Federal Network Agency

Annual Report 2008

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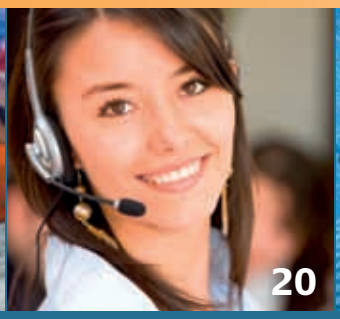
Federal Network Agency for Electricity, Gas,
Telecommunications, Post and Railway

Network innovation – Growth and employment opportunities



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President's message

The global financial and economic crisis calls for exceptional efforts and special measures to stimulate growth and employment. The provision of essential services for the public and investment in infrastructure are two focal points, offering as they do considerable potential to boost the economy.

Thanks to information and communications technologies, millions of jobs have been created with mobile communications and Internet services; consumer patterns have changed radically, as has the economy as a whole. And the innovative stimulus is far from over. As fixed and mobile connections are provided at ever higher speeds, promising new applications will emerge that are not possible with the capacity available today.

Thus broadband rollout is rightly the centre of interest. Yet there is still considerable doubt about whether the huge estimated investment of 30 billion euros can be financed, whether it is justified by demand and whether it will give potential investors the prospect of adequate returns.

The Federal Network Agency will be happy to share its experience from the past decade to facilitate achievement of the ambitious aims of the federal government's broadband strategy.

The aim of well-functioning competition and regulation has never been just low prices for the consumer, but has always included the provision of modern infrastructures and innovative services as well. In Germany, Deutsche Telekom AG and its competitors have built up, in almost equal parts, one of the most modern telecommunications infrastructures, investing multi-billion sums each year to do so. Hence we don't need to reinvent the wheel, in our case the competition rules; we must just apply them suitably to the new challenges. The rules are flexible and future-oriented enough. We will also take them forward where fibre rollout lends itself to collaborative activities and shared use of infrastructure.

Huge investment is also needed in the electricity and gas networks. These must be adapted rapidly to meet the requirements of Europe-wide trading and the promotion of renewable energy. At the same time, the debate about changes in grid ownership structure is fully underway.

The clear-cut decisions of the Agency are an important contribution to providing predictable framework conditions for huge, double-digit billion investment.

If risky promises of double-digit returns from the financial services sector have led to a massive destruction of capital as we have seen in past months, investment budgets and incentive regulation will bring medium and long-term security for investors in the networks and provide constant, steady returns. This should cause investors seeking long-term investments to rethink and consider the networks.

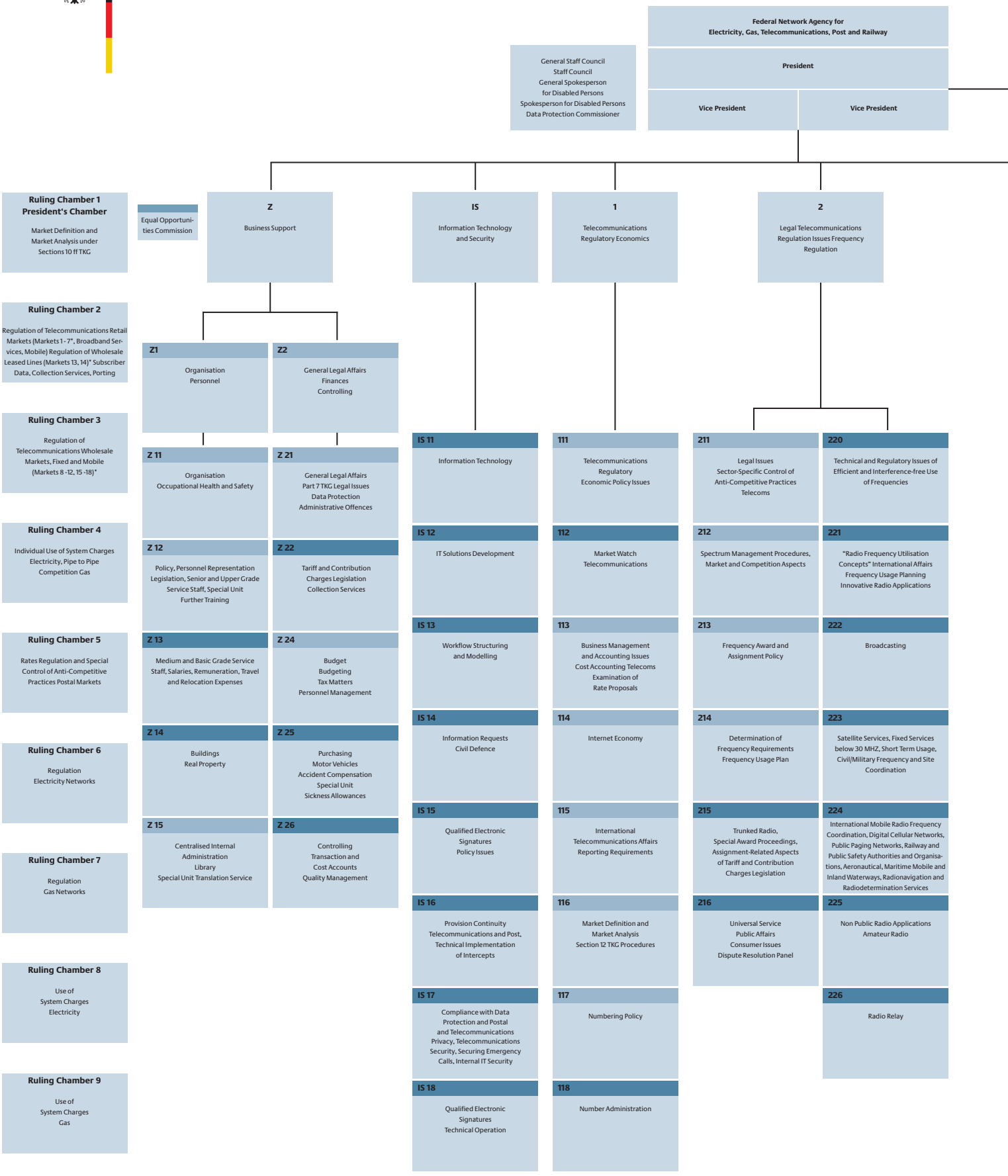
Besides the expansion and upgrading of the electricity and gas networks, the control of supply and demand by means of the smart grid will play an ever greater part. We will do our bit to accelerate the installation of smart metering technologies. The combination of modern information technology and grid control information is a big opportunity for innovation, as it can reduce network management costs and contribute significantly to saving energy.

These examples show how investments can be made, jobs created and, in the long term, the infrastructures in Germany expanded and upgraded with innovation. Investment in the networks will trigger follow-up investments in the downstream sectors of trade, services and production, not possible without modern networks. Hence the networks have a key, catalytic role in every innovation strategy. The question is not whether we need more regulation or less regulation, an issue that is often discussed superficially and driven by special interests. It reveals an alarming thinking in black and white terms that should have been thrown overboard long ago, given the poor regulation of the financial markets.

Only good, forward-looking regulation can create a balance between predictability on the one hand and innovation and competition for better concepts and ideas on the other. The Federal Network Agency and judicious regulation are not part of the problem, but invariably part of the solution.

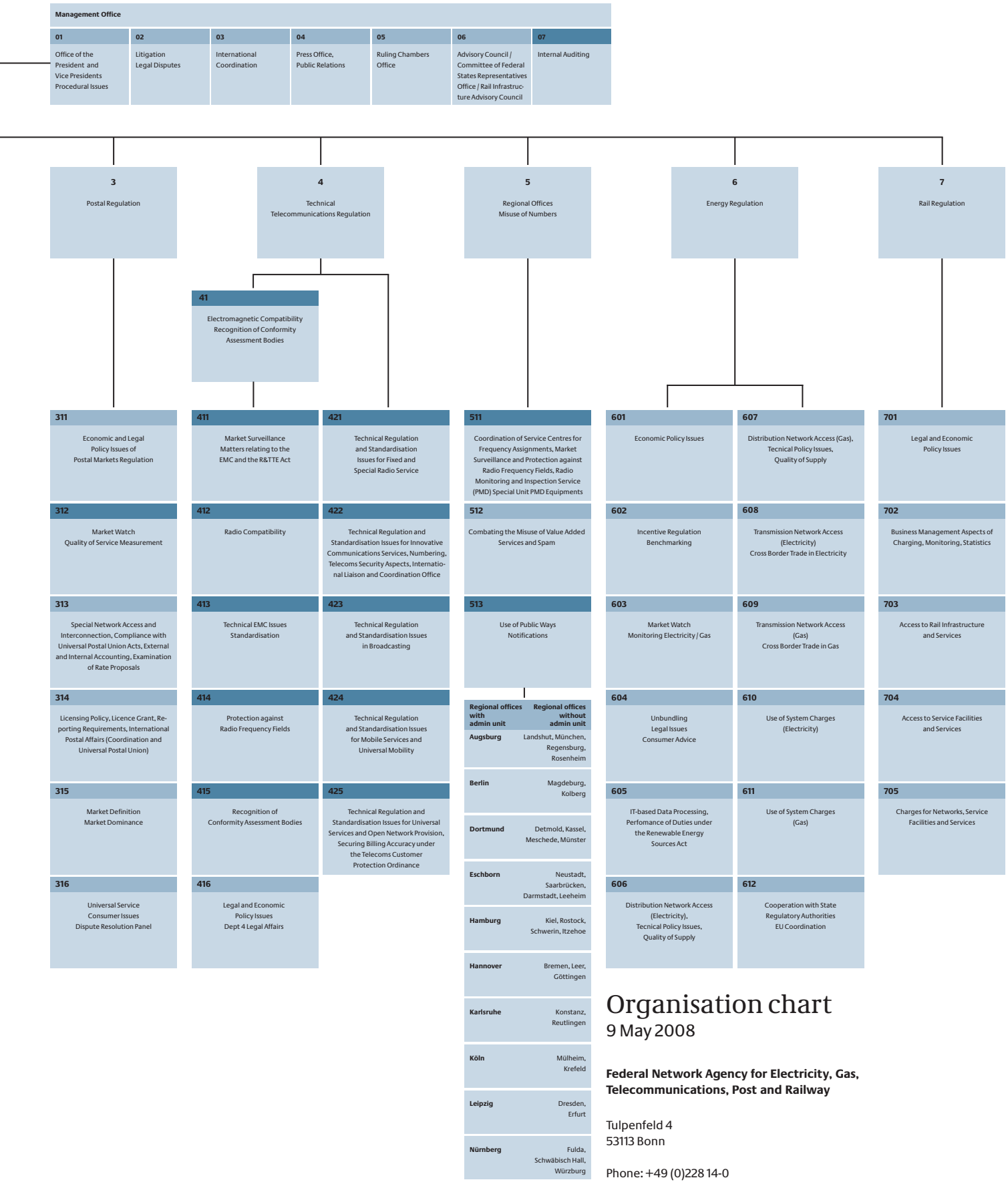
Matthias Kurth
President

Federal Network Agency



Notes re BK 2 - BK 3
* Commission Recommendation (2003/311/EC) of 11 Feb 2003 nos 1 -18

Description of the markets on the Agency's website under Ruling Chambers



Organisation chart

9 May 2008

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Network innovation – Growth and employment opportunities

REGULATORY FRAMEWORK IN THE TELECOMMUNICATIONS SECTOR

Within network industries the telecommunications sector offers considerable scope for innovation because technological progress has a direct impact on network developments. This large potential for innovation was one of the basic reasons for liberalising telecommunications markets in the middle of the nineties. The evolution of broadband networks and the convergence of telecommunications with IT markets created a range of services unimaginable only a few years ago. As a result, the telecommunications markets are subject to continuous change and developments.

After a good ten years of regulation in the telecommunications markets it is evident that the regulatory frameworks have created a competitive environment in which investment is worthwhile. In this context it should also be noted that it was regulation which actually allowed competition to develop. Competition in turn has given strong incentives to innovation and investment – for competitors and Deutsche Telekom AG (DTAG) alike. Some 80 billion euros have been invested in the telecommunications market since it was fully liberalised in 1998, more than half of this by the new entrants. The conflict between the aim of encouraging efficient investment in infrastructure as required by law and the aim of safeguarding consumer interests is far from being irreconcilable. Instead, the present regulatory concept allows both objectives to be achieved at the same time. Consumers profit from clearly reduced prices, a considerably larger diversity of services on offer as well as completely new services. Even those consumers in areas lacking competitive offers benefit from price cuts.

Competitors are granted network access to the DTAG network upon fair conditions and are given incentives for investment by appropriate pricing signals. At present, competitors are for instance using more than eight million local loops (TALs) rented from DTAG. To be able to achieve this goal, competitors were previously granted access to some 3,500 main distribution frames, thus allowing them to invest substantially in their own infrastructure. The key to success of this wholesale product is that the Federal Network Agency has laid down balanced and consistent rates for this purpose. Regulated companies are offered adequate rates of return and due regard is given to costs incurred by special, proven burdens. As a result, DTAG has sufficient funds available now to rebuild and roll out its networks. Competitors in turn receive an attractively priced product which allows them to add their own services and to achieve improved margins. Likewise, they are given incentives to invest in their own infrastructure at access level. The projects of competitors who have even established their own fibre-to-the-home networks in a number of cities lay clear evidence to this. Here, the cost benchmark set out in the Telecommunications Act (TKG) has proved sufficiently flexible to identify all relevant risks involved.

MIGRATION TO IP TECHNOLOGY

At present, the telecommunications industry is subject to a radical conversion process. IP technology is increasingly used to gradually replace traditional circuit-switched technologies. Next Generation Networks (NGN), Next Generation Access (NGA) or, in more general tems, “transfer to IP”, on closer looks appear to be a whole bundle of very diverse measures to expand or optimise telecommunications networks and to

allow innovative services to be offered. On the one hand, circuit-switched technologies are replaced by packet-switched technologies in order to save costs. On the other hand, network upgradings or conversions are required, in particular in the access market, in order to be able to offer end users more high-quality broadband services. Companies are using various strategies which mainly differ in terms of how close fibres are laid to end user lines so as to achieve this. Extending NGA infrastructures allows more and more end users to access high bandwidth services to the benefit of the German marketplace. In comparison to other large EU countries, the NGA rollout in Germany has already been advanced greatly by the provision of very high speed digital subscriber lines (VDSL).

The Federal Network Agency is actively participating in the transition process. Its decisions enable and promote the transfer to IP networks - also in the migration phase - without making those infrastructure investments already made superfluous. Innovations in networks and services are supported without impeding existing business models. It is the Agency's special responsibility to ensure that, with the current network rollout, more innovative broadband services will be provided to the population.

PROVISION OF BROADBAND SERVICES

Efficient broadband networks for a rapid exchange of information are vital to economic growth. Today, they are just as important to economy and society as rail and roads, rivers and canals, or electricity, gas and water networks. Broadband networks are significant factors supporting the economic strength of local businesses and thus instrumental in securing jobs as well as increasing earnings power and creating an attractive economic environment even in rural areas. Especially in scarcely populated rural areas, the number of areas without any broadband services is still considerable ("white spots") because broadband providers prefer to expand their networks primarily in areas with high customer density.

With its broadband strategy, including the implementation of a whole package of measures, the Federal Government aims to provide access to high-speed broadband services throughout the country and to close the previous gaps in coverage. The rollout of broadband networks is to be financed predominantly by private investment. Public funding is to be provided only where private investments are not profitable due to general local circumstances. The Federal Network Agency plays an important role in utilising synergies resulting from infrastructure expansion, using the digital dividend, and applying investment- and growth-oriented regulation.

The Agency will for instance draw up an infrastructure atlas shortly, in cooperation with the Federal Ministry of Economics and Technology. This will create a platform providing information on existing infrastructures, which can also be used, as well as on relevant expansion measures. Wherever possible, the Agency will give due regard to preliminary conceptual work of economic circles and broadband initiatives of the federal states. A first version of the atlas will be published in the autumn of 2009.

Efficient broadband access services throughout the country will only be achieved if powerful wireless technologies are used in addition to modern fixed networks and if spectrum is used efficiently. Already, wireless broadband services

have a most important function, both as a means to close gaps in coverage with fixed technologies and as a mobile complement to fixed connections. The Federal Network Agency is currently preparing an auction making a total of 270 MHz (in the 1,800, 2,000 and 2,600 MHz bands) available to interested companies in 2010. Following the auction procedure these frequencies can be used for broadband applications throughout the country. Their use will not be limited to specific technologies. Thus the Agency consistently continues to apply its strategy to provide frequencies on a technology- and service-neutral basis, wherever possible.

The Federal Network Agency is hopeful that the Federation and the federal states will give their consent to the release of the spectrum between 790 and 862 MHz previously used for broadcasting and military purposes. This would pave the way for using these frequencies as a digital dividend for broadband access in particular in under-supplied, scarcely populated areas. Subject to consent, the Agency will conduct an award procedure for the frequencies to be released as soon as possible, so as to start filling the "white spots" in these areas.

With its regulatory approach, the Federal Network Agency is already pursuing the aim to promote innovation and investment. The TKG has proved to be sufficiently specific and flexible at the same time. In the process of determining network access and approving rates, incentives for investment can be given eg by considering risks – in particular investment risks in new services and networks – or company-specific costs adequately and consistently. Where the legal regulations provide scope for action to the regulator, they are utilised with a view to securing competition. The Federal Network Agency has pursued this objective so far by means of individual procedures and decisions. The Agency will now try to find a general concept by evaluating the large number of individual measures taken and will prepare key elements of a regulatory framework for the rollout of state-of-the-art telecommunications networks and efficient broadband infrastructures and submit them for public consultation. This will help to further develop existing practices and create a maximum degree of planning security in the markets.

The Federal Network Agency will also utilise existing deregulation potential. To this end, a differentiated regulation approach seems to be the appropriate instrument. Instrumental in this respect is to find out which measures will most likely achieve the regulatory objectives and in which case deregulation might be the preferable solution. Wherever the prevailing market conditions allowed the regulatory intensity to be reduced, regulation has already been gradually restricted to the necessary extent. Initially, end user markets were transferred from ex-ante to ex-post regulation. Meanwhile, regulation has already been fully withdrawn in a few markets.

By offering appropriate access products voluntarily – in particular in the wholesale markets - regulated companies can now decide for themselves whether or not to utilise deregulation potential. In the past years, their willingness to reach voluntary agreements under fair conditions was however limited so that there was no alternative to regulatory intervention in order to secure competition. Transparency, planning security and appropriate access services are therefore indispensable prerequisites for the continued success of competition in the telecommunications markets. It is a fact

that competition requires competitors. Deregulation should not have a yo-yo effect. Markets have to be transferrred to general competition legislation on a continuous and solid basis so as to make sustainable competition possible under these conditions, too. Voluntary offers accepted by a large part of the market - as desired by the legislator - might help in this respect and create further deregulation ranging from the transition to ex-post rates regulation to a full departure from sector-specific regulation. Technological transfer should be used to recognise and implement deregulation opportunities.

Irrespective of the technologies used, the regulatory aims continue to be the Agency's guiding principle for action. However, the macroeconomic aim of providing the population with powerful broadband connections and improving broadband penetration as a whole also remains a focus of attention. If this development proves to be successful, there will be good opportunities for growth and jobs especially in telecommunications, which may be of great significance in particular in the present macroeconomic situation.

INVESTMENTS IN GRIDS AND POWER PLANTS

The framework conditions in the energy industry will make greater demands on the gas and electricity transport networks in future. The electricity transmission networks will need to be upgraded if congestion in Germany is to be largely avoided. Measures are already being taken today in some places and in response to certain situations so as to avoid structural congestion. That the transmission system operators (TSOs) want to shoulder their responsibilities is shown not least by the findings from their system development reports. Assessing the German TSOs' system status and development reports, the Agency noted a growing volume of planned investments in 2008. Besides replacement investments, the plans also cover the building of new facilities to handle future requirements. The Agency has observed, however, that there have been considerable delays in upgrading and that the investments actually made in 2007 diverge substantially from the 2006 target figures. The main reason is lengthy approval procedures, stemming in part from public opposition.

According to the Federal Network Agency some 35 expansion projects were actually delayed in the transmission network. This was due to lengthy approval procedures with a duration of partly more than ten years, to partly necessary modifications of approval procedures resulting from planning changes caused by underground cabling and to bottlenecks in the supply of facilities.

The Agency believes that procedures have to be accelerated generally to facilitate the provision of new capacities. At the beginning of October 2008 a draft Expansion of Power Grids Act (EnLAG) was submitted to the German Bundestag. The key elements of this draft are to accelerate procedures by identifying high-priority line construction projects in the energy sector by means of a requirement plan, transfer the first- and last-instance jurisdiction for legal disputes to the Federal Administrative Court and define pilot projects for underground cabling.

According to the Federal Network Agency investment planning and investment activities for the provision of further cross-border electricity interconnectors have been insufficient to date.

Congestions have been observed at German interconnectors at nearly all borders, therefore it may be assumed that there are basic expansion needs. According to the companies, the congestions cannot however be eliminated by means of individual focused measures. Expansions at cross-border interconnectors always have to be accompanied by upgradings and expansions on both sides of the border in the respective national grids. Lately, progress has however been noticeable and is reflected in projects seeking to expand cross-border transmission capacities in cooperation with various European countries. Reasons for the very slow expansion to date seem to be not only long-term international planning and coordination measures between planning authorities, but also a lack of investment incentives for opening a European internal electricity market. In particular, it is necessary to ensure at European level that adequate fees are paid for the use of German grids for transit purposes.

Looking now at the capacity of the gas networks, it becomes clear that the existing capacity could mostly be enough to cover current average domestic demand. Upgrading requirements that cannot be assessed at the present time could arise as a result of concentrating the gas market areas, however. The fact that appreciable upgrading requirements have nevertheless been identified in, for instance, current open season procedures could be due in part to contractual congestion which should be dealt with, however, by improved congestion management methods and by dismantling unnecessary barriers to market entry rather than by grid upgrade.

NETWORK EXPANSION ACCOMPANIED BY RELIABLE AND SOLID RATES OF RETURN IN GERMANY AND EUROPE

The full adjustment of electricity and gas networks to national and international requirements will need a far-reaching technical and financial effort exceeding today's allocated funds. The higher costs of procuring capital as a result of the financial crisis and the slump in economic activity ought not to pose insoluble problems to regulated companies, however. Given the stable framework conditions in the network sector, it may be assumed that lending for investments in energy networks is considerably easier than in other competitive areas on account of the low investment risk.

The regulation and incentive system which the Agency has implemented with great speed sends positive signals and sets positive conditions for grid investment. Thus security of supply will be assured and consumer interests protected. At the same time, productivity and efficiency gains will be needed in the network, as a monopoly area. Given prescribed revenue caps, incentive regulation therefore provides incentives for every company to realise extra income by reducing costs, thus operating like every company in the market. The efficiency of the particular operator is one of the factors taken into account when the revenue cap is set, and binding efficiency targets for the operator are derived from this.

At the same time, all operators are guaranteed a rate of return on investment in grid maintenance and upgrading which is the same for all electricity and gas networks, ie 9.29 percent before tax for new facilities and 7.56 percent before tax for old facilities. Besides the inter-

national opportunities for returns on equity in the network sector, the rate of return on equity takes particular account of the entrepreneurial risk involved in investing equity capital in the long-term facilities of the electricity and gas network operators. Altogether, the return on equity is a more than adequate rate of interest that is able to guarantee a return which reflects the risk in the international competition for capital.

Another aspect of network investments concerns the details of the investment budget relating to capital costs under section 23 of the Incentive Regulation Ordinance. Network operator expectations for adequate rates of return can be met sufficiently under the detailed regulations of this instrument to allow expansion and restructuring investments to be planned and refinanced. This intrument has been provided in particular for transmission system operators to fulfil the future political, legal and market-driven requirements referred to above.

Where necessary, regulation can give investment incentives and create a framework not only to support network upgrading, but also to increase network efficiency. The energy industry is clearly interested in investing in German electricity and gas networks. In both sectors the 2008 investments were indeed considerable. The present investment behaviour is proof that the investment climate overall can be regarded as positive.

The future energy framework requires a substantial expansion of electricity and gas networks. This will be accompanied by the convergence of the European internal market from the perspective of competitiveness and security of supply. Cross-border cooperation will be indispensable to allow necessary infrastructure investments to be made. New infrastructures have to be set up as efficiently as possible. However, the aspect of supply security is just as important and has to be considered carefully. The Federal Network Agency contributes to creating competitive conditions for energy network operators in Germany and to keeping costs as low as possible to the benefit of consumers. The Agency has provided a regulatory framework which can be considered profitable and attractive for investors. The present investment plans of companies lay proof to this by means of practical examples. At the same time, this process shows the way to smart future energy grids.

INTRODUCTION OF SMART GRIDS IN GERMANY

The changing energy framework in Germany and the growing demands on networks require technical measures to enhance the control intelligence of networks. As renewable energies are increasingly fed into the networks, appropriate information and communications technologies (IKT) have to be used to facilitate the coupling of networks with (decentral) energy producers, integrate virtual power plants and most notably achieve an improved intercommunication with consumers. Due to the extended access to information existing network capacities can be better utilised. At the same time, the consumption behaviour can be more easily brought into line with energy generation. The final aim is to reduce the need for expensive control and balancing energy. Additionally, instabilities can be identified and eliminated early so as to avoid eg large-scale power failures. Therefore, smart grids promote energy efficiency, climate protection and supply security.

A significant measure to utilise IKT potentials fully and efficiently is extensive energy management covering all levels of the value-added chain. This implies in particular that end users should be integrated into the flow of information between energy producers and network operators. The informed and critical consumer should be able to actively keep track of his energy consumption. However, the electromagnetic meters used nearly exclusively in consumer households do not provide transparency. They offer neither real-time display devices nor telemetering or electronic data communication. Energy consumption metering in Germany thus fails to meet today's state of the art. Smart meters give customers a direct feedback on their power consumption and contribute to identifying and increasing savings potentials in their own households.

The legislator, ordinance issuer and the Federal Network Agency support the use of smart meters by appropriate measures so that, after a period of six years, homes should be fitted with smart meters throughout the country, ie wherever possible and economically justifiable.

REGULATORY IMPULSES IN THE RAIL SECTOR

In the rail sector market, too, liberalisation is having a positive effect on the competitive landscape, growth of the market and innovation potential. Meanwhile, a large number of train operators have been able to establish themselves as an alternative to Deutsche Bahn AG (DBAG) as a result of the opening of the market and the provision of non-discriminatory access to rail infrastructure. This concerns in particular the rail freight transport (SGV) and the regional passenger rail services (SPNV).

Competitors of DBAG have now captured more than 20 percent of the rail freight market. The strong growth in this market, roughly seven percent annually in the last few years, is mainly due to the growth brought about by these competitors. Altogether, the rise in rail services in the past years was higher than the growth in road transport services. Special growth segments in rail freight are for instance the intermodal and sea port/hinterland transports. Here, rail services have also derived benefits from the overproportional global trade increase of the past years. Linking the transport modes not only from the operational but also from the marketing perspective plays an important role in this respect. Frequently, smaller regional providers with innovative business ideas and located in the vicinity of customers have been able to acquire freight transports which had been road-based before.

However, growth is not only evident in the intermodal segment. In regional passenger rail transport, there are a number of successful examples of rail section reactivations. Sections partly not used for decades have been revived and are operated successfully again. New rail offers have supplemented or replaced bus transports and frequently even exceed the most optimistic rail passenger forecasts.

Train operators have substantially invested in the local rail infrastructure to achieve this goal. The investments concerned both complete regional railway networks and simple siding tracks, or the expansion or construction of loading facilities. Local ties, entrepreneurial commitment and close cooperation of local and regional players are decisive factors of success in this respect. Along with many technical innovations, smaller rail infrastructure com-

panies (EIUs) have succeeded in building and operating regional railway infrastructures at low costs.

However, the growing number of railway undertakings (EVUs) and the rise in transport services are not without consequences for the large operators. Despite the current dip in growth, there will be a further increase in rail traffic according to forecasts. The possibilities for upgrading rail infrastructure are limited, however, in the next few years as a result of legal planning and financial constraints. Infrastructure innovation will thus be fundamentally driven by market growth and intra- and intermodal competition. Network operators will have to use new processes and technologies to increase capacity on the given infrastructures.

Instrumental in this development are innovations and investments for instance in control and safety systems, eg the European Train Control System (ETCS) or the Global System for Mobile Communications-Rail (GSM-R). Both technologies are part of the European Rail Traffic Management System (ERTMS). The ERTMS standard aims to increase the interoperability of European rail systems. Historically, there are at present more than 20 different control and safety systems in operation in Europe.

The European initiative Telematics Application for Freight – Technical Specification for Interoperability (TAF TSI) also seeks to achieve standardisation. The initiative focuses on the development and implementation of uniform data standards in rail freight transport. The aim is to facilitate the exchange of information between the players with a view to improving productivity, quality and competitiveness in the rail sector.

Innovations in the "soft infrastructure" include innovations in management processes of infrastructure operators. As examples may serve measures to reduce delays which can be influenced by operations, to appltsector will only come about if rail infrastructure companies contribute to making rail transport more attractive.

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Consumer Advice service

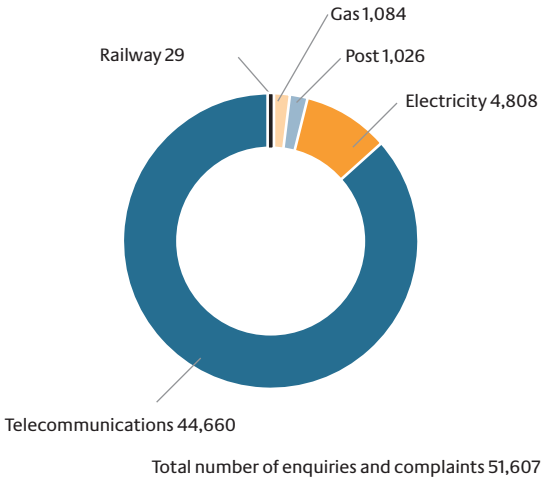
Consumers need an independent and competent advice service in the fields of telecommunications, energy, post and railway. The Consumer Advice service and the dispute resolution service of the Federal Network Agency have therefore firmly established themselves as a central point of contact on the one hand and a conciliation body for consumers on the other.

In 2008, the Consumer Advice service of the Federal Network Agency received 51,607 enquiries and complaints from consumers, 10,000 more than in the previous year. The increasing use shows that there is a high demand for objective information from independent advice and conciliation services.

Altogether, the enquiries and complaints can be broken down as detailed in the graph. In comparison to the previous year, they increased in all sectors in which the Agency is active, with the exception of the railway sector.

32,771 enquiries and complaints were received by telephone, 12,840 by electronic means and 5,996 by letter or fax.

Enquiries and complaints received in 2008, broken down by different sectors



Total number of enquiries and complaints 51,607

TELECOMMUNICATIONS

Many enquiries and complaints received by the Consumer Advice service continued to concern contractual matters under civil law between consumers and telecommunications providers. Consumer complaints focused eg on short-term call-by-call tariff changes, non-accessible online portals, non-payment of refunds or delays in granting promised refunds, non-receipt of bills, deficiencies in the provision of services ordered and false customer data. Bills were mainly disputed for contractual reasons.

The number of complaints about calls charged in bills, but disputed by customers is declining due to flat rate offers. Most of these complaints concerned calls to premium and short-code services and Internet connections.The Consumer Advice service continued to receive a large number of complaints about poor customer service (eg contact by telephone and responses to complaints) as well as bad business conduct of telecoms companies in rectifiying problems.

Transparent bills should give a breakdown of calls according to individual connections, ie itemised billing (EVN). Following public consultation the Federal Network Agency determined the minimum data required in and the form necessary for itemised bills in Order No 35/2008 – published in Official Gazette No 07/2008.

Upon expiry of the general assignment of frequencies for cordless telephones based on the CT1+ and CT2 standards on 31 December 2008 and as a result of many media publications on this issue, consumer enquiries about further telephone operation rose massively.

Difficulties in the provision of local loops (mainly digital subscriber lines and telephone lines) continued to account for a large number of complaints. Due to long processing times, coordination inaccuracies and line transfer problems in the process of switching providers, previous providers disconnected local loops (sometimes including telephone lines). As a result, customers partly had to wait for weeks before new lines were provided. Similar problems occurred in cases of local relocation or first orders for digital subscriber lines.

The Consumer Advice service received numerous complaints about number abuse, more specifically unsolicited direct marketing, text messages, faxes and e-mails. For the combat of number abuse and spam please see pp 31.

The number of complaints about calls from telecommunications providers aiming to advertise their products and to acquire or reattract customers also increased in the year under review. These calls frequently entailed contract changes concerning local loops, undesired changeovers of telephone lines in local and trunk traffic (preselection) and tariff changes.

Consumer enquiries and complaints about numbering, in particular in respect of provider switching, were diverse, extensive and complex. They focused on number allocation, portability, reallocation, and the retaining of numbers in case of termination or change of contract. Additionally, the Agency received many enquiries about the accessibility or non-accessibility of local or special service numbers, about network identification and porting fees. In respect of consumer protection

regulations under the Telecommunications Act (TKG), the Agency answered queries regarding allocatees (requests for information about the identity of service providers concealed behind the numbers in telephone bills or in respect of marketing calls), the use and level of charges for shared-cost services (0180 numbers) and price indication, announcement and display obligations for special service numbers.

ENERGY

With the adoption of the Metering Access Ordinance (MessZV) the year 2008 once again saw a fundamental change in the energy legislation from the consumer protection perspective. The Ordinance provides new regulations liberalising not only the operation of metering points ("meter installation"), but also measuring services ("meter reading") with a view to introducing smart metering (intelligent energy meters and associated services). Other consumer-relevant changes were made to the Energy Industry Act (EnWG), eg with regard to energy accounting periods which may now be reduced to half-yearly, quarterly or monthly intervals upon consumer request. Gas suppliers were required to enter network access rates, charges for the operation of metering points and meter reading charges separately in their gas bills, a requirement which had already been introduced for electricity bills before. As the changes only became effective in the second half of 2008, it is to be anticipated that the Agency will have to answer an increasing number of enquiries about these issues in 2009.

In 2008, the Consumer Advice service of the Federal Network Agency received more than 5,800 enquiries and complaints from energy customers. As in the past year under review, the delays/deficiencies in provider switching were the focus of complaints in the electricity sector (26.1 percent) and in the gas sector (26.9 percent). The questions raised in this context were the same as in previous years: why does it take so long to switch providers, why is the new provider unable to supply energy and why is it impossible to switch providers if specific equipment is used in the electricity sector (eg thermal heat pumps, storage heaters)? Consumer complaints were processed on a case-by-case basis. The relevant network operator acting as a central point of contact in provider switching was contacted to clarify the circumstances. In nearly all cases problems were thus solved in agreement with the parties concerned to the benefit of customers. Due to central processing the Agency was able to evaluate the difficulties more quickly and inform the competent departments and ruling chambers in great detail about the complex issues and problems.

Consumer interest in contractual matters was very high due to increasing competition, namely 11.6 percent in the electricity sector and 9.5 percent in the gas sector. The number of consumer enquiries/complaints about prices and tariffs in the electricity sector (5.4 percent) and in the gas sector (12.1 percent) also continued to be large in 2008. Queries to be answered in this area concerned in particular the decision taken by the Federal Court of Justice (BGH) of 14 August 2008 (file no KVR 39/07) against Vattenfall Europe Transmission GmbH concerning extra revenue generated prior to the first charge approval round, the communication by the Federal Cartel Office on the completion of many abuse proceedings in the gas sector, including the associated refunds to consumers, and the end user price increases announced at the end of 2008.

POST

Consumer protection is a top priority task of the Federal Network Agency in the postal sector, too. In the autumn of 2008, the complaints of individual customers about Deutsche Post AG (DPAG) increased significantly due to repeated poor delivery or even non-delivery of letters in some conurbation areas (cf p 28). Further enquiries received in the year under review addressed closures of post offices and agencies, the loss and wrong delivery of postal items and DPAG's complaints management.

The number and contents of complaints about parcel services received by the Agency was roughly the same as in previous years. Only DHL's restrictive practices in compensating customers for parcel transport damages were of interest to the Agency.

The number of complaints about DPAG's competitors relating to poor delivery and excessive transit times for postal items were small.

RAILWAY

The number of enquiries and complaints received in the rail sector continued to be very small. They concerned poor customer service and the processing of consumer complaints by the rail undertakings.

Universal service

Universal services are services which are generally deemed indispensable. In the telecommunications sector Deutsche Telekom AG (DTAG) is at present providing the universal services defined in the Telecommunications Act. In the postal sector they are provided by a number of market players. According to the concept laid down in the Postal Act all providers active in the market contribute to providing universal services.

TELECOMMUNICATIONS

The number of consumers complaining about problems in the provision of local loops for basic services continued to increase in the year under review as compared with past years. The problems focused on provision and fault clearance periods, construction cost allowances and the compulsory contractual period of 12 or 24 months to be adhered to following the provision of new lines by DTAG. Within the scope of legal provisions special problems were solved in agreement with the parties concerned.

The provision of public coin and card phones (cf chart on p 65) is also part of the legally defined scope of universal service (section 78(2) para 4 TKG). In this connection DTAG which is at present providing this universal service developed a new public phone location concept in 2008 according to which coin and card phones will be removed at a total of 11,000 particularly unprofitable locations. The fact that end users hardly use public phones at these locations is mainly due to decreasing minute prices and roaming fees in the mobile service.

In this connection DTAG concluded an agreement on 16 January 2008 (updated on 16 March 2008) with the "Federal association of leading local-authority organisations" (Bundesvereinigung der kommunalen Spitzenverbände) to ensure the "provision of public phones all over the country". In this agreement DTAG undertakes to remove public phones only in agreement with the local-authorities concerned. Local authorities can moreover always require DTAG to provide a public phone for basic services as an alternative to the complete removal of public phones.

As the planned reduction of public phones is a universal service "under less favourable conditions", DTAG notified the Federal Network Agency on 29 May 2008 as provided for by section 150(9) TKG. Additionally, DTAG confirmed

that it would comply with its universal service self-commitment of 18 November 2005 referring to the provision of public coin and card phones.

From the Agency's point of view further measures should not be taken at the present point in time. Within the pilot phase running since March 2008 (limited removal of public phones at 1,000 locations only) the Agency is watching closely whether the communication process between DTAG and the leading local authorities works without any problems. Another review will then be carried out in good time before the expiry of the planned one-year period (cf section 150(9) TKG) and the beginning of the large-scale removal process comprising 5,000 locations annually.

In 2008, the European Commission (COM) carried out its second regular review of the scope of universal service. In the relevant communication (COM (2008) 572 of 25 September 2008) the Commission requests not to extend the scope of universal service to broadband access at present. According to the review broadband networks are available to an average of 90 percent of the EU population. A total of 49 percent of the EU households use the Internet, 36 percent of which by means of broadband access. Use of the Internet is thus approaching the level of a service used by the majority. Although broadband access is not yet used by the majority of consumers, broadband penetration is approaching the threshold of use by a majority of consumers. It is also reasonable to anticipate that, in a relatively short horizon of time, narrowband will no longer be sufficient to permit "functional Internet access".

In its efforts to develop a future universal service policy, the Commission also addresses several key issues relating in particular to broadband access. These issues are submitted for public consultation. They concern not only the question about the need for uniform European-wide universal service, but also the questions whether the concept of functional Internet access should be reconsidered and what should be the institutional structure in future. The outcome of this public consultation will be summarised in another communication in the second half of 2009. Detailed proposals for a change of the Universal Service Directive are planned to be submitted in 2010 if this is considered necessary. Within the scope of its work in the European Regulators' Group the Federal Network Agency will actively participate in the discussions on this subject.

POST

DPAG's legal obligation to provide universal service expired on 1 January 2008. The scope of universal service comprises letter conveyance, parcels, newspapers and periodicals. DPAG is also required to keep fixed-location facilities (post offices, postal agencies) offering postal services available for customers. The relevant requirements detailed in the Postal Universal Service Ordinance (PUDLV) do not not have to be fulfilled by a specific company, but can be met by all players in the postal markets.

According to the Agency postal universal services have in general been provided appropriately and adequately. Nearly all postal agencies which had to be closed – mainly as a result of terminations of contracts – were reopened again within an adequate time frame in line with the respective circumstances. The number of fixed-location facilities totalled 12,476 (as of: 15 January 2009) and thus continued to exceed the number of 12,000 facilities provided for in the PUDLV.

Since early 2008 DPAG – and other providers – can decide for themselves whether and which services they wish to offer to their customers. DPAG has confirmed, however, that it will continue to provide all postal universal services. The share of competitors in the letter mail sector is as a rule restricted to local or regional providers. In the parcel sector universal services have long been provided by several companies.

However, the Federal Network Agency was compelled to urgently draw DPAG's attention to a number of regional delivery irregularities at the end of 2008 and to insist on fast corrective measures. DPAG took immediate action by increasing staff in these areas. The Federal Network Agency will continue to watch the problem closely and will take further action, if required.

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

At the end of the year under review the Federal Network Agency issued an administrative order introducing a text and video relay service for deaf and hearing-impaired persons and thus transferred this service into normal operation.

The relay service operated by "Tess Relaydienste für hörgeschädigte Menschen GmbH" gives deaf and hearing-impaired persons the opportunity to make calls to or accept calls from any other fixed network telephone or mobile phone. This allows barrier-free telephone contact eg to friends, family members, doctors and authorities.

The basic function of the relay service enables hearing-impaired persons to establish a video connection to a technical relay platform by means of a computer. This platform provides a sign language interpreter calling the desired subscriber on behalf of the hearing-impaired person. If the relevant subscriber answers the call, the interpreter will translate the sign language into spoken language and the called subscriber's spoken language into sign language. Likewise, the relay service can accept calls from any fixed network telephone or mobile phone in order to reach deaf or hearing-impaired persons by telephone (please also see http://www.tess-relay-dienste.de/).

The introduction of the relay service is based on a change of section 45 TKG of 18 February 2007. DTAG voluntarily contributed millions of euros to financing the technical rollout of the service and helped organise the service in close cooperation with the "German Society for Deaf and Hearing-impaired Persons" (DG).

In particular the financing of normal relay service operations as from 1 January 2009 was disputed until the end of the technical test phase. The German Bundestag had passed an all-party resolution on this subject focusing on a voluntary self-commitment of the telecommunications sector. The Federal Network Agency was requested to impose obligations to secure the relay service in accordance with section 45 sentence 4 TKG on the telecommunications companies only if necessary.

Since 2007 the Federal Network Agency has, as a moderator, tried to convince the telecommunications sector to declare its self-commitment in this respect. For this purpose the Agency

held many talks with all trade associations and recontacted all major telecommunications companies in November 2008.

Unfortunately, the telecommunications companies failed to reach a voluntary agreement ensuring a solid financing basis for the relay service prior to the expiry of the test phase. The Federal Network Agency therefore decided to distribute the financial burdens adequately among the telecommunications companies concerned, thus obliging the firms to share the costs. However, a voluntary agreement continues to be a future solution. The self-commitment of the telecommunications sector to share costs would make the Agency's binding order superfluous.

On the initiative of the Federal Ministry of Economics and Technology (BMWi) and the Federal Ministry of Labour and Social Affairs (BMAS), the relay service will be supported by start-up funding in 2009. Also, research for innovative technologies will be promoted in this field.

Special control of anti-competitive practices

Consumer protection in respect of number abuse and spam is a task which the Federal Network Agency handles with great responsibility. The huge increase in consumer complaints proves that the Agency is recognised as a consumer advocate and a competent point of contact in this sector, too.

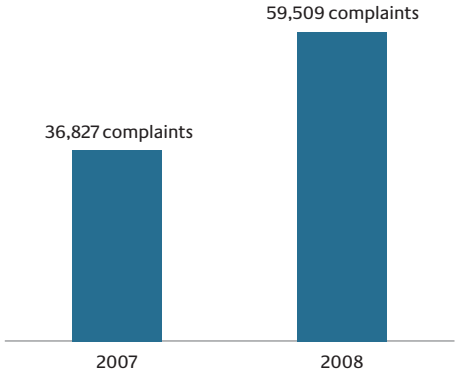
COMBATING NUMBER ABUSE

Overview

In the year under review the Federal Network Agency had to deal with the problem of combating number abuse under the TKG again. The purpose is to strengthen consumer rights and not to give companies acting illegally a competitive edge through breach of law. On behalf of consumers, the Agency enforces the price transparency required by law and stops unsolicited direct marketing in connection with call numbers by taking appropriate action. Another aim is to secure fair competition. In addition to combating abuse that is actually evident, the Agency always observes the market in order to become aware of possible new abuse scenarios.

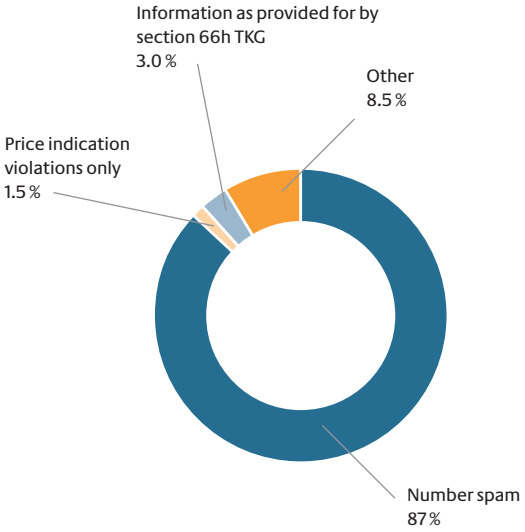
The Federal Network Agency has received reliable information on number abuse as a result of consumer complaints and its own investigations and has combated such abuse by issuing orders and taking suitable measures. The Agency has thus established itself as a consumer advocate throughout Germany. This is reflected in the large number of enquiries and complaints received in writing or by telephone and processed by the Agency. In comparison to 2007, the number of enquiries and complaints increased by 22,682 to 59,509.

Complaints about number abuse in 2008 as compared with 2007



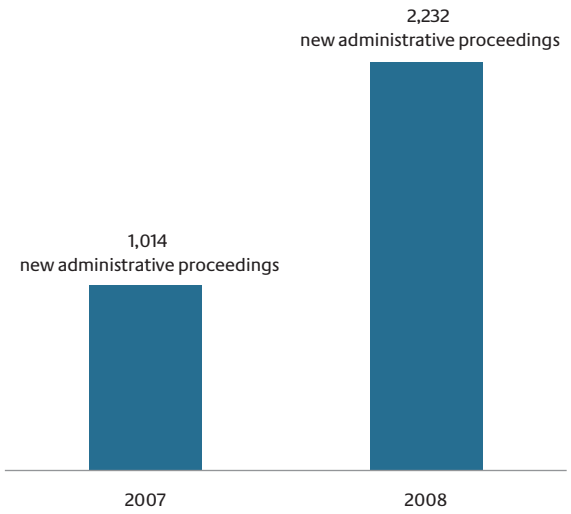
The complaints and enquiries can be broken down as follows:

Complaints and enquiries about number abuse



The Federal Network Agency has investigated the consumer complaints received and initiated 2,232 administrative proceedings in addition to those pending from previous years.

Number of administrative proceedings in 2008 as compared with 2007



The Federal Network Agency has been empowered under section 67 TKG to intervene where it has reliable information on number abuse in order to prevent further abuse. According to section 67(1) sentence 1 TKG the Agency may issue orders and take any other suitable measures to secure compliance with the legal provisions and with the conditions it has imposed in connection with the allocation of numbers. To this end, the Agency may take measures such as issuing a warning, withdrawing the number in question or ordering the network operator to deactivate the unlawfully used number. Where it has reliable information on abuse, the Agency may further require the bill-issuer not to bill and collect for particular calls. In specific abuse scenarios it has increasingly proved useful to prohibit business models. The Agency's prohibitions regularly refer to individual providers exercising illegal direct marketing business models violating section 7(2) of the Unfair Competition Act (UWG). In 2008, a total of 13 prohibitions of business models were imposed upon companies or individual persons.

In the year under review the deactivation of numbers once again proved to be a rapid and effective measure to stop evident number abuse immediately. In 2008, orders for the deactivation of 1,665 numbers were issued.

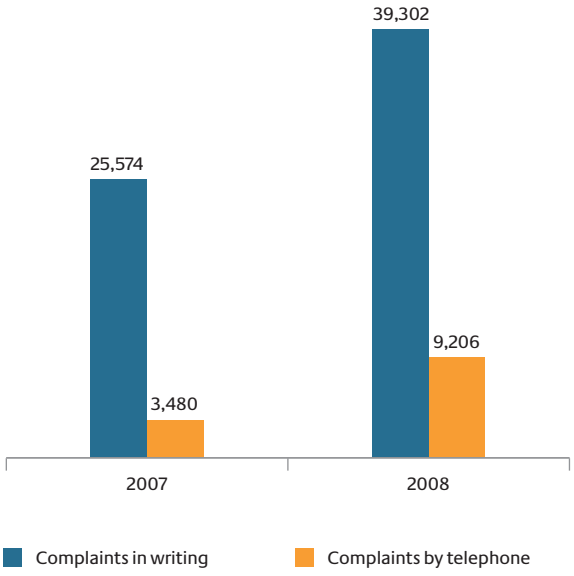
Where companies challenged measures to combat number abuse in court, the administrative courts confirmed in all cases that the decisions taken by the Federal Network Agency were legally binding, with the exception of one minor decision.

Number abuse due to wrong price indications and announcements

The lawful use of numbers also requires compliance with the consumer-protecting and substantially extended price indication and announcement provisions of section 66a ff which took effect on 1 September 2007. Under section 66a TKG, numbers of premium, directory enquiry, mass calling, shared cost, innovative and short code services are subject to price indication obligations. Section 66b TKG additionally stipulates price announcement obligations for premium, directory enquiry, voice short code and mass calling services. If these obligations are violated, the Federal Network Agency will intervene on account of number abuse. Complaints about the violation of these obligations were also received in this period under review. With regard to price indication the Agency established that providers were frequently unaware of the legal provisions, especially as far as direct marketing measures for shared cost services (0180 numbers) were concerned. Therefore, the Agency issued warnings in a large number of cases and provided information on the legal price indication obligations. However, depending on the individual case, the Agency also deactivated numbers and initiated administrative fines proceedings. It is also interesting to note that consumers tend to complain about violations of price indication obligations as such less often. However, when other complaints – in particular those relating to spam – are investigated, they frequently reveal violations of price indication/announcement obligations under section 66a ff TKG. All established violations, ie violations of spamming regulations under the UWG and violations of TKG regulations, are then regularly fined in the initiated administrative proceedings. If, for instance, an unsolicited direct marketing text message gives wrong price information or fails to give any price information at all for a marketed number, this is deemed a violation of section 66a TKG and is fined additionally to the UWG violation. Thus price indication violations may be the reason or additional reason for deactivation orders or other measures taken by the Federal Network Agency.

Combating spam

Total of complaints about spam in 2008 as compared with 2007



The volume of complaints about number spam increased substantially in 2008. In the period under review the Federal Network Agency received a total of 48,508 complaints in this respect. This is an increase by approximately 67 percent, which is accompanied by a substantial increase in abuse proceedings conducted in this connection.

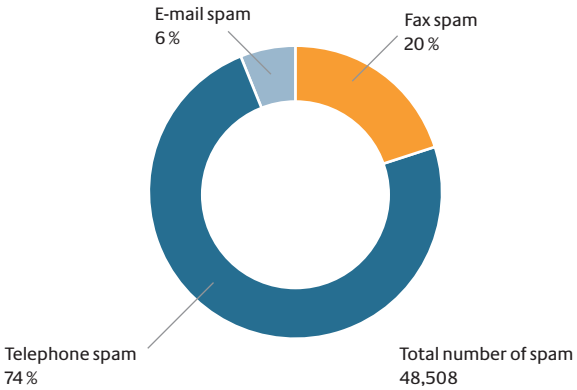
Spam is divided into fax, telephone and e-mail spam. The majority of consumer complaints concern telephone spam, frequently associated with lacking price indications for the numbers marketed in the spam. Telephone spam in-

cludes in particular spam sent by text messages, so-called prize promises and one-ring fraud. One ring fraud refers to calls made to a telephone number and broken off after a very short time, prompting the called party to ring the caller by pressing the automatic return call button in the list of calls received and to dial eg a 0137 number by mistake. More and more frequently, such return calls also lead to alleged subscription contracts. There were many complaints about e-mail spam from consumers who had placed contact ads or other ads in the Internet and had then received e-mails with advertisements for premium service numbers. Under the false pretence of real interest in contact they were then requested to call back the expensive numbers.

Constituting an infringement of the UWG, spam is also deemed unlawful number use within the meaning of section 67(1) TKG. Numbers of directory enquiry, mass calling, innovative and premium services may no longer be transmitted as numbers of calling parties with effect from 1 September 2007.

The total number of 48,508 complaints about spam received by the Federal Network Agency in the year under review may be broken down as follows:

Complaints about spam in 2008, broken down by the various types of spam



In 2008, the Federal Network Agency further intensified in particular its combat of telephone spam. Already in 2007, the Federal Network Agency had, through extensive packages of measures, increasingly imposed bans on billing and collecting for unlawfully used numbers not only on core network operators, but also on access network operators and service providers. The Agency thus intervened in the payment flows of companies to protect consumers from unjustified claims. Reasons for the numerous bans on billing and collecting were the large number of consumer complaints about spam, in particular in the form of prize promises. The aim was and is to make this form of number abuse less attractive economically and eventually to reduce spam substantially. For this purpose the Agency imposed bans on billing and collecting for unlawfully used numbers in addition to deactivating 199 numbers altogether in 2008.

Details of the steps taken by the Agency to combat spam-related abuse, including the bans on billing and collecting for particular calls and a list of the deactivated numbers, has been published on the Agency's website. The list is available at www.bundesnetzagentur.de under Verbraucher, Rufnummernmissbrauch – Dialer – Spam.

Selected court proceedings

Press button decision

The Higher Administrative Court of the federal state North Rhine-Westphalia in Münster took a decision on 25 June 2008 imposing a ban on telephone marketing and thus confirmed previous measures taken by the Federal Network Agency (file no 13 B 668/08). A telecoms company had provided reforwarding services to firms offering chargeable premium services. Using telephone computers, the company had

called telephone subscribers and informed them by means of an automatic announcement that they had won a prize. Subscribers were requested to press a particular button on the phone to obtain further information. Subsequently, a connection was established to a chargeable 0900 premium service. Many consumers complained to the Federal Network Agency because they had been affected by this type of unsolicited direct marketing and because even the blocking of 0900 numbers had been bypassed. In its notice of 22 February 2008 the Agency therefore prohibited the company from making such marketing calls and from reforwarding calls to 0900 numbers by means of a press button business model. The company then appealed to the Federal Network Agency against this notice. The Administrative Court in Cologne rejected the company's urgent motion by its decision of 16 April 2008. The renewed appeal of the company to this ruling was rejected by the decision of the Higher Administrative Court in Münster as referred to above.

The court gave the following reasons for its decision: The unwanted marketing calls violate UWG provisions. Marketing by means of automatic calling equipment is deemed an unacceptable disturbance if the called party has not given its consent. Furthermore, reforwarding calls by a press button business model violates the TKG as inadmissible collect calls are made. The court also confirmed that the company was the appropriate addressee for the measures taken by the Federal Network Agency.

Unsolicited telephone marketing

Decisions to counter illegal telephone marketing were taken by the Administrative Court in Cologne in July/August 2008 (file nos 1 L 425/08, 1 L 852/08, 1 L 872/08, 1 L 874/08, 1 L 877/08, 1 L 911/08, 1 L 873/08) and by the Higher Administrative Court in Münster on 26 September 2008 (file nos 13 B 1329/08, 13 B 1330/08, 13 B 1331/08 und 13 B 1395/08, 13 B 1396/08, 13 B 1397/08, 13 B 1398/08). In 14 court proceedings against companies active in telephone marketing both courts declared that the measures taken by the Federal Network Agency were legally valid. In these cases, the Federal Network Agency had taken action against three Austrian firms which, under the name of "Friedrich Müller®", had bothered customers throughout Germany by making thousands of unwanted prize promise calls. As a result, the Agency had taken drastic measures against these firms. Both courts declared that the deactivations of 51 numbers ordered in February and May 2008 and the bans on billing and collecting for all relevant telephone connections were legally binding. The Higher Administrative Court in Münster also confirmed the ban on the business model as such. The Austrian firms had made telephone calls to private and business customers by means of automatic calling equipment, making prize promises to subscribers without having the consent of the called parties. This will be prohibited in future. In case of non-compliance, the Agency can impose fines.

When substantiating their decisions, both courts emphasised that the alleged declarations of consent to the marketing measures submitted by the companies were all invalid. When ordering goods or subscribing to prize games, customers had always been required to give preformulated declarations of consent. In this very detailed clause designated as "data protection declaration" customers declared willing "to accept marketing calls". The companies then claimed to be entitled to passing customer data on to other "Friedrich Müller®" companies.

According to both courts these preformulated declarations were not valid because customers were virtually unable to identify the parties entitled to use them. The courts continued to argue that the possibility of revoking a declaration did not make any change, since the initiative for restoring an undisturbed private sphere was shifted to the consumer.

Administrative fines proceedings and charges in accordance with section 67(3) TKG

In respect of diallers, spam, price indication and price announcement obligations 20 administrative fines proceedings were initiated in the year under review. Part of these proceedings are still pending. Fifteen notices of administrative fines were issued and are final. The fines determined in the non-appealable notices totalled €16,020. There was one case of illegal dialler use with a notice of fines totalling €357,500, which, however, is not final yet. Also in 2008, violations focused on missing or insufficient price indications in the offer of or marketing for 0900 premium services. Likewise, there was a number of infringements on account of missing or insufficient price announcements which were fined in the relevant services. Facts suggesting the suspicion of a criminal offence were passed on to the competent public prosecutor in accordance with section 67(3) TKG.

International cooperation in the combat of number abuse

As regards the combat of number abuse, the Federal Network Agency participates in the work of international bodies such as the Electronic Communications Committee (ECC), the Contact Network of Spam Authorities (CNSA) and the International Audiotex Regulators Network (IARN). Within these bodies information on abuse methods, companies operating illegally at international level and successful strategies in combating abuse are exchanged between countries. Also, there is a regular cooperation with European and international authorities within the scope of administrative procedures. Of particular importance in the year under review was the very good cooperation with the regulatory authorities of Austria and the Netherlands.

ACTIVITIES OF THE RADIO MONITORING AND INSPECTION SERVICE

Securing the efficient and interference-free use of the spectrum and ensuring electromagnetic compatibility in our environment (EMVU) is one of the core activities of the radio monitoring and inspection service (PMD) carried out by the Federal Network Agency throughout the country. The service is thus contributing significantly to consumer protection. The PMD is operated in the service centres of the Agency at many locations in the Federal Republic. To perform its tasks, the PMD is using the latest fixed and mobile measuring equipment.The complex and extensive radio monitoring and inspection activities include interference elimination, frequency usage monitoring, market surveillance, environmental measurements and the identification of unauthorised frequency usage. Part of these tasks can only be handled usefully within the scope of international cooperation today.

Interference elimination

Clearing up cases of electromagnetic and radio interference (interference processing) is a very important task of the Agency. This applies in particular to safety-related radio services and applications, eg aeronautical applications (radiotelephone and radionavigation services),

applications of emergency organisations (BOS) and of other public users. Depending on the individual interference case, fully equipped measuring vehicles and various specially equipped vehicles are used in addition to stationary measuring facilities and direction-finding systems in order to identify domestic and foreign sources of interference.

As in the past years, the majority of the processed interference cases concerned radio broadcast reception and other transmitting and receiving stations. However, there were also many interference cases in safety-related radio services, of which 632 cases occurred in the aeronautical service alone. Interference in the aeronautical service is in principle always processed with top priority. Only a relatively small share of interference concerned electromagnetic incompatibilities of other electrical/electronic equipment, eg defective heating controls.

The PMD has been provided with new and effective measurement and analysis facilities, especially real-time analyzers. With the former measuring equipment, particular measurements of short signals required much time and staff and were only possible by switching off transmitting systems and withdrawing them from normal operation (eg radar systems).

The new equipment means less expense and allows the PMD to clear up complex spectrum incompatibilities in radio spectrum promptly to the benefit of the parties involved.

As frequently as every year the Agency received complaints from operators of UMTS networks in conurbation areas relating to interference to their base stations and leading to non-compliance with quality parameters of their networks. Following its investigations, the PMD detected as sources of interference satellite receiving equipment with insufficient attenuation of the interference radiation and cordless telephones (DECT phones) transmitting in the UMTS reception band due to faulty equipment. Those causing the interference were required to eliminate the sources of interference.

A special PMD function continues to be interference processing at major events. The PMD is on the spot for the whole duration of specific events and can thus detect potential sources of interference immediately, ie prior to or during the event. Due to fast processing the PMD can clear up a high percentage of interference cases, which eventually contributes to ensuring smooth video and audio broadcasts of important events. Equally significant is that emergency and security organisations present at the events can communicate without interference.

The service number 0180 3 23 23 23 (charge for fixed network calls: 9 ct/min, the charge may be different for calls from mobile networks), which was provided years ago to report interference and has been the same throughout the country ever since, was once again used very often. In 2008, several hundred thousand calls were recorded.

Market surveillance under the EMVG and FTEG

The Federal Network Agency conducts tests on electrical products that are filtered out from the market. These tests are based on the European Directive 2004/108/EC on electromagnetic compatibility (EMC Directive) and the European Directive 1999/5/EC on radio equipment and telecommunications terminal equipment (RTTE Directive) which have been transposed into

national law by the Electromagnetic Compatibility Act (EMVG) and the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG). The tests cover compliance with CE marking regulations, the plausibility of EC declarations of conformity, compliance with EMC protection requirements, with the essential requirements under the RTTE Directive, information on the operation of equipment for its intended use and possible restrictions on the operation of radio equipment and telecommunications terminal equipment (TKEE).

The PMD measurements carried out under market surveillance are a major EU-harmonised contribution to securing efficient and interference-free frequency usage. Electrical equipment such as television sets, kitchen devices, tools or lighting products are filtered out from the market and tested in specially equipped test laboratories in the Agency's regional offices.

In addition, the accredited test laboratory at Kolberg carries out electromagnetic compatibility tests on all products covered directly or indirectly by the EMC Directive and the EMVG. The functional parameters of the products covered by the RTTE Directive and the FTEG are subject to additional tests. Measurements of the specific absorption rate (SAR) of mobile phones are also part of the tests. These measurements allow the essential requirements for the protection of user health laid down in the FTEG to be reviewed.

In 2008, the Agency carried out 12,000 market surveillance activities. 6,056 series/single devices were tested by means of measuring equipment or visually inspected. Of these, 4,851 devices came under the EMC Directive and 1,205 devices under the RTTE Directive. Within the scope of Internet searches, 72 European and 6 international providers of non-compliant equipment were detected and their online offer of 2,735 non-compliant products terminated.

With regard to CE marking and declarations of conformity, 127 products (2.6 percent of the products tested) were deficient according to EMC Directive provisions and 490 products (40.7 percent of the products tested) according to RTTE Directive regulations. In this connection it should be noted that the marking deficiencies of products placed on the market under the new EMC Directive were considerably higher than the deficiencies of products placed on the market under the old EMC Directive (a ratio of 22.6 to 1.2 percent).

In 2008, 1,405 series and 88 single devices were tested using measuring equipment. In these tests 378 series and 26 single devices were non-compliant, meaning that 27 percent of the series tested and 30 percent of the single devices failed to meet prescribed requirements. The high percentage of non-compliant products is due to the selected samples which were filtered out as the products considered most likely to fall short of requirements. Additionally, 47 products were tested for compliance with the essential requirements for device and product safety. The non-compliance rate was 43 percent. In 2008, the focus was on radio sockets again which, due to non-compliance with the essential requirements of product safety, were a substantial danger to life and limb. During 2008 a total of 640 market-restricting measures were taken as follow-up measures for non-compliant products (385 sales bans and 255 notices of assessment). Evaluation of the market-restricting measures revealed that the non-compliance rate of products imported from third countries

was substantially higher than that of domestic products (more than twice as high).

As the Agency's tests do not cover all market products, the data and statistics do not permit conclusions to be drawn to the German market as a whole. However, the continued high non-compliance rate of the tested products clearly emphasises the importance of the task which is also to the benefit of consumers.

Under the FTEG, radio equipment operated on frequencies which have not been harmonised Community-wide have to be notified to the national authorities of the Member States responsible for frequency management at least four weeks prior to its placing on the market. The Federal Network Agency provides the parties seeking to place equipment on the market with information on the type of frequency assignment necessary for operation (general or individual assignment) and, where applicable, on any restrictions that may be in place on the use of particular frequencies in Germany. The number of communications received by the Federal Network Agency in 2008 (since 2007 they can also be sent electronically) amounted to an average of 186 per month.

Electromagnetic compatibility and the environment (EMVU)

As regards EMVU activities, the annual EMVU measurement campaigns and the checks of certified fixed radio transmitter stations on the basis of the Ordinance concerning the Controls for the Limitation of Electromagnetic Fields (BEMFV) were continued. They are a significant part of the PMD tasks.

According to the legal telecommunications provisions a fixed radio transmitter with an equivalent isotropically radiated power (EIRP) equal to or greater than 10 watts may only be taken into operation if the limits for the protection of persons from electromagnetic fields are complied with and if the Agency has issued a site certification to confirm this. Accordingly, the BEMFV requires the operator of radio equipment to have the equipment checked before it is put into operation. When evaluating the results, the Federal Network Agency consistently applies the limits for the protection of persons, but does not influence the process of fixing the limits as such. In order to assess the field strengths of radio equipment properly, a solid knowledge of the properties of electromagnetic fields and of the wireless technologies used is required. Moreover, it has to be ensured that all the information necessary for evaluation is available, ie the technical parameters of all the equipment used, detailed information on equipment locations and information on the environment.

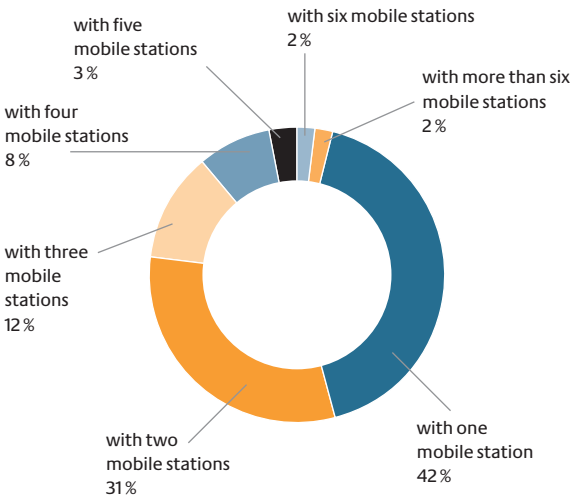
In 2008, the Federal Network Agency issued a total of 18,560 site certificates. The certificates issued are made available to municipalities, local authorities and federal state authorities by means of the local-authority transmitter site database for download. Interested municipalities make frequent use of this database. A total of 2,245 users are registered and have retrieved more than 63,267 site certificates. The EMF database of the Federal Network Agency supplies all information available on site certificates to everyone, with the exception of site addresses.

As confirmed by the large number of searches, ie 12,438,114 (as of: February 2009 ever since the EMF database went into service in 2004), the Agency's EMF activities also contribute substantially to more transparency in the EMF discussions.

Under the BEMFV, the Federal Network Agency is required to furnish proof of the site certification procedure by carrying out series of EMF measurements. The locations where these immission measurements are carried out are determined in cooperation with the environment ministries of the federal states.

In 2008, the PMD measured local immissions of radio equipment at 1,938 locations. In addition to these EMF measurement series, the Agency also has an automatic measurement system recording the immissions round the clock and transmitting them to the EMF database. In 2008, 12 measuring stations were used at 37 locations. The average measurement period at one location was 13.5 weeks.

Shared use of mobile equipment locations



More detailed information can be retrieved from the EMF Internet pages of the Federal Network Agency (http://emf.bundesnetzagentur.de/).

Space services

Also available to the PMD is a special monitoring earth station for space services at Leeheim (between Darmstadt and Mainz) which monitors frequency usage and processes radio interference.

The multi–band antenna designed to cover the 1-26.5 GHz frequency range and the transmitter location system (TLS) which have been taken into operation recently have improved the process of clearing up interference substantially. An interference source on earth affecting the satellite uplink also causes interference to the downlink, ie the satellite-earth link. The transmitter location system and the multi-band antenna allow such interferers to be localised. The new location system which can record uplink interference emissions in the whole of Europe has already detected interferers in Germany, France, Spain and Russia.

Apart from monitoring activities ensuing from legal obligations, the capacity of the Leeheim monitoring earth station also allows monitoring services to be provided on a limited scale to parties external to the Federal Network Agency. These services are however of lower priority than urgent interference cases. On the basis of a memorandum of understanding, to which the administrations of France, Great Britain, the Netherlands, Spain and Switzerland have acceded so far, the Leeheim monitoring earth station provides such services to these countries subject to cost reimbursement.

DATA PROTECTION IN TELECOMMUNICATIONS AND POST

The privacy of telecommunications and post as well the special data protection regulations applicable in these sectors are important aspects of consumer protection. It is the Federal Network Agency's task to secure compliance with these standards. The strict provisions of the Telecommunications Act and of the Postal Act are intended for commercial service providers and give details about customers' rights to privacy not only in respect of the communication itself, but also of the framework within which communication takes place. In spite of the far-reaching market liberalisation, providers of telecommunications and postal services have not been released from the obligation to ensure the privacy of telecommunications and post. Against this background, the Federal Network Agency informs service providers and citizens of legal data protection regulations and secures compliance with these standards to the benefit of customers.

In the telecommunications sector, the year 2008 was marked by various DTAG data protection problems. Of importance in this respect was, in addition to various data protection incidents relating to large customer files, in particular the scandal referring to the interception of telephone connections of supervisory board members, managers and journalists, which is also investigated by the public prosecutor. DTAG made great efforts to close the data protection gaps in its own company, but also those of sales partners and call centres working for DTAG. These incidents and those in other economic sectors launched broad-based discussions at social and political level which also prompted the legislator to prepare new draft legislation (Act on the audit of data protection and on amendments of other data protection provisions).

Data retention was another focus in the telecommunications sector. Here, a variety of legal and technical issues had to be clarified. Some companies challenged the data retention obligation in court and appealed to the Administrative Court in Berlin. At the end of the year, a final decision was still pending.

As in former years, various providers of telecommunications services contacted the Federal Network Agency before introducing new services in order to provide their offers in line with data protection regulations right from the beginning. In the field of security in telecommunications, the Federal Network Agency examined 96 security concepts by means of a written procedure and carried out 42 (non-incident-related) and 27 (incident-related) on-the-spot audits in the year under review.

In the postal sector, regular non-incident-related audits of compliance with postal privacy and data protection regulations were carried out throughout the country. Altogether, 166 audit reports were provided in 2008. Additionally, one incident-related audit was performed on the spot.

The good cooperation of the Federal Network Agency with the Data Protection Commissioner and the freedom of information activities were continued in 2008. Specifically, a harmonised approach to basic issues was agreed with a view to achieving effective data protection.

Dispute resolution

End users may ask the dispute resolution service of the Federal Network Agency for conciliation in telecommunications and postal disputes. The high acceptance of this service is reflected in the number of enquiries and applications.

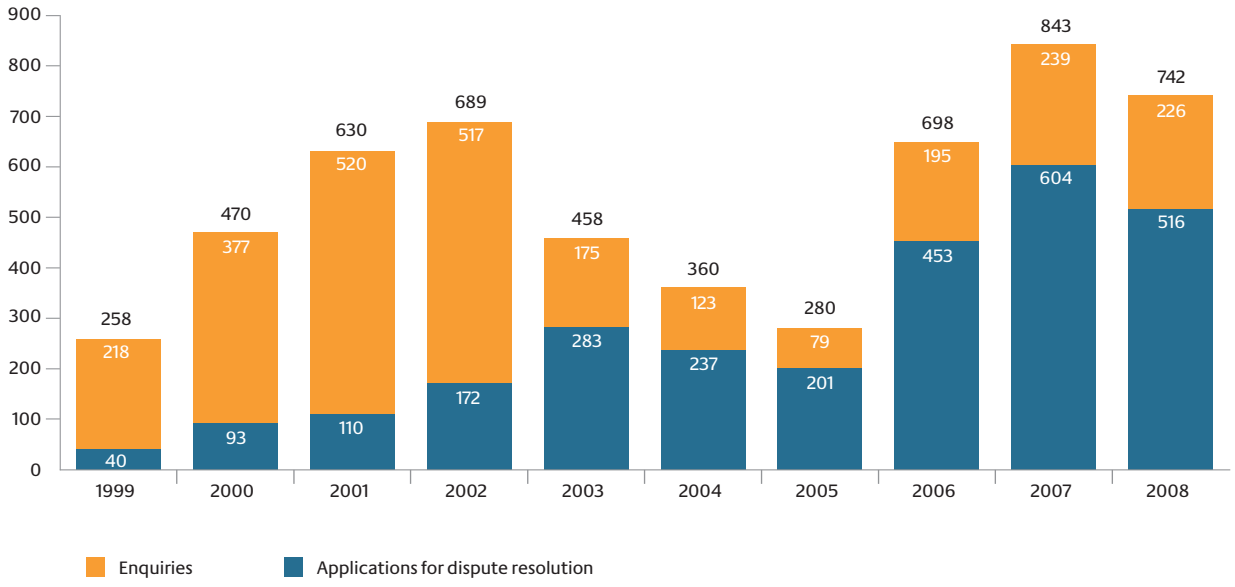
Under section 47a TKG, subscribers may ask the Federal Network Agency for conciliation in a dispute with a provider of publicly available telecommunications services. Under section 10 of the PDLV, the same applies to postal customers if rights ensuing from the PDLV have been violated. To this end, the Agency has set up a dispute resolution service for each of these two sectors. The dispute resolution procedures pursue the aim of out-of-court dispute settlement. As pre-court procedures they contribute to taking some of the burden off the courts.

However, applications for dispute resolution are only admitted if applicants can assert the violation of their own rights under the TKG or the PDLV, if judicial proceedings or other dispute resolution procedures relating to the same dispute are not pending and if attempts have been made before to reach agreement with the opponents. The Agency's dispute resolution service in the telecommunications sector carries out such procedures as determined in the rules of procedure for conciliation published in the Agency's Official Gazette of 16 July 2008 as Communication No 13/08 in accordance with section 47a(4) TKG (SchliO2008) in conjunction with section 47a TKG.

As a rule, dispute resolution is carried out as a written procedure. It is also voluntary for both parties. Hence follows that the procedure is to be closed as soon as one of the parties refuses to cooperate. The parties are heard with the aim of reaching amicable agreement. Based on the statements made by the two parties, the Agency may make a specific proposal with a view to settling the dispute. The outcome of dispute resolution will to a large extent depend on the parties' own willingness to clarify the facts and to contibute to solving the problem by achieving agreement.

Dispute resolution is in principle subject to fees. The level of the fee is determined in accordance with section 145 sentence 2 TKG, as provided for by section 34(1) of the Court Costs Act (GKG), or in accordance with section 18(2) PostG. The minimum fee is €25 and increases in line with the value of the matter in dispute. The fee is incurred once the opponent has agreed to take part in the dispute resolution procedure.

Volume of enquiries and applications submitted to the dispute resolution service in the period from 1999 to 2008



TELECOMMUNICATIONS

The dispute resolution service of the Regulatory Authority/Federal Network Agency has been available since 1999. In the period from 1999 to 2008 5,378 applications and enquiries were submitted to the service for conciliation – a figure indicating the high acceptance of conciliation activities.

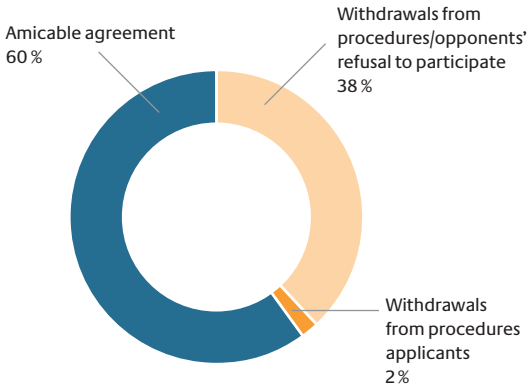
After the volume of applications had increased continuously in the past two years, the number of cases decreased again in 2008 for the first time– even though only slightly. Reasons for this development were in particular the flat rate offers introduced in many telecommunications services. Accordingly, the matters of dispute shifted from the typically disputed individual connections to contractual regulations. These conflicts result from the strong rise in the number of products implying minimum contract periods. In this connection consumers frequently complain about a lack of transparency in the contractual components. Here, the dispute resolution service of the Agency can assist only to a limited extent since its scope of responsibility has been restricted by the legislator. However, in these cases the service made use of its good relations to the telecoms companies outside the scope of formal procedures in order to find solutions to the problems in each individual case. Last but not least, there are also tendencies noticeable in Commission discussions taking place at present to extend the conciliation scope within a reasonable time horizon.

In 2008, the dispute resolution service was called in to conciliate on 516 occasions. In addition, 226 petitions were submitted to the service, to which the Agency responded by giving advice on and assistance in the possible next steps to be taken, or by giving support

in solving problems in direct contact with providers. Eleven percent of the applications were withdrawn by the applicants following comments by the Agency's dispute resolution service on the procedural requirements (under the TKG, SchliO2008) and on the circumstances of the case. The percentage of applications, which had to be rejected because rights under the TKG had not been infringed, continued to be high. Most of these cases concerned disputes relating to the conclusion, change or termination (notice of termination) of contracts. Such cases are subject to general civil law regulations and cannot be settled by the dispute resolution service at present.

Thirty-eight percent of the conciliation requests in initiated dispute resolution procedures were rejected by the opponents. They argued that there was no basis for settling the dispute out-of-court and refused to participate in conciliation. In another 45 percent of the cases the opponents refused to participate, but clarified the matter in dispute to the applicants' satisfaction by making use of the intermediary services of the dispute resolution service so that the opening of a formal procedure was not necessary. Of the remaining procedures opened, 86 percent were settled between the parties by the intermediary services of the Agency. There were only isolated cases of opened procedures which had to be terminated due to the withdrawal of applications or the withdrawal of the opponent's agreement to the procedure. Therefore, a positive result was reached in 60 percent of the procedures admitted in 2008, a percentage which confirms the promising success rate of dispute resolution procedures achieved in previous years.

Results of the procedures admitted for conciliation and completed in 2008



POST

Customers in the postal sector only made little use of the Agency's dispute resolution service in the year under review. The procedures were only directed against DPAG. There were 17 applications for conciliation of which six met the requirements for a dispute resolution procedure. Three procedures were completed successfully. In two cases agreement was not reached and one procedure is still pending. Six applications were rejected since the requirements for opening a procedure were not met. Five procedures are being examined at present in order to establish whether they can be admitted for conciliation.

To improve acceptance and increase the use of dispute resolution procedures, the Federal Network Agency will make further efforts to draw consumer attention to this conciliation approach.

International Cooperation

Telecommunications 48
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Telecommunications

In 2008 discussions continued on the revision of the European regulatory framework for electronic communication networks and services. These discussions focused on cooperation in the group of independent regulators and the review of the implementation of roaming regulations for cross-border mobile phone calls.

INDEPENDENT REGULATORS GROUP AND EUROPEAN REGULATORS GROUP

Since its foundation in 1997, the Independent Regulators Group (IRG) has been coordinating on a voluntary basis the regulatory practice of national authorities in European states and was entered on 27 May 2008 as a non-profit association under Belgium law in the register of associations in Brussels. The board was elected in February 2008 at its first general meeting and consists of five presidents of national regulatory authorities: alongside the chairman (Daniel Pataki, NHH/Hungary), his predecessor (Roberto Viola, AGCOM/Italy), successor (Matthias Kurth, Federal Network Agency/Germany) and two other members (John Doherty, ComReg/Ireland and Chris Fonteijn, OPTA/The Netherlands).

The "European Regulators Group" (ERG) advisory board established by the EU Commission in 2002 is intended to ensure enhanced regulation of respective national regulatory practice by applying the European regulatory framework for electronic communication networks and services as uniformly as possible. For this reason, the independent national regulatory authorities (NRA) for electronic communication are members of this group alongside the – non-voting – representatives of the Commission.

The ERG prepares legally non-binding "Common Positions" (CP) on relevant issues and "Opinions" in which it expresses its view on specific regulatory issues. The latter are requested by the Commission, for example, to prepare new legal acts. To increase transparency, documents such as "Common Positions" are published for public consultation prior to their adoption. Based upon the self-commitment in the "Declaration of ERG Development" of October 2006, the ERG reviews compliance with Common Positions by their members, i.e. their consideration in decisions at national level. Early in 2008 the "Timetable for Monitoring of Conformity with ERG Common Positions" was published. This was followed by reports on compliance with two Common Positions on remedies. In

addition, an "Action Plan to achieve Conformity with the Common Position on MTR/FTR Symmetry" was published. The aim is to review whether the Common Position on MTR/FTR Symmetry is complied with and symmetrical termination charges are achieved both between national mobile network operators and between national landline network carriers. All ERG documents can be found at http://erg.ec.europa.eu.

In 2008, work on the statements on the EU Commission's legislative proposals on the revision of the existing regulatory framework for electronic communication networks and services and the changes proposed by the EU Parliament on 24 September 2008 and the Council of Ministers on 27 November 2008 was of prime importance. This particularly applies to the issues that directly affect the IRG/ERG: The consolidation process acc. to art. 7 (extension requested by the European Commission of its right of veto on remedies) and the closely related suggestions on the reorganisation of the institutional development (replacing the ERG with a European regulatory authority EECMA) and on strengthening the independence of the NRA.

Whereas the European Commission's proposals on strengthening the independence of the NRA are welcomed by the IRG/ERG as a key requirement in effective regulation, the extension of the right to veto to include remedies is rejected as superfluous and even harmful by the IRG/ERG as is the establishment of the EECMA. Moreover, the suggestions contradict the "2-pillar model" of the regulatory framework. This deliberately gives the NRA the flexibility required in selecting appropriate measures to remedy competition problems on the national markets, while the further development of the European single market is pushed ahead at the levels of market demarcation and determination of enterprises with substantial market power by the European Commission's right to veto.

The IRG/ERG considers it more useful to promote the development of the single market using the current model of decentralized implementation and horizontal cooperation as part of the IRG/ERG by pursuing common principles and observing common positions in national decisions. As shown by market watch, this procedure successfully contributes to the further development of the single market through effectively regulated competitive national markets. This is the reason why the IRG/ERG calls for the current regulatory balance to be retained. The extension of the right to veto and the establishment of the EECMA were also rejected by the Council of Ministers on 27 November 2008.

In addition, work in 2008 was dominated by the cooperation on the draft recommendations published by the European Commission on "regulating landline network and mobile network access charges in the EU" and "regulated access to next-generation-access networks (NGA)" and by the – partly critical – comments on these drafts. In its statement on the draft recommendation on the calculation of landline and mobile network termination rates (FTR/MTR) published on 26 June 2008, the IRG/ERG welcomed the objective of a further reduction, but considered the suggested cost calculation methods somewhat critical and too detailed. The "MTR snapshot" published by the IRG/ERG every six months shows that rates are gradually declining and that the differences between the rates in individual countries are also declining.

The criticism of excessively detailed requirements also applies to the draft recommendation concerning the regulation of access to NGA networks that was published on 26 September 2008. According to the IRG/ERG, the NRA's discretion is excessively limited in both cases to impose suitable remedies for solving competition problems identified on the national markets on SMP companies.

Another issue that the IRG/ERG has dealt with in the reporting period is the monitoring of compliance with the International Roaming Regulations that came into force on 30 June 2007 by mobile network providers and other providers of roaming services. Wide-ranging data surveys have been performed by the ERG on providers of roaming services and a report published on price and other market developments as last year.[1]

In the field of "Innovation/Emerging Challenges on the Market", the third pillar of its 2008 work programme, the IRG/ERG had already responded in 2007 to the developments in the case of investment in so-called "Next Generation" networks at core network level and started appropriate projects that were handled by a project team headed by the Federal Network Agency. This work was continued and a "Common Statement on IP-IC/NGN Core" [2] published in October 2008. In this paper the project team deals with the issue of IP interconnection and its implications in terms of the development towards next generation interservice networks and compiles appropriate regulatory principles. Core issues are the division of transport and service as well as a discussion about suitable accounting principles in IP networks.

TEMPORARY PARTNERSHIPS (TWINNING PROJECTS)

In 2008, the Federal Network Agency won the invitation to tender together with the Italian regulatory authority AGCOM for a twinning project with the Egyptian regulatory authority NTRA. The project was given the green light at the end of November 2008 at a press conference in Cairo. In the course of the next 2 years, experts from both authorities will communicate technology-specific knowledge and experience in the field of regulating telecommunications markets to the Egyptian regulatory authority and prepare recommendations for adjusting the Egyptian regulatory framework together with the Egyptian colleagues. Projects of this kind run for a fixed period of time and are financed with funds from the European Union.

INTERNATIONAL VISITOR GROUPS

The leading role played by the Federal Network Agency in the regulation of former monopoly markets is demonstrated by the number of guests from all over the world. 18 major delegations from Europe as well as South-East Asia, Africa and Australia were welcomed in 2008 alone from the fields of telecommunications and energy. In numerous speeches, the agency's structure and approach was explained by experts from the Federal Network Agency.

[1] ERG International Roaming data report (ERG (08) 36)
[2] ERG (08) 26 and ERG (08) 26b (Supplementary Document)

Post

The desire for enhanced quality and better environmental protection shows that close international cooperation is also essential in the postal sector.

UNIVERSAL POSTAL UNION

The 24th Universal Postal Congress was held from 23 July to 13 August 2008 in Geneva. Decisions were taken by the congress during these 3 weeks that can be considered the roadmap for the postal sector over the next three years. During the congress, Edouard Dayan, the incumbent Director General of the international office and Guozhong Huang, the representative Director General, were confirmed in office for a second term from 2009 to 2012.

Service quality, terminal dues, customs clearance of postal items, electronic services, sustainable development of the postal sector and the reformation of the Universal Postal Union (UPU), on whose Council of Administration Germany holds the chair in Commission 1 (leadership) from 2009 to 2012, were the core issues during the discussions.

The quality of international postal items is to be improved further by 2012 by mutually connecting various networks and by using information and communication technologies. The Congress adopted ten projects to ensure that the target set of transporting 80% of all letter items to their recipients in less than 5 days is achieved.

The UPU and the World Customs Organisation have dramatically improved their cooperation in terms of customs clearance in the postal package sector in the past and intend to continue doing so in the future. Customs authorities and postal operators intend to step up the exchange of data on the contents of a package to be cleared through customs. By this, it shall be possible for customers and customs authorities to recognize whether the contents of a package complies with the respective customs regulations and thus clear packages more efficiently and faster.

The Congress adopted a first UPU action plan for providing electronic services. These also play a key role in the universal postal strategy. They are of prime importance for access to the information society and are to help overcome “digital educational differences”.

The UPU is aware of the fact that the environment is affected by postal activities. Therefore, appropriate programmes to reduce environ-

mental pollution are planned at Member States' insistence in cooperation with the United Nations Environment Programme (UNEP).

EUROPEAN COMMITTEE FOR POSTAL REGULATION (CERP)

As a sub-organisation of the European Conference for Posts and Telecommunications, CERP comprises 48 European countries. CERP's work is aimed at comparing regulatory framework conditions in the Member States and – if advisable – developing suggestions for harmonisation.

During the plenary meeting in May 2008, the election of the chairman and both representatives and the restructuring of the working and project groups were the focus of interest. The CERP is now chaired by and the project group headed by a representative of the Federal Network Agency. The new structure identifies the two working groups "politics" and "application". In addition, 9 project groups were established. The work of the project groups is to become more target-oriented with new responsibilities and shorter decision paths. In future, reports shall be designed more as application recommendations and best practices.

EUROPEAN COMMITTEE FOR STANDARDIZATION (CEN – COMITÉ EUROPÉEN DE NORMALISATION)

CEN is the association of international standardisation institutes of European states. The technical committee for postal services (CEN/TC331) was founded by CEN back in 1996. The task of TC 331 is to draft all standards in the postal sector, which, in addition to purely operationally/logistically oriented projects, also includes the field of quantity measurement. An independent working group (CEN/TC331/WG1) chaired by the Federal Network Agency was established for developing quality measurement procedures relevant to regulation. In 2008, this working group dealt mainly with revising the standard for measuring the transit time for letter items and submitted a first draft for discussion.

TEMPORARY PARTNERSHIPS (TWINNING PROJECTS)

The Federal Network Agency showed its readiness to cooperate again in 2008 as a twinning partner in the postal sector between the administrations of an "old" Member State of the European Union and the corresponding agencies in a candidate country. Project partner in the reporting year was Croatia.

The core issue was communicating technology-specific knowledge and experience in the field of regulating postal markets. Focus was particularly on the mechanisms of price control, market entry promotion and market observation. In addition to the extensive transfer of knowledge and experience, the information gleaned during the preparation of recommendations on any future changes in the law required contributed in particular to the successful execution of the project.

Energy

Activity in the energy sector was dominated in the European committees by the ongoing consultations on further development of the European regulatory framework.

Since 2004 the Agency has been a member of the European governing bodies "Council of European Energy Regulators" (CEER) and "European Regulators Group for Electricity and Gas" (ERGEG). As an association under Belgium law, CEER is a platform founded by the regulatory authorities for the exchange of all issues that are relevant to all of its members. The ERGEG, on the other hand, was set up by Commission Decision 2003/796/EG of 11 November 2003 as a formal advisory committee of the Commission. The Commission is supported by both committees in consolidating a European single market for electricity and gas.

FURTHER DEVELOPMENT OF THE EUROPEAN REGULATORY FRAMEWORK

In June 2008, the European Parliament completed its first reading of legislation suggestions of the European Commission for further development of the European regulatory framework ("3rd package of directives"); in October 2008 the Council of Ministers reached a political agreement that resulted in a common position early in 2009. Parliament and Council agree on the creation of a strong agency for the cooperation of energy regulators, improving competences and the legal position of national regulatory authorities and formalising cooperation at European level to develop binding rules for network operation in cooperation with the parties involved. The agreement on further unbundling, which is supported by the Council and the Commission (so-called "Independent Transmission Operators – ITO" as an equal option in addition to ownership unbundling and the so-called "Independent System Operator – ISO"), is not shared by the Parliament, however.

In 2009 the Federal Network Agency will intensively prepare the implementation of the 3rd package of directives of the European Union together with European regulators. This includes the development of "framework guidelines" that are intended to provide a framework for the European network operator organisations "ENTSO-Electricity" and "ENTSO-Gas" for the development of detailed market rules ("codes and rules").

ACTIVITIES IN THE ELECTRICITY SECTOR

In the electricity sector, the Federal Network Agency carries the competences from the

implementation of EU Directive No. 1228/2003 on network access conditions for the cross-border electricity trade. A detailed presentation of these activities as well as cooperation in Electricity Regional Initiatives can be found on page 156.

The Federal Network Agency is also involved in the five task forces (TF) of the ERGEG's Electricity Working Group. As part of the Electricity Network and Markets TF, the preparatory work for the implementation of the 3rd package of directives was performed in 2008. For example, "Guidelines of Good Practice for Operational Security" were drawn up, discussed in public and published on the website of the ERGEG. Further focal points of the work involved the provision of lost energy, the preparation of "Guidelines of Good Practice" for cross-border exchange of control energy and connection and access to electricity networks.

ACTIVITIES IN THE GAS SECTOR

The Federal Network Agency is represented in eight CEER/ERGEG working groups in the gas sector. In the 2008 reporting year, it held leadership responsibility for two working groups. Further information about the Federal Network Agency's activities in the working groups can be found on page 167.

FINANCIAL SERVICES WORKING GROUP

The Financial Services Working Group was established in November 2007. Since then it has been headed by Johannes Kindler, vice-president of the Federal Network Agency, and mainly deals with the interface between financial and energy markets. At the European Commission's request, its main task in 2008 was to prepare proposals on improving market integrity in electricity and gas trade together with the Committee of European Securities Regulators (CESR) (see page 157).

COOPERATION IN OTHER WORKING GROUPS

"Guidelines of Good Practice on Functional and Informational Unbundling for Distribution System Operators" were developed, coordinated and adopted by the Unbundling, Reporting & Benchmarking task force with the participation of the Federal Network Agency. In addition, a sub-working group headed by the Federal Network Agency accompanied the international study on the efficiency benchmarking of transmission system operators that is used to prepare the definition of individual efficiency parameters in the system of incentive regulations (see page 150).

In 2008 the Federal Network Agency continued its involvement in the consumer-related working groups at European level. The Customer Protection TF prepared a survey on the national implementation of the consumer rights stipulated in article 3 and annex A of the electricity and gas directives 2003/54/EG and 2003/55/EG following the complete market opening on 1 July 2007. The Federal Network Agency attended the first meeting of the EU's new citizen energy forum ("London forum") and will follow further consultations on consumer aspects of the package of directives closely.

Railway

Modern economic systems require flexible and internationally linked product transport systems. With its international activities, the Federal Network Agency helps prepare railway traffic for these requirements.

WORKING GROUP RAIL REGULATORY BODIES

Last year, international cooperation also focused on the meetings of the "Working Group Rail Regulatory Bodies" that were held every 3 months. This working group, which consists of representatives of European regulatory authorities and the European Commission, discusses current cross-border issues related to railway regulation. The work of this group focused on the preparation of a memorandum of understanding with Rail Net Europe (RNE) and the Technical Specification for Interoperability for Telematic Applications for Freight (TAF TSI).

RAIL NET EUROPE

RNE is an association of European railway infrastructure companies for promoting competition as well as increasing the quality and efficiency of cross-border railway traffic and is based in Vienna. In particular by coordinating international traffic processes, RNE increasingly plays a key role in assigning international paths that is becoming more and more similar to that of a railway infrastructure operator. In cooperation with other regulatory authorities, the Federal Network Agency currently studies with particular interest the "Pathfinder" software provided by the RNE for path requests on the Internet. The aim is to ensure, also through the regulatory authorities, that the required path information is available and that this communication tool can be used in a non-discriminatory manner. On account of previous conduct, the substantial doubts raised by the EU Commission, the Federal Network Agency and other regulatory authorities could not yet be appeased by the RNE.

The constructive cooperation between RNE and the regulatory authorities is to be placed on a solid footing by means of a memorandum of understanding until a possible adjustment of the European regulations addressed by the EU Commission is reached. Non-discriminatory principles could be ensured by adequate control possibilities for the regulatory authorities. The current negotiations headed by the Federal Network Agency together with the EU Commission are aimed at such a memorandum of understanding.

TECHNICAL SPECIFICATION FOR INTEROPERABILITY FOR TELEMATIC APPLICATIONS FOR FREIGHT

The TAF TSI are regulations for implementing a technical standard for a pan–European exchange of commercial and operative data in railway traffic. An additional network – an IT network – corresponding to the railway network will be provided above the railway network by these TAF TSI applications. With its introduction in 2013, the TAF TSI is expected according to a general assessment by the International Group for Improving the Quality of Rail Transport in the North-South Corridor (IQ-C) – a working group with experts from the regulatory authorities of Germany, Italy, the Netherlands and Switzerland – to become an IT system with the potential for clearly improving the competitiveness of intermodal railway transport. These huge opportunities also comprise risks, however. It has been specifically announced that use of TAF TSI will be made a requirement for participating in railway traffic. It therefore appears essential for further development to be accompanied by the regulatory authorities and undesirable competitive developments to be counteracted to ensure non-discriminatory principles.

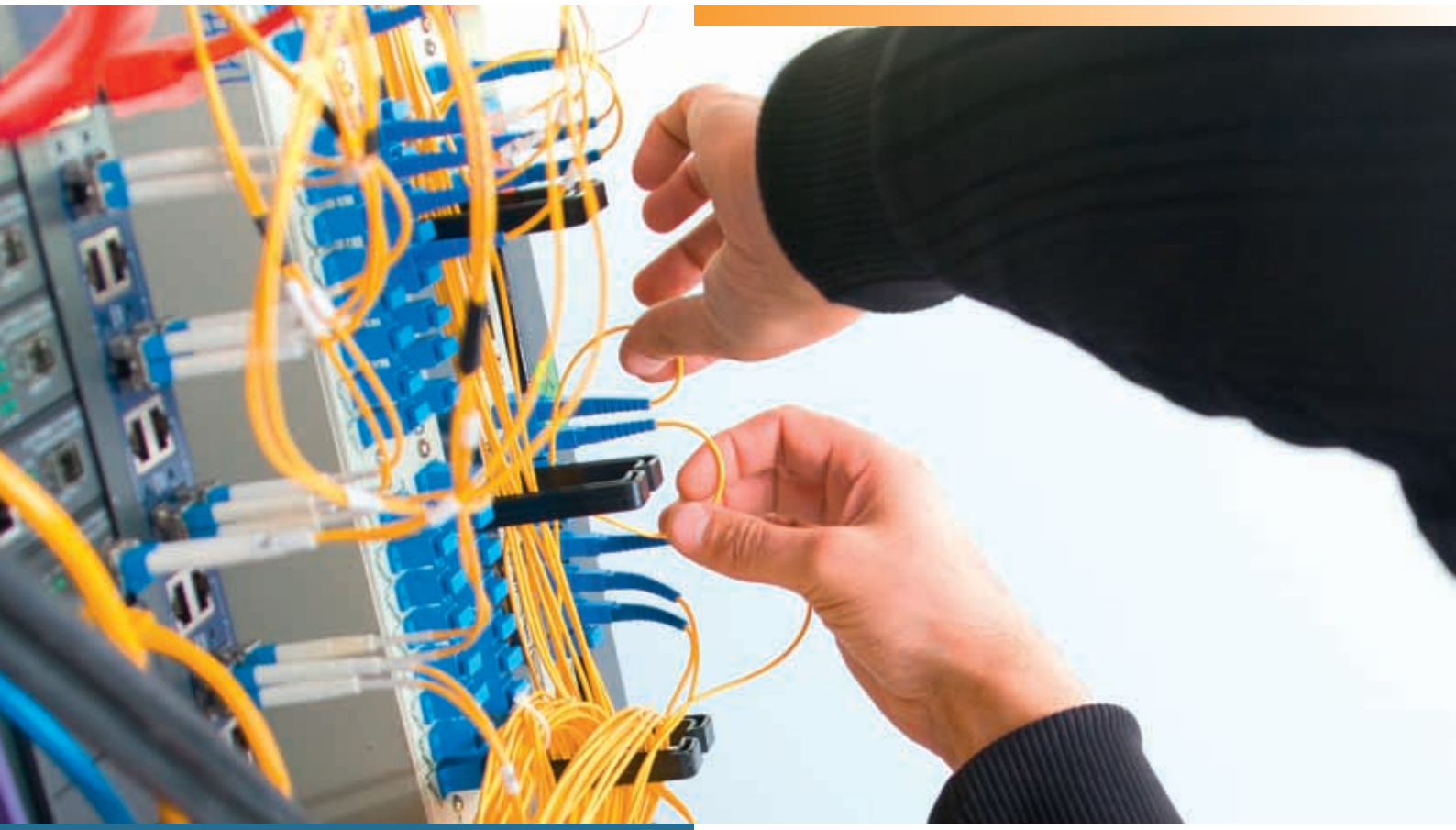
INTERNATIONAL GROUP FOR IMPROVING THE QUALITY OF RAIL TRANSPORT IN THE NORTH-SOUTH CORRIDOR

Assisted by Austria, the IQ-C observes cross-border traffic along the most important corridor of railway traffic between Rotterdam and Milan to track down any barriers to competition. The tasks of the IQ-C working group are to observe the activity of RNE when allocating international paths with the so-called “One-Stop-Shop” for this corridor, to inform each other of cases of discrimination and find joint solutions for next steps.

In September 2008, the IQ-C group visited a workshop in Germany. During the meeting, the cooperation with regard to the talks with RNE on a non-discriminatory design and use of the “Pathfinder” was discussed in particular. In addition, various current cases and problems in regulatory practice for discrimination when accessing the infrastructure and the associated services were presented and solutions developed.

Telecommunications

Market watch 60
Ruling chamber decisions 87
Further decisions 94
Court proceedings 110



Market watch

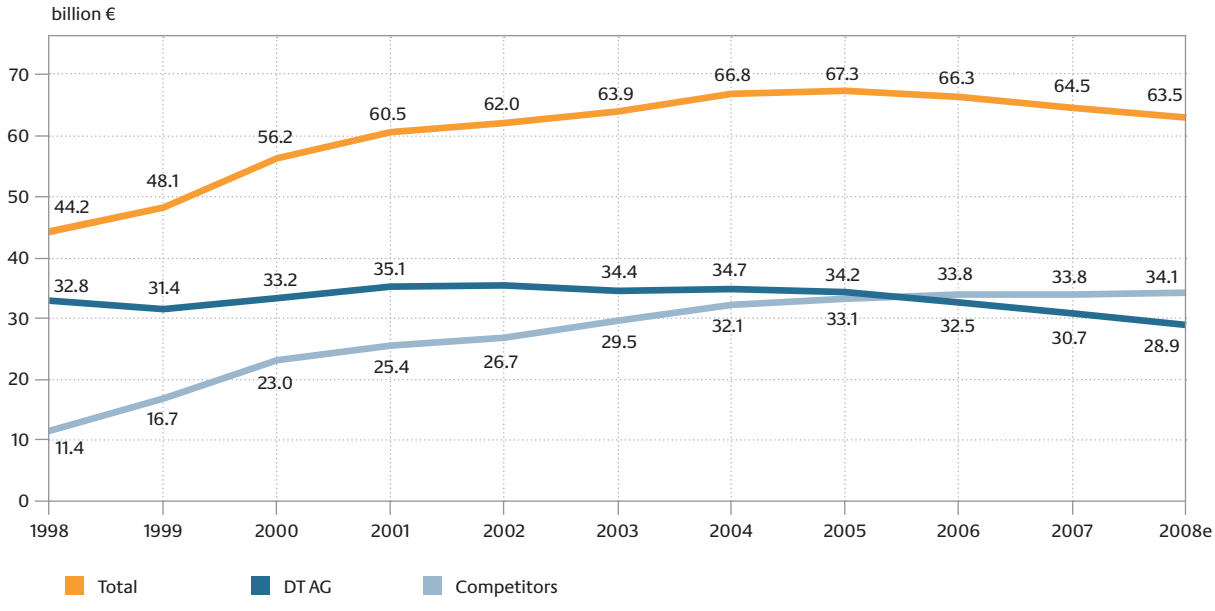
Continued dynamic growth in the broadband market – voice communication via Voice over IP (VoIP) gains in importance – intensive demand for unbundled subscriber lines (TAL) – increased growth rates for telephony and Internet via cable TV infrastructure – mobile data use is on the rise – continued high investment volume.

TOTAL MARKET FOR TELECOMS SERVICES

Revenues

Revenues from telecommunication services in Germany[1] will reach approx. € 63.0 billion in 2008.[2] Compared to the previous year, this corresponds to a decline of 2.3%. Alternative providers will increase their revenues to € 34.1 billion, while Deutsche Telekom AG (DT AG) falls by 5.9% below its prior-year result at € 28.9 billion.

Revenues on the German telecommunications market



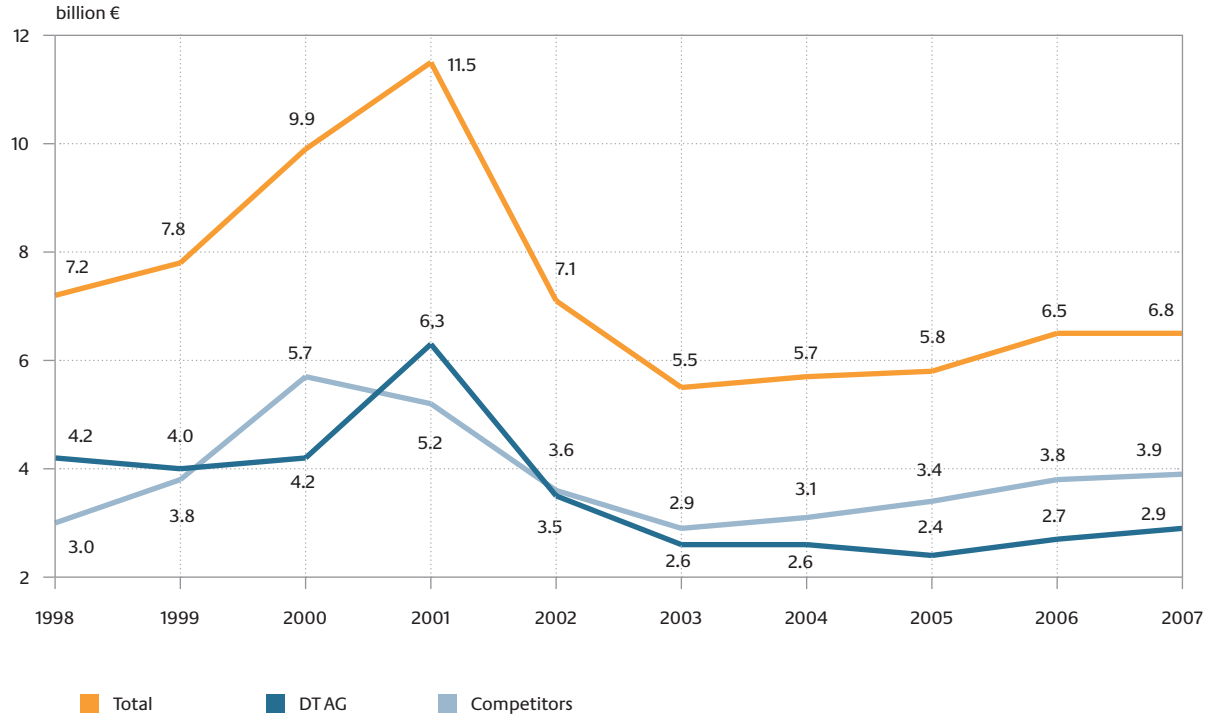
[1] Cumulative revenues comprising revenues of DT AG and alternative providers in Germany.
[2] Since definitive figures for 2008 are not yet available, the figures cited here are estimates (shown in tables as "e").

Real investment

Investment in fixed assets on the telecommunications market in Germany increased by 4.6% to € 6.8 billion in 2007, continuing the upward trend of the last three years. Whether this development was upheld in 2008 cannot be assessed on the basis of the figures currently available.

Alternative competitors have continuously increased their capital spending since 2004 to € 3.9 billion at the end of 2007. Their investment share of 57% is higher than the € 2.9 billion invested by DT AG in fixed assets in Germany in 2007. But DT AG also increased its investment by 7.4% year-on-year.

Investment in fixed assets on the German telecommunications market



Germany is mirroring the European trend with this development in investment volume. The 13th implementation report of the European Commission of March 2008 also shows several consecutive years of increasing investment volume in Europe.[3] The Commission additionally reports that the decrease in investment volume that can be observed in Europe is due to mobile communications. In 2009 investment stimulation is to be expected – as a reaction to capacity bottlenecks anticipated in the future for broadband connections. This shows a parallel between national and European development, because the increased investment volume on the telecommunications market in the past was particularly due to the dynamics in the fixed network.

[3] Commission of the European Union, report on the status of the European single market of electronic communications 2007 Report), KOM(2008) 153 of 19 March 2008, page 3, Commission Staff Working Document Volume 1, SEC(2008) 356 of 19 March 2008, page 5.

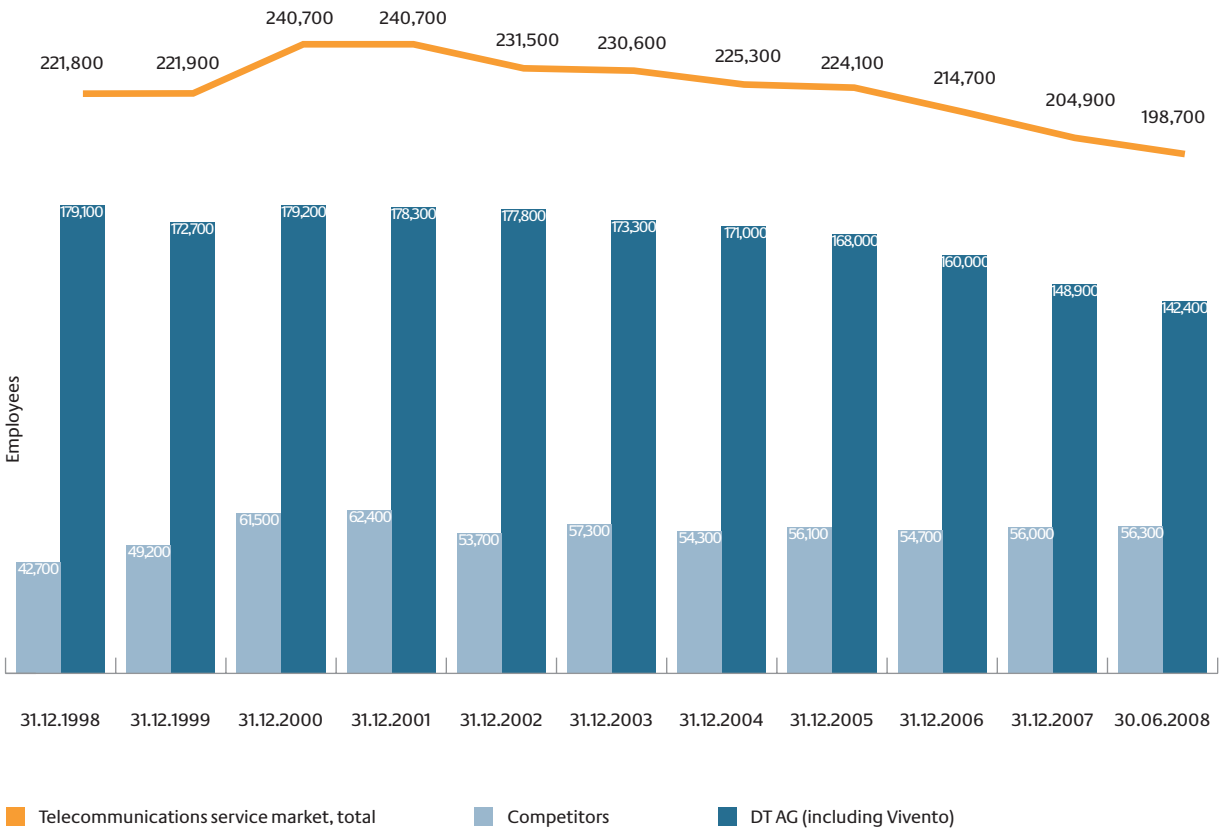
The fixed network accounted for more than 70% of total investment in 2007 and the mobile network just under 30%. Thus, investment in the German fixed network (€ 4.8 billion) was € 2.8 billion higher than in the mobile network (€ 2.0 billion). Compared to the prior year, investment in the fixed network increased by € 1.0 billion (26%), whereas investment in the mobile network decreased by € 0.7 billion (also 26%).

Investment in fixed assets in the fixed and mobile networks

Employment

198,700 people were employed by telecommunication companies at the end of the first half of 2008. This represents a decline of 3%. Jobs were only lost at DT AG. The group reduced its workforce in Germany by 6,500 jobs to 142,400 employees compared to 2007. However, the number of employees at alternative providers increased slightly by 0.5% to 56,300.

Employees on the telecommunications service market



TELECOMMUNICATION SERVICES BASED ON FIXED NETWORK CONNECTIONS

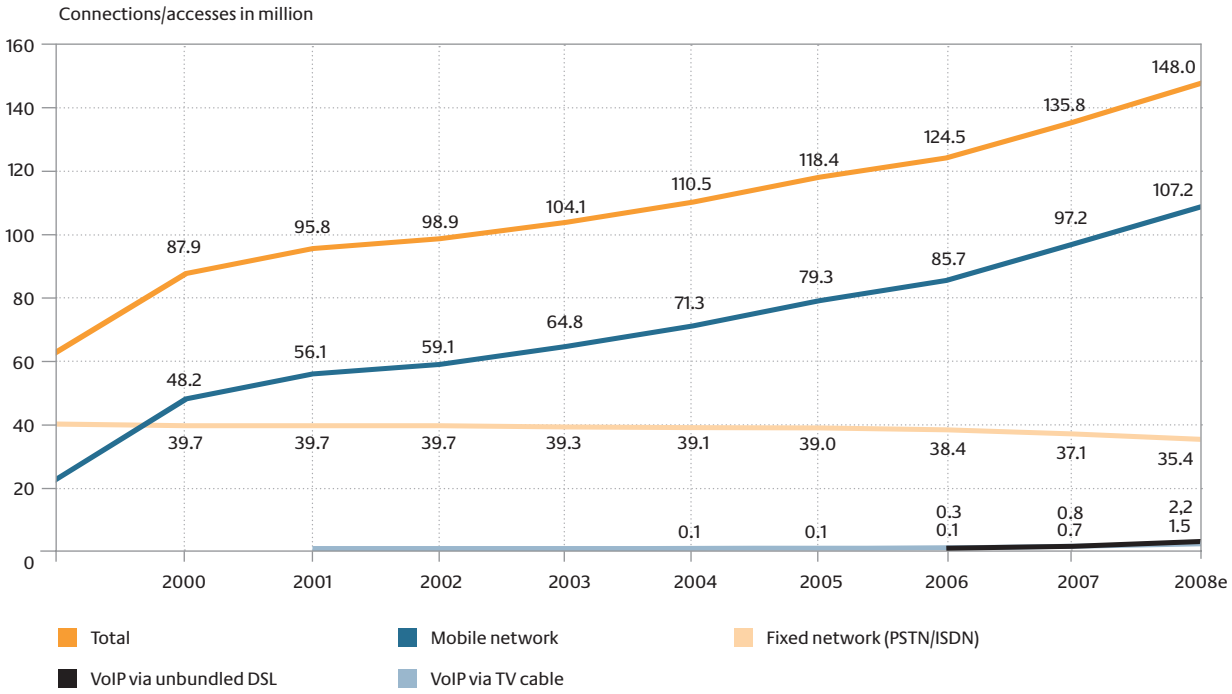
Accesses for voice communication

Accesses for landline voice communication via traditional telephone connections (PSTN[4]/ISDN[5]) and VoIP via the cable TV infrastructure and via DSL connections have developed differently in recent years. While it is obvious that the importance of the traditional telephone connection is declining, VoIP telephony via TV cable and DSL is on the rise. In general, access possibilities in fixed networks have increased. On the other hand, more than 1.3 SIM cards per inhabitant are used in Germany in mobile networks meaning that significantly more options are available for telephony via mobile networks than via fixed networks.

The number of cable TV connections used for telephone calls increased to about 1.5 million by the end of 2008. The number of unbundled DSL connections[6] used for VoIP amounted to 2.20 million by the end of 2008.

[4] PSTN = Public Switched Telephone Network
[5] ISDN = Integrated Services Digital Network
[6] In the case of unbundled DSL connections, the provision and operation of the DSL connection is not bound to a traditional analogue or ISDN telephone connection.

Development of access possibilities for voice communication



While the number of connections in the fixed network changed only slightly and totalled 39.1 million by the end of 2008, the number of mobile network connections increased to 107.2 million.[7] The individual connection/access types are broken down in the following table.

Telephone connections/accesses and competitor shares in fixed networks

	2006			2007			2008e		
	Total base	Competitor share		Total base	Competitor share		Total base	Competitor share	
	Million	Million	%	Million	Million	%	Million	Million	%
Analogue connections	25.44	1.139	4.5	24.00	1.516	6.3	22.36	2.042	9.1
ISDN basic access points	12.69	3.488	27.5	12.88	4.189	32.5	12.82	4.539	35.4
ISDN-PMX connections	0.118	0.0291	24.6	0.117	0.0292	25	0.112	0.0294	26.2
Public telephone stations	0.110	0.0033	3	0.108	0.0031	2.9	0.104	0.0028	2.7
Voice accesses via cable TV networks	0.310	0.310	100	0.810	0.810	100	1.500	1.500	100
Voice accesses via unbundled DSL connections	0.100	0.100	100	0.700	0.700	100	2.202	2.200	99.9
Total connections/accesses	**38.77**	**5.07**	**13.1**	**38.62**	**7.25**	**18.8**	**39.09**	**10.31**	**26.4**

Data incl. personal need

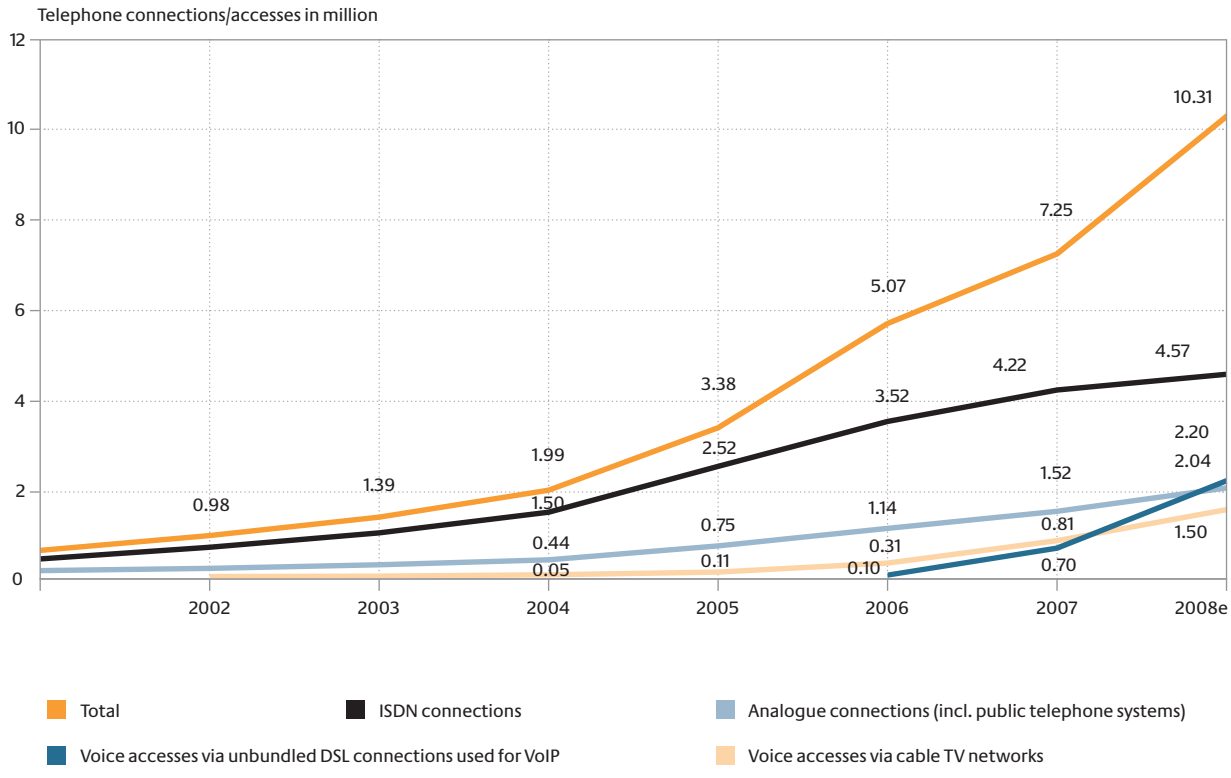
[7] Given the growing importance of VoIP, access possibilities to voice communication are not presented as so-called telephone channels as in former annual and activity reports of the Federal Network Agency. This shall be taken into account when comparing the figures with those in former reports.

While the total number of analogue connections has declined sharply in recent years, but still represented the most important type of connection at the end of 2008 at approx. 22.4 million, the existing number of ISDN basic access points at approx. 12.8 million no longer seems to be rising either. Dynamic growth rates, however, can be noted for voice access points via unbundled DSL connections used for VoIP and for voice access points via cable TV networks. The number of VoIP via DSL tripled in 2008 to approx. 2.2 million and exceeded the number of voice access points in cable TV networks at approx 1.5 million. Accordingly, traditional fixed network connections were replaced by new technologies.

The total amount of public payphones included 104,000 coin and card telephones at the end of 2008, representing a slight decline. The already very low competitor share decreased to 2.7%. This trend is presumably due to roaming charges for pan-European mobile communication calls that were reduced in 2007.

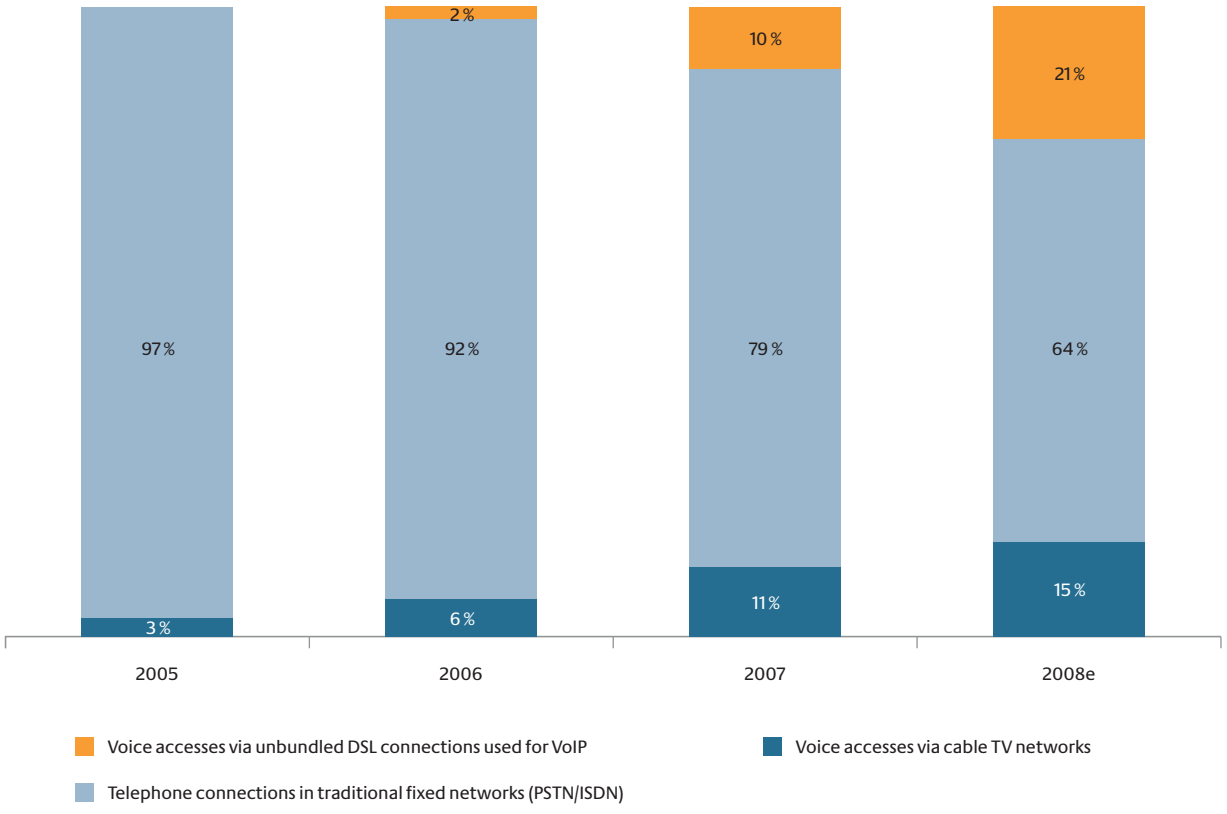
In particular the new technology VoIP via DSL and cable TV telephony have experienced dynamic growth rates among alternative subscriber network operators. The number of their traditional analogue and ISDN basic access points has also increased, although ISDN basic access points clearly slower compared to earlier years.

Development of telephone connections/access points of alternative subscriber network operators



Fixed networks of alternative subscriber network operators had a total of approx. 10.3 million telephone connections/accesses at the end of 2008. This number increased by 3.1 million in 2008 compared to 2.1 million in 2007. VoIP via DSL was mainly responsible for this growth, the share of telephone connections/accesses more than doubled from 10 to 21% in 2008. At the same time, VoIP via DSL also exceeded the share of voice accesses via cable TV networks. The share of analogue and ISDN telephone connections in fixed networks of alternative providers declined, however, from 97% in 2005 to 64% in 2008.

Share of telephone connections/accesses in fixed networks of alternative subscriber network operators



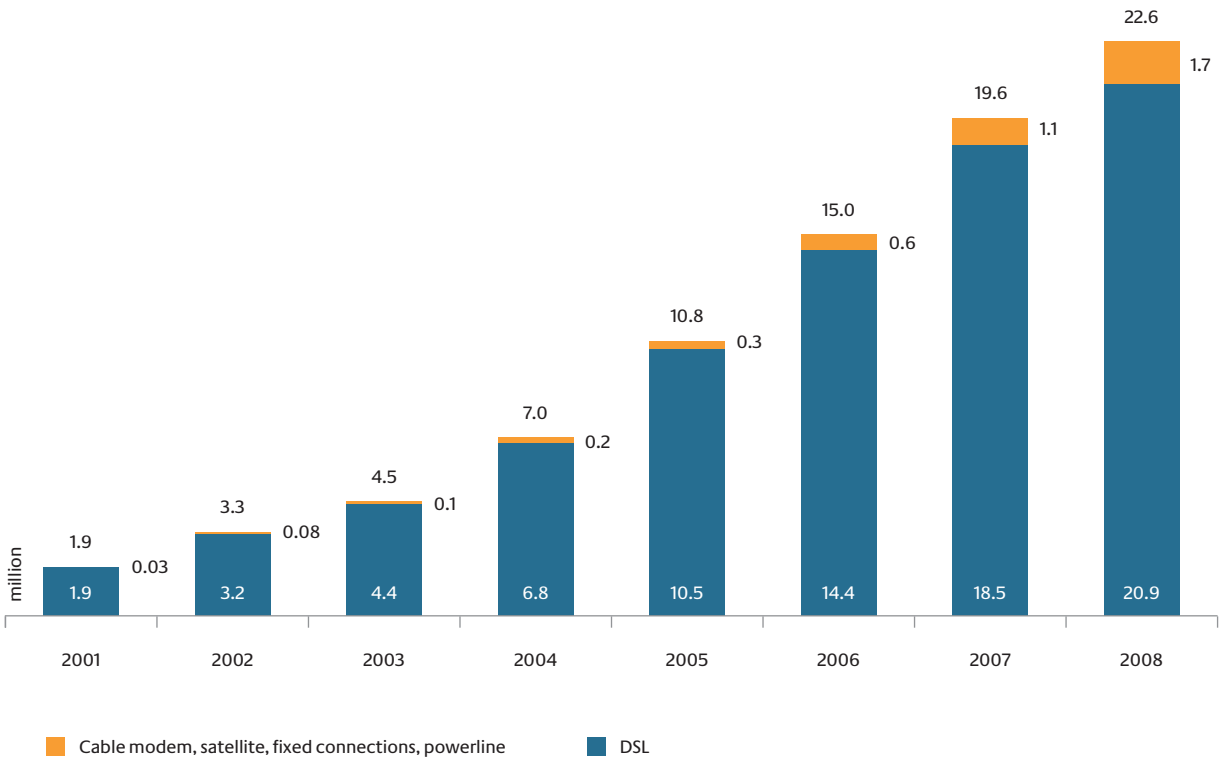
In addition to DT AG, 96 alternative subscriber network operators offered analogue accesses, ISDN accesses or voice accesses via cable TV networks based on contracts on access to DT AG's subscriber line or based on their own subscriber line by the end of the year.

Regionally the alternative subscriber network operators increased their market shares in different ways in recent years. In some regions of Germany, the national average value of 2008 of 26.4% for telephone connections/accesses was clearly exceeded.

Broadband access technologies

The growth in demand for broadband connections has declined in 2008 compared to the year before. In Germany, broadband access is provided via digital subscriber lines (DSL), cable TV connections (cable modem), satellite, powerline, glass fibre or radio-based infrastructures. The total number of broadband connections in Germany amounted to approx. 22.6 million at the end of 2008. Most broadband connections (76%) offer a download rate between 2 Mbit/s and 10 Mbit/s. 18% of broadband connections allow download rates of more than 10 Mbit/s, 6% on the other hand a maximum of 2 Mbit/s. With about 3.0 million new broadband connections, approx. 1.6 million fewer new connections were provided than in 2007.

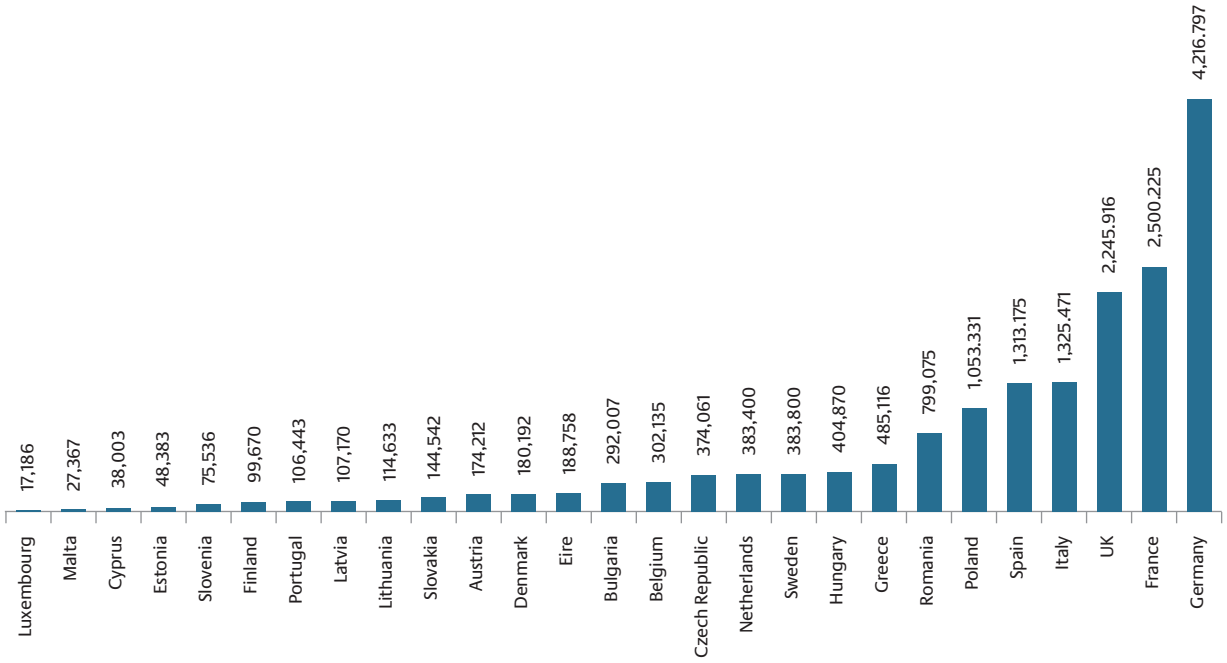
Total number of broadband connections



At the end of 2008 approximately 20.9 million or 92% of broadband connections accounted for DSL technology, approx. 1.6 million for cable modem, about 80,000 for fixed connections, approx. 10,000 for powerline, about 31,000 for connections via satellite and some thousand for glass fibre or radio-based technologies. Hence, DSL remains the dominating connection technology in Germany followed by broadband connections via TV cable. With an increase of over 0.6 million connections in 2008, the providers of broadband connections via cable modem particularly contributed to the fact that alternative connection technologies gained further importance compared to DSL and thus stimulated intermodal competition.

Even if growth in the number of German broadband connections has declined, it is still notable by international comparison.

Growth in fixed network broadband connections in Europe (EU 27)



Source: European Commission, Broadband access in the EU (COCOM 08-41)

The illustration shows that Germany reported the highest absolute growth in broadband connections between July 2007 and July 2008 with about 4.2 million new broadband connections. Other big European countries such as France, Great Britain and Italy follow way behind.

In addition, statistics[8] from the European Commission show that Germany had a higher growth rate relating to the population than these countries during the quoted period. Germany ranks second on European level and is only outperformed by Malta.

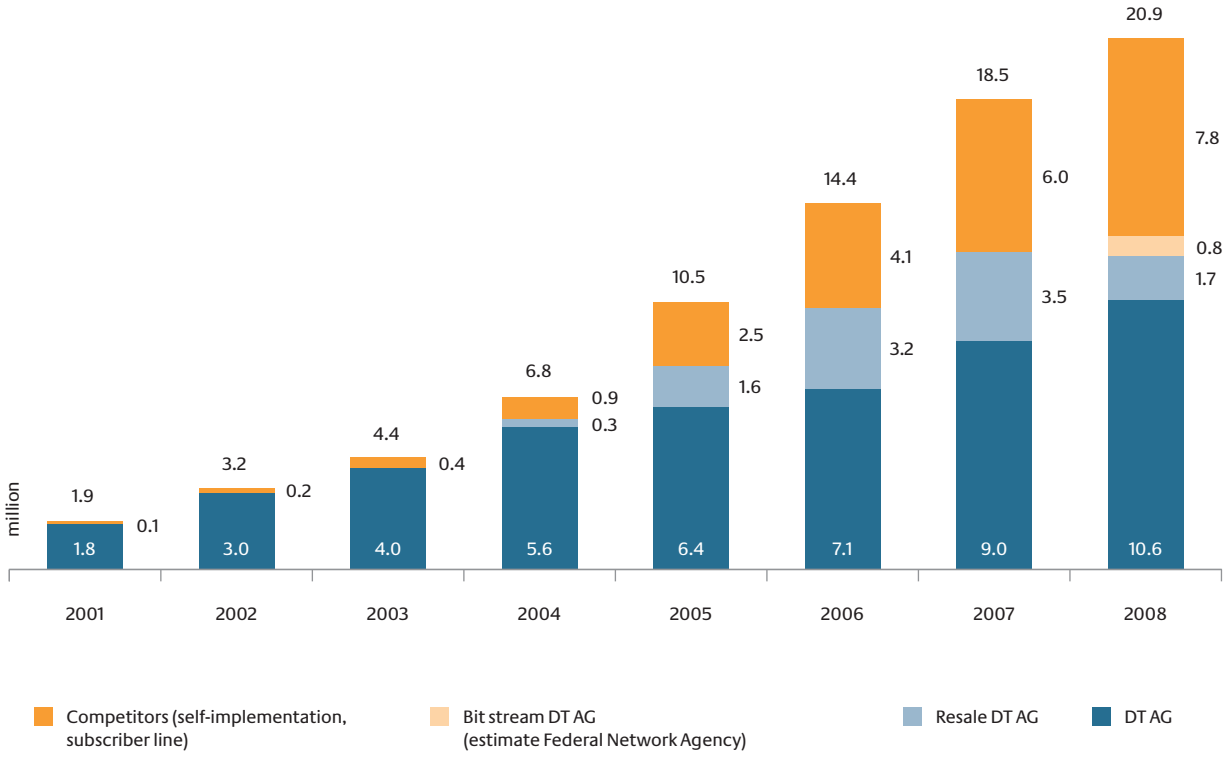
Comparing the total number of broadband connections to the number of German households results in a penetration rate of roughly 57%. At the end of 2008 more than every second household was provided with a broadband connection. It can therefore be foreseen that growth on the market for broadband connections will slow increasingly in the coming years.

DSL lines

With an increase of approximately 2.4 million lines, the DSL market grew again in 2008. Around 20.9 million DSL lines were in operation at the end of 2008. Compared to the previous year (28%), however, growth has declined (13%).

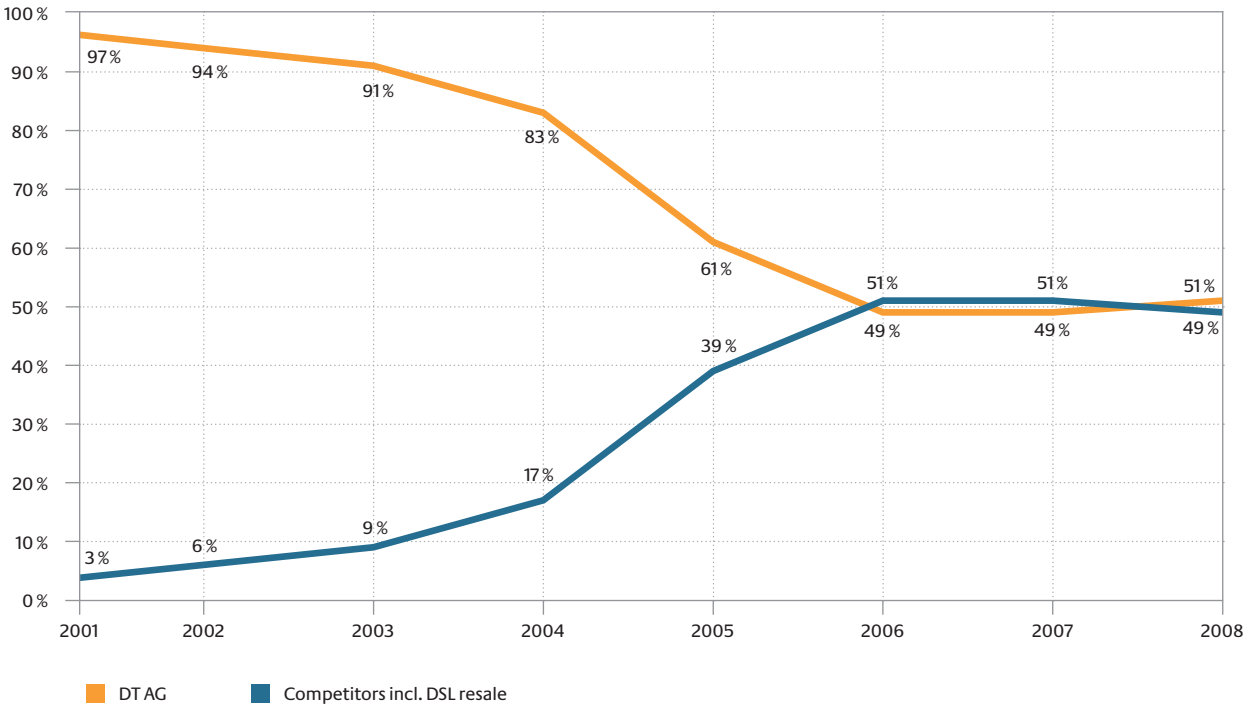
[8] European Commission, Broadband access in the EU (COCOM 08-41)08-41)

DSL connections in operation



Of the total number of DSL lines at the end of 2008, DT AG accounted directly for 10.6 million connections. This corresponds to a marketing share of approx. 51%.

Development of share of marketed DSL connections



Since 2006 DT AG has stabilized its position in DSL business (see graphic page 69). The DSL resale business model was marked in 2008 by a clear decline. The undertakings operating as resellers do not operate their DSL business with their own network, but, in addition to DSL lines of alternative network operators, sell mainly DSL lines owned by DT AG under their own name and at their own expense. While DT AG is mainly responsible for the technical implementation of these resale connections, competitors can offer the entire service consisting of broadband connection and rate as a one-stop solution in areas in which they do not have an own network up to the main distributors of DT AG. Resale offers require contractual agreements between the undertakings. At the end of 2008, 22 undertakings had signed agreements with DT AG. Their share of DSL subscriber business was approx. 8% compared to 19% last year. These figures confirm that DT AG's business model of DSL resale is losing importance particularly in favour of infrastructure-based competition and the associated demand for subscriber lines. Wholesale service products are increasingly being made available to DSL providers (bit stream access and connection and service resale) by alternative network operators based on access to the subscriber line.

Competitors with a concentrating network in addition to an IP backbone achieved a significant surplus with a total of approx. 7.8 million switched DSL accesses at the end of 2008, a share of approx. 37% of DSL connections sold on the market that they sold either directly to the retail customers or provided as a wholesale product to other Internet service providers for retail customer marketing purposes. According to estimates by the Federal Network Agency, some 800,000 DSL connections sold by alternative providers were based on DT AG's bit stream offer at the end of 2008, which has been available since June 2008.

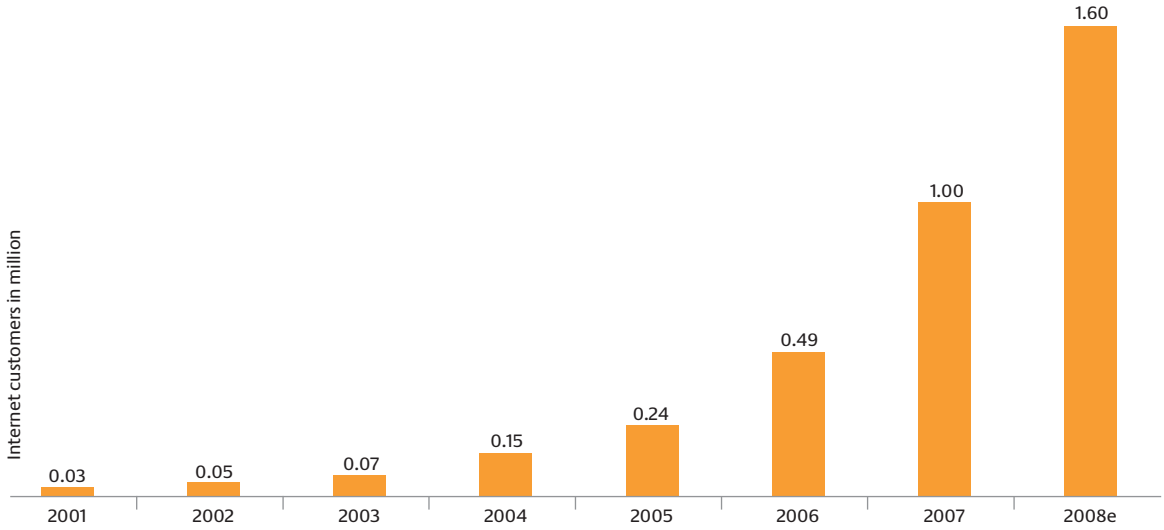
With reference to DSL connection figures, Germany continued to defend its top position by European comparison in 2008. From July 2007 to July 2008 no other EU country achieved such high growth in the number of DSL connections as Germany. The majority of DSL customers currently uses connections with bandwidths from 2 to 16 Mbit/s in Germany.

Broadband Internet via cable TV infrastructure

The continued modernisation of many cable networks into networks that are capable of receiving back channel signals resulted in the fact that access to broadband Internet can now be realized in over 23 million households in addition to TV. At the end of 2008, approx. 1.6 million customers of more than 50 providers[9] made use of this Internet access possibility. Due to their technical structure, cable networks are generally able to transmit very high data rates of more than 100 Mbit/s. The trend towards ever higher bandwidths is shown by the bandwidth distribution. While at the end of 2007 about 30% of cable customers still used an Internet access starting at 10 Mbit/s, it was already more than 50% at end of 2008. If available locally, cable Internet is now a real alternative to the traditional fixed network.

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

Development of Internet access points via cable modem



Powerline

Broadband Internet access can also be realized via powerline technology. In this case, data are transmitted to households via the power network. The use of powerline has hardly changed in the past 5 years. 10,000 customers made use of this type of access at the end of 2008. 300,000 households were connected directly.

Satellit

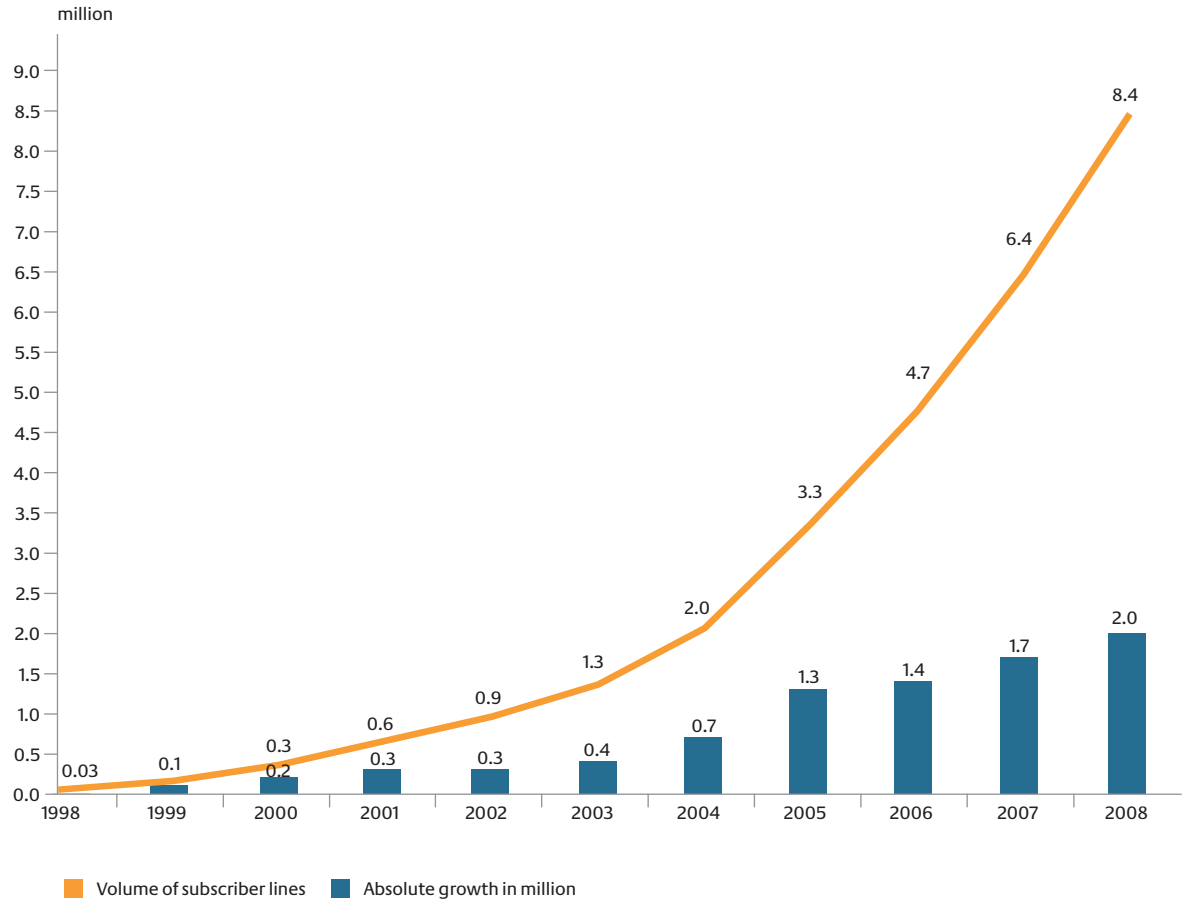
The satellite systems of Astra and Eutelsat allow access to the Internet also in regions that are not developed for technical or economic reasons by DSL or by TV cable networks that are capable of back channels. Subscriber volumes developed very differently for this technology, which is offered in two forms. While hybrid services that realize the back channel via the telephone line and only the uplink channel via satellite decreased in importance with approx. 9,000 customers, bidirectional transmission could increase its number of customers. By the end of 2008 about 22,000 users selected this technology where data are transmitted in the uplink and downlink via satellite. Due to reduced hardware costs from previously € 1,500 to approx. € 300 today, lower charges and local independence, this access option may turn into a relatively small but important component of nationwide and broadband Internet coverage in Germany.

Wholesale access services

In addition to the self-installed subscriber lines (analogue, ISDN and DSL) or mobile connections, competitors mainly use DT AG's existing subscriber lines as an upstream service. Using this upstream service requires a contractual agreement with DT AG. At the end of 2008 a total of 120 undertakings had concluded agreements to this effect with DT AG.

DT AG's upstream service offer includes various subscriber line product options. In 2008 all product options sold totalled approx. 8.4 million compared to 6.4 million at the end of 2007.

Development of subscriber line volumes

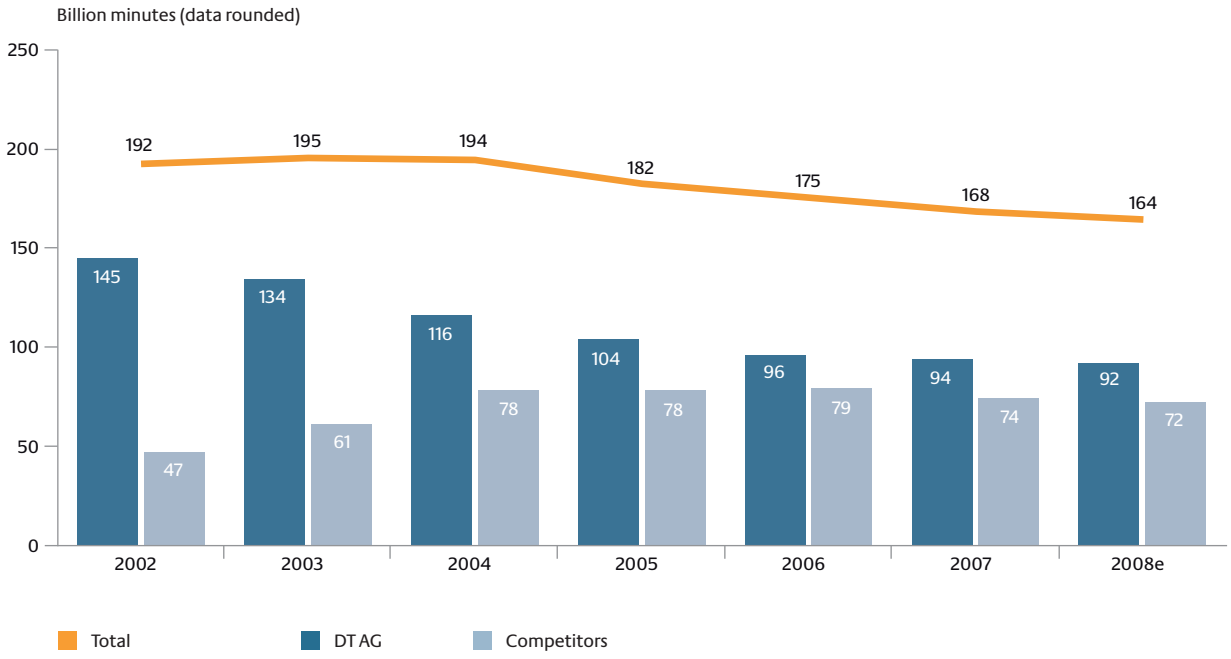


With an increase of 2.0 million new leased lines, the already notable growth rates of the preceding years were outperformed again. The large demand for the high bit rate product option that is suitable for the provision of DSL connections was the main contributing factor in this.

TRAFFIC DEVELOPMENT

The decline of the traffic volume via analogue and ISDN connections continued in 2008 at a slightly reduced speed. The volume of domestic and international calls amounted to an estimated 164 billion minutes at the end of 2008 compared to 168 billion minutes the preceding year.

Development of domestic and international calls in the fixed network[10]



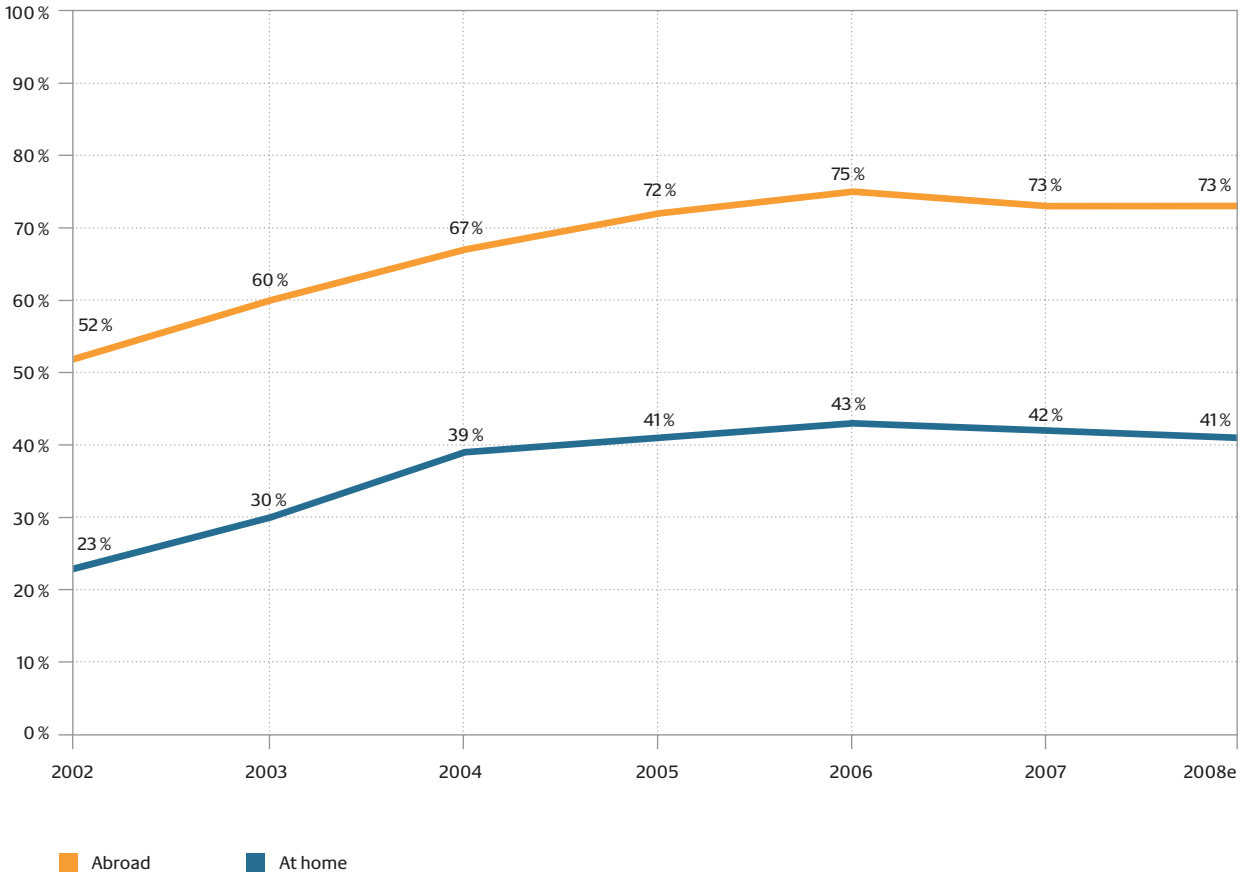
Substitution effects due to mobile communications and the shifting of voice connections from the traditional circuit-switched fixed network into packet-switched IP networks (VoIP) have negatively affected the voice traffic volume in the circuit-switched fixed network. In 2008, more than 24 billion minutes of domestic and international calls were implemented via IP-based networks which also include the telephony offers of the cable network providers. In addition, reduced charges of mobile network operators resulted in an increased shifting of call minutes from fixed to mobile networks.

Product bundles had a positive effect on the traffic volume in the traditional fixed network that generally include a flat rate for domestic calls in the fixed network in addition to the telephone connection. On the one hand, these offers resulted in DT AG being able to clearly reduce its loss in call minutes in recent years. On the other hand, competitors achieved high increases in direct connections with a corresponding increase in direct traffic.

According to estimates, competitor shares in the fixed network has remained constant in the past few years.

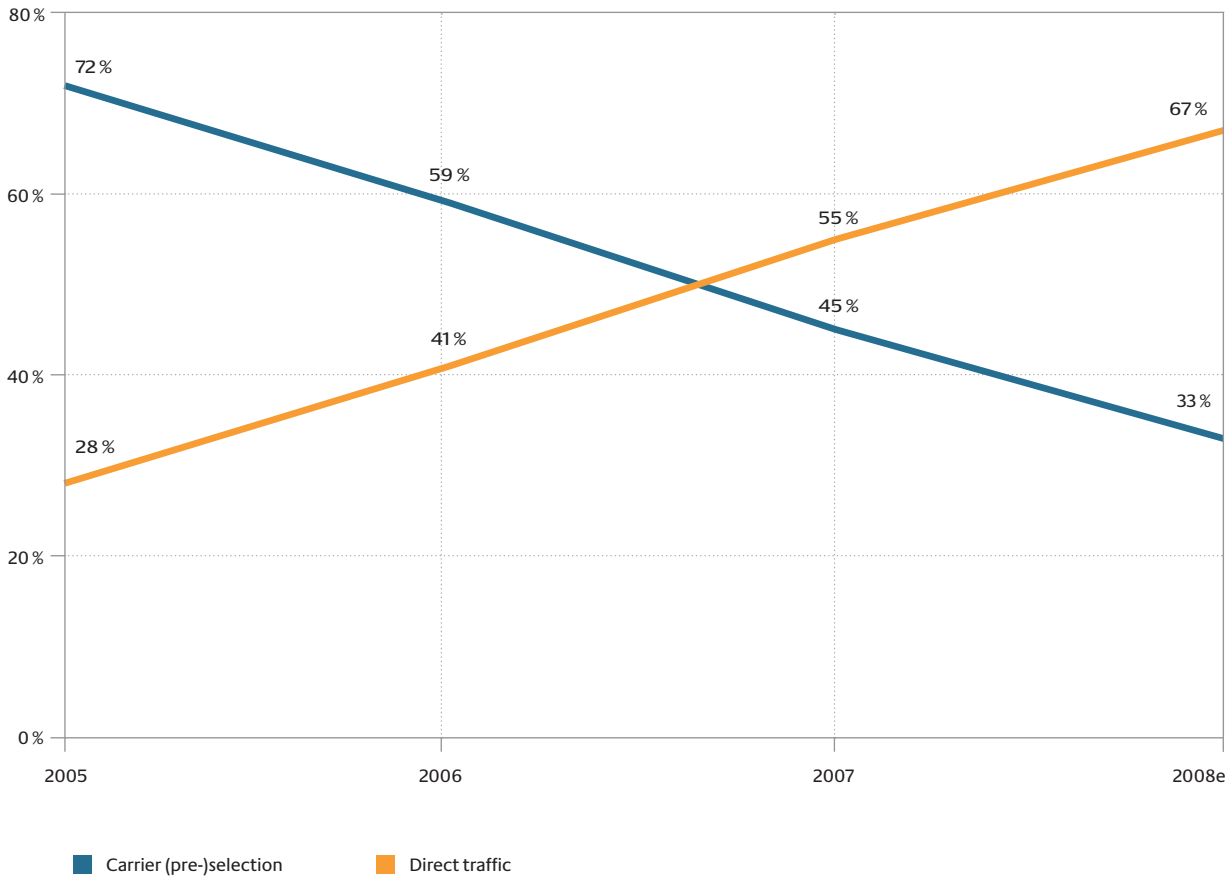
[10] incl. public telephone payphones without connections to national mobile networks and connections to value-added services

Shares of alternative providers in the fixed network (PSTN)



The stagnating or slightly declining share of competitors in the traditional fixed network is mainly down to the significant decline in traffic volumes via call-by-call and pre-selection within the past 2 years. This has resulted since 2007 in a downward trend for domestic and international calls carried out by competitors. In addition, connections offered by competitors are increasingly based on unbundled broadband connections for which the voice and data communication is exclusively implemented via Internet protocol. Thus, the traffic volume of competitors is increasingly migrating from the traditional fixed network into IP networks.
In 2008 direct connections operated by competitors accounted for some 67% of all voice connections transported via DT AG competitors. This corresponds to an increase of 12% compared to 2007.

Traffic ratios of access variants with alternative providers



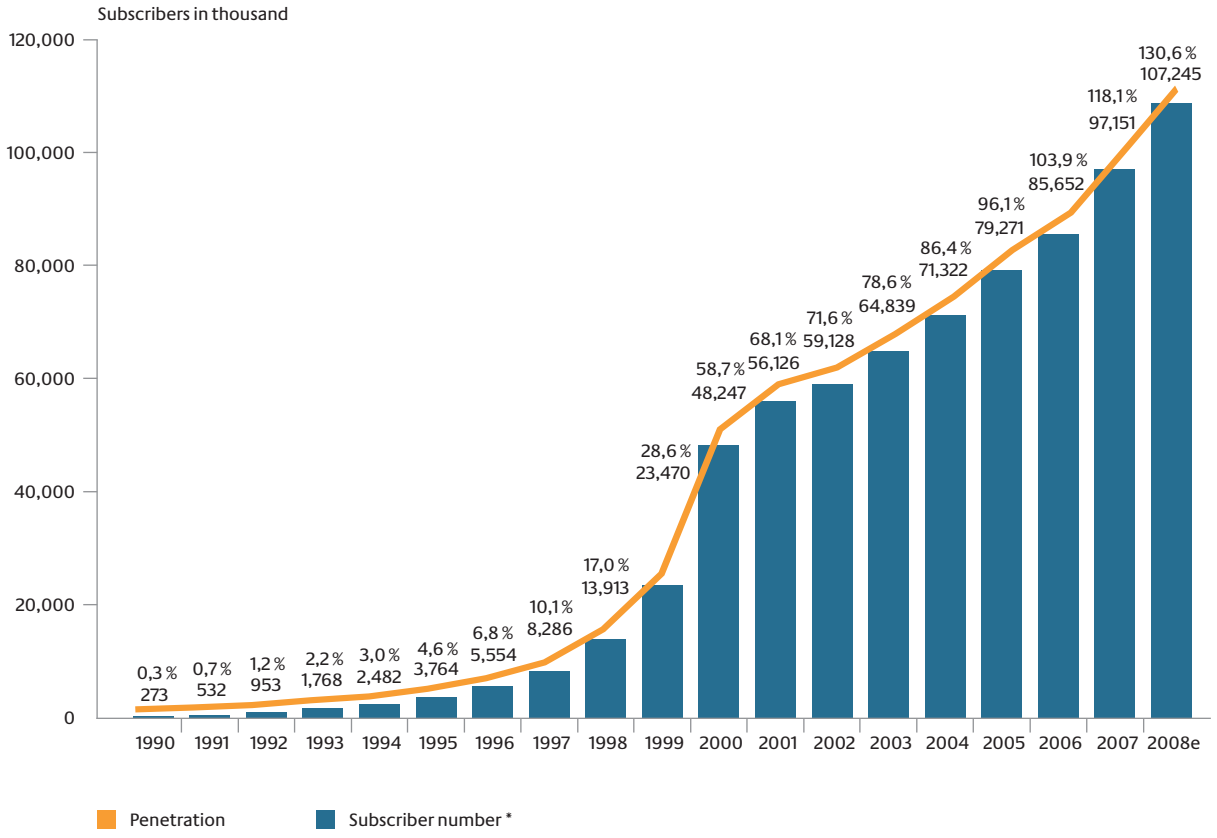
Traffic carried via carrier (pre-)selection is declining, particularly in the case of call-by-call. Since 2006 the overall traffic volume handled via call-by-call has been below preselection traffic volume. At the end of 2007 a total of 4.7 million customers were pre-selected by an alternative connection network provider. This number dropped to approx. 4 million customers by the end of the first half of 2008.

MOBILE TELEPHONE SERVICE

Subscribers

At the end of 2008, mobile networks had about 107.2 million subscribers. This corresponds to a penetration rate of 130.6% with the result that – according to the statistical average – each inhabitant in Germany has more than one contractual relationship.

Subscriber development and penetration in German mobile communication networks



* Contract conditions. A user can maintain several contract relations. Data up to 2000 incl. C-network, from 2005 incl. UMTS.

The number of households that do without a fixed network telephone and only use mobile phones is gradually increasing. According to an E-Communications household survey,[11] approx. 11% of all households in Germany only had a mobile phone connection and 64% had both a fixed network and a mobile network access at the end of 2007.

The shifting of subscriber market shares to the smaller network operators E-Plus and O2 continued in 2008. E-Plus had the highest growth. The subscriber share of mobile service providers in the overall mobile network market declined slightly in 2005 and 2006 in spite of absolute growth rates. In 2007 the share of service providers increased to more than 26% again. This level was maintained by mid-2008.

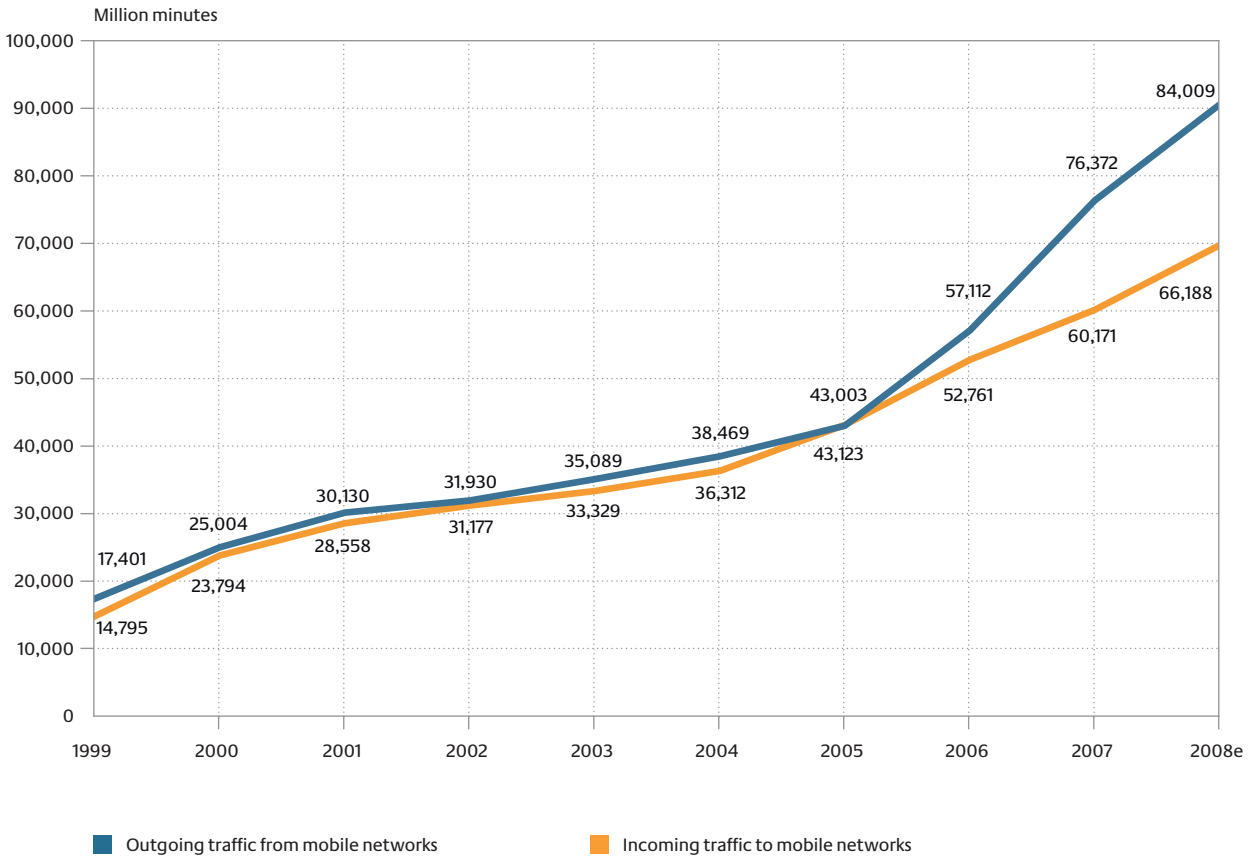
The mobile phone discounter sector, in which network operatorsales brands operate as well as mobile phone service providers, also records steady growth rates. The discount offers started in 2005 refrained from service structures in favour of lower and clearer minute prices. With this no-frills concept, they achieved a share of 13% in the overall mobile network market with approx. 14 million users at the end of 2008. The ratio of prepaid customers to the total number of subscribers was around 56.5% at the end of 2008.

[11] Special Eurobarometer 293 "E-Communications Household Survey" conducted between November and December 2007, published June 2008.

Mobile calls

Discount offers, flat rates and an increased demand for so-called homezone rates have resulted in a traffic increase in mobile communications traffic. By year's end of 2008 an estimated traffic volume of 84.0 billion minutes was reached, following 76.4 billion in 2007. Incoming traffic amounted to 66.2 billion minutes. The growth was due to the declining prices in mobile communications. On the other hand, the wide-ranging offer of flat rates has resulted in a dramatic increase in mobile phone traffic.

Development of voice traffic in mobile communication networks

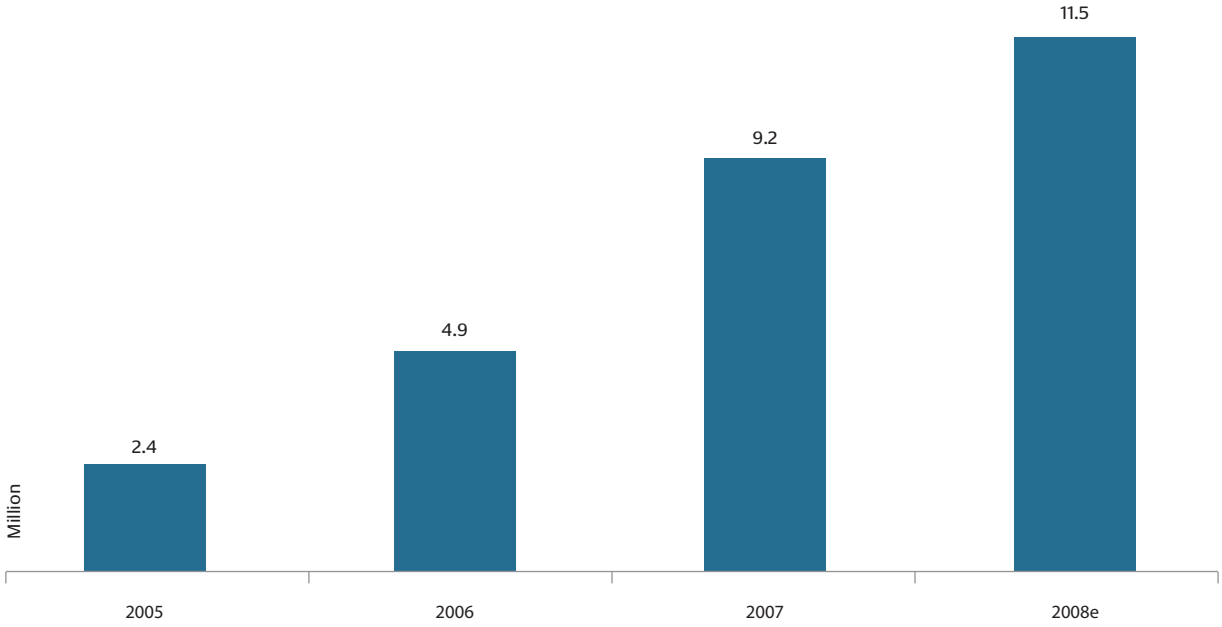


Mobile communications data transmission

Relative to the population, network coverage of the Universal Mobile Telecommunications Systems (UMTS) in 2008 – depending on the respective network operator- was between 56 and 81%. According to the latest figures, the number of regular UMTS users has increased by almost five times from 2005 to 2008.[12]

[12] This figure is made up of subscribers who are directly registered for UMTS services plus users with fixed data plans/options who are assumed to use UMTS-based services on the basis of their regular usage pattern.

Increase in UMTS usage (number of regular users)



UMTS-capable user-friendly terminal equipment is now widely offered with a growing variety of services that require high-speed data transmission. Together with considerable price reductions, this contributes to growing customer acceptance. Furthermore, the UMTS network is gradually being upgraded with HSDPA (High Speed Downlink Packet Access) broadband technology. The maximum transmission rate for receiving data is currently 7.2 Mbit/s in conurbation areas. In the later stages of rollout, transmission speeds will be boosted to as much as 14.4 Mbit/s. In view of the speed comparable with DSL 6000 and the price, this technology offers an alternative to fixed network connections. HSUPA (High Speed Uplink Packet Access) has meanwhile opened up the possibility of uploading data at a rate of up to 1.4 Mbit/s.

In addition to UMTS, mobile data transmission is also possible via GPRS using the EDGE (Enhanced Data Rates for GSM Evolution) standard. EDGE is mainly used in areas without full UMTS coverage, or by users without the right UMTS hardware. With EDGE, the big mobile network operators have now provided an extension of the GSM network that allows maximum downstream rates of 220 kbit/s and upstream rates of around 110 kbit/s in practice. Users in areas not covered by UMTS can now enjoy broadband connections – albeit in the "lower" band. By further developing "EDGE evolved", maximum downstream rates of 1.2 Mbit/s are expected to be reached. The new technology LTE (Long Term Evolution) – also called 3.9G or 4G – is conceived for coming years. Downstream rates of 100 Mbit/s and upstream rates of 50 Mbit/s are to be reached in practice.

In addition, network operators have installed WLAN hotspots that permit mobile data communication at busy locations. The number of existing WLAN hotspots of various providers

allowing wireless data transmission was around 12,000 at the end of 2008. These can reach transmission rates of 11 Mbit/s.

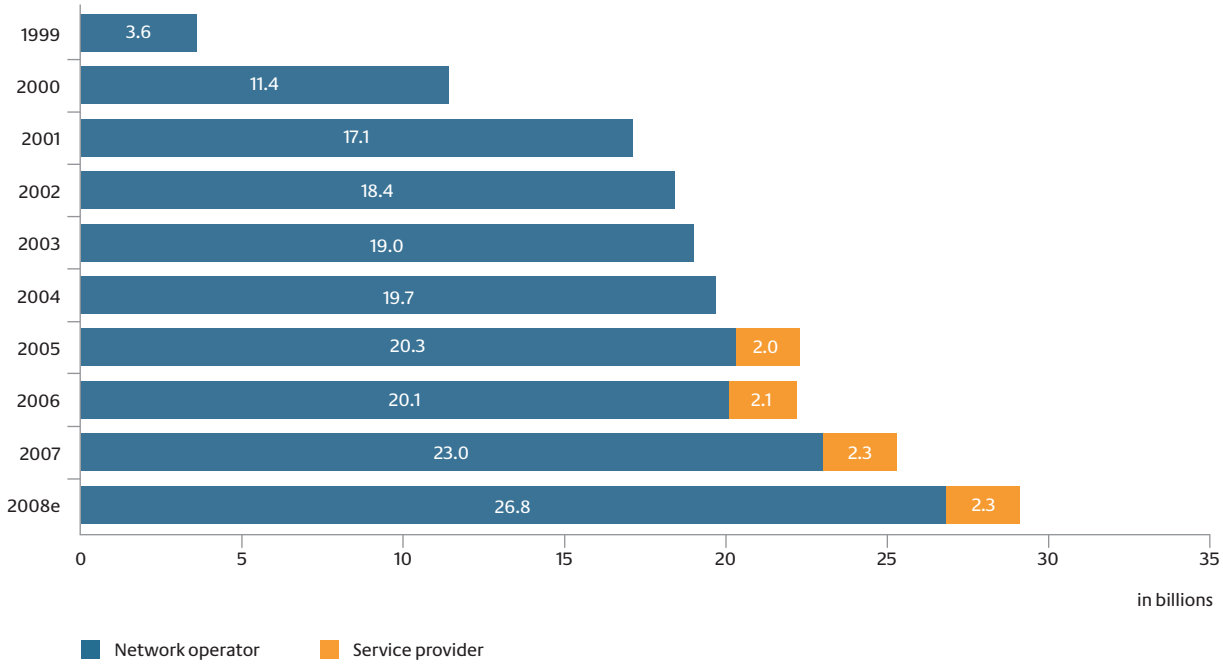
These developments have resulted in high growth rates in data traffic. It can be assumed that the volume of data transmitted via GPRS and UMTS has doubled to 7.9 million GByte in 2008 compared to 2007.

Text and multimedia messaging (SMS/MMS)

An estimated 26.8 billion messages were sent via SMS (short message service) in 2008 via the short message centres of the four German mobile network providers. Another 2.3 billion short messages were sent via own short message service centres of the various mobile service providers.[13] The total number of SMS sent in 2008 is estimated to amount to 29.1 billion. These figures do not include any premium SMS.

Following some 160 million MMS (multimedia messaging service) messages sent in 2006, the figure increased by approx. 21% to 191.9 million in 2007. With an estimated 193.4 million messages, slight saturation was felt in 2008.

Development of SMS sent



[13] Data about SMS sent via own short message service centres of mobile service providers were surveyed for the first time in 2005. These data were disregarded in the past.

INTERNET

Internet use

The Internet is now of similar importance to other media. This is shown by the study "Internet Facts" [14] by the Arbeitsgemeinschaft Online Forschung e. V. (AGOF) according to which Internet use has further increased. An average of 42.84 million persons from the age of 14 years (66% of the overall population from the age of 14) were online between July and September 2008. 97.5% (41.75 million) made use of the Internet at least once within three months [15], 96.9% (41.5 million) used it daily. Relative to the number of households, [16] 75% [17] had an online access at the end of 2008, an increase of 5.6% compared to 2007.

This rapid development is boosted by the rising demand for multimedia applications on the web: 55% [18] (2007: 45% [19]) of all Internet users occasionally download videos, for example via video portals or media libraries and watch TV on the Internet either live or recorded. The most frequently used applications on the Internet – at least once a week – include sending and receiving emails (82% [18]) and the use of search engines (84% [18]). One third [19] of online users from the age of 14 uses homebanking at least once a week, 54% [20] occasionally. Increased use is also made of online communities. These are frequently used by 21% [12] of online users, personal information is published over the web by 12% [21] of the citizens (approx. 18.2% of online users) from the age of 14. The biggest social networks are StudiVZ with 5.41 million unique users [22] per month, MySpace.de with 4.86 million and Wer-kennt-wen (who-knows who) with 4.56 million users. SchülerVZ (4.42 million users), Stay-Friends (4.25 million users) and Lokalisten (1.39 million users) are other big social networks. However, the users of these networks overlap substantially. More than 2 million [23] users of StudiVZ have also registered with SchülerVZ, StayFriends or Wer-kennt-wen. While just under a quarter (23% [18]) of onliners listens to the radio occasionally over the Internet, this is only done by 10% [18] frequently.

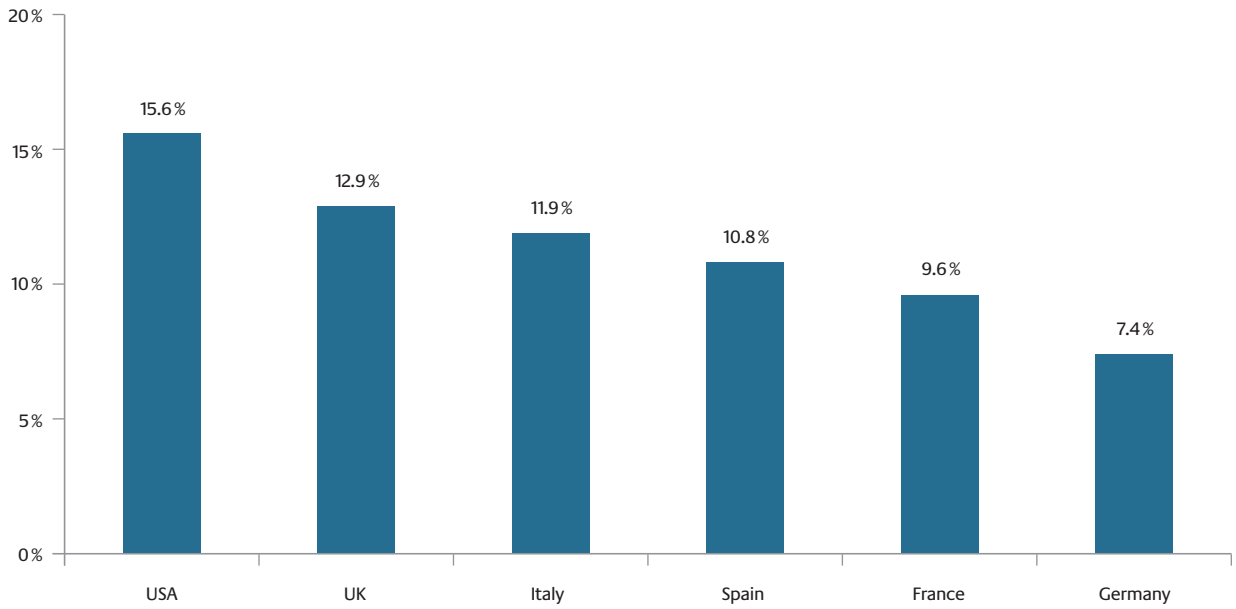
The Internet is also increasingly used for shopping. 84.9% [14] of Internet users from the age of 14 (35.47 million persons) go online-shopping at least once a year (61% [20] occasionally), every seventh [21] inhabitant from the age of 14 bought their Christmas present via the Internet in 2008. The value of paid downloads was put at about 49 million [24] € by the end of 2008. Across all product groups a PC download cost an average of € 4.09 in the months from January to September 2008. In addition, 13 million [17] of Germans between 16 and 74 years of age – and thus every fifth in this age group – sold goods or services online in 2007

[14] Source: AGOF e. V. / internet facts 2008-III
[15] Widest user group of online users
[16] Households in Germany with at least one member in the age group between 16and 74 years
[17] Source: BITKOM e. V., Eurostat
[18] Source: ARD/ZDF Online Study 2008, Online users from the age of 14
[19] Source: ARD/ZDF Online Study 2008, Online users from the age of 14
[20] Source: AGOF e. V. / internet facts 2008-III, relating to the widest user group of online users
[21] Source: BITKOM e. V., Forsa
[22] Person that released at least one page impression on an AGOF page during the survey period.
[23] Source: AGOF e. V. / internet facts 2008-II
[24] Source: BITKOM e. V., GfK

In 2008, trade turnover from private Internet connections increased by roughly 8.5% to 8.4 billion [25] € in Germany.

Consumers have access to the Internet mainly in private households, but also at the workplace, schools and universities, public hotspots, Internet cafés and libraries. Online access via mobile communications is spreading increasingly. Due to the high data prices by international comparison, the Internet is still not used via mobile phone as frequently as in other countries.

Ratio of mobile Internet users among mobile phone owners



Source: Statista.org, Nielsen Mobile. Survey period: January through March 2008

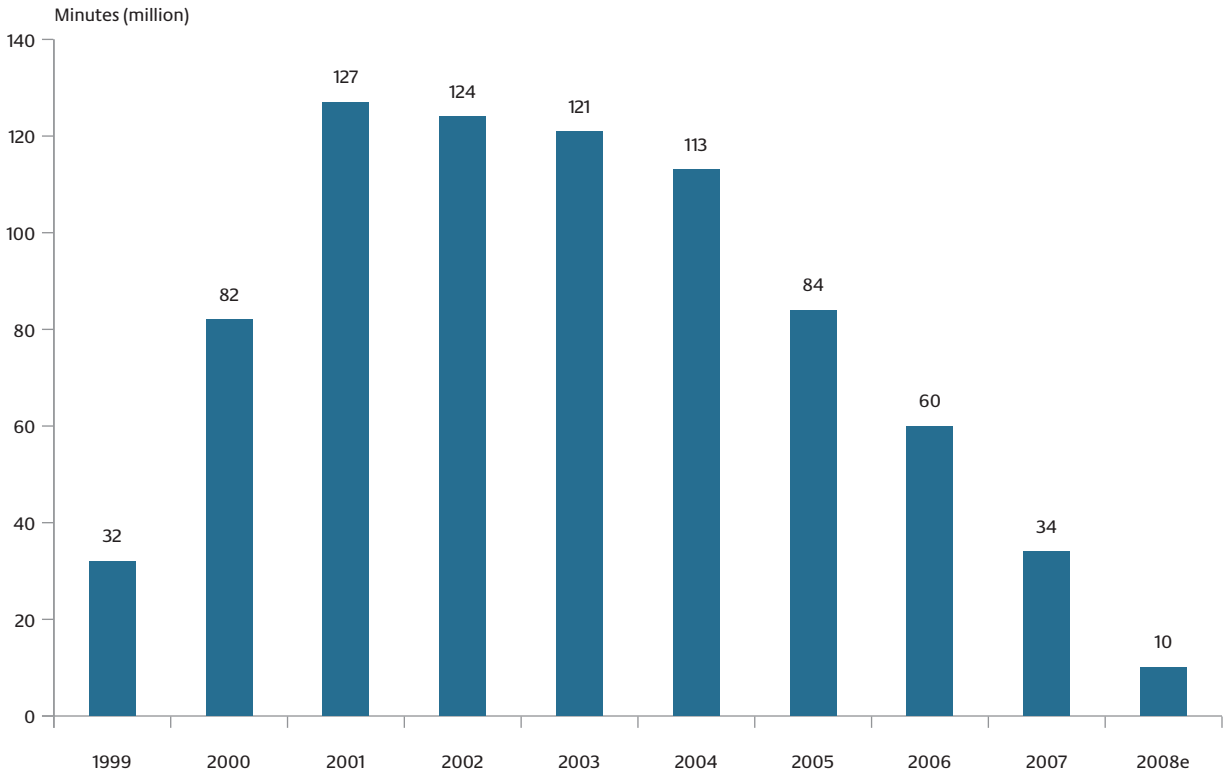
The big majority of private Internet connections (86% [18]) was accounted for via flat rates in 2008. Persons from the age of 14 using the Internet spend two hours [18] in the web each day. This corresponds more or less to the session length [26] in preceding years.

[25] Source: BITKOM e. V., EITO
[26] Session length must be differentiated from usage time. The average daily usage time was approx. 58 minutes in 2008 according to ARD/ZDF online study 2008

Traffic volume narrowband/broadband

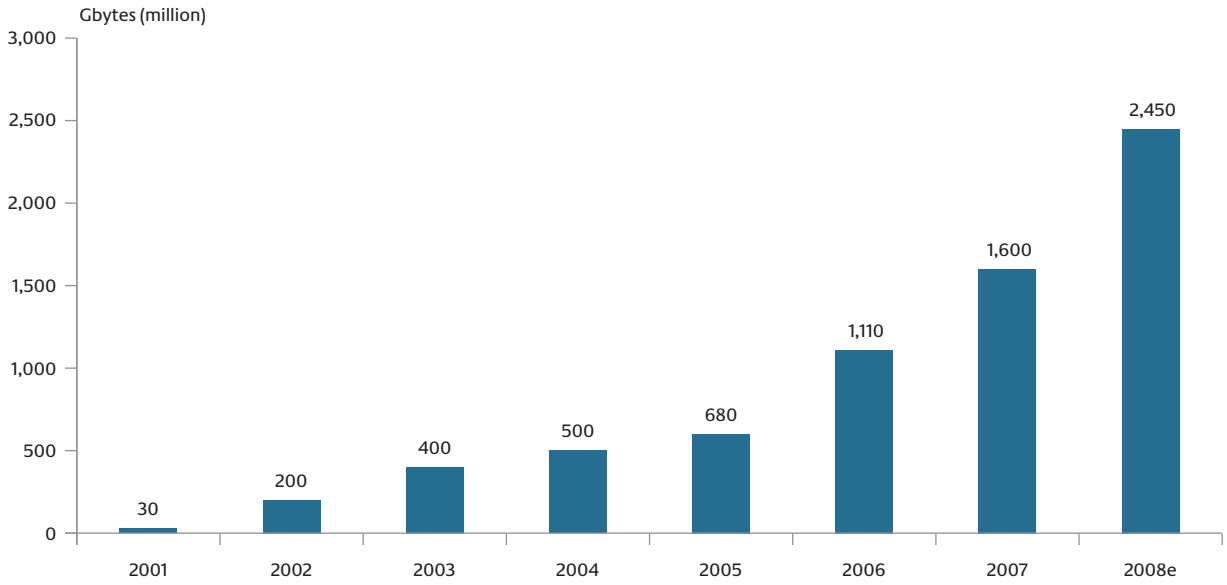
As expected, the volume of narrowband traffic into the Internet generated via analogue and ISDN connections continued to fall drastically. The volume of dial-up connections into the Internet amounted to approximately 10 billion minutes at the end of 2008 compared to about 34 billion minutes by the end of 2007. This trend clearly reflects the migration of narrowband dial-up connections towards DSL and other broadband access technologies.

Internet connection minutes narrowband



However, the broadband traffic volume measured in GByte has shown a significant rise in the past few years. By the end of 2008, data volume increased to about 2.4 billion GByte compared to 1.6 million GByte at the end of 2007 according to previous estimates.

Traffic volume broadband



Increasingly data-intensive applications such as VoIP, TV and video-on-demand are realized via the Internet and thus contributed to this marked increase over the previous year. In addition, Internet sites are designed increasingly attractively using sound and video applications.

VOICE OVER IP

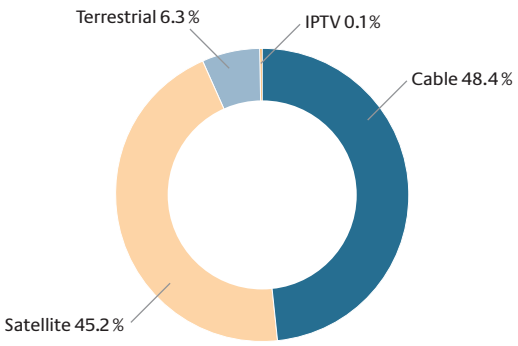
VoIP is a service allowing voice transmission via a packet-switched data network based on Internet protocol. The use of VoIP services requires a broadband access to the Internet.

While VoIP is already commonly used in company networks, the importance for private use increased dramatically again in 2008. By the end of 2008, some 75 providers offered VoIP services for the mass market based upon DSL or cable TV networks. While 5.8 million customers were registered with these providers for the use of VoIP services in 2007, this number totalled about 7.4 million by the end of 2008. Here, it must be taken into consideration that only customers of cable TV providers (1.5 million) and customer of providers of unbundled DSL connections (2.2 million) used VoIP technology exclusively for voice connections. Around half of all VoIP customers (3.7 million) had a conventional telephone line due to the traditional practice so far of bundling DSL and telephone lines. In total, VoIP users generated an estimated national and international call volume of 24.8 billion minutes via IP-based networks. As such, VoIP technology reached a share of around 13 percent of the total number of national and international calls transported via fixed networks. This figure was around nine percent the previous year. In the IP-based voice connection segment, DT AG's competitors currently have a share of over 90 percent.

BROADCASTING/CABLE TV

According to figures from the Société Européenne des Satellites (SES), 48.4% of the some 37 million German households with television received their signal via cable (this figure includes those households that receive signals via a satellite master antenna but do not have their own satellite receiver) at the end of 2007. 45.2% had their own satellite dish, while 6.3% received terrestrial television. Compared to the reception possibilities of previous years, the decline of cable TV continues in favour of satellite reception. Within competition for reception levels, cable network operators try to retain or regain their customers by means of additional offers such as subscription to programme packages, individual movies on demand, as well as new services such as triple play. The digital trend continues in all classic reception paths. At the end of 2007, just under 16 million households received digital programmes. This is 3% more than at the end of 2006. At just 0.14%, so-called Internet TV (IPTV) is still not widely spread.

Infrastructural connection of TV households at the end of 2007



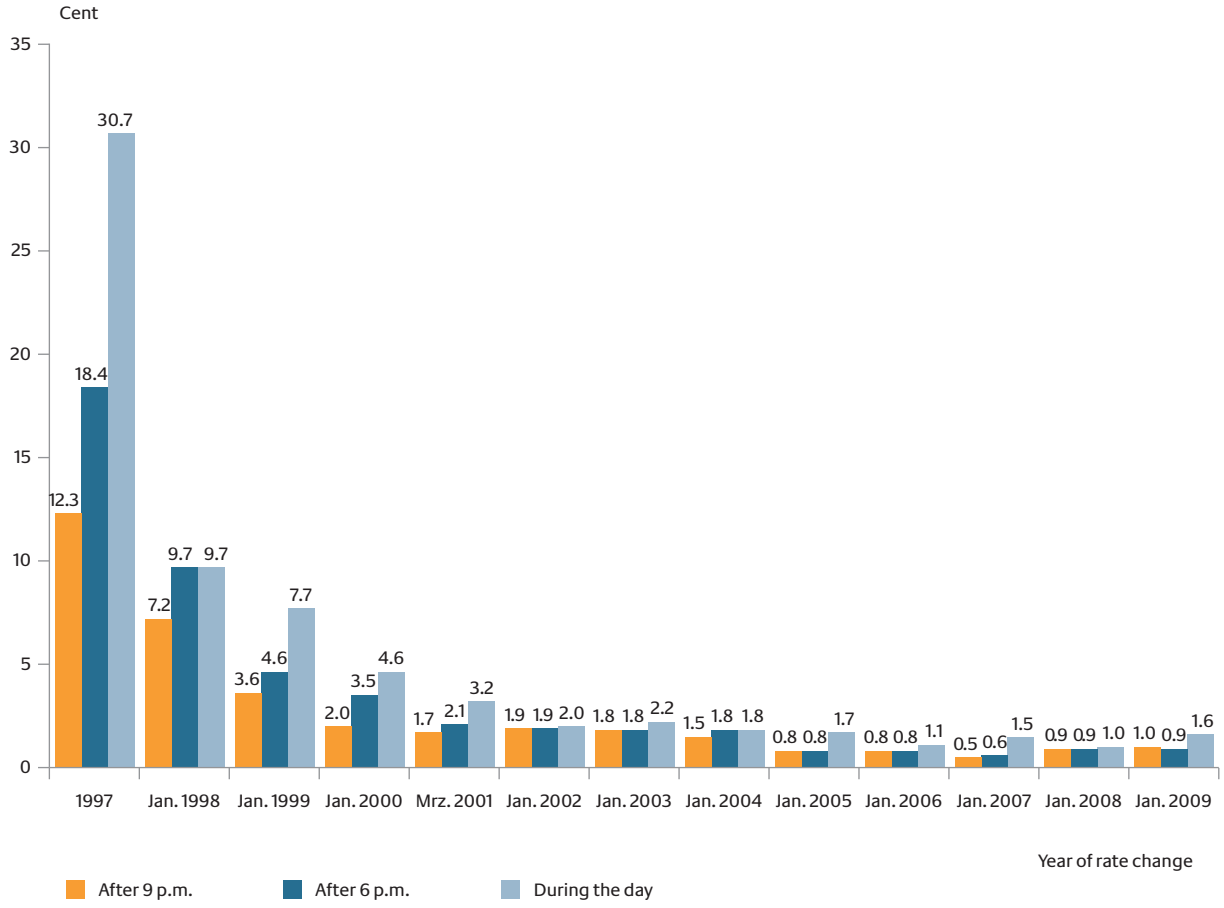
PRICE TRENDS

The Federal Statistical Office reports that private households had to spend 3.3% less on average in 2008 for telecommunications services than in 2007. Product bundles that include narrowband and broadband connections and services contributed to price reductions in the fixed network in 2008. Offers consisting of a broadband access incl. flat rate for telephony and Internet access were available for prices of just under € 25 from individual providers depending upon the bandwidth selected. The qualitative schedule of services of the offers – for example as higher bandwidths – was again extended in 2008.

An asymptotic price development can be observed for calls to German fixed networks when dialling a network operator via call-by-call. Depending of the time of day, 1.0 to 1.6 cent per minute were the most attractive prices at the beginning of 2009. Thus, national calls were available at the beginning of 2009 during the day for just one twentieth of the rate compared to 1997 prior to the liberalisation of the markets.

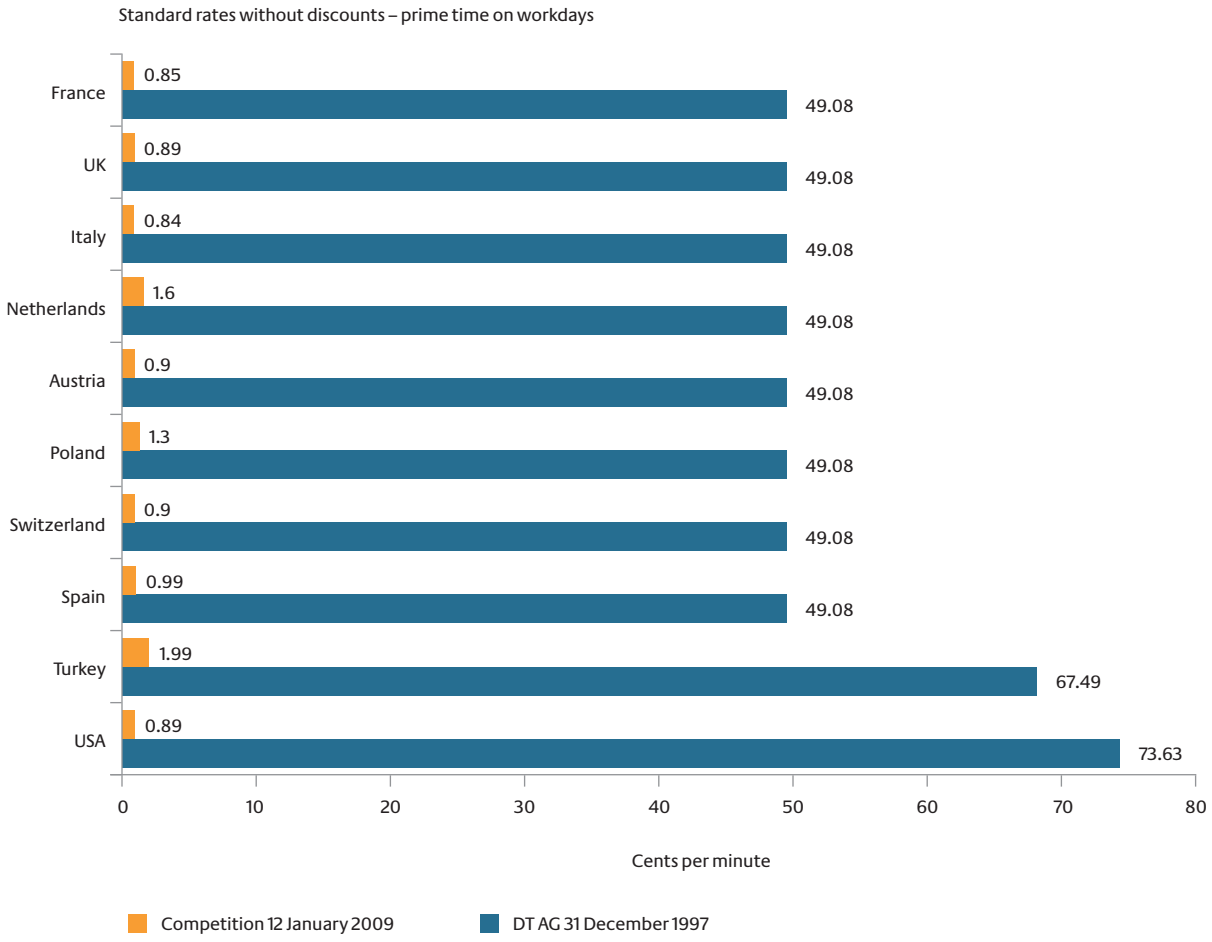
Minimum rates for a national trunk call

Standard rates without rebates; prices in cents per minute, on workdays, Call-by-Call



Early in 2009, time-dependent charges for international calls continued to fall compared to the previous year. The lowest-price providers frequently charged less than 1 cent per minute. There were price reductions of up to 99 percent compared to 1997 depending on the destination.

Development of foreign rates into the ten most important destination countries



By the end of 2008 and early in 2009 calls to the fixed network could be made at rates starting from € 0.04 per minute in the discount area of mobile communications. Flat rates offering unlimited calls to fixed lines and other subscribers in their own mobile network are available for as little as € 9.95. Even more favourable offers of this kind were available in connection with quadruple play. In addition, special rates allowed telephone calls from a homezone at low-priced conditions. These offers were complemented by a variety of rates with minute packages that were accounted on a flat rate basis. According to the Federal Statistical Office, the prices for mobile calls decreased by 2.3% on annual average compared to 2007.

Due to the roaming regulation of the European Union, mobile cross-border communication for citizens travelling in the EU again became more cost-effective compared to the previous year. 2009 will see further price reductions taking effect. The prices for telephony and Internet surfing will generally not drop significantly further. However, value for money is expected to improve, for example with higher bandwidths in the case of the Internet access.

Ruling chamber decisions

In 2008 pioneering decisions on new types of access to the telephone network in the area of IP and ATM bit stream access were taken; on the other hand new one-off charges for the subscriber line and rates for interconnection services were determined.

RULING CHAMBER 1

Frequency decisions

On 11 April 2008, the President's Chamber finally decided on the key elements for the award of frequencies of the terrestrial broadcasting service. During digitization of broadcasting, different procedural bases for the award of frequencies resulted for individual frequency bands of the broadcasting service. Order 110/1998 regulates the allocation of T-DAB frequencies, order 06/2002 the allocation of DVB-T frequencies and finally Order 45/2006 the allocation of analogue and digital long, medium and short wave frequencies. With the current decision, uniform framework conditions were provided for the first time for the award of frequencies that are allocated to the terrestrial broadcasting service in the event of frequency shortages.

The decisions were taken after hearing the groups concerned and in agreement with the Advisory Council of the Federal Network Agency. They were published as a general order in Official Gazette 07/2008 of the Federal Network Agency. This will provide the basis for future award proceedings for frequencies of the broadcasting service. Further decisions were taken on the allocation of frequencies in the bands 1.8 GHz, 2 GHz and 2.6 GHz (see page 98) and on the flexibilisation of frequency usage rights in the bands 900 MHz and 1,800 MHz (see page 98).

RULING CHAMBER 2

Rates regulation: indication of rate measures by DT AG

In 2008 seven rates indications by DT AG were reviewed within the legal two-week period for obvious non-compliance with the requirements stipulated in section 28 TKG. These reviews did not result in the planned rates behind prohibited prior to their effective date. However, DT AG was asked for further statements in some cases or informed of concerns. The transparency review of rate indications is therefore not yet

final and leaves open the option, despite being indicated, of the relevant rates being reviewed subsequently according to regulatory order BK2a 006/001-R in conjunction with section 38 para. 2-4, 28 TKG.

Giving notice of individual contracts

Chamber reviewed 67 individual contracts given notice of according to regulatory order BK 2a 06/001-R on compliance with section 28 TKG. In one case (T-VPN Kommunen Rheinland-Pfalz) indicated by competitors of DT AG, formal proceedings of control of abusive practices was carried out and the corresponding rates were prohibited; proceedings were instituted in another case (TDN Sparkasseninformationszentrum SIZ). In nine other cases the review resulted in short-term rates adjustments outside formal proceedings. In the case T-VPN Kommunen Rheinland-Pfalz a penalty notice was enacted according to section 149 para 1 para. 7 TKG due to the fact that no individual contract was given notice of.

Access regulation leased lines

According to regulatory order BK 3b-07/007, the rates of DT AG for the access to termination segments of leased lines on wholesale service level are subject to approval as defined in section 31 TKG. The Ruling Chamber made decisions in four rates approval proceedings about the rates for the termination segments for leased lines on wholesale service level and the associated express troubleshooting. In autumn 2008 the Ruling Chamber approved a new pricing system for leased lines requested by DT AG (decision BK2a-08/010). According to this, the former length-dependent rates are replaced by lump-sum rates, in particular in the subscriber line area.

Arbitration proceedings

Three arbitration proceedings were carried out in the reporting period upon request from mobile communications service providers. Two proceedings dealt with disputes about matter concerning the approval obligation of service providers. The applicant was identical in both cases (Youngtel) and intended to start operating as a service provider in mobile communications based upon a “service carrier contract” to be concluded with E-Plus and Vodafone. The applications were only successful to the extent that the proceeding called for the submission of the current version of the “service carrier contract” by E-Plus to the applicant. The decisions were not appealed. The third proceeding (mobilcom / Vodafone) dealt with the questions of a non-discriminatory access to the rate “Bildmobil”. The application was rejected. The decision has been appealed.

Special control of abusive practices

In 2008 the Ruling Chamber carried out a proceeding on control of abusive practices upon request as defined in section 42 TKG. The application was aimed at prohibiting the two-year minimum contract periods of DT AG’s “Call & Surf” products by which the applicant considered itself hindered in competition to DT AG. However, the application of section 42 TKG conflicted with section 28 TKG as a more specific standard, so the application had to be rejected. The complaint was reviewed by the Chamber independently of formal filing of the application on compliance of the contract periods with the requirements of the special standard as defined in section 28 TKG. As a result of the review, it could be stated, after thorough consideration, that there were no substantial reasons at the time the decision was taken that would justify the initiation of abuse proceedings and a

shortening of contract periods solely based on contract conclusion.

Another proceeding on abuse was initiated by the Ruling Chamber following an application from a telecommunications service carrier on exerting special control of abusive practices as defined in section 42 with regard to the terms of sale of AGB access products for resale.

Resale obligation

After expiry of the exclusion period stipulated in section 150 para 5 TKG for unbundled resale on a wholesale basis according to section 21 para 2 no. 3 TKG during the reporting period, the Ruling Chamber carried out a market survey on the necessity of imposing an appropriate obligation as part of a public hearing. 13 statements were received on this measure that were published in the Official Gazette of the Federal Network Agency 16/2007 as Communication no. 448. The statements will be integrated in the proceedings on issuing a regulatory order for the access market.

RULING CHAMBER 3

Decision on the IP bit stream standard offer

On 08 April 2008 the Ruling Chamber announced its decision on DT AG's standard offer for access to IP bit stream. The IP bit stream enables competitors to offer broadband Internet access to their end customers and is mainly geared towards the mass market. The bid text includes the concrete terms and mutual obligations at which competitors can purchase IP bit stream from DT AG. Major points of the standard offer are a stand-alone bit stream, the bit stream for symmetrical access variants, improved troubleshooting conditions, a guaranteed minimum quality allowing voice service to be offered via IP bit stream, modalities and processes for competitors to order the IP bit stream from DT AG, processes to be handled between DT AG and the competitors when the end customer want to change their DSL carrier and finally all otherwise usual general contract terms such as payment, liability and termination conditions.

The now finalized IP bit stream standard offer was thoroughly reviewed in a 2-stage procedure as part of which competitors were also heard. In a first decision, DT AG was required to change its IP bit stream standard offer. Because it had not duly met this requirement, the required changes had to be made by the Federal Network Agency itself in a second decision. DT AG is not allowed to change to the standard offer itself until the end of April 2009.

The standard offer for the ATM bit stream was finally determined in a decision on 20 August 2008. DT AG had properly implemented all requirements from the first decision.

Abuse proceedings against DT AG closed

After extensive investigations, the Ruling Chamber stopped proceedings at the beginning of May 2008 against DT AG on account of anti-competitive conduct during the provision of subscriber lines, the so-called "last mile" to competitors. As a consequence of the heavy increase in the demand for subscriber lines, DT AG had experienced substantial congestions in switching over subscriber lines to competitors at the end of 2007. For this reason, competitors could only make telephone and DSL connections available to their end customers with substantial delays. The investigations of the Ruling Chamber showed numerous details in the provisioning of subscriber lines that raised

severe doubts concerning the soundness of former provisioning practices. The proceedings could only be stopped because DT AG reduced the order congestion following the threat of possible decisions. At the same time, DT AG had contractually agreed improved conditions for ordering and providing subscriber lines with the competitors appealing against the decision.

Another proceeding for switching subscriber lines to competitors on Saturdays as well was also stopped after DT AG voluntarily showed its readiness to submit an appropriate offer.

Prices for IP bit stream access

With two decisions of 13 May 2008 and of 02 October 2008 the rates approval was issued for the first time to DT AG for the new wholesale service product "IP-bit stream access". A basic rate of € 19.15 was approved for the particularly important stand-alone variant for which a retail customer does no longer require a separate telephone connection in addition to the DSL access. This basic price includes an average bandwidth of 50 kbit/s per access during main traffic hours. If higher traffic volumes of 75 kbit/s on average are used by retail customers via an IP bit stream as forecast by DT AG, a total monthly rate of € 20.20 is charged.

If the end customer wants to maintain a traditional telephone connection in addition the DSL access, € 8.85 must be paid by competitors for the IP bit stream to DT AG. In such cases, however, the full end customer price will be additionally charged for the telephone connection. A one-off charge of € 49.09 for the stand-alone variant and € 56.47 for the variant retaining the telephone connection was approved for establishing the bit stream access.

The approved rates for the IP bit stream access consistently fit into the price level of the upstream services already available, in particular for subscriber lines. As comprehensive tests of the Federal Network Agency have shown, the costs for using the broadband service based upon their own infrastructure, making use mainly of Deutsche Telekom's "last mile" are lower than those for competitors whose future business model is based upon an IP bit stream in the stand-alone variant. At the same time, the costs for a reseller, who up to now has had no access to an infrastructure, are higher than those for an IP bit stream user. The approved rates thus provide incentives for investment in the next level of the investment ladder and contribute to investment in infrastructure as aimed for by regulatory orders.

Rates of DT AG for access to the subscriber line (provision and termination rates, switching at special times, modified use) and line sharing

With two decisions of 30 June 2008 the Ruling Chamber 3 of DT AG approved the one-off charges for access to the subscriber line and the rates for so-called line sharing. After the rates for the basic variants copper-twin wire 2-wire ((CuDA 2 Dr) and copper-twin wire 2-wire high bit rate (CuDA 2 Dr hbr), which account for a share of more than 99%, dropped considerably several times last year as a result of previous decisions, the rates for most rate items were only reduced slightly (between 0.2% and 4.1%). The price for the most frequent variant, the provision of CuDA 2 Dr hbr with work at the cable distributor and at the retail customer was reduced by 1.2%.

When determining the costs of efficient provision of services, both cost-reducing effects and

individual cost increases had to be considered compared to the last decision of 29 June 2007. The agreements made between the applicant and the service trade association ver.di in June 2007 by collective wage agreements resulted in an increase of weekly working hours for employees transferred to the T-Service companies. The hourly rates for the DT AG employees responsible for technical work were reduced as a result.

Cost reductions also resulted from reduced travel periods to main distributors and cable distributors, reflecting synergy effects with higher subscriber line provision figures. Low cost increases resulted from the fact that – also due to improvements in proof of costs -expenses for redundancy payments and provisions for early-retirement of civil servants and a justified amount for the IT used for provisioning processes were acknowledged for the first time as part of a decision on the provisioning and termination of subscriber lines allowing for an upper limit defined by the Federal Network Agency. The same effects could also be noted for line sharing, for which a monthly rate of € 1.78 was approved.

Mobile communications regulatory orders

More than two years ago the Federal Network Agency commissioned the four national mobile network operators T-Mobile, Vodafone D2, E-Plus Mobilfunk und Telefonica O2 via regulatory orders to allow interconnections and collocations for other network providers. In addition, the corresponding service rates were subjected to a rate approval obligation, a ban on discrimination issued and an obligation to publish a standard offer imposed. Early in April 2008 the legitimacy of this regulatory order was fully confirmed by the Federal Administrative Court. On 05 December 2008 the Ruling Chamber decided to maintain the above obligations as part of a rotational review of these regulatory orders.

Rates for connection-related interconnection services

On 28 November 2008 the Ruling Chamber approved the new interconnection charges (so-called network transit charges) of Deutsche Telekom AG (DT AG), which take effect from 1 December 2008. In doing so, the charges last approved two and a half years ago were increased by an average of 4.4%. DT AG had applied for an average increase of 10%.

For network interconnection, competitors will now pay the following charges to DT AG for transit via the DT AG network, which is required for both the "origination" and the "termination" of calls. In tariff zone I (transfer of calls at the lowest network level) the charge will be 0.54 cent/minute on working days between 9.00 a.m. and 6.00 p.m. (main tariff) – previously 0.52 cent/minute; at other times (off-peak) from 6.00 p.m. to 9.00 a.m., Saturdays, Sundays and on national bank holidays the charge will be 0.38 cent/minute - previously 0.36 cent/minute. If calls are transferred at a higher network level, thus making use of more of DT AG's network elements (tariff zone II), the charges in the peak period and the off-peak period will in future increase by 0.01 cent respectively, to 0.89 cent/minute or 0.60 cent/minute. The charges for tariff zone III will now be 1.34 cent/minute during the peak period – instead of 1.36 cent/minute previously – but will remain unchanged at 0.89 cent/minute for off-peak periods. In addition to these basic charges for call termination and origination services, the approval also includes the correlated charges for "optional and additional services", which include, among other things, the call origination to value-added

services, the transit between different networks or the call origination of narrowband Internet traffic

The price increase is mainly based on the considerable fall in traffic volumes in the traditional voice network, e.g. due to the increasing significance of internet telephony or substitution by mobile phones, which lead to higher costs per minute. Although the fall in traffic volumes is offset by efficiency-related cutbacks, these corrections can no longer fully compensate the effects of the decreased traffic volumes. Furthermore the approval of the interconnection charges now also takes into consideration the expenses claimed by DT AG for redundancy payments, which the company pays out as part of its staff restructuring programme, as well as the costs for the staff placement company "Vivento".

Due to clearer evidence of costs, it was possible to ascertain the costs of efficient provision of services to an even greater extent than before on the basis of the documentary evidence of DT AG's costs; these costs form the basis for the determination of the approved interconnection charges. In addition to the documentary evidence of DT AG's costs, further insights gained from an international comparison of tariffs and an expert opinion commissioned by WIK (Wissenschaftliches Institut für Kommunikationsdienste; Scientific Institute for Communication Services) were taken into account. The new charges were approved for a period of just over two and a half years, until 30 June 2011.

Applications from NetCologne Gesellschaft für Telekommunikation mbH and M-Net Telekommunikations GmbH against DT AG on ordering increased rates due to the closure of collocation sites (compensation of migration disadvantages)

At the end of July/early August 2008 the two undertakings NetCologne and M-Net filed applications under which DT AG would have to pay an additional 0.0084 €/minute to the respective companies in addition to the ICP termination charges until 31 December 2013. Cost disadvantages or additional costs due to the closure of collocation sites by DT AG and the resulting shifting of network borders between access and access network are intended to be compensated with this increase. Both undertakings argue that they are forced to push their own extension of the fiberoptic network as a result of the network restructuring of DT AG. Both applications had to be rejected at present because the concrete terms for network restructuring are not yet known. When the overall concept for restructuring its access network is submitted for review by DT AG and thus the concrete effects of the network restructuring by DT AG to the access network of co-using competitors are obvious, the claim for compensation charges will be reviewed again. In particular, future migrations to fiberoptic infrastructure can be taken into account when determining the conditions for closing sites. On the contrary, the Federal Network Agency will take care that undertakings also investing in their own fiberoptic cable connections like NetCologne and

M-Net, who filed the two applications, will no longer have to suffer from disadvantages on the migration path to a new DT AG access network against those companies with only little or no readiness to invest and that also want to use DT AG's infrastructure (for example via bit stream access) in the future.

Further decisions

Framework conditions for future interconnections drawn up – call numbers for services with social value allocated – numbering concept set up – further flexibilization in frequency regulation.

KEY ELEMENTS FOR THE INTERCONNECTION OF IP-BASED NETWORKS

On 11 February 2008 the Federal Network Agency published key elements on the interconnection of IP-based networks on its website. Future telecommunications networks – Next Generation Networks (NGN) – based on Internet protocol (IP) and the principle of packet switching will result in multi-service networks that can be realized via a number of different services such as telephony, TV or data transmission. This is the difference to the traditional line-switched telephone network PSTN that was primarily designed for voice services.

The key elements investigate the possibilities of interconnecting IP-based networks allowing for the development towards NGN and show their regulatory and competitive effects. The key elements give market participants the chance to get accustomed to regulatory treatment of IP-based network interconnections. The use of IP technology may result in a substantial increase in efficiency and cost reductions and thus have a positive effect on innovation and competition.

It is crucial in this context that the NGN-specific separation between service and transport, as is already the case for the Internet, is transferred to the interconnection services required for implementation of voice services. Short-term determinations that are only related to voice services could involve the risk of endangering or delaying the introduction of the NGN principle of multi-service networks as an overall concept and not fully exploiting the competitive potential offered by NGN of a rapid spread of innovative services.

It is particularly important in the field of network interconnection that further network development is adequately transparent for the market. Therefore, all network operators are again requested in the key elements to make their network restructuring measures transparent as this is a decisive condition for successful network migration by market participants. Transparency is an essential requirement for making entrepreneurial decisions in due time and for avoiding delays that may negatively affect the supply of sustainable telecommunications services in Germany and thus hinder competitive development.

The key elements paper constitutes the preliminary conclusion of an ongoing discussion process with market participants and representatives from the field of science that was initiated by the Federal Network Agency back in 2005. In December 2006 the consulting project group established to prepare "Framework Conditions for the Interconnection of IP-Based Networks" published its final report that was subject to a public hearing in 2007. The statements received as part of this hearing, which are still available on the Agency's website, provided the basis for the key elements published in the meantime in addition to the final report.

NUMBERING

Various number resources are inevitably required for the operation of telecommunications networks and the provision of telecommunications services. The Federal Network Agency 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 Federal Network Agency reviews repeatedly whether existing arrangements need to be adapted or new number resources created in order to promote competition, consumers' interests and technological development.

Numbers in number ranges for harmonised services of social value

A harmonised service of social value is a service that corresponds to the joint description at European Union level that can be reached at any time on a nationwide basis by telephone without pre-selection and for which no rates are charged to the caller when using this service. The service is of potential help to visitors from other countries and particularly contributes to the well-being or the safety of citizens or specific sections of the population or it helps citizens get out of trouble.

The number 116 111 was assigned to the "Nummer gegen Kummer e. V." association for the service "hotlines for children seeking help". The service helps children that require care and protection and gives children the chance to express their worries, talk about problems they are confronted with and find a point of contact in emergency situations. The service was put into operation on 05 December 2008.

The number 116 123 "hotlines for personal support" was assigned to the "Katholische Bundesarbeitsgemeinschaft für Ehe-, Familien- und Lebensberatung, Telefonseelsorge und Offene Tür e. V." association (Catholic Federal partnership for marriage, family and life counselling, telephone counselling and open door) on 06 August 2008. The counselling service assists people looking for help by putting them in touch with impartial listeners. It offers support for callers who are suffering from loneliness, going through a personal crisis or contemplating suicide. It is expected to be launched in 2009.

Allocations in 2008

In the range of local network call numbers and national subscriber numbers (number range 32), allocations developed as follows up to 2008.

Year	Blocks of 1,000 local numbers assigned	Blocks of 1,000 local numbers assigned	Total number of assignees by year end
1997/1998	3,088	3,088	53
1999	3,662	6,750	72
2000	44,111	50,861	89
2001	8,511	59,372	86
2002	4,281	63,653	81
2003	5,190	68,843	76
2004	11,440	80,283	74
2005	14,000	94,283	85
2006	31,571	125,854	94
2007	22,349	148,203	96
2008	11,995	160,198	99

In terms of the most important service call numbers, allocations developed as follows over the past two years:

Service	Numbering range	Numbers allocated in 2006	Numbers allocated in 2007	Numbers allocated in 2008	Total telephone numbers allocated
Freephone services	(0)800	11,500	9,216	16,105	181,281
Shared cost services	(0)180	11,005	9,620	9,564	143,464
Premium rate services	(0)900	7,378	10,497	5,819	82,588
Personal numbers	(0)700	3,166	2,177	1,774	100,430

Effective date of the telecommunications numbering regulations

The telecommunications numbering regulations entered into force on 15 February 2008. Based upon section 66 (4) TKG, these regulations specify the regulatory framework on numbering with regard to the Federal Network Agency's authority on the one hand and the rights and obligations of market participants on the other. It works mainly on the basis of the Agency's tried-and-tested practice to date. Nevertheless, all applicable publications of the Official Gazette on number resources must be gradually converted into the structure provided

by the telecommunications numbering regulations by stipulating number plans and publishing application procedures.

The Federal Network Agency started with the resources that required material changes anyway.

- Carrier parameters (Official Gazette of 02 July 2008),
- Traffic routing numbers (Official Gazette of 08 October 2008),
- Enquiry numbers (Official Gazette of 19 November 2008),
- Porting codes (commencement of public hearing on draft on 17 December 2008).

All other regulations will be adjusted gradually.

Numbering concept

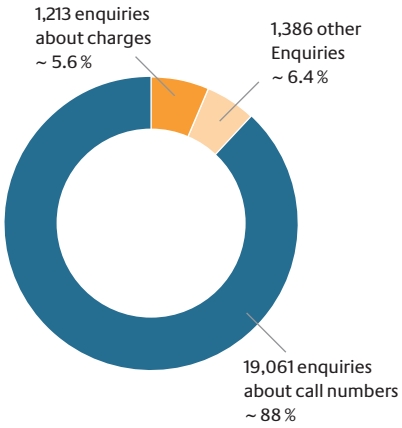
According to section 2 TNR (Telecommunications Numbering Regulations) the Federal Network Agency publishes a numbering concept on developments on the telecommunications market and the impact on the numbering plan each year. The numbering concept is to explain how the numbering plan is expected to develop in the future to ensure the highest possible degree of transparency and planning security. Its aim is to place numbering measures in an overall context and represents an instrument to achieve regulatory targets by modifying existing regulations with the participation of the parties involved. According to regulation, the numbering concept is intended to include a survey of the degree of occupancy and the development of demand for each number area used, number range and number sub-range as well as an identification of number areas, number ranges and number sub-ranges for which a shortage is expected in the next five years.

In 2008 a draft of such a concept was set up for the first time by the Agency. A public hearing will be carried out in spring 2009 on this "2009 numbering concept". The concept is expected to be published in summer 2009.

Enquiries about number management

In 2008 a great number of questions were received by the number management call centre at the Federal Network Agency site in Fulda. These mainly concerned the allocation of telephone numbers. In particular, the number administration answered questions about the value added service ranges (0)700, (0)800, (0)900, (0)180) and (0)137 and local numbers. Furthermore, information was given on decisions about charges and the procedures to be followed when applying for and setting up telephone numbers. In addition to telephone enquiries, 5,674 email enquiries were answered by the number administration call centre.

Enquiries about number administration



Total number: 21,660

FREQUENCY REGULATION

Apart from user interests and the introduction of innovative technologies, frequency regulation must also ensure efficient and interference-free usage of frequencies and functioning competition with equal opportunities. In addition, the introduction of new technologies requires early identification of potentially suitable frequency spectrum. Wide-ranging international and national planning is required to achieve this target.

Flexibilisation and allocation of frequencies in the bands 1.8 GHz, 2 GHz and 2.6 GHz

As part of a more flexible type of frequency regulation, the frequency bands 1.8 GHz, 2 GHz and 2.6 GHz are to be dedicated to wireless network access for offering telecommunications services for the public in the frequency usage plan. It was determined back in summer 2007 that the allocation of these economically interesting and not adequately available frequencies must be preceded by open, transparent and non-discriminatory allocation in the form of an auction.

In April 2008, the President's Chamber of the Federal Network Agency determined the conditions under which the frequencies may be used. Radio frequencies are made available on a nationwide basis for a wireless access to the range of telecommunications services. There will be no restriction as far as the use of specific technologies or standards is concerned. The decision on the determinations and regulations on the allocation of frequencies was published in the Official Gazette (ordinance BK 1- 07/003 Official Gazette of the Federal Network Agency No. 07/2008 of 23 April 2008; ordinance 34/2008, page 581 ff.) and on the Agency's website.

By doing so, the Federal Network Agency continues its strategy of flexibilisation in frequency regulation. By providing flexible conditions of use in terms of maximum technology and service neutrality, both potential new entrants and existing network operatorsare to be enabled to meet the requirements of a dynamic market in the long run. A variety of different business models can be realized with this approach. The Federal Network Agency's approach complies with the European Commission's efforts to provide frequencies as flexibly as possible on the market. In a next step, the Agency will draw up the specific auction rules and invite comments on this.

Flexibilisation of usage rights in the GSM band 900 MHz and 1,800 MHz

The frequency usage rights in the frequency bands 900 MHz and 1,800 MHz (GSM bands) are to be provided more flexibly to reduce usage restrictions. By means of an open, transparent and non-discriminatory procedure, a concept for flexibilising the frequency usage rights in the bands 900 MHz and 1,800 MHz (K 9|18) is to be prepared.

In particular, the restriction to the GSM standard is to be abolished and thus technology and service-neutral usage allowed according to the statement on wireless access policy for electronic communications services (WAPECS) by the radio spectrum policy group (RSPG), which was established by the European Commission. In its statement on WAPECS, the RSPG explains that technology and service neutrality are policy targets for achieving more flexible frequency usage and that a minimum number of restricting

frequency conditions should apply for using the frequency bands specified in the statement (of the applicable frequency bands). Germany advocated implementation of this concept.

Given the complexity of this issue, the Federal Network Agency considered it useful to discuss the core issues of a "flexibilisation concept" without determining the content to begin with and invite comments from the interested public. Therefore, a discussion paper (K 9|18) was prepared by the Agency that addresses the core issues of flexibilising GSM frequencies.

The core issues deal with the following topics: Time of flexibilisation, separate or combined consideration of frequency bands 900 MHz and 1,800 MHz, frequency spectrum, contract period, consideration of the interests of new entrants. The K 9|18 discussion paper was published as Communication 663/2008 in the Official Gazette 22/2008 and on the website of the Federal Network Agency at www.bundesnetzagentur.de together with the invitation for comments.

Updating the frequency usage plan

An updated frequency usage plan was published by the Federal Network Agency in May 2006 according to section 54 TKG (2004). Due to the coming into force of the amended Frequency Band Allocation Plan Ordinance dated 23 August 2006 (Federal Law Gazette part I, No. 40 of 25 August 2006) that converts the results and decisions of the ITU World Radio Conference (WRC) 2003 into national law, the frequency usage plan had to be fully updated again. The updated frequency usage plan was prepared according to the procedure described in the Frequency Band Allocation Plan Ordinance (Federal Law Gazette part I, No. 20 of 08 May 2001) with participation from the government, the federal states and interested public circles in several operations. The publication of the totally updated frequency usage plan as of April 2008 was announced in the Official Gazette 6/2008 of the Federal Network Agency. After completion of the Frequency Usage Plan as of April 2008, individual entries in two partial frequency usage plans required a follow-up revision in favour of frequency usage "radio applications of public railway" (GSM-R) and frequency usage "private mobile communications/trunked radio". The updated entries were announced in the Official Gazette 18/2008 of the Federal Network Agency.

Preparation of the World Radio Conference (WRC) and European harmonisation

A WRC is held by the ITU every three to five years. The WRC's task is to adapt the radio regulations (RR), of which the objective is harmonised use of radio frequency spectrum as a global framework agreement, to the technical and economic development of wireless communication. The next WRC is scheduled to be held at the end of 2011 (WRC-11).

In 2008, the Federal Network Agency actively dealt with opinion forming and European reconciliation. The Federal Network Agency was charged by the Federal Ministry of Economics and Technology with chairing three working groups of the "National Group for Preparing the WRC". In the conference preparatory group (CPG) of the European Conference of Postal and Telecommunications Administrations (CEPT), the European coordinator on five issues is a representative from the Agency. Major topics during WRC-11 will be spectrum access for safe operation of unmanned aircrafts, the harmonisation of frequencies for wireless microphones

and wireless cameras, the future use of frequency band 275 to 3,000 GHz, flexible spectrum use and updating the regulatory framework.

The CEPT Electronic Communications Committee (ECC) is responsible for radio and frequency demands within Europe. The EEC chair and secretariat is held by representatives of the Federal Network Agency. Several permanent and project-oriented working groups are active in the EEC, which were established with specific mandates. The CEPT ECC's decisions on wireless network access at 2.6 GHz and 3.5 GHz, ultra-wideband applications, the use of GSM on board ships, wideband radio applications of BOS in the UHF band, broadband radio applications of BOS at 5 GHz and the intelligent traffic systems at 5.9 GHz are of particular interest in Germany. The Federal Network Agency supports and advises the European Commission in the radio spectrum policy group (RSPG) and in the radio spectrum committee (RSC).

European Frequency Information System (EFIS)

As a result of the further development of the European frequency information system (EFIS) it is now possible to compare the interface parameters of CEPT member states. This gives manufacturers a clear overview of which technical radio parameters must be fulfilled by the so that regulations are complied with in as many European countries as possible.

National Table of Frequency Allocations

Major changes in frequency allocations were effected by the WRC in 2007 (WRC-07). Partial ranges of the UHF radio band (470 to 862 MHz) are reserved on a worldwide basis for use by international mobile telecommunications (IMT). In addition, frequency band 3,400 to 3,600 MHz was dedicated to the broadband mobile communications service. Frequencies at 5.1 GHz for broadband transmission channels were allocated to the aviation industry in connection with measuring and testing types of aircraft. Additional frequencies will be available in the future for scientific radio services, for example for satellite-assisted earth observation. Other changes decided at WRC-07 related to maritime radio service and amateur radio service.

Frequency allocations for innovative radio applications (experimental radio)

Based upon section 58 TKG, approx. 750 frequencies were allocated in 2008 for developing and testing new technologies and as part of research projects etc. Deviations from the Frequency Band Allocation Plan and the Frequency Usage Plan are permitted for frequency allocations for innovative radio services. The radio services and frequency uses entered in the plans are not allowed to be affected, however. The following issues were the focal points of new developments in 2008: Further developments in the area of mobile communications for broadband network access (LTE), radio systems as part of traffic telematics for communication between and to vehicles (ITS) in the band 5.9 GHz.

Short-term assignments

Short-term assignments are issued by the Federal Network Agency when sporting and cultural events, state visits and other occasions that attract significant media coverage are held. In 2008, the Agency issued 2,167 short-term assignments. These provided a total of 15,833 frequency uses in extremely varied frequency ranges between 40 MHz and 22 GHz for 1,268 events. Major part of short-term assignments was issued for motor sports events, bicycle races, music events and winter sports events. The

Agency attended 264 events with measuring vehicles to ensure interference-free and efficient frequency use.

RADIO COMPATIBILITY OF TRANSMITTING AND RECEIVING RADIO EQUIPMENT

Determining radio compatibility of new radio services requires continuously close cooperation with other administrations and developers and providers of new technologies in international committees of CEPT and ITU. A number of technically complex compatibility examinations were started, continued or completed in 2008. These included studies on professional wireless microphones, GSM on board ships and UWB applications for differentiating and characterising objects. A great deal of work is taking place on the tasks for the next WRC-11 and on implementation of the decisions from WRC-07. The mandate of the European Commission on the so-called digital dividend (frequency bands released by the digitization of TV broadcasting) to determine the minimum combined and technical minimum conditions of use for the frequency band 790 to 862 MHz provides the basis for allocating frequencies to provide rural regions with mobile and broadband applications, the introduction of which has already been completed in some European countries. Use of the so-called dividend has not been finalized in Germany. However, since mobile communications and broadcasting applications could conflict with each other at national borders, compatibility issues have to be solved in any case.

With reference to the new regulation on the protection of public telecommunication networks and transmission and reception facilities that are operated in defined frequency ranges for security reasons (SchuTSEV) and will enter into force soon, the organisational and technical preparations for taking the appropriate measures were initiated in 2008 together with the parties affected.

Legislative package 2008

For more than 20 years, the so-called new approach has been the combined, successful regulatory framework for marketing products in the European Union. It includes more than 25 product regulations covering a total trade volume of more than 1,500 billion € annually. Its main objective is free, non-bureaucratic commodity trade. The main idea is that regulations merely provide the legal framework. Technical details are determined by standards. The CE mark certifies conformity. The new legal framework 2008 was announced in the Official Gazette L 218 on 09 July 2008. It enters into force in full on 01 January 2010 and regulates accreditation, market supervision and the principles of CE marking. The Member States are to carry out more efficient market supervision to protect retail customers und commercial users against unsafe products from third countries (consumer protection). Market supervision between the responsible authorities of the Member States is to be carried out and handled jointly in line with the results. The control of products introduced in the common market and cooperation between customs authorities and national market supervision authorities is to be made more effective. The Federal Network Agency participates in the implementation of the new regulations into the R&TTE-RL and the FTEG and the EMV-RL and the EMVG.

Interoperability of broadcasting

The Federal Network Agency decided (see Official Gazette of the Agency 13/2008, Com-

munication No. 366/2008) that it will tolerate – but only until 30 September 2009 – the use of set-top boxes that do not meet the interoperability requirements defined in section 48 (3) para. 1, 1st half sentence TKG and decode TV signals by means of a digital right management (DRM) system that are transmitted via DLS technology (IPTV via closed networks). The work for standardising a conditional access system (CAS) that complies with the interoperability requirements for radio broadcasting for IP-based networks could not be completed within the granted period.

The undertaking concerned is primarily responsible for providing a situation that meets legal requirements, in particular by aligning its standardisation activities properly. To aid progress, the advisory committee for technical regulation in telecommunications at the Agency was asked to develop a suggestion on the technical provision of a CA/DRM system that meets the legal regulations.

The Federal Network Agency takes the interest of retail users / consumers into particular account when designing the legal interoperability requirements for radio broadcasting and as part of its involvement in the various standardisation committees particularly. As wide-ranging and interoperable use of reception equipment as possible by end users is therefore aspired to.
At the annual ATRT conference 2008, the following concrete target was formulated: Digital TV sets should make use of radio broadcasting services independent of access network carrier and access at least via specific transmission paths if not via all transmission paths and be able to display encrypted and non-encrypted contents.

Radio Frequency Identification

Radio Frequency Identification (RFID) was already a key issue in 2007 under Germany's Presidency of the EU Council. Supported by initiatives of the Federal Network Agency in an EU RFID working group and in ETSI, a work aspect on the issue of security and data protection in RFID systems was started in 2008. This activity is supported by the Agency. The European Union Commission will issue an order to ETSI and CEN/CENELEC to prepare appropriate standards, emphasizing the importance and innovative potential of RFID.

Identity management

The issue of identity management has gained in importance on international level and has thus resulted in increased standardisation activities in this field. In simple words, identity management in this connection means the handling of information technological representatives – such as the assignment of digits or codes (call numbers or web addresses) for telecommunication devices, terminal equipment other items or even persons – in order to be able to clearly differentiate, identify and address them in electronic communication. Information technical IDM is viewed as a necessary basic function for the increasing handling of transactions via IT and telecommunications systems, such as NGN. The issue was therefore primarily accompanied in the ITU-T, in ETSI and ISO/IEC in coordination with the Federal Ministry of Trade and Industry.

World Telecommunications Standardization Assembly

As a special organisation of the United Nations, the International Telecommunication Union (ITU) assumes an important role, in particular with regard to international standardisation for which agreements are made on worldwide interoperability, numbering, accounting, etc. The

current study period from 2005 – 2008 ended in 2008 with the World Telecommunications Standardization Assembly (WTSA) in Johannesburg (South Africa). This marks the start of study period 2009 - 2012. The WTSA's main task consists in structuring the ITU-T in line with requirements, focussing on contents and adjusting the various work procedures. The increase in energy efficiency of telecommunications and information technology with regard to climate protection as well as the improved access to telecommunications for disabled persons will be addressed in particular in the standardisation activities during the new study period. In close cooperation with the Federal Ministry of Trade and Industry, the Federal Network Agency performed comprehensive preparatory and coordination work for the participation and representation of the Federal Republic of Germany at the WTSA and attended the conference with four representatives together with four representatives from the Federal Ministry of Trade and Industry and from the business world to promote German interests.

RADIO MONITORING AND INSPECTION SERVICE

Automatic measurements in the shortwave range for determining the frequency assignment

A total of seven measuring campaigns were performed in the shortwave range from 2004 to 2007 with up to 24 measuring agencies from approx. 12 countries to provide these data for WRC-07. Trends were derived on the basis of current usage to rearrange frequency band 4 to 10 MHz based on these data. In 2008 the Federal Network Agency's measuring agencies participated in a new measuring campaign that is planned until the end of 2010. As part of this current campaign, only data are surveyed that can be gained without substantial staff deployment by means of automatic measuring devices. These data reveal the development of usage in the entire shortwave range and can be used for WRC-11.

Protection of amateur radio against interference from abroad

To ensure protection of frequency bands of which some are assigned exclusively to amateur radio, approx. 25 failure interference alarms were sent to foreign administrations on the territory of which interfering transmitters were detected in the course of the year. As a consequence either the transmitters causing interference were successfully shut down or repaired in the interest of radio amateurs.

Measurements for EUMETSAT and DLR

A control station for next generation weather satellites is to be installed in Darmstadt by EUMETSAT, the European carrier of weather satellites, while one of the control centres of the future European navigation system GALILEO was provided in Oberpfaffenhofen by the Deutsche Zentrum für Luft- und Raumfahrt (DLR). Measurements by the Federal Network Agency were performed for both organisations to enable adequate freedom from interference at both locations and substantial public investment to be implemented usefully.

Measuring examinations for providing frequencies for VHF radio broadcasting

The demand for free frequencies in the VHF radio broadcasting range that are required by private programme providers mainly for the regional transmission of radio broadcasting programmes in conurbation areas can only be met in some cases with substantial effort.

Against this backdrop the Landesanstalt für Medien und Kommunikation (LMK) in Ludwigshafen/Rhineland-Palatinate, the Niedersächsische Landesmedienanstalt (NLM) in Hanover and the Landesanstalt für Kommunikation Baden-Württemberg (LFK) in Stuttgart in cooperation with various transmitter network operators and programme providers decided to test digital radio broadcasting procedures in the VHF band that were developed by the FH (Technical College) Kaiserslautern and the University of Hanover.

Two additional systems were involved in the series of tests – FMeXtra and HD-Radio. These transmission systems are based upon analogue VHF radio broadcasting and are provided with additional digital signals. Test radio assignments by the Federal Network Agency were required for the transmission of these signals.

In connection with ensuring radio compatibility between the new digital radio broadcasting procedures and the radio services of Authorities and Organisations with Safety Tasks (BOS) and the aircraft radio service, comprehensive laboratory measurements were required to determine the necessary protection ratios. These measurements were performed by the Federal Network Agency in cooperation with the DFS and the Zentralstelle für Polizeitechnik, Rhineland-Palatinate, in the Agency's test laboratory and partly in DFS' test laboratory. The measuring results gained were crucial in determining the technical parameters in the test radio assignments. In addition, the PMD conducted laboratory examinations that were intended to determine the protection ratios in the VHF broadcasting band between analogue and digital transmission procedures. The Federal Network Agency was also involved in field measurements taken by various institutions in the coverage areas of test radio transmitters. The findings of these measurements were reflected in the calculated planning results.

By accompanying the test transmissions, the Federal Network Agency substantially contributed to their success and supported the introduction of new radio broadcasting procedures.

Monitoring of frequency uses

In the course of its work monitoring frequency uses, the radio monitoring and inspection service checked some 6,000 frequency assignments nationwide for a variety of radio applications to ascertain whether operators were complying with the provisions on the assignment of frequencies last year. This is based on section 64 TKG. The monitoring of frequency use makes it easier to form a clear idea of the current situation and control compliance with regulatory standards in the field of frequency management. The monitoring provides essential information about the actual usage situation and therefore supplements the administrative elements of frequency regulation (National Table of Frequency Allocations, Frequency Usage Plan, frequency allocations), integrating them into a self-regulating system. Negative effects on frequency use are intended to be recognized early. This is a prerequisite for minimizing interference. This is a proactive task of frequency regulation.

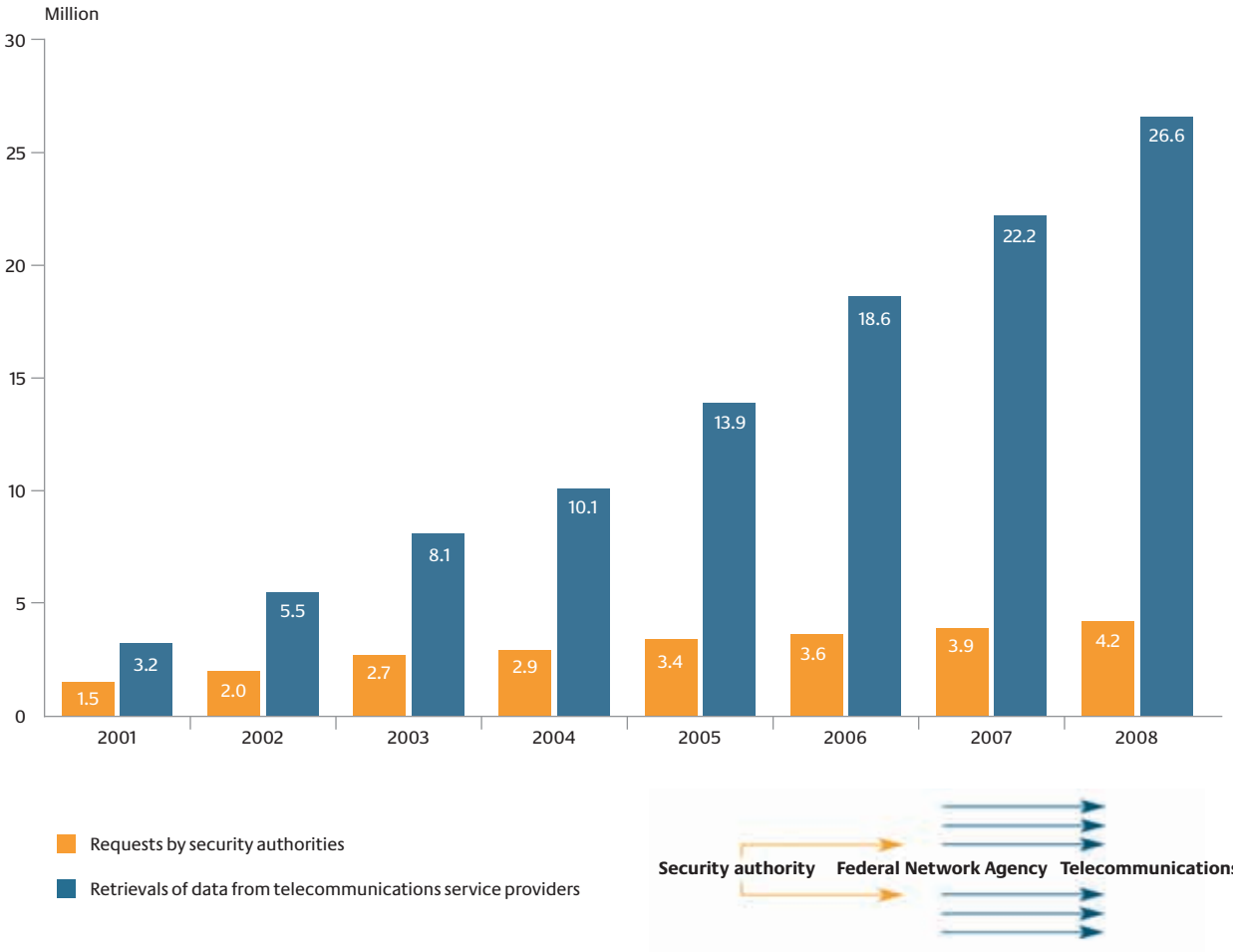
The reviews are generally performed on the basis of a statistical procedure with the help of which the test volumes are determined. The total base and the deficiency ratio of the preceding random sample (percentage of deviations from the frequency assignment provisions) are included in the calculation of test volumes. This statistical procedure represents an efficient and economic way of monitoring frequency uses. Thanks to the application of this procedure, as much testing as necessary and as little as possible is carried out.

PUBLIC SECURITY

Automatic information procedure under section 112 TKG

Following the liberalisation of the telecommunications markets, customer data are no longer only held by a monopolistic state-owned enterprise, but are gathered by a large number of telecommunications companies. To assist the security authorities in the performance of their statutory duties, these telecommunications companies supply information from their customer files about the names and addresses of individuals who hold telephone numbers to the authorities via the Federal Network Agency. The number of telecommunication companies participating in the procedure is increasing due to new legal requirements. At present, about 1,000 authorities registered with the Federal Network Agency are able to retrieve corresponding customer data from a total of 120 telecommunications companies.

Development of information requests by security authorities and retrievals of data from telecommunication service providers



Qualified electronic signature

The Federal Network Agency is the "competent authority" under the Act Governing Framework Conditions for Electronic Signatures (SigG). The duties associated with its role in this capacity include, in particular, the accreditation of certification service providers, the supervision of certification service providers, the operation of the state Trust Centre as the supreme certification authority (root authority), the administration of a directory of certificates issued and revoked, the recognition of evaluation and certification bodies, the determination of appropriate algorithms for qualified electronic signatures and the provision of support for legislative procedures. The successful accreditation of two certification service providers and the announcement of the start of another certification service carrier in 2008 must be emphasized. In addition, two new evaluation and certification bodies were acknowledged.

The tasks involved in the operation of the Trust Centre as a root authority include the generation of signature keys for accredited certification service providers, the issuing of certificates for certification service providers and the provision of a directory of certificates that can be used at any time by any party to check which certificates have been issued and revoked by the Federal Network Agency. In 2008, the systems deployed in the root authority were adjusted to take account of the requirements of the current algorithm catalogue. First preparations for the implementation of the European service directive were taken; the Federal Network Agency was particularly involved in the adjustment of the technical implementation of communication paths between uniform points of contact.

Consulting services for the issue of qualified electronic signatures have increased on national level and – due to the increasing cross-border use of qualified electronic signatures – particularly on international level and are provided for industry, authorities and users. In 2008, the Agency continued to cooperate with CAST e.V., a competence centre for IT security in Darmstadt and the participation in the legal working group of Teletrust V was restarted. The Federal Network Agency continued to chair the working group of acknowledged evaluation and certification bodies and thus offered a platform for coordinating and developing the workflows used by the evaluation and certification bodies.

In 2008, the Federal Network Agency complied with its statutory obligations to publish the following information: Product certifications for qualified electronic signatures, manufacturers' declarations that comply with the requirements of the SigG and the Ordinance on Electronic Signatures as well as suitable algorithms and the associated parameters for qualified electronic signatures.

Technical implementation of intercepts under section 110 TKG

In carrying out its duties in relation to the technical implementation of intercepts, the Federal Network Agency makes an important contribution to maintaining public security in Germany. In particular, the Technical Directive in accordance with section 110(3) TKG is essential to the development of interception technology by telecommunications companies, manufacturers and the security authorities involved. The Directive is amended

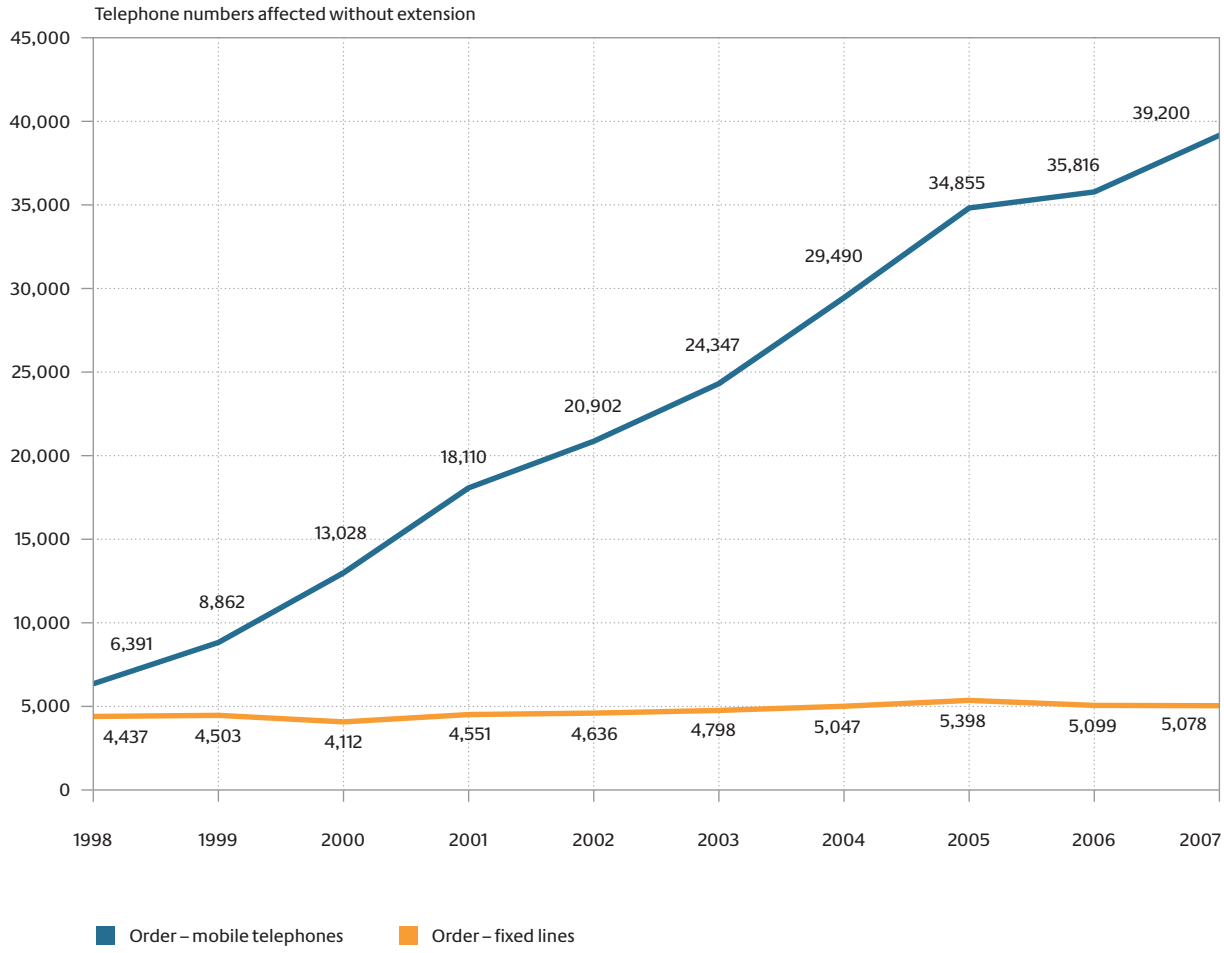
to take account of new telecommunications technologies whenever this becomes necessary. To this end, the Agency – as required by the legislation – contributes to the discussions about new topics, initially in the bodies responsible for standardisation. Industry associations, authorised bodies and manufacturers were all involved in the preparation of version 5.1 of the Technical Directive that came into force in February 2008 by being published in the Official Gazette of the Federal Network Agency and was extended, in particular, to cover the field of IP-based multimedia services (such as VoIP).

Annual statistics of intercept orders under the Code of Criminal Procedure

According to section 110 (8) TKG the operators of telecommunications systems have to prepare an annual statistics of intercept orders under the Code of Criminal Procedure and make it available to the Federal Network Agency. So far, the accumulated data have been published in the Official Gazette of the Federal Network Agency. Entry into force of the "revised Act on telecommunications surveillance and other undercover investigator measures as well as on the implementation of Directive 2006/24/EU" makes the annual statistics to be prepared by the Federal Network Agency unnecessary with effect from 01 January 2009. In the future, the statistic is prepared according to section 100a of the Code of Criminal Procedure and published on the Internet by the Federal Office for Justice on an annual basis by 30 June of the year following the reporting year about measures ordered under its responsibility.

Based upon the surveillance measures ordered in 2007, 5,078 identifications in the field of fixed network telephony (analogue and ISDN) and 39,200 identifications in the field of mobile phones were monitored. The increase in the number of supervised connections in the field of mobile phones in 2007 is solely due to the drastic increase in subscriber numbers in this field. A slight decline in the number of surveillance measures was noted in fixed networks.

Statistics of intercept orders in telecommunications under the Code of Criminal Procedure



Court proceedings

The court decisions taken in 2008 dealt with a broad range of legal questions in telecommunications. The Federal Network Agency draws a positive conclusion.

Overall, 155 main proceedings and summary proceedings against decisions of the Federal Network Agency were opened before Cologne administrative court in the telecommunications sector in 2008. 121 main proceedings and 47 summary proceedings were decided in 2008. 85 main proceedings and 36 summary proceedings ended with a positive result for the Federal Network Agency. Six main proceedings ended in a draw. In 2008, one focus of legal disputes was on reviewing the legitimacy of regulatory orders according to section 13 TKG by the Federal Administrative Court.

REGULATORY ORDERS

In four decisions of 2 April 2008 (reference 6 C 14.07, 6 C 15.07, 6 C 16.07, 6 C 17.07), the Federal Administrative Court confirmed the legitimacy of the market definition and market analysis performed by the Federal Network Agency and the regulatory obligations imposed on mobile network operators and partly corrected the decisions of Cologne administrative court as court of first instance (reference 1 K 4314/06, 1 K 3928/06, 1 K 4148/08, 1 K 3918/07). The complaints lodged by mobile network operators therefore remained unsuccessful. According to the Federal Administrative Court, the Federal Network Agency has extensive scope for judgement both with reference to the market definition it is responsible for and to the market analysis. Legal review of the market definition and market analysis is therefore limited. The court must extend but also limit its review to whether the authority has complied with the applicable procedural regulations, assumed a correct understanding of the legal term to be applied, determined the substantial matter completely and correctly and stuck to generally valid standards in the judgement and, in particular, not violated the prohibition of arbitrariness. The regulatory obligations imposed on the basis of the legal market definition and market analysis as defined in section 13 (1) sentence 1 TKG, in the concrete cases of interconnection and termination obligation, ban on discrimination, the obligation to publish a standard offer for access services and the rate approval obligation are also legal. With reference to imposing regulatory obligations, the Federal Network Agency has powers of discretion that can be checked by the court for errors of judgement. The Federal Administrative Court

thus did not agree with the view of the court of first instance according to which the Federal Network Agency's powers of discretion should be restricted in these cases by the reference regulation stipulated in section 30 (1) sentence 2 TKG in favour of subsequent rates regulation. The mobile network carriers filed a constitutional complaint against these decisions about which no decision has been made by the Federal Administrative Court. This jurisdiction was supported by the Federal Administrative Court in its decision of 29 October 2008 (reference 6 C 38.07) on the regulatory order of the Federal Network Agency with reference to markets 1 - 6 (voice telephone service).

RATES FOR LETTING SUBSCRIBER DATA

With its decision of 16 July 2008 (reference 6 C 2.07) the Federal Administrative Court abolished the notice of the Federal Network Agency on the approval of rates levied by the carrier of voice telephone services for letting subscriber data to publishers of subscriber directories and providers of directory enquiry services. In its decision of 13 December 2006 (reference 21 K 5175/05) Cologne administrative court assumed the legitimacy of the notice. According to the Federal Administrative Court, there is an obligation for letting data only to the extent that the data are required for providing the universal service. According to this, only the basic data of own customers (name, address, telephone number) are required to be published. In the absence of common legal requirements, the obligation on publication is not applicable to additional data (so-called annex data such as profession, line of trade etc.). The same applies to data on retail customers of alternative telephone providers that are available to the carrier of voice telephone services (so-called carrier data). If these are basic data (name, address and telephone number), the rates are only allowed to include the costs for pure data transfer. In the absence of common legal letting requirements, this does not apply to rates, however, that are related to the letting of so-called annex data and carrier data.

LINE COST CONTRIBUTION

In the proceedings 6 C 23.05, 6 C 24.05 and 6 C 25.05, the Federal Administrative Court submitted the issue of the legal validity of line cost contribution in Europe to the European Court of Justice for a preliminary decision (reference C-152/07 to C-154/07). Grounds were the actions lodged by competitors against the approval of a contribution by the Federal Network Agency that has to be paid by the carrier of an access network to the carrier of a subscriber network with significant market power to compensate the deficit accruing to the subscriber network carrier for providing the subscriber access (so-called line cost contribution). It has now been decided by the European Court of Justice that the national regulatory authority is not entitled to approve the levying of a line cost contribution in addition to the interconnection charge.

MARKETING OF LOW-PRICED RETAIL CUSTOMER OFFERS

In its judgement of 18 December 2007 (reference 6 C 47.06) the Federal Administrative Court rejected the appeal lodged by a carrier of mobile communication services demanding an intervention by the Federal Network Agency against the marketing of a low-priced retail cus-

tomer offer by a mobile network provider. This was rejected by the Federal Network Agency in its decision of 12 July 2005 because marketing of innovative products does not violate the ban on discrimination according to copyright law. This was confirmed by the Federal Administrative Court reasoning that a mobile network carrier that is required to treat competing service providers equally according to the operating license issued to them is not hindered by this requirement in creating a competitive edge that is limited in time over other service providers by introducing innovative products.

SECTION 150 TKG

The decisions taken in 2008 by the courts of first instance were dominated by the legislation of the Federal Administrative Court (reference 6 C 14.05, decision of 17 May 2006) and the European Court of Justice (C-262/06, judgement of 22 November 2007) on section 150 TKG. According to this, TKG 1996 would have been applicable until a regulatory order is available according to section 13 TKG. This resulted in the fact that the notices issued based upon section 150 TKG in connection with TKG 2004 were abolished by Cologne administrative court. The rates approved (reference 1 K 9066/04, 1 K 1312/05, 1 K 1343/05, 1 K 5150/06 and 1 K 5206/06) in the field of leased lines for the period from 01 December 2004 to 30 June 2007 were abolished by Cologne administrative court. The approval of the usage-dependent rate for the service T-DSL-ZIP of 27 October 2005 (reference 1 K 6817/05) was also abolished with reference to the legislation of the Federal Administrative Court on section 150 TKG and the Federal Network Agency was obliged to issue a new notice allowing the legal opinion of Cologne administrative court. The notices were issued in the transitional phase from the old to the new TKG. Thus, no regulatory order was available at the time of decision.

FREQUENCY REGULATION

With two judgements of 30 October 2008 (reference 13 A 2394/07 and 13 A 2395/07) the higher administrative court of Northrhine-Westphalia (OVG Münster) – amending the judgements made by Cologne administrative court as court of first instance of 15 June 2007 (reference 11 K 572/06 and 11 K 573/06) – decided in favour of an appeal by the Federal Network Agency and rejected the actions lodged by a company on the extension of its frequency assignments in the band 2.6 GHz beyond 31 December 2007. The court explains that "frequency was not assigned for ever" to the competitor. The frequency assignments of 1999 were limited from the outset until 31 December 2007 and were legally terminated by the end of 2007. The company does not enjoy any protection by trust, preservation or under constitutional law. The company was aware of the limitation with the implied option that the assignment could not be extended. The company had enough time to get accustomed to the situation during the entire approval period. The competitor currently uses the frequencies as part of the frequency assignments for firm radio services. This does not comply with the currently applicable usage parameters for the band 2.6 GHz. This band is dedicated to wireless network access for the offer of telecommunications services in the Frequency Usage Plan of April 2008 according to international and thus also European directives.

In addition, Cologne administrative court rejected the action of the same company against the decision of the President's Chamber BK1-07/003 in its partial decisions I to III (configuration and

selection of the procedure as well as determination of the conditions to the allocation of frequencies in the bands 1.8 GHz, 2 GHz and 2.6 GHz for the wireless network access to the offer of telecommunications services) as inadmissible in its ruling of 3 December 2008 (21 K 3363/07) based on section 44a Code of Administrative Court Procedure. In its decision, the Court makes clear that the partial decisions contested as part of the allocation procedure serve to prepare frequency allocation by assignment as the actual and final decision on the merits and can therefore not be contested by way of legal action as a dependent procedural action. The usage rights of the company in the 2.6 GHz band are apparently not affected by the regulation of an allocation of frequencies in this band. For the company that currently has available frequencies in this band does not have any legally secure position vis-à-vis the frequencies allocated. It only has a usage right that is based purely on toleration.

NON-RECIPROCAL RATES

With its decision of 06 November 2008, Cologne administrative court obliged the Federal Network Agency to make a new decision on the application by a company to issue a rates regulation for the interconnection service („non-reciprocal rates“) According to Cologne administrative court, the notice is illegal if the applied rate was reviewed by the Agency according to the standard defined in section 28 (1) sentence 1 and 2 para. 1 TKG and a comparative market analysis was performed in this connection to determine the required abuse limit according to section 35 (1) sentence 1, no. 1 TKG). A comparative market analysis would not be possible. In the case of termination services, each landline subscriber network would have to be considered an independent market (according to the regulatory order). The respective network operatorswould not only have substantial market power, but exclusive providers of termination services. Thus, there would be no competition at all on these markets. This means that it cannot be “markets opened to competition” as defined in section 35 (1) sentence 1, no. 1 TKG). Consequently, it would have been correct to perform the rates assessment to be provided acc. to the standard defined in section 28 (1) sentence 1 and 2 no. 1 TKG based upon the company’s cost documents. An appeal was lodged against this decision by the Federal Network Agency (reference 6 C 36.08).

REGULATORY ORDER MARKET 18 (BROADCASTING SERVICES)

With its decision of 24 June 2008 (reference 21 L 1554/07) Cologne administrative court rejected the application by a cable network carrier to establish the delaying effect of its action against regulatory order market 18 (broadcasting services). Cologne administrative court has come to the conclusion that the demarcation of the signal carrier market does not suffer from obvious procedural failures and that it seems very likely that the cable network carrier on the market providing NE4 clusters for ≤ 500 dwelling units with broadcasting signals by cable network operators from an upstream network level has substantial market power according to section 11 TKG. With reference to the obligations imposed, such as the access and signal transfer

obligation, the obligation to submit a standard offer, the obligation to enable a combined use of transfer points and to grant access to these transfer points, Cologne administrative court spoke of a non-obvious illegality.

RATES APPROVAL FOR THE SUBSCRIBER LINE FROM 1999

With its judgements of 27 November 2008 (reference 1 K 1749/99 and 1 K 1823/99) Cologne administrative court abolished the subscriber line rates approval of 08 February 1999 as far as the lease of subscriber lines that has to be paid on a monthly basis is concerned. Cologne administrative court objects that the Federal Network Agency assumed an incorrect investment value for determining the capital costs caused by the major part of the monthly rates. In this connection, Cologne administrative court refers to the decision by the European Court of Justice of 24 April 2008 (reference C-55/06). According to this decision, the national regulatory authorities have to take into account the actual costs as part of the application of the principle of cost orientation when determining the basis for calculating the costs of the company, ie the historical costs of the company and expected costs, with the latter having to be calculated based upon the replacement value of the network or specific parts thereof. Cologne administrative court concludes that a cost calculation method is not permitted that is only based on the costs that accrue to another carrier for establishing a totally new local infrastructure to provide equal telecommunications services (current costs). On the other hand, the costs actually accrued to the carrier of the subscriber line allowing for any depreciations already made (historical costs) are not allowed to be taken only into account. Moreover, the actual costs are to be taken into account that comprise historical costs and expected costs. A calculation solely based on replacement would be inadequate. The Federal Network Agency lodged an appeal of disallowance against this decision.

MOBILE COMMUNICATION TERMINATION RATES

In 2008, Cologne administrative court made a decision on the urgent applications by three mobile network operatorsaccording to section 123 Rules of the Administrative Courts (VwGO) in connection with section 35 (5) TKG on a temporary approval of higher termination rates than those approved by the rates approval decisions of 30 November 2007. The applications were rejected (decisions of 28 April 2008, reference 1 L 277/08 and 1 L 259/08 and of 23 July 2008, reference 21 L 202/08).

OBJECTION TO RATES AS PART OF VIRTUAL PRIVATE NETWORKS

With its decision of 29 February 2008 (reference 21 L 100/08) Cologne administrative court rejected the application by a telecommunications services carrier to order the delaying effect of the action lodged against the notice by the Federal Network Agency of 21 January 2008. With this notice, the Federal Network Agency declared the rates agreed on the basis of a “Telecom Virtual Private Network” (TVPN) contract invalid due to abuse and prohibited the conclusion of further accession contracts to this framework agreement. This TVPN basic contract regulates the terms of sale of various telecommunications services and includes prices of various types of narrowband and broadband telecommunication connections including flat rates (so-called port prices). The court confirmed that the

framework agreement did not represent an overall contract with an individual customer and annual sales of more than € 1 million that is excluded from regulation. The carrier had, however made reference to this. The court was not able to make a final judgement on whether the Federal Network Agency had correctly detected a case of abuse according to section 28 TKG in a summary proceeding.

ENQUIRY ORDER ON DYNAMIC IP ADDRESSES

With its decision of 11 December 2008, Cologne administrative court rejected the urgent application of DT AG against an order on dynamic IP addresses. Behind the proceeding are two notices from the Federal Network Agency by which DT AG was obliged to give information about customer data (for example name and address) that belong to dynamic addresses indicated by an authorized agency, according to section 113 (1) sentence 1 TKG, in the future even if this requires an evaluation of traffic data.
The court explained that the facts of the case as defined in section 113 (1) sentence TKG would be met, thus customer data files are to be requested (see also subsection 95, 111 TKG). However, it was clear that an evaluation of traffic data would be indispensable to provide information about customer data files. Thus, the legitimacy of the notices would depend on whether the information requirement according to section 10 basic law is affected and whether section 113 TKG represents an adequate authorization basis for this. The court was not able to make a final judgment on this matter in a summary proceeding. In the absence of obvious legitimacy or illegality of the notices, the court based its decision in the summary proceeding on a compromise between the interest for suspension by the applicant and the public interest for immediate enforceability. Since DT AG cannot rebuke any violation of its basic rights, but substantial disadvantages for the public interest in an effective criminal prosecution may occur if the delaying effect of the protest were ordered, the court concluded that the interest of the applicant must take second place behind the public interest. DT AG appealed against this decision by Cologne administrative court on which a decision is still pending.

COURT PROCEEDINGS IN THE FIELDS OF NUMBERING AND NUMBER ABUSE

With its judgement of 22 August 2008 (reference 11 K 2940/06) Cologne administrative court confirmed the revocation of the assignment of two enquiry numbers to be legal.
The decision included central statements for using an enquiry number: Forwarding calls by directory inquiry services is only permitted if the destination can also be called directly via an own telephone number from the public telephone network. Forwarding to destinations for which no own telephone number can be given to the caller is not permitted. In the case of advertising measures, a clear differentiation must be made between the directory enquiry that can be reached via an enquiry call number and an additional service that may be reached when calls are forwarded.

For selected decisions in the field of phone number abuse see page 35.

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16

Market watch

Since 2008 the letter market has been fully liberalised.

POSTAL NETWORKS: VITAL TO A DYNAMIC ECONOMY

Postal services enjoy a long tradition and are present in markets worldwide. Besides letters, the range of postal items also includes courier, express and parcel products, a market segment known as CEP. Along with freight and forwarding CEP is increasingly seen as a driving force in the logistics market. Most businesses with worldwide activities operate in several business areas, a trend that is starting to influence companies that currently only operate in domestic markets. Compared to other sectors of the transport industry, the rising influence of the CEP market is especially obvious. Between 1995 and 2007, CEP volumes alone rose 66 percent.

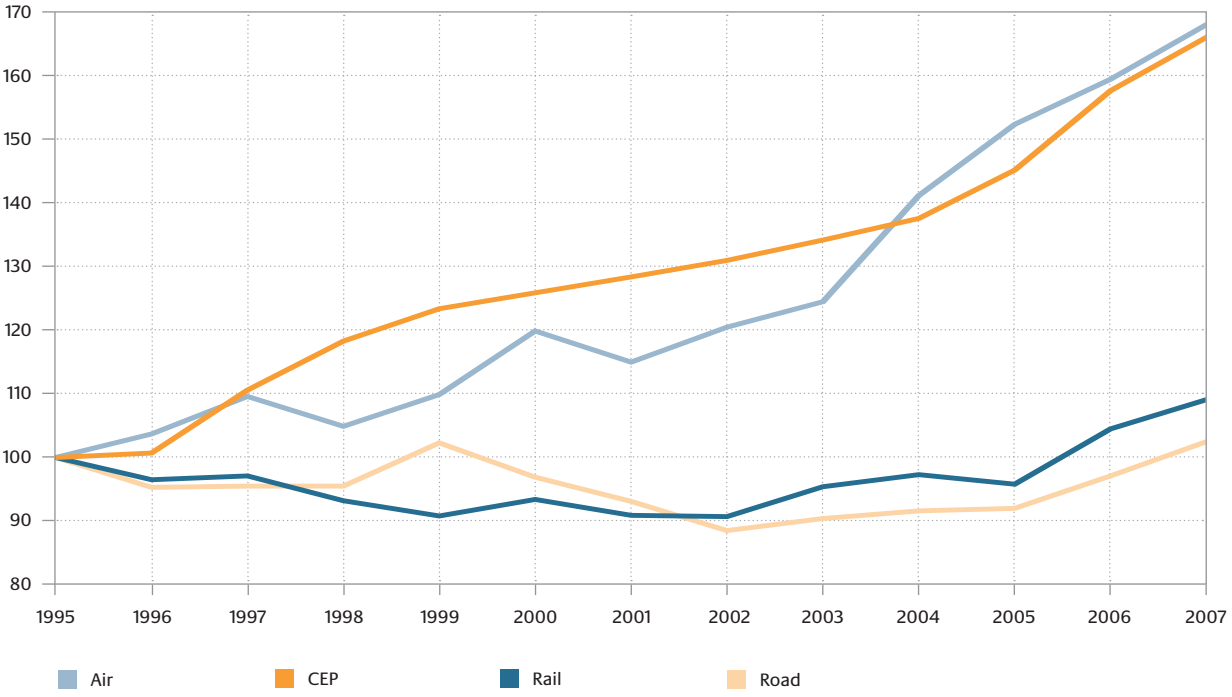
Fast, on-time postal services are a vital productivity and growth factor for the German economy. Besides being a general channel for exchanging documents the postal operators' networks also guarantee a rapid exchange of goods, a service that is crucial to a dynamic economy with minimal warehousing time and a rising dependence on punctual delivery. In addition, Germany's postal operators provide jobs for far more than 400,000 employees.

THE CEP SECTOR: GROWTH AND INNOVATION

The anticipated total revenue in 2008 in the CEP market runs to more than € 15 billion while volumes exceeded 2.2 billion items. The market has developed exceptionally fast since 2003, with volumes rising 8.6 percent between 2005 and 2006. At 5.3 percent growth continued apace in 2007.

It remains to be seen how the current financial and economic crisis will impact on growth rates. While the first half of 2008 still saw growth in the premium segment and the online mail order business, the market slowed down considerably in the second half of the year. Nonetheless, the CEP industry expects the segment to continue

Development of transportation volumes in Germany



1995 = 100
Source: Federal Statistical Office, MRU GmbH et al.

growing by up to two percent in 2009 after growth of between two and three percent in 2008.

The entire economy depends on an efficient logistics network. Import and export and the exchange of goods between manufacturers, retailers and consumers require reliable, well-functioning transport chains.

Efficient, well-functioning postal networks also play a major role for the economy. Postal operators provide high-quality transportation and logistics services via their domestic and international networks. These guarantee production processes that are based on the division of labour and work to tight deadlines. State-of-the-art tracking technologies such as radio frequency identification, or RFID, help to fulfil these requirements. Under RFID, tags are applied to objects for the purpose of identification, tracking and locating them in transit.

As demand for time-definite shipping rises, postal operators and indeed the entire logistics industry will have to overcome new challenges in order to continue meeting customers' tight delivery deadlines around the world.

MARKET AND REGULATORY FRAMEWORK IN THE LICENSED AREA (LETTER ITEMS UP TO 1 000 GRAMS)

Lowering market barriers – Encouraging competition

The expiry of Deutsche Post AG (DP AG)'s exclusive licence on 31 December 2007 marked the removal of the last significant legislative barrier to the postal market and has paved the way for additional positive developments that had begun already during the previous phase of gradual liberalisation. These must now be encouraged and continued. Although the competitive environment cannot yet be described as functioning and equitable, the gradual scaleback of the monopoly area and the introduction of innovative higher-value services by new providers in recent years have slowly but steadily created more competition in the letter market.

Provided other, non-regulatory market barriers can be lowered and no further obstacles are introduced, the current situation could yield additional positive benefits for the market.

The letter market is highly vulnerable to substitution by electronic media, yet it has emerged that increasing competition is capable of refreshing the classic letter segment in many ways. For instance, liberalisation efforts have so far succeeded in improving the range of services, lowering prices and creating new jobs.

In the first year of full liberalisation the anticipated continuation of these positive effects was largely cancelled out by effects originating outside the market and regulatory framework itself. Persisting market insecurities, which are known to hamper investment, innovation and growth, caused the now fully liberalised letter market to stagnate in 2008.

The introduction of minimum wages for the mail services industry on 1 January 2008 caused the market to change profoundly. The Regulation enacted by the Federal Ministry of Labour and Social Affairs is currently the subject of a number of pending administrative court proceedings.

Changes in the regulatory framework

Following the expiry of DP AG's exclusive licence ex ante price regulation is now limited to individual letter items, a product mainly used by private consumers and small businesses. Since 1 January 2008 the rates for bulk mail, which are payable for volumes of 50 letter items or more, have merely been subject to the ex post control of rates and anti-competitive practices. In other words, beginning in 2008 the business customer and bulk mail segments have no longer been subject to ex ante regulation.

Another effect of the expiry has been the elimination of DP AG's obligation to provide universal service under the Postal Universal Service Ordinance. Based on Article 87f of Germany's Basic Law, the Postal Act stipulates that all active providers must contribute towards providing universal service.

Responsibility for ensuring that universal service is maintained was returned to the Federal Network Agency on 1 January 2008. Should

service coverage suffer in any way, the Agency may invoke certain provisions of the Postal Act (statement, obligation, soliciting of bids).

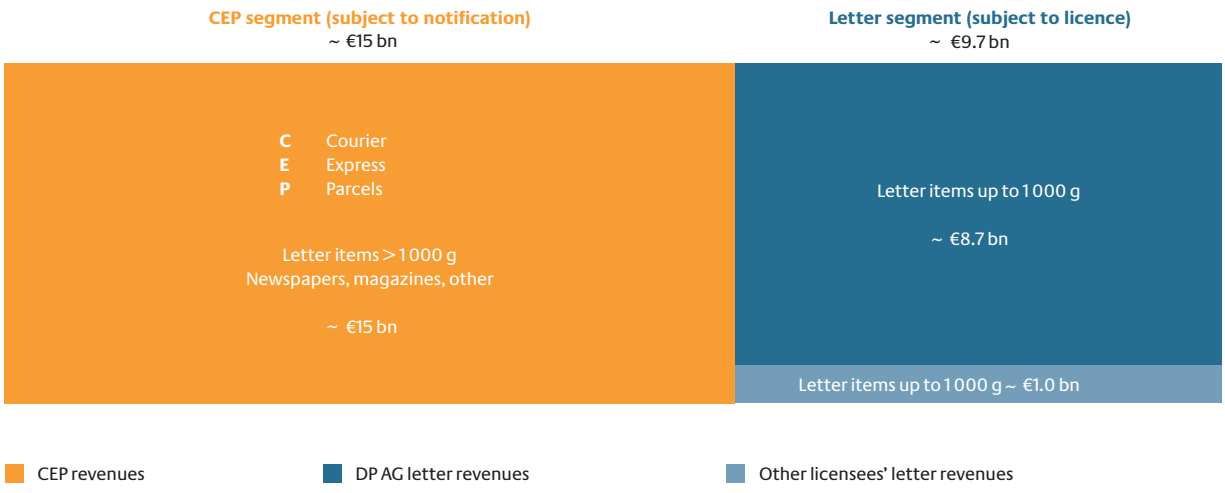
The provisions of the Postal Universal Service Ordinance relating to mail delivery are currently already met by DP AG's current service range. DP AG has stated to the Federal Network Agency that it will continue to offer full universal service coverage across the country. For as long as this is the case, there will be no universal service deficit.

THE POSTAL MARKET IN 2008 – FACTS AND FIGURES

The German postal market continued to grow in 2008 despite a stagnating letter segment. Over a two-year period total revenues far exceeded € 1 billion. The market is now worth around € 25 billion in total. Of this, over € 15 billion is accounted for by the CEP market, while the licensed area (letter services) contributed around € 9.7 billion.

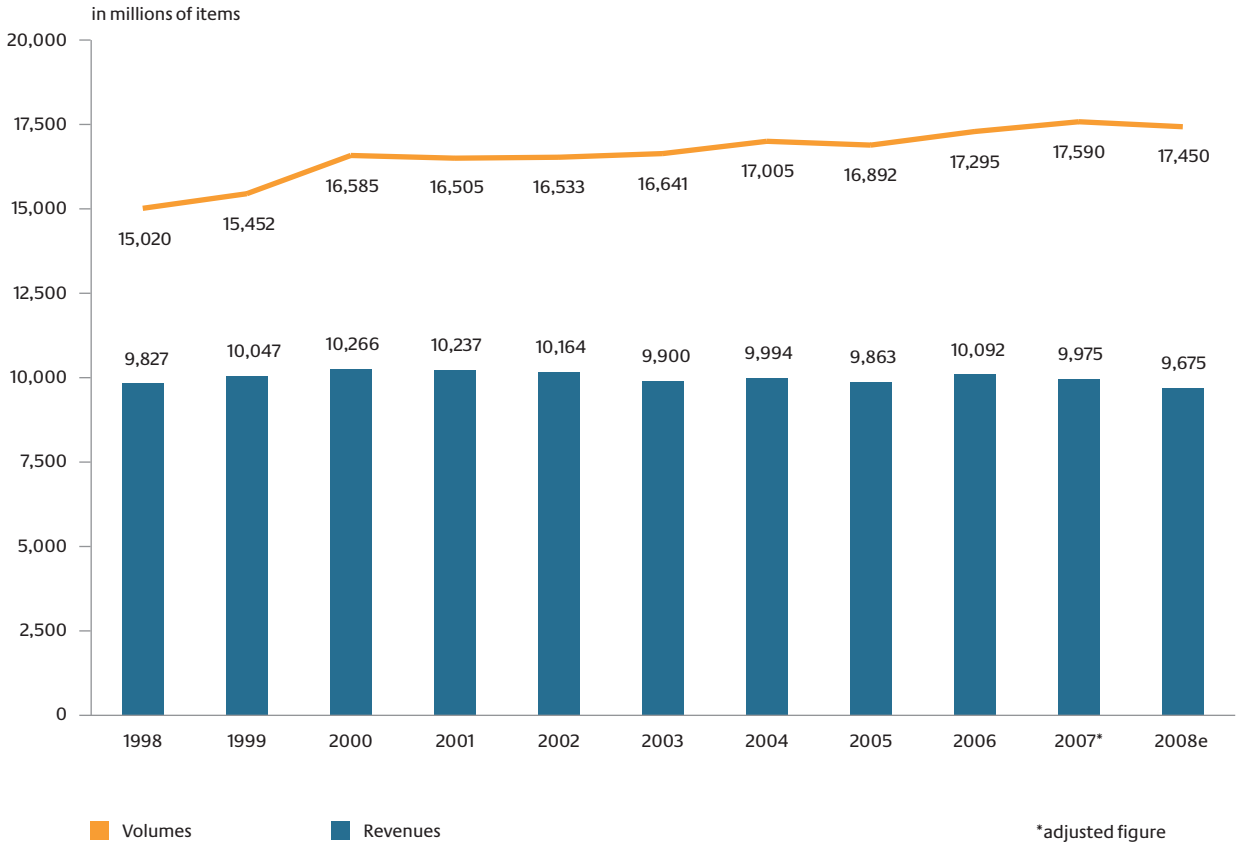
Only the CEP segment registered volume and revenue growth. Licensees in the letter segment registered a decrease.

The German postal market in 2008e



e = expected

Development of letter revenues and volumes



In terms of revenue DP AG's letter business occupied 89.3 percent of the market in 2008 (2007: 88.7 percent), while volumes rose to 91.6 percent (2007: 91.3 percent). Competitors' revenues and volumes decreased slightly. They handled a total of 1.47 billion items in 2008, down 65 million on the prior year. Their revenues reached around € 1 billion (2007: € 1.1 billion). The proportion of mail items consolidated and injected into DP AG's delivery networks rose sharply, an indication that competition between DP AG and its competitors in the end-to-end segment – from collection to delivery – is slowing.

Market shares in the letter area in terms of revenues

	2002	2003	2004	2005	2006	2007*	2008e
Market share Competitors	3.0 %	3.9 %	5.3 %	7.6 %	10.7 %	11.3 %	10.7 %
Market share DP AG	97.0 %	96.1 %	94.7 %	92.4 %	89.3 %	88.7 %	89.3 %

*adjusted figure

WORKFORCE DEVELOPMENT

Competitors' employment figures are not immune to the developments on the letter market. Several market exits and a pronounced long-term trend towards contracting out delivery services meant that in 2008, the number of employees working for competitors in the (licensed) area was 29 000, around 19 000 fewer than in early 2007.

The workforce at DP AG declined as well. In 2008 the company employed around 166 000 (2007: 167 000) in the letter segment, including a pro-rata share of administrative and overhead staff (a calculation first applied in 2006).

The total workforce in the letter and CEP segments has continued to grow overall and currently far exceeds 400 000.

MARKET OUTLOOK

Against the backdrop of the current financial and economic crisis, the future of the CEP and letter services market remains unclear. CEP already registered a slowdown in the second half of 2008.

However, the elimination of insecurities may encourage more competition in the letter market. These include the resolution of the court cases concerning minimum wages in the mail services industry as well as a solution to the issue of VAT on postal services that is in the best interest of the market and the consumers.

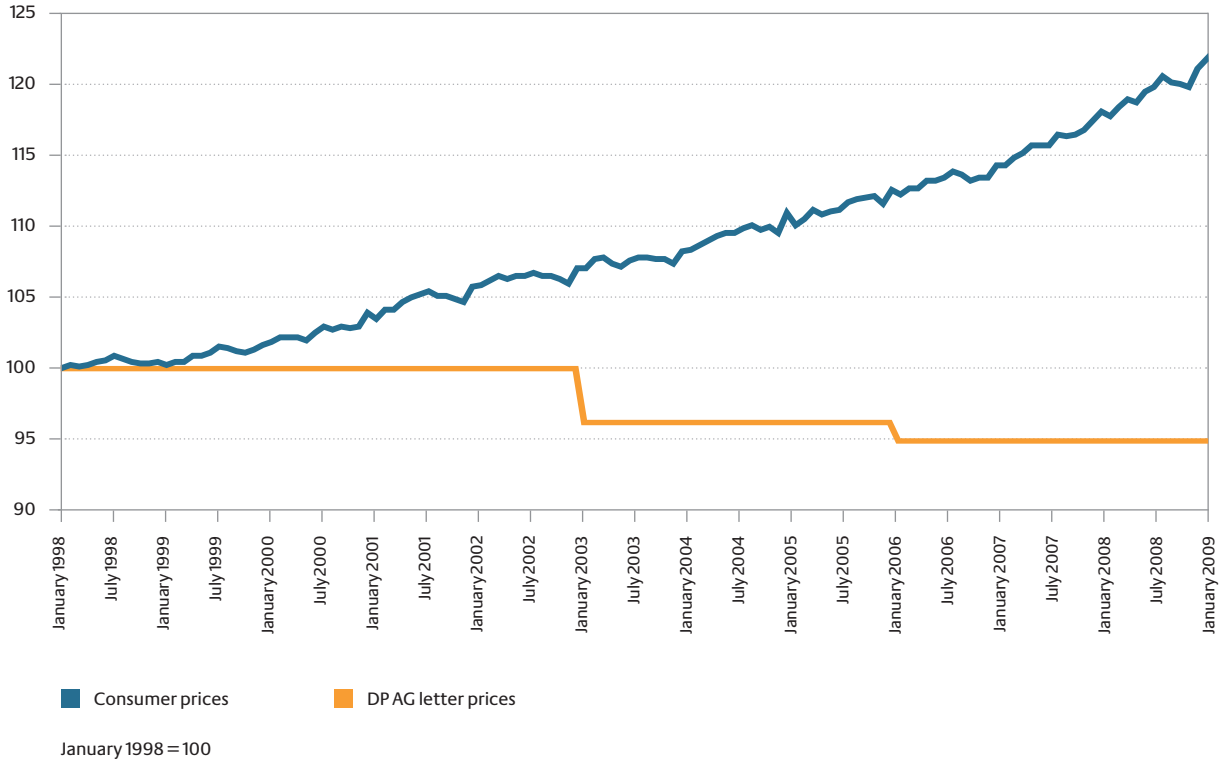
OPERATING RESULTS

Licensees' operating results have declined sharply compared to the prior year. Only 39 percent of providers generated profits (2007: 48 percent). 23 percent broke even (2007: 30 percent), while 38 percent of providers registered a deficit (2007: 22 percent).

PRICE LEVELS

Since letter market liberalisation began in 1998 average price levels for individual letters (e.g. postcards, standard and compact letters) have either declined or remained stable. DP AG met its obligations in terms of reasonable productivity improvements which has helped to save private and business customers from the effects of price and cost increases. Prices levels were also reduced under price cap regulation, relieving consumers and businesses of a considerable financial burden. Adjusted for inflation, real prices for letter services dropped more than 20 percent between 1998 and 2008.

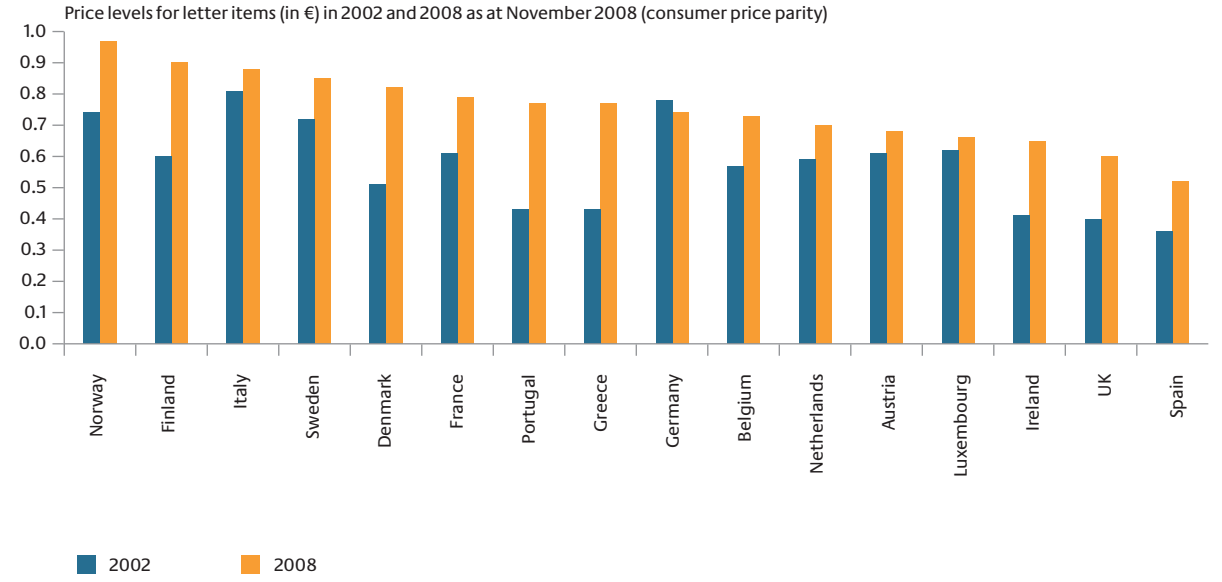
General development of consumer prices and DP AG letter prices



In January 2009 average prices for single letter items in Germany were five percent lower than in 2002. The majority of competitors' prices (excluding VAT) were lower than those of DP AG.

Unlike in Germany, price levels in most European countries have risen substantially since 2002.

Letter price levels in Europe



LICENSEES

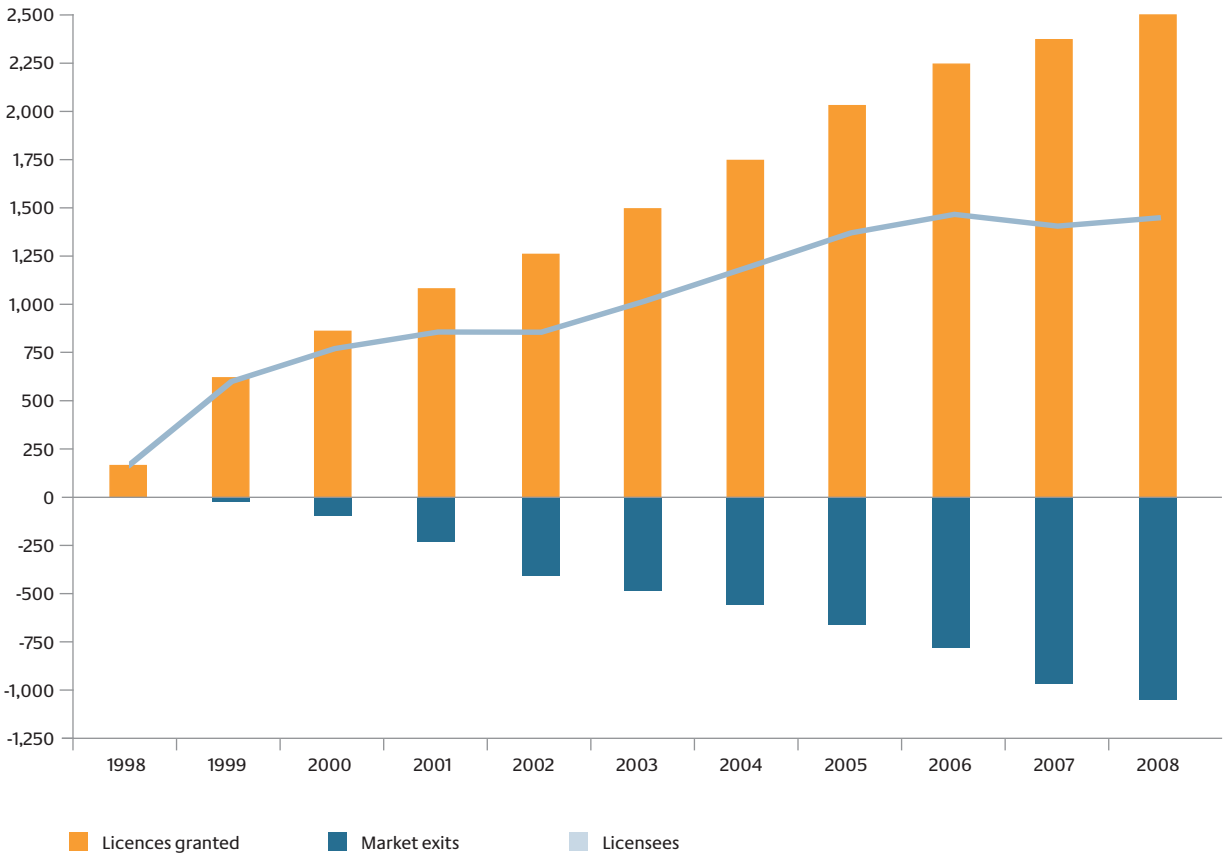
184 of DP AG's competitors withdrew from the market in 2008. The market is currently shared by around 800 active licensees.

Since 1998 the Federal Network Agency has granted 2,500 providers a licence for the conveyance of letter items up to 1 000 g. To date 1 047 of these providers have withdrawn from the market. Between 2006 and mid 2007 most withdrawals were due to consolidation-induced takeovers. However, in the period under review the main reasons were insolvency and business wind-ups. During the first few weeks of 2008 the inflow of first-time licence applications was slow yet returned to normal levels in the course of the year.

Market exits

	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
2006	15	10	64	17	**106**
2007	29	13	65	81	**188**
2008	56	2	11	15	**84**

Licences – Market exits – Licensees



ACCESS TO INCUMBENT'S NETWORK AND INFRASTRUCTURE

To enable access to the letter market and encourage competition, under the Postal Act the incumbent is obliged to grant access to its network and infrastructure, a process referred to as worksharing. Corresponding agreements must be submitted to the Federal Network Agency for approval.

Since the expiry of DP AG's exclusive licence at the end of 2007, full access to worksharing services has also been available to competitors under Article 28 of the Postal Act. In 2008 DP AG negotiated 557 new agreements offering access to worksharing services in its outbound mail sorting centres (BZA), where outbound mail is consolidated, and the inbound mail sorting centres (BZE), which handle the delivery of incoming mail.

The share of consolidated mail volumes rose sharply in the year under review, from around 750 million items in 2007 to around one billion currently. In addition, DP AG submitted to the Federal Network Agency 14 agreements on access to its PO box facilities and another 14 on access to DP AG's database of change-of-address information.

Worksharing agreements in 2008

	Type of item			
	Individual items		Infopost	Total
Point of access	BZA	BZE	BZE	BZA/BZE
Contracting party				
End customers	125	255	56	436
Consolidators	49	58	14	121
Total	**174**	**313**	**70**	**557**

As at 31 December 2008

Ruling Chamber decisions

DP AG's prices for domestic private customer letters remain unchanged. The terms and conditions concerning the posting of worksharing items are becoming far more favourable and more generous discounts are available – a sign that competition on the letter market is warming up.

PRICE CAP REGULATION

On 13 October 2008 the competent Ruling Chamber approved DP AG's rates for letter items up to 1 000 g for 2009. Under the price cap formula set by the Chamber when approving the change parameters, in theory DP AG would have been authorised to raise its prices by up to 0.5 percent. The price cap formula, which was reviewed in 2007 and applies until the end of 2011, assumes a productivity growth rate on the part of DP AG of 1.8 percent per annum, which is pegged to the rate of inflation as calculated by the Federal Statistical Office. However, DP AG merely requested approval for a minor increase of its international mail rates, while its domestic letter rates remain at the current level. The Ruling Chamber approved the slight raise in international rates effective through 31 December 2009. Thanks to price cap regulation, consumers have been able to benefit from stable prices since rates were cut in 2003.

RATES FOR ACCESS TO CHANGE-OF-ADDRESS INFORMATION

On 2 December 2008 the Ruling Chamber approved DP AG's rates for access to change-of-access information. The approval extends to the installation charge and the fee payable for each match found in the database. Competitors now pay a one-off installation fee of € 58.47 (previously € 48.77) plus a reduced charge per match of € 0.10 (previously € 0.14).

DP AG's address database runs on its proprietary 'black box' system which gives competitors access to encrypted change-of-address information – data that is crucial for continued high delivery quality. The rates approval is valid from 1 January 2009 through 31 December 2011.

PROCEEDINGS INVOLVING ANTI-COMPETITIVE PRACTICES

Improved terms and conditions for worksharing services

By request of the Federal Network Agency DP AG has amended its terms and conditions for the posting of letter items in its mail sorting centres to make them more competition-friendly. Posting times have been extended considerably, as has the assignment of 'posting slots' for worksharing items.

The bulk mail acceptance points at the sorting centres across Germany now have longer opening hours. Letter items can be posted Monday to Friday until 8 pm and on Saturdays until noon. Outside opening hours, items can also be posted while the sorting centre in question is in operation, generally between Sunday night and Saturday noon.

Posting slots for worksharing items were also extended. DP AG may now recall slots after eight weeks of non-use and also adjust them to the volumes actually being posted. Free capacities are now being used more efficiently and can be assigned in line with demand from competitors and customers.

RATES FOR THE SERVICE OF DOCUMENTS

The rates approval procedure for the service of documents is a special form of rates regulation in that here, the regulatory requirements that normally only apply to incumbents' rates extend to all providers of this type of service.

Around 80 approval proceedings were conducted in 2008. 54 percent of applicants requested a licence to offer this service nationwide. To harmonise, accelerate and optimise the approval procedure the Ruling Chamber designed a new application form that can be downloaded from the Federal Network Agency's website.

Besides the classic service of documents (Postzustellungsauftrag, or PZA), in 2005 DP AG and a number of competitors began to offer electronic PZA, where the completed PZA form is centrally scanned and saved as an electronic file.

While there were indications in 2007 that this area would become competitive, the trend did not continue in 2008. Instead the segment is consolidating, with some competitors working together to respond to bids.

Court proceedings

The majority of the Federal Network Agency's decisions have been confirmed.

In the period under review, again several cases were pending against Federal Network Agency decisions concerning postal matters. Most of these had been brought by DPAG concerning the issue of D licences (higher quality services). However, after the expiry of its exclusive licence in 2007 DP AG withdrew over 200 of these cases. Now the market has been fully liberalised since 2008, licensees are free to design their services as they wish.

The following cases were resolved in 2008: On 22 January 2008 (case no. 13 A 4362/00) the Münster Higher Administrative Court dismissed a case brought by DP AG against a request dating back to 1999 for disclosure of various worksharing agreements.

In its ruling the Court refers in particular to the definition of 'worksharing', ultimately following the definition used by the Agency. Under the ruling the term 'worksharing' must be defined on the basis of the fact that the law does not consider 'conveyance' to refer to the pure process of transportation, but in fact includes the entire value process chain from the sender to the addressee. After all, Article 28 of the Postal Act gives the incumbent's customers the possibility to handle parts of the conveyance process themselves. Accordingly, limiting the definition of 'worksharing' to the mere process of transportation is unjustified. DP AG has appealed against the decision; the appeal is pending before the Federal Administrative Court (case no. 6 C 14.08).

On 13 May 2008 (case nos. 22 K 5261/04 and 22 K 3464/06) the Cologne Administrative Court partly upheld a case brought by DP AG against two administrative decisions from the Federal Network Agency concerning fees for access to change-of address information (BK 5b-04-056 and follow-up approval BK 5b-06-056).

In these decisions the Agency had approved the rates for the provision of information from the change-of-address database using the 'black box' system (which included a one-off charge for the provision and installation of a smart card and card reader plus a separate charge per match). As the rates for which DP AG had originally sought approval had been higher, DP AG brought a case for approval of these higher rates.

In case 22 K 5261/04 the Cologne Administrative Court partly upheld the claim and obliged the Federal Network Agency to amend its

administrative decision of 30 June 2004 and approve DP AG's charge of € 0.22 per match for the period 1 July 2004 through 30 June 2006. The Agency had originally approved a fee of € 0.16 after DP AG applied for approval for a charge of € 0.31.

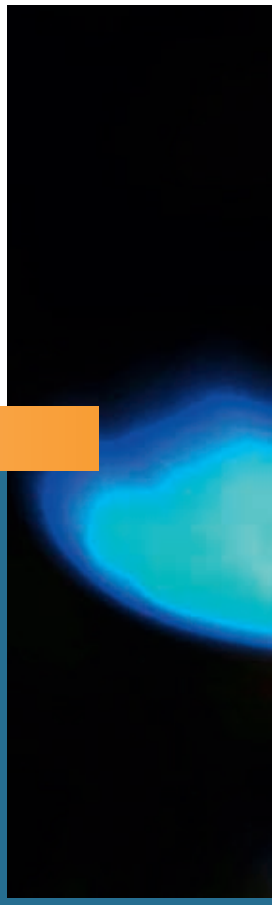
In case 22 K 3464/06 the Agency was obliged to amend its administrative decision of 30 June 2006 and approve DP AG's charge of € 49.92 for the provision and installation of a smart card and card reader (plus postage), the hardware required for access to the change-of-address database, applicable during the period 1 July 2006 through 31 December 2008. The Agency had originally approved a charge of € 48.77 after DP AG applied for approval for a charge of € 78.78. Both parties have requested authorisation to appeal against these decisions. The cases are pending before the Münster Higher Administrative Court (case nos. 13 A 1627/08 and 13 A 1628/08.

Further, the Cologne Administrative Court has handed down four decisions in connection with the European Court of Justice's preliminary ruling on whether, under European law, DP AG is obliged to offer the same special rates to consolidators which it offers to business customers that post pre-sorted postal items at the mail sorting centres (ruling dated 6 March 2008 – case nos. C 287/06 through C 292/06). The ECJ ruled in the affirmative.

In case 22 K 6860/05 DP AG had objected to an administrative decision from Ruling Chamber 5 that obliged the company to grant consolidators access to its mail sorting centres under the same terms and conditions as its business customers. The Cologne Administrative Court dismissed the case. The decision constitutes the enforcement of the ECJ decision.

In cases 22 K 6807/05 and 22 K 6808/05 two consolidators had appealed for the Agency to extend the terms and conditions of a worksharing agreement. These two cases, too, were dismissed. The Cologne Administrative Court followed the opinion of the Agency which held that only those providers are eligible to demand worksharing services that have signed a corresponding agreement in their own name with the incumbent.

In case 22 K 7464/01, the enforcement of the ruling handed down by the ECJ has requires the Federal Network Agency to acknowledge the validity of an agreement between the plaintiff and DP AG with the same terms and conditions as one with a large-scale customer on the proviso that the mail items carry a consolidators' mark that identifies the plaintiff; no mark is required to identify the plaintiff's contractual partners. Now the postal market has been liberalised, however, the decision is no longer relevant.



Electricity and Gas

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Market watch

In 2008 the Federal Network Agency once again made an important contribution to increasing competition in the energy sector. In particular the growing number of supplier changes and the further decrease in network charges present a major success. The following comprehensive survey of the German energy market describes this positive market development.

With its work in the energy sector the Federal Network Agency pursues several objectives, such as increasing efficiency in network operations, ensuring security of supply and increasing competition in the energy sector. In doing so the Agency remains focused on the needs of the network users. To increase market transparency, while at the same time fulfilling its regulatory responsibilities in the areas of gas and electricity, the Agency is obliged under sections 35 and 63 (4) of the Energy Act (EnWG) to perform an annual monitoring and to publish an annual monitoring report.

The monitoring report 2008 describes and evaluates the implementation of major provisions stipulated in the EnWG and the corresponding ordinances as well as determinations by the Federal Network Agency. In addition the report contains a detailed analysis of the developments in the regulated and competitively organised areas of the value-added chain in the energy industry.

CHANGE OF SUPPLIER FOR ELECTRICITY AND GAS

The work of the Federal Network Agency is showing signs of success for the consumer and competition in both the electricity and the gas sector. From 2006 to 2007 the number of electricity supplier changes by household customers doubled, which points to an increasing awareness among consumers as well as reliably working change processes. The significant increase in the price component “energy procurement and distribution” is one of the reasons for the increase in the overall price of electricity for industrial and household customers. For commercial customers the price level remained the same.

In the gas sector the changeover to the two-contract model in 2007 was an important contribution to increasing competition. Slowly but surely the intensity of competition is on the increase, in particular in the wholesale sector.

Particularly noteworthy in this respect is the increase of liquidity of the gas trade at certain important trading points in Germany. The change of supplier among household customers is also on the increase. However, the end customer prices of all customer groups had increased once again at the reference date of 1 April 2008, even though the cross-border prices had decreased overall in 2007.

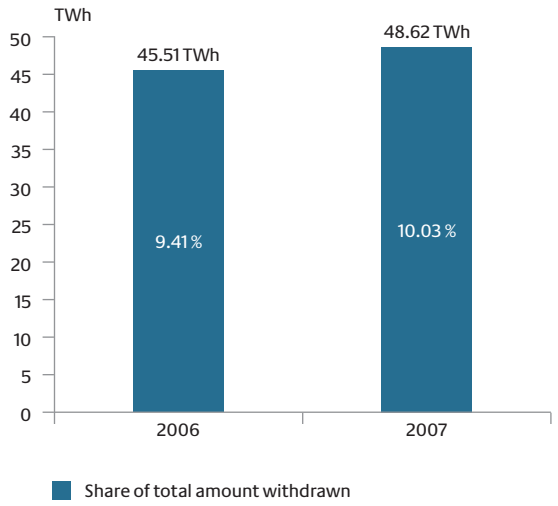
Electricity

The trend in the change of electricity supplier by household customers has been particularly positive. According to the monitoring report 2008 the total volume of change of supplier was 1.8 million, of which 1.35 million can be ascribed to household customers willing to change.

Despite this positive development the supplier change ratio among household customers is still considerably lower than in other customer categories. Compared to the amount withdrawn the change ratio in the two categories "medium-sized industry and trade sector" and "large and very large industrial customers" stood at 9.71 percent and 13.19 percent respectively, while household customers only showed a change ratio of 4.23 percent.

According to information from the distribution system operators (DSOs) for electricity and transmission system operators (TSOs), the total volume of change of supplier by final consumers in 2007 amounted to 48.62 TWh, which is an increase of 3.11 TWh compared to the previous year. This equated to an increase in the supplier change ratio from 9.41 percent in 2006 to 10.03 percent in 2007. The recorded overall amount withdrawn by the final consumer increased from 483.58 TWh to 484.83 TWh in the same period.

Supplier change for electricity

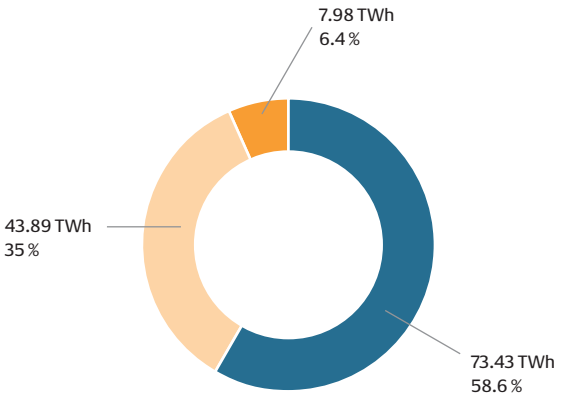


Source: Monitoring reports by the Federal Network Agency

Despite the increased supplier change ratio among household customers, there was no significant increase of electricity supplied outside universal supply[1]. 93.6 percent of household customers are still supplied by the relevant universal supplier in the supply area, and at 58.6 percent over half of those have a universal supply contract. 35 percent have concluded a different contract with their universal supplier. Only 6.4 percent of household customers are supplied by a different supplier than the universal supplier.

[1] Universal supply: Supply contract with the universal supplier at general prices / general tariffs (universal supply contract). Outside universal supply: Supply contract with the universal supplier based on other terms and conditions.

Distribution of supply contracts of household customers for electricity 2007



- Household customers with a universal supply contract from the universal supplier
- Household customers with a different contract from the universal supplier
- Household customers with a contract from another supplier than the universal supplier

Source: Monitoring reports by the Federal Network Agency

Gas

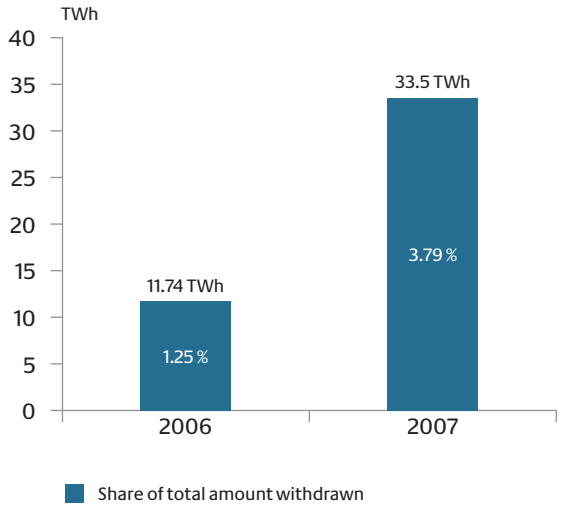
In the gas sector the Federal Network Agency created important prerequisites for the development of more competition, thus offering the consumer suitable opportunities for changing supplier. A very important contribution in this regard was the Agency's decision about standardised Business processes for switching gas supplier (GeLi Gas) and the accompanying standardisation of processes and data formats.

The first signs of a positive trend in terms of competition are also recognisable by the number of supplier changes. According to the monitoring report 2008 the total volume of change of supplier stood at nearly 133,000 million customers, of which 131.500 million can be ascribed to household customers willing to change.

In general an increase in the change of supplier can be observed in all customer categories; however, the value of the individual categories varies greatly. Compared to the overall take-off capacity , the change ratio for gas-powered plants (8.06 percent), for "large and very large industrial customers" (4.76 percent) and the two categories "medium-sized industrial and trade customers" (6.2 percent and 1.78 percent respectively) was higher in 2007 and even in 2006 than the change ratio for the category "household customers and small trade". The change ratio in the last category stood at 1.23 percent in 2007 (0.04 percent in 2006).

The overall volume of supplier changes remained at a low level. However, in terms of quantity 2007 saw an increase of 21.76 TWh in the overall volume of supplier changes, as recorded by information from the DSOs (gas) and TSOs. While the amount in 2007 stood at 33.5 TWh, only 11.74 TWh were achieved in 2006. This is consistent with a significant increase in the average quantity-related change ratio, which rose from 1.25 percent in 2006 to 3.70 percent in 2007. During the same period the

Supplier change for gas



Share of total amount withdrawn

Source: Monitoring reports by the Federal Network Agency

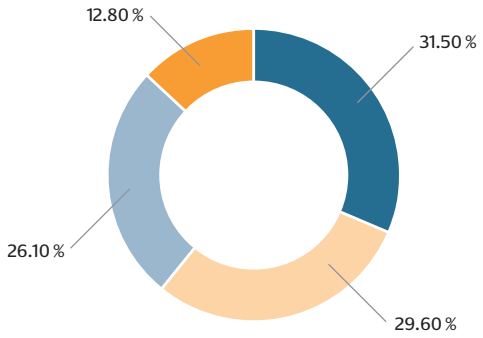
recorded take-off capacity for final consumers decreased from 922.38 TWh to 876.27 TWh.

COMPOSITION OF THE ELECTRICITY AND GAS PRICES

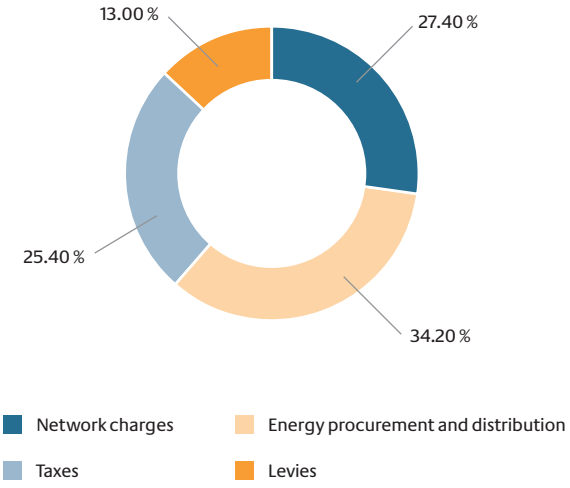
Electricity

At the reference date 1 April 2008 the network charges for household customers (universal supply) amounted to 27.4 percent of the overall electricity price; on 1 April 2007 this figure stood at 31.5 percent. In 2008 the network charges (including charges for billing, measuring, and metering point operation) therefore had, for the first time, a lower share in the overall electricity price than the price component "energy procurement and distribution" with its 34.2 percent. Due to the large increase in the price component "energy procurement and distribution", the share of taxes (energy tax and VAT) decreased slightly from 26.1 percent to 25.4 percent. The share of other price components required by the government (RE and CHP surcharge, licence charge) increased slightly to a total of 13.0 percent.

Composition of the electricity retail price levels for household customers 2007*



Composition of the electricity retail price levels for household customers 2008*

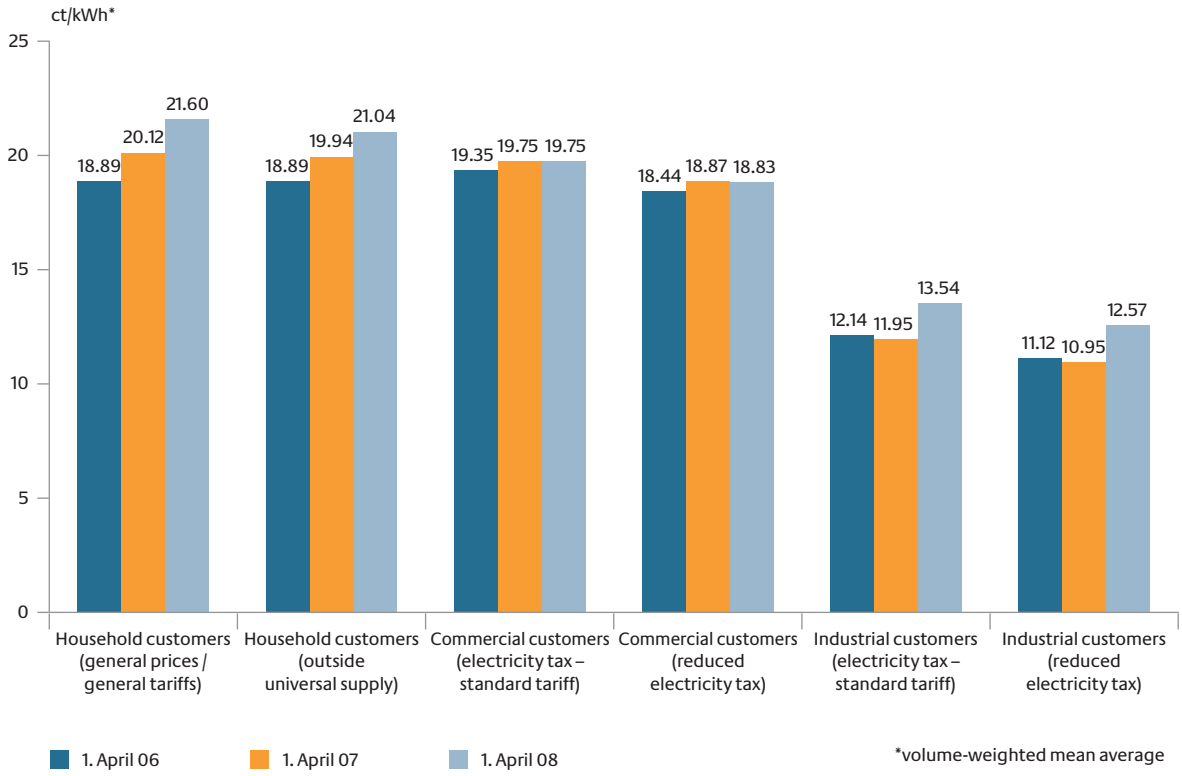


* Household customers with a contract from the universal supplier at general prices / general tariffs

As of: 1 April 2007 or 1 April 2008
Source: Monitoring reports by the Federal Network Agency

On 1 April 2008 the mean averages of overall electricity prices weighted by volume were between 12.57 ct/kWh and 19.75 ct/kWh for industrial and commercial customers. For household customers it becomes apparent that universal supply (general prices / general tariffs) with a mean average of the overall electricity price standing at 21.60 ct/kWh was the most expensive form of electricity supply at that point in time. Outside universal supply the volume-weighted average total stood at 21.04 ct/kWh on 1 April 2008.

Electricity prices 2006 to 2008

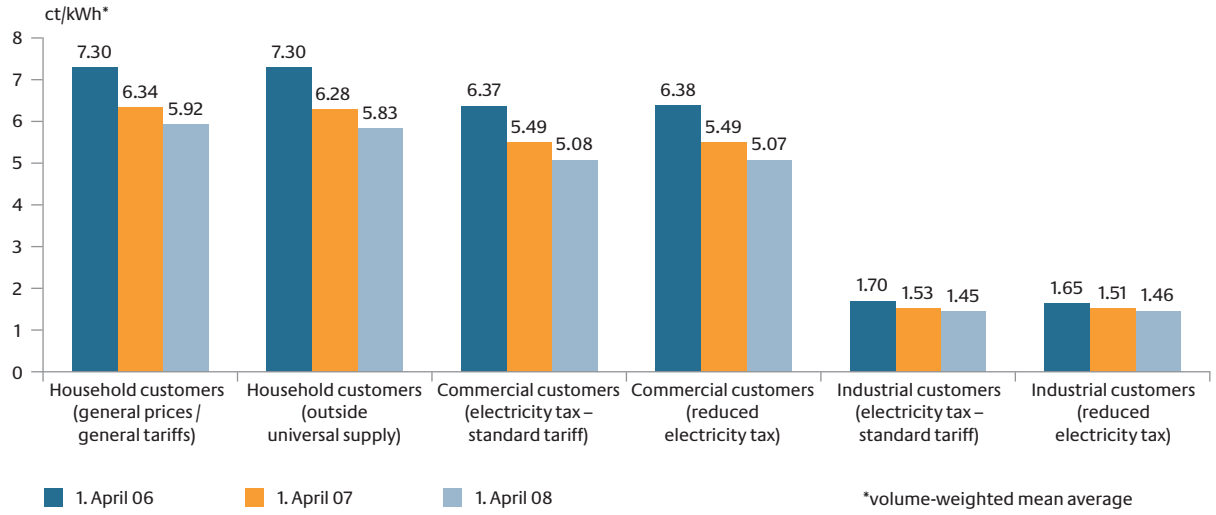


On 1 April 2006 the mean averages for the electricity price for household customers with a contract based on general prices / general tariffs and outside universal supply are identical, since no distinction was made between the two categories at that stage of the data collection.

Source: Monitoring reports by the Federal Network Agency

The Federal Network Agency has been particularly successful in its work connected to the development of volume-weighted network charges. In all customer categories investigated it was possible to reduce network charges in 2008. For universal supply (general prices / general tariffs) of household customers, a renewed reduction of network charges by 6.33 percent was determined, following a previous reduction of around 13 percent between 1 April 2006 and 1 April 2007. On 1 April 2008 the volume-weighted network charges for all Eurostat categories investigated were between 3.31 percent and 7.65 percent lower than on 1 April 2007.

Electricity network charges 2006 to 2008

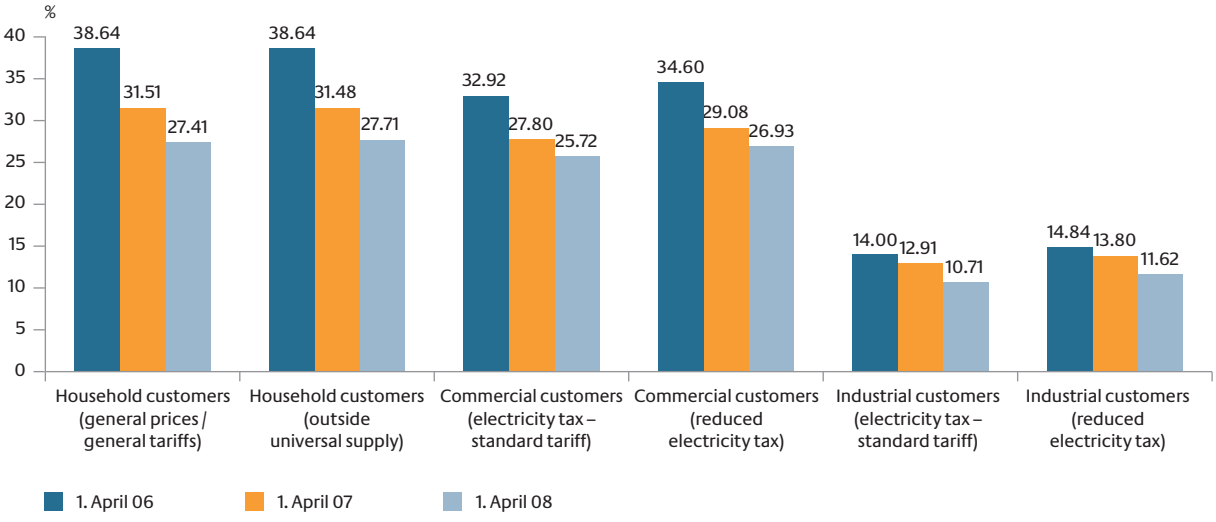


On 1 April 2006 the mean averages for the electricity network charges for household customers with a contract based on general prices / general tariffs and outside universal supply are identical, since no distinction was made between the two categories at that stage of the data collection.

Source: Monitoring reports by the Federal Network Agency

Due to cutbacks in network charges and the price increase of other price components, such as energy procurement and distribution, the share of network charges in the overall electricity price has decreased disproportionately in all customer categories. For household customers in the segment "general prices / general tariffs" for example, it decreased between 2006 and 2008 from 38.64 percent to currently 27.41 percent.

Share of network charges in the electricity price from 2006 to 2008



On 1 April 2006 the share of electricity network charges for household customers with a contract based on general prices / general tariffs and outside universal supply are identical, since no distinction was made between the two categories at that stage of the data collection.

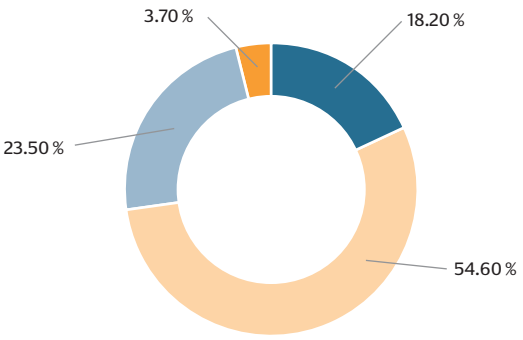
Source: Monitoring reports by the Federal Network Agency

Gas

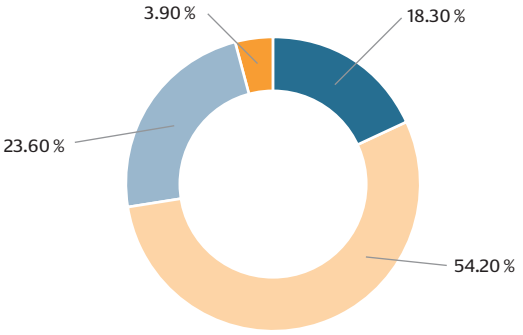
For the supply of household customers (universal supply) the price component "energy procurement and distribution" represents the largest share of the gas price with 54.2 percent on 1 April 2008. Compared to the previous year this price component has only decreased slightly (54.60 percent on 1 April 2007). The share of taxes (gas tax and VAT) was almost unchanged at 23.6 percent (23.5 percent in 2007). In this customer category the 2008 network charges presented the third largest share in the overall gas price, standing at 18.3 percent (18.2 percent on 1 April 2007). The total share of other price components required by the government rose slightly from 3.7 percent to 3.9 percent.

The volume-weighted, mean average total gas price for commercial customers stood at 6.06 ct/kWh in 2008 and 4.52 ct/kWh for industrial customers. For household customers being supplied at general tariffs/general prices (universal supply), the volume-weighted, mean average stood at 6.90 ct/kWh. For household customers being supplied outside universal supply the volume-weighted mean average stood at 6.51 ct/kWh.

Composition of the gas retail price levels for household customers 2007*



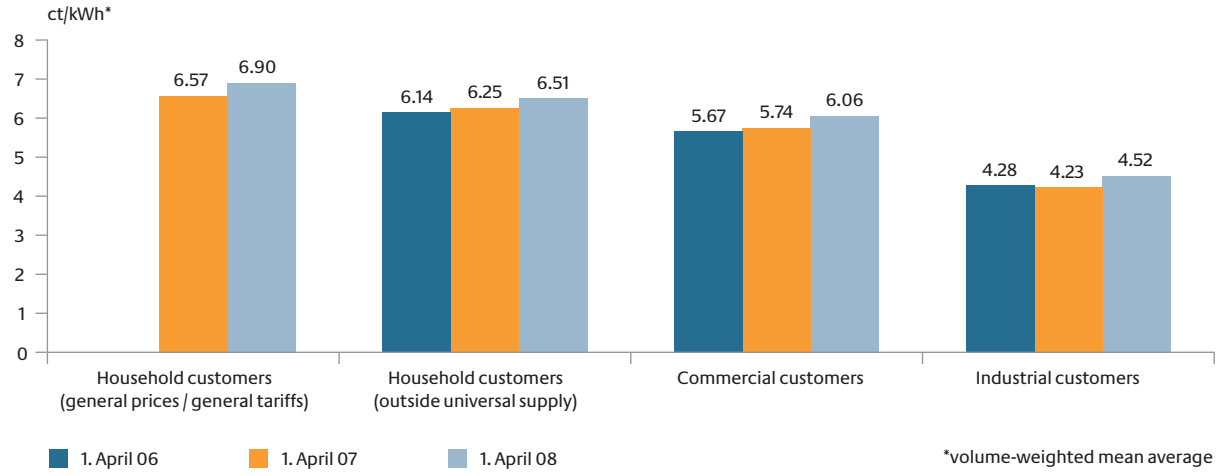
Composition of the gas retail price levels for household customers 2008*



*Household customers with a contract from the universal supplier at general prices / general tariffs

As of: 1. April 2007 or 1 April 2008
Source: Monitoring reports by the Federal Network Agency

Gas prices 2006 to 2008

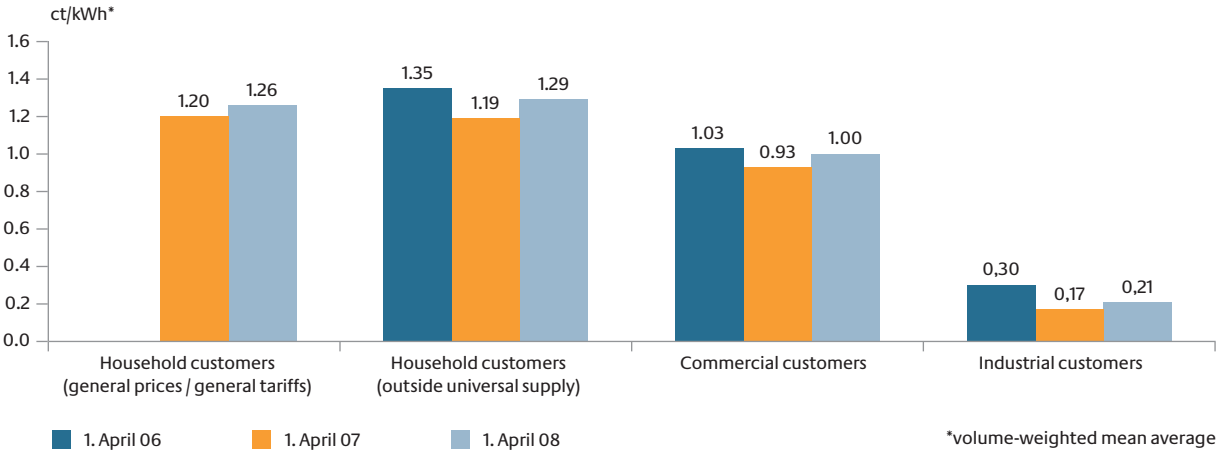


On 1 April 2006 no data was collected for the gas price for household customers with a contract based on general prices / general tariffs.

Source: Monitoring reports by the Federal Network Agency

The cost reductions of approx. € 450 million, achieved by the Federal Network Agency during its first round of approvals for network charges, have led to a reduction of the average network charges when comparing the charges on 1 April 2006 with those on 1 April 2007. Overall a slight increase in network charges was found to exist across all customer categories on 1 April 2008. This development is in particular due to the decrease in the domestic consumption of natural gas over the last two years. Accordingly the largely fixed cost volume for the network maintenance (capital assets) spreads across a lower gas take-off capacity - consequently, the costs (network charges) related to the kilowatt hour of gas withdrawn increase.

Gas network charges 2006 to 2008

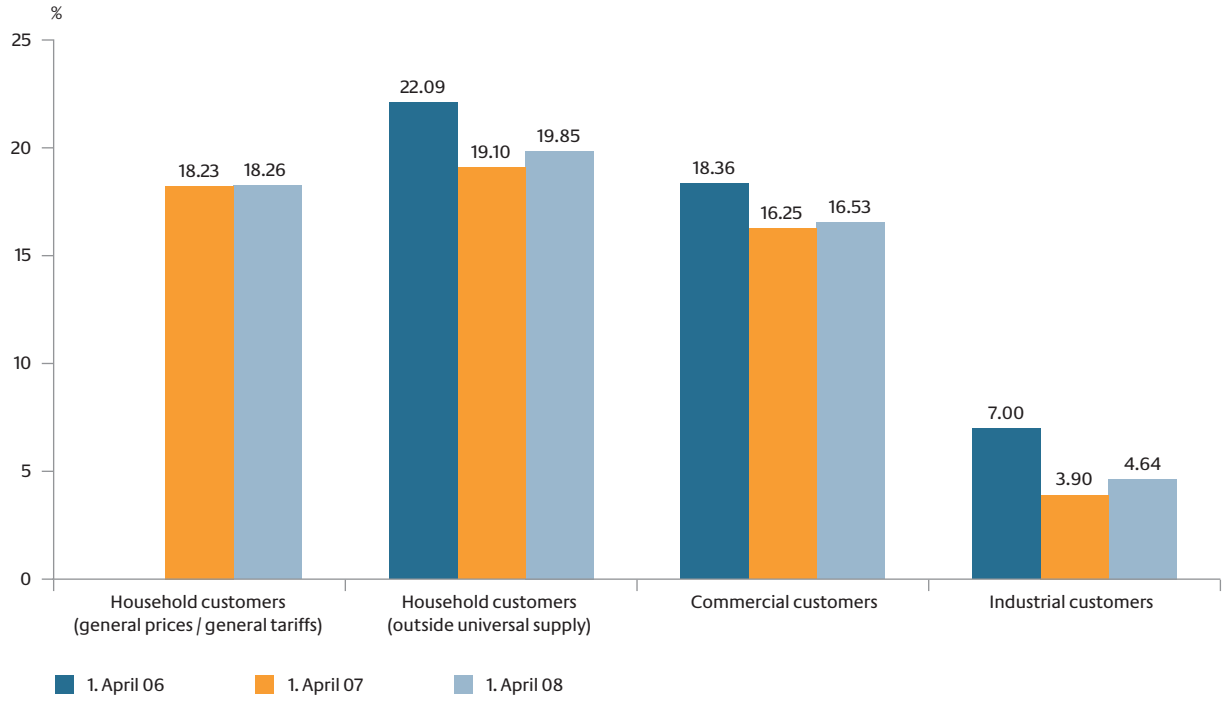


On 1 April 2006 no data was collected for the gas network charges for household customers with a contract based on general prices / general tariffs.

Source: Monitoring reports by the Federal Network Agency

Another consequence of the decreased domestic gas consumption is the development of the share of volume-weighted network charges in the overall gas price, which shows a slight increase in the share of the network charges in the overall price of gas.

Share of network charges in the gas price from 2006 to 2008



On 1 April 2006 no data was collected for gas price and the network charges for household customers with a contract based on general prices / general tariffs.

Source: Monitoring reports by the Federal Network Agency

INVESTMENTS IN THE NETWORK

Since 2006 the Federal Network Agency has been collecting data on the actual and planned investments in the electricity and gas sector on an annual basis. Due to the relatively short period of data collection the Agency does not yet have a reliable statistical series in order to generate trends in investment behaviour. Nevertheless the data collection provides important insights into deviations from the plans of undertakings.

Electricity

In 2007 the German TSOs spent approximately €884 million on expanding, preserving, maintaining and repairing the network infrastructure (including cross-border connections). That was approximately €170 million less than originally planned by the TSOs. Compared to 2006 approximately €38 million less were invested or spent in 2007. Almost half of all investments and expenditure was used on expanding existing network structures.

In the plans of the TSOs a total of €1,377 million had been earmarked for investments and expenditure in 2008. It remains to be seen whether these investments and expenditure were made in full in 2008. With regard to long-term planning 2007, the investment volume stated for the period from 2009 to 2017 is €5,405 million. It is therefore lower than assumed in 2006 for the reference period 2008 to 2016 (€6,282 million). The annual mean average in both periods under review is below the actual values from the years 2006 (approximately €922 million) and 2007.

In 2007 the German DSOs (electricity) invested or spent approximately €5,108 million for expanding, preserving, maintaining and repairing the network infrastructure. Approximately €1,179 million, and thus almost a quarter of the entire investments and expenditure, were used for expanding existing network structures.

In the plans of the DSOs (electricity) a total of €5,328 million had been earmarked for investments and expenditure in 2008. Here, too, it remains to be seen whether these measure were fully implemented in 2008.

Gas

Due to the quality of the data provided by the network operators, statements about the actual developments of investments in the gas sector are only possible on a limited scale.

According to information by undertakings the German TSOs spent approximately €900 million on expanding, preserving, maintaining and repairing the network infrastructure in 2007 (including cross-border connections). Therefore the actual values have exceeded the planned values of €710 million by nearly €190 million. Almost half of all investments and expenditure was spent on expanding existing network structures.

According to information by German DSOs (gas) approximately €1,531 million was spent on expanding, preserving, maintaining and repairing the network infrastructure in 2007. Almost a third of this total amount (approximately €496 million) was used for expanding existing network structures.

The plans of the DSOs (gas) envisaged investments and expenditures amounting to a total of €1,628 million for 2008, with the share for network expansion increasing to approximately €565 million. It remains to be seen whether these investments were fully implemented in 2008.

Activities and proceedings

In 2008 the work of the Federal Network Agency in the energy sector was largely characterised by proceedings for approving gas and electricity charges, the preparations for the introduction of incentive regulation and the determination on so-called pipeline competition for TSOs (gas) as well as the Basic model for balancing services and balancing rules in the gas sector (GABi Gas).

NETWORK CHARGES

Rulings in the second cost review

Under section 23a (1) of the Energy Act (EnWG) the charges for access to the grid required renewed approval in 2008. In this second cost review, which was to be conducted on the basis of the costs in 2006, 236 grid operators covering a total of 251 grid areas had submitted an application for approval of network charges under section 23a EnWG. Of those 87 grid operators (102 grid areas) were subject to general federal responsibility. This applies if an undertaking has more than 100,000 customers and/or operates a network across more than one federal state. Where these criteria are not met, the operators were included in the remit of the state regulatory authority. However, the Federal Network Agency has assumed the responsibility of state regulatory authority for a number of federal states, operating through an official delegation of powers. The states concerned are Berlin, Bremen, Mecklenburg-Western Pomerania, Lower Saxony, Schleswig-Holstein and Thuringia. 149 applications for an approval of charges were subject to this official delegation of powers. The overall cost volume applied for by the grid operators amounted to around €20.4 billion.

Prior to the second round of approvals some smaller grid operators without any major changes in their cost situation had had the opportunity to apply for an extension of their network charges approved in the first round. This opportunity was taken up by 135 grid operators (cost volume approximately € 800 million), leaving the network costs of 87 grid operators under federal responsibility and 14 grid operators under an official power of delegation to be reviewed. The second cost review was fully completed in 2008.

The first set of approved charges for gas network operators expired on 31 March 2008. The gas network operators were therefore obliged under section 23a (3) sentence 1 EnWG to submit a new application for their charges by 1 October 2007. By then the Agency had received a total of around 225 applications. Of these around 129 smaller gas

network operators (118 through an official delegation of powers) with largely unchanged cost blocks had their final approval of charges from the first round extended until 31 December 2008, as per application. These extended decisions form the basis of incentive regulation, as agreed with the applicants.

With regard to the remaining 96 applications the cost review was completed by the middle of 2008. Of those 59 applications were subject to the responsibility of the Federal Network Agency. The other applications were decided upon through an official delegation of powers for the states of Schleswig-Holstein, Mecklenburg-Western Pomerania, Lower Saxony, Bremen, Berlin and Thuringia.

Due to special circumstances, such as the establishment of a new network, three applications were submitted and decided upon at a later stage. The approvals issued were limited until 31 December 2008, just like the extended decisions, and will also form the basis of incentive regulation.

Key points of the review

The key points of the review for the first round of approval in the electricity sector, which primarily focused on the estimated cost positions "depreciation", "return on equity" and "corporation tax", were extended. In this round of approval the network history was one key point of the review, allowing for a better assessment of the value of the existing investment holdings and thus their theoretical deductibility. For this purpose the Federal Network Agency defined new index series to calculate the actual replacement value of the fixed assets, since the methods applied to date have resulted in an oversubscription of the assets. An in-depth review of the operative costs for the network operation was also required, especially since the network operators had for the most part been legally unbundled by then. In this respect the review was to determine whether the often cited rationalisation efforts, such as through the use of service providers, were also reflected in lower costs. The prices for metering and billing for example were scrutinised more closely and differentiated in order to create more room for a competitive structure for operating metering points.

With regard to the calculation of system charges the competent ruling chamber has required the network operators to also take into account the purchase of pumping electricity from pumped storage plants for their trial balance calculations. That means that, analogous to all other power plants, the purchase of electricity from pumped storage plants is subject to system charges. This prevents a distortion of competition in favour of the pumped storage plants for the provision of system services. By spreading the total costs requiring approval to a larger volume – brought about by the obligation of paying system charges for the purchase of pumping electricity – the system charges actually decrease.

The key points of the review of the gas sector were expanded when compared to the first round of approval. While the review in the first round focused primarily on the capital costs (review of depreciation, method of calculating interest etc), this round also examined the operative costs (eg charges for operational management) much more closely.

Average curtailment potential

As a consequence of the network cost review in the electricity sector significant cost reductions of an average of 5 percent were achieved compared to the first round.

In the gas sector the second round of approval for charges largely confirmed the first round. Slight cost reductions were achieved. However, due to sometimes significant structural changes within individual companies it is not possible to directly compare the first and second round of approval.

Determination regarding equity interest rates

In mid-2008 the Federal Network Agency determined the equity interest rate for operators of gas and electricity supply networks to be applied in the first regulation period of incentive regulation. The obligation to set new equity interest rates is based on section 7 (6) of the network charges ordinances. Until now the equity interest rates were determined by the ordinances and were set at 7.91 percent for new plants (electricity) and 9.21 percent respectively (for gas). From 2009 the equity interest rates are standardised for all electricity and gas networks at 9.29 percent for new plants and 7.56 percent for old plants. The Federal Network Agency determined these rates for all operators of electricity and gas networks under its responsibility as well as network operators for which the Agency is responsible through an official delegation of powers.

The framework for determining the equity interest rate is provided by the network charges ordinances. The equity interest rate for new plants is composed of the running yield of fixed-interest securities by domestic issuers plus a risk supplement. The running yield is determined in line with the procedures used to date for approving charges under section 23a of the EnWG and is set at 4.23 percent. In order to determine the risk surcharge the Capital Asset Pricing Model (CAPM) was used as a capital market oriented approach. In addition the Federal Network Agency used the interest rate of the capital employed by network operators in other European countries to determine an appropriate risk surcharge. This revealed that the risk supplement of 3.59 percent, determined by the Agency, is higher than comparable figures in other European countries. Since this is an equity interest rate before tax, the corporation tax had to be taken into account when determining the interest rates.

Approval of individual network charges pursuant to section 19 (2) of the Electricity Network Charges Ordinance (StromNEV)

In 2008 the Federal Network decided on a total of 73 applications under section 19 (2) StromNEV. In doing so a distinction must be made between approvals under section 19 (2) sentence 1 StromNEV (deviation of individual maximum demand per annum from maximum network demand) and approvals under section 19 (2) sentence 2 StromNEV (continuous and comparably high volume of electricity purchased). In cases under section 19 (2) sentence 1 StromNEV the competent ruling chamber 26 has issued 26 approvals. A further 12 proceedings were dropped. Under section 19 (2) sentence 2 StromNEV 26 approvals were issued and 4 proceedings were dropped. A total of 5 applications for approval of an agreement under section 19 (2) sentence 2 StromNEV were

rejected, because the criteria for a positive decision were not fulfilled in these cases. The majority of approvals were issued to the chemical industry and the cement industry.

At the end of 2008 the Federal Network Agency completed a consultation procedure on the guidelines for the approval of individual network charges under section 19 (2) sentence 1 and 2 StromNEV. The guidelines serve to provide the affected final consumers and the network operators with transparent and comprehensible interpretation principles, which enable them to assess the concrete requirements for an approval under section 19 (2) sentence 1 or 2 StromNEV even before submitting an application. Furthermore the guidelines are to help the parties involved to assess which details and documents the Agency requires in concrete cases to be able to process an application submitted under section 19 (2) StromNEV.

Pipeline competition

In 2008 the Federal Network Agency decided upon a total of ten cases regarding the so-called pipeline competition of TSOs (gas). The decisions ruled that the undertakings Dong Energy Pipelines, Eni Gas Transport Deutschland, E.ON Gastransport, Erdgas Münster Transport, Gasunie Deutschland Transport Services, Gaz de France Deutschland Transport, Ontras-VNG Gastransport, RWE Transportnetz Gas, Statoil-Hydro Deutschland, and Wingas Transport are not exposed to pipeline competition. The decisions outline that the network operators have significant market power and are therefore not restricted in their behaviour by other competitors.

The rejection of pipeline competition is based on a variety of arguments. The classic parameters of market share, for example, clearly indicate the market power of most of the reviewed TSOs. Furthermore the network users have no opportunity to switch to alternative offers because most of the capacity is already booked up in the long-term. And the regular practice of distributors affiliated to the system operator, to have the gas transport handled by their own fellow affiliate, is another indicator against effective competitive pressure. In addition there are no signs that the network operators had actively tried to market their capacities.

And finally there are significant market entry barriers for new undertakings, so that no potential pipeline competition could be found either. Examples of these market entry barriers are approval and authorisation procedures in connection with planning and environmental laws, which must be undergone before building a new pipeline, the larger scope of established network operators in their pricing and the fact that investment costs are usually sunk costs. These sunk costs arise primarily from the necessary construction of new pipelines and present an additional risk for the newcomer. A fast and aggressive price policy of the “established” will make it difficult or impossible for the “newcomer” to generate his sunk costs. Therefore the newcomer will not enter the market in the first place and the impending market entry is no longer an effective threat.

Now the undertakings mentioned above must submit documentary evidence of their costs to the Federal Network Agency. On that basis the Agency will then review the costs and approve charges for these undertakings for the first time. As of 1 January 2010 these undertakings will be subject to incentive regulation.

Contributions to the infrastructure

The claim of contributions to the infrastructure by the network operators was the reason for numerous and repeated enquiries and complaints to the Federal Network Agency, in particular from users at network levels above low voltage. The main issue were the calculation methods applied for determining the contributions to the infrastructure, which are often incomprehensible to the user and were therefore considered to lack transparency.

The Agency has therefore developed its own calculation model, which on the one hand meets the legal transparency requirements while on the other hand being an effective control mechanism to prevent overdimensioned and inefficient networks. In addition the effort for calculation and control will be appropriate for the revenue generated by the contributions to the infrastructure. Contributions to the infrastructure that are determined on the basis of this power rate model are deemed appropriate by the Agency.

In the interests of a standardised concept for the collection of contributions to the infrastructure the Agency has also published relevant application principles for higher network levels.

Further determinations and proceedings in the gas sector

The Federal Network Agency committed 10 operators of supraregional transmission systems under section 3 (3) of the Gas Network Charges Ordinance (GasNEV) in connection with section 65 EnWG to calculate their network charges on the basis of their costs and to submit an application for approval of their gas network charges within two month (cf page 147). Against this background the Agency has set out stipulations for applications for the approval of gas network charges as well as determined price indices that are to be applied for calculating the actual replacement value under section 6 (3) GasNEV. Both determinations are based on the relevant determinations from 2007.

One application for abusive practice proceedings under section 31 EnWG was rejected. The review concerned a network operator who, in the case of a separate network charge, had not charged the network customer the mixed average charge (for rolling over the charges of all up-stream market zones spanning network operators) determined in the context of rolled-over costs/charges, but the charge for the up-stream network operator, for which direct lines could have been built.

Preparations for the introduction of incentive regulation

The introduction of incentive regulation on 1 January 2009 established a new regulatory regime for operators of the German electricity and gas supply networks. The legal basis for this is the Incentive Regulation Ordinance (ARegV), which entered into force on 6 November 2007. The objective of incentive regulation is to provide network operators with an incentive for an efficient provision of services. An undertaking that manages to reduce its costs below the set level will increase its profit. In the system of cost regulation used to date (“Cost Plus”) this was not the case.

In order to determine the network operators’ revenue caps, which form the basis for incentive regulation, efficiency comparisons must be carried out. These serve to determine how efficient a network operator is compared to the other operators. The efficiency value, which is

determined individually for each undertaking on the basis of the result most favourable for the network operator, is included in the formula for determining the revenue caps.

The first regulation period for incentive regulation began on 1 January 2009 and will last five years (section 3 (1 and 2) ARegV). In derogation of this the first regulation period for gas network operators will be 4 years under section 34 (1b) ARegV.

Results of the efficiency comparison in the electricity and gas sector

In 2008 the Federal Network Agency conducted separate efficiency comparisons for the operators of DSOs (electricity), DSOs (gas), TSOs (gas) and TSOs (electricity). For the nationwide efficiency comparison of the DSOs (electricity) the Agency received data from 199 networks. In addition to the parameters for comparison (number of connecting points, size of the coverage area, line length and contemporaneous maximum demand per annum), which are stipulated by section 13 (4) ARegV, the efficiency comparison for the electricity sector used a further seven parameters for comparison that had been determined with the help of scientific methods. For the DSOs (electricity) the comparison showed efficiency values ranging between 79.5 percent and 100.00 percent, with an average efficiency of 92.2 percent.

The efficiency values for the DSOs (gas) were determined on the basis of a nationwide efficiency comparison, for which the Federal Network Agency received data from 187 networks. In addition to the parameters for comparison (number of connecting points, size of the coverage area, line length and contemporaneous maximum demand per annum), which are stipulated by section 13 (4) ARegV, a further six parameters for comparison were used for the gas sector. The comparison of DSOs (gas) revealed an average efficiency of 87.3 percent. The efficiency values of the individual network operators range between 56.4 percent and 100.00 percent.

For operators of electricity and gas networks, whose efficiency value is below 60 percent, section 12 (4) ARegV stipulates the application of an efficiency value of 60 percent for the calculation of revenue caps.

For the TSOs a national efficiency comparison was conducted, too. This comparison included data from 9 transmission systems. Due to a low number of undertakings for comparison, their efficiency was only compared using the Data Envelopment Analysis (DEA). Furthermore the econometric cost driver analysis was performed on the basis of data from American TSOs. In addition results from internationally comparable studies were used. The thus determined efficiency is 91.7 percent.

The low number of just 4 TSOs in Germany prevented the use of parametric and non-parametric efficiency comparison procedures (DEA and SFA – Stochastic Frontier Analysis) on a purely national level. For this reason the ARegV provides for an international efficiency comparison in order to determine the efficiency values of these undertakings. The preparation and performance of this international project was carried out by the CEER work group on incentive regulation (Workstream Incentive-based Regulation and Efficiency Benchmarking – WS EFB), presided over by the Federal Network Agency. The efficiency comparison under section 22 ARegV included 20 TSOs from

the following 15 countries: Denmark, Germany, Finland, Great Britain, Austria, Italy, Lithuania, Luxemburg, Netherlands, Poland, Portugal, Spain, Sweden, Czech Republic, and Cyprus. Due to the small volume of data the application of the SFA was not appropriate for this efficiency comparison either. The efficiency values of these undertakings, determined on the basis of DEA, are on average 88 percent.

Determinations regarding the setting of revenue caps for incentive regulation

In the electricity sector the Federal Network Agency initiated 242 ex officio proceedings to determine the revenue caps under section 4 (1 and 2) ARegV in conjunction with section 21a (2) sentence 1 EnWG.

In 97 of these proceedings (4 of those TSOs) the Agency acted under federal responsibilty, in 145 proceedings under an official delegation of powers. According to section 24 ARegV those DSOs (electricity) that had fewer than 30,000 customers connected to their network had the opportunity to participate in a so-called simplified procedure. The simplified procedure exempts them from the obligation to participate in the efficiency comparison and the accompanying obligation to transmit data in connection with this comparison. The efficiency value for determining the revenue caps of undertakings participating in the simplified procedure was set at a standard rate of 87.5 percent. 136 DSOs (8 under federal responsibility, 128 under an official delegation of powers) made use of this opportunity to participate in the simplified procedure. By 28 February 2009 130 determinations on revenue caps were made under the simplified procedure and 82 determinations under the normal procedure.

All DSOs (electricity) were informed at the outset about their individual efficiency values, which result from the efficiency comparisons. The parameters used in the model were provided to the DSOs in August 2008. In addition the Federal Network Agency also conducted an information event for the electricity sector about the general methodology of the efficiency comparison, held as part of the administrative proceedings on 22 September and 25 September 2008. All affected network operators that were under the responsibility of the Agency had been invited to this event.

By 31 December 2008 three determinations about revenue caps were made under normal procedures. Overall a significant delay has been recorded. This is partly due to the fact that many undertakings revealed a large number of particularities in their network structure and their network operation, despite relatively high efficiency values. Furthermore the undertakings claim that individual cost driving parameters had not been taken into account. Both is done in order to achieve an improvement of the efficiency value by means of section 15 ARegV. Virtually every network operator that is not certified as having achieved 100 percent efficiency produced arguments along those lines, which have to be reviewed individually. In addition the cross-period netting for the year 2007 must be performed in the context of determining the revenue caps. A large part of the network operators has been requested for the first time to disclose their actual revenue in order to align that with the approved network costs in terms of the actual development of the supply volumes.

As a result of these examinations most network operators will be granted an increase in the revenue cap by a few percentage points compared to the network costs accepted for the last approval of charges. This resulted, inter alia, from the so-called best-of-four billing in the efficiency comparison and from the increase in the equity interest rate. In addition the network operators had the opportunity in the normal procedures to apply for a lump-sum investment supplement and to make use of an interim arrangement in terms of the additional staff costs for the cost elements that are permanently non-controllable. From the Federal Network Agency's point of view the productivity factor for the first two regulation periods is also very low with 1.25 percent for the first regulation period and 1.5 percent for the second regulation period.

In the gas sector the Agency initiated 214 ex officio proceedings to determine revenue caps. All proceedings were completed by 22 December 2008. In 61 proceedings (8 of those were regional TSOs) the Agency determined the revenue caps under federal responsibility and in 153 proceedings under an official delegation of power. The bases for determining the revenue caps were the cost reviews performed under section 23a EnWG. According to section 24 ARegV those DSOs (gas) that had fewer than 15,000 customers connected to their network had the opportunity to participate in a so-called simplified procedure. This opportunity was taken up by 140 network operators (12 under federal responsibility, 128 under an official delegation of powers).

The individual efficiency values that resulted from the efficiency comparisons were notified to the DSOs in September 2008, together with individual aspects on how the revenue cap was determined. The parameters used in the model were provided to the network operators as early as August 2008. In addition the Federal Network Agency also conducted a hearing about the general methodology of the efficiency comparison, held as part of the administrative proceedings on 14 and 15 October 2008. All affected network operators that were under the responsibility of the Agency and representatives from the relevant associations had been invited to this event.

The average efficiency value of the companies advised under federal responsibility or through an official delegation of powers was 90.4 percent (mean average), after determination of the revenue caps.

The revenue cap volume approved for 2009 (without rolled-over costs) exceeds the base level approved in the last round of cost reviews (cost basis 2006 or in cases of "extension regulations" 2004) by 1 percent. In the simplified procedure the base level is exceeded by nearly 2 percent. The reasons for this are the addition of unaccrued interest (due to past price increases) as the generous lump-sum regulation for the calculation of permanently non-controllable costs under the Incentive Regulation Ordinance (ARegV) in the simplified procedure.

After 2009 the revenue caps will remain more or less unchanged for the remainder of the first regulation period. However, in individual cases there could be significant deviations from the originally approved base level and in terms of the trend of the revenue caps. The effects of cross-period netting also play a role in this context.

In terms of supraregional TSOs the Federal Network Agency rejected the application for pipeline competition (cf page 147). Therefore the supraregional TSOs are subject to the regulation of charges and obliged to apply for an approval of their charges under section 23a EnWG. The initial values determined for the approval of charges will then form the basis for a changeover to incentive regulation from 1 January 2010.

Procedures regulation

In the course of the introduction of incentive regulation a decision had to be taken in 2008 about the handling of system services to be provided by the network operators for the time of the first regulation period. The costs and revenues arising in this context can be declared as permanently non-controllable cost elements, based on the criteria of section 11 (2) ARegV, if they are subject to an "efficient procedures regulation". The consequence of such a classification is that the cost elements are exempt from the stipulated efficiency values in section 16 ARegV and can therefore be passed on to the network user without stipulated efficiency values.

The Federal Network Agency received 74 applications from TSOs and DSOs for recognition of the procurement costs for transmission losses as permanently non-controllable. Furthermore the four German TSOs have submitted applications for the system services to be rendered by them in the form of balancing energy, EEG enhancement, cross-border flow of electricity and cross-border congestion management to be recognised as permanently non-controllable, so that a total of 90 applications had to be decided upon.

In terms of compensation for a cross-border flow of electricity and revenue from cross-border congestion management the applications of the TSOs were granted. In terms of transmission losses, balancing energy and EEG enhancement the network operators' applications had to be rejected since there are still opportunities to influence the costs in these areas, taking into account determinations already made and the voluntarily negotiated agreements presented by the network operators – opportunities that exceed the degree of negligibility demanded by the issuer of the ordinance.

Stipulations by the Federal Network Agency for the determination and procurement of transmission losses

During the period under review the Federal Network Agency passed a determination regarding the procedure for determining the physically caused network losses and the procurement of transmission losses. It is directed at all grid operators with more than 100,000 customers connected directly or indirectly to their network. These stipulations are to ensure that the amount of energy required for balancing network losses is procured in market oriented, transparent and fair procedures, as set out in section 10 StromNZV. The objective of the determination is to promote the complete market integration of the procurement of transmission losses within the legal framework conditions and to remove the intransparencies and inefficiencies still in existence.

At the heart of the determination is the division of the procurement process into one component for a long-term transmission loss that can be forecast in advance and a short-term component. The energy allocated to the long-term component is to be procured by means of invi-

tations to tender, while the short-term component is to be covered by a service provider who will be determined by the network operators by means of a tender. Alternatively there is an opportunity for the operators to procure the energy themselves via a spot market organised in the form of an exchange.

Preparations for the definition of the quality element and monitoring of the supply quality

The Incentive Regulation Ordinance (ARegV) provides for the introduction of quality regulation under sections 18 to 21. Pursuant to section 19 (2) ARegV this can already be introduced during the first regulation period for the electricity sector, provided sufficiently reliable statistical series are available. In contrast the quality regulation for the gas sector shall be launched on the basis of sufficiently reliable statistical series, either at the start of or during the second regulation period.

The quality regulation is to prevent the inherent risk of incentive regulation involving network operators realising the prescribed revenue reductions by not making the required investments in their network and by accepting a deterioration in the supply quality in the medium term. In order to develop the concept for the specifics and implement the quality elements the Federal Network Agency plans to assign consultancy projects for individual subject areas of quality regulation in 2009.

The Agency is monitoring the development of the supply quality in the context of the notification requirement in case of interruptions of supply under section 52 EnWG. In 2008 the Agency has, for example, collected data on interruptions of supply in the grid during 2007. The data from 825 grid operators was analysed and showed that a final consumer was without electricity for an average of 19.25 minutes. In the reporting year 2006 this value was still at 21.53 minutes. This figure means that Germany still ranks at the top of the European countries for quality of supply. The value of 19.25 minutes does not include any interruptions that are due to "force majeure". These cannot be influenced and are therefore not taken into consideration by the grid operators. However, the year 2007 saw a significant increase in interruptions of supply that, according to information by the grid operators, were attributable to "force majeure". One particular reason was hurricane "Kyrill" in January 2007. If this kind of interruption was to be taken into account, the average interruption of supply per final consumer would stand at around 35.67 minutes.

Preparations for the definition of the expansion factor

The Federal Network Agency is making preparations for the application of the expansion factor (section 11 ARegV) to ensure that cost increases of the network operators that are due to a long-term change in their supply responsibility during the regulation period can be taken into account appropriately. It is of particular importance in this connection to ensure that the costs of the integration of decentralised generating plants are adequately reflected in the expansion factor.

Investment budgets

By 30 June 2008 the Federal Network Agency received approximately 300 applications for the approval of investments budgets. The overall volume applied for was approx. €9 billion, of which €7.3 billion can be allocated to the TSOs (electricity), €800 billion to the TSOs (gas),

€900 million to the DSOs (electricity) and approximately €50 million to the DSOs (gas). The network operators submitted their applications on the basis of the guidelines for electricity and gas published in the first half-year. These guidelines contain major aspects for the procedure of the Federal Network Agency and the requirements for submitting an application. After receipt of the applications the Federal Network Agency began to send out requests for additional information from the network operators. After the initial review for completeness had been concluded and the replies by the network operators received, the Agency was able to send out the first invitations for a hearing in December 2008.

ACCESS TO ELECTRICITY SUPPLY NETWORKS

Reports on the condition and development of the grid

By 1 February 2008 the TSOs submitted for the second time the reports on the condition and development of their grid under section 12 (3a) EnWG. In doing so they largely implemented the requirements of the Federal Network Agency regarding the report content. The reports contain, inter alia, planned network expansion measures in 5-year-periods, extending until the year 2027.

In 2008 the TSOs had also reported on the actual implementation of their planned network expansion projects – in particular those planned by 2012 –, based on quarterly reports. Within this period a total of 133 expansion measures are planned, including 16 steps for the integration of offshore wind parks. According to information from the TSO at the end of the fourth quarter, a total of approximately 35 of these expansion measures will be subject to delays or a postponed time frame. Main reasons stated for delays in the implementation of projects were primarily long official approval and authorisation procedures by authorities due to resistance from the local population and some amendments required in the approval procedures of authorities (eg due to the underground cable law of Lower Saxony), but also supply shortages among plant manufacturers, existing uncertainty regarding the implementation of offshore projects and technical reasons.

The Federal Network Agency considers the numerous delayed expansion measures one major reason for the "investment tailback" in the network infrastructure of TSOs, observed in 2007.

Under section 14 (1) in conjunction with section 12 (3a) EnWG, grid operators must draw up a report every two years on the condition of their network and their plans for network expansion and submit this to the regulatory authority upon request. In 2008 the Agency first drew up stipulations for the content of these reports and requested randomly selected network operators to transmit their reports to the Agency in accordance with the stipulations by 1 August 2008, for analysis by the Agency.

Grid connection of offshore wind farms

In 2008 the Federal Network Agency held very intensive talks with undertakings associated with various offshore wind farm projects, to ensure that these projects could be implemented as quickly as possible. In the case of two offshore wind farms located in the North Sea the construction of the network connection was begun due to the advanced development/realisation phases. The Agency was involved in assessing the right point in time for the TSO to make an investment and along with that order the associated plants. The network connections of further offshore wind farms located in the

North Sea are to be realised during 2009. The construction of the network connections for wind farms located in the Baltic Sea is also due to be launched in 2009. Here, too, a realisation of further network connections is expected in the near future.

Market coupling and transparency reports

At the Danish-German border market coupling was established by 29 September 2008. It is conducted by the European Market Coupling Company GmbH (EMCC), registered in Hamburg. The coupling of markets makes it possible to take into account the transmission capacity available between markets when setting a price on the exchanges of the electricity markets involved.

However, deviations from calculations of the load flow and prices do occur on both sides of the border, which led to the suspension of market coupling on 8 October 2008 and to a return to the allocation of capacity by means of explicit auctions.

At present the parties responsible, supported by the Danish, German and Norwegian regulatory authorities, are working at resolving the problems that occurred. The EMCC announced a reintroduction of market coupling for the first quarter of 2009.

The region Central Western Europe (Benelux countries, Germany, France), assisted by the Federal Network Agency, has continued to work towards the introduction of market coupling. However, the results of the implementation study on market coupling, which was submitted by the project partners in mid-2008, pointed out that any market coupling based on a flow-based calculation of capacity, cannot be introduced until the end of 2010. For the transitional period there are plans for the introduction of a better co-ordinated, but not flow-based allocation of capacity from March 2010. Under this scheme the allocation of capacity is no longer to be agreed bilaterally between the TSOs of a border, but co-ordinated between the TSOs of a region.

After approval from the European Commission the TSOs of the region Central Western Europe founded the "Capacity Allocation Service Company for the Central West-European Electricity Market" (CASC-CWE) on 1 October 2008. This service provider, in its role as central auction office, conducts the implementation and realisation of the annual and monthly auctions of transport capacities at the borders of the five countries, based on standardised systems and regulations. CASC-CWE will significantly simplify the cross-border trade in electricity in Central Western Europe. CASC-CWE already conducted the annual auction 2009 on 28 November 2008.

The Federal Network Agency has achieved an extensive harmonisation of the transparency requirements across Central Europe. After the transparency reports already published in 2007 and early 2008 in the regional electricity markets of Northern Europe (Denmark, Norway, Sweden, Finland, Germany), Central Western Europe (Benelux countries, Germany, France) and Central Eastern Europe (Germany, Poland, Czech Republic, Slovakia, Hungary, Austria, and Slovenia), Central Southern Europe (Italy, France, Switzerland, Germany, Austria, Slovenia) has now also drawn up a transparency report that was published at the end of January 2009. These four reports are largely identical, with the exception of a few variations caused by regional particularities. The transparency

reports also serve as a model for the transparency report of the region South Western Europe (Spain, Portugal, and France), in which the Federal Network Agency is not involved. The Agency has monitored the implementation of the transparency reports. For the region Northern Europe a report on the monitoring of transparency was published.

International aspects

Pursuant to section 56 EnWG the Federal Network Agency has been entrusted with performing the tasks resulting from Regulation (EC) 1228/2003 on conditions for access to the network for cross-border exchanges in electricity. This assigns great importance to the regional initiatives for electricity and gas, since regional market integration is considered an important interim step on the way to a common market for electricity.

Development of flow-based capacity allocation in Central Eastern Europe

The flow-based system of allocating sparse transmission capacity to network users is part of a new network philosophy. Compared to the present system, which is based on capacity values agreed bilaterally between the TSOs at a border, the flow-based allocation model provided the opportunity to better reflect the physical load flow. This will lead to a more efficient use of available capacity and facilitate the system management for TSOs.

To cope with the complex task the TSOs in the region Central Eastern Europe commissioned an external expert at the end of 2007 to support them in this project. The launch of the flow-based allocation model for the region Central Eastern Europe is expected in the second half of 2009.

Financial Services Working Group

The Financial Services Working Group (FIS) was founded in November 2007. It is headed up by the Vice President of the Federal Network Agency and deals primarily with the interface between financial markets and energy markets. In 2008 the main task of this group was to develop, in co-operation with the Committee of European Securities Regulators (CESR), proposals for improving the market integrity in the trade with electricity and gas. The European Commission had asked both committees for a vote by the end of 2008 on whether or not the current European regulations for the financial market (Market Abusive Directive [MAD] or the Markets in Financial Instruments Directive (MiFID]) are sufficient to prevent market abuse in the electricity and gas trade or to take action against it effectively.

The regulators found that the existing laws for the financial market are not sufficient to prevent market abuse in the trade with electricity and gas. This applies both to the spot market and to large parts of the derivatives trade. Due to the different conditions for electricity and gas the regulators recommend sector-specific regulation that incorporates the requirements of honesty and transparency from the laws for financial markets while at the same time taking into account the specific particularities of both energy sources. From the regulatory authorities' point of view measures must be established to ensure market integrity even on markets such as that for CO_2 emissions certificates as well as oil and coal. These areas have a direct influence on the prices for electricity and gas; damage through market abuse would therefore have direct effects.

A key element of the advisory opinion submitted at the end of 2008 is the demand for a long-term improvement of market transparency at all levels through the creation of a "level playing field" with standardised rules across Europe. They are to make the trade more appealing and enable market players to make quick and sound sales or purchase decisions based on selected data.

In 2009 the FIS will further develop the proposals for the improvement of market integrity in the gas and electricity trade, submitted by the European Regulators Group for Electricity and Gas (ERGEG) and CESR. In addition it monitors the electricity and gas exchanges as well as the advantages and disadvantages of standardised listing requirements for trading across Europe.

Electricity Working Group

The Federal Network Agency is involved in different panels at international level. One important panel is the Electricity Working Group (EWG) of the ERGEG and the related TF (Task Forces). In 2008 the Electricity Network and Markets TF prepared the ground for the eleven network codes of the third package on the internal energy market. The "Guidelines of Good Practice for Operational Security" were developed, made available for public consultation and published on the ERGEG homepage at the end of 2008. Further key points of work were the regulations for the procurement of transmission losses and the development of the "Guidelines of Good Practices" for the cross-border exchange of balancing energy and the connection to power grids and access to those.

Grid connection of power plants

In 2008 the Federal Network Agency held talks with requesting parties and grid operators for four power plant projects, in order to find a suitable network connection point for the power plants to be built as well as bring about an appropriate distribution of costs. When the Ordinance on Grid Connection of Power Plants (KraftNAV) entered into force on 30 June 2007, regulations were passed that aim to achieve a connection of power plants with more than 100 MW to the grid in a fair way, with transparent connection terms. To achieve this, April 2008 saw the first ever creation of a register of all power plants in Germany. The register itself is only available to users, energy supervisory authorities and the regulatory authorities.

The register reveals that by the end of 2008 there were 42 power plant projects in Germany which had already received confirmation of connection to the grid. In terms of conventional energy generation these are in particular coal-fired power stations planned in the north of Germany, with a total capacity of approximately 20.00 MW. The choice of location takes into account the cost-effective and short transport routes for the fuel required and a sufficient supply of cooling water. Furthermore power plants using lignite and a total capacity of approx. 3,600 MW, natural gas with approx. 6,800 MW, run-of-river power stations with approx. 100 MW and storage with approx 200 MW total capacity as well as power plants with a total capacity of approx. 1,600 MW, where the source of energy was not yet known, have already received confirmation of connection to the grid.

The register of connected power plants also shows that 65 parties requesting connection to the grid have made requests for grid connection to the relevant grid operators, but have not yet received a decision. In terms of requests for connection the offshore wind farms are the

most dominant, with a generation capacity of approx. 16,000 MW. Further energy sources are hard coal with approx. 1,100 MW and natural gas with approx. 2,800 MW overall capacity as well as power plants with a generation capacity of approx. 9,000 MW, for which the source of energy is not known yet.

If confirmations for connection to the grid and requests for connection to the grid are implemented, the future could bring the construction of an additional 60,000 MW of installed electrical capacity. However, at present it is not possible to actually state how likely it is that these power plant projects might be realised in terms of requests for grid connection or the confirmations for connection to the grid.

Guidelines for transparency requirements

In January 2008 the Federal Network Agency published the "Leitfaden zu den Internet-Veröffentlichungspflichten der Stromnetzbetreiber" (Guidelines for the internet publication duties of grid operators). The aim of these guidelines is to achieve a complete and preferably standardised publication of relevant data, enabling network users, generators, suppliers or even final consumers to obtain information and compare different grid operators. Before publishing them the Federal Network Agency made these guidelines available to the relevant market players for consultation. Attention was paid to the opportunity of adjusting the guidelines at a later stage.

Furthermore the Agency continued in 2008 to intensively examine the internet publication duties of the grid operators that fall under federal responsibility. Overall this revealed a positive trend toward information being easier to find, complete and presented in a standardised format. However, with regard to individual transparency requirements there are still some deficits in terms of their implementation by the grid operators. The Federal Network Agency is talking to grid operators about these issues.

Liberalisation of metering

When the amended Energy Act (EnWG) and the Metering Access Ordinance (MessZV) entered into force in the autumn of 2008, the Federal Network Agency required various associations and individual market players to draw up, inter alia, framework agreements for the operation of metering points or for the provision of metering services. By mid-December 2008 many varied draft agreements had been received. In preparation for formal determination proceedings by the competent ruling chambers, the associations were asked in mid-December 2007 to submit draft contracts, agreed across all associations, by mid-March 2009 in order to thus accelerate the proceedings.

In a dialogue with the market players the Federal Network Agency has thus laid the foundations, even during the year under review, for setting the framework in 2009 for a market-driven process to comprehensively introduce smart metering as set out in the MessZV and to use its competence to make determinations under section 13 MessZV (cf page 218).

One of the objectives in the context of the liberalisation of metering is the introduction of so-called smart meters, ie the consolidated use of intelligent meters in addition to a communications infrastructure and the services derived from that. In addition to the search for a cost-efficient solution for consumers the processes of data storage, data encryption and data transmission as well as data protection are important

subjects for which the Federal Network Agency will stand up nationally and internationally in order to protect consumers.

Stabilisation of imbalances in capacity

One of the main tasks of the TSOs is to balance the permanent imbalance in the capacity generated and consumed. This task is currently fulfilled by each TSO employing balancing energy on their own authority for their own network. In practice the separate balancing of control areas can result in contradirectional use of balancing energy – also referred to as contradirectional non-harmonised use of balancing energy. On 15 July 2008 the Federal Network Agency initiated determination proceedings with the objective of avoiding such situations arising, thus reducing the demand for balancing energy and the amount of the balancing energy held in reserve and consequently the overall costs for balancing energy. The concepts currently under discussion were submitted for an expert opinion. It is intended to have this expert opinion completed by the spring of 2009.

Parallel to the investigations in the above-mentioned determination proceedings the Federal Network Agency also commissioned expert opinions on the amount of balancing energy held in reserve by TSOs for separate balancing - ie without avoidance of the contradirectional non-harmonised use of balancing energy – in 2008. The investigation into the amount of balancing energy held in reserve completes the determinations made by the Agency in 2006 and 2007 about the procurement of balancing energy. The investigation showed that compared to the present status quo the balancing energy can be reduced by approximately 400 MW while maintaining the same system security. This leads to an annual savings potential of tens of millions. In addition the balancing energy no longer required, which equals the size of a medium power plant, would become available for free electricity trade.

Measures taken by the Federal Network Agency to improve the implementation of supplier changes for electricity

In 2008 numerous consumer complaints and input from suppliers indicated that undertakings have still not fully or only incorrectly implemented the Agency's stipulations for performing an automated supplier change in the electricity sector. Consequently the authority felt compelled to threaten a total of 42 grid operators with administrative fines of up to € 100,000 in individual cases, if the shortcomings established were not remedied within a set deadline.

Recent analyses by the authority about the number of consumer complaints received affirmed the success of these measures. According to these analyses notifications of failed or considerably delayed supplier changes in the electricity sector have decreased significantly. The regulatory authority supports this development in the long term by communicating closely with the affected undertakings and associations, enabling them to recognise technical or organisational problems in the market early on and to provide assistance in their solution.

ACCESS TO GAS SUPPLY NETWORKS

New balancing regulations (GABI Gas)

The legally compliant definition of an efficient balancing system was one of the main areas of work for the Federal Network Agency in 2008. The regulations applied to balancing until that date had required improvements and a more

detailed definition and did not provide the required legal certainty in many areas. One of the areas causing insecurity was the application of the so-called basic balancing factor (BBA factor) provided for in the co-operation agreement. In the old balancing system the BBA factor had considerable effects on the tolerance amounts that transport customers were allowed for balancing. In 2008 this was criticised by some transport customers as abusive in the context of abusive practice proceedings.

In a determination dated May 2008 the Federal Network Agency has comprehensively re-structured balancing in the gas sector. Since the beginning of the new business year of the gas industry on 1 October 2008, new terms and conditions for balancing group agreements in the gas sector have been in force. To date deviations of balances were settled on an hourly basis in all market zones. This short balancing period presented a major obstacle for competitive progress in the gas sector, since products with hourly flexibility were not available on the market and excess supply as well as shortfall supply was registered. In particular new traders were unable to book storage to enable them to respond flexibly to the hourly load fluctuations of their customers, since storage capacity is often fully booked. In addition traders complained that the prices for balancing energy in the market zones were too high. And finally the different regulations in the individual market zones presented a considerable difficulty for traders doing business across Germany.

The "Basic Model for Balancing Services and Balancing Rules in the Gas Sector" (GABi Gas) remedies these flaws, primarily by introducing daily balancing. This provides all balancing group managers with a much longer balancing period, since it is the gas day from 6.00 am to 6.00 pm that counts. The balancing group manager must ensure that the feed-in and take-off at the end of the day are the same. If this is not the case, balancing energy is used which is then settled via the balancing group network operator. The basis for the calculation of the balancing energy charges are the reference prices for the sale and purchase of gas on liquid trade markets (at present Titel Transfer Facility TFT], National Balancing Point [NBP], Zeebrugge, and E.ON Gastransport Virtueller Handelspunkt H-Gas [EGT VP]). The charges are formed on the basis of a two-price model, with a trend for lower compensation for excess supply and higher charges for shortfall supply.

To ensure network integrity and to avoid abuse, daily balancing will be accompanied by an hourly incentive system. Without this incentive system traders might for example feed in their entire gas volume within just one hour, while spreading the take-off across the entire day. If all traders were to behave like this, the security of the gas supply networks could no longer be guaranteed. For hourly deviations a profiling fee will be payable. Since the supply of most final consumers is entered in the balance in so-called daily balancing bands (ie 24 identical standard values), hourly deviations do not occur on a regular basis in these cases. Since daily balancing bands are common on gas spot markets, a further stimulation of competition in these spot markets can be expected.

The balancing group network operator shall keep a contribution account for system energy and balancing energy. This serves to offset the costs and revenues from system energy and balancing energy. Costs may arise for the balancing group network operator through the

procurement of gas volumes, which he needs to use for physically balancing the capacity within the networks (system energy). System energy can also generate revenue, eg when the balancing group network operator has to sell the surplus amount of gas in the network on the spot markets. The contribution account ensures that the system energy and balancing energy system does not affect the operating result, ie the balancing group network operator should not be able to make a profit with the system or have to cover deficits himself. In case a deficit is expected this will be charged as system energy contribution to the balancing group managers, who supply the final consumers with the daily balancing band.

The implementation of the GABi Gas is demanding for all parties involved. It will only be successful if the network operators take their co-operation duties seriously and provide the required data quickly and correctly. The Federal Network Agency actively supports the network operators in the implementation of this determination and publishes relevant notices on the internet.

Gas market zones

Further progress war recorded in the reduction of gas market zones in Germany. However, the network operators have not achieved the objective of reducing the gas market zones to fewer than ten. As of 1 October 2008 there were still 12 market zones, seven of those for H-gas and five for L-gas. The gas network operators have therefore failed to fully meet one of the basic requirements of the Energy Act (section 20 (1b) EnWG) for as few market zones as possible.

The Federal Network Agency has always emphasised this demand for a reduction of market zones in order to increase the liquidity of the gas markets, to simplify the procedures for gas transports and to organise the handling of system energy and balancing energy more rationally. To achieve a further reduction the Federal Network Agency initiated abusive practice proceedings against five gas network operators in August 2008. This had become necessary after the undertakings had withdrawn their agreement to merge the previously existing, separate 5 L-gas market zones to 2 market zones by October 2008. The formal proceedings will be finished in 2009.

The co-operation between E.On Gas transport and bayernets in the new H-gas market zone NetConnect Germany as of 1 October 2008 shows that cross-company co-operation for a simplification of gas transports is possible and can be implemented within a reasonable period of time. The Federal Network Agency expects further reductions of the H-gas market zones from the network operators.

Implementation of the Business processes for switching gas supplier (GeLi Gas)

In 2008 the market players had to implement the stipulations of the Federal Network Agency's determination on the introduction of nationally standardised Business processes for switching gas supplier (GeLi Gas). The decision of 20 August 2007 provides legally binding procedures which must be enacted in case of a change of gas supplier. Furthermore it regulates the exchange of the required information. For this exchange of data the determination provides for a largely automated procedure as well as a standardised electronic format and standardised message types. The affected parties had until 1 August 2008 to implement the system.

During this period for implementation the network operators had to first lay the foundations for the standardised and automated electronic data exchange. For this purpose the Federal Association of German Energy and Water Industries (BDEW e.V.), the German Technical and Scientific Association for Gas and Water (DVGW e.V.) and other market players jointly developed the seven message types required for handling a change of supplier. These were published on 1 April 2008 and form the basis for an adjustment of the IT systems. In August 2008 the associations merged the data formats used for the supplier change processes in the electricity and gas sector and drew up a standardised version of the seven message types. After the end of the consultation these will be available to all market players from 1 April 2009.

The network operators that had fallen behind in the implementation of the determination were heard and requested to regularly report on the progress of their implementation work. In two cases the Federal Network Agency found such significant deficits in the implementation that it threatened the undertakings with the imposition of an administrative fine. In the case of one undertaking this administrative fine finally had to be formally imposed in December 2008. The other undertakings were able to notify the Agency of their complete implementation of the GeLi Gas by the end of 2008.

"Three minus rule"

According to article 6 (5) of Directive (EC) 1775/2005 on conditions for access to the natural gas transmission networks (transmission system regulation), a TSO that considers that it is not entitled for confidentiality reasons to make public all the data required with respect to certain points can seek the authorisation of the competent authorities to limit publication of the entry and exit points of its network. Such authorisation can only be granted if less than three network users have contracted capacity at the same point ("three minus rule").

The Federal Network Agency has received a total of ten applications for restriction of publication under article 6 (5) of the transmission system regulation, of which one was withdrawn. All applications were decided upon in the summer of 2008 and all decisions have become legally final.

The TSOs had applied for a restriction of publication on capacity information in 216 points (maximum technical, booked and available capacity), pressure requirements, historic minimum and maximum utilisation per month and/or annual average load flow). The decisions were based on the decision guidelines published by the Federal Network Agency in December 2007 for applications under article 6 of the transmission system regulations. According to these an approval will only be considered if the transport customer's interest in maintaining confidentiality in a certain point outweighs the interests of the general public in the publication of these data. Based on this strict principle the Federal Network Agency approved only 85 of the points for which a limitation of publication had been applied for. The only information exempt from publication regards the maximum technical and booked capacity and the annual average load flows, while a variety of other information regarding the gas industry must still be published. The approvals relate primarily to exit points for final consumers, where the interests of transport customers in confidentiality are particularly high and the need for transparen-

cy is lower. All approvals are limited until 30 September 2009 at the latest. However, for 19 points this approval expired earlier since the number of network users at these points had by then increased to three or more.

The decision principles published in December 2007 and made available for consultation have therefore also proved successful in individual decisions. The decisions by the Federal Network Agency create a high degree of legal certainty regarding the transparency requirements for individual points. In the near future this will result in a significant increase in the content of these publications, in more discipline in the publications and thus in greater transparency in the gas market. The Federal Network Agency has also assumed a pioneering role at European level, since it was the first regulatory authority to decide on applications pursuant to article 6 (5) of the transmission systems regulation.

New infrastructures

Under the exemption rules of section 28a EnWG (new infrastructures), new interconnections between Germany and other states, LNG and storage systems as well as certain increases in the capacity of existing infrastructures can be temporarily exempt from the regulations for access and charges, provided all the legal requirements, which must be proven by the applicant, have been met. In addition to improved competition and security of supply the EnWG demands, inter alia, such a high investment risk that the investment would not be made without this exemption.

In the summer of 2008 the Federal Network Agency received two applications under section 28a EnWG. Both concern new pipeline projects for an onshore continuation of the planned Baltic Sea pipeline (Nord Stream) from Greifswald. In this context a public hearing was held on 20 November 2008 in which the actual and legal bases for a possible exemption were discussed extensively. In European regulatory practice various pipeline projects have already been exempt from regulation in the long term (in some cases partially). This concerns undersea pipelines between Great Britain and the Netherlands (BBL) and between Greece and Italy (Poseidon). Furthermore part of the Nabucco pipeline has been granted exemption by the Austrian regulatory authority.

The Federal Network Agency made a decision about these applications at the beginning of 2009. According to this the OPAL gas pipeline will be largely exempt from the regulation of network access and charges for a period of 22 years from commissioning. The applications submitted by the OPAL NEL Transport GmbH and the E.ON Ruhrgas Nord Stream Anbindungsleitungsgesellschaft mbH for the pipeline projects OPAL and NEL regarding exemption from regulation were therefore largely granted for OPAL, with supplementary conditions. For NEL the applications were rejected.

Co-operation agreement

Under section 20 (1b) EnWG the operators of gas supply networks are obliged to co-operate to a large extent in order to organise network access under the so-called two-contract model. This is to ensure simple and efficient processing of network access for gas traders. In order to specify the details the network operators have concluded a multilateral contract in the form of a co-operation agreement, which regulates all details and contains standardised terms and conditions for network access. The BDEW,

the Association of Local Utilities (VKU) and the European independent distribution companies of gas and electricity (GEODE) have assumed responsibility for the regular update of the co-operation agreement in line with amended legal framework conditions. With an amended version of 29 July 2008 the text of the agreement was revised for the second time compared to the original version dating back to the year 2006.
This version of the co-operation agreement represents the binding contractual basis for the definition of the co-operation duties of the network operators.

Above all a fundamental revision of the co-operation agreement had become necessary to incorporate the stipulations of the ordinance regarding the feeding in of biogas, which had entered into force in April 2008. In addition the regulation in force until then had to be amended to reflect the Federal Network Agency's determination on balancing, dated 28 May 2008. Furthermore there were numerous changes of details through which the co-operation agreement was developed further in content or edited.

Notwithstanding the fact that it is the responsibility of the network operators to amend the content of the co-operation agreement, the Federal Network Agency has actively supported the preceeding discussions. This procedure had already proved successful in the previous year, in order to identify conflicts with legal provisions and regulatory objectives early on and to rectify them. With this in mind the BDEW, VKU and GEODE submitted to the Federal Network Agency the amended draft version on 24 June 2008. In order to allow for a timely entry into force for the beginning of the new gas business year, this draft was checked and analysed under a lot of time pressure. On 11 June 2008 the Federal Network Agency held talks with representatives of the associations of the network operators, in which main points of criticism were discussed. The Agency notified the associations in writing about further comments. The criticism focussed on such regulations of the draft which, from the Agency's point of view, contradicted the newly established balancing regime.

The amended version, which entered into force on 29 July 2008, largely took these comments into account. However, a renewed consultation of the revised draft was not possible since the associations were only able to submit a revised version to the Agency shortly before the final version was passed. Once again there was noticeable time pressure amongst the parties involved. Although some individual stipulations of the co-operation agreement may yet have to be reviewed in further step-by-step modifications, the co-operation between the Federal Network Agency and the associations of the network operators has once again proven successful in this process.

Transport capacity

In the German and European gas network a lack of bookable transport capacity is noticeable in many places. Obviously the currently existing management procedures are not suitable for defusing the difficult situation. Against this background the Federal Network Agency was involved in an ERGEG working group, which had the task of developing guidelines for capacity management and congestion management in the European gas networks. Based on the results of a survey among European regulatory authorities regarding the methods applied, a proposal for regulation was submitted. The

objective is to improve the use of existing infrastructure, to facilitate access to long-term capacities, and to allow for short-term gas trade. The gas networks should be utilised in the optimum fashion to ensure they promote the development of gas competition. Possibilities of strategic bookings are to be cut back.

In parallel the Federal Network Agency has considered bringing about improvements in the area of capacity allocation and congestion management in the German gas network, using the framework of existing laws, to reduce in particular congestion at the borders of market zones. In 2008 the basic questions, possible concepts, and starting points were discussed.

Monitoring of transparency requirements

The Federal Network Agency was able to affect significant improvements in the implementation of the transparency requirement, both in the distribution system and the transmission system. The focus was on the transparency requirements under the European Regulation (EC) 1775/2005 on conditions for access to the natural gas transmission networks and the Energy Act (EnWG) as well as the related Gas Network Charges Ordinance (GasNEV) and Gas Network Access Ordinance (GasNZV). A further aspect under review was the publication of data required under the Low Pressure Connection Ordinance (NDAV), which is explicitly to be published on the network operators' websites.

In the gas distribution networks the websites of all those network operators that are subject to federal responsibility or the responsibility of the Federal Network Agency under an official delegation of powers, were systematically reviewed as to whether information that is vital for ensuring efficient and unbiased competition can be found on the website. If deficiencies were found the affected undertaking was requested shortly afterwards to remedy these shortcomings.

Due to the fact that implementation in the area of transmission systems (gas) was still non-uniform, the Federal Network Agency conducted bilateral talks in 2008 with selected network operators about transparency deficiencies. These talks related to capacity and load flow information and to diverse information in English. In these talks the implementation deficits were revealed, ambiguities in the interpretation of obligations clarified and implementation plans with deadlines set up. The co-operation with the network operators proved to be very constructive.

In 2008 the monitoring of the implementation of the new transparency requirements under the determination regarding the new gas balancing system (GABi Gas) was included.

Overall it became apparent that the monitoring of the implementation of transparency requirements is a continuous task. The Federal Network Agency will continue to act in a monitoring capacity in the future, in particular in connection with the merger of market zones, sales of networks or new publication platforms.

International aspects

In the gas sector the Federal Network Agency is represented in eight working groups, in two of which it has assumed leadership responsibility in the year under review. One main focus of the work was to develop a proposal for guidelines for capacity allocation and congestion manage-

ment. The aim is to promote competition by reducing contractual congestion at central connection points in the European gas network.

Furthermore the Federal Network Agency has proactively worked on achieving progress in the cross-border gas trade within the scope of the gas regional initiative and endeavoured in particular to improve the usability of border coupling capacity in Bunde/Oude between Germany and the Netherlands. Due to conflicting interests of network operators and traders this is proving to be a complex and protracted task.

In 2009 the Federal Network Agency and the European regulators will work closely together on implementing the third package of common rules by the European Commission. This includes the development of framework guidelines which are to provide the European gas network operator organisation "ENTSOG" with a framework for the development of codes and rules. As a matter of priority the guidelines will initially be developed for the areas of capacity allocation and congestion management as well as balancing and transparency (cf page 221).

Furthermore the Agency will focus its European work on the issue of plans for network expansion. In this respect it is important to support the development of ten-year-plans by network operators and to define criteria for identifying the required network expansion measures.

LAW ON RENEWABLE ENERGY SOURCES

EEG enhancement

Under section 14 (1) of the law on the priority of renewable energy sources in its version valid until 31 December 2008 (EEG[2004]), the DSOs are obliged to record the different extent, the progress of the energy amounts and remunerations under section 5 (2) of the EEG (2004) and to immediately balance the energy amounts amongst each other.

Under section 14 (3) of the Law on Renewable Energy Sources (2004), electricity supply companies that supply electricity to final consumers must purchase the electricity from the DSO responsible for their control area and remunerate him. The DSOs are responsible for converting the fluctuating feed-in from renewable energy sources into a profile supply, which according to an industry compromise is currently a monthly band. This is called "EEG enhancement". To date this responsibility was largely fulfilled by the generating and trading sister companies of each TSO. This procedure was criticised as discriminatory by many market players. In the autumn of 2008 the Federal Network Agency drew up a benchmark paper with notes on how to procure the amount of electricity required for EEG enhancement. This was made available for public consultation and discussed in a workshop with the relevant associations. The Federal Network Agency will incorporate the insights gained in this process in a corresponding determination for procurements terms, which is expected to be available in the spring of 2009.

EEG statistics reports

Until 2008 the Federal Network Agency performed monitoring tasks under section 19a (1) (EEG (2004). In subsequent years these monitoring obligations will be stipulated by section 61 of the amended EEG (2009). As part of the monitoring of passing on the costs of EEG remunerations, one aspect being controlled was that the electricity suppliers only received the remunerations paid under section 5 (2) EEG (2004), minus the network charges that were avoided. During the year under review the Federal Network Agency examined and analysed the data of the EEG end-of-year bill 2006, collected for this purpose for the first time in 2007.

The Agency published key results of the EEG data collection in aggregated form. The "Statistikbericht Jahresendabrechnung 2006 nach dem EEG" (Statistics report end-of-year bill 2006 according to the EEG) is available (in German) on the website of the Federal Network Agency and contains information about the number of plants, installed capacity, fed-in annual power and remuneration paid (in each case differentiated by energy sources) and details of the final consumer turnover, and the monthly advance payments made by electricity suppliers for anticipated equalisation tariffs. With this publication the Agency ensures transparency and takes into account the public interest in this information.

As of 30 April 2008 over 900 network operators and over 1,000 electricity suppliers were once again obliged to electronically transmit to the Federal Network Agency the EEG end-of-year bill for the previous year. The network operators now also submitted detailed information on individual EEG plants. At the end of September 2008 the EEG data was collected from the four TSOs.

In the year under review the Federal Network Agency began to check the data notified as part of the end-of-year bills 2007 for plausibility and to verify them in order to monitor the roll-over of the costs of EEG enhancement. In 2009 this data will also be published in a statistics report.

Register of solar plants

On 1 January 2009 the amended EEG (2009) entered into force. Since then the operators of photovoltaic plants have been obliged, under section 16 (2) sentence 2 of the EEG (2009), to notify the Federal Network Agency of the location and capacity of their newly commissioned plants. The network operator is not obliged to pay a remuneration for the generated electricity on the basis of the EEG until the plant operators have registered the plant. The Federal Network Agency expects tens of thousands of registrations per year.

Based on the data received the Agency calculates, pursuant to section 20 (2a) EEG (2009), the digression and remuneration rates for photovoltaic plants and publishes them in agreement with the Federal Ministry of Economics and the Federal Ministry for the Environment by 31 October of each year in the Federal Gazette. The more capacity is added to the photovoltaic plants, the more the digression increases and the more the rate of remuneration decreases.

For all other energy sources required by the EEG (eg wind or water) the rates of remuneration and digression can be found directly in the EEG.

UNBUNDLING

One particular focus of the planned projects for 2008 was to continue monitoring, in particular in the area of legal unbundling, but also operational and informational unbundling, as well as participation in the European unbundling discussions. The Federal Network Agency's work focused on the following activities:

- Review of the equal treatment reports,
- Definition of joint interpretation guidelines of the state and federal regulatory authorities regarding the unbundling provisions in sections 6-10 EnWG dated 21 October 2008,
- Completion, continuation and initiation of new proceedings on issues of unbundling law, with a main focus on operational bundling,
- Comprehensive review of the obligation of legal unbundling by 1 July 2007,
- Participation in the implementation of the legal framework at European level (ERGEG/CEER), in particular the development of the Guidelines for Good Practice on Functional and Informational Unbundling for Distribution System Operators dated 15 July 2008 and key contribution to the benchmark report 2007.

In 2009 the Federal Network Agency will continue to actively support undertakings in the unbundling process through advice and formal supervision proceedings. In addition the liberalisation of metering introduces new players who in turn have to ensure the confidentiality of the information obtained. Careful monitoring of this development is indicated.

CURRENT DEVELOPMENTS IN REGULATORY LAW

Facility networks

In a ruling dated 22 May 2008 the European Court of Justice (EuGH) decided, on the basis of a petition for a preliminary ruling by the OLG Dresden, that the provisions of section 110 (1) no. 1 EnWG, (so-called energy supply systems) are incompatible with the right of free network access under article 20 (1) of Directive 2003/54/EC. This decision must also be taken into account by the German regulatory authorities in applications for exemption under section 110 (1) no. 1 EnWG. Whether the assessments by the EuGH are also to be applied to service networks as per section 110 (1) no. 2 EnWG is currently the subject of an appeal (ref. EnVZ 80/07) before the Federal Court of Justice (BGH). For the other case groups under section 110 of the EnWG this decision could also lead to a re-orientation of proceedings. The Federal Network Agency was actively involved in the discussions for restructuring exemptions from regulation for (small) networks which do not require regulation.

Geographically differentiated network charges

As part of the introduction of incentive regulation and in light of numerous new allocations of right-of-way-concessions under section 46 EnWG in the next few years, the federal and state regulatory authorities drew up a joint position on the issue of geographically differentiated prices at the end of 2008. According to this a standardised revenue cap will be set per network operator and calendar year of a regulation period, for all network areas of the same category operated by him. The network operator must implement his (standardised) revenue

cap as network charges without geographically differentiated prices.

The duty of implementation under section 17 (1) ARegV is interpreted in such a way that geographically differentiated network charges are generally not permissible with the exception of cases that are explicitly provided for in law. Furthermore the practice of de facto tolerating geographically differentiated prices in exceptional cases and for an appropriate transitional period (eg to allow for the co-operation of network operators to be set up or to abolish existing price differentiations from the past) is to be maintained.

CO-OPERATION WITH AUTHORITIES

Co-operation with state regulatory authorities

The co-operation between the Federal Network Agency and the state regulatory authorities was of vital importance in 2008, in particular with a view to incentive regulation, which was introduced on 1 January 2009. In order to achieve the objective of a standardised regulatory practice across Germany, as set out in the EnWG, and to prepare with regards to the contents and administration of incentive regulation, close agreement is required. The central panel for this is the committee of federal state representatives under section 60a EnWG, set up at the Federal Network Agency, that convened six times during the year under review. In addition to incentive regulation the second round of approval for electricity and gas charges and a variety of other current topics of regulation were discussed. The committee of federal state representatives is supported by work groups that deal in particular with the topics of incentive regulation, network charges, unbundling and any legal matters beyond that. And finally the year 2008 saw a closer co-operation and agreement at working level, which ensured a lively exchange of information between the regulatory authorities.

Co-operation with the Federal Cartel Office

In addition to the information and consultation processes set out in section 58 (1) EnWG, the co-operation between the Federal Network Agency and the Federal Cartel Office was intensified further in 2008. Apart from exchanging information about current proceedings, the Agency co-operates closely with the Federal Cartel Office in all areas of energy regulation. Under section 58 (3) EnWG both authorities strive for a standardised interpretation of the terms for the gas and electricity network operators in line with the relevant laws. Furthermore Germany's national contribution to the EU benchmark report pursuant to the EnWG was provided to the Federal Cartel Office for consultation and jointly agreed.

Court proceedings

In 2008 the Federal Court of Justice (BGH) issued the first landmark decisions regarding the approval of charges under section 23a EnWG. The BGH has largely confirmed the lawfulness of the charges approved in the first round and thus of the Federal Network Agency's positions.

APPROVAL PROCEDURES UNDER SECTION 23A ENWG

Skimming off additional proceeds

The BGH has fully allowed the appeal by the Federal Network Agency, which is directed against the abolition of the so-called additional proceeds clause by the Higher Regional Court (OLG) Düsseldorf (ref. KVR 39/07). The network operators are therefore not entitled to also keep the charges received in the transitional period between the first application for approval and the first approval of charges insofar as they were excessive according to the material benchmarks for charges under the Electricity Network Charges Ordinance (StromNEV). The additional proceeds obtained without a legal basis must be balanced by a cross-period settlement of the network operator. A retrospective settlement for the past is therefore ruled out. The network charges must be applied in the next approval period. Potential imbalances, which may arise from the fact that supplier relationships with the individual network users do not have to be continued to the same extent in the next planning period, must be accepted.

Determination of residual value

In connection with the determination of residual value under section 32 (3) StromNEV, the Federal Court of Justice (BGH) has fully confirmed the position of the Federal Network Agency (ref. KVR 42/07). The presumption clause of section 32 (3) sentence 3 StromNEV was rightfully applied. This presumes that the determination of costs is always based on the permissible life cycle according to work instructions or on the previously applicable price calculation principles for electricity (as administrative regulations of the states for representing the costs and revenues). Whether the network costs were actually taken into account when setting the price for the network charges is secondary.

For the assessment of fixed assets from network acquisitions, the BGH accepted as rightful the use of purchase and manufacturing costs as a basis, rather than the fair value (ref. KVR 35/07).

Equity ratio

The legitimacy of the so-called double cap when determining the proprietary interest in excess of the permitted equity ratio under section 7 (1) sentence 3 StromNEV was fully confirmed (ref. KVR 35/07). According to the BGH ruling the 40-percent cap is necessary to ensure that an excessive equity can only have limited effects in the calculations. A higher proprietary interest is therefore deemed as a sign of insufficient competition. Proprietary interest in excess of 40 percent would not arise in competitive conditions.

The question of which interest rate to apply to the proprietary interest (section 7 (1) sentence 3 StromNEV old version) that exceeds the permitted equity ratio, was referred back by the BGH to the original instance (the OLG Koblenz) for a decision of the trial judge (ref. KVR 42/07). When determining the interest rate on borrowings under section 5 (2) half-sentence 2 StromNEV, the BGH sees no room for discretion on the part of the regulatory authorities. In the matter of the level of interest rates common in the capital market for comparable loans, this was instead considered a legal term, the content of which can be sufficiently determined and clarified with the help of experts.

According to the BGH ruling the procedure of the Federal Network Agency with regards to "accrued and deferred items" is also legitimate. Accrued and deferred items that have been deducted are not to be taken into account for the return on equity. They are neither subject to the wording of section 7 (1) sentence 2 no. 1 to 4 StromNEV (old version), nor do they represent deductable equity under the scope of the regulation.

A claim for recognition of an inflationary adjustment for assets already depreciated but still in use was rejected by the BGH (ref. KVR 42/07). This was deemed to lack any legal basis.

Imputed corporation tax

For the cost position "imputed corporation tax" the BGH has also fully agreed with the arguments of the Federal Network Agency. It is not the corporation tax actually paid that is to be deducted, but the imputed one. By deducting imputed costs the network charges forming under simulated competition conditions are to be determined.

Under section 8 sentence 2 StromNEV the deductibility of corporation tax in own accounts must be taken into account. This is said to correspond to the provisions of section 8 StromNEV, which stipulates the deduction of corporation tax in the calculation of its own assessment basis, the operating profits, as operating expenses.

The consideration of imputed taxes for the apparent profit and/or the consideration of apparent losses was not accepted. When calculating imputed corporation taxes, it was not the figures determined on the basis of tax laws or trade laws, but only the imputed cost position "return on equity" that was to form the basis for the calculations.

In the same way the legitimacy of not considering cutbacks and supplements was confirmed.

Transmission losses

The Federal Court of Justice (BGH) has not yet passed a final ruling on the deductibility of

costs for transmission losses. It has stated that in the case of transmission losses
- contrary to the opinion of the regulatory authorities – budget costs under section 3 (1) sentence 5 half-sentence 2 StromNEV may be considered. Section 10 (1) sentence 2 StromNEV, which was applied by the regulatory authorities and which stipulates that the costs of transmission losses should depend only on procurement costs, therefore simply contained more specific details of the general provisions in section 3 (1) sentence 5 half-sentence 1 StromNEV. With regards to the cost position "transmission losses" the BGH referred the case back to the appeal court (OLG Koblenz) in order to determine retrospectively to what extent consolidated findings about higher costs of transmission losses existed.

The BGH has granted the appeal of a network operator in as far as the Federal Network Agency had generally not taken any down payments made or any plants under construction into account for its calculations (ref. KVR 39/07). However, these were to be taken into account when determining, as set out in section 7 (1) sentence 3 StromNEV, the operationally needed equity on which interest is to be paid under section 7 (1) sentence 2 no. 3 StromNEV according to the principles applicable for new plants.

LOCAL JURISDICTION OF THE COURTS

In case KVR 30/07, which revolves around the issue of the local jurisdiction of courts in cases of appeals against decisions by the Federal Network Agency through an official delegation of powers, the BGH has quashed a ruling by the OLG Düsseldorf and referred the case for a renewed hearing to the competent OLG of the affected state - in which the state regulatory authority is registered.

DETERMINATION REGARDING GPKE AND GELI GAS

The appeals lodged against the decision of the OLG Düsseldorf in connection with the determination regarding standardised Business processes and data formats for supplying customers with electricity (GPKE) was rejected by the Federal Court of Justice and the legitimacy of the determination in all points appealed was upheld. According to the BGH the determination serves not only to ensure efficient but also fair access to the network. In total approximately 60 complaints and two appeals were lodged against this determination. In the mean time those that have not yet been decided upon in a legally binding manner have been withdrawn.

The OLG Düsseldorf has rejected the complaints against the determination on Business processes for switching gas supplier (GeLi Gas) and upheld the legitimacy of the determination. It was unable to recognise the reprimanded violation of a higher-ranking law. Such a violation can also not be derived from the fact that the details of the GeLi Gas are not completely identical with the GPKE for the electricity sector. Additional costs for undertakings operating in several lines of business, which arise from the separate determinations in the gas and electricity sector, do not infringe upon the legitimacy of the GeLi Gas (ref. VI-3 Kart 209/07 [V]).

REFUSAL TO GRANT NETWORK ACCESS

The OLG Düsseldorf decided on two appeals against decisions by the Federal Network Agency regarding the refusal to grant network access as part of special abusive practice proceedings. The court largely rejected these appeals and confirmed the opinion of the Agency that section 17 (1) EnWG generally grants comprehensive rights for a network connection, which includes the right of the party seeking connection to freely select the voltage level to which he wishes to be connected (ref. VI-3-Kart 210/07 [V] and VI-3 Kart 211/07 [V]). A decision by the BGH regarding the appeal against one of these decisions is still pending.

PUMPING ELECTRICITY

In 2008 the OLG Düsseldorf also had to decide on the matter of whether the take-off of electricity via pumped storage plants (PSW) from the grid of an energy supplier is subject to network charges and thus has to be incorporated in the trial balance calculations. The OLG Düsseldorf followed to a large extent the arguments of the Federal Network Agency. It explained that any take-off of electricity, irrespective of the purpose, is subject to network charges. Therefore the operator of a PSW must also pay network charges for the take-off of pumping electricity. An exemption from the obligation to pay network charges led to an unjustified preferential treatment of the PSWs and thus to distorted competition in the area of generation (ref. VI-3 Kart 5/08 [V]. This decision was appealed.

DETERMINATION OF PROVISIONS FOR THE APPROVAL OF CHARGES

The legitimacy of the determinations, in which the competent ruling chamber of the Federal Network Agency bindingly determined the type and form of the data to be transmitted for the approval of charges, was fully upheld by the OLG Düsseldorf (eg ref. VI-3 Kart 121/07).

In total 82 appeals against this determination resolved themselves through this ruling by the OLG Düsseldorf. In the majority of cases the proceedings were concluded by a withdrawal of the appeal.

INDIVIDUAL NETWORK CHARGES PURSUANT TO SECTION 19 (2) SENTENCE 2 STROMNEV

In December 2008 the OLG Düsseldorf heard an appeal regarding individual network charges. In its ruling the court upheld the position of the Federal Network Agency. The “last calendar year” in terms of section 19 (2) sentence 2 StromNEV shall be interpreted as the last calendar year before the period of approval. The threshold values of section 19 (2) sentence 2 StromNEV must be reached both in the previous calendar year (section 19 (2) sentence 2 StromNEV) and in the period of approval (corrective of section 19 (2) sentences 10, 11 StromNEV). Shortfalls of the threshold values, eg because of major services or the commissioning of new plants, are not to be taken into account (ref. VI-3 Kart 30/08). [V] and VI-3 Kart 44/08 [V]).

Railway

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Market watch

Competition in the railway sector, which is continuing to increase, is making it possible to reach new all-time highs in transport performance in the freight and local passenger transport area.

KEY MARKET TRENDS

One of the dominant issues in the railway sector in 2008 was Deutsche Bahn AG's (DB AG) IPO, which has been postponed for the time being. The Federal Government had planned to sell 24.9 percent of DB AG's transport division to private investors. The unfavourable financial market environment prompted the political decision-makers to refrain from partially privatising DB AG for the time being.

The service level and funding agreement negotiated between the Federal Government and the railway infrastructure companies belonging to DB AG was signed nonetheless. The Federal Government will provide € 2.5 billion each year up to 2013 for the maintenance of the existing network. DB AG will invest € 500 million of its own funds in the existing infrastructure each year and provide an additional € 1.25 billion annually for its upkeep and maintenance. With the service level and funding agreement, DB AG undertakes to comply with quality standards for the railway network and the stations. This is intended to ensure that federal funds are put to proper use.

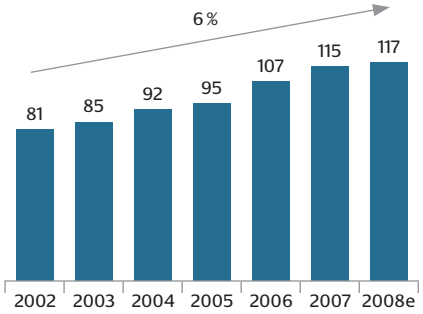
TRAFFIC TRENDS

According to the provisional data provided by the Federal Statistical Office, the volume of railroad traffic continued to increase in 2008 and reached new all-time highs. This means that, with the exception of long-distance rail passenger transport, rail transport performance has risen steadily since 2002.

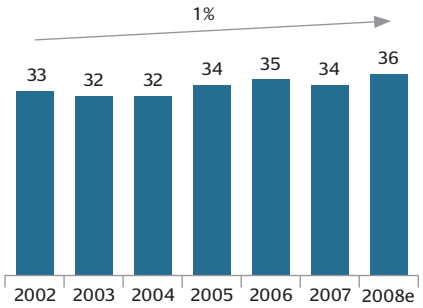
In the area of rail freight transport, the Federal Statistical Office expects a transport performance of 117 billion ton kilometres for 2008, which is equivalent to an increase of just under two percent compared with the previous year. This means, however, that the rate of growth was lower than in the past few years. In the first three quarters of 2008, the sector still managed to post three percent growth. However, the last quarter of 2008 is expected to show a decline of over one percent compared with the previous year's quarter. This is where the freight transport-specific dependency on trends in the macroeconomic environment becomes evident. Average annual growth since 2002 has been six percent, nonetheless.

Trends in transport performance

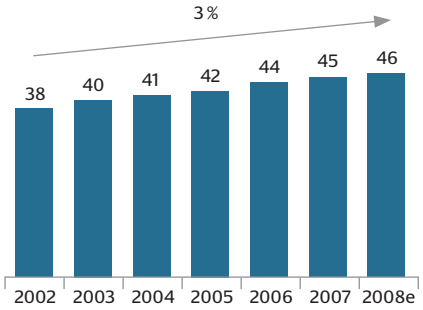
Freight transport
in billion tkm,
average growth in percent



Long-distance passenger transport
in billion pkm,
average growth in percent



Short-distance passenger transport
in billion pkm,
average growth in percent



tkm = ton kilometres
pkm = passenger kilometres
e = expected values

Source: Federal Statistical Office

Trends in the economic environment, however, have not as yet been reflected in rail passenger transport. The transport performance of 36 billion passenger kilometres which was predicted for 2008 in the area of long-distance rail passenger transport represents a good five percent increase over the previous year. It meant that long-distance rail passenger transport increased again, having recorded slight losses in 2007. It remains to be seen to what extent the price adjustments made by DB AG in 2008 will impact on the intermodal competitive situation.

In the area of short-distance rail passenger transport, the 46 billion passenger kilometres expected for 2008 represent a new record, exceeding the previous year's figure by approximately two percent. The resulting annual increase in transport performance of an average of three percent since 2002 – like the steady growth process in rail freight transport – is attributable not least to the growing competition in these market segments.

COMPETITIVE TRENDS

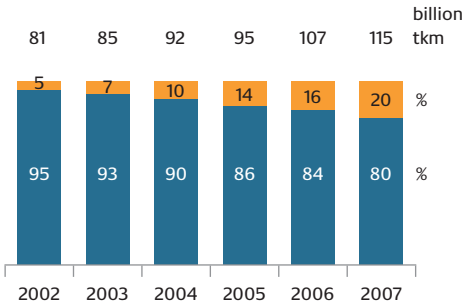
At the end of 2008, 377 railway undertakings were registered with the Federal Railway Authority, whereas the figure at the end of 2007 was 357 railway undertakings. This renewed growth highlights the fact that the rail transport market has become increasingly attractive. It remains unclear to what extent individual railway undertakings will be able to cope financially with the decline in rail freight transport which is still expected to occur in the course of the global economic crisis.

As in the previous years, 2007 again showed an increase in competition in the railway sector. In terms of transport performance, competitors'

Competitive trends

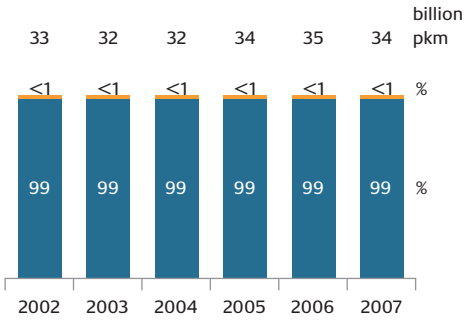
Freight transport

Total in billion tkm



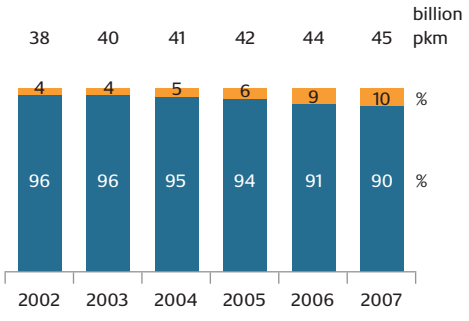
Long-distance passenger transport

Total in billion pkm



Short-distance passenger transport

Total in billion pkm



Competitors' share

DB AG's share

tkm = ton kilometres

pkm = passenger kilometres

Source: Federal Ministry of Transport, Building and Urban Affairs, Federal Network Agency, DB AG, Federal Statistical Office

share of the rail freight transport sector rose by four percentage points to 20 percent in 2007. In the long-distance rail passenger transport sector, competitors' share continues to stagnate at below one percent; DB AG remains the dominant player in the market. In the short-distance rail passenger transport sector, on the other hand, competitors have been able to expand their market share by a further percentage point to currently ten percent. As sections with lighter traffic have in the past often been allocated to competitors of DB AG in the short-distance rail passenger transport sector, competitors' share in terms of operating performance (train kilometres) is noticeably higher. However, increasingly, sections with heavier traffic are now also being put out to tender, thereby opening them up to competition.

ACCESS TO THE RAILWAY INFRASTRUCTURE

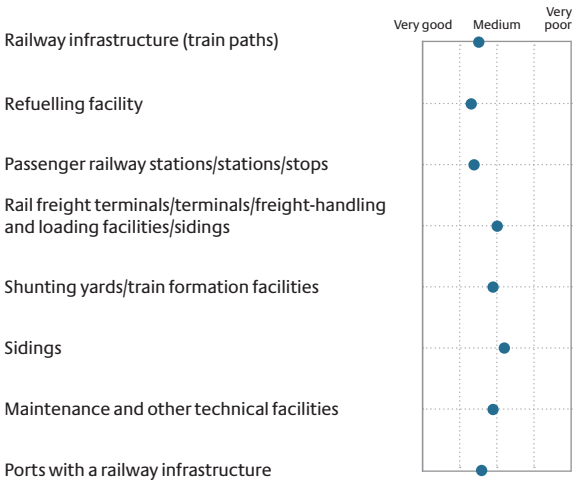
The railway infrastructure essentially includes the railway infrastructure and the service facilities set out in the General Railway Act (Allgemeines Eisenbahngesetz) (AEG), e.g. passenger railway stations, shunting yards, rail freight terminals or maintenance facilities. Both in terms of the railway infrastructure and in terms of the different service facilities, DB AG is generally the largest operator by a considerable margin. In spite of the high market concentration of the companies belonging to the DB AG Group, there are over 500 other railway infrastructure companies that have to grant railway undertakings non-discriminatory access to the railway infrastructure and service facilities.

A questionnaire produced by the Federal Network Agency enabled railway undertakings to assess, inter alia, access to railway infrastructure companies' railway infrastructure and service

facilities on a scale of one ("very good") to five ("very poor"). All of the railway undertakings represented in the market were surveyed.

Overall, railway undertakings view the situation that has been reached with regard to network access in Germany as still being in need of improvement. Access to sidings was given the worst rating (a mark of 3.2). Besides inadequate availability, what railway undertakings found fault with in this area was the actual offering, which was not in line with demand. DB Netz AG, the largest operator of sidings by a considerable margin, often only leases the latter for the entire day and not for shorter periods. Access to rail freight terminals, terminals, freight-handling and loading facilities and sidings (3.0) as well as shunting yards and train formation facilities (2.9) also received only mediocre ratings. Railway undertakings gave the best marks, in relative terms, for access to refuelling facilities (2.3).

Access to railway infrastructure, 2008
Assessment of access



Source: Federal Network Agency

Railway undertakings viewed the situation regarding network expansion and maintenance far more critically than straight access. More than half gave it a rating of "poor" or "very poor". Criticism in this area frequently focused on a general removal of infrastructure associated with modernisation. This greatly limits railway undertakings' flexibility and, in particular, prevents them from responding to peaks in demand. To this can be added the fact that, every once in a while, infrastructure managers perform very simple tasks poorly. For instance, points heating systems were not supplied with fuel and snow was not cleared from station platforms for several days.

RAILWAY INFRASTRUCTURE ACCESS CHARGES

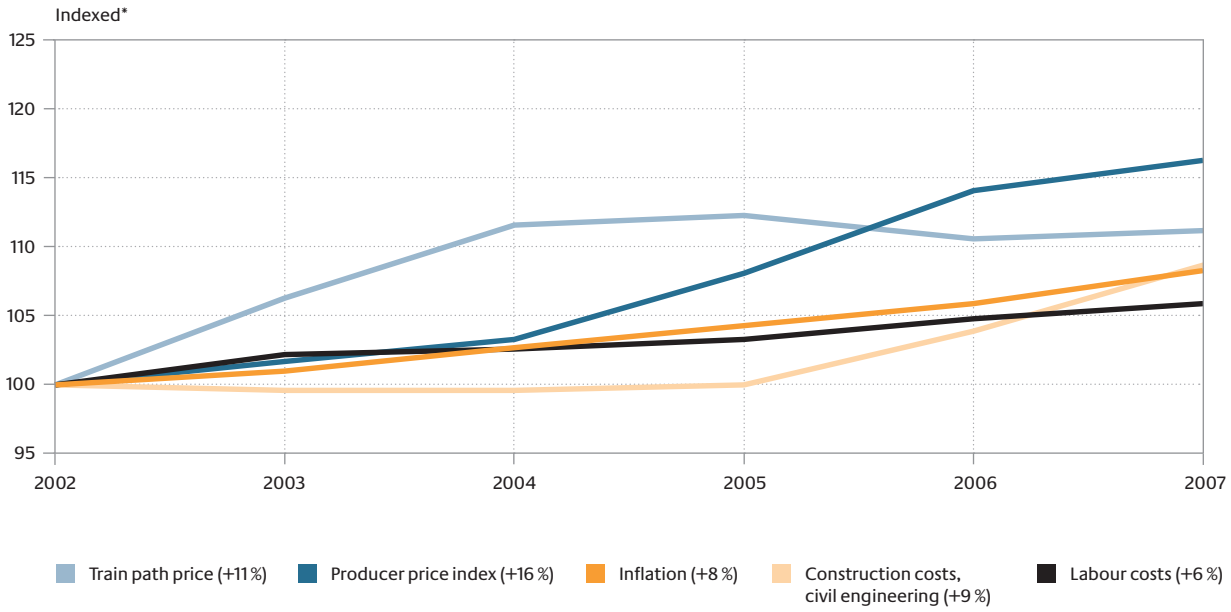
At approximately 30 percent, access charges represent a significant proportion of railway undertakings' total costs, with train path procurement accounting for around 80 percent of these charges. That is why trends in train path pricing, particularly at DB Netz AG, are of crucial importance to railway undertakings. Changes in train path pricing have a direct impact on railway undertakings' total costs, their pricing and viability as well as their competitiveness relative to other transport operators.

The average train path price per train kilometre that was paid to DB Netz AG rose by eleven percent between 2002 and 2007. The general rate of inflation for this period was eight percent. Major cost pools for the operation of railway infrastructure are personnel costs, construction costs and costs incurred for related goods and

services. Price increases for railway infrastructure companies in respect of these input costs ranged between six percent and sixteen percent during the period under review.

Meanwhile, the average train path prices per segment (between 14 percent in the short-distance rail passenger transport segment and 24 percent in the long-distance rail passenger transport segment) are trending far higher than the overall average (11 percent). The reason for this is the stronger growth of rail freight transport, for which lower specific train path prices need to be paid relative to rail passenger transport. The DB Netz AG's average train path revenue in 2007 therefore includes far more cost-effective freight transport routes than the average revenue in 2002.

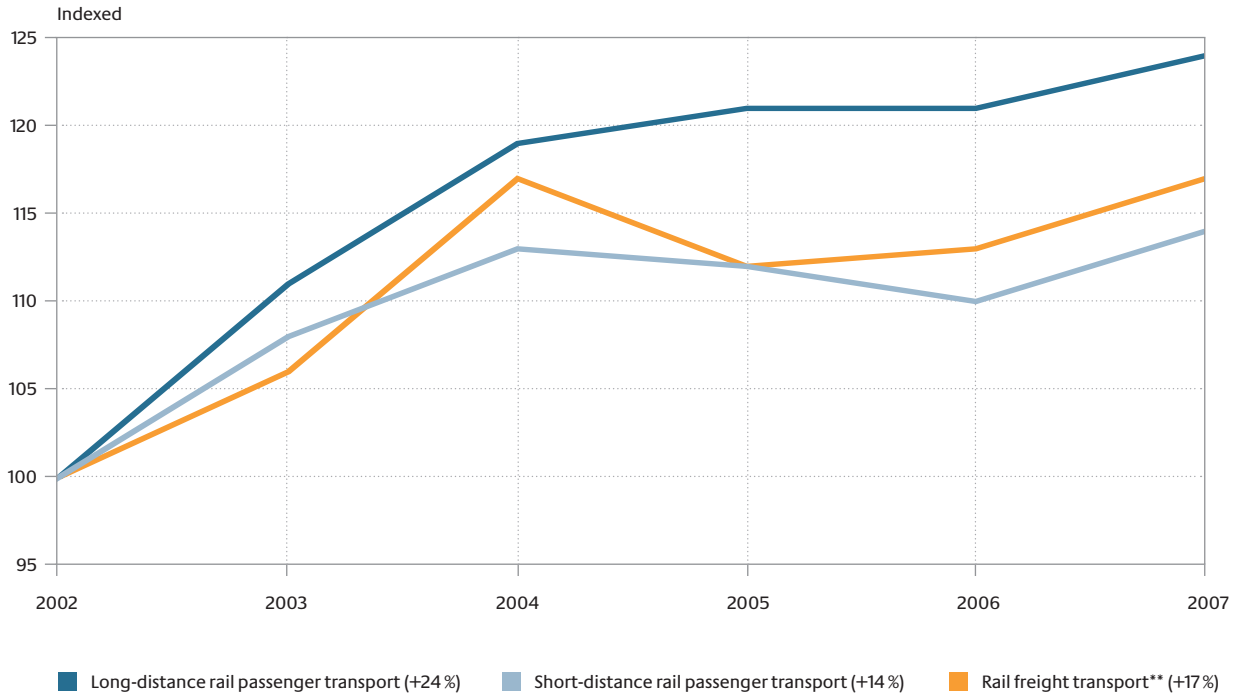
Average train path price per train kilometre (DB Netz AG)
Comparison with selected indicators



* Calculated as a quotient of the train path prices and operating performance
2002 = 100
Source: Federal Network Agency, DB AG, Federal Statistical Office

In the same period, prices for transport services in the rail freight transport sector and specific revenue (comprising customer charges and ticket revenue) in the short-distance rail passenger transport sector fell. If this opposing trend continues, the further growth of rail transport and the existence of a number of railway undertakings are likely to be put at considerable risk.

Trends regarding the average train path price
per segment and train kilometre (DB Netz AG)*



* Based on charges paid by the transport companies belonging to the DB AG Group as per the data on the billing of services in the consolidated annual report
** Adjustment of the rail freight transport segment in 2005 with the addition of Railion Intermodal Traction
2002 = 100
Source: Federal Network Agency, DB AG

IMPLEMENTATION OF RAILWAY REGULATIONS

Railway infrastructure companies, which have to grant access pursuant to Section 14 of the General Railway Act, are required to draw up and publish terms of use for railway infrastructure and service facilities. As in previous years, the number of railway infrastructure companies which are required to grant access and which have not yet drawn up terms of use remains high. In 2007, 63 percent of railway infrastructure operators had not yet drawn up a Network Statement and 70 percent of operators of service facilities had not yet drawn up terms of use for railway facilities. The Federal Network Agency has called upon the railway infrastructure companies to fulfil their legal obligation.

Activities and proceedings

The Federal Network Agency's key task in the railway sector is to regulate access to the railway infrastructure and service facilities, including the charges for the latter.

ACCESS TO THE RAILWAY INFRASTRUCTURE

Construction work

The Federal Network Agency has concluded the basic proceedings on DB Netz AG's construction work planning. The reason for the proceedings was that several railway undertakings had filed objections regarding the notification and coordination of DB Netz AG's construction work. In the administrative proceedings reviewing the objections, hearings were conducted several times with DB Netz AG. In addition, the Federal Network Agency sought the opinion of parties with the right of access via a written survey and also a consultation which all the parties with the right of access were invited to attend.

During the proceedings, DB Netz AG drew up the Code of Rules entitled "Fahren und Bauen" (Travelling and Building), which describes the status quo with regard to construction work planning as well as the planned implementation of the work and, in particular, includes detailed rules regarding the notification and coordination of construction work with parties that have the right of access. In its ruling on the objection, the Federal Network Agency required DB Netz AG to incorporate this Code of Rules into its Network Statement and to publish it. DB Netz AG has complied with this requirement. The Code of Rules is intended to bring transparency to the notification and coordination process with parties that have the right of access to enable them to recognise and enforce their rights. In addition, this will enhance planning certainty for parties with the right of access owing to the fact that contractually guaranteed train paths can essentially no longer be changed or even denied at short notice as a result of timely construction work planning.

Planning

Last year, the Federal Network Agency undertook an in-depth study on the subject of "disruption planning for transport services and its impact on competition". In the event of short-term capacity bottlenecks or disruptions, as part of the planning process, the train order is specified, in other words, the order in which railway undertakings can use a track system. As a rule, the order of trains is decided based on the specifications in the timetable. With regard to timetabling, there are strict conflict resolution rules to help deal with disputes

concerning train paths. However, in the area of short-term disruption planning, there are no specific regulatory guidelines on short-term conflict resolution. The potential for discrimination is correspondingly higher in this area. Moreover, the area of disruption planning plays a major financial role for railway undertakings. This is due, for instance, to quality agreements that railway undertakings have concluded with their customers, stipulating that penalty payments must be made if delays occur. However, whether or not a delay occurs often depends not on the railway undertaking but on the railway infrastructure company's planning decision.

Against this backdrop, the Federal Network Agency is pursuing several objectives in relation to future planning practices. On the one hand, the aim is to try and ensure that railway infrastructure companies make clear statements regarding their disruption planning rules. The latter need to follow objectively verifiable criteria. As a rule, all transport services and parties with the right of access are to be treated equally. Any type of preferential treatment is to be justified on the basis of objective criteria. On the other hand, the possibility of individual parties with the right of access exerting a direct influence on the activities of the infrastructure manager's employees who are responsible for disruption planning is to be prevented. Furthermore, disruption planning is to be regarded as the exception rather than the rule. Events – such as plannable construction work – which by definition cannot be disruptions are not to be left to disruption planning.

Framework contracts

In December 2010, the next five-year framework timetable period begins in accordance with the Rail Infrastructure Usage Regulations (Eisenbahninfrastruktur-Benutzungsverordnung) (EIBV). With regard to dates and terms in relation to the awarding of framework contracts, which need to be set and published in a timely manner, 2008 was characterised by wide-ranging discussions with DB Netz AG, to date the only operator of railway infrastructure that has concluded framework contracts. In addition to numerous, jointly clarified key points for the revision of the Network Statement that will apply from April 2009, inter alia, regarding minimum days of operation, fluctuation margins and leeway in terms of construction as well as provisions in the specimen framework contract, four areas of conflict have emerged, which are currently at the heart of further discussions with DB Netz AG.

First of all, the way in which an operator of railway infrastructure has to comply with the requirement set out in Regulation 13 (6) of the Rail Infrastructure Usage Regulations "to disclose the key features of each framework contract to other parties with the right of access upon request", if necessary also by "posting them on the Internet", is the subject of dispute. DB Netz AG considers publishing the specimen framework contract, including general information on the tying up of capacity via framework contracts, to be sufficient. The Federal Network Agency, however, is calling for considerably more transparency. In the Federal Network Agency's view, the key features of framework agreements which have already been concluded with parties that have the right of access must be disclosed to the respective party with the right of access making an inquiry. The key features of a framework contract include, inter alia, precise information on the relevant railway infrastructure, on the start and end date of the framework

contract as well as on the capacity tied up by the framework contract.

The second area of conflict concerns DB AG's wish to be able to assign rights and obligations ensuing from a framework contract to investment and cooperation partners. The Federal Network Agency sees this as creating the risk of train path trading, which is prohibited under Regulation 11 (1) of the Rail Infrastructure Usage Regulations, and consequently an acceptable arrangement needs to be found.

The third area of conflict is in the area of amendments to framework contracts. In the event of amendments being made to framework contracts, DB Netz AG would merely like to notify the Federal Network Agency. The Federal Network Agency, however, considers formal notification pursuant to Section 14d of the General Railway Act and an appropriate preliminary review process to be necessary.

The fourth discussion point relates to the lead times for framework contracts. Particularly potential new entrants to the long-distance rail passenger transport sector and public transport authorities in the short-distance rail passenger transport sector that carry out their planning well in advance wish to conclude long-term framework contracts with longer lead times. This wish results from the delivery times for new vehicles which, in some cases, are very long, and the lengthy tendering procedures for the award of short-distance transport services contracts. DB Netz AG refuses to take these market realities into account and to allow framework contracts where the period between the acceptance of an offer and the commencement of transport services exceeds the nine months that are planned at present. The Federal Network Agency is now aiming to achieve a solution in regard to the above-mentioned points that is in line with market requirements and is acceptable both to railway infrastructure companies and to railway undertakings.

Overburdening of the railway infrastructure

Under Regulations 16 to 18 of the Rail Infrastructure Usage Regulations, infrastructure managers are required to report overburdened railway infrastructure to the Federal Railway Authority and to the Federal Network Agency immediately and to publish this information in the Federal Gazette or on the Internet. Subsequently, a capacity analysis and a plan for increasing railway infrastructure capacity are to be submitted.

Although large sections of the German railway infrastructure are considered to be overburdened, DB Netz AG has, to date, only declared three sections that have been designated "pilot systems" to be overburdened. In the Federal Network Agency's view, the subsequent submission and discussion of the capacity analysis and the plan for increasing capacity on the declared sections have progressed slowly and produced unsatisfactory results. The proposed measures are only capable of improving the situation on the sections affected to a limited degree. DB Netz AG has, for instance, dispensed with a surcharge, which could be used to control capacity utilisation more effectively. Likewise, the Federal Network Agency has not been able to adequately gauge the impact of the operational measures on the sections affected in terms of increasing capacity.

Disclosure of overburdened railway infrastructure is a way of showing disparities between

train path demand and railway network capacity in a transparent manner in the short to medium term and of pointing out and implementing solutions with operational and less cost-intensive infrastructure measures. However, this requires overburdened sections to actually be shown as such and effective measures for improving the situation to be proposed and implemented. Ultimately, the capacity available for meeting train path demand is a key factor for creating smooth access to the railway infrastructure. The Federal Network Agency, in cooperation with the Federal Railway Authority, is aiming to create greater transparency and more reliable processes in this area.

ACCESS TO SERVICE FACILITIES

Terms of use

In 2008, the Federal Network Agency again reviewed numerous railway infrastructure companies' terms of use for railway facilities and objected to clauses that contravened railway law. Where it was justifiable, it did not lodge an objection, however pointed out crucial provisions and in some cases combined this information with the proviso of more extensive subsequent reviews or with suggestions for future amendments.

Ports / terminals

In 2008, a focal point of the ex ante review of service facilities was the terms of use for ports and terminals. The Hamburg Port Authority (HPA) submitted the envisaged amendments to its Terms of Use and the EUROGATE Group as well as Hamburger Hafen und Logistik AG (HHLA) complied with the request to draw up and submit their Terms of Use. The Federal Network Agency objected to a number of provisions. As the terms and conditions governing the customs declaration procedure and the coordination of competing enquiries regarding use are a key linchpin for non-discriminatory access, the Federal Network Agency subjected them to particularly critical scrutiny. In addition, it considered the transparency of the allocated responsibilities of railway undertakings and railway infrastructure companies to be important. The Federal Network Agency was involved in the process of drawing up HHLA's Terms of Use, enabling potentially discriminatory provisions to be avoided in advance.

Maintenance facilities

Various railway undertakings belonging to the DB AG Group, which, as operators of maintenance facilities, are also railway infrastructure companies, do not feel that they are subject to access obligations. In the Federal Network Agency's estimation, maintenance facilities, the use of which every railway undertaking is totally dependent on, are a key element of a functioning railway operation. In a decision handed down on 8 May 2008, the Federal Network Agency required DB Regio AG to draw up Terms of Use for its maintenance facilities. In a decision rendered on 31 July 2008, the Federal Network Agency objected to some of the provisions in the envisaged Terms of Use that were subsequently submitted, largely prevailing in fast-track court proceedings on this matter (see page 190).

Specific access disputes

Denial of access vis-à-vis railway undertakings requires increasingly strong regulatory attention. The operator of a bulk cargo loading dock at the port of Hamburg denied a railway undertaking access to the available railway infrastructure. However, following the Federal Network Agency's intervention, it was prepared to grant

the railway undertaking access on a provisional basis. In another case, capacity limits with regard to the port railway infrastructure led Bremische Hafeneisenbahn (Bremen Port railway) in Bremerhaven to reject applications for use. The Federal Network Agency deemed the reasons for the rejections that were stated by Bremische Hafeneisenbahn to be unacceptable as they contravened the Terms of Use drawn up by the operator. The Federal Network Agency required the company to rule on the railway undertaking's applications again.

OTHER ACTIVITIES

Public nature of service facilities

Since 2005, many operators of service facilities of former so-called "works and industrial railway" have had to grant general access to their infrastructure. The only exception is if the railway infrastructure is operated solely for the operator's "own freight transport" purposes. During the course of 2008, the Federal Network Agency held in-depth discussions with the Association of German Transport Companies (Verband Deutscher Verkehrsunternehmen e. V.) (VDV) and other market participants about the conditions under which operators of works and industrial railway are required to grant access to their railway infrastructure, and developed the use of the term "own freight transport", which is intended to take these modern structures of factory and industrial parks into account.

CHARGES

Station price system

Since the end of 2007, the Federal Network Agency has been reviewing the station price system operated by DB Station & Service AG. The DB Group subsidiary runs a large proportion of all the passenger railway stations in Germany, which serve as access points for short-distance and long-distance rail passenger transport. Both the DB Group's own railway undertakings and other railway undertakings operate as parties with the right of access. Station prices represent a major cost factor for them, which is ultimately also reflected in rail fares and impacts on planning with regard to the integration of specific regions as well as on the quality of the transport services offered. The public transport authorities of the Federal Länder also play a major role, bearing the overriding responsibility for short-distance rail passenger transport, including financing of the latter.

A large number of railway undertakings and public transport authorities are critical of the station price system. Their right to non-discriminatory access to railway infrastructure includes non-discriminatory pricing by DB Station & Service AG. Fears regarding inflated price levels or preferential treatment for certain parties with the right of access, inter alia, have prompted the Federal Network Agency to exercise its power under railway law to review the level and structure of infrastructure access charges. To this can be added the fact that DB Station & Service AG has increased its charges by two percent each year over the past few years.

In its review, the Federal Network Agency focuses – as it will also be doing in 2009 – on different aspects. On the one hand, DB Station & Service AG's category price model is examined in depth. All railway stations are classified into categories based on a defined system. The result is a combined costing for the railway stations within a particular category which assumes that only stations of similar importance are combined. In addition, the Federal Network

Agency is looking carefully at the company's cost and revenue structure, the aim being to accurately break down the pricing criteria as this is the only way to assess price levels. In the Federal Network Agency's view, this is fundamental because price levels not only differ from category to category, they also vary between the Federal Länder.

DB Netz AG's path pricing system

In 2008, the Federal Network Agency initiated a review of the path pricing system operated by DB Netz AG. This involves examining the structure and level of the charges to be paid by parties with the right of access.

As a first step, the Federal Network Agency is looking into non-discriminatory charging. In this regard, the particular focus is currently on arrangements with regard to defective performance. Railway infrastructure operators are required, inter alia, to reduce the train path price if the railway infrastructure is not in good operating condition. Parties with the right of access have complained to the Federal Network Agency about the fact that DB Netz AG refuses to lower its price for typical infrastructural deficiencies. Official enquiries have revealed that even the wording chosen by DB Netz AG in its Network Statement gives rise to doubts as to whether the provisions regarding access to railway infrastructure will be properly implemented. The Federal Network Agency's aim is to ensure, in the interests of genuine competition in the railway sector, that parties with the right of access pay a train path rental which is limited to the equivalent value. If they receive poor service, they can only be made to pay a reduced charge.

The Federal Network Agency has also received a large number of complaints to the effect that DB Netz AG has been demanding excessively high fixed cancellation charges particularly since the rise that occurred at the time of the 2007/2008 timetable switch. As the charging principles do not state the extent to which DB Netz AG offsets saved expenditure or potential marketing revenue for cancelled routes, the Federal Network Agency assumes that the charges are obviously being unfairly allocated to the detriment of parties with the right of access. The official review in respect of the remainder of the components of the path pricing system will also continue in 2009.

Charging principles

Railway infrastructure companies are required to ensure non-discriminatory access to the railway infrastructure that they operate and to provide services in a non-discriminatory way. In return, railway infrastructure companies may impose access charges. In the charging principles set out in their Network Statement or in their Terms of Use for Railway Facilities, they must provide parties with the right of access with a detailed description of the actual way in which the charges are calculated. The only exceptions in this regard apply to operators of fuel facilities, maintenance facilities and ports. However, the latter are required to explain their price determinants to the Federal Network Agency in a comprehensible manner upon official request.

An initial examination of the Terms of Use for Railway Facilities drawn up by various port operators and submitted pursuant to the General Railway Act revealed that parties with the right of access are routinely unable to understand why a certain charge is actually as high as it is. Furthermore, the Terms of Use for Railway Facilities do not make it clear that the charges are

calculated in the same way for every party with the right of access, as stipulated by the special prohibition of discrimination in the Rail Infrastructure Usage Regulations. Although these inconsistencies could be clarified at the hearings conducted by the Federal Network Agency, the Federal Network Agency nonetheless stresses the importance of having transparent and non-discriminatory charges with regard to exercising access rights and minimising competitive discrimination.

The review of the Terms of Use for Railway Facilities further revealed poor implementation of an incentive system. The operator of a service facility is obliged to create incentives to reduce disruptions, both in relation to the operation of the service facility and to railway undertakings, by including performance-related components. Besides this statutory regulation, the positive effects of an incentive system for operators and users of railway infrastructure, in particular, highlight the need to provide suitable mechanisms. By categorising its tracks and introducing a facility-specific, time-related charge, the HPA was able to achieve a reduction in wagon standing times and hence an increase in capacity at the port of Hamburg. The HPA's new system of charges, which came into force on 1 January 2008, is the result of the consultations that were held with the Federal Network Agency in 2007.

Development of price regulation

In the Federal Government's view, the fee provisions in the General Railway Act should be amended in favour of an economic performance-based price benchmark and amended to introduce incentive regulation. To this end, the Federal Network Agency developed a proposal for price-cap regulation on behalf of the Federal Ministry of Transport, Building and Urban Affairs. An initial draft was presented in October 2007 and the revised version in May 2008. The relevant report may be viewed on the Federal Network Agency's website.

Performance regime

In implementing requirements under European law, German law (Regulation 21 of the Rail Infrastructure Usage Regulations) urges railway infrastructure companies to create incentives to reduce disruptions and to enhance the efficiency of the railway infrastructure as part of their fee provisions, by including performance-related components. As such, the aim is to motivate railway infrastructure companies, in particular, but also railway undertakings via monetary incentives to optimise their performance and conduct.

The Federal Network Agency monitors and supervises the design of effective incentive systems that are in accordance with the law. As early as 2006, it worked to ensure that DB Netz AG, as the largest German railway infrastructure operator, introduced a so-called performance regime. However, the Federal Network Agency had to object to the system's design in terms of it being non-discriminatory and in terms of its effectiveness.

Following parallel civil court proceedings and a final ruling by Frankfurt (Main) Higher Regional Court, DB Netz AG, to this day, is not calculating incentive charges. This means that key requirements of railway law are still not being met. In a decision handed down on 30 December 2008, the Federal Network Agency required DB Netz AG to introduce an incentive system by December 2009 at the latest.

Court proceedings

The Federal Network Agency draws a positive balance after main and fast-track court proceedings.

DEUTSCHE BAHN AG – TERMS OF USE FOR RAILWAY FACILITIES 2008/2009

At the end of 2007/beginning of 2008, a series of fast-track rulings were made concerning official objections to envisaged amendments to the Network Statement or the Terms of Use for Railway Facilities. Cologne Administrative Court dismissed all of the submissions made by the companies belonging to the DB AG Group. In its rulings on 28 January 2008 and 15 February 2008, the Higher Administrative Court for the Federal Land of North Rhine-Westphalia (Münster Higher Administrative Court) partially confirmed the rulings made by Cologne Administrative Court. Rulings on the main issues are still pending.

DB Netz AG had filed expedited applications against objections to its Network Statement and Terms of Use for Railway Facilities 2008/2009. The appeals lodged by DB Netz AG before Münster Higher Administrative Court against the rulings made by Cologne Administrative Court dismissing submissions made earlier (rulings of 12 December 2007, reference numbers 18 L 1794/07 and 18 L 1797/07) were only partially successful (rulings of 28 January 2008, reference numbers 13 B 2024/07 and 13 B 2025/07). Münster Higher Administrative Court held that, in the case of the Network Statement 2008/2009, the applicant's interest in obtaining a suspension only prevailed with regard to the provision relating to train radio based on GSM-R. In the case of the Terms of Use for Railway Facilities 2008/2009, Münster Higher Administrative Court, after summary examination, also dismissed the objection to the lack of transparency in certain areas of the liability rules which had been filed by the Federal Network Agency, with reference to the civil-law nature of this objection.

OTHER REVIEWS OF TERMS OF USE

In a decision handed down on 28 January 2008, Münster Higher Administrative Court also ruled on the complaint filed by Deutsche Umschlaggesellschaft Schiene-Straße (DUSS) mbH (reference number 13 B 2014/07). While Cologne Administrative Court, after summary examination, had not found the objections to the Terms of Use for Railway Facilities 2008/2009 to be unlawful either in formal or in material respects (ruling of 11 December 2007, reference number 18 L 1779/07), Münster Higher Administrative

Court granted the expedited application filed by DUSS. The principal proceedings which are currently pending (Cologne Administrative Court, reference number 18 K 3002/08) are intended to clarify the issues of what minimum requirements are generally to be met in terms of the quality of terms of use and under what conditions it is permissible for the Federal Network Agency to object to the code of rules in its entirety ("total objection") on the grounds that these minimum requirements are being breached.

Cologne Administrative Court also dismissed the expedited applications filed by Usedomer Bäderbahn GmbH (rulings of 17 December 2007, reference numbers 18 L 1835/07 and 18 L 1836/07). Although Münster Higher Administrative Court did not effectively confirm the rulings made by Cologne Administrative Court (rulings of 15 February 2008, reference numbers 13 B 2091/07 and 13 B 2092/07), it did fundamentally recognise a general transparency requirement as a review criterion for the Federal Network Agency ensuing from the prohibition of discrimination (ruling 13 B 2091/07).

DB REGIO AG – MAINTENANCE FACILITIES

Two further fast-track court proceedings instituted by DB Regio AG concerned the issue of whether railway undertakings operating maintenance facilities are to be regarded as railway infrastructure operators and what obligations they are consequently subject to.

Fast-track proceedings initially instituted against the decision handed down by the Federal Network Agency on 8 May 2008, requiring DB Regio AG to draw up Terms of Use, were suspended by Cologne Administrative Court on 12 June 2008 as DB Regio AG withdrew its application. In a decision handed down on 31 July 2008, the Federal Network Agency objected to parts of the Terms of Use which DB Regio AG subsequently submitted. On 8 September 2008, DB Regio AG also filed an expedited application against this decision before Cologne Administrative Court, aiming to temporarily avoid the duty to comply (reference number 18 L 1371/08). The point at issue was the objections which the Federal Network Agency had lodged regarding fee provisions that enabled individual variations and the order to specify and provide a more detailed description of the services being offered. Cologne Administrative Court dismissed the application filed by DB Regio AG in a ruling made on 7 October 2008. Münster Higher Administrative Court mainly confirmed this ruling in a decision handed down on 19 November 2008 and largely dismissed the complaint lodged by DB Regio AG (reference number 13 B 1543/08).

Both Cologne Administrative Court and Münster Higher Administrative Court reconfirmed in their rulings that, in terms of operating maintenance facilities, DB Regio AG is (also) a railway infrastructure company that is required to draw up Terms of Use for Railway Facilities. By withdrawing its expedited application in proceedings 18 L 747/08, DB Regio AG had attempted to prevent a statement by the court on this issue. Furthermore, both courts found that standing space rents and cancellation charges are also charges within the meaning of railway law, thereby confirming the Federal Network Agency's view that the definition of charges under railway law needs to be broadly interpreted. In the courts' view, DB Regio AG's fee provisions, which were the subject of the complaint, also presaged subsequent inappropriate discrimi-

nation against users of service facilities, thereby contravening the prohibition of discrimination under railway law. The courts hence did not deem the fact that the relevant clauses, in purely formal terms, apply indiscriminately to every party with the right of access to be sufficient. The reason was that the clauses were worded in such a way that the provisions did not include any conditioned decision programmes at all but allowed DB Regio AG broad scope for decision-making. While Cologne Administrative Court also confirmed the demand for detailed service specifications, Münster Higher Administrative Court granted suspensive effect to the objection filed by DB Regio AG because, although it also did not judge the information on the equipment in and services offered by workshops to be company secrets, it did not feel that there was any legal basis for authorising the demand for detailed service specifications for maintenance facilities. The final rulings in the principal court proceedings in both actions are still pending.

RAILION DEUTSCHLAND AG – REQUEST FOR INFORMATION

In a fast-track ruling made by Münster Higher Administrative Court on 22 February 2008 (reference number 13 B 68/08), the Federal Network Agency was denied rights to information based on Section 14c subsection 3 of the General Railway Act in respect of general market surveillance of access conditions. In the court's view, the scope of the subject of discovery extends only to the conducting of administrative proceedings. In addition, an order requesting information is only to be addressed to railway infrastructure companies. The Federal Network Agency, however, stresses the need for a broad category of addressees of requests for information in order to enable discrimination to be exposed, and points out that, in Article 30 (4) of Directive 2001/14/EC, the European legislator specifically extends the regulatory authority's rights to request information from railway undertakings and to request access to all relevant information.

Agency's function, structure and core tasks

Functions and structure

The Federal Network Agency, originally called the Regulatory Authority for Telecommunications and Post (Reg TP), was set up on 1 January 1998 as a higher federal authority within the scope of business of the Federal Ministry of Economics and Technology (BMWi). It took over the responsibilities of the former Federal Ministry of Post and Telecommunications (BMPT) and the Federal Office for Post and Telecommunications (BAPT). When it was assigned functions from the new Energy Act and the amended General Railway Act it was renamed Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (Federal Network Agency) in 2005.

First and foremost, the Agency's remit is, through regulation, to promote competition in telecoms, postal and energy markets and in the rail sector, to ensure the provision of appropriate and adequate services across the country, to guarantee non-discriminatory network access, to provide frequency regulation and numbering arrangements. These responsibilities are detailed in the Telecommunications Act (TKG), the Postal Act (PostG), the Energy Act (EnWG) and the General Railway Act (AEG), and are regulated additionally in ordinances and other implementing provisions.

Further tasks of the Federal Network Agency flow from various other specialist laws such as the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG), the Amateur Radio Act (AFuG) and the Electromagnetic Compatibility Act (EMVG). The Agency 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 Agency's tasks and workflows are complex and wide in scope. They range from cases addressed in quasi judicial proceedings in economic regulation areas right down to its nationwide presence for technical trouble-shooting.

A higher federal authority of the Agency's size needs constant development of its organisation. An analysis of staff requirements that has recently been carried out is to ensure the effi-

cient performance of the Agency's responsibilities on the basis of a task-oriented organisational structure. The structure of the organisation is as follows:

In the telecoms sector, the President's Chamber decides which markets are subject to special regulation. Subsequently the Ruling Chambers 2 and 3 take decisions in ex ante and ex post rates approval cases, on anti-competitive practices and in cases of special network access, including interconnection. In the postal sector the Ruling Chamber responsible also focuses on ex ante and ex post rates regulation and the sector-specific 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 Agency is required to take in the gas and electricity sectors under the Energy Act and the implementing ordinances, including checking the use of system charges. The President's Chamber takes decisions on, in particular, award proceedings for scarce radio spectrum resources and the imposition of universal services.

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 Agency is active in international bodies, cooperating on drafting standards for the development of new generation networks and radio systems. Another major departmental function is to give Ruling Chambers specialist assistance in their decision-making.

Combating abuse of premium rate services continues to be a great challenge. Another field of tasks is connected with the database of transmitter sites operating above a specified power level. Of particular importance as direct services for the public is the dispute resolution procedure under section 47a of the Telecommunications Act and section 10 of the Postal Services Ordinance (PDLV), and consumer protection.

The Energy Act only provides for the regulation of electricity and gas networks. Upstream generation or import markets and consumer markets are also monitored closely by the Agency, however. The Agency's legal function under the Energy Act is to create, through unbundling and regulation of the networks, the basis for well-functioning competition in the upstream and downstream electricity and gas markets. The aim is to secure non-discriminatory network access and to regulate the use of the system charges levied by the companies. The Agency can draw on its experience of regulating the telecoms and postal markets to achieve lean, efficient and practicable regulatory practices. The years 2007 and 2008 were also notable for the preparations to introduce incentive regulation and for greater engagement at European level.

Since the First Act Amending the Renewable Energy Sources Act took effect on 1 December 2006, the Agency has been discharging executive functions in this area. These include moni-

toring the distribution, across the country, of renewable energy volumes and compensation payments. Also monitored is the notification of differential costs and compliance with statutory duties.

On 1 January 2006 the Agency also assumed responsibility for monitoring compliance with the legislation on access to rail infrastructure. Its regulatory activities covered, in essence, all infrastructure managers (symmetric regulation). A principal task is to secure the non-discriminatory use of rail infrastructure for the railway undertakings and other access beneficiaries. Rail infrastructure covers both the infrastructure and services connected with tracks and those connected with service facilities (eg stations, freight terminals). Preventive, or ex ante, regulation is also in place besides ex post regulation, under tight time limits. Access regulation also encompasses the level and structure of infrastructure and other charges, so that price regulation is also prominent.

To emphasise more strongly the uniform structure of the Agency, there is a special department for the regional offices, the contact point with consumers and the industry across the country.

The regional offices are responsible mainly for technical matters. They provide advice, for instance, on compliance with the Telecommunications Act, on electromagnetic compatibility provisions and the electromagnetic compatibility of apparatus. They are also responsible for frequency assignment, eg for mobile radio and PMR systems. Other important functions are the processing and resolution 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 government programme "Future-Oriented Administration through Innovation" the Agency is also taking part in the "Establishment and Extension of Shared Services Centres" project, performing services concerning family allowances, travel expenses, separation allowances, relocation allowances and medical allowances for other authorities and allowance beneficiaries, mainly within the scope of business of the Federal Ministry of Economics and Technology. These services are performed in the regional offices.

As a result of certain tasks being transferred to the regional offices, the headquarters can focus on its core tasks and local staff of the regional offices are meaningfully employed. To adjust its current path to future requirements and ensure a homogeneous distribution of functions, the Agency is undertaking organisational reviews in its regional offices. The outcome of these reviews will be considered in drawing up a standard concept for regional offices.

Human resources

A modern staff management system is a top priority at the Agency. Amid ever greater constraints on staffing levels, it is essential to deploy existing staff optimally as well as to recruit qualified new 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 pro-active staff deployment planning and motivated staff

can the Agency perform its tasks efficiently and cost-effectively at times of tight budgets.

In recruiting new staff the Agency 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 Agency employs a total of 2,500 specialists from a wide range of backgrounds for its highly interdisciplinary fields of activity. These include law, economics, engineering, physics, mathematics, information technology, administration, etc.

The Agency has provided training since 1999. In 2008, a total of 10 young people began as office communication trainees at the headquarters in Bonn and Mainz. Under the traineeships in electronic equipment and systems offered since 2003, 18 places for trainees have been created, available at Göttingen, Bremen and Magdeburg. Thus in 2008, a total of 109 young men and women received training in these two occupations.

Budget

The Agency's income and expenditure is budgeted for in section 09, chapter 0910 of the federal budget.

The table below shows the income for the years 2008 (target and performance) and 2009 (budget):

Type of income	2008 target € '000	2008 performance € '000	2009 target € '000
Telecoms fees, contributions and other charges	66,156	97,090	169,149
Postal fees and other charges	109	64	50
Fees and other charges in the rail sector[1]	576	3	328
Fees and other charges in the energy sector (electricity and gas)[1]	6,218	197	1,100
Other administrative income, eg fines, rents, disposals	1,465	2,735	1,419
Administrative income	**74,524**	**100,089**	**172,046**
Other income	1	0	0
Total income	**74,525**	**100,089**	**172,046**

The 2008 surplus over the target income for 2008 is attributable to frequency fees for the extension of GSM frequency assignments. An increase in income was expected for the 2009 budget on account of a planned auction of GSM and UMTS frequencies. This increase may be delayed to 2010.

The chart below shows the expenditure for 2008 (target and performance) and 2009 (budget):

Type of expenditure	2008 target € '000	2008 performance € '000	2009 target € '000
Staff costs	103,518	105,187	109,181
General administrative expenditure and appropriations	34,578	36,317	35,994
Investment	10,879	13,302	11,832
Total expenditure	**148,975**	**154,806**	**157,007**

[1] For legal reasons it was not possible to collect all receipts in 2008. Deferred income, if any, is not included in the 2009 target.

Strategic plan 2009

The Federal Network Agency 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 Agency in the current year. In addition, the Agency is reporting here on all its main projects in all its fields of activity in which issues of fundamental importance are expected in 2009. Following a public consultation[1] and input from the Agency's Advisory Council[2] the strategic plan 2009 set out below has been adopted.

TELECOMMUNICATIONS

IRG/ERG Chair

The Agency is providing the IRG /ERG Chair in 2009. Agency President Matthias Kurth is Chairman of the Independent Regulators Group (IRG)[3] and the EuropeanRegulators Group (ERG)[4]. He represents the IRG /ERG at European level and heads the Group's sessions for one year.

The Work Programme 2009[5] is called "Adjusting regulation to a changing market environment and preparing for legal and institutional change", reflecting a period of transition. On the one hand, the markets continue to experience dynamic development as a result of technological convergence, investment in next generation networks (NGN /NGA) and the changed business models this brings. On the other, the legal and institutional conditions for regulation and for the NRAs will almost certainly change as a result of the review of the regulatory framework currently being undertaken by the European Parliament and the Council of Ministers. One of the questions to be studied is how regulation can be made more dynamic so as to provide more rapid response in a changing environment. Also to be addressed are issues of the transition from sector-specific regulation to general competition law oversight, particularly for the markets no longer included in the Commission's revised Relevant Markets Recommendation of 17 December 2007[6], being held not to warrant regulation any longer.

[1] Cf Official Gazette No 24/08 of 17 December 2008
[2] Advisory Council meeting of 16 March 2009
[3] The IRG was set up in 1998 and currently has 34 members: 27 national regulatory authorities (NRAs) from the 27 EU Member States, four NRAs from the EFTA states (Iceland, Norway, Liechtenstein and Switzerland) and three NRAs from the acceding countries (Croatia, Turkey and the former Yugoslav Republic of Macedonia).
[4] The ERG was set up in 2003 as the "official" advisor to the European Commission (COM). It consists of the 27 NRAs of the EU Member States and other countries with observer status. The Commission also takes part as an observer (as a member not eligible to vote) in the ERG plenary meetings held every quarter. The ERG advises the Commission on questions of applying the European regulatory framework for electronic communications and services.
[5] The draft 2009 Work Programme was posted on both websites on 17 October 2008 for public consultation, which ran until 7 November 2008.
[6] Published in the Official Journal of 28 December 2008.

The IRG /ERG will continue to engage in these issues during the further progress of Parliament and Council legislation. Moreover, as the body of national experts, IRG/ERG will provide the European institutions with specialist input from the users' point of view, notably for review of the Roaming Regulation, compliance with which is the responsibility of the NRAs.

It is a matter of particular importance to the German Chair to take forward IRG/ERG's work on NGN/NGA development and its regulatory treatment. There is a close connection here between national and European regulatory tasks. To see this connection bear fruit through close cooperation in the IRG/ERG is especially important for the German chair. Securing the deliverables of the IRG/ERG Work Programme during the Agency's chairmanship in 2009 will require great efforts all round, ie active participation will be needed in virtually all the working groups if the IRG/ERG aims are to be significantly advanced.

Market definition and market analysis procedures, regulatory orders

The market definition and market analysis procedures announced in the strategic plan 2008 for the wholesale markets for interconnection services and the fixed retail markets have now been completed. The same applies for call termination in mobile markets.

The review of the findings for the market for the wholesale terminating segments of leased lines is due in 2009 after the two-year period specified by the Telecommunications Act, while a review of access to the local loop will be required as a result of the changed Relevant Markets Recommendation. For both, the conditions will be reassessed in a market definition and market analysis procedure.

The retail leased lines market and the broadcasting transmission services market will also be reviewed in 2009. Admittedly, these are no longer included in the current Relevant Markets Recommendation, but are still subject to regulatory measures. Whether regulation can be discontinued or whether they still warrant regulation can only be assessed in a fresh analysis. Information has been requested for the retail leased lines market; this will provide the basis for the draft decision.

The bitstream access data collected in the new round of market analysis will provide an information base for the question of market regionalisation. In tandem, the Agency has held a consultation in view of the great significance of this. The results will be included in the publication of the draft market definition and market analysis. A draft regulatory order based on it will be published at the same time, as far as possible.

Regulatory implications of the migration to NGN core and access networks

Given the investment in Next Generation Networks (NGNs) and Next Generation Access (NGA) it is necessary to draw up a regulatory strategy to manage the conversion process without detriment to the competitive conditions achieved through use of the ladder of investment model and the promotion of efficient investment in broadband infrastructure both in access and core networks.

While NGN/NGA will bring greater economies of scale and density, the particular mix of technologies will depend more and more on regional characteristics (such as population density) and will therefore differ within and across Germany. This may call for a differentiated regulatory approach.

As migration to NGN/NGA progresses, the wholesale products will be adapted and priced accordingly. How problems are dealt with during this phase is all-important. In the core network, the number of interconnection points in packet-switching networks is a crucial factor for the emergence and development of competition, especially in terms of cost-efficiency (regulatory aim of encouraging efficient investment in infrastructure). Here, account must be taken of the interests of all the stakeholders.

The Agency will widen its information base on NGN costs before applying the cost benchmark specified by the Telecommunications Act. The question of a suitable long-term charging mechanism as a component of a comprehensive interconnection regime for a converged multiservice NGN is on the ERG agenda for 2009. The Agency will follow the process closely.

Fixed-network-based access networks will undergo large-scale restructuring in the next few years. Deutsche Telekom AG (DTAG) in summer 2008 presented its first offers for duct access, access to dark fibre and collocation at the street cabinet. Determinations may be made in 2009 on the conditions for access to ducts and for street cabinet collocation, including the charging.

Regulation of NGA networks is intended to promote efficient investment by the incumbent and competitors. Prioritisation of remedies in line with the ladder of investment should lead to a balanced combination of wholesale products that reflects national circumstances. The Agency will be involved in ERG NGA projects carrying out an economic analysis against the background of rollout. Addressed will be the migration from old to new wholesale products and the implementation of new ones as the main distribution frame becomes redundant. The relationship between regulation of significant market power and symmetric measures will also be explored.

This migration to new networks is subsumed under the development and rapid rollout of powerful broadband networks in Germany. Building high-speed networks and connecting remote areas to the broadband Internet requires heavy investment. The more efficiently existing infrastructures can be shared, the more the costs will fall and the more quickly build can take place.

In conjunction with the Federal Ministry of Economics and Technology, the Agency will begin to draw up an infrastructure atlas. In doing so it will take account, as far as possible,

of the conceptual work of the business community and the broadband initiatives of the federal states. A first version is to be published in autumn 2009. Preparatory work has already begun.

If agreements on infrastructure build are sought between market players and their ideas take shape, the Agency – and the Federal Cartel Office – will work with them to clarify the fundamental regulatory and competition issues as soon as they have received the submissions. The results will then be used to draft common positions that can be used for further cooperative activities.

Basic rates regulation and consistency issues

Consistent charging is important if there is to be fair competition among companies with different networks and services business models. Securing consistency is therefore an ongoing process. This is done on the one hand by individual decisions from the Ruling Chambers. On the other, basic positions on central aspects of the consistency requirement are adopted to give market players a high degree of planning certainty and to facilitate dialogue with them in a context that is related not just to specific decisions. To this end, explanatory notes on price-cost squeeze addressing the relationship between wholesale and retail charges have been published.

Working to secure consistent charging, the Agency will encourage efficient investment in infrastructure, holding discussions with stakeholders. Mindful of the regulatory aims of securing fair competition and encouraging efficient investment in infrastructure, it is looking to shape the relation of the wholesale prices along the value chain in such a way that the providers operating at different levels of the chain can be successful with their particular business model. In a wide-ranging strategy paper the various individual aspects will be brought together in a conceptual whole. These fundamental aspects will be included above all in the regulatory proceedings for 2009 that are crucial for the competitors, ie approving charges for access to the local loop and terminating calls to mobile networks. The rates of interest will also be reviewed as part of this.

To improve planning certainty for market players, the Agency will detail its growth and innovation-oriented regulation. It will draw up key elements for progressing modern telecommunications networks and creating powerful broadband infrastructures, reflecting the federal government's broadband strategy, and invite discussion on them. It will explore the following:

- economic and legal planning certainty (eg regulatory periods) in view of the long planning horizons typically needed for these investments,
- a suitable rate of return on equity in the case of rates regulation for access services so that – if necessary – account can be taken of specific risks,
- suitable forms of infrastructure sharing that comply with the competition rules, by means of which the particular risks may be reduced,
- necessary transparency with regard to the network conversion planned by the market players.

Numbering strategy

One of the aims of regulation, set out in section 2(2) para 8 of the Telecommunications Act (TKG), is to secure efficient use of numbering resources.

Section 2 of the Telecommunications Numbering Ordinance (TNV) requires the Agency, following a public consultation, to publish an annual numbering concept reflecting trends in the telecommunications market and their implications for the numbering plan. The concept should show how the numbering plan is expected to progress, in order to provide maximum transparency and a sound basis for planning. It will place individual measures in context and provide an instrument with which regulatory aims can be achieved through existing arrangements being amended with the involvement of all the stakeholders. The numbering concept, as stated in the Ordinance, will contain an overview of the degree of occupancy and the development of demand in all numbering spaces, numbering ranges and subranges used, identifying those spaces, ranges and subranges where resources are expected to become scarce in the next five years.

The Agency has planned a public consultation in 2009 on the first numbering concept (cf Official Gazette of 11 February 2009, page 594). Publication of the concept is scheduled for early summer. A draft concept for 2010 will then be drawn up in autumn 2009.

Spectrum management

Spectrum management features prominently in the federal government's broadband strategy. Government aims will only be achieved if powerful wireless technologies are used in addition to modern fixed networks and spectrum is used efficiently. Already, wireless broadband services have a vital function, whether as a means to close gaps in coverage with wire-based technologies or as a mobile complement to fixed connections. The diverse spectrum management activities are also important in this light. Special mention should be made of the following.

Specific projects for awarding spectrum

- Drafting a decision on the design of the auction to award spectrum in the bands at 1.8 GHz, 2 GHz and 2.6 GHz for wireless access to telecommunications services, and organisational preparations for the auction.
- Continuing the award proceedings for Broadband Wireless Access (BWA) in the band 3,400 to 3,600 MHz (Package D) and provision of spectrum in the band 3,600 to 3,800 MHz.
- The draft amended Frequency Band Allocation Ordinance makes provision for the band between 790 and 862 MHz, currently used for broadcasting and military purposes, to be opened for mobile broadband applications. Approval of the ordinance by the federal cabinet and the German Bundesrat would mean that the spectrum could soon be used to serve areas previously not covered by broadband. If the Bundesrat gives its consent before the summer recess, the Agency could draw up a frequency usage plan and start award proceedings before the end of the year. Thus the digital dividend could be used in 2010 in some regions, at least, to secure high-speed broadband coverage.

Conceptual projects

- Flexibilisation of the GSM usage rights in the bands 900 MHz and 1,800 MHz to improve broadband coverage.
- Drawing up a spectrum package and assignment concept for PMSE (Programme Making

and Special Events) applications, most notably wireless microphones, also in connection with the ITU World Radiocommunication Conference 2011 (WRC-11).
- Concept for use of the digital dividend.
- Drafting a concept for progressing T-DAB.
- Opening up the bands 52 GHz, 71 to 76 GHz and 81 to 86 GHz for radio relay use.
- Drawing up an Administered Incentive Pricing scheme as an instrument of spectrum management.
- Drawing up a concept on ex post measures as part of the flexibilisation of spectrum management.
- Drawing up the Frequency Usage Plan:
  - updating the Agency's Frequency Usage Plan to incorporate the results and resolutions of the World Radiocommunication Conference 2007 (WRC-07) and amending the Frequency Band Allocation Ordinance accordingly,
  - implementation of international requirements and flexibilisation projects for the following packages:
    - "Wireless access to telecommunications services" in the bands 450 to 470 MHz and 3,400 to 3,800 MHz,
    - enabling the "mobile component" in the band 3,400 to 3,800 MHz,
    - "Applications for Intelligent Transport Systems [ITS]" in the bands 5.9 GHz and 63 GHz, and
    - adaptations to point-to-point and point-to-multipoint radio relay in the band at 26 GHz in line with demand.

European and international projects

- Participation in the European Conference of Postal and Telecommunications Administrations [CEPT] and international spectrum management bodies (International Telecommunication Union [ITU]) is fundamental to introducing new services in Germany, too. Notable examples here are the continued preparations for ITU-R WRC-11 and the strategy for use of the digital dividend. Two more areas of focus are the review of the regulatory framework for automotive short range radar equipment and international harmonisation of the additional frequencies, already available in Germany, for the Global System for Mobile Communications-Rail (GSM-R). The Agency is giving maximum support, through providing the chair in the Electronic Communications Committee [ECC] of CEPT, for instance.
- Drafting national implementation measures for the flexibilisation of spectrum management on the basis of proposals from the Radio Spectrum Policy Group (RSPG), eg Wireless Access Policy for Electronic Communications Services (WAPECS).

Consumer protection

The following actions are particularly important:

- Implementation of the decisions taken on a text and video relay service for the hearing impaired.
- As regards combating number misuse, close watch of the market for new scenarios to circumvent sections 66a ff of the Telecommunications Act, for instance ways to get round blocked numbers.
- Achieving high levels of price transparency. Also, activities to pursue misuse are expected to be widened considerably as a result of the legal changes planned in connection with unsolicited calling.

Technical regulation

Compatibility studies

Interference-free and technically efficient frequency usage calls for a minimum set of compatibility parameters for all radio applications. These compatibility parameters are set in international CEPT and ITU bodies, with input from the Agency and stakeholders. In 2009, a large number of compatibility studies will be needed as a result of the new options for additional transmission capacity that digital broadcasting provides. Preparatory work will also be needed for WRC-11.

EMC standardisation

The international EMC standardisation project on unwanted emissions from wireline networks will enter a critical phase in 2009. This, and setting the limits for multimedia equipment, will be the Agency's main work item in EMC standardisation.

Application of the ordinance to protect public telecommunications networks and radio equipment operated for safety purposes

Enactment of the ordinance to protect public telecommunications networks and radio equipment operated for safety purposes is planned by the Economics Ministry for the beginning of 2009. This will involve preventive action in the shape of random checks, across the country, of unwanted emissions from wireline telecommunications systems and networks, and taking any necessary steps as a result.

Transmitters and receivers that need special protection for reasons of public safety will be monitored by the Agency in consultation with the federal authorities responsible. Those affected will be included by way of participation in two working groups (WG Random Checks, WG Monitoring).

Market surveillance

For 20 years now, the New Approach has regulated the free movement of goods in the EU. Diverse sectoral directives have been issued to create an EU internal market for goods. For the Agency's remit these are the EMC Directive 2004/108/EC and the R&TTE Directive 1999/5/EC. The New Approach gives manufacturers and persons placing goods on the market greater responsibility by letting them declare, through affixing the CE marking, the conformity of their product(s) with the essential requirements set out in the European directives. Market surveillance has thus come to prominence, the New Approach having replaced the earlier ex ante approval provisions with ex post controls.

Under market surveillance, the Agency monitors compliance with the requirements of the EMC and the R&TTE Directives by making spot checks, preventing non-compliant products from entering the market and thereby protecting the consumer. More and more often, market surveillance finds itself faced with cross-border cases in which the market players do not have their headquarters in Germany. The problem is compounded by worldwide trading platforms on the Internet.

Thus the EU has revised the New Approach, publishing on 13 August 2008 a "Goods Package" in the Official Journal that includes the following Regulations:

- 764/08: Mutual recognition
- 765/08: Accreditation and market surveillance
- 768/08: Marketing of products.

The provisions they set out are aimed particular-

ly at greater European cooperation and thus a consistent level of protection for the consumer throughout the EU. The Regulations are applicable from 1 January 2010.

Together with the other European market surveillance authorities, the Agency in 2009 will update the EMC and R&TTE Directives. The German equivalents, the Radio Equipment and Telecommunications Terminal Equipment Act and the Electromagnetic Compatibility Act, will then need revision accordingly. Also, talks must be held with other market surveillance authorities in Germany (eg customs) and in Europe on how to proceed under the new rules so as to be able to take efficient, concerted action against breaches by manufacturers, distributors and importers in the EU.

New direction of work of ITU-T standardization groups in light of the results of the World Telecommunication Standardization Assembly (WTSA-08)

In October 2008 ITU-T, at WTSA-08, took the decision to reorganise its Study Groups to reflect NGN and NGA developments. This will also change the face of the Agency's cooperation. The focus will mainly be on converging network structures, new access networks, network security, addressing and numbering, identification, identity management (IdM), definition of quality characteristics and criteria, and interoperability tests.

Interoperability of broadcast receivers

Taking account of the findings of the Conditional Access/Digital Rights Management (CA/DRM) Project Group of the Technical Telecommunications Regulation Committee (ATRT), the Agency will in 2009 decide on the use of a common scrambling algorithm in connection with the transmission of encoded signals via DSL in closed networks, as required by section 48(3) para 1 of the Telecommunications Act.

Long-term development of software defined radio (SDR) and cognitive radio (CR)

The ever greater mobility of the communications society is accompanied by growing demand for radio-based applications.

These technology and market-driven trends pose great challenges for the regulator. On the one hand, the Agency is to provide spectrum in accordance with demand, ie with minimum delay, in appropriate quantities and, as far as possible, for multiple applications. On the other, it must see that spectrum is used efficiently and does not cause interference, and must secure fair competition and promote sustainable competition in markets. In all this it must also take account of the interests of professional, scientific, military and safety-related radio services.

In pursuit of these aims, the Agency is providing input for research into, and standardisation of, new technologies and reconfigurable radio systems. It is involved in both national research projects (WIGWAM, EASY-C) and international ones (the EU's E3, or End to End Efficiency). One of its aims in doing so is the early introduction of technical regulatory requirements in conjunction with the industry to facilitate the early introduction of new technology concepts and rapid innovation. A global approach is envisaged for the introduction of new technologies, for the above reasons.

The following conceptual activities for 2009 should be mentioned in particular:

- Following the setting up in March 2008 of the Technical Committee Reconfigurable Radio

Systems (RRS) at the European Telecommunications Standards Institute (ETSI), the technical concepts and requirements for SDR/CR will be defined and described in appropriate specifications.
- Development of a concept for flexible spectrum use in conjunction with industry stakeholders in the new EU E3 research project. A flexible certification concept for reconfigurable radio systems will be drawn up for the R&TTE Directive.
- Incorporation of the research results in standardisation (eg ETSI, ITU).
- Request to the Commission by the Telecommunications Conformity Assessment and Market Surveillance Committee (TCAM) to give ETSI a mandate to draw up a harmonised standard for SDR/CR for application under the R&TTE Directive.
- Support for the ITU in preparing a report on cognitive radio systems in the mobile service.

Intelligent Transport Systems (ITSs)

In 2008, the Agency was instrumental in establishing the new ETSI Technical Committee ITS. Work on drawing up a harmonised standard and on frequency identification for 5.9 GHz ITS in the form of CEPT and EC Decisions was successfully completed.

ETSI will create the European Profile Standard for ITS by mid-2009, providing the framework for car to car and car to infrastructure application specifications. In tandem, ETSI will standardise the radio system (digital air interface with channel plan, channel access and radio system management) in 2009. This is a new type of radio system without base stations and with a high degree of mobility, designed primarily to transmit road safety and traffic management information. The Agency has the chair in the relevant ETSI working group.

The aim is to reach full protocol conformity, also in terms of interoperability, made possible by the provision of frequencies on a harmonised European basis. Considerable interest is seen on the part of the German automotive industry, which is playing a bigger part in ETSI standardisation. A special ITS standardisation mandate is currently being drafted so as to secure timely standardisation.

Radio applications for the railway

In 2008 the new harmonised standards for the Eurobalise and Euroloop systems were successfully created at ETSI in conjunction with Deutsche Bahn AG (DBAG), German manufacturers and the Federal Network Agency.

Also, a proposal for use of the GSM-R extension band was made which CEPT will study and decide on in 2009. Parallel to this, the technical feasibility of the proposal was examined and validated in a feasibility study commissioned by the Agency.

The Agency's frequency usage subplan now contains the extension spectrum for GSM-R. As a result of the extension, but also in light of the need for improved, interference-free GSM-R use, a number of standards and specifications will be subject to revision in 2009 by ETSI and the 3rd Generation Partnership Project (3 GPP). This revision will be effected in collaboration with DBAG, UIC (the worldwide organisation of cooperation for railway companies) and the Agency.

These steps are necessary if GSM-R is to be implemented in the extension band on economically reasonable conditions, which, without European harmonised standards and specifications, would remain a distant prospect.

Technical concepts to complement ultra wideband regulation and standardisation

CEPT and ETSI in 2009 both have special standardisation mandates from the Commission on extending and complementing spectrum regulation and standardisation for ultra wideband (UWB) applications. ETSI's activities will focus on the specifications for migration technologies and complementing regulation (ie drawing up new proposals for frequency usage) and the corresponding standards and technical specifications.

For this, cooperation was agreed in 2008 between ETSI and the European FP 7 projects EUWB and WALTER. An agreement was likewise concluded with the WiMedia Alliance (Wireless USB). Thus the activities at ETSI are expected to be completed in 2009. Work at ETSI is being carried out under the Agency's chairmanship, which is also in the interests of the German companies taking part that have gained a leading position notably in UWB sensors. The European aircraft industry will receive support for UWB on board aircraft, account being taken of compatibility with other radio applications and in conjunction with the EU project EUWB.

Technical emergency calls directive

Section 108 of the Telecommunications Act 2004 describes the essential requirements for emergency calls, modified by the Amending Act of February 2007. New providers have entered the market as a result of the move from line switched to packed switched technology and the availability of other access technologies such as broadband and VoIP, making it a matter of urgency to revise the technical rules in order to secure continued provision of emergency calling for everyone. Current plans envisage gradual implementation, to accommodate technological advance. One of the first steps will be planning for the administration and allocation of technical numbers needed to reach the emergency centres.

Automated information procedure

The Agency's automated information procedure as per section 112 of the Telecommunications Act represents an important contribution to public safety. On 1 January 2008 the Telecommunications Interception and Other Undercover Investigation Measures Reform and Transposition of Directive 2006/24/EC Act took effect. This entails additional requirements for the automated information procedure, most notably concerning the retrieval of email addresses and mobile equipment IDs.

The Agency is currently involved in drawing up the new ordinance required by section 112(3) of the Telecommunications Act. This will be followed by a new technical directive, essential for the design of the automated procedure, drawn up in conjunction with the industry associations, telecommunications companies and authorised bodies.

Technical implementation of intercepts

The Agency's activities for the technical implementation of intercepts are a valuable contribution to public safety. In particular, the technical directive as per section 110(3) of the Telecommunications Act provides the basis for the implementations of the telecommunications companies, the manufacturers and the security

authorities. The directive must be adapted as necessary to accommodate new communications technologies.

The arrangements on Internet access (DSL and cable) in the December 2006 directive had largely been implemented by the end of 2008. Work progressed on the studies of WLAN market players and business models. Following completion of the VoIP standardisation activities, a new technical directive was drawn up in mid-2007 covering VoIP communication for the most part. After the directive took effect in early 2008, work began on implementing its amendments at the telecommunications companies. A study conducted by Berlecon Research GmbH and the Fraunhofer Institute for Communication Systems on the VoIP market segment will be used as a basis on which to achieve full coverage of VoIP communication in line with the directive.

In light of the duties set out in the Telecommunications Interception and Other Undercover Investigation Measures and Reform and Transposition of Directive 2006/24/EC Act on the provision of data, the Agency has taken part in international standardisation activities. In 2009 the Agency will draw up a technical directive that reflects these new specifications. Also incorporated in the directive will be the electronic transmission of judicial intercept orders and requests for traffic data.

Data protection/Telecommunications privacy

Service provider checks

Data protection, that is to say the arrangements stipulated by law for dealing with personal data, are under increasing public scrutiny. In the field of communications, too, considerable violations and security breaches came to light last year.

The many ways of re-using data for commercial gain lend attraction to misuse. As a result, the public's trust in business risks being destroyed.

In its capacity as supervisory body, the Agency will step up its checks on service providers' compliance with the specific provisions on data protection and the protection of telecommunications privacy. This means closer examination of the technologies and administration as well as scrutiny of service provider operations in collecting, processing and using the personal data of their customers.

Conclusions must be drawn from the current incidents and thought given to whether these conclusions should also be applied to other companies in the telecommunications industry.

Data retention

On 1 January 2009 the duty, as per section 113a of the Telecommunications Act, to store traffic data for six months as the providers of publicly available telephone services already do, also became incumbent on providers of Internet access services, electronic mail services and Internet telephony services. Also, all providers of publicly available email services collecting, as customer data, email account identifiers and the names and addresses of the email account holders, must retain these data with effect from 1 January 2009 for enquiries from security and criminal prosecution authorities. The duty to retain traffic data is a new supervisory task for the Agency.

ELECTRONIC SIGNATURE

The coming year will see the introduction and extension of several major qualified electronic signature projects. This is likely to bring about a radical change in the public perception of qualified electronic signatures. As a result, the Agency will widen its advisory services for companies and individuals in 2009.

The qualified electronic signature projects are

1. Introduction of an electronic health professional card and an electronic health insurance card. Every health professional card comes with a qualified electronic signature; this is optional for the electronic health insurance card. This means that company services are set for huge expansion in Germany's largest economic sector, worth more than 260bn euros and employing 4.2m, with around 140,000 health professionals and 70 million persons with statutory insurance.

2. Introduction in 2012 of ELENA (electronic record of income, previously called JobCard), providing, by means of qualified electronic signatures, a record of income for some 40m employees. ELENA will not be provided as a smart card in its own right, but only as a qualified electronic signature on a card, replacing, for instance, the applicant's written signature in payment transactions. Preparations for ELENA, for instance setting up a central storage facility, will begin in 2009.

3. The electronic ID card planned for 2009 will also optionally offer an electronic authentication feature stored on a chip, in addition to its original features (photo, proof of identity, travel document). Both the electronic health card and the electronic ID card are configured in such a way that they can also be used for qualified electronic signatures, if the user wishes.

4. Electronic tax returns (ELSTER) are designed to support both electronic authentication and qualified electronic signatures. This will greatly ease the administrative burden associated with tax returns filed on paper.

As regards progressing the legal aspects of qualified electronic signatures, the Agency will assist in transposing Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market. Qualified electronic signature services are also affected by this Directive, so that thought must be given to possible amendments.

European standardisation has special importance in connection with qualified electronic signatures. Thus the Agency is engaging more and more in national, European and international bodies. Mention should be made in particular of its work for the Forum of European Supervisory Authorities for Electronic Signatures (FESA), for ETSI and for Electronic Signatures and Infrastructures (ESI).

Consulting services on building infrastructures on the German model continue to be provided for foreign governments, especially for African countries and for countries wanting greater cooperation with the EU.

POST

Ex post price controls – triggers and investigative powers

Now that the exclusive licence of Deutsche Post AG (DPAG) has expired, ex ante rates regulation has lost importance. Since 1 January 2008 the rates for minimum mailings of 50 letter items have been subject to ex post review only (section 25 of the Postal Act). It is primarily the business customer segment that is concerned. The private customer segment, by contrast, is typically subject to ex ante rates regulation.

Ex post price controls are designed to effectively counter potential abuse and discrimination by the dominant provider. Of particular relevance are the substantive requirements that trigger ex post controls. These controls are necessary at the latest when the Agency becomes aware of facts warranting the assumption of anti-competitive pricing by the dominant provider. It is particularly important to clarify how the Agency, in a fully liberalised market, should deal with such assumptions and what powers it has to follow these up. Besides this study of the Agency's investigative powers the area of application of section 25 of the Postal Act is to be concretised.

Changed mail flows since 1 January 2008

The letters market has been fully open to competition since 1 January 2008. Existing restrictions on the activities of DPAG's rivals no longer apply. Now, DPAG needs ex ante approval only for individual letter items; the rates for bulk mail (minimum mailing volume 50 pieces, discounted) are subject to ex post controls only.

Initial provisional information shows that the structure of mail flows between senders, DPAG, competitors and recipients has also changed. These changes can be attributed mainly to activities and responses from the providers; changes are not expected on the demand side as a consequence of the exclusive licence having expired.

The Agency intends to analyse the mail flows and to assess the changes since 1 January 2008, as far as the data and information for 2008 permit. If necessary, further data will be collected for the study. The findings will be incorporated in the Agency's market study 2008, to be published in the course of 2009.

Cross-border services amid greater liberalisation

The Postal Act also applies, in essence, to postal services with other countries. In the past, international mail was generally handled under the terms of the Universal Postal Convention. As liberalisation has progressed, however, cross-border services are being handled more and more through alternative transport and delivery channels.

The Agency will therefore study the ways cross-border mail takes to and from Germany, what service providers are involved and what the mail volumes and structures are. The findings of the study will then serve as a basis for application of the Postal Act to cross-border mail services.

Competition and innovation in the letters market

One of the aims of regulating the postal markets is to secure fair and effective competition and to give consumers the widest possible choice, also where innovative services are concerned. The letters market, alongside the courier, express

and parcels market, accounts for the largest part of the postal market. Unlike in the courier, express and parcels market, DPAG continues to dominate the letters market, even after the advent of competition. The level of competition, already low, has even declined since 1 January 2008, according to preliminary information.

It is not clear at the moment whether this is just a temporary occurrence while the market is adjusting, or the beginning of a trend. Hence the Agency will take a close look at developments since 1 January 2008, identifying market causes in particular. In doing so, it will also look at the development of competition and the competitive opportunities of German mail companies in comparable markets in Europe.

The Agency will also set up a platform for the regular exchange of innovative ideas on promoting competition. The target audience is companies, specialists and other interested parties.

Wages and working conditions in the licensed area

In 2009 the Agency will continue to look at working conditions in the licensed area, most notably at wages, working hours and annual holiday entitlements. This will enable it to update the survey made in 2007. Its aim in doing so is to update the criteria for normal working hours, particularly for wage levels, that are fundamental to licence grant. The findings of the survey and the changes over 2007 will be shown and assessed.

Strengthening consumer rights

There has been a marked increase in the number of complaints from consumers about the quality of mail delivery (DPAG, competitors). The main causes of complaint are long transit times, mail not being delivered every day, mail wrongly delivered and correctly addressed letters being returned; a lesser cause of complaint is disregard of sender instructions, particularly where redirected mail and alternative delivery options are concerned. In such cases the mail provider is not currently liable, either because no liability arrangements exist or because the general terms and conditions exclude liability. The recipients are the ones who are most hurt.

The European postal services directive calls for consumer rights to be strengthened and for refund and/or compensation arrangements in justified cases. Complaints management is set out in European Standard EN 14012. Using input from the interested public, the Agency will formulate requirements for liability provisions to strengthen the rights of consumers. It could take the liability and compensation arrangements used in the rail sector as a guide.

ENERGY

Amongst the many energy regulation tasks, attention is focused particularly on the following for 2009.

Netz AG and formation of a single control area

The Agency continues to support the creation of a single German Netz AG (Network plc) as the most efficient, the most appropriate in light of the major upcoming tasks and, in the European context, the most meaningful structure for the German transmission network. The network operators cannot be forced to agree. But wherever possible the Agency can, and will, support and foster the process of reaching agreement, in an advisory capacity.

As a step towards a Netz AG the Agency explicitly supports the idea of creating a unified control area in Germany. European aspects primarily, not just technical and economic ones, make this appear prudent, at least in the medium term. Only with a unified European "presence" will it be possible to overcome the enormous technical and economic challenges that will face the transmission network following the creation of the internal market for electricity and natural gas. This is all the more true, as the European Commission recently unveiled highly ambitious plans for strengthening security of supply that go far beyond the third energy package that is awaiting approval. One of the proposals is for an integrated network from the Baltic to North Africa.

The Agency will also prioritise continuation of the work begun in 2008 on procedures for reducing control energy on a sustained basis. Germany currently has four legacy control areas corresponding to the property lines of the four German transmission system operators (TSOs). Practice to date under which each TSO itself handles the normal imbalances between generation and consumption in its own service area is to be replaced by cooperative procedures in the procurement of control energy that are expected to have considerable synergy effects. The two models under consideration are currently being studied.

Taking incentive regulation forward

Investment projects

By the 30 June 2008 deadline, the Agency had received applications for the approval under section 23 of the Incentive Regulation Ordinance (ARegV) of investment budgets for a total of 298 restructuring and upgrading projects. Of these, 248 are projects in the electricity sector and 50 are projects in the gas sector. The investment volumes requiring approval for the period 2007 to 2009 total 8.2bn euros and 0.8bn euros in electricity and gas respectively. The measures cover, most notably, the connection of offshore and onshore windparks, restructuring of the grid for the connection of new power plants and expanding gas flows between the market areas. Final decisions will be taken in the first half of 2009, as far as possible, on all applications still awaiting processing, in order of priority, to give all concerned the best possible investment certainty. As most of the preliminary notices in which the Agency declares the extent of the investments it plans to approve have been issued, a sound basis for planning largely exists already. The applications to be submitted by the 30 June 2009 deadline are expected to be for projects undertaken by gas TSOs with supraregional operations.

Integration of gas transmission system operators in incentive regulation

To date, supraregional gas TSOs have been exempted by the special provision of section 3(2) of the Gas Network Charges Ordinance (GasNEV) from the cost examination as per section 23a of the Energy Act (EnWG). Recent Agency decisions, however, have found that these companies are not exposed to effective or potential pipeline competition.

Thus the ten TSOs concerned must now submit their rates proposals to the Agency. The Agency will then examine their costs and approve charges for these companies for the first time.

Subsequently, these TSOs will undergo efficiency benchmarking to prepare for their inclusion in incentive regulation as from 1 January 2010. Revenue paths until the end of the first gas regulatory period will be established for them.

Quality element

Incentive regulation harbours the risk that network operators will comply with their prescribed revenue cap by not investing in their networks, thus contributing to poorer quality of supply. So that this does not happen, sections 18 to 21 of the Incentive Regulation Ordinance provide for quality aspects. Under section 19, the quality element can come into play for electricity supply networks at the beginning of, or during, the first regulatory period, provided sufficiently robust data are available. For gas supply networks, the quality element is to be introduced at the beginning of, or during, the second regulatory period.

Quality regulation will be effected via a quality element, which is part of the formula for the revenue cap. The quality element enables operators whose network has higher than average quality levels to have an amount added to the cap. Conversely, operators with lower levels of quality by comparison will have amounts deducted (bonus/penalty system).

The Agency is about to develop a design concept for the quality element. It plans to draw up a concept on grid reliability in the electricity sector for 2009 and to integrate this as soon as possible. Another issue to be looked at is how quality regulation should be fleshed out as regards network efficiency, likewise part of the quality element under sections 19(1) and 20(5) of the Ordinance. Also, consideration will be given to the use of suitable indicators for the gas sector so that a gas-specific concept can be drawn up as soon as possible. Unlike in electricity, there are not any established quality measurement indicators in the gas sector at present. Once suitable indicators have been determined, the data can be collected for a sufficiently large, robust data basis.

Monitoring notification duties

The notification duties of the operators are set out in section 28 of the Ordinance. The Agency has made determinations on the extent, time and form of the data for notification. Compliance with these requirements will be monitored during the year.

Further concentration of gas market areas

Reducing the number of market areas will be another important work item in 2009. Section 20(1b) of the Energy Act requires the network operators, in the interests of promoting easy and efficient access, to reduce their market areas to a minimum. This will counter fragmentation and increase the zones in which market players can freely trade gas amongst themselves. The expectation is greater liquidity in the gas trading markets. In 2008, a further reduction was achieved. However, the twelve market areas still in place on 1 October 2008 must be yet further concentrated. With this in mind, the Agency opened an abuse case in August 2008 against five gas network operators.

This had become necessary after the companies reneged on their pledge to reduce what had hitherto been five separate low calorific gas

market areas to two by October 2008. There are good prospects of the companies making the decisions the Agency wants before mid-2009. The Agency would also like to see a concentration of the high calorific gas market areas, preferably without the need for abuse cases.

Gas capacity management

Another important area in 2009 is capacity and congestion management. 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. At the same time it can be presumed that much more efficient use could be made physically of some, at least, of the points of interconnection. Thus measures are to be taken in conjunction with the industry associations of operators and users that aim at more efficient capacity allocation and congestion management methods to encourage competition. Once the essentials have been clarified, it will be a matter of creating a practical concept on how to handle congestion in the network. It has not yet been decided whether official determinations are needed, to ensure that the concept is legally watertight.

Liberalisation of metering / Smart metering

Following enactment of the Electricity and Gas Metering Liberalisation Act and the Metering Framework Conditions Ordinance in autumn 2008, metering has been fully opened to competition.

The Metering Framework Conditions Ordinance gives the Agency important added powers to open the market effectively and to make sure it works well. It will be involved, for instance, in questions of the framing of contracts between individual market players, defining the minimum staffing, economic and technical requirements, working out the necessary business processes to promote the greatest possible degree of automation across the country and establishing a national, standardised system of data exchange. In a dialogue with all the market players, the Agency will then decide on the fundamentals of the arrangements and incorporate these in a determination. Experience has shown such determinations to be necessary if the business processes between and among the players are to be structured efficiently and in a non-discriminatory manner and if the information exchange is to be organised in a way that is both reliable and consistent. Otherwise, the legislative aims are likely to be frustrated by differing, inadequate market conditions. The Agency will also examine the scope and conditions for load-sensitive and time-sensitive tariffs for connecting users, as it considers this possibility of pricing necessary to make energy saving potential attractive to customers. As matters stand at present, this might require structural changes to the balancing system.

Transfer of excess proceeds

Acting on the rulings for network operators from the highest court in 2008, the Agency will have their excess proceeds transferred for the first time in 2009. These excess proceeds came into being because the operators applied their original charges until the first approvals were issued.

Solar power register

An amended Renewable Energy Sources Act (EEG) took effect on 1 January 2009. From this date, operators of systems generating power from solar radiation energy (photovoltaic systems) must, under section 16(2) sentence 2 of

the Act, notify the Agency of the site and power of newly operational systems. The notification is a precondition for payment for the power fed in by the network operator. The Agency then determines the rates and sliding scales, following the specifications in section 20(2a) of the Act, for photovoltaic systems set to go live the following year. To be included in the calculations are the photovoltaic systems notified to the Agency between 1 October of one year and 30 September of the following year. The rates and sliding scales are then published in the Federal Gazette on 31 October.

The Agency's data notification concept was introduced on 1 January 2009.

Biogas feed-in

In April 2008 special arrangements on biogas feed-in were added to the Gas Network Access Ordinance (GasNZV) and the Gas Network Charges Ordinance (GasNEV). The related questions of access and passing on costs will also be part of the Agency's work in 2009.

Approval of individual use of system charges

Under section 19(2) of the Electricity Network Charges Ordinance the Agency approves individual use of system charges for end consumers with atypical patterns of use. The current procedural and interpretation principles underwent a review in 2008 in public discussions with operators, suppliers and end consumers. The guide to the approval of agreements on individual use of system charges drawn up as a result was published on the Agency's website at the end of 2008. As from 2009, all the applications will be examined with reference to this guide. Also, all the approvals expiring at the end of 2008 will be reviewed with reference to the guide.

Determination on balancing group accounting

The determination on balancing group accounting and the standard balancing group contract needs approval urgently. It sets out basic rules on German electricity grid use and billing. True, operations in this field are reasonable at the moment, but all market players see considerable scope for improvement, which is why they have asked the Agency to take action on the much-discussed determination as a matter of urgency.

In 2009 the Agency will take a closer look at the balancing groups' forecasting practice for balancing power. The cost reduction that the planned decrease in control energy should bring must not be compromised by the balancing group managers letting up in their efforts to achieve a balance. The introduction of "negative prices" on the EEX may mean that electricity prices are subject to greater short-term fluctuations than before. This must not be allowed to result in the balancing group managers seeking to avoid price peaks by using balancing power. Such breaches of forecasting duties would negate the attempts to reduce control energy. Thus the Agency will step up its market watch and keep a particular eye on the balance groups that influence the control area.

Procedure to determine the main points of the general agreement on electricity supply

The matter of this procedure is still ongoing. The Ruling Chamber was able to clarify the main issues of contention informally between 2006 and 2008, but an increasing number of market players are now requesting an official determination. In light of the ever more complicated legal relations between network opera-

tors, access beneficiaries, suppliers, metering operators, metering service providers and end customers, this would seem appropriate.

Monitoring redispatch (congestion)

Upgrading the network efficiently and in line with demand to deal with the growing transportation tasks of the German electricity grid will also be a focus of activity in 2009. Where upgrading has not been completed, the transmission system must be helped out by so-called redispatch, measures in which individual power plants are instructed by the TSO to scale up or scale down production, contrary to the notified schedules, in order to eliminate temporary congestion. The extent of redispatch and how it is done must be watched by the Agency so that it can assess grid performance and identify where needs are greatest. It is also necessary to keep a close eye on this to make sure that redispatch measures are non-discriminatory and cost-effective. The Agency will step up its redispatch watch in 2009 and issue a determination on creating clear, unambiguous rules, if necessary.

Monitoring the control energy markets

The control energy markets will also need close observation in 2009, despite the matter of their concentration, depicted earlier. At the urging of interested suppliers, the Agency has optimised the tender documents for control energy, notably as regards market entry, and will continue the improvements in 2009 by taking decisions on a number of contentious points in the framework agreements between suppliers and TSOs. If, nevertheless, new suppliers do not enter the market and the prices of primary and secondary control energy services show another marked increase, the Agency will have to examine whether these are marketable products at all or whether, following the example of other European countries, the electricity producers should be obliged to offer control energy in return for use of the networks free of charge.

Publication duties

With a view to continuous supervision, various aspects of publication duties will be the focus of attention in 2009. One example is the bilateral implementation plans agreed with particular operators. The Agency will seek to minimise transparency being compromised by confidentiality by examining matters in publications where the reasons for not publishing have ceased to apply. More recent developments in the gas market such as the amended Gas Network Access Ordinance to accommodate biogas, determination of a basic model for balancing services and balancing rules in the gas sector (GABi Gas) and the creation of new (joint) Internet platforms will require added oversight. The experience from this oversight will inform the specification of existing and new publication duties. It became clear in 2008 already that further publication duties, primarily as regards capacity and gas flow data, would be helpful.

Europe

Work in ERGEG and CEER

On issues of gas market regulation, the Agency will be represented in the coming year, too, in ERGEG (European Regulators Group for Electricity and Gas) and CEER (Council of European Regulators) as chair and participant respectively.

Activities will remain focused on capacity allocation and congestion management and investment planning. Capacity allocation and congestion management have already been addressed in depth from different angles. Best practice guidelines for investment planning will be drafted to assist operators in drawing up European ten-year investment plans.

Monitoring the implementation of Regulation (EC) No 1775/2005 will also be continued. Activities in 2009 will concentrate on Article 5 "Principles of capacity allocation mechanisms and congestion management procedures" and Article 8 "Trading of capacity rights". Best practice guidelines will be drawn up for storage system capacity allocation and congestion management, detailing the approach in the European Guidelines for Good Practice for Storage System Operators.

Balancing issues (balancing surpluses and deficits), explored in depth in 2008 at national level, will be addressed as part of the preparation of a guide to the Third Energy Package and a study commissioned by the Commission on Articles 3 and 7 of Regulation (EC) No 1775/2005. In particular, the Agency will be looking at system differences and the assessment of detriment to competition brought about by these. Discussion, and, above all, implementation of the Third Energy Package will be one of the main work items in 2009. Specifically, this involves an analysis of the new tasks for the Agency as a result of the Third Energy Package, eg on issues of gas storage systems and gas trading, preparatory work on this (including drawing up framework guidelines on various gas issues) and the initial structuring of processes for gas industry operations at European level.

Besides these activities for CEER and ERGEG, continuation of work in the Gas Regional Initiatives has high priority. The Regional Initiatives aim to dismantle trade and transport barriers between the EU states initially at regional level, in order to facilitate the creation of a single market. Germany is a member of the North West regional gas market, along with the UK, France, Belgium, the Netherlands, Denmark, Sweden and Ireland.

The Agency is also responsible for a sub-project on primary cross-border capacity to allow day-ahead award of firm capacity at selected border interconnection points.

Third Energy Package, in particular ownership unbundling and cross-border cooperation

Provided the Third Energy Package is adopted to schedule as expected, work will begin in 2009 on its implementation into German legislation. The package comprises five legal texts.

The following texts will take immediate effect, without a further implementing act, on the day following their publication in the Official Journal: the Agency regulation [7], the European electricity access regulation [8], and the European gas access regulation [9]. However, the European electricity and gas access regulations will only be applied 18 months after taking effect. The same applies to the Agency regulation with the

[7] Proposal for a Regulation of the European Parliament and of the Council establishing an Agency for the Cooperation of Energy Regulators.
[8] Proposal for a Regulation of the European Parliament and the Council amending Regulation (EC) and the Council amending Regulation (EC) No 1228/ 2003 on conditions for access to the networks for cross-border exchanges in electricity.
[9] Proposal for a Regulation of the European Parliament and the Council amending Regulation (EC) No 1775/2005 on conditions for access to the natural gas transmission networks.

exception of the provisions[10] on the establishment of the Agency. Thus the Agency is to be established as soon as the regulation has taken effect. It will begin work officially, however, only 18 months afterwards.

It will be one of the Agency's main tasks in 2009 to help transpose the new legal requirements into German law. In particular, it will lend its support to setting up the Agency for the Cooperation of Energy Regulators. This new Agency is expected to be set up immediately after the regulation has taken effect. The NRAs will have a key role in the Agency's new Board of Regulators. The Agency's aim is to coordinate the work of the NRAs at Community level and to make sure that European requirements are applied consistently.

Another focus will be preparations for the tasks incumbent on NRAs after expiry of the 18-month period. Specifically, the following should be mentioned:

- establishment of a certification procedure for electricity and gas TSOs, the organisation, supervision and control of which will be the responsibility of the regulator,
- supervision and control of TSO unbundling, which must happen no later than one year after transposition of the directives (ie 30 months after taking effect),
- examination of the TSOs' ten-year system development plans and monitoring their implementation.

Against the background of the European aims on energy and climate change, the preparations for creating an internal market in electricity and natural gas take on added importance. The Agency's role is particularly crucial here in light of these fundamental security of supply issues.

Strengthening market integrity at energy trading points

To strengthen the integrity of the electricity and gas markets, the Commission has issued a mandate to ERGEG and the Committee of European Securities Regulators (CESR), the European energy and financial markets regulators. The joint working group, the vice chairman of which is provided by the Agency, has found electricity and gas trading to offer considerable potential for market abuse (insider trading and market manipulation), and has made proposals on how market integrity can be strengthened through harmonised transparency mechanisms. In this connection the regulators have pointed out that other markets that influence electricity and gas pricing (such as emissions, oil and coal trading) should be included in the study of further regulation.

The Commission has welcomed the proposals and is considering how they can be put into practice. It may ask the energy regulators for further advice.

At national level, a transparency initiative for the electricity sector was launched by the Economics Ministry in 2008, resulting in the market players (producers, consumers and TSOs) agreeing to publish relevant data on the EEX website. It is hoped to complete the project in time for the launch of the EEX Internet platform by mid-2009.

[10] Articles 5, 6, 7, 8, 9 and 10 of the Agency regulation.

Market coupling in the central and western Europe region

The introduction in 2007 of a loadflow-based coupling of the markets of Belgium, Germany, France, Luxembourg and the Netherlands agreed in a Memorandum of Understanding is still at the implementation stage.

Initially, for a transitional period until the end of 2009, market coupling is to be introduced using improved, but not yet loadflow-based, capacity calculation. The Agency will continue to push loadflow-based market coupling so that it can soon become a reality.

RAIL

With regard to regulating access to rail infrastructure, the Agency in 2009 will continue the work it began when it assumed responsibility for this on 1 January 2006. Following the consultations on partial privatisation of Deutsche Bahn AG (DBAG), the Agency drew up a number of proposals on how the existing legal instruments could be made more specific and details changed. This is still important, even after the task of managing the legal aspects of partial privatisation has been shelved. The Agency will update its amendment proposals for the General Railway Act (AEG) and provide a detailed position paper on the amended Rail Infrastructure Usage Regulations (EIBV), drawing on its experience of applying the rules, especially on taking competition forward and encouraging market entry.

Special mention should be made of the following 2009 work items.

Rates regulation

The pricing of rail infrastructure usage is central to non-discriminatory access. Charges that are discriminatory, too high or that have a prohibitive effect may make the exercise of statutory access rights much more difficult, or encourage anti-competitive practices.

Rates regulation cases

Not least because of insufficient information, the Agency will continue its investigation of DB Station & Service AG's station pricing system and particularly of DB Netz AG's path pricing system. Further cases involving reviews of pricing structures and levels and monitoring compliance with pricing principles could largely be closed thanks to constructive talks with the regulated companies.

The rates regulation cases will involve the following:

- monitoring compliance with the full cost benchmark for the rail network (establishing the costs that have actually arisen, taking account of cost coverage through public subsidies),
- reviewing compliance with the pricing criteria for service facilities,
- structuring based on the costs arising in direct connection with train operations, and mark-ups,
- allocation of common costs,
- taking account of head office charges and internal prices in group companies,
- non-discriminatory application of the principle of market viability,
- reviewing individual components and mark-ups, regional factors in particular, and
- looking at service facilities environments.

Incentive regulation scheme

There are considerably fewer price regulation arrangements in the rail sector than in other regulated areas. Given the information asymmetry between infrastructure managers and regulatory body and the lack of incentives to lower costs and access charges, the Agency considers it wise to take price regulation forward. At the proposal of the Federal Transport Ministry, the Agency thus set up a working group in mid-2007 comprising representatives of the Finance Ministry, the Transport Ministry, the Economics Ministry, the federal state ministries, DBAG, the Netzwerk Privatbahnen (Network Private Rail), the Verband deutscher Verkehrsunternehmen (Association of German Transport Undertakings, or VDV) and the Federal Cartel Office. The result of the group's work in May 2008 was a regulatory concept for future efficiency-oriented rates regulation.

In it, the Agency recommends the price cap model. Taking account of the rate of price increases, productivity gains, state subsidies and any other parameters, it sets a cap on the development of the regulated company's prices (incentive path) in the particular regulatory period (three to five years) that stimulates efficiency and delivers suitable returns. If the company manages to reduce costs to a greater extent than specified, it can keep this efficiency gain. Price cap regulation also provides an incentive to sell more services and thus promotes the aim of getting more traffic on to the rail.

It is recommended that baskets of products be created, each with its own cap, eg for train paths, sub-divided into services in local passenger traffic, long distance passenger traffic and freight. Further baskets could be created for different service facilities. The final report on introducing incentive regulation in the rail sector was posted on the Agency's website in January 2009.
The Agency intends to take this concept forward, independently of the progress of DBAG's partial privatisation, under its symmetrical regulation, in order to provide the lawmakers in 2009 with conceptual proposals. It will draw on the experience of incentive regulation in energy regulation in doing so.

Incentives to lessen disruptions (performance regime)

Under section 21(1) first sentence of the Rail Infrastructure Usage Regulations, track operators must charge for their mandatory services in such a way that they offer railway undertakings and track operators incentives, through performance-related components, to lessen disruptions and enhance rail network efficiency.

DB Netz AG, the biggest rail infrastructure operator, introduced such an incentive scheme on 10 December 2006 with its timetable change. Under the system, every delay longer than two minutes is registered by the infrastructure manager's service providers, along with particulars of the causing company and a delay code, and an incentive charge of €0.10 per minute of delay is paid by the causing company to the party concerned. A number of causes of delay stemming from the rail network (construction measures) are excluded, however. The category "no responsibility on the part of any party" is detrimental to the incentive scheme and runs counter to the intended effect of more efficient infrastructure use.

Following opposition from the market and legal disputes, DB Netz AG discontinued the system in 2008 completely. Since then, delays caused

by disruption are recorded, but charges are not billed.

Meanwhile, a number of alternative models have been discussed by DB Netz AG and various specialist bodies. There are question marks in particular over how delays and the cause of delays should be established, over concrete charging and how objections should be handled. DB Netz AG is not expecting the incentive scheme to be re-introduced before the end of 2010. This is chiefly due to the complexity of the system and ongoing discussions with market players to reach agreement.

The Agency has grave concerns about the failure to keep the prescribed incentive scheme up and running, particularly about the date given (2010) for its re-introduction. It fears detriment to competition in this time and the latent threat that charges will not properly reflect services provided. Thus to secure effective competition, it will urge DB Netz AG to introduce a new system promptly and actively oversee its progress.

Operators of service facilities are also required by law (section 24(1) of the Rail Infrastructure Usage Regulations) to provide an incentive scheme. Here, too, the Agency oversees symmetric introduction and application.

Network and service facilities statements

Fundamental to access regulation is the preliminary examination of the network statement (SNB) and the service facilities statement (NBS) as part of preventive regulation.

The Agency made a number of checks and raised various objections to the statements in 2007. As the statements are constantly being taken forward and are linked with operational and technical regulations, further checks will always be needed. New insights and conclusions from current court cases will inform the process.

Approval of framework agreements with a term exceeding five years

Framework agreements within the meaning of section 14a of the General Railway Act and section 13 of the Rail Infrastructure Usage Regulations that secure infrastructure capacity for longer than one working timetable period, should run for five years as a general rule.

Framework agreements may be signed for longer than five years, however. This presupposes that the circumstances named in section 14a(2) of the Act (eg specialised investments, comparable risks) are given and the Federal Network Agency has approved the agreement. Task executants are not subject to the approval requirement; they can conclude framework agreements for longer than five years without any special documentary proof.

No framework agreements for longer than five years were signed for the first framework agreement period (2005 to 2010), although this would have been possible.

As the Agency is expecting agreements to be signed for longer than five years for the second framework agreement period beginning in December 2010, it has devised new checks and an approval procedure for this. It has held an information meeting with access beneficiaries to give them details. It assumes that 2009 will see a number of applications for the approval of long-running framework agreements.

Also, the amended version of section 38(8) of the General Railway Act will take effect in 2009. Under the new provision, as from January 2010, framework agreements can be concluded that can be extended once. The conclusion of such agreements likewise requires the approval of the Agency, whereby the requirements for the grant of such approval are comparable to those set out in section 14a(2) of the General Railway Act.

Path allocation in the working timetable and for occasional services

Allocation of infrastructure for the working timetable as per section 8 of the Rail Infrastructure Usage Regulations and for occasional services as per section 14 of the Regulations is subject to special controls by the Agency, in particular when infrastructure managers plan to turn down applications for train paths under section 14d paras 1 and 2 of the General Railway Act, following the prescribed procedures.

The Agency will take a closer look at the internal rules under which the decisions on train path allocation are taken for the particular access beneficiaries. As DB Netz AG does not currently supply the Agency with the infrastructure data, the basic data for timetable construction, more on-site visits to the DB Netz AG train path construction offices will be required to give it the necessary insight into train path management. This is particularly necessary if it is to be able to assess the operational construction decisions.

Most notably in connection with occasional services, the Agency's attention has been drawn by several railway undertakings to mismanagement with regard to train path construction, particularly to the late release of timetable documents, which results in considerable disruption for the railway undertakings concerned.

Effect of construction measures on competitors

The Agency will step up its efforts to find out how users are informed about construction measures undertaken by the infrastructure manager before applying for train paths and how users' concerns are taken into account in planning. Just the extent of construction measures planned for 2008 and subsequent years can have major implications for the competitive position of the users.

In extensive talks the Agency has succeeded in getting DB Netz AG to draw up a new concept on timely information on construction measures for all access beneficiaries. This new concept improves, in particular, consultation with the infrastructure users. DB Netz AG has been obliged by official notice to introduce the concept; the Agency will make sure it is implemented consistently.

Access to marshalling yards

Marshalling yards are important in dealing with freight traffic. Transport units from different origins travelling to the same destination can (and must) be put together in these service facilities, particularly when long distances are involved.

Access to these facilities and details of use are important issues for the railway undertakings and can significantly affect their competitiveness. The current access options are not deemed adequate by the market, by DBAG's competitors in particular. With special reference to non-discrimination and efficiency, the Agency will

therefore examine and analyse what marshalling yard capacity is kept and how it is used.

International activities

As the rail networks in Europe become more integrated and cross-border traffic increases, national infrastructure managers are stepping up their efforts to implement cross-border train path allocation mechanisms and capacity planning. Community law requires cross-border cooperation from the infrastructure managers. The big operators meet these obligations, as a rule. Yet the cooperation processes often lack transparency, both for the railway undertakings and the national regulatory bodies.

At the same time, the Community basis for the urgently needed cross-border cooperation between the national regulatory bodies is hardly adequate. In close consultation with the Commission and the other national regulatory bodies the Agency is working on proposals for improving the Community framework.

A new challenge is seen by the Agency in cross-border IT networks that implement logistics requirements. A prominent position is occupied here by the projects TAF TSI (Technical Specifications for Interoperability for Telematic Applications for Freight) and TAP TSI (Technical Specifications for Interoperability for Telematic Applications for Passenger Transport), which the Agency considers to have great potential for improving the intermodal and intramodal competitive ability of the railway. However, the downside is the scope for discrimination that this presents. The operator of such an information network has control over all the data of the railway undertakings. Stringent requirements must therefore be made of the operator's independence, impartiality and reliability. A much greater willingness to provide transparency will make it possible in future to convert theoretical opportunities into concrete options.

In conjunction with the other national regulatory bodies, the Agency will work to secure railway undertakings' infrastructure access rights against the background of these developments. In consultation with the European Commission it is looking to achieve maximum transparency in all moves to realise and facilitate cross-border train path rights.

List of 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

AGAB
Association of Recognised Evaluation and Certification Bodies

AGB
General terms and conditions

AGCOM
Italian communications regulatory authority

ARegV
Incentive Regulation Ordinance

ATM
Asynchronous Transfer Mode

ATRT
Technical Telecommunications Regulation Committee

B

BAPT
Federal Post and Telecommunications Office

BBA-Faktor
BBA factor

BDEW
Federal Association of German Energy and Water Industries

BEMFV
Ordinance concerning the Controls for the Limitation of Electromagnetic Fields

BfS
Federal Office for Radiation Protection

BGBl
Federal Law Gazette

BGH
Federal Court of Justice

BHKW
Block-type thermal power station

BMAS
Federal Ministry of Labour and Social Affairs

BMF
Federal Ministry of Finance

BMI
Federal Ministry of the Interior

BMPT
Federal Ministry of Post and Telecommunications

BMU
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

BMVBS
Federal Ministry of Transport, Building and Urban Affairs

BMWi
Federal Ministry of Economics and Technology

BOS
Emergency organisations

BVerfG
Federal Constitutional Court

BVerwG
Federal Administrative Court

BWA
Broadband Wireless Access

BZA
Outbound mail sorting centre

BZE
Inbound mail sorting centre

C

CASC-CWE
Capacity Allocation Service Company for the Central West-European Electricity Market

CEER
Council of European Energy Regulators

CE-marking
Communauté Européenne (European Community)

CEN
European Committee for Standardization

CEPT
European Conference of Postal and Telecommunications Administrations

CERP
European Committee for Postal Regulation

CESR
Committee of European Securities Regulators

Com Reg
Commission for Communications Regulation

CP
Common Position

CR
Cognitive Radio

CT1+ and CT2
Cordless telephone technologies

ct/kWh
Cent per kilowatt hour

CUB TF
Competition and Unbundling Task Force

CuDA 2 Dr
2-wire copper pair

CuDA 2 Dr hbr
2-wire copper pair for high transmission rates

D

DBAG
Deutsche Bahn AG

DEA
Data Envelopment Analysis

DECT
Digital Enhanced Cordless Telecommunications

DLR
German Aerospace Center

DMR
Digital Modular Radio, or Digital Mobile Radio

DPAG
Deutsche Post AG

DRM
Digital Rights Management

DSL
Digital Subscriber Line

DTAG
Deutsche Telekom AG

DUSS
Deutsche Umschlaggesellschaft Schiene-Straße m. b. H.

DVB-T
Digital Video Broadcasting-Terrestrial

DVGW
German Technical and Scientific Association for Gas and Water

E

e
expected

EBA
Federal Railway Authority

ECC
Electronic Communications Committee

EDIFACT
Electronic Data Interchange For Administration, Commerce and Transport

EECMA
European Electronic Communications Market Authority

EEG
Renewable Energy Sources Act

EEX
European Energy Exchange AG

EFIS
ERO Frequency Information System

EIBV
Rail Infrastructure Usage Regulations

EIU
Rail infrastructure manager

EMC
Electromagnetic compatibility

EMCC
European Market Coupling Company GmbH

EMF
Electromagnetic fields

EMVG
Electromagnetic Compatibility Act

EMV-RL
Electromagnetic Compatibility Directive

EMVU
EMC and the environment

EnLAG
Power Grid Expansion Act

ENTSO
European Network of Transmission System Operators

EnWG
Energy Act

EP
European Parliament

ERG
European Regulators Group

ERGEG
European Regulators Group for Electricity and Gas

ERTMS
European Rail Traffic Management System

ETCS
European Train Control System

ETSI
European Telecommunications Standards Institute

EU
European Union

EU-25
Member States of the European Union up to and including 2006

EuGH
European Court of Justice

EUWB
European Ultra Wide Band

EVU
Railway undertaking

EWG
Electricity Working Group

F

FernleitungsVO
Gas Transmission Ordinance

FESA
Forum of European Supervisory Authorities

FreqBZPV
Frequency Band Allocation Ordinance

FTEG
Radio Equipment and Telecommunications Terminal Equipment Act

FTR
Fixed Termination Rates

G

GABi Gas
Basic model for balancing services and balancing rules in the gas sector

GasNEV
Gas Network Charges Ordinance

GasNZV
Gas Network Access Ordinance

GeLi Gas
Business processes for switching gas supplier

GEODE
European association of independent gas and electricity distribution companies

GHz
gigahertz

GKG
Court Costs Act

GPKE
Business processes for supplying customers with electricity

GPRS
General Packet Radio Service

GSM
Global System for Mobile Communications

GSM-R
Global System for Mobile Communications-Rail

GW
gigawatt

GWB
Competition Act

GWh
gigawatt hour

H

HDSW
Harmonised service of social value

H-Gas
High calorific value gas

HHLA
Hamburger Hafen und Logistik AG

HPA
Hamburg Port Authority

HSDPA
High Speed Downlink Packet Access

HSUPA
High Speed Uplink Packet Access

HVt
Main distribution frame

I

IARN
International Audiotex Regulators Network

ICP
Interconnection partner

ICT
Information and communications technology

IMT
International Mobile Telecommunications

IP
Internet Protocol

IP-IC
IP interconnection

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
Primary rate ISDN lines

ISO
Independent System Operator

ISO/IEC
International Organisation for Standardization

ISP
Internet Service Provider

IT
Information technology

ITO
Independent Transmission Operator

ITS
Intelligent Transport System

ITU
International Telecommunication Union

K

K 9/18
Flexibilisation of frequency usage rights in the bands 900 MHz and 1,800 MHz

KeL
Costs of efficient service provision

KEP
Courier, express, parcel

kHz
kilohertz

KOM
European Commission

KraftNAV
Power Plant Grid Connection Ordinance

kV
kilovolt

KVz
Cable distributor

kW
kilowatt

kWh
kilowatt hour

KWK
Combined heat and power system

L

L-Gas
Low Calorific Value Gas

LNG
Liquefied Natural Gas

LTE
Long Term Evolution

LuFV
Service level and funding agreement

M

MAD
Market Abuse Directive

MessZV
Metering Access Ordinance

MHz
megahertz

MiFID
Markets in Financial Instruments Directive

MMS
Multimedia Messaging Service

MRU
Manner-Romberg Unternehmensberatung

MTR
Mobile Termination Rates

MW
megawatt

MWh
Megawatt hour

N

NBP
National Balancing Point

NBS
Service Facilities Statement

NDAV
Low Pressure Connection Ordinance

NGA
Next Generation Access

NGN
Next Generation Network

NHH
Nemzeti Hirközlési Hatóság

NotrufV
Emergency Services Access Ordinance

NRA
National Regulatory Authority

O

OLG
Higher regional court

OPTA
Onafhankelijke Post en Telecommunicatie Autoriteit

OVG
Higher administrative court

P

PDLV
Postal Services Ordinance

PEK
Capacity enhancement plan

PMD
Radio monitoring and inspection service

PostG
Postal Act

PSTN
Public Switched Telephone Network

PUDLV
Postal Universal Service Ordinance

PZA
Service of documents

Q

QES
Qualified electronic signature

R

Reg TP
Regulatory Authority for Telecommunications and Post

RFID
Radio Frequency Identification

RNE
Rail Net Europe

RSC
Radio Spectrum Committee

RSPG
Radio Spectrum Policy Group

R&TTE
Radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity

S

SAR
Specific absorption rate

SchuTSEV
Ordinance concerning the Protection of Public Telecommunications Networks and Transmitters and Receivers operated for Safety Purposes

SDR
Software Defined Radio

SES
Société Européenne des Satellites

SFA
Stochastic Frontier Analysis

SGV
Rail freight

SigG
Electronic Signatures Act

SMS
Short Messaging Service

SNB
Network Statement

SPFV
Long-distance passenger rail services

SPNV
Regional passenger rail services

SRD
Short Range Device

StPO
Code of Criminal Procedure

StromNEV
Electricity Network Charges Ordinance

StromNZV
Electricity Network Access Ordinance

T

TAF TSI
Telematics Application for Freight – Technical Specification for Interoperability

TAL
Local loop

TAP TSI
Telematics Application for Passengers – Technical Specification for Interoperability

TC331
Technical Committee for Postal Services

TCAM
Telecommunications Conformity Assessment and Market Surveillance Committee

TCB
Telecommunication Certification Body

TC RRS
Technical Committee Reconfigurable Radio Systems

T-DAB
Terrestrial Digital Audio Broadcasting

TEN-E-Leitlinien
Guidelines on Trans-European energy networks

TF
Task Force

TKÄndG
Telecommunications Legislation Amendment Act

TKEE
Telecommunications terminal equipment

TKG
Telecommunications Act

TNV
Telecommunications Numbering Ordinance

TPS
Train path pricing

TR
Technical directive

TR TKÜ
Telecommunications Interception Technical Directive

TW
terawatt

TWh
terawatt hour

U

UCTE
Union for the Coordination of Transmission of Electricity

ÜNB
Transmission system operator

UIC
Worldwide organisation of cooperation for railway companies

UMTS
Universal Mobile Telecommunications System

UNEP
United Nations Environment Programme

UWB
Ultra Wide Band

UWG
Unfair Competition Act

V

VDSL
Very High Speed Digital Subscriber Line

VDV
Association of German Transport Undertakings

VfOSchli
Amended rules of procedure

VG
Administrative court

VKU
Association of Local Utilities

VNB
Distribution system operators

VoIP
Voice over Internet Protocol

W

WALTER
Wireless Alliance for Testing Experiment and Research

WAPECS
Wireless Access Policy for Electronic Communications Services

WG
Working Group

WIK
Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste (consultancy)

WIMAX
Worldwide Interoperability for Microwave Access

WLAN
Wireless Local Area Network

WPV
Universal Postal Union

WRC
World Radio Conference

WS EFB
Workstream Incentive-based Regulation and Efficiency Benchmarking

WTSA
World Telecommunication Standardization Assembly

Z

ZDA
Certification service provider

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