715/2009 when requested by the Commission to present within at most six months a non-binding framework guideline containing precise and objective principles for developing network codes. The working plan submitted by ACER includes drafting of the framework guideline for 2011. The Bundesnetzagentur already contributed to preparatory considerations in 2010 and plans to assist in the shaping of discussions on a European and national level whilst actively participating in the development of the framework guidelines.

Renewable Energy Sources

In 2011, the Bundesnetzagentur will once again work intensively on the issue of market and network integration of renewable energy sources. It will investigate numerous connection and network security questions, in addition to the correct calculation of the renewables surcharge and proper, expanded trading of renewable energy on various markets. Two projects in particular are highlighted.

Report evaluating the Renewable Energy Sources Act equalisation mechanism

The Bundesnetzagentur will submit a report evaluating and making suggestions regarding the further organisation of the renewable energy equalisation mechanism to the Federal Ministry of the Environment and the Federal Ministry of Economics and Technology by 31 December 2011 at the latest. The report will look in detail at experiences of TSO trading elec-

tricity for which tariffs are payable under the EEG, the calculation and passing on of the renewables surcharge, the impact of the Equalisation Mechanism Ordinance on the electricity market and the transfer of trading duties from TSOs to independent third parties.

Biogas

One topic of core importance to the Bundesnetzagentur is the creation of greater legal certainty for the connection of biogas facilities and for access by those feeding biogas into the gas supply networks. The focus here is on resolving questions of interpretation regarding key provisions of part 6 of the amended GasNZV, resulting from fundamental changes to biogas feed-in, and also on moderating informal negotiations between those wishing to connect and the network operators.

In addition, in 2011 the Bundesnetzagentur will for the first time present the federal government with a monitoring report on the development of biogas feed-in in Germany. Alongside investigating the degree to which the above-mentioned goals have been achieved, this report will also comment in particular on the cost structure for biogas feed-in and the achievable profits. Cost burden development for networks and storage in light of biogas feed into natural gas networks is also to be investigated, and it must be ascertained whether model contracts are required for connection of biogas facilities and for the feed-in and transport of biogas.

RAILWAYS

The following activities should be emphasised from the large number of activities in the area of railway regulation planned for 2011.

Economic principles

Incentive regulation

After publishing a report on the introduction of incentive regulation in the railway sector back in 2008 and after continuing to addressing individual methodical issues, reviewing regulatory law will continue to be a focus in 2011.

The review is being implemented with a view to creating the legal framework for efficiency-oriented regulation, enhancing access to the railway infrastructure in order to boost competition in the railway sector. This issue is currently being discussed at European level (Recast 1st railway package).

Determining pricing components

In order to review the calculation of prices charged for railway infrastructure, methods are being developed that facilitate pricing for train paths that is compatible with the law based on market feasibility within the railway sector. A concept for determining the necessary costs incurred directly by train movements will be drawn up separately.

Price regulation

Focal point of the review in 2011

The Bundesnetzagentur has been actively reviewing prices charged by railway infrastructure companies since 2006 and has achieved a number of important successes in this area. The reviews have hitherto focused, by and large, on ensuring prices charged are non-discriminatory. It is vital for all parties with the right of access, including many newcomers and competitors of DBAG, to know that they face a level playing field in terms of prices charged by railway infrastructure companies. In the years to come, in addition to ensuring prices charged are non-discrimina-

tory, price reviews will focus more on identifying a general misuse of price increases. As such, it will need to be clarified whether railway infrastructure companies are generating excessively high profits because they are charging excessively high prices.

- Review of a potential general misuse of price increases by railway infrastructure companies:
  After the Bundesnetzagentur managed to specify the basis for this review in 2010, it is now about to launch further, concrete steps. The expert report conducted by Frontier Economics Ltd. on behalf of the Bundesnetzagentur and the expert report on the costs of capital that involved consulting the public will above all serve as a starting point. The expert report contains a concrete estimate as to what profits can be deemed reasonable taking the special circumstances in the German railway sector into account. Broken down into the type of infrastructure operated and into federally-owned and non-federally owned railway infrastructure companies, the expert report defines criteria for the calculation of profits. This information will render it possible to compare the profits prescribed by law and the profits actually generated by the railway infrastructure companies in future. This should counteract any misuse of price increases. The Bundesnetzagentur will focus first and foremost on the federally-owned railway infrastructure companies in its review, bearing in mind that DB Netz AG and DB Station& Service AG have managed to raise their corporate profits considerably in the past few years. There is therefore a general demand among market players in the railway sector for the level of profits generated to monitored more closely.

- Review of DB Netz AG's train path pricing system:
  In 2010, the Bundesnetzagentur completed the review of the so-called regional factors in DB Netz AG's train path pricing system, drawing the conclusion that the regional factors did not meet the requirements of non-discriminatory pricing. The review of DB Netz AG's train path pricing system is to be stepped up in the coming year. To this end, in addition to ensuring the profit ceiling (see above) is being adhered to, the distribution of costs is also to be examined more closely. The Bundesnetzagentur will examine whether the statutory criteria in relation to pricing which guarantee standard market prices are being charged have been observed.

Price guide

The Bundesnetzagentur is planning to publish a price guide in 2011. This guide is intended to provide railway infrastructure companies with a document that provides information about statutory requirements and the requirements they need to meet in relation to the level of prices and price structure. As such, the Bundesnetzagentur is endeavouring to identify error sources that occur frequently, thereby helping to promote a better understanding of the legal system among the railway infrastructure operators. The aim is to reduce the number of cases in which controversial prices are set and to create greater legal certainty.

The guide will be published initially for infrastructure managers who face special statutory requirements in relation to price regulation. However, information that is relevant for the operators of service facilities will gradually be added to the guide.

Concept for a noise-based train path pricing system

The statutory regulations set forth in Section 21 subsection 2 of the Rail Infrastructure Usage Regulations allow for train path prices to contain a rate component that takes the costs of the environmental effects of train operations into account and thus facilitates a differentiation of train path prices based on noise and emission. The Bundesnetzagentur has been involved in considerations on how to achieve noise-based train path pricing systems in the past in a working group that was initiated by the Federal Ministry of Transport, Building and Urban Development. The conceptual work is to be continued in 2011.

A final recommendation is being drawn up for political decision-makers based on the experience gained so far, for instance, in mapping potential variants of noise-based train path pricing systems, and on the results that have meanwhile been achieved by expert reports. It is also envisaged that the members of the working group will continue to keep a close eye on future developments in relation to the introduction of a noise-based train path pricing system in the future.

Monitoring the station price system 2011

The new station price system for 2011 (SOS 2011) that has been the subject of intensive debate in the market and requires railway undertakings to pay for use of the approx. 5,400 passenger railway stations and stops of DB Station&Service AG took effect on 1 January 2011. Even though the new station price system is legally effective, the Bundesnetzagentur will continue to monitor station price systems very closely in the years to come.

In the third quarter of 2010, the Bundesnetzagentur carried out a review in order to establish whether the new station price system is compatible with the requirements of railway legislation. The new station price system meets many of the market requirements in terms of differentiated price and price levels. The above-mentioned differences in levels of cost coverage in the individual Federal Länder which had been a major cause of objection by the Bundesnetzagentur have been eliminated. The reference made to public transport authorities' regions has the added benefit of ensuring that funding granted by public transport authorities and any expansion of rail services requested will only affect prices in the respective region.

The price component "train length factor", that by and large justifies the distribution of the burden of costs between long-distance passenger transport and short-distance passenger transport, was backed sufficiently by objective criteria at the time the review was carried out. The Bundesnetzagentur therefore accepted the regulations, albeit with some reservations. DB Station& Service AG is now required to submit a pricing system that is compatible with railway legislation over the course of 2011 and to explain the impact the pricing system is likely to have on the various groups of market players.

The impact the new station price system 2011 is having on the competitive process will be a focal point of the Bundesnetzagentur's future review activities. It is planning to take a very close look at whether the costs incurred by DB Station&Service AG, on the basis of which it calculates its prices, are based on efficiency. Last but not least, the level of prices charged is not permitted to disproportionately exceed the underlying costs incurred. Accordingly, this means that profits generated by the operation of passenger railway stations must not be disproportionately high either. The aim is to create the prerequisites for enhancing new station price systems on an ongoing basis, focusing on the needs of market players which will potentially include newcomers providing long-distance passenger transport services.

Coordination procedure

When the working timetable for 2011 was drawn up, a total of 56,000 train path requests were submitted, approx. 12,500 of which involved usage conflicts.

Section 9 subsection 3 of the Rail Infrastructure Usage Regulations makes provision for a coordination procedure for dealing with any conflicts that may arise. According to DB Netz AG, nearly all train path conflicts having been resolved using this procedure in the past few years. However, with hindsight, it has become apparent that parties with the right of access did frequently voice criticism about the process, communication, transparency and solution possibilities in relation to the coordination procedure.

The Bundesnetzagentur was informed, inter alia, that the railway undertakings involved in the conflict were offered fewer train paths than requested or alternative train paths that were at variance with the train paths requested. The coordination process generally lacks transparency. Furthermore, the Bundesnetzagentur has not yet received any detailed information on how the conflicts were specifically resolved. The coordination procedure has not yet been described in detail.

Against this backdrop, the Bundesnetzagentur instituted principal proceedings. The aim of the proceedings is to oblige DB Netz AG to draw up a detailed description of the coordination procedure by spring 2011 in order to ensure that a standard and transparent process is used in future to resolve any conflicts arising from train path requests. The description of the coordination procedure is to supplement the principles governing the coordination procedure hitherto contained in the network statements. The Bundesnetzagentur is keen to ensure that DB Netz AG will adopt this procedure in the construction phase of the 2012 working timetable. As such, the Bundesnetzagentur will ensure the new regulations are applied in practise and, if applicable, will request DB Netz AG to supplement and optimise the coordination procedure.

Operating inconveniences caused by construction measures

Parties with the right of access regularly incur higher costs for the provision of their rail services if they face the inconvenience of construction measures. Detours and other inconveniences mean they incur higher costs for train paths, personnel and energy not to mention additional costs incurred by the need to use additional railcars and locomotives. If and when trains are cancelled, they incur costs by having to offer alternative rail services and by having to pay stabling charges.

The Code of Rules "Travelling and Building" ("Fahren und Bauen") allows parties with the right of access to submit costs incurred by operating inconveniences within the framework of statements which means they can be incorporated into the assessment on how the construction measures should be implemented. How these statements are actually incorporated and weighted in practical terms in the construction measures carried out by DB Netz AG is to be established in the principal proceedings which are already underway. The Bundesnetzagentur is to actively monitor the planning of construction measures during the various stages of development. The aim is to find out whether the interests of parties with the right of access are being taken adequately into account.

It is also to be examined whether DB Netz AG is providing parties with the right of access with sufficient information about planned construction measures to enable them to accurately estimate the costs they will incur as a result of operating inconveniences and to allow them to submit well-founded statements.

Rail infrastructure capacity

There are three factors that are threatening to cause capacity bottlenecks in the German railway infrastructure over the years to come. Firstly, the economic revival has meanwhile led to an increase in freight transport, secondly there has been a sharp rise in competition in long-distance passenger transport services and thirdly Germany will be required to set up three European rail freight corridors within the next three to five years. This means the procedure "Congested rail infrastructure" (Section 16 to Section 18 of the Rail Infrastructure Usage Regulations) is steadily gaining momentum. This is likely to cause conflict particularly in the main junctions between passenger transport and freight transport, although passenger transport is meanwhile being developed using "integrated timed transfer," whereas freight transport compa-

nies expect open access, frequently in order to facilitate occasional transport at short notice: both involve a sharp rise in traffic and congestion of the railway infrastructure that are virtually incompatible.

The most important European rail freight corridor from the ARA ports (in Antwerp (Belgium), Rotterdam (Netherlands) and Amsterdam (Netherlands) will run along the River Rhine to Switzerland and Northern Italy. The countries bordering on Germany in the North and South, the Netherlands and Switzerland, are already organising their rail transport as "system transport" in a bid to optimise operational and transport-related needs. Notwithstanding this, the German Rail Infrastructure Usage Regulations do not yet make any provision for using long-term planned "system train paths" for the planning and allocation of train paths which means that the overall problems involved need to be examined in a comprehensive project and that solutions for concrete use will need to be found. Cooperation between the regulatory authorities will need to correspond to cooperation between the infrastructure managers. The spectrum of tasks that the Bundesnetzagentur will be required to perform is moving away from monitoring the allocation of train paths towards reviewing whether the market needs of all modes of transport (short-distance and long-distance transport, passenger transport and freight transport respectively) are being taken adequately into account in a non-discriminatory way in terms of volume and time-related problems.

Passenger railway stations

Competition has been gaining momentum steadily in recent years particularly in short-distance passenger transport as public transport authorities will be reallocating two-thirds of the nationwide transport services by 2015. The share of transport services provided by the railway undertakings competing with the railway undertakings belonging to DB Bahn AG has increased steadily in the past, peaking at 12 percent in 2009. In keeping with this trend, there is bound to be a growing demand among competitors for passenger railway stations and the specific usage facilities available at these railway infrastructures.

For parties with the right of access, it is not just the basic availability but also the concrete facilities available at railway stations that are important (quality and quantity). Yet there is often uncertainty about the specific rights and obligations incumbent upon operators of railway facilities and parties with the right of access.

A trend is also emerging which shows that parties with the right of access but also public transport authorities are trying harder to expand the range of services they themselves provide (e.g. retail services and information services vis-à-vis passengers). In areas in which infrastructure managers are no longer providing certain services or have ceased providing services facilities, competitors are insisting that they be permitted to offer passengers additional convenience and safety at their own initiative (quality competition). The Bundesnetzagentur has witnessed growing potential for conflict in this regard.

The Bundesnetzagentur will continue to press consistently ahead with the current proceedings, for instance, involving the issue of

services provided by railway station operators, access to information media, the possibility of competitors offering their own services at passenger railway stations and also what obligations can be passed on to parties with the right of access.

Market observation

The wide spectrum of tasks and activities in the area of railway regulation means it is essential for Bundesnetzagentur to have thorough knowledge of the regulated market. It needs to have access to up-to-the-minute, valid market data to enable it to carry out market-oriented regulation. In addition to obtaining information from external sources, the Bundesnetzagentur conducts market surveys as its own initiative in order to obtain the information it needs. An even further optimised version of this survey will be conducted for the sixth time in 2011. The findings and information gleaned from the evaluation of data supplied will be incorporated into the Bundesnetzagentur's publications and will be used as the basis for regulatory decisions. In addition, important market results will be mooted and discussed in a direct dialogue with trade associations and interested railway undertakings.

In order to further enhance the quality of the database available, the Bundesnetzagentur is planning in particular to intensify cooperation with other public authorities and to further optimise data recording processes.

Directive establishing a Single European Railway Area

On 17 September 2010, the EU Commission proposed a "Directive establishing a Single European Railway Area" (so-called Recast). The proposal mainly envisages a recast of the first railway package – in addition to making some minor amendments to the second and third European railway package by merging Directive 2001/12-14/EC with Directive 91/440/EEC and Directive 95/18/ EEC into a single directive. The aim of the proposal is to foster the integration and development of the European rail transport market in order to create a genuine EU single market. In addition to making substantive amendments, it also proposes amending the competencies of the EU Commission, the ERA and the regulatory bodies.

The Bundesnetzagentur will continue to monitor discussion of the proposed directive in close cooperation with the Federal Ministry of Transport, Building and Urban Development and the other European regulatory authorities.

Network of independent regulatory bodies

In 2010, the Bundesnetzagentur launched an initiative together with the regulatory authorities of Great Britain, the Netherlands, Austria and Switzerland to intensify cooperation between independent regulatory authorities in the railway sector in order to promote the exchange of information and expertise and the development of best practices in this sector, thereby pressing ahead with the European single market through consistent application of the European legal framework. The aim is to sign a "memorandum of understanding", specifying the details of intensified cooperation.

In this context, it becomes evident how valuable it can be to transfer the experience gained in other sectors – specifically the telecommunications and energy sector –- which can be lever-

aged so successfully by other sectors regulated by the Bundesnetzagentur.

Abbreviations

3

3 GPP
3rd Generation Partnership Project

A

ACER
Agency for the Cooperation of Energy Regulators

AEG
General Railway Act

AFuG
Amateur Radio Act

AGCOM
Italian communications regulatory authority

ARegV
Incentive Regulation Ordinance

ASIDI
Average System Interruption Duration Index

ASTRA
Satellite company

ATRT
Technical Telecommunications Regulation Commitee

B

BEREC
Body of European Regulators in Electronic Communications

BITKOM
German Association for Information Technology,
Telecommunications and New Media e. V.

BK
Ruling Chamber

BMJ
Federal Ministry of Justice

BMWi
Federal Ministry of Economics and Technology

BoR
Board of Regulators

BOS
Emergency organisations

BSI
Federal Office for Information Security

BVerwG
Federal Administrative Court

BZA
Outbound mail sorting centre

BZE
Inbound mail sorting centre

C

CA/DRM
Conditional Access/Digital Rights Management

CE
Conformité Européenne

CEER
Council of European Energy Regulators

CEN
European Committee for Standardization

CENELEC
European Committee for Electrotechnical Standardization

CEPT
European Conference of Postal and Telecommunications Administrations

CERP
European Committee for Postal Regulation

CESR
Committee of European Securities Regulators

CFV
Carrier-Festverbindung

CISPR
Comité International Spécial des Perturbations Radioélectriques

CMT
Spanish regulatory authority

CNSA
Contact Network of Spam Authorities

Com-ITU
Committee for ITU Policy

CPM
Capital Asset Pricing Model

CPM 11-2
ITU Conference Preparatory Meeting

CPNP
Calling Party's Network Pays

CR
Cognitive Radio

ct/kWh
Cent per kilowatt hour

ct/min
Cent per minute

D

DB AG
Deutsche Bahn AG

DECT
Digital Enhanced Cordless Telecommunications

DENA
Deutsche Energie-Agentur GmbH

DHL
Deutsche Post DHL

DISQ
German Institute for Service Quality

DOCSIS
Data Over Cable Service Interface Specification

DPL
Digital Powerline

DP AG
Deutsche Post AG

DSL
Digital Subscriber Line

DSLAM
Digital Subscriber Line Access Multiplexer

DT AG
Deutsche Telekom AG

DVB-T
Digital Video Broadcasting-Terrestrial

E

eANV
German waste management methods

e. V.
Registered association / society

ECC
Electronic Communications Committee

EEG
Renewable Energy Sources Act

EEX
European Energy Exchange

EFTA
European Free Trade Association

EIBV
Rail infrastructure
Usage Regulations

EMC
Electromagnetic Compatibility

EMF
Electromagnetic fields

EMV-RL
Electromagnetic Compatibility of Equipment Directive

EMVG
Electromagnetic Compatibility Act

EMVU
Electromagnetic compatibility and the environment

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EN
European standard

ENTSOG
European Network of Transmission System Operators for Gas

ENTSO-E
European Network of Transmission System Operators for Electricity

ENs
Harmonised European standard

EnWG
Energy Act

EPEX
European Power Exchange

ERA
Academy of European Law

ERG
European Regulators Group

ERGEG
European Regulators Group for Electricity and Gas

ESI
Electronic Signatures and Infrastructures

ETSI
European Telecommunications Standards Institute

EU
European Union

EUMETSAT
European Organisation for the Exploitation of Meteorological Satellites

EWI
Institute of Energy Economics at the University of Cologne

F

FARAMIR
Flexible and spectrum Aware Radio Access through measurements and modelling in Cognitive Radio Systems

FERC
Federal Energy Regulator Commission

FESA
Forum of European Supervisory Authorities

FRAND
Fair, Reasonable and Non Discriminatory

FreqBZP
Frequency Band Allocation Plan

FreqBZPV
Frequency Band Allocation Ordinance

FTEG
Radio Equipment and Telecommunications Terminal
Equipment Act

FTTB
Fiber to the building

FTTH
Fiber to the home

G

GABi Gas
Basic model for balancing services and balancing rules in the gas sector

GALILEO
European satellite navigation system

GasNEV
Gas Network Charges Ordinance

GasNZV
Gas Access Charges Ordinance

Gbit
Gigabit

GG
Basic Law

GHz
Gigahertz

GPS
Global Positioning System

GSM
Global System for Mobile Communications

GSM-R
Global System for Mobile Communications-Rail

GW
Gigawatt

GWh
Gigawatt hour

H

HD+
Digital platform for priced high definition television

HDTV
High Definition Television

H-Gas
High Calorific Value Gas

HSDPA
High Speed Downlink Packet Access

I

IARN
International Audiotex Regulators Network

IEC
International Electrotechnical Commission

IEEE
Institute of Electrical and Electronic Engineers

IKT
Informations- und Kommunikationstechnologie

ILS
Instrument Landing System

IMT
International Mobile Telecommunications

INSPIRE
Infrastructure for Spatial Information in Europe

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IP
Internet Protocol

IPR
Intellectual Property Rights

IPTV
Internet Protocol Television

IQ-C
International Group for Improving the Quality of Rail Transport in the North-South Corridor

IRG
Independent Regulators Group

ISDN
Integrated Services Digital Network

ISDN-PMx
ISDN-Primärmultiplex-Anschluss

IT
Information technology

ITC
Inter-TSO-Compensation

ITU
International Telecommunication Union

ITU-R
ITU Radiocommunication Sector

K

kHz
Kilohertz

kWh
Kilowatt hour

KWKG
Combined Heat and Power Act

L

L-Gas
Low Calorific Value Gas

LNG
Liquefied Natural Gas

LTE
Long Term Evolution

M

M2M
machine-to-machine

MB
Megabyte

Mbit/s
Megabit per second

MHz
Megahertz

MIMO
Use of multiple transmitting and receiving antennas

MMS
Multimedia Messaging Service

MRU
Management consultancy

MW
Megawatt

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MWh
Megawatt hour

N

NARUC
National Association of Regulatory Utility Commissioners

NBS
Service Facilities Statement

NEDDIF
North-Eastern Digital Dividend Implementation Forum

Network Codes
Netzzugangs-, Netzbewirtschaftungs- und Netznutzungsregeln

NGA
Next Generation Access

NGN
Next Generation Networks

nPA
New Personal ID

NotrufV
Emergency Services Access Ordinance

O

OneFit
Opportunistic networks and Cognitive Management Systems for Efficient Application Provision in the Future Internet

OVG
Higher administrative court

OVG NRW
The North-Rhine Westphalia Higher Administrative Court

P

PDSV
Postal Data Protection Ordinance

PLC
Powerline Communication

PMD
Radio monitoring and inspection service

PostG
Postal Act

PSTN
Public Switched Telephone Network

PUDLV
Postal Universal Service Ordinance

Q

Quasar
Quantitative Assessment of Secondary Spectrum Access

R

RFID
Radio Frequency Identification

RIG
Regional Initiative Gas

RRS
Reconfigurable Radio Systems

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RSC
Radio Spectrum Committee

RSPG
Radio Spectrum Policy Group

R&TTE
Radio equipment and telecommunications terminal equipment
and the mutual recognition of their conformity

R&TTE-RL
R&TTE Directive

S

SAIDI
System Average Interruption Duration Index

SES
Société Européenne des Satellites

SchuTSEV
Ordinance concerning the Protection of Public Telecommunications Networks and Transmitters and Receivers

SDR
Software Defined Radio

SGV
Rail freight

SigG
Electronic Signatures Act

SIM
Subscriber Identity Module

SMS
Short Messaging Service

SNB
Network Statement

SNG
Substitute Natural Gas

SRD
Short Range Device

StromNZV
Electricity Network Access Ordinance

T

TAIEX
Technical Assistance and Information Exchange Instrument

TAL
Local loop

TCAM
Telecommunications Conformity Assessment and Market Surveillance Committee

TETRA
Terrestrial Trunked Radio

THz
Terahertz

TK
Telecommunications

TKG
Telecommunications Act

TR Notruf
Technical directive on emergency calls

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TR TKÜV
Telecommunications Interception Ordinance

TSO
Transmission System Operator

U

UBA
Federal Environment Agency

UHF
Ultra-High-Frequency

UMTS
Universal Mobile Telecommunications System

UWB
Ultra Wideband

UWG
Unfair Competition

V

VDSL
Very High Speed Digital Subscriber Line

VDV
Association of German Transport Undertakings

VG
Administrative court

VHF
Very High Frequency

VoIP
Voice over Internet Protocol

W

WAPECS
Wireless Access Policy for Electronic Communications Services

WebGIS
Webservice Geoinformationssystem

WEDDIP
Western European Digital Dividend Implementation Platform

WIK
Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste

WiMAX
Worldwide Interoperability for Microwaves Access

WirelessMAN
Wireless broadband MAN technology

WLAN
Wireless Local Area Network

WMS
Web Map Services

WRC
World Radio Conference

WRC-12
World Radio Conference 2012

Z

ZDA
Certification service provider

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