Federal Network Agency

# Annual Report 2006

# Annual Report 2006

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


Next Generation Networks


Consumer protection and advice

# Contents

International cooperation

Telecoms

Post

Energy

Railway

# President's message

The past year has been a turbulent one. It has often seen the Agency's work in the focus of public interest. Discussion of the gas and electricity price increases, in particular, was the background to the – often critical – view of the energy industry.

Under its mandate, the Agency sought to take the emotion out of the debate and to improve the customer's information through greater transparency. Our first Monitoring Report has been published, an extensive document that analyses a host of facts on the energy market.

Clearly, the problems of insufficient competition in the gas and electricity industries can be resolved only with a holistic strategy that includes a number of coordinated measures.

The Agency is making a vital contribution to this by, amongst other things,

- operating controls for use-of-system charges, with the sole benchmark being efficient operator costs,
- preventing and eliminating discrimination on network access issues,
- standardising and thus facilitating the process of switching provider for the customer,
- improving the conditions for connecting new power stations to the grid,
- achieving a dual contract model for access to the gas network and reducing the number of market areas.

We share the impatience of the consumers and the European Union about the unacceptability of the current market and pricing structures. Yet it must be realised that processes of change involve a host of detailed elements and can be implemented only step by step, keeping track of the clear regulatory aims. The Report shows how complex and wide-ranging our work is.

It is therefore all the more important that companies exploit the opportunities competition offers. Regrettably, consumers' complaints about unjustified price rises are too seldom followed by a switch to a cheaper provider. In the gas market, companies' willingness to engage in competition is still highly unsatisfactory. And so only a long-term, coordinated strategy of measures will lead to the desired success in the energy market.

Besides these urgent tasks in the energy market, we are taking our work forward in the other network sectors with undiminished vigour.

As this Report shows, the dynamic telecommunications market is a splendid example of the transformation from a state monopoly to a competitive market.

If we apply this example to the other sectors, we see that the timescale is some ten years. Patience is therefore necessary. Crucial for all the market players is maximum continuity and predictable regulation, to provide investment and planning certainty.

The forthcoming change that will see the convergence of networks and services and new IP-based networks should be tackled by all concerned in a forward-looking manner, transparently and with consideration. We delivered a good basis for this in 2006 with the work of a group of experts; this work must now be debated and translated into concrete measures, avoiding the kind of heated confrontation experienced in the VDSL debate.

Fundamental changes are forthcoming in the postal and rail sectors.

The timetable set by the lawmakers for the full opening of the postal market to competition specifies the beginning of 2008. Deutsche Post AG has long been working towards this, and it would be most welcome if as many of the European Union countries as possible followed Germany's example.

We have seen in the rail sector that both Deutsche Bahn AG and the competitors stand to benefit from the opening of the market. Rail freight is growing disproportionately by around 10 percent, and progress is being made as regards our aim of shifting some of the freight off the road onto the rail. That is why we should use the rail reorganisation to get a larger share still onto the rail. Growing competition and optimised access regulation by the Agency will be critical factors in this.

The Annual Report for 2006 focuses only on the larger canvas in the different sectors.

Yet it also shows we have a central intermediary role in advising and supporting the consumer and the individual. The Agency is perceived as serious and credible particularly where individuals feel hassled and cheated. The pricing plan jungle and wide range of misleading advertising, even illegal deception in some cases, call for a watchdog with teeth. This is our role, to prevent, amongst other things, the black sheep from detracting from the positive growth aspects of the new technologies.

Recalling the experience of this past year, I should like in conclusion to underline just how helpful and practical it has been to integrate the different network sectors under one roof. It has greatly helped energy and rail regulation to get off the ground. The legal and economic problems of the different networked industries, in particular, have much in common.

The Agency has become a competence centre for competition in the networked industries. The interest of foreign visitors and a raft of scientific research projects show how the integrationist approach chosen by the German lawmakers is evolving to point the way and set an example.

Thus our aim continues to be to illustrate the benefits of competition to the consumer and the industry as a whole and to open up practicable ways in a dialogue with all concerned.

Matthias Kurth
President

# Federal Network Agency

**General Staff Council**
**Staff Council**
**General Spokesperson for Disabled Persons**
**Spokesperson for Disabled Persons**
**Data Protection Commissioner**

**President**

**Vice President**

**Vice President**

**Ruling Chamber 1**
**President's Chamber**

Licensing and
Universal Service
in Telecommunications and Post
Radio Spectrum Resources

**Ruling Chamber 2**

Retail Markets
Fixed Line Networks

Responsible for markets:
1 – 6, 19, 20, 27*

**Ruling Chamber 3**

Wholesale and Retail Markets
Broadband Internet Access
Mobile

Responsible for markets:
7, 12 –18, 21 – 27*

**Ruling Chamber 4**

Wholesale Markets
Fixed Line Networks
Local Loop

Responsible for markets:
8 – 11 , 27*

**Ruling Chamber 5**

Rates Regulation and Special
Control of Anti-Competitive
Practices Postal Markets

**Ruling Chamber 6**

Regulation
Electricity Networks

**Ruling Chamber 7**

Regulation
Gas Networks

**Ruling Chamber 8**

Use of System Charges
Electricity

**Ruling Chamber 9**

Use of System Charges
Gas

Equal
Opportunities
Commision

**Z**

Business Support

**Z 1**

Organisation
Personnel

**Z 11**

Organisation,
Personnel Management
Occupation Health and Safety

**Z 12**

Policy, Personnel Representation
Legislation, Senior and Upper Grade
Service Staff,
Special Unit Further Training

**Z 13**

Medium and Basic Grade Service
Staff, Salaries, Remuneration,
Travel and Relocation Expenses

**Z 14**

Buildings,
Real Property

**Z 15**

Centralised Internal
Administration
Library
Special Unit Translation Service

**Z 2**

General Legal Affairs
Finances
Controlling

**Z 21**

General Legal Affairs
Part 7 TKG Legal Issues
Data Protection
Administrative Offences

**Z 22**

Tariff and Contribution
Charges Legislation
Collection Services

**Z 24**

Tax Matters
Budget
Budgeting

**Z 25**

Purchasing,
Motor Vehicles
Accident Compensation
Special Unit
Sickness Allowances

**Z 26**

Controlling
Transaction and
Cost Accounts
Quality Management

**IS**

Information Technology
and
Security

**IS 11**

Information Technology

**IS 12**

IT Solutions Development

**IS 13**

Workflow Structuring
and Modelling

**IS 14**

Information Requests
Civil Defence

**IS 15**

Electronic Signature

**IS 16**

Provision Continuity Tele-
communications and Post,
Technical Implementation
of Intercepts

**IS 17**

Compliance with Data
Protection and Postal
and Telecommunications
Privacy, Telecommuni-
cations Security

**1**

Telecommunications
Regulatory
Economics

**111**

Telecommunications
Regulatory
Economic Policy Issues

**112**

Market Watch
Rates Benchmarking

**113**

Business Management
and Accounting Issues
Cost Accounting Telecoms
Examination of
Rate Proposals

**114**

Internet Economy

**115**

International
Telecommunications Affairs
Reporting Requirements

**116**

Market Definition and
Market Analysis
Section 12 TKG Procedures

**117**

Numbering Policy

**118**

Number Administration

**2**

Legal
Telecommunications
Regulation Issues
Frequency Regulation

**211**

Legal Issues
Sector-Specific Control of
Anti-Competitive Practices
Telecoms

**212**

Spectrum Management Procedures,
Market and Competition Aspects

**213**

Frequency Award and
Assignment Policy

**214**

Determination of
Frequency Requirements
Frequency Usage Plan

**215**

Trunked Radio,
Special Award Proceedings,
Assignment-Related Aspects
of Tariff and Contribution
Charges Legislation

**216**

Universal Service
Public Affairs
Consumer Issues
Dispute Resolution Panel

**221**

Radio Frequency
Utilisation Concepts

International Affairs
Frequency Usage Planning
Innovative Radio Applications

**222**

Broadcasting

**223**

Satellite Services
Fixed Services <30MHz
Short-Term Usage
Civil/Military Frequency
and Site Coordination

**224**

International Mobile Radio
Frequency Coordination, Digital
Cellular Networks, Public Paging
Networks, Railway and Public Safety
Authorities and Organisations,
Aeronautical, Maritime Mobile and
Inland Waterways, Radionavigation
and Radiodetermination Services

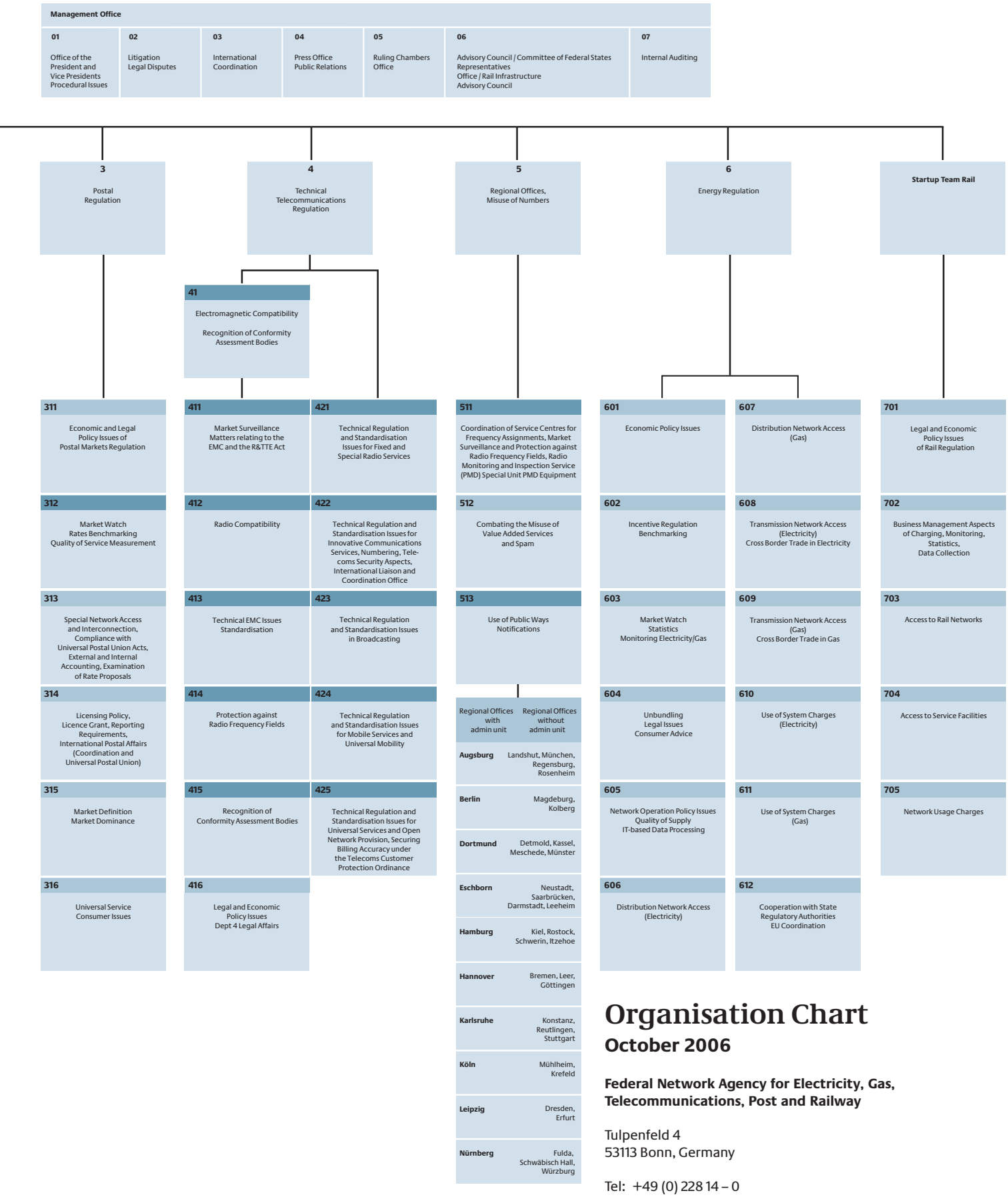
**225**

Non-Public Radio Applications
Amateur Radio

**226**

Radio Relay

* Commission
Recommendation (2003/311/EC)
of 11 Feb 2003 nos 1-18, national
identification nos 19-27




# Organisation Chart

## October 2006

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

Tulpenfeld 4
53113 Bonn, Germany

Tel: +49 (0) 228 14 – 0
Fax: +49 (0) 228 14 – 88 72
poststelle@bnetza.de
www.bundesnetzagentur.de

in Bonn
at other locations (Berlin, Mainz, Saarbrücken)

# Next Generation Networks

## INTRODUCTION

Since the liberalization of the telecommunications markets in 1998, competition has developed steadily in the formerly monopolistic markets. In this respect, discussions have frequently focused on the question of an appropriate relationship between infrastructure and service competition.

The further development of communication networks, to which the term Next Generation Network (NGN) refers, poses new challenges for the various competitors on the telecommunications markets and in particular for the relationship between infrastructure and service competition. The reason for this is that NGN allows services to be offered largely independently of the underlying infrastructure. This means that providers without an infrastructure of their own will also be able to contribute to the rapid spread of new services in the future. At the same time, network operators will also be keen to offer services in combination with their infrastructure services. All in all, this creates a good basis for more innovation.

Regulation is intended to foster competition in the field of telecommunications, along with efficient telecommunication infrastructures. The technological developments associated with NGN therefore represent a major challenge for the Federal Network Agency as the new network structures will also result in changes to regulated wholesale products and the subsequent impact of this on competition must be taken into consideration.

NGN is not a German phenomenon, but a telecommunications development that can be observed throughout the world and is, in particular, characterized by an increase in the use of Internet protocol technology. The current discussions in Germany can therefore be considered part of an international phenomenon. Any regulatory issues regarding NGN have already been dealt with by several European regulatory authorities. The association of European regulatory authorities, the IRG/ERG, has been looking at the challenges posed by NGN and examining solutions for a year now.

There is no conclusive definition of NGN that clearly sets it apart from current network structures. Nevertheless, there are a number of features that can be considered typical.

The telecommunications networks of the future are based upon the principle of packet switching and mainly Internet protocol. This trend towards IP-based networks began some time ago, originating in the core network area and now extending to access and line networks. At the same time, it is generally expected that different networks will migrate towards a technologically uniform IP-based core network with which diverse services such as Internet, voice telephony and TV services can all be implemented (multi-service networks). Offers comprising these services as a bundle product are frequently called “triple play”. In addition to offering conventional telephone services based on IP technology, NGN also allows entirely new services to be provided.

The customer can be connected to the network using various access technologies. This includes DSL connections as well as connections via the cable network and wireless access technologies.

Different functions such as transport, service provision and control functions (eg signaling) will be realized separately at different network levels in the future. Therefore, the service function can be offered by different providers independent of the transport function. This also opens up options for new business models. Voice over IP (VoIP) is an example of the possibility of implementing services independently of the underlying network.

In addition, an IP network subscriber will increasingly be able to make use of services without being tied to a particular location or network access, as is already the case with email services.

The possibility of integrating all services on a uniform platform instead of service-specific networks means that cost reductions are expected. The increase in service traffic (eg web services or peer-to-peer applications) is another factor fostering the trend towards convergent networks on account of increased capacity requirements.

However, many telecommunication network operators intend to implement their NGNs with a more centralized control and service level. Although this architecture still allows independent service offers to be integrated, it is made more difficult by the need for detailed coordination between NGN platform operators and service providers. The question of whether vertically integrated providers with bundled offers will prevail over a more decentralized style of service provision with various providers at different levels of value creation also depends on the creation of suitable access products. Access options will thus have a major impact on the relationship between infrastructure and service competition.

The Federal Network Agency began addressing NGN developments at an early stage. In September 2005, the cornerstones for treating VoIP were published, clarifying key issues in the regulation of a typical NGN service. In addition, an advisory project group consisting of high-ranking telecommunications experts was set up in mid-2005 to address the issue of “Framework Conditions for the Interconnection of IP-Based Networks” and published its final report in December 2006 for consultation. As such, a valuable contribution has already been made to the key questions surrounding NGN that can be used as a basis for future decisions to be made by the Federal Network Agency.

## DEVELOPMENTS IN THE CORE NETWORKS

In the core networks, the trend towards NGN primarily affects the interconnection of networks from a regulatory point of view. Interconnection and interoperability are of great importance in a competitive environment, since they are the basic prerequisites for the development of competition. Co-existence of several network operators is only possible if the interconnection of these networks and the end-to-end

connection of all users is ensured. The transition from circuit-switched to packet-switched technology entails extensive changes. A long period will be required for the transition from the Public Switched Telephone Network (PSTN) to what is known as an all-IP network. This migration phase, which we are going through right now, raises a number of questions, since it is dominated by the co-existence of different technologies.

### Migration

The migration of traditional circuit-switched networks into IP-based networks is occurring at different speeds. This depends, on the one hand, on the incumbent's strategy, who has the option of either substituting their former technology directly or operating both technologies in parallel for a time (overlay strategy). Other factors include the level of depreciation, the life cycle of the systems used and the period for which the network providers supply the technology for circuit-switched networks. Apart from that, there are other basic economic factors that differ both between operators and between EU member states.

In Great Britain, for example, British Telecom favors the rapid substitution of PSTN with an integrated IP network. Entitled "21st century network", this project is scheduled for completion in 2011. However, it does not include the access network based upon copper pair. Network migration is at a similar stage at Telecom Italia where the conversion of the traditional core network into an NGN was completed back in 2004. The Dutch company KPN plans to complete its migration to an all-IP network by 2010, including the access network. DTAG announced last year that it would be migrating its networks to a standard IP platform earlier than planned.

### Project Group "Framework Conditions for the Interconnection of IP-Based Networks"

The project group established by the Federal Network Agency has been dealing with interconnection issues resulting from the transition to IP technology. The subject of a suitable and sustainable interconnection regime is of particular relevance with regard to the migration process for network structures. In more specific terms, this is about the network topology (the number, geographic location and hierarchy of interconnection points), pricing and the accounting system.

By taking the migration aspect into consideration, the question arises of whether and to what extent temporary solutions or provisional steps increase the feasibility of a long-term interconnection regime of this kind. The project group analyzed possible solutions for current problems resulting from the increasing importance of VoIP with the conclusion that different interconnections regimes apply for conventional telephone networks on the one hand and for "the Internet" on the other. Determining a suitable accounting system for a future all-IP network was also part of the project group's work, since the collision between these different accounting systems in the case of VoIP services involving both the PSTN and IP networks already plays a key role.

Assuming that the number of interconnection points in NGNs is reduced and their geographic location changed, stranded investments from providers may be the result. This is the case if investments made in the past are devaluated by subsequent conditions – in this case a reduction in the number of interconnection points. Whether this will be the case will vary from company to company. It depends on whether a competitor owns many or only a few interconnection points with the PSTN or DTAG. Since almost all competitors obtain wholesale services from DTAG, DTAG's plans for faster migration to NGN are crucial to network extension plans and competitors' network structures.

A further point is that interconnection will generally be more complex in the future, since it can, in principle, be implemented at all levels – transport, control and service. In order to ensure comprehensive end-to-end communication, it may be necessary to guarantee interconnection and interoperability at all these levels. This will make sure that users of different VoIP services are able to communicate with each other. Moreover, the integration of independent service offers relies on a service provider being granted access to the network of a transport provider. This means that the future interconnection regime will play a key part in competition.

### Quality of Service

In an NGN, the traffic of different services with various quality requirements is only routed via a packet-switched network. These services can be broken down according to their requirements into best-effort services (use of www), data services, streaming services (eg Video on Demand) and real-time services (eg VoIP).

By offering quality-oriented services, such as voice telephony or high-resolution television (HDTV), it will be possible to attach greater importance to quality requirements in the future. Services of this kind do not only require a sufficiently high bandwidth at the end customer, but also fixed qualities during transport and at gateways. This may also affect the interconnection agreements.

NGNs clearly focus on the provision of end-to-end quality for a variety of services where three different strategies can be applied and combined – overdimensioning, traffic prioritizing and capacity reservation.

One particular challenge is ensuring a guaranteed end-to-end level of quality beyond network borders, since no standards have been available for interconnected IP networks so far. At present, the quality of service between two IP networks is only ensured on the basis of bilateral agreements (eg Service Level Agreements). For this reason, interconnection in the NGN context is more complex than in traditional circuit-switched networks.

### Other aspects related to telecommunications regulations

NGN also has an impact on various other fields of activity of the Federal Network Agency. The Telecommunications Act (TKG) contains obligations for operators of telecommunications networks or providers of telecommunications services and imposes

legal requirements on the operation of telecommunications systems. This particularly applies to secrecy of telecommunications, data protection and issues of public safety such as emergency calls or monitoring measures.

The changes mentioned in the telecommunications network lead to the question of whether the legal categories will also be complied with under the new conditions. The possible separation of access and service providers is also a major issue in this respect. Service providers in particular often face the problem of not being able to meet requirements that are traditionally aimed at network operators for technical reasons.

Transition periods may be a suitable way of bridging the gap until the technical problems are solved. For this reason, the legislator has waived the obligation of providing emergency call facilities for VoIP service providers until 2008. Obligations requiring cooperation between different providers are also a possibility. Various providers are, for example, already obliged to cooperate on monitoring measures by what is known as the remote administration solution to close any monitoring gaps.

The challenge for the Federal Network Agency will be to interpret the legal terms on the basis of technical developments. It must be possible to comply with legal obligations and companies will be provided with legal and planning security for the requirements placed upon them. Constant attention must, however, be paid to technical restrictions so that providers do not have to fulfill any requirements that are technically impossible and are able to develop new products and technologies under flexible framework conditions to strengthen Germany as a business location.

## DEVELOPMENTS IN ACCESS NETWORKS

The technological adjustments in the field of access networks, which comprise the access network and the concentrator network, are often discussed under “Next Generation Access Networks”. These can be different access networks – with their type of implementation determined by their access technology – that result in a transport platform in the core network independent of the access network.

The high transmission rates that are possible with fiber-optic cables offer a future-proof infrastructure in the access area. There are various options depending on the termination point of the fiber-optic cables. They differ according to whether the cables are laid to the home of the end customer, to the building or only to the cable distributor. Locating the fiber-optic cable connection as close as possible to the end customer generally provides better options for transmitting higher data rates and thus allows new broadband services to be introduced.

The xDSL transmission technologies widely used today will be used in access networks for NGNs. An example of this is DTAG’s roll-out of what is known as the VDSL network that is to supply 50 cities in Germany. The option implemented by DTAG involves laying fiber-optic cables to the cable distribu-

tor and then using the local loop available at the cable distributor as a copper pair.

In economic terms, the decision to set up a VDSL network is not only determined by the cost (eg to fit cable distributors with fiber-optic cables), but also by the profits expected that, in turn, are mainly determined by the population density and the number of end customers that can be reached.

It will be vital to know whether the bottleneck nature of the access networks with NGN will change and to what extent any existing bottleneck factors will no longer apply or whether new ones will arise. The level of the cost reductions and economies of scale (economies of size and density) are instrumental in this. The bottleneck nature of a resource can generally be reduced or intensified by technological progress. An extension of the fiber-optic networks closer to the customer will result in increased economies of scale. If a competitor were to aim for nationwide coverage based upon access to decoupled subscriber lines, they would have to develop approx. 8,000 main distributor locations. At cable distributor level, they would have to develop about 300,000 locations for this.

Good use is made of the option of leasing the last mile from DTAG, but as the development of main distributors already shows, competitors have focused on areas where this is economical for them on account of economies of size and density. This is already resulting in regionally different provider structures and clearly indicates that the economic efficiency of extending the fiber-optic cable network mainly depends on population distribution and density.

As a rule, the relocation of networks – and thus also of fiber-optic networks – is bound up with substantial costs (eg for earthwork). The possibility of using existing cable networks lowers costs and can make the extension of the fiber-optic network economical where this would otherwise not be the case.

Extending fiber-optic networks closer to the end customer will have a substantial impact on the development of sustainable competition and its extent. Given the increased use of fiber-optic cables, it would be conceivable for the balance between infrastructure and service competition to shift according to region, ie with infrastructure competition focused even more on conurbation areas in the future and service competition gaining more importance in other areas.

Hence, the Federal Network Agency faces the challenge of having to bring existing wholesale markets and the access products based upon them into line with technical development. The issue of suitable access products and the network access points required for competitors as a result has several dimensions. On the one hand, the question arises as to where access is actually technically possible in the value chain. Then there is the practical side (space problems during physical collocation). And finally, the question arises of which access allows economic development.

## RÉSUMÉ

The trend towards NGN poses a number of challenges for the Federal Network Agency, which have already been the subject of discussion. As a rule, the question that needs to be answered is whether and to what extent regulation must be continued in the future to support technological development. Questions about the type of interconnection arise, in particular, on account of the possible separation of service and network, different quality requirements in a multi-service network and changes in the network infrastructure and, where necessary, accounting systems. The complex issues regarding migration from the current to the future network structure play a particularly important role. The publication of the final report of the Project Group "Framework Conditions for the Interconnection of IP-Based Networks" provides a basis for answering any questions that still require clarification.

As regards compliance with legal obligations (secrecy of telecommunications, data protection, emergency calls and monitoring facilities), the Federal Network Agency is in dialog with providers and other authorities involved to develop solutions.

Numerous questions about NGN still remain unanswered. This applies, in particular, to network extension in the access area that will also impact the provision of access products. The Federal Network Agency intends to hold a hearing on the NGN issue in which the prospect of sustainable competition will be addressed against the backdrop of extending fiber-optic networks in the future.

# Consumer protection and advice


K
U
E
L
P

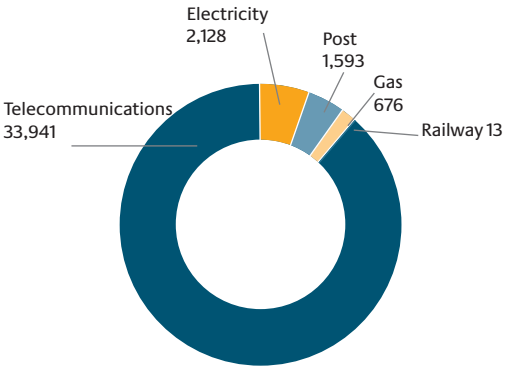
# Consumer Advice service

The Consumer Advice service of the Federal Network Agency has successfully continued its work in 2006, offering expert advice in the fields of telecommunications, energy, post and railway, and has thus firmly established itself as a long-term central point of contact for consumers. Its level of acceptance shows that consumers' needs for objective information provided by an independent consumer advocate are as high as ever.

With the entry into force of the Energy Act (EnWG) and the amendment of the General Railway Act (AEG) the Federal Network Agency has been offering an extended Consumer Advice service for electricity and gas customers since mid-2005 and for railway users since 1 January 2006. Long-term experience in offering advice to consumers in the core areas of telecommunications and post enabled the Agency also to set up a Consumer Advice service in the new areas within a very short period of time. Due to good cooperation with the special departments and responsible Ruling Chambers it was therefore also possible to achieve high efficiency in responding to consumer enquiries addressing the new topics.

The number of enquiries and complaints, broken down by the different areas dealt with by the Agency, can be taken from the graph.

**Enquiries and complaints, broken down by different sectors**




Total number of enquiries and complaints: 38,351

In 2006, the Consumer Advice service received a total of 38,351 enquiries and complaints. Of these, 24,548 were received by telephone, 4,675 by letter or fax, and 9,128 by electronic means.

## TELECOMMUNICATIONS

Most of the information requested by consumers in enquiries and complaints on telecommunications contracts (20.9 percent) concerned, besides notices of termination and contractual violations, the terms and conditions of contract. As in the past, complaints still focused on poor customer service of telcos in terms of rectifying problems as well as their failure to adhere to contractually agreed terms and conditions with regard to charges billed, periods of notice and the ability to switch providers.

The queries regarding charges in telephone bills (14 percent) frequently addressed call charges in the fixed network (eg forwarding by information services, premium rate services), text messaging services, calls to 0137 numbers and Internet connections (diallers, volumes of data and amount of time spent online).

Unsolicited direct marketing received in the form of faxes, text messages or e-mails continues to account for a large proportion of consumer complaints (11.1 percent), the main source of complaints, however, being phone scams whereby consumers are prompted to call a certain number. Part of the complaints concerned premium SMS, whereby customers are provided with information and entertainment services in the form of text messages. The charges are then added to their telephone bill. Consequently, customers complained about the charges billed and their futile attempts to terminate subscriptions.

As in previous years, many of the enquiries received concerned numbering (7.5 percent). The main problems specified were number portability, number allocation (cf page 86) as well as use and charging of service numbers. Specific enquiries referring to number abuse and spam were passed on to the service established for this purpose (cf page 28).

There is still a large number of problems relating to difficulties in obtaining DSL lines (5.4 percent). Consumers lament the fact that DSL is not available in certain regions and complain about the long waiting time for a DSL line and for the activation of their DSL port as well as bundling with their telephone line. The Federal Network Agency will continue to regulate the market and the spectrum in such a way as to facilitate the provision of broadband services by market participants.

Also, the Consumer Advice service receives enquiries regarding the prices and charges of individual telecoms providers (5.3 percent). The fact that providers' price lists are published in the Federal Network Agency's Official Gazette leads consumers to believe that the Agency is responsible for regulating the charges of these providers. Here, consumers complain, for instance, that certain telecoms providers lure new customers with low prices and then make changes at short notice that render their service less attractive. The Agency regularly receives

enquiries from customers questioning the fact that access network operators claim higher charges for call termination to their networks and then also require flatrate customers to pay these higher charges for access.

Though only limited as compared to the overall telecommunications volume (1.1 percent), there is a growing tendency of consumers to lament increasing prices of cable TV companies.

Consumer interests at European level were safeguarded by the Federal Network Agency's cooperation in the Independent Regulators Group (IRG) and European Regulators Group (ERG), the End Users Working Group and the International Roaming Tariff Transparency Project Team. The year 2006 saw the publication of a report focusing in particular on the level of regulation in the fields of emergency calls, number portability, tariff transparency, service quality and cross-border disputes in the use of VoIP services. This report seeks to develop and implement best practice recommendations for the future.

## ENERGY

The increase in retail prices was the focus of consumer complaints both in the electricity sector (14.7 percent) and in the gas sector (24.5 percent). In the electricity sector the pending approval procedures on system charges were also of interest to final customers (13.6 percent). Consumers often raised the question whether and to what extent reduced system charges are passed on to the retail level.

Queries from final customers in the gas sector concerned, besides gas prices, in particular the ability to switch gas suppliers (18.5 percent).

In addition to responding to enquiries and complaints received from customers, the Consumer Advice service of the Federal Network Agency provided assistance from consumer perspective with regard to the legislation process for the follow-up regulations governing the general terms and conditions of supply, the basic supply ordinances for gas and electricity and the low pressure and low voltage ordinances.

In 2006, the Federal Network Agency has once again actively safeguarded the interests of consumers at European level by participation in the ERGEG Customer Focus Group and the Customer Protection Taskforce (consumer protection) and Customer Switching Taskforce (switching of suppliers). In particular, these groups drafted common European best practice recommendations on tariff transparency, consumer protection and supplier switching processes, which may be regarded as a proactive contribution towards the implementation of consumer protection requirements ensuing from European Directives 2003/54/EC and 2003/55/EC as well as national laws. The implementation of the best practice recommendations will be monitored in 2007. Other issues addressed were the identification of

- barriers to supplier switching in the gas sector,
- contact points for the provision of information to consumers and approaches by regulatory authorities to provide con-

sumer-relevant information on energy supply (offer of consumer advice, media campaigns, etc.), and
- innovative metering methods (eg smart metering).

## POST

The number of enquiries and complaints in the postal sector was slightly lower than in 2005. This was partly due to the fact that, in previous years, many customers complained about the closure of fixed-location facilities. In 2006, this was not the case as the number of facilities approached the limit specified in the Postal Universal Service Ordinance (PUDLV).

Furthermore, the Agency has noted a decrease in the complaints about deficiencies in the provision of universal services in accordance with the PUDLV and in the supply of postal services in accordance with the Postal Services Ordinance (PDLV). This may be due to the fact that, over the years, consumers have finally started to accept that it is the PUDLV rather than the situation prior to the postal reform which is decisive for the provision of universal service.

## RAILWAY

The Customer Advice service of the railway sector which was newly established in 2006 only received a small number of complaints. Most of the enquiries addressed the responsibility of the Federal Network Agency in particular in the fields of pricing and timetable issues.

The Federal Network Agency endeavours to reduce, within the scope of its remit, the need for complaints in all areas. Therefore, companies which have attracted the Agency's attention are regularly asked for comments on problems actually arising and their solution strategy. This ensures that consumers' information on deficiencies are passed on to the companies concerned and the reasons for the complaints can be eliminated.

# Universal service

Universal services are services which are generally deemed indispensable. At present, Deutsche Telekom AG (DTAG) is providing universal services in the field of telecommunications. In the postal sector they are provided by a number of other market players and by Deutsche Post AG (DPAG), which has been required by law to do so.

## TELECOMMUNICATIONS

In the year under review, the Federal Network Agency received enquiries and complaints about "connection to a public telephone network" from a total of 438 consumers. In new development areas, this topic posed specific problems which were, however, solved in accordance with legal provisions and in agreement with the parties concerned.

There have also been lively discussions about this issue at European level. The European Commission has established that it is at present not necessary to extend the scope of universal service. It was discussed whether broadband Internet access might also become a basic service. At the same time, however, the Commission identified a gap in the provision of broadband Internet connections between cities and rural areas. In the year under review, "non-availability of DSL lines" has been the subject of numerous complaints from customers. With its communication on the review of the European package of directives, the European Commission announced to publish a Green Paper on future universal service policies in the 21st century in 2007. The Federal Network Agency will participate in the relevant discussions – especially against the background of the development in the broadband market.

In 2006, the pilot project dealing with the "basic telephone" was completed successfully. This ensures that public payphones and cardphones can be provided nationwide under normal operating operations. The advisory board of the project led by the chairman of the Inter-State Working Group,

DTAG representatives, leading local authority associations, consumer associa-tions, the Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste (WIK Consult) and the Federal Network Agency contributed substantially to achieving this aim. The basic telephone as a low-cost device allows even unprofitable locations to be equipped with basic public telephones and thus to be maintained as charge-free emergency telephones. At the end of 2006, there were approximately 109,000 payphones and cardphones in Germany. According to DTAG plans, 5,000 old payphones and cardphones will be replaced by lower-cost basic telephones every year.

## POST

The Federal Network Agency believes that the PUDLV and DPAG's self-commitment will secure the basic supply of appropriate and adequate postal services until the end of 2007. In future, however, the services specifically set out in DPAG's self commitment should also be included in the PUDLV officially.

At the end of the year under review, the number of fixed-location facilities where contracts on letter post and parcel conveyance services can be concluded and handled had nearly fallen to the limit of 12,000 prescribed in the PUDLV. They totalled 12,628. The same applied to the number of facilities operated by DPAG's own staff which, amounting to 5,566, was slightly higher than the limit of 5,000 prescribed by law. Since 1997 the number of facilities has thus been cut by a total of 18 percent and the number of self-operated facilities by 45 percent .

In its self-commitment DPAG has undertaken to secure the provision of some 108,000 letter boxes nationwide until the exclusive licence expires on 31 December 2007. As of 31 December 2006, DPAG maintained 109,778 letter boxes, thus fulfilling its self-commitment adequately.

Where enquiries sent to the Federal Network Agency related to evident deficiencies in the provision of universal services or to other universal service deficits, DPAG eliminated them without delay upon request by the Federal Network Agency. It was therefore not required in 2006 either to respond to deficiencies officially, for instance by imposing fines. Of particular importance is that DPAG dealt with consumer complaints resulting from its self-commitment just as carefully as with complaints relating to the PUDLV.

# Special control of anti-competitive practices

Important issues in this field are the success in combating number abuse and spam under the Telecommunications Act (TKG), clearing up cases of electromagnetic and radio interference, ensuring efficient and interference-free frequency usage as well as securing compliance with the privacy of post and telecommunications and with data protection provisions by providers.

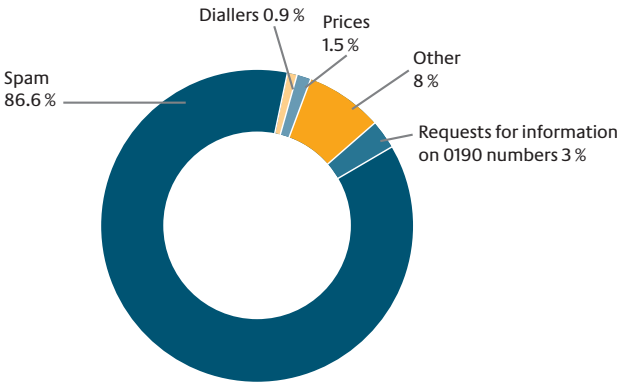
## COMBATING NUMBER ABUSE AND SPAM

### Overview

In the period under review, the Federal Network Agency was tasked to combat number abuse and spam under the TKG. The purpose is to strengthen consumer rights and not to give companies acting illegally a competitive edge through breach of law. The TKG empowers the Federal Network Agency to intervene in cases where it has reliable information on unlawful number use, in particular in order to prevent further abuse taking place. Under the 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 relation to the allocation of numbers. This can include issuing a warning, withdrawing the number in question or ordering the network operator to deactivate the number. The Agency may further require the bill-issuer not to make out bills and collect payments or may even prohibit certain business models.

In the period under review, the Federal Network Agency dealt with 42,211 enquiries and complaints about number abuse and spam submitted in writing or by telephone. Even after the expiry of 0190 numbers on 31 December 2005, the Federal Network Agency answered 1,132 queries in accordance with section 43a(1) in conjunction with section 152(1) of the TKG. The relevant enquiries and complaints received in writing can be broken down as follows:

**Enquiries and complaints about number abuse and spam received in writing**




Total number of enquiries and complaints: 36,928

The Federal Network Agency investigated the consumer complaints received and initiated administrative procedures in 1,470 cases.

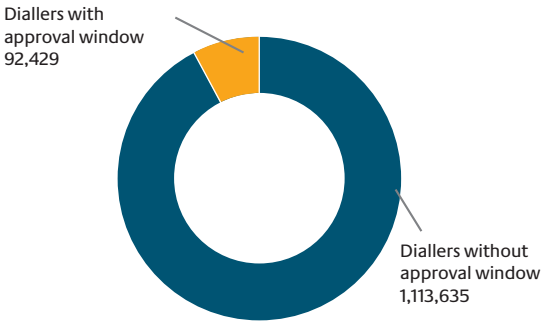
In 2006, the number of complaints about diallers received in writing or by spoken word fell substantially to 514 as compared to 21,559 in 2005. This success is due to the introduction in 2005 of a uniform new approval window to be shown on the screen prior to the establishment of a chargeable connection. This window ensures high transparency of the costs incurred by the dialler connection. Owing to the experience gained in the dialler sector, the Federal Network Agency had issued an order supplementing and modifying the existing rules and introducing the uniform approval window.

Following these measures, the Agency received a considerably lower number of applications to register diallers. Previously, when the old provisions were still applicable,

**Complaints about diallers before and after the introduction of the approval window**

a total of 1,113,635 diallers were registered with the Federal Network Agency. After the introduction of the new approval window, the number of applications for the registration of diallers fell to 92,429.

**Diallers with and diallers without approval window**




Since the entry into force of the Premium Rate Services Act (MDWG), a total of 3,995,184 registration applications have been received. In the period under review, a total of 35,401 diallers were registered with the Federal Network Agency. Details of dialler registrations are available online at www.bundesnetzagentur.de/enid/Dialer-Spam-Rufnummernmissbrauch. The fact that a dialler is registered with the Federal Network Agency is not a guarantee of quality.

Once again, numerous measures to combat abuse were taken in 2006. The Agency again had to revoke registrations of diallers with retroactive effect after consumer complaints and spot checks revealed that, contrary to the legal declarations of conformity submitted by the applicants, there were many areas in which the minimum requirements had not been fulfilled. According to the Agency's interpretation of the law, by revoking registration with retroactive effect, the Agency also lifts the obligation on consumers to pay for using the diallers in question. This includes the period during which the rogue diallers were initially registered.

Some companies have challenged steps taken to combat dialler abuse in court. However, in none of these cases has a decision of the Federal Network Agency been reversed by a court. Of particular significance in this respect are two decisions of the Administrative Court in Cologne. In one case the court confirmed the Agency's action in relation to a provider who had attempted to bypass the dialler requirements by using 0192 and 0193 numbers instead of the prescribed 09009 number. The court emphasised that, if such attempts are made, the relevant legal provisions can be applied accordingly. Furthermore, the court continued its established practice and confirmed the withdrawal of registrations issued to a major German dialler provider who had repeatedly obtained dialler registrations from the Federal Network Agency after having submitted incorrect legal declarations of conformity.

### Pricing information

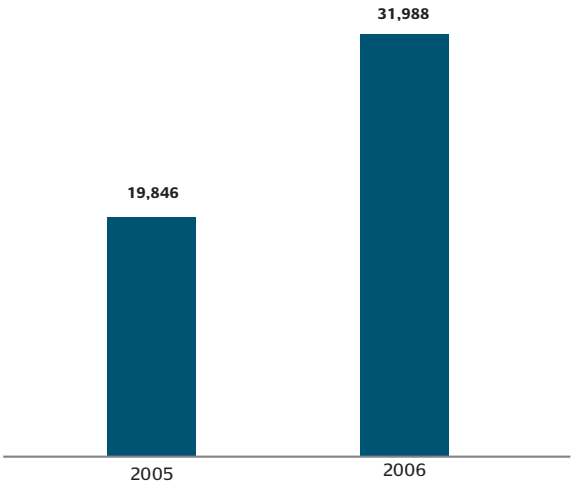
Section 43 b (1) and (2) of the TKG sets forth certain requirements for providers of 0190 and 0900 numbers with regard to the provision of pricing information. Any infringement of these requirements constitutes a misuse of the number and prompts the Federal Network Agency to intervene. Many complaints of this nature were again received in the period under review, in

response to which the Agency issued a warning or deactivated the number in question.

## Combating spam

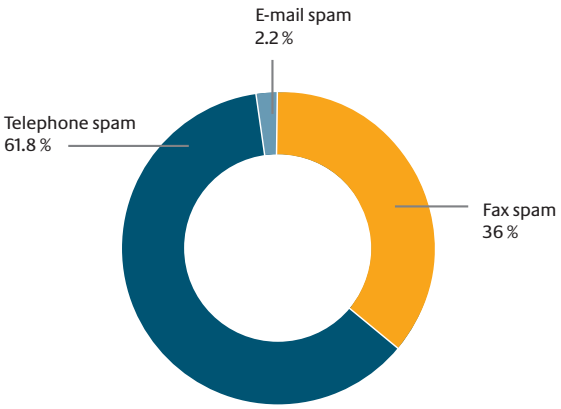
The volume of complaints about spam relating to numbers once again increased considerably in 2006. In the period under review, the Federal Network Agency received a total of 31,988 complaints concerning spam sent by fax, telephone and e-mail. Telephone spam includes in particular spam sent by text messages, eg so-called prize promises as well as "one-ring fraud" whereby the phone rings briefly, prompting the called party to check the call in the list of calls received and return the missed call by pressing the automatic return call button. Doing so, however, will cause the subscriber to dial for instance a 0137 number. Constituting an infringement of the Unfair Competition Act (UWG), spam is deemed to be illegal number use in accordance with section 67(1) of the TKG.

**Total of complaints about spam in 2006 as compared to 2005**




In the period under review, the Agency received a total of 31,988 complaints about spam. Of these, 36 percent referred to fax spam (usually including several numbers), 61.8 percent to telephone spam and 2.2 percent to e-mail spam with reference to numbers.

**Complaints about spam, broken down by telephone, e-mail and fax spam**




Total number: 31,988

In 2006, the Federal Network Agency has further intensified its combat of telephone spam. A whole bundle of measures, including prohibitions to make out bills and collect payments, was imposed not only on the network operator, but also on 80 access network operators and service providers to combat unlawful number use. The reason for increasing these measures was the massive rise in one-ring fraud and the resulting consumer complaints. The prohibitions to make out bills and collect payments provide protection to victims of one-ring fraud and enable them to refuse to pay for such calls. This means ultimately that the company or provider causing spam will not receive any payments for the calls in question either. The aim is to make this form of number abuse less attractive economically and to reduce spam substantially. Where the rogue company is known, the Federal

Network Agency also takes appropriate action to combat abuse. In the period under review, the Agency initiated action against the unlawful use of mobile short-code numbers, so-called premium SMS numbers, for the first time. These numbers were the subject of unsolicited direct marketing sent by non-requested text messages.

Details of the steps taken to combat spam-related abuse, including the prohibitions to make out bills and collect payments and a list of the numbers that have been deactivated, can be found on the Federal Network Agency's website. The list is available at www.bundesnetzagentur.de>Verbraucher > Dialler, Spam, Rufnummernmissbrauch > Maßnahmen gegen Rufnummernmissbrauch im Bereich Dialer, Spam und Sprachtelefonie.

### Observation of abusive tendencies

In addition to combating abuse that is actually evident, the Federal Network Agency observes the market with regard to possible new abuse scenarios. Examples for such abuse are payment systems which bypass dialler provisions. Furthermore, the Agency has investigated cases where there was reason to believe that individual telephone providers used the practice of see-sawing prices (ie systematically and arbitrarily pushing up and down prices). This suspicion could not however be confirmed in the period under review. In the sector of premium rate services a shift of service offerings from the 0900 number to other numbers was noted. This allows targeted approaches to combating abuse and may help assess the needs to adjust legal provisions and authority regulations adequately.

### Administrative fines procedures

In 2006, a total of 70 administrative fines procedures relating to illegal diallers and the infringement of pricing information requirements were initiated, a large number of which is still pending. Thirty-six notices of administrative fines were issued; of these, 25 have become non-appealable so far. The fines imposed in these non-appealable notices totalled € 53,035. The violations focused on missing or insufficient pricing information in the provision of or marketing for 0900 premium rate services. In additon, some infringements of companies or providers to supply pricing information by telephone for particular services were fined. The Federal Network Agency identified only a very small number of companies using non-registered diallers, while any evidence of a possible criminal offence was passed on to the competent public prosecutor assuming exclusive jurisdiction as from the date of transfer.

### International cooperation

The Federal Network Agency's work in international bodies such as the Electronic Communications Committee (ECC) and the Contact Network of Spam Authorities (CNSA) led to close cooperation in particular with the regulatory authorities of Austria and the Netherlands. Consumer complaints about Austrian and Dutch numbers in relation to which the Agency has no right to intervene were passed on to these regulatory authorities. The numbers had been the subject of unsolicited direct marketing in fax spams.

## ACTIVITIES OF THE RADIO MONITORING AND INSPECTION SERVICE

With its latest fixed and mobile measuring equipment and its varied activities, the radio monitoring and inspection service (PMD) of the Federal Network Agency secures the efficient and interference-free use of the spectrum. The work of the PMD is based on the Telecommunications Act (TKG), the Electromagnetic Compatibility Act (EMVG), the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG) as well as the Constitution and Convention of the International Telecommunication Union (ITU). Its scope of activities includes the elimination of interference, the checking of frequency uses, market surveillance, measurements of electromagnetic fields, the identification of unauthorised spectrum usage and international cooperation.

### Interference investigations

Clearing up cases of electromagnetic and radio interference is one of the core activities of the PMD (interference investigations). These include in particular safety-related radio services and applications used in air travel, by emergency organisations (BOS) and other public bodies.

Depending on the interference case, fully equipped measuring vehicles as well as a variety of specialised vehicles are used alongside stationary measuring facilities and direction-finding systems in order to determine both domestic and foreign sources of interference. Nearly half of all interference cases processed concerned radio and TV broadcast receivers. The other half related to interference caused to other transmitting and receiving stations and electromagnetic incompatibility with other electrical or electronic equipment and devices, the latter only accounting for a small percentage.

In 2006, some 10 percent of all interference cases were reported in the aeronautical service alone, the major part of which referred to frequencies used by emergency services which have top priority in processing. There were also some instances of interference in the aeronautical radionavigation service. In the greater Stuttgart area operators of UMTS networks reported for instance that interference was caused to their base stations leading to non-compliance with the quality parameters of their networks. PMD investigations ultimately revealed that the interference was caused by a faulty cable between the repeater and distributor of a satellite receiver in the direct vicinity of the base stations.

Such interference may occur if the intermediate frequency of the satellite receiver and UMTS networks operate in the same frequency band, and the cables and components of the satellite receiver are not for instance sufficiently screened. Of particular importance in the year under review was interference processing during the 2006 FIFA World Cup. A total of some 100 interference cases were reported to the PMD which was present at the venues for the whole duration of the tournament prior to, during and after the games. Due to its on-spot presence, it was possible for the PMD to respond very quickly and clear up a high percentage of interference cases. This con-

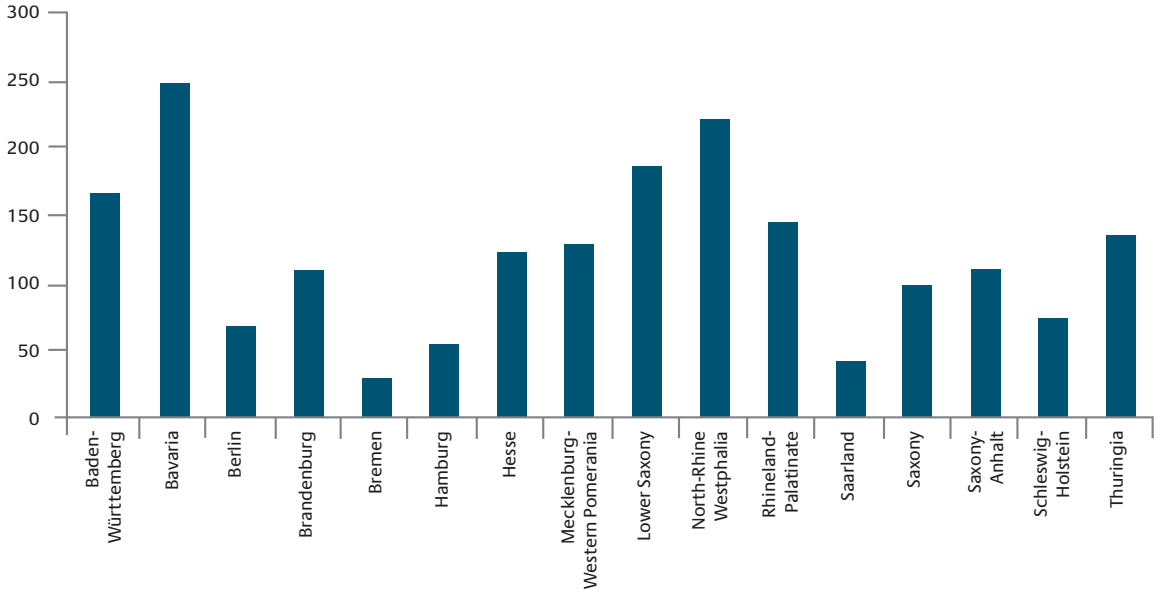
tributed to allowing sound and image to be broadcast smoothly and making the World Cup an important event that millions of radio listeners and TV viewers throughout the world followed with great interest. At the same time, organisations and security bodies were able to communicate without any problems.

Just as popular as ever is the nationwide service number which was provided to report radio interference and is used by citizens, companies and authorities alike. In 2006 alone, more than 500,000 calls were received.

### Market surveillance

The tests carried out by the PMD under market surveillance were a substantial contribution harmonised at European level to securing efficient and interference-free frequency usage. For this purpose electrical products, eg television sets, kitchen aids or tools are filtered out from the market and tested. The required tests are carried out nationwide in specially equipped test laboratories of the regional offices. In addition, the Kolberg accredited test laboratory measures the electromagnetic compatibility of all products covered directly or indirectly by Directive 89/336/EEC on electromagnetic compatibility and by the EMVG. Additional tests of the functional parameters are carried out on the products covered by Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and by the FTEG. Furthermore, the specific absorption rate (SAR) of mobile phones is measured. These measurements allow the essential requirements for the protection of health of users as set out in the FTEG to be verified in this segment. The continuing high rate of irregularities of the products tested is due to the specific samples taken (cf page 94) and emphasises the importance of the tests to the benefit of users.

**Number of EMF measuring points per federal state (2006)**



### EMF measurements

In this segment (EMVU) the annual programme of EMF measurements and the inspections of certified, fixed radio transmitters in accordance with the Ordinance concerning the Controls for the Limitation of Electromagnetic Fields (BEMFV) were continued. These activities are part of the core tasks of the Agency's radio monitoring and inspection service (PMD). As every year, measurements were taken in 2006 at around 2,000 points throughout the country in order to measure and assess the high-frequency spectrum. The result was that at none of the locations had the thresholds been exceeded. As in the past, the federal states were involved in choosing the sites at which measurements were taken.

Details of the measurement results have been published on the website of the Federal Network Agency (EMF database). The Agency's programme of EMF measurements substantially contributes to making the discussions in this field less emotional (cf page 95).

## DATA PROTECTION IN TELECOMMUNICATIONS AND POST

The privacy of telecommunications and post as well as the relevant data protection regulations are significant aspects of consumer protection. Accordingly, the Federal Network Agency as the responsible regulatory authority permanently monitors compliance by providers of telecoms and postal services with the appropriate provisions. Furthermore, the Agency offers advice and supplies information to consumers on both the privacy of post and telecommunications and on questions relating to the protection of their communication data.

In the period under review, the Federal Network Agency for instance addressed consumer protection issues relating to VoIP services, eg the possibility of inter cepting calls, the use of data to ascertain interference and abuse, and security concepts of companies. In these fields the legal provisions require the providers concerned to furnish written evidence of implementation or to supply appropriate information. Initially, about two thirds of the VoIP providers having to fulfill these obligations had not furnished evidence to the Federal Network Agency, but then submitted the required documents upon request by the regulatory authority. One third of the VoIP providers had already presented the basic documents concerning the above issues, but were required to give further details about new VoIP services as the information they had supplied only referred to traditional telecommunications services. These activities helped to draw companies' attention once again to the needs of privacy of telecommunications, data protection regulations and further technical protection measures and contributed to improving consumer protection in the field of VoIP services.

# Dispute resolution

Final customers may ask the dispute resolution service for conciliation in telecommunications and postal disputes. Customers can also use an online procedure which has been available since March 2006.

Under section 35 of the Telecommunications Customer Protection Ordinance (TKV) and section 10 of the Postal Services Ordinance (PDLV) final customers may ask the Federal Network Agency to conciliate in a dispute with their public telecoms network access or voice telephony/postal services provider. It was for this purpose that the Agency set up a dispute resolution service for each of these two sectors.

An application for dispute resolution will only be admitted if the applicant can assert violation of his statutory rights under the TKV and the PDLV, if judicial proceedings or other dispute resolution procedures on the same disputed subject matter are not pending and if an attempt to reach agreement with the defendant has been made beforehand. Telecommunications dispute resolution is carried out by the Federal Network Agency in accordance with the amended procedure (VfOSchli2006), as published in the Federal Network Agency's Official Gazette of 22 February 2006 as Communication No 77/2006, in conjunction with section 35 (1) of the TKV.

As a rule, dispute resolution by the Federal Network Agency is carried out in writing. It is also voluntary. It follows, therefore, that the procedure is regarded as closed as soon as one of the parties refuses to cooperate. The parties concerned are heard with the aim of reaching amicable agreement. Based on the statements made by the parties on the case, the Agency's service may make a proposal aiming at the settlement of the dispute. The outcome of the procedure thus fundamentally depends on the willingness of the two sides themselves to clarify the facts and to compromise in order to reach a solution.

Dispute resolution is always subject to fees. The amount of the fee is determined in accordance with section 145 sentence 2 of the TKG, as provided for by section 34(1) of

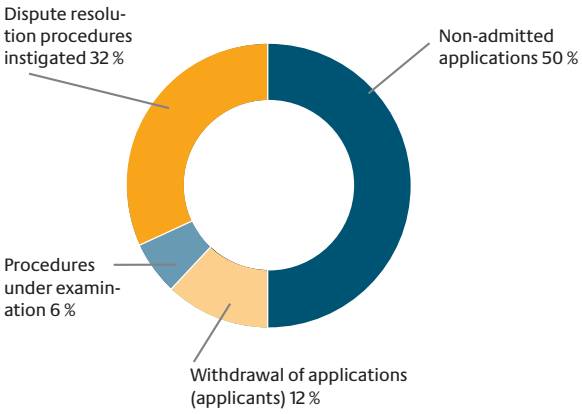
the Court Costs Act, or pursuant to section 18(2) of the Postal Act, the minimum fee is € 25 and increases in line with the value of the matter in dispute. The fee is incurred once the defendant has agreed to take part in the dispute resolution procedure.

## TELECOMMUNICATIONS

In 2006, the dispute resolution service was called in to conciliate on 453 occasions. Additionally, 195 petitions were submitted to the service, to which the Federal Network Agency responded by giving advice on and assistance in the possible next steps to be taken. Right on time, at the start of CeBIT, the online procedure developed by the dispute resolution service within the scope of the federal government's e-government initiative "BundOnline" was taken into service on 8 March 2006. The online procedure allows applications, correspondence during dispute resolution and enquiries about the state of the case to be handled via the Internet. This led to a rapid rise in applications by 35 percent.

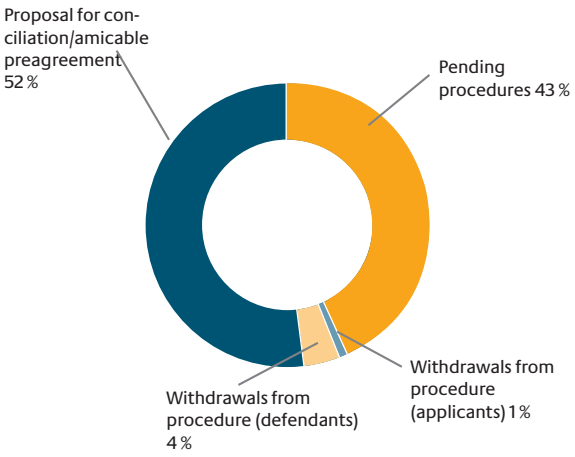
Dispute resolution procedures were instigated in 32 percent of the applications due to compliance with admission criteria. Twelve percent were withdrawn by the applicants after the Federal Network Agency had commented on the case or notified the applicant of the legal requirements and the rules of procedure (under the TKV, VfOSchli). In some 50 percent of the cases, the Federal Network Agency was forced to reject the applications after determining that, under the TKV, customers' rights had not been infringed. These applications mainly referred to cases where the conclusion, amendment or termination of contracts (notice of termination) were disputed. Such cases are subject to general civil law regulations and cannot be conciliated by the dispute resolution service. In a large number of cases it was however possible to clarify the matters in dispute to the benefit of final customers by passing the cases on to the relevant telecoms companies.

### Processing of applications for dispute resolution




In 52 percent of the dispute resolution procedures that were instigated in 2006, it was possible to reach an amicable agreement during the procedure or to agree on a proposal put forward by the dispute resolution service. Only in isolated cases was it necessary to terminate a procedure which had already been instigated because the application or the defendant's agreement to the procedure was withdrawn. Some 43 percent of the procedures applied for in 2006 are still pending. The success rate of the dispute resolution procedures completed in 2006 was most promising.

**Success rate of admitted applications for dispute resolution**




## POST

In 2006, the extent to which dispute resolution was used in the postal sector was approximately the same as in previous years. A total of 23 applications was submitted to the dispute resolution service. Of these, seven applications were completed successfully; three failed because the parties were unable to reach agreement; three failed due to the withdrawal of applications and eight are still pending. Two applications for conciliation had to be rejected as the requirements for instigating a dispute resolution procedure were not met.

The fact that – five years following promulgation of the Postal Services Ordinance regulating dispute resolution – conciliation in the postal sector is still used to a very limited extent only, may be due to the minimum fee in relation to the value of the matter in dispute which is typically very low in the postal sector. In most cases the amounts involved are relatively small. The party interested in dispute resolution will consider very carefully whether it really wants to pay the minimum fee of € 25 if there is reason to believe that conciliation may fail because the defendant for instance refuses to continue to take part in the procedure.

# International cooperation

# Telecommunications

In the field of electronic communications, the regulatory authority associations – IRG and ERG – have been cooperating actively and closely with each other for some time. The IRG/ERG is currently looking at the Commission's suggestion on revising the regulatory framework and applying it as consistently as possible to safeguard the development towards a single European market.

As in the energy sector, a discussion is currently being held in the field of electronic communications about a so-called Euro-regulator and greater centralization of regulatory powers. On 29 June 2006, the European Commission published several documents on the revision of the present European regulatory framework for electronic communication networks and services (2006 review) for public consultation. These publications deal, on the one hand, with the EU package of directives on electronic communications of 2002 and, on the other hand, with the revision of the so-called market recommendation that currently defines 18 relevant markets that could be considered for ex-ante regulation according to the European Commission.

As far as content is concerned, the European Commission has announced that it will be drastically reducing the number of markets covered by the recommendation. The end customer markets, for example, shall no longer be included in a new recommendation, but put under the control of the Federal Trade Commission (FTC).

In view of a revision of the package of directives, the following central proposals by the European Commission must be underlined:

- Implementation of the Commission's proposal on frequency management as presented in September 2005;
- Reduction of the administrative burden on the national regulatory authorities and the European Commission;
- Extension of the European Commission's right of veto on regulatory orders .

1 Notification procedure according to art. 7 of the framework regulation

As part of the IRG/ERG, the Federal Network Agency has been looking at the European Commission's proposals in detail, in particular the procedure according to article 7, and was involved in the joint statement by the national regulatory authorities that make up the IRG/ERG. It also submitted a statement to the Federal Ministry of Trade and Industry.

In 2006, the European Commission proposed another regulatory project: a regulation on international roaming tariffs. The proposed regulation is intended to reduce the high charges for making calls using mobile phones abroad. The Federal Network Agency has also been heavily involved in the discussion at European and national level.

The Federal Network Agency (and its predecessor – the Regulatory Authority for Posts and Telecommunications) is one of the founding members of the IRG, which was established in 1997. It is also a member of the ERG, which was founded as a consulting committee with the Commission's decision (2002/627/EC, amended by decision 2004/641/EC) in 2002. It heads a project team (regulatory principles for IP Interconnection/NGN) and chairs two other working groups (Fixed Networks and End Users) together with another regulatory authority. In addition, the IRG coordinator is from the Federal Network Agency.

Cooperation with other regulatory authorities serves a competitive single European market for electronic communication services to be created. This is to be achieved by applying the regulatory framework as consistently as possible. The national authorities are closer to the market and are therefore best suited to applying suitable instruments to solve any competition problems and selecting appropriate measures. Implementing regulation at local level ensures that national developments and market situations are given due consideration. This avoids the risk of "conforming" or a "one-size-fits-none" policy that can be the case when centralized regulatory decisions are taken.

In their joint statement on revising the regulatory framework, the national regulatory authorities therefore call for the balance to be maintained between control of the results of the market analyses as part of the article 7 notification process by the European Commission, on the one hand, and the decision by the regulatory authorities on suitable regulatory remedies, on the other. They object to the extension of the right of veto proposed by the Commission to include the remedies, which would be a step in the direction of a Euro-regulator as preferred by the European Commission in the energy sector. As long as the markets are national, the principle of subsidiarity alone (article 5 of EU Agreement) prohibits the establishment of this Euro-regulator.

To ensure consistent application, the ERG adopted a number of common positions. In 2006 the "Common Position on Remedies" from 2004 were replaced in view of the experience gathered during the application of the new regulatory framework. In addition, the ERG emphasized its determination to consistently apply the principles specified in the remedies document to the

selection decisions. Ongoing exchange of experience with experts from other national regulatory authorities means that the decisions are converging over time. This is demonstrated by the regulation of mobile termination charges. All regulatory authorities in Europe have managed these charges by a glide path arrangement, ie a gradual reduction in the charges. The result shows that these measures are taking effect and leading in the same direction. On the one hand, there is a general reduction in charges. On the other hand, the differences between the charges in the different countries are lessening, resulting in standardization without the need for a Euro-regulator or right of veto in remedies decisions.

Voluntary cooperation between national regulatory authorities achieves the desired result on the way to creating a single European market for electronic communication services without the need for further central European bureaucracy. This approach is to be pursued in the future and a decision has been made to set up a permanent secretariat to strengthen coherence within the group and increase operational efficiency.

# Post

A number of developments are expected at international level in the postal sector as well, since the postal directive is currently being revised to open up other European markets to competition.

In consultation with the Federal Ministry of Industry and Trade, the Federal Network Agency plays an active role in international postal affairs at all levels.

As part of the Universal Postal Union (UPU), a UN special organization for postal affairs with 191 members, it attends the annual conferences of the Council of Administration and the Postal Operations Council.

The European Committee for Postal Regulation (CERP) is the organization responsible for postal issues within the European Conference of Postal and Telecommunications Administrations (CEPT), which comprises 47 countries. The current Vice President is a representative from the Federal Network Agency, which also attends the biannual CERP plenary meeting. It is also involved in the working groups on Policy (focus: international liberalization, World Trade Organization, demarcation of postal sector), Economics (focus: cost accounting, universal service), and the overarching steering group. The chairperson of the working group on Monitoring/Market Data, which the CERP uses to exercise its influence on the European Committee for Standardization (CEN), is a representative from the Federal Network Agency.

Directive 97/67/EC of the European Parliament and of the Council on common rules for the development of the internal market of Community postal services and the improvement of quality of service states that a committee is to be established comprising representatives from the Member States to assist the European Commission in implementing the measures planned. Germany is represented in this committee by the Federal Ministry of Industry and Trade and the Federal Network Agency.

The EC Directive requires quality-of-service and technical standards to be laid down and/or harmonized. These standards are to

be defined by the CEN Technical Committee on Postal Services (CEN/TC331) – partly on behalf of the European Commission. The committees concerned comprise representatives from the regulatory authorities and postal companies. The chair of the working group responsible for the development of a methodology for measuring quality is from the Federal Network Agency.

The Federal Network Agency has also been playing an active role in the European Commission's Twinning Light program. It advised and supported the Latvian regulatory authority on legal and economic issues concerning postal regulation.

Twinning projects are administrative partnerships to help candidate or accession countries consolidate their administrative structures for implementing European Union law.

# Energy

The Federal Network Agency's regulatory activities make an essential contribution to the liberalization of the energy market that has been initiated at European level during recent years and driven forward by several EU directives, regulations and guidelines.

## MAIN OBJECTIVES OF THE REGULATORY WORK OF EUROPEAN COMMITTEES

The Federal Network Agency maintains close contacts with the regulatory authorities of Europe, in particular the ERGEG and CEER. While the ERGEG acts as a formal consulting committee for the Commission (founded by decision 2003/796/EC of 11 November 2003), the CEER is an association established by the regulatory authorities under Belgium law that operates as a platform for exchanging information on all relevant issues of its members.

The ERGEG and CEER support the Commission as regulatory committees in consolidating the single energy market and ensure uniform application of the Directives 2003/54/EC and 2003/55/EC and electricity and gas regulations in all member states.

Both organizations also support the initiatives for the development of regional electricity and gas markets – the "Electricity Regional Initiative" (ERI) and "Gas Regional Initiative" (GRI) – that were set up to identify and revise regional processes hindering competition and deal with rules on cross-border electricity trade (capacity allocation). In 2006, 7 regions were created for electricity activities and 4 for gas in which the Federal Network Agency is involved.

The Federal Network Agency's work on liberalizing the energy market also impact the processes of the Florence Electricity Forum and Madrid Gas Forum. These forums are attended by the regulatory authorities, EU Commission, government representatives from the member states, and industry and consumer representatives to discuss problems and experiences

arising from the creation of the single market, and, more importantly, to establish uniform standards and consider central issues in the further development of the single energy market.

The Federal Network Agency has pushed important initiatives in these committees, such as the development of mechanisms to improve cross-border electricity trade and manage congestion at transfer points.

The Federal Network Agency is represented in some 10 working groups in the gas sector. Focal points of the European work were monitoring the implementation status of the "Guidelines for Good TPA Practice for Storage System Operators", developing accounting guidelines and monitoring transparency requirements. The key issue since the second half of 2006 has been the "Gas Regional Initiative North/North-West", which is seeking to remove barriers to trade and transport between the states in the North-West of the EU with the aim of creating a uniform marketing the long term.

A number of important projects have made progress in the CEER and ERGEG working groups relevant to the electricity sector. The Regional Electricity Task Force has established the organizational structure for the regional initiatives. Furthermore, a document on investment in transfer points between the national electricity transmission networks was drafted on the basis of a questionnaire and published for public consultation in 2006. Another paper was also prepared analyzing the compatibility of national competencies as part of energy regulation, which supports the EU Commission's legislative activities.
The Electricity Market Design Task Force has prepared "Guidelines of Good Practice of Information Management and Transparency" to improve transparency on electricity wholesale markets. The Electricity System Operation Task Force has prepared the "Guidelines of Good Practice for Balancing Markets Integration" for harmonizing mechanisms for balancing energy.

## EXERCISING POWERS ACCORDING TO REGULATION 1228/2003

The Federal Network Agency's tasks with regard to cross-border electricity trade result mainly from (EC) regulation no. 1228/2003 on conditions for access to the network for cross-border exchanges in electricity. The Federal Network Agency is entrusted with the regulatory tasks resulting from § 56 of the Energy Industry Act (EnWG). The legal provisions are aimed at promoting the creation of a real single electricity market through an intensification of trade in electricity.

As part of a procedure under Article 5(2) of the European Electricity Trade Regulation 1228/2003, the European regulatory authorities for the first time approved a general scheme for the calculation of the total transfer capacity and the transmission reliability margin at border transfer points. This constitutes a major contribution to legal security in managing congestion in electricity trade and a basis for the development of a uniform, efficient capacity calculation scheme throughout Europe.

Except for the Austrian border, all of Germany's border transfer points are vulnerable to bottlenecks. A bottleneck in electricity trade capacity is where – due to insufficient capacity of a tie line – not all electricity flows requested by market participants in international trade can be provided. These tight transmission capacities will be allocated at German borders by way of explicit auctions and thus on the basis of market requirements. This type of congestion management ensures nondiscriminatory access to capacities.

The Federal Network Agency's participation in the "Regional Initiatives Electricity and Gas" is also very important in terms of fostering regional market integration as an important intermediate step towards the single European market for energy. The regions are formally introduced by the guidelines on congestion management that have now come into force as an annex to (EC) regulation 1228/2003 and thus constitute applicable law as of immediately. Four of the seven regions are relevant for Germany. The issues given priority in 2006 include: further development of capacity allocation mechanisms at border transfer points, increase in transparency, intradaily trade and markets for balance energy. In the gas sector, the Federal Network Agency is represented in the region North-Northwest.

## OUTLOOK

The President of the EU Commission recently put the introduction of a Euro-regulator on the agenda. Considering the different structures of the European energy markets, however, with their typical national and regional features, the limits of such a suggestion are plain to see. Furthermore, the centralization of jurisdiction in Europe would result in a trend towards more competition and delay rather than speed up the creation of a single European energy market. For this reason, solutions must first be considered that can actually be implemented in all EU member states and that, more importantly, speed up the integration of energy markets. One viable solution, for example, would be to increase the powers of existing groups such as the ERGEG. This group is respected as a recognized and functional unit and has the advantage of being familiar with national and European affairs and the energy market structures in their respective countries.

# Railway

A working group of regulatory authorities responsible for railway regulation has already been established for the railway sector by the European Commission, but only few national regulatory authorities have participated so far.

## WORKING GROUP RAIL REGULATORY BODIES

In 2006 the Federal Network Agency attended the regular consultations of the "Working Group Rail Regulatory Bodies" called by the European Commission. The working group comprises representatives of the European Commission (Directorate-General Energy and Transport, Directorate-General Competition) and the member states of the European Union as well as Norway and Switzerland. The consultations of the "Working Group Rail Regulatory Bodies" are prepared by a working group. Along with the European Commission and the railway regulatory authorities of Great Britain, Austria, Portugal, Latvia and the Netherlands, the Federal Network Agency is also involved in the working group preparing the consultations.

The "Working Group Rail Regulatory Bodies" serves as a forum for technical discussions between national railway regulatory authorities and the European Commission and market players at European level. Representatives from European associations and lobby groups are regularly invited to the consultations of the working group to openly discuss their mutual expectations. The "Working Group Rail Regulatory Bodies" are a useful framework for exchanging experience gathered and agreeing on best practice principles for the Federal Network Agency and other national railway regulatory authorities. The liberalization of railway access initiated back in 1994 and the some 500 network access procedures having been performed since 2002 mean that the Federal Republic of Germany's railway transport market is considered one of the most advanced in Europe.

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

The Federal Network Agency attends the quarterly meeting of the "International Group for Improving the Quality of Rail Transport in the North-South-Corridor"

(IQ-C). The project, which was commissioned by the European Commission in 2003, has the mandate of identifying and analyzing competitive barriers in the field of cross-border railway traffic and proposing solutions and improvements to the European Commission.

The IQ-C working group is comprised of representatives from the regulatory authorities of the Netherlands, Italy, Switzerland and Germany. Currently, the regulatory investigations and analyses are focused on the railway line Rotterdam – Cologne – Bern – Milan. The representatives of the regulatory authorities agree that barriers to cross-border railway traffic do not only result from the different technical and operational standards of the individual member states. Deviating procedures in network timetable preparation, non-uniform priorities in path allocation and, in some cases, different methods in the field of customs clearance are not conducive to strengthening intermodal competition.

In cooperation with the regulatory authorities represented in the IQ-C, the Federal Network Agency supports the development of the standard software "Pathfinder" that can be applied throughout Europe. This is intended to give all European railway companies access to all line data required for operations on routing possibilities in Europe at equal conditions and free of charge. One of the IC-Q working group's tasks is to ensure that nondiscriminatory application of this communication tool is possible and to observe how an instrument of this kind can simplify and reduce the cost of international path requests in practice.

## RAIL NET EUROPE

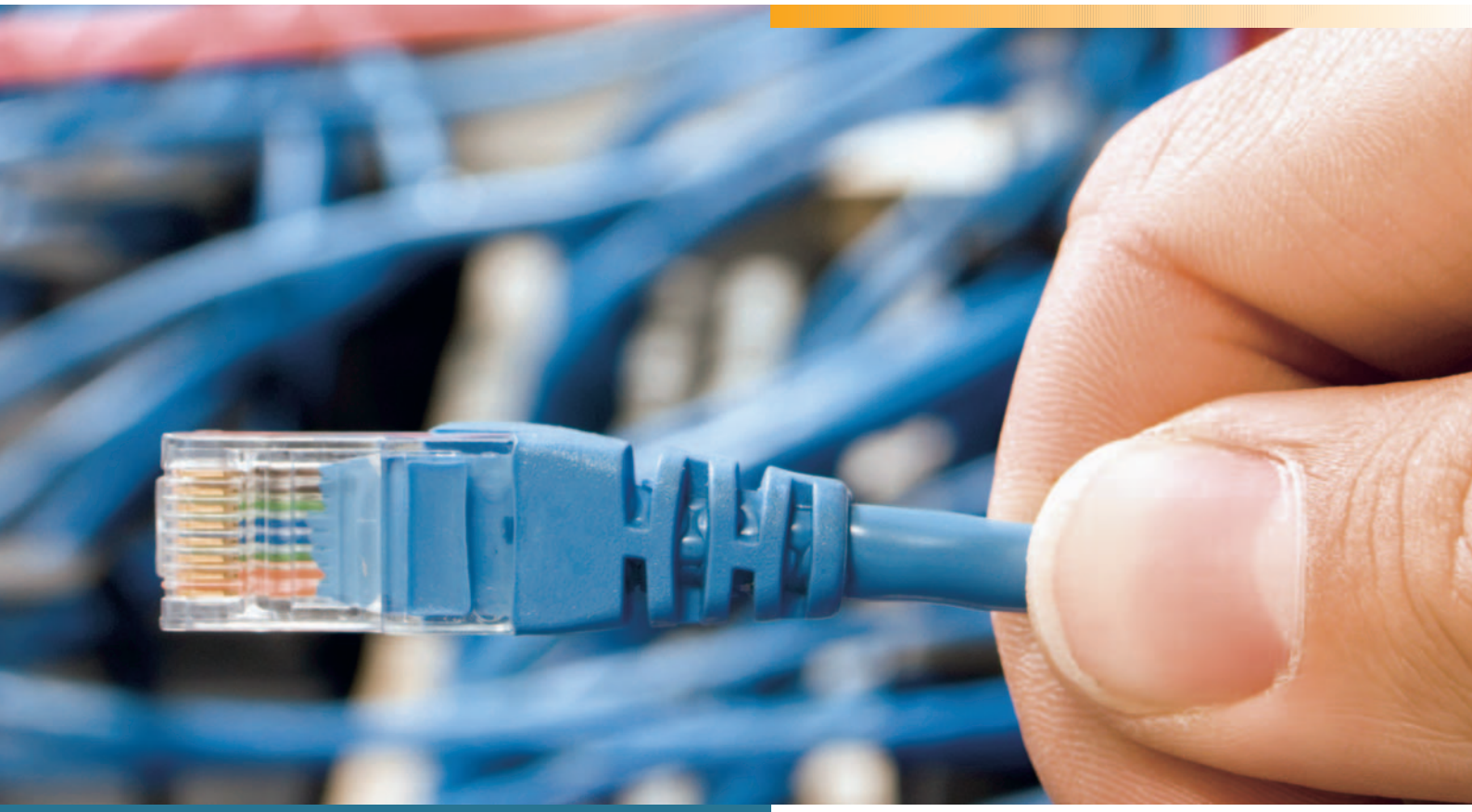
In 2006 the Federal Network Agency attended the events staged by Rail Net Europe (RNE), an association of European Railway Infrastructure Companies. RNE was initially established as a cooperation of European railway infrastructure companies in September 2002. On 1 January 2004, the RNE was founded with headquarters in Vienna and statutes under Austrian law. RNE is a sales and marketing organization for European rail infrastructure companies. According to its statutes, RNE pursues the following objectives:

- Promoting the development and competitiveness of international railway traffic by intensifying cooperation between members (in particular with its "one-stop-shop network");
- Coordinating, harmonizing and monitoring international sales processes and activities;
- Simplifying the allocation of rail capacities for international railway traffic;
- Increasing the quality and efficiency of cross-border railway traffic.

The RNE currently has 31 rail infrastructure companies as members serving 230,000 km of railway network between them. According to the RNE, more than 120 rail traffic companies operating international European rail traffic use RNE's services.

By attending RNE events, the Federal Network Agency acquires information about the RNE's current development for identifying and counteracting any potential discrimination at an early stage.

# Telecoms



# Market watch

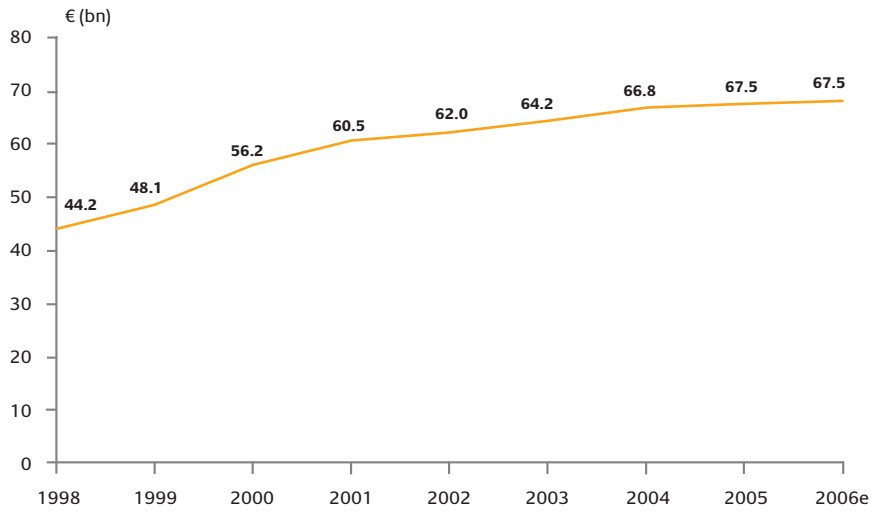
Competition continues to grow – Sharp increase in number of local loop rentals, including wholesale products for broadband DSL access – Deutsche Telekom's competitors on the march, now account for over 50 percent of high-speed DSL lines – Conventional fixed network under pressure, increasingly suffering from the growing importance of VoIP and the substitution of mobile phones for fixed lines

## TOTAL MARKET FOR TELECOMS SERVICES

### Revenues

In 2005, revenues in the telecoms services market totalled €67.5 billion.[1] The Federal Network Agency expects revenues to remain constant in 2006.[2] This means that the market for telecoms services has grown by €23.3 billion since 1998, when the first steps were taken to liberalise the market.

**Revenues in the German telecoms market**

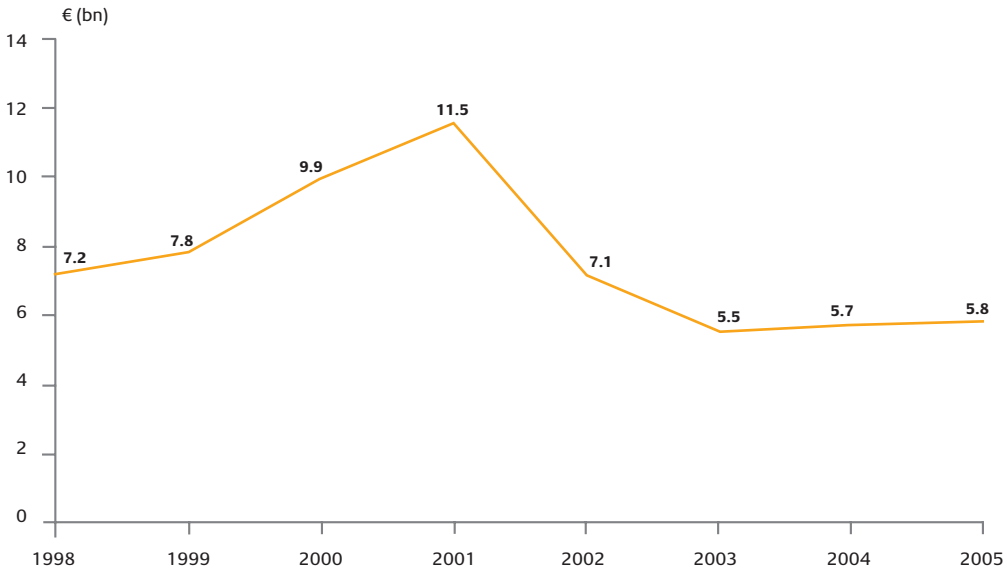



1 Cumulative revenues comprising revenues of DTAG and its competitors in Germany.
2 Definitive figures for 2006 are not yet available. The 2006 figures cited here are estimates (shown in tables with "e").

## Investment

Real investment in the German telecoms market increased by €0.1 billion to €5.8 billion in 2005. In the first six months of 2006, companies invested a total of €3.3 billion.

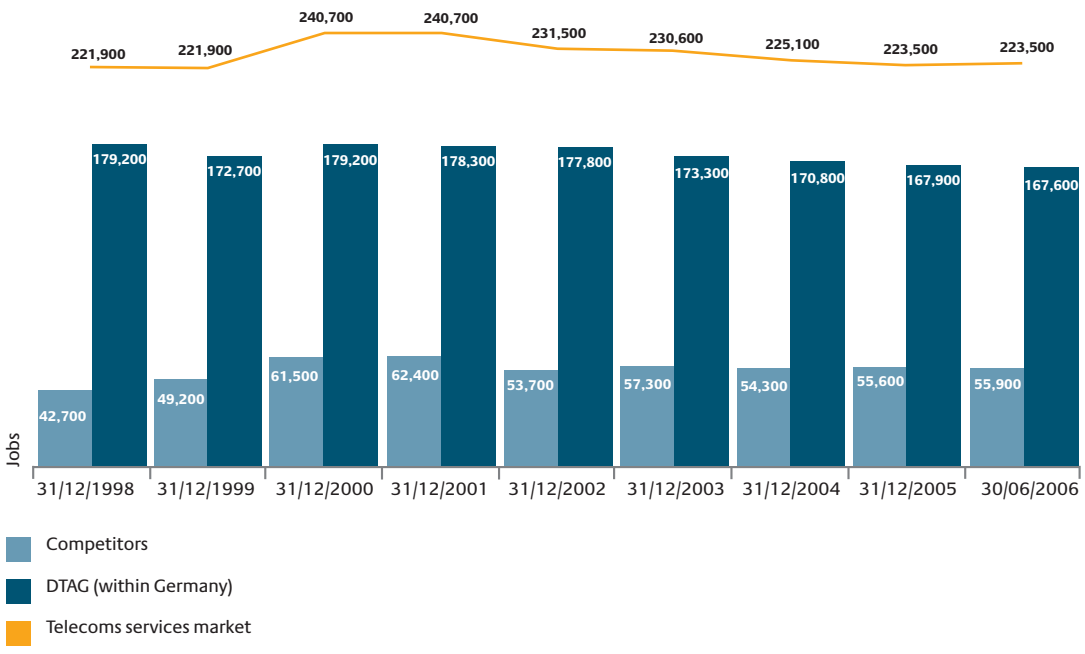
### Investment in the German telecoms market




## Employment

The number of people working for DTAG's competitors in the telecoms services market rose by 2.4 percent to 55,600 at the end of 2005. This figure continued to grow, reaching 55,900 employees by the end of the

### Jobs in the telecoms services market



first half of 2006. The DTAG workforce in Germany totalled 167,900 at the end of 2005 and 167,600 after the first six months of 2006. Between the end of 2005 and the first six months of 2006, the total number of people working for companies in the telecoms services market remained constant at 223,500.

## FIXED NETWORK SERVICES

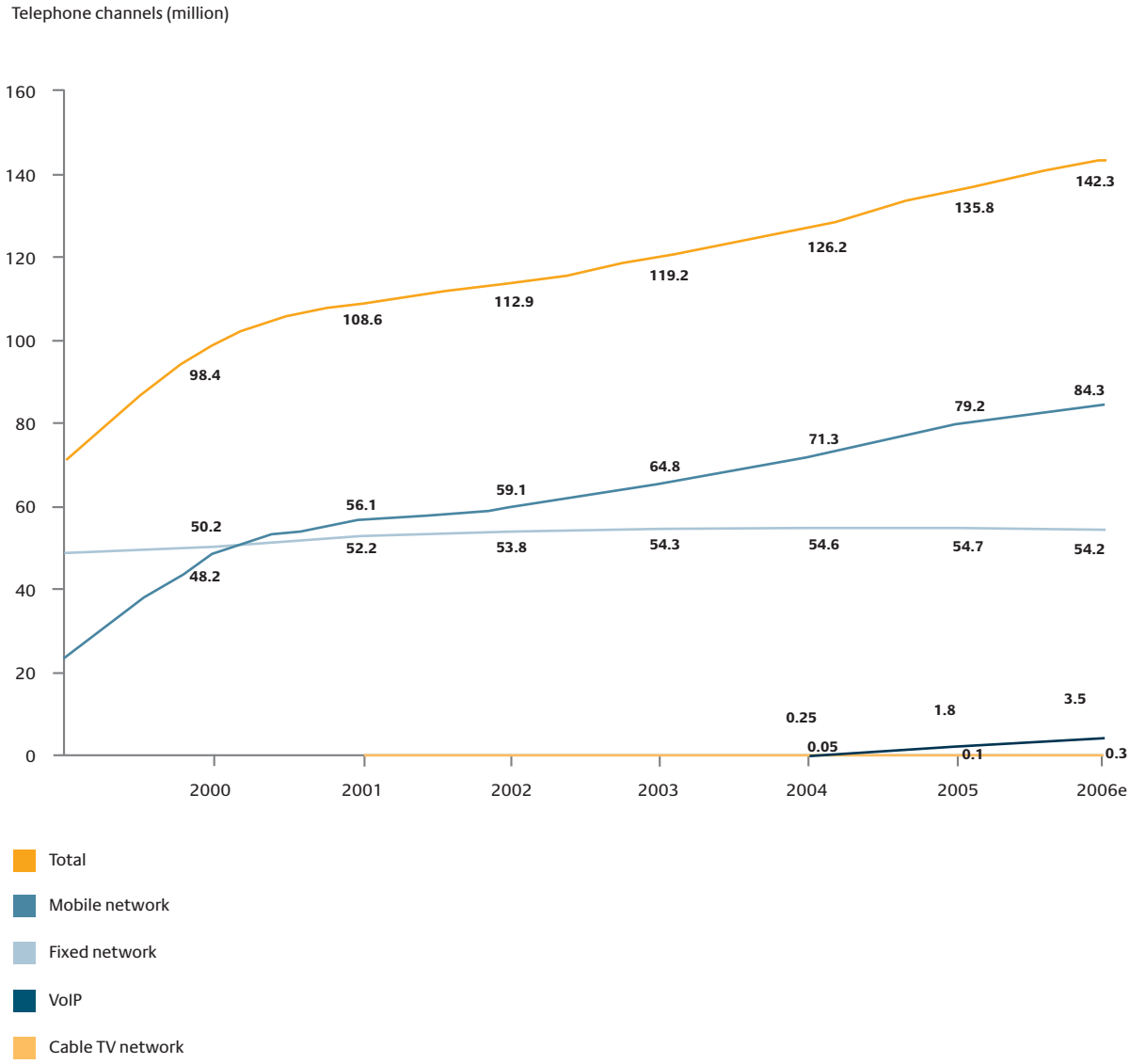
### Voice communication

A comparison of the various means of access to voice communication offered by mobile and fixed networks shows that there are now far more mobile voice channels available than there are fixed. Voice communication over the conventional fixed network has now been joined by access via cable TV networks, not to mention VoIP services provided via DSL lines. At year's end 2006, the number of cable connections used for telephone calls had risen to approximately 0.3 million, while the number of DSL lines used for Internet telephony had climbed to some 3.5 million.

In recent years the number of fixed channels[3] has barely changed while the number of mobile voice channels[4] has grown continuously. This clearly shows that wireless technology is in a position to mount a serious challenge to fixed networks and also highlights the substitution of mobile phones for fixed lines. The only reason for the slight rise in the total number of fixed channels up to 2005 was the fact that ISDN lines offering multiple channels were replacing analogue lines with only one voice channel. And despite the growing number of households, the total number of fixed lines actually fell. According to the European Commission's E-Communications household survey[5], the proportion of German households that can only be contacted by mobile phone increased to 11 percent in 2005.

3 The telephone channel is a generic term for a communication pathway. Analogue, basic rate ISDN and primary rate ISDN lines each provide a different number of such channels, the sum of which gives an indication of total capacity. The total number of telephone channels is arrived at by counting one channel for an analogue line, two for a basic rate ISDN line and 30 for a primary rate ISDN line. Public telephones count as one telephone channel. Until more precise details become available, communication pathways via VoIP and cable TV are counted as one voice channel for each registered customer. Both the competitors' and DTAG's figures include a small proportion for their own requirements.
4 One voice channel is counted for every registered mobile phone.
5 Special Eurobarometer 249, "E-Communications Household Survey", conducted between December 2005 and January 2006, published July 2006.

## Access to voice communication (channels)




### TELEPHONE LINES

The various types of conventional fixed network access (PSTN) and cable connections together accounted for a total of 54.51 million telephone channels at the end of 2006.[6] This means that, for the first time, the number of telephone channels is actually falling. Particularly striking is the fact that both DTAG and its competitors are seeing a resurgence in the relative share of analogue channels. Until 2004 (for DTAG) and 2003 (for its competitors), analogue access technology had steadily declined in importance – measured in terms of the total number of fixed telephone channels. Evidently, customers purchasing combined DSL/telephone lines are increasingly opting for an analogue line, which is less expensive than a basic rate ISDN line.

6 54.2 million channels in the conventional fixed network (PSTN) plus 0.3 million channels in cable networks. Until more precise information becomes available, telephone lines connecting to cable networks have each been counted as one voice channel.

## Telephone channels: DTAG and competitors

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006e |
|---|---|---|---|---|---|---|---|---|---|
| **Competitors** | | | | | | | | | |
| **Total (million)** | **0.16** | **0.40** | **0.86** | **1.62** | **2.27** | **3.11** | **4.27** | **6.64** | **9.35** |
| Analogue | 15.0 % | 22.0 % | 17.0 % | 12.0 % | 11.0 % | 11.0 % | 11.0 % | 13.0 % | 16.0 % |
| ISDN | 85.0 % | 78.0 % | 83.0 % | 88.0 % | 89.0 % | 89.0 % | 89.0 % | 87.0 % | 84.0 % |
| Number of providers | 21 | 40 | 55 | 61 | 64 | 65 | 68 | 71 | 85 |
| **DTAG** | | | | | | | | | |
| **Total (million)** | **46.37** | **47.81** | **49.36** | **50.83** | **51.51** | **51.23** | **50.41** | **48.18** | **45.16** |
| Analogue | 78.0 % | 72.0 % | 65.0 % | 60.0 % | 56.0 % | 53.7 % | 52.6 % | 53.3 % | 54.0 % |
| ISDN | 22.0 % | 28.0 % | 35.0 % | 40.0 % | 44.0 % | 46.3 % | 47.4 % | 46.7 % | 46.0 % |
| **Total** | | | | | | | | | |
| **Total (million)** | **46.53** | **48.21** | **50.22** | **52.45** | **53.78** | **54.34** | **54.68** | **54.82** | **54.51** |
| Competitors | 0.3 % | 0.8 % | 1.7 % | 3.1 % | 4.2 % | 5.7 % | 7.8 % | 12.1 % | 17.2 % |
| DTAG | 99.7 % | 99.2 % | 98.3 % | 96.9 % | 95.8 % | 94.3 % | 92.2 % | 87.9 % | 82.8 % |

Figures include public telephones, cable telephony and providers' own requirements

Alternative operators increased their market share to 17.2 percent in the year under review and now provide 9.35 million telephone channels in total.

The table illustrates the trends for different types of access as well as the market shares of alternative operators.

At the end of 2006, there were 38.58 million lines in total. This reflects a drop in both the number of telephone channels and the number of telephone lines. The total number of telephone lines comprised 25.41 million analogue lines, 12.65 million basic rate ISDN lines and 113,000 primary rate ISDN lines. Cable telephony accounted for a very small but growing share of this figure:

## Telephone lines showing competitors' market share

| | 2004 | | | 2005 | | | 2006e | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Competitors | | Total | Competitors | | Total | Competitors | |
| | Million | Million | % | Million | Million | % | Million | Million | % |
| Analogue lines (excluding public telephones) | 26.83 | 0.436 | 1.6 % | 26.32 | 0.742 | 2.8 % | 25.41 | 1.136 | 4.5 % |
| Basic rate ISDN lines | 11.97 | 1.472 | 12.3 % | 12.34 | 2.495 | 20.2 % | 12.65 | 3.580 | 28.3 % |
| Primary rate ISDN lines | 0.125 | 0.0278 | 22.3 % | 0.120 | 0.0265 | 22.1 % | 0.113 | 0.0248 | 21.9 % |
| Public telephones | 0.106 | 0.0038 | 3.6 % | 0.108 | 0.0040 | 3.7 % | 0.109 | 0.0036 | 3.3 % |
| Cable connections | 0.048 | 0.048 | 100.0 % | 0.111 | 0.111 | 100.0 % | 0.310 | 0.310 | 100.0 % |
| Total number of lines | 39.08 | 1.99 | 5.1 % | 39.00 | 3.38 | 8.7 % | 38.58 | 5.05 | 13.1 % |
| Total number of channels | 54.68 | 4.27 | 7.8 % | 54.82 | 6.64 | 12.1 % | 54.51 | 9.35 | 17.2 % |

Figures include providers' own requirements

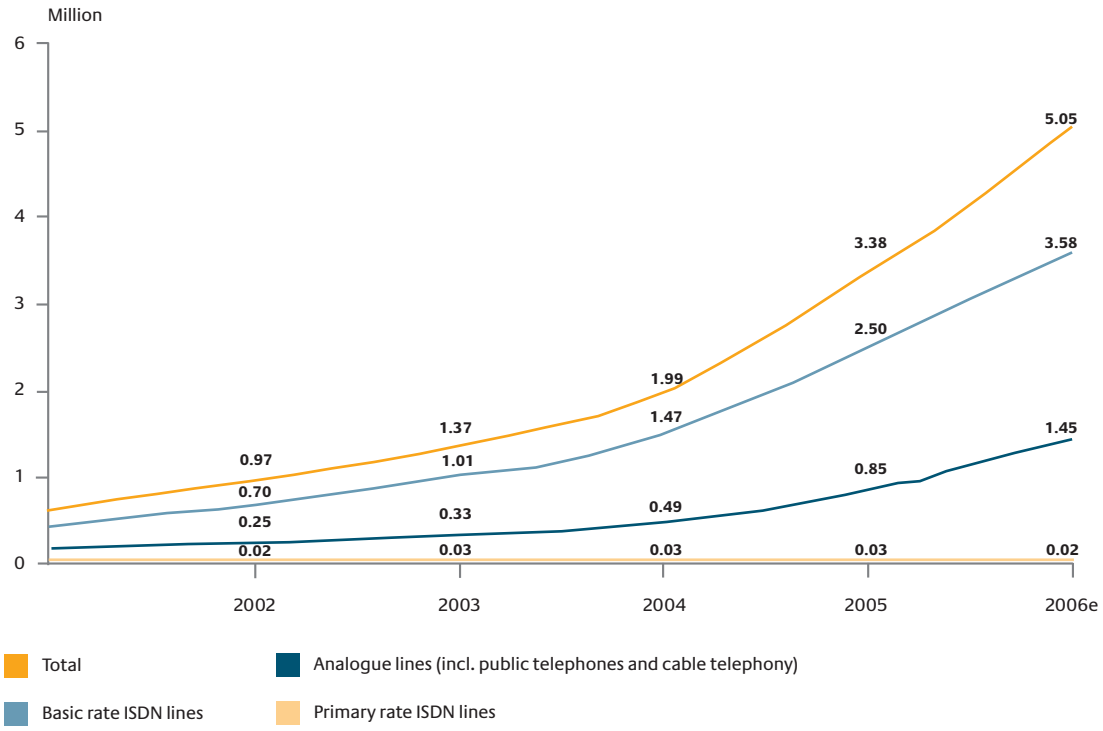
310,000 lines in total. There has recently been a renewed upturn in the use of public telephones, notably by travellers from within the euro zone who use payphones. The number of payphones and cardphones has consequently risen slightly to 109,000.

At the end of 2006, there were 85 companies, besides DTAG, that offered analogue lines, ISDN lines or cable telephony on the basis of either local loop access agreements with DTAG or their own facilities.[7] Thus there was a choice of access provider for over half the population. The growth in the number of line providers – a figure that includes all individual companies, regardless of whether they belong to the same group – is due to the upgrade of cable TV networks to offer return channel capability.

DTAG's competitors have enjoyed varying degrees of success in increasing their share of regional markets in recent years. In some parts of Germany, their market share – measured by the number of telephone channels – is far in excess of the national average of 17.2 percent, and even rises above 25 percent in some local networks.

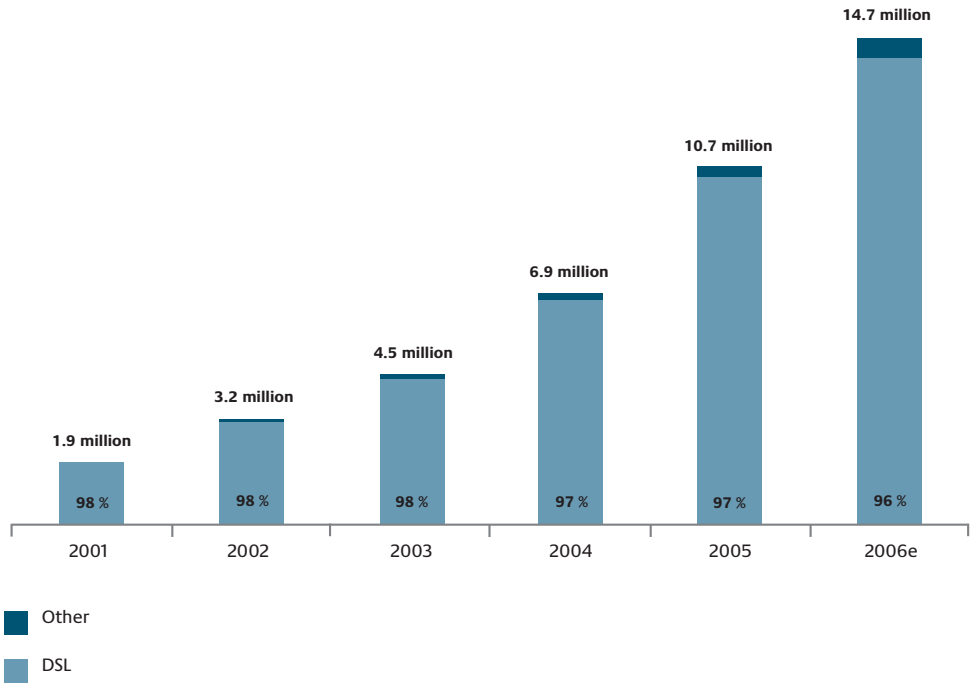
Since 2004, the total number of fixed lines operated by competitors has increased by a factor of 2.5. Almost three quarters of all competitors' telephone lines are basic rate ISDN lines.

**Growth in competitors' telephone lines**




7 In a small number of cases the service is offered subject to minimum revenues.

**Total number of broadband connections and relative share of DSL**




## Broadband access technologies

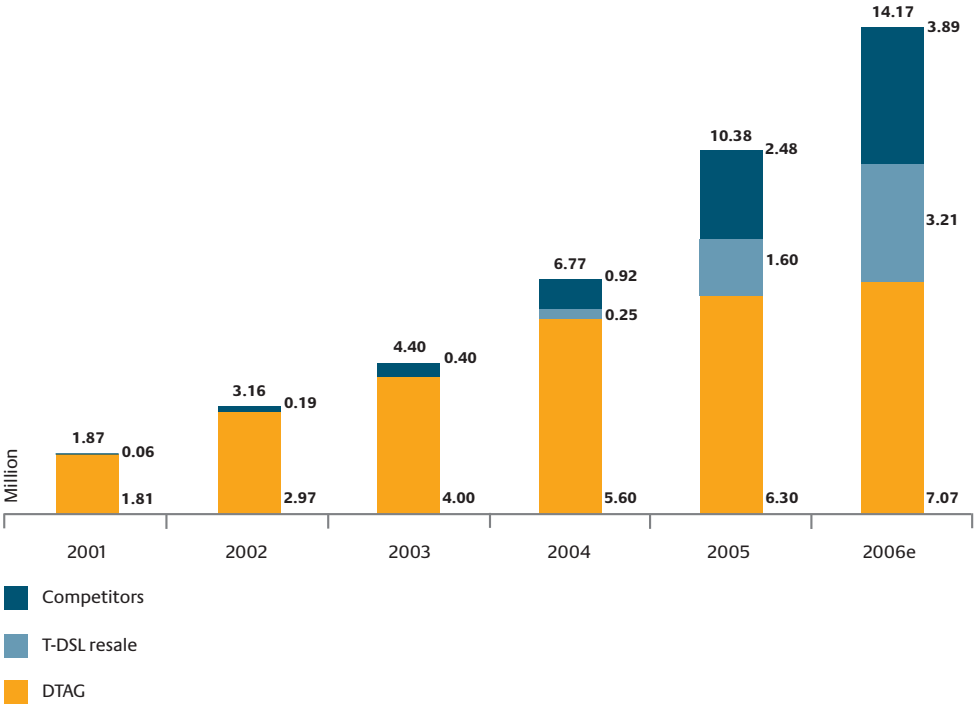
In Germany, broadband access is usually provided via digital subscriber lines (DSL), cable TV (cable modem), satellite or powerline. At the end of 2006, the total number of broadband connections in Germany exceeded 14.7 million.

Of these connections, approximately 14.2 million (some 96 percent) were DSL lines, around 490,000 relied on cable modems, 9,500 used powerline technology and around 56,000 were satellite-delivered. These figures clearly show that DSL remains the dominant access technology in Germany, followed by cable TV connections. Nevertheless, the clear year-on-year gains made by companies providing broadband access via cable TV networks mean that alternative access technologies have slightly increased their market share at the expense of DSL. It would still be inaccurate, however, to talk of sustained, vigorous competition between different access technologies.

## DSL lines

The DSL market continued to grow strongly in the year under review. At the end of 2006, some 14.2 million DSL lines were operational in Germany, signifying an overall increase of approximately 37 percent over a twelve-month period.

## DSL lines in operation




End customers of DTAG directly accounted for approximately 7.07 million DSL lines at the end of 2006, representing a market share of around 50 percent.

Resellers of DTAG's DSL lines recorded particularly strong growth. These companies are independent providers that sell DTAG's DSL lines under their own name (T-DSL resale) instead of operating their own network. Resellers' market share climbed from 15 percent in 2005 to around 23 percent in 2006.

A large part of the revenues generated by DSL resellers flows back to DTAG as remuneration for the supply of wholesale services. If DSL lines sold by resellers are also taken into account, DTAG's market share at the end of 2006 was approximately 73 percent.

Strong growth has also been seen among alternative operators that offer DSL lines over their own network. Their products rely primarily on local loops leased from DTAG. By the end of 2006, these companies had increased their share of the DSL market to almost 28 percent, providing some 3.9 million lines in total.

Germany remained the European leader in terms of the number of DSL lines in operation in the year under review. The German DSL market also recorded strong growth: in fact, it was the European Union's fastest growing market in the first six months of 2006, and by mid-2006 Germany accounted for approximately 22 percent of all DSL lines in Europe.[8]

8 Source: European Commission, Broadband Access in the EU.

At the same time, there was a significant year-on-year increase in national market penetration (measured as a percentage of households). By the end of 2006, an estimated 36 percent of German households were equipped with a DSL line (compared to 27 percent in 2005).

### Cable access

In the regions where they are available, broadband connections over cable TV networks with return channel capability now represent a real alternative to the conventional fixed network. By the end of 2006, almost 500,000 customers had opted for this means of access, provided by over 50 cable network operators.[9] This represents a twofold increase on 2005. Most of these networks – modernised thanks to extensive infrastructure investment – are able to provide triple-play services: telephony as well as TV and Internet access. Network level 3 continues to be upgraded and, by the end of 2006, cable access was an option for some 15 million households. Network operators are trying to gain new customers by offering attractive prices.

### Powerline

Powerline technology is another means of providing high-speed Internet access. Also known as PLC (Powerline Communications), powerline technology transmits data between the telecommunications backbone and the end customer using electricity networks, which already offer nationwide coverage. At year's end 2006, this technology – offered by six companies – was the preferred choice of approximately 9,500 households, while a further 155,000 could be connected with a minimum of delay.

### Satellite

Data transmission by satellite technology offers Internet access at almost any location, irrespective of the local infrastructure. This technology – available in two variants – can therefore be used in regions where DSL is not available and where there are no cable networks offering return channel capability. Bi-directional systems use satellites to carry both the up- and the downlink.

Some 1,000 customers use such services, which are aimed primarily at professional users. Hybrid services, which employ satellites for download only, are considerably less expensive and consequently more popular. At the end of 2006, there were approximately 55,000 users in this market segment.

### Wholesale products

Local loop access and shared local loop access (also called line sharing) allow DTAG's competitors to offer consumers telephone and DSL lines via the local network without having to build the required infrastructure themselves. For a fee, DTAG grants these alternative operators access to its loops; as a rule, these are the cables linking the end customer with the main distribution frame.

In the case of line sharing, the local loop is not assigned to a single competitor in its

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

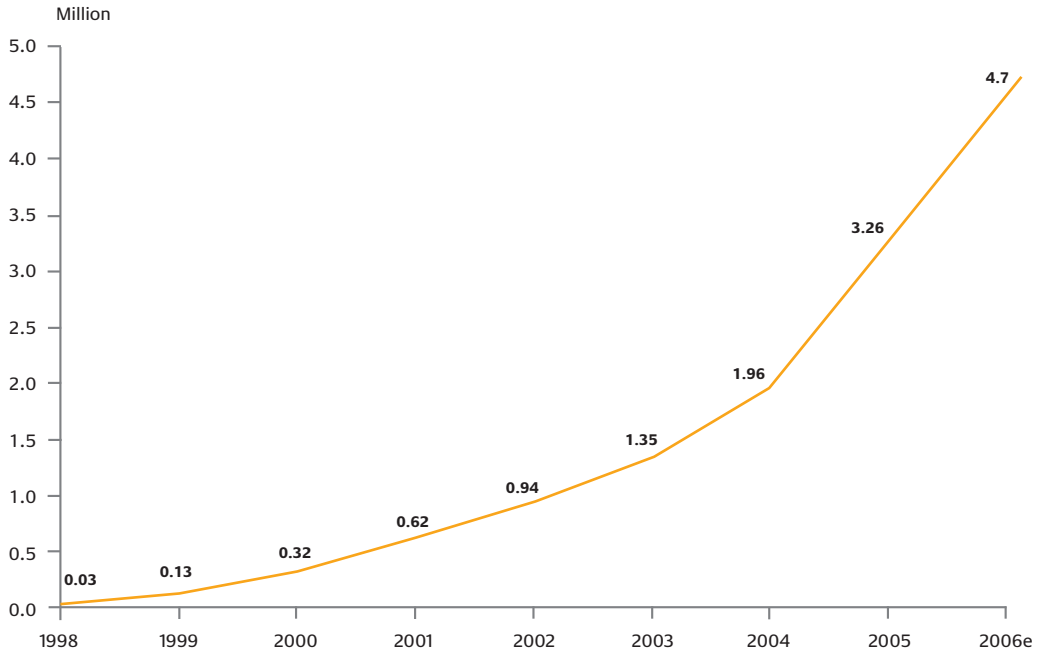
entirety – as happens with unbundling – instead, it is divided into a lower and a higher frequency band. Under this arrangement, DTAG can continue to use the lower frequency band to transmit voice traffic, while an alternative operator uses the higher frequency band for DSL data transmission.

Competitors interested in these wholesale products must first sign a contractual agreement with DTAG. By year's end 2006, DTAG had signed such agreements with more than 100 competitors. DTAG offers local loops in different product variants. The number of rentals has increased significantly since 2005: by the end of 2006, DTAG's competitors were using some 4.7 million local loops. This means that Germany retains its leading position in Europe with regard to local loop rentals.

The rapid growth in rentals is due primarily to the strong demand for high-speed local loops on the part of alternative operators. High-speed local loops are notably used to provide DSL lines. There has also been an increase in the number of services provided by alternative operators via line sharing.

Co-location (physical access to the main distribution frame) is a prerequisite for local loop access. For a fee, DTAG provides a room for this purpose at the site of the main distribution frame for the relevant access area. Recent years have seen a continuous rise in the number of main distribution frames to which DTAG's competitors have access: by mid-2006 the figure had reached 2,800.

**Local loop rentals**



### Traffic volumes in fixed and mobile networks (excluding dial-up connections to the Internet)

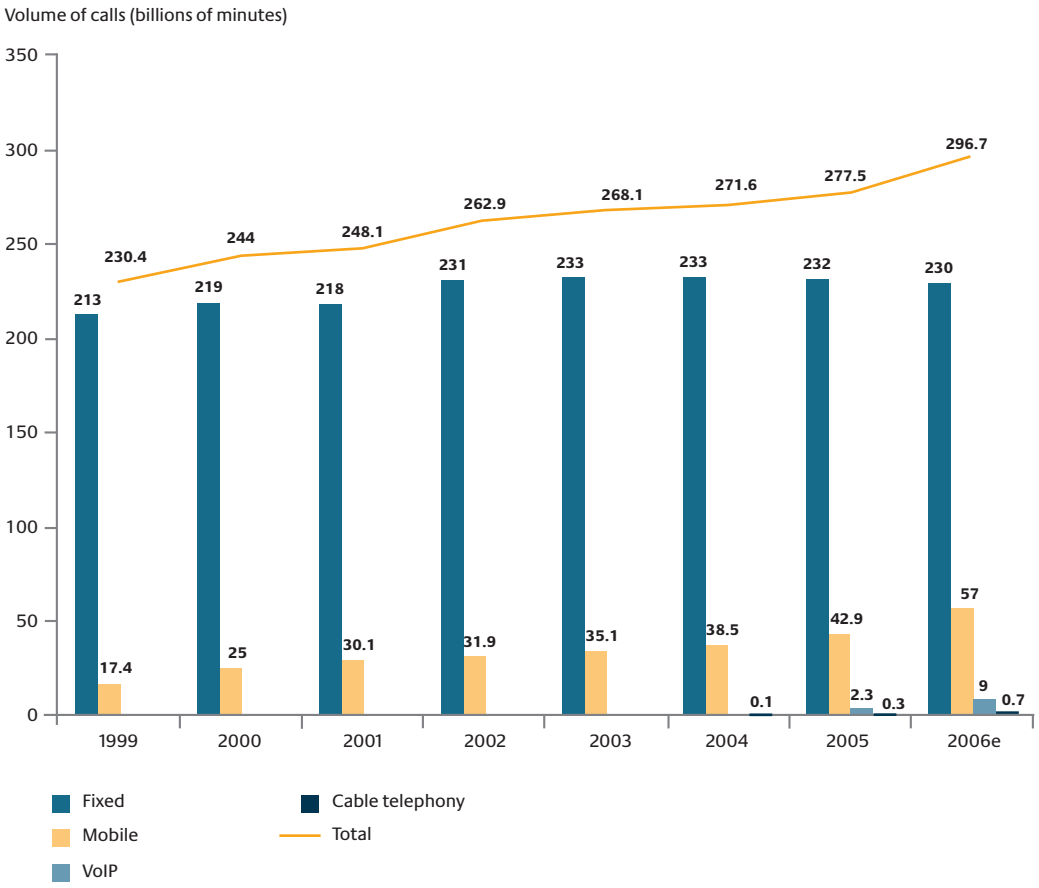
In the year under review, the total volume of calls in fixed and mobile networks rose to an estimated 297 billion minutes. This represented an increase of approximately 19 billion minutes on the previous year, signalling a continuation of the upward trend. The growth is driven primarily by a major increase in mobile phone traffic.

The substitution of mobile phones for fixed lines leads to a corresponding drop in call minutes in the fixed network. This trend was accelerated by falling mobile call charges in 2006, reinforcing the shift in call traffic away from fixed networks and towards mobile networks.

While DTAG's share of call traffic fell in the year under review, alternative operators increased their share of call minutes in the PSTN to approximately 48 percent: an estimated 111 billion minutes out of a total of around 230 billion.

In addition to increasing their share of extended local and long-distance traffic, competitors also made significant inroads in the local network. Direct access providers recorded strong year-on-year growth

**Traffic in fixed and mobile networks**

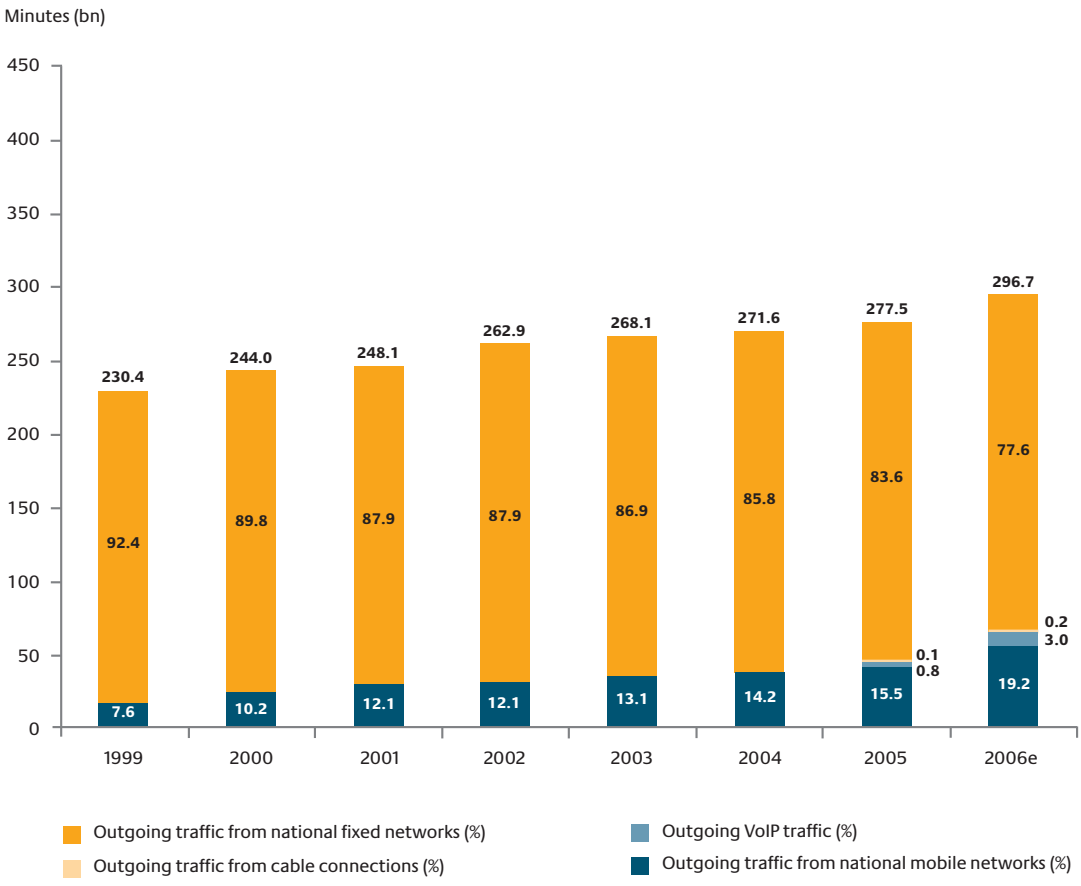


in this area, the knock-on effect of which has been a slight drop in traffic for providers of call-by-call services. Preselection services also lost ground and were used by approximately 5.9 million customers at year's end.

The drop in the volume of public switched calls via the conventional fixed network is due not only to the substitution of mobile phones for fixed lines, but also to the growing importance of VoIP services, which are increasingly taking the place of conventional PSTN telephony. VoIP services require broadband Internet access, usually via DSL. There is now an extensive range of VoIP hardware that makes it easy to combine a VoIP service with a conventional fixed line. There are currently some 50 companies offering mass-market VoIP services. Many customers use VoIP services provided by the same company that supplies their DSL line; these companies generally offer VoIP as part of a package including the DSL line and broadband Internet access. There are also some providers that offer VoIP as a stand-alone service.

By the end of 2005, a total of 1.8 million customers had registered to use VoIP services

**Outgoing calls from fixed and mobile networks**
(total volume and breakdown)



with one of the various providers. These customers made approximately 2.3 billion minutes worth of calls in 2005. Demand for VoIP services grew in the year under review, with the number of registered users climbing by approximately 55 percent to 2.8 million in the first six months of 2006 alone. This was reflected in a corresponding increase in the volume of outgoing calls: the figure of approximately 3.8 billion call minutes for the first six months of 2006 is already a significant improvement on the whole of the previous year. The full-year figures for 2006 are expected to show a further rise in demand, with the number of users anticipated to be around 3.5 million. It is therefore likely that the number of VoIP calls will continue to climb sharply in the future, and that there will be a corresponding decline in the volume of public switched calls made using conventional telephone lines.

Telephony via cable TV networks, which generated some 750 million call minutes in the year under review, has so far made little impression on call volumes in the fixed network. At year's end 2006, an estimated 300,000 customers made telephone calls over their cable TV network. Compared to the previous year, the number of users and the volume of call minutes have almost trebled.

### Internet traffic

The volume of narrowband, dial-up traffic continued to fall in 2006, a consequence of the strong growth in broadband connections. In fact, the volume of traffic declined by around 17 percent compared with 2005, falling to approximately 70 billion minutes. In contrast, the volume of broadband Internet traffic (measured in Gbytes) carried over DSL, cable modems and other broadband access technologies continues to grow strongly. The volume of broadband traffic increased by approximately 32 percent to around 861 million Gbytes, a testament to the unremitting demand for broadband services.

This strong growth is driven by a significant rise in the number of DSL broadband connections.

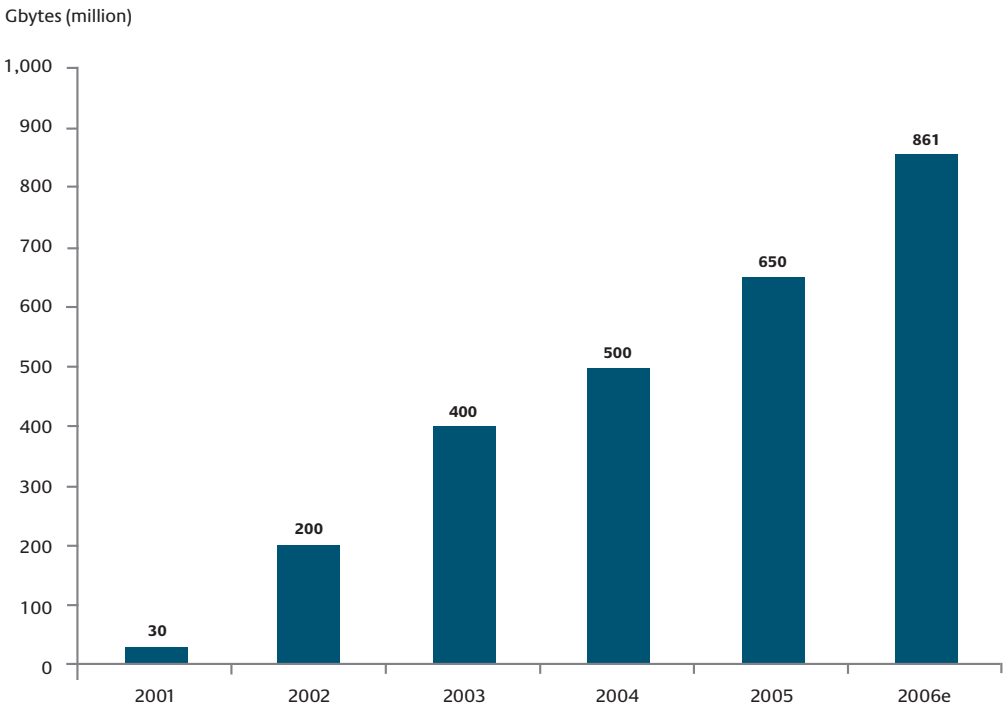
### Internet use

Various studies on Internet use back up these traffic figures. For example, the (N)ONLINER Atlas 2006[10] reveals that in the year under review some 58 percent of Germans over the age of 14 used the Internet. This translates to over 42 million Internet users in this age group. In fact, the number of Internet users climbed three percent compared to the previous year, continuing the upward trend of recent years. In 2005, some 39 million Germans over the age of 14 used the Internet – approximately 55 percent of this age group.

In addition to Internet use at home, work, school and university, the Internet can also be used at various commercial or non-commercial venues, such as Internet cafes or libraries. The Berlin-based foundation "Digitale Chancen", which promotes Internet use, identified around 9,000 such locations across the country.

10 TNS Infratest and Initiative D21, 2 August 2006.

**Volume of broadband traffic**




Users of Internet services have a wide range to choose from. There were over 1,036 Internet service providers registered with the Federal Network Agency at the end of 2006.

Intensive use of e-mail services is further evidence of widespread Internet use. The Federal Network Agency has conducted its first analysis of the market for e-mail services in Germany. In spring 2006, MICUS Management Consulting GmbH, a market research and consulting firm, was commissioned to undertake a study. The investigations were carried out with the support of eco, the Association of the German Internet Industry.

The study analysed companies that provide public e-mail accounts, focusing on their legal structure, the size of their customer base and their physical locations. The market for e-mail services is highly competitive and consists of numerous small, sometimes tiny providers, as well as a few large, sometimes very large companies. In fact, there were a total of 3,200 companies offering e-mail services in Germany in 2006. The total market, including associated services such as Internet portals, web hosting and Internet access services, was worth some €3.7 billion in the year under review. According to the study, the market is set to continue growing at an above-average rate in coming years.

There are almost 75 million registered customers in Germany. It can be assumed, however, that the average user has two different e-mail addresses, which goes some

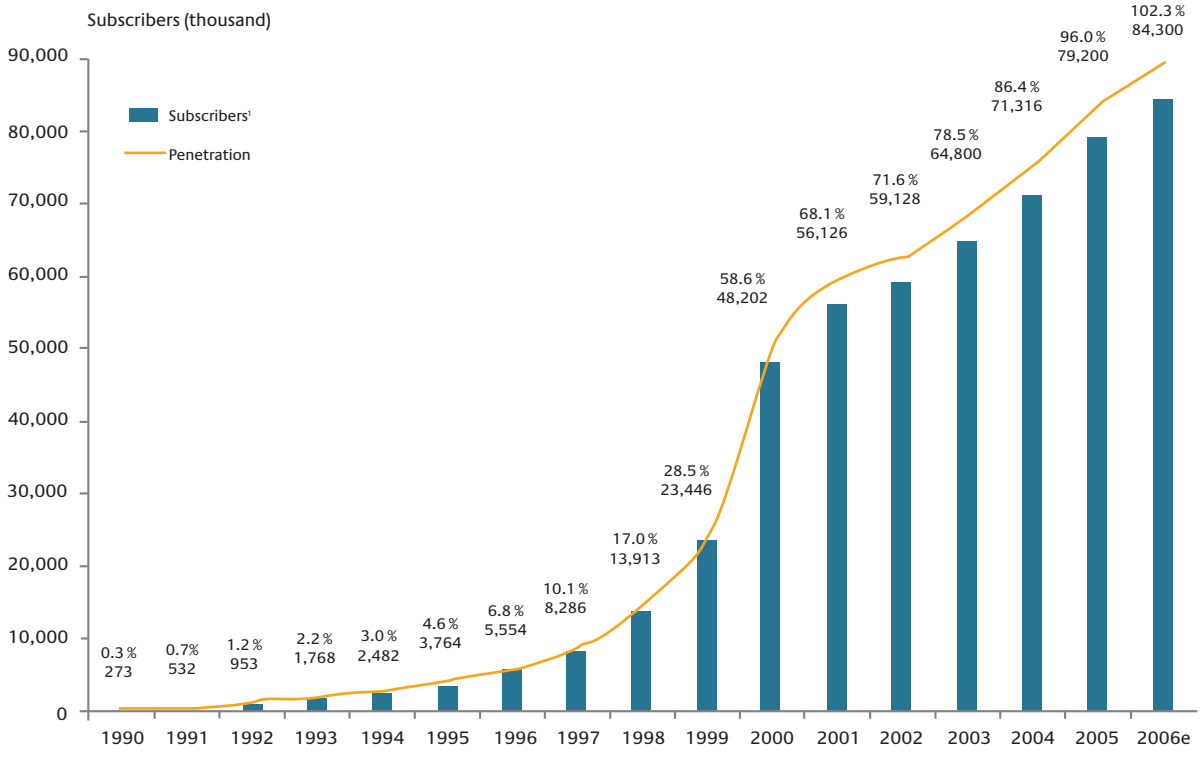
way to explaining the size of this figure. Whereas 60 percent of e-mail providers each serve less than 1,000 e-mail customers, just two percent of companies each account for between 20,000 and 50,000 customers. And another two percent of companies each have a customer base of over 50,000 e-mail users. This top two percent is made up of 64 large companies that together serve 86 percent of all customers. The remaining companies rank somewhere in between these extremes. More details can be found in a summary of the study that is available on the Federal Network Agency's website.

## MOBILE SERVICES

### Subscribers

In the third quarter of 2006 mobile phone penetration exceeded 100 percent for the first time. This means that, on average, there is one mobile phone contract for every person in Germany. Provisional figures show that there were around 84.3 million mobile subscribers in Germany at the end of 2006. Measured by subscriber base, the market shares of the smaller network operators E-Plus and O2 continued to increase in the year under review.

**Mobile subscribers and penetration**




1 Number of mobile phone contracts. A user may have more than one mobile phone contract. Figures up to 2000 include the C network and figures from 2005 include UMTS.

Despite absolute growth in subscriber numbers, the market share of mobile service providers continues to show a slight decline. It fell from 25.9 percent in 2004 to 25.2 percent in 2005 and just 25 percent in 2006.

Strong growth has been recorded in the mobile discounter segment in the last two years. This segment sees independent discounters compete with mobile service providers and sales brands owned by the network operators. Following their first appearance on the market in 2005, discount services had already attracted 1.7 million subscribers by the end of that year. In the first six months of the year under review, this figure rose sharply to 3.9 million, climbing to an estimated 4.9 million subscribers by year's end 2006. This represented a market share of almost six percent.

The previous decline in the proportion of prepaid customers was halted in 2005. Market shares of 51.5 percent in 2005 (up from 50.5 percent in 2004) and 52 percent in the first half of 2006 show that this segment is once again gaining ground.

### Call minutes

The launch of the first discount services in spring 2005, the introduction of new call plans – notably flat rates – in the course of 2005, and the rise in demand for Homezone price plans have resulted in an increase in the volume of outgoing calls.

This trend continued in 2006. In the first six months of the year under review, the volume of outgoing calls totalled 27 billion minutes, compared to approximately 43 billion minutes in 2005, which already represented an increase of 11.5 percent from the 2004 figure of 38.5 billion minutes. By the end of 2006, the volume of outgoing calls is estimated to have risen to 57 billion minutes, representing a year-on-year increase of 33 percent.

This high rate of growth is driven primarily by the falling price of mobile phone calls.

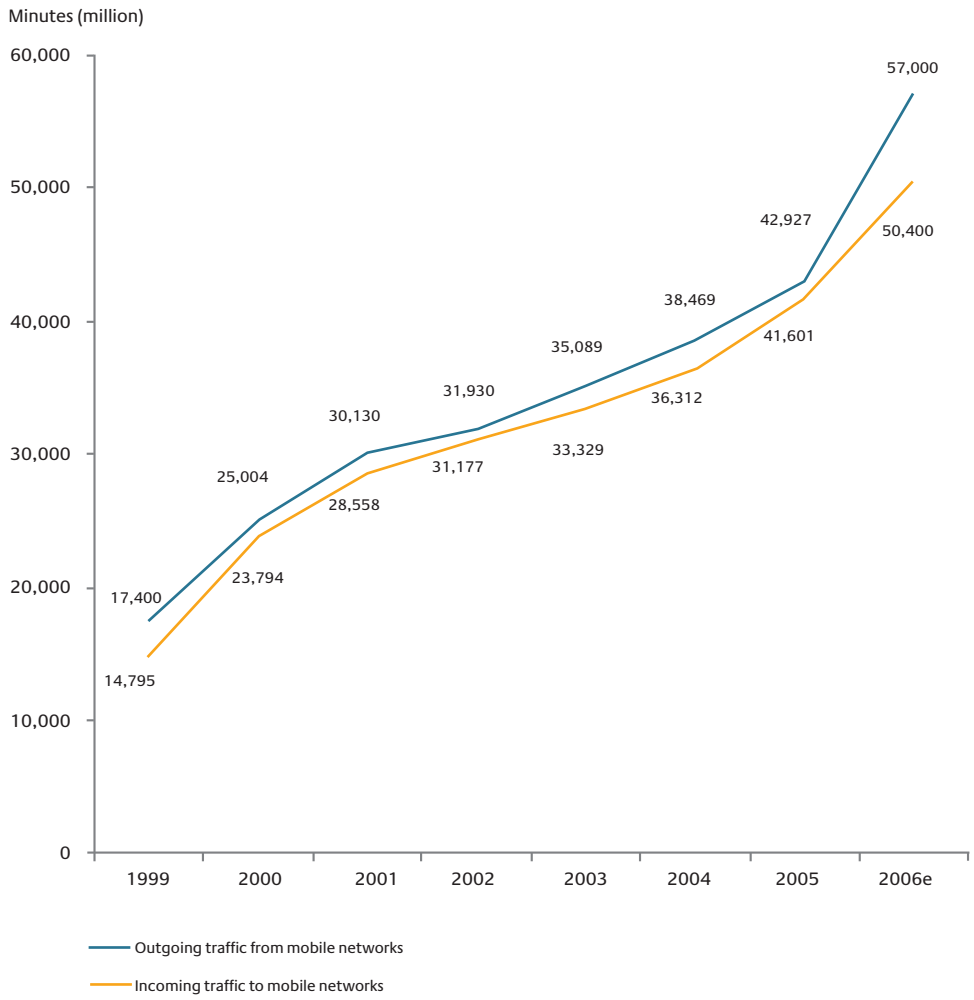
### UMTS

The funds invested in UMTS network expansion in recent years are starting to bear fruit. The number of people using UMTS services[11] rose from an estimated 2.4 million in 2005 to some 3.5 million in the first six months of 2006. By the end of 2006, there were approximately 4.5 million regular users of UMTS services. According to company data, network coverage reached 55–80 percent (of the population) in 2006, depending on the individual network operator.

The mobile transmission of data via broadband requires the appropriate hardware. There are now a large number of UMTS mobile phones available, as well as laptop cards that permit the use of UMTS-based services. In addition to UMTS, mobile data transmission is also possible via GPRS. This technology is mainly employed in areas without full UMTS coverage, or by users without the right UMTS hardware. At some busy locations, network operators have installed WLAN hotspots that permit mobile data communication.

11 This figure is made up of subscribers who are registered directly 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.

## Growth in mobile traffic




As well as the wide range of UMTS mobile phones currently available and the number of services that now require high-speed data transmission, the significant drop in the price of network operators' data plans has also contributed to growing customer acceptance. Furthermore, the UMTS network is gradually being upgraded with HSDPA broadband technology that will boost transmission speeds to around 1.8 Mbit/s and, in the later stages of rollout, to as much as 3.6 Mbit/s.

These developments have resulted in a growth in data traffic and of course data revenues. An initial investigation of data transmitted via GPRS and UMTS revealed that a total of approximately 215,000 Gbytes of data was sent in 2005. The figure for the first six months of the year under review – approximately 290,000 Gbytes – indicates that the total for 2006 is likely to be more than twice that for 2005. The revenues in this segment are growing in line with the traffic figures. In 2005, mobile

operators generated revenues of approximately €476 million from data services (excluding text messaging), an increase of 36 percent from the previous year, when revenues totalled €349 million. In the first six months of 2006, revenues were already €328 million, and revenues for the whole year are expected to exceed €700 million. This would constitute an increase of 47 percent from 2005.

## Text and multimedia messaging

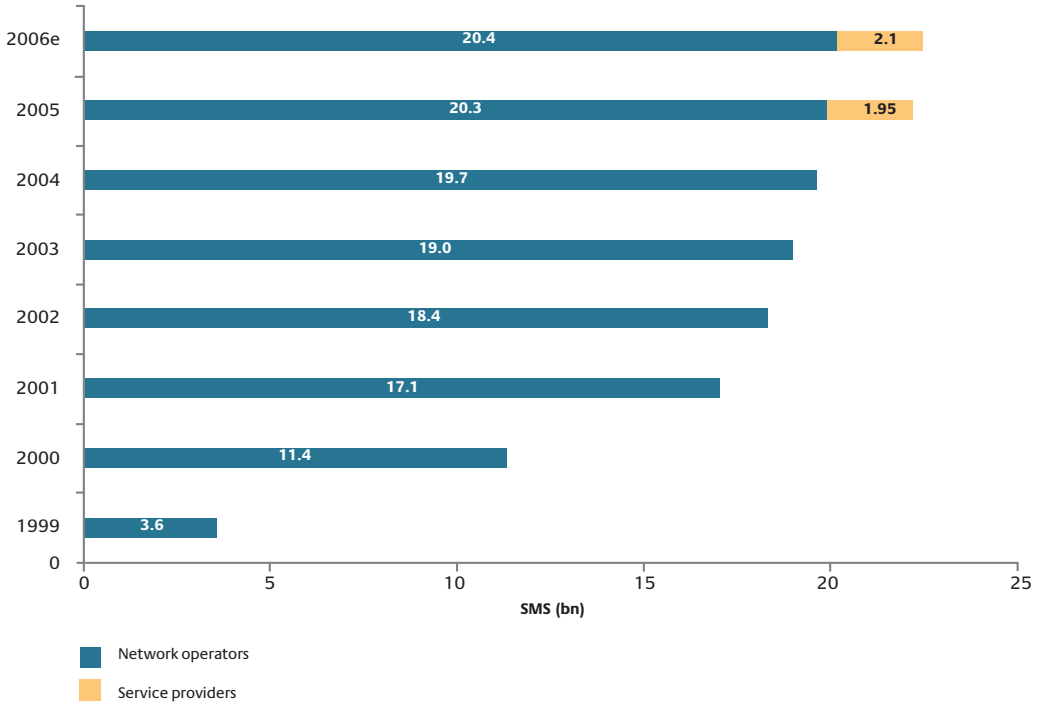
The number of text messages sent via the short message service centres (SMSC) of Germany's four mobile operators increased from 19.7 billion in 2004 to some 20.3 billion in 2005, a rise of approximately three percent. Around 10.1 billion text messages were sent in the first six months of 2006, offering the first indications that the market is reaching saturation point. These figures do not include premium text messages.

For the first time, data were also collected regarding text messages sent via SMSCs belonging to mobile service providers. This showed that around two billion text messages were sent in 2005 and approximately one billion in the first six months of 2006. These data were not included in previously reported figures.

There were 88 million multimedia messages sent in 2004, rising sharply to 148 million in 2005. The figure for the first six months of 2006 was 85 million.

The revenues of the four mobile operators in this segment are stagnating. Total revenues of around €2.6 billion in 2005 were the same as for the previous year, while revenues for the first half of 2006 totalled €1.3 billion.

### Short text messages sent



## BROADCASTING/CABLE TV

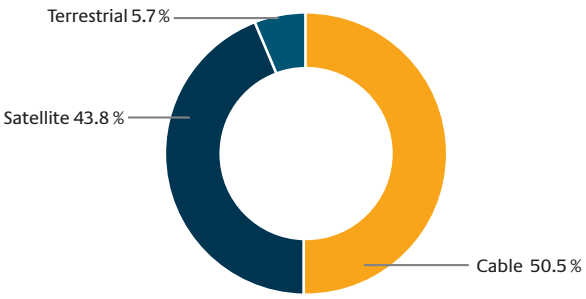
According to figures from the Société Européenne des Satellites (SES), at year's end 2005 50.5 percent of the approximately 37 million German households with television received their signal via cable. This figure includes those households that receive signals via a satellite master antenna yet do not have their own satellite receiver. Almost 44 percent of households had their own satellite dish, while 5.7 percent received terrestrial television. These figures reveal that cable continued to lose ground to satellite reception. A rise of almost two percent signalled a turnaround in the popularity of terrestrial links, whose decline was halted thanks to the growth of digital video broadcasting (DVB-T).

Digitisation continued apace across the board. According to a report by the association of regional media authorities ("Arbeitsgemeinschaft der Landesmedienanstalten" or ALM), almost one third of viewers in Germany have now gone digital.

Cable operators are trying to counter competition from satellite services and digital video broadcasting by introducing new offers and services. For instance, channel subscription packages, films on demand and new triple-play services are now available in addition to the basic product.

Following extensive studies – focusing on technical feasibility as well as customer acceptance – it is now generally accepted that the delivery of TV services via mobile phone looks to have a promising future. Aside from UMTS, which is not suitable for simultaneous reception by large numbers of people, there are two technologies that can be employed for mobile TV broadcasting: DVB-H (Digital Video Broadcasting-Handheld) and DMB (Digital Multimedia Broadcasting). Commercial DMB operations have already commenced in urban areas, offering mobile TV in more than ten towns and cities, while the launch of DVB-H is slated for 2007. Multi-standard receivers that are compatible with both technologies would allow users to enjoy the benefits of both systems and ensure the widest possible coverage in terms of population. Current mobile phones do not offer this capability, however.

**TV reception in German households in 2005**




Source: SES/Astra

## PRICE TRENDS

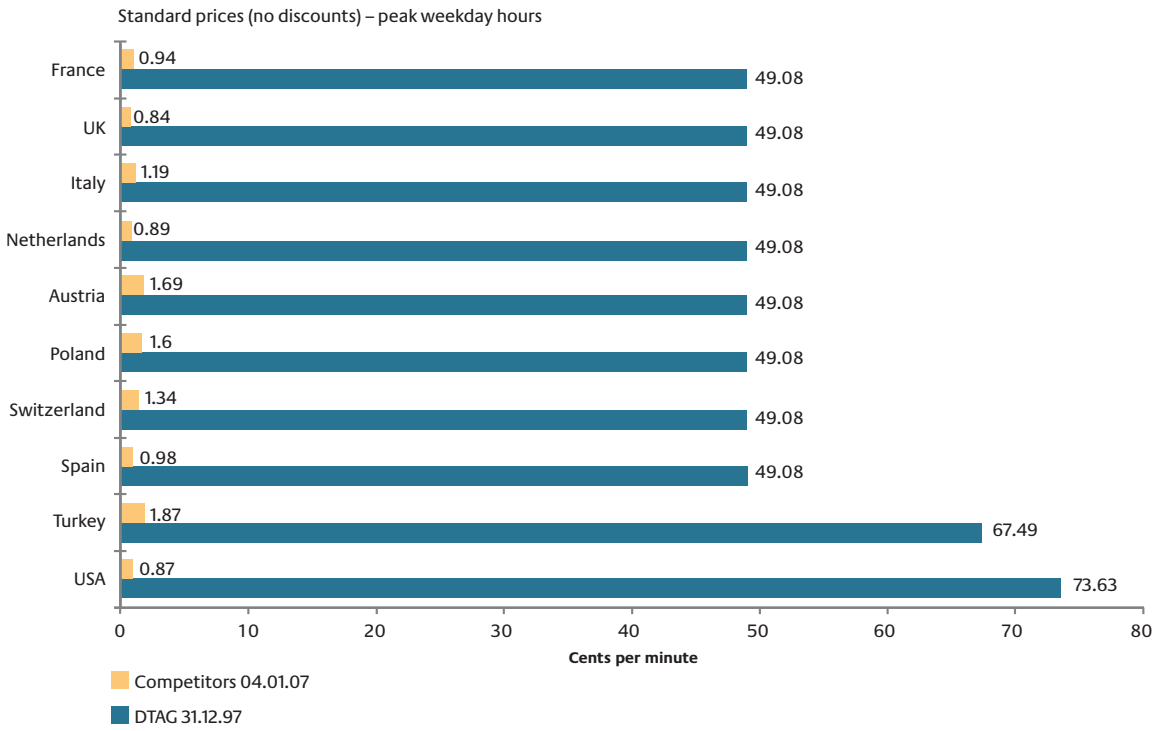
Prices for making phone calls with a mobile phone or fixed line fell to unprecedented levels in 2006, while charges for Internet use also continued to fall. Price plans based on time or distance are increasingly losing ground.

The year under review saw an increase in package deals and flat rates for fixed line services. Consumers responded enthusiastically to packages combining telephone lines with broadband Internet access and offering unlimited call minutes and Internet use. They are apparently swayed by the price savings and the fact that flat-rate billing is easier to manage. ISDN and DSL packages of this type were available at the end of 2006 for around €42 a month. Some cable TV operators offer similar products: unlimited broadband Internet use plus unlimited call minutes starting at around €40 a month, in addition to radio and TV. Even lower prices are available if consumers take advantage of limited offers. At the end of 2006, operators of cable and telephone networks were offering triple-play packages comprising TV, Internet and a telephone flat rate for as little as €55 a month. Package prices differ according to their content, for instance in terms of the transmission speeds available or the number of films and channels that can be viewed on demand.

International calls, calls to mobile networks and calls to premium rate services are not usually covered by flat rates. In some cases, however, customers can pay a higher flat rate that includes such services. As a rule, consumers obtained greater bandwidth for lower prices in the year under review than they could in 2005.

The downward trend in prices for call-by-call services continued in 2006. Call charges dropped slightly from an already low level: at certain times of day it was possible to make national calls via call-by-call for less than one cent. The first years following

**Prices of international calls to ten major destinations**



liberalisation of the telecoms market saw prices tumble dramatically. Price levels are now so low, however, that further reductions will measure only fractions of a cent. Between January 2006 and January 2007, charges for international calls continued to fall, in some cases by as much as 36 percent. On average, prices for calls to the ten major destination countries[12] are now less than three percent of what they were before liberalisation. Depending on the destination, prices for preselection services – used by approximately 6.3 million customers at year's end 2005 and 5.9 million customers at year's end 2006 – are likewise lower now than ever before.

There was an increase in the number of VoIP services available in the year under review, apparently attracting a growing number of users to Internet telephony. The price savings are particu-larly inviting in the case of international calls.

At the end of 2006, a number of providers entered the market offering unbundled DSL lines: packages combining a DSL line and a telephone service. No additional fixed line is required. In technical terms, customers receive just a DSL line; they make their phone calls over the Internet. Nevertheless, many of the features associated with a conventional ISDN line are also available. Customers opting for an unbundled line could subscribe to a flat rate including both telephony and Internet for less than €40.

New discount brands and flat rates continue to bring down the price of mobile phone calls. Discount providers are already offering calls for less than €0.14 per minute. Flat rates offering unlimited calls to fixed lines or to other subscribers in the same network are available for as little as €10 for a Homezone package or starting at €20 for a nationwide flat rate. There are also special price plans available that allow customers to make cheap phone calls from a Homezone. In addition, there are a large number of price plans whereby customers pay a fixed price for a certain number of call minutes. At year's end 2006, the Federal Statistical Office's price index for mobile telephone services was 10.7 percent below the level of the previous year.

There are now packages available that combine mobile and fixed network products. These may consist of a mobile phone plus DSL line, with a single price plan covering mobile calls as well as fixed calls and Internet use. "Quadruple play" is the term used for a service that includes mobile and fixed calls, broadband Internet access and entertainment services, all from a single provider. This offers the customer a host of benefits in terms of meeting her or his communication needs.

Internet service providers (ISPs) have significantly transformed the competitive situation in the market. Without operating their own network, ISPs are increasingly in a position to offer voice services, Internet access and media content from a single source. The migration to next generation networks will herald a further wave of developments, for both fixed and mobile services.

12 Austria, France, Italy, the Netherlands, Poland, Spain, Switzerland, Turkey, the UK and the USA.

# Ruling Chamber decisions

One major focus for the Ruling Chambers in 2006 was the translation of the results drawn from market analyses into regulatory orders and the associated rates approvals. At the same time, the regulatory regime was extended to fields that had not been regulated in the past, such as call termination on mobile telephone networks.

## RULING CHAMBER 2

### Issue of regulatory orders

Ruling Chamber 2 is responsible for rates regulation and the special control of anti-competitive practices on the markets for voice telephone services and public pay-phones as well as resale and preselection. In 2006, one focus of its activities was the conduct of the proceedings for the issue of a regulatory order concerning markets 1–6 of the Commission Recommendation.

The starting point for these proceedings was the determination issued by the President's Chamber on 9 January 2006. According to this determination, DTAG and the enterprises affiliated with it possess significant market power within the meaning of section 11 of the Telecommunications Act (TKG) on relevant national markets that require regulation, namely the markets for access to the public telephone network at a fixed location and for publicly available local and/or national telephone services provided at a fixed location, including calls made via VoIP services. By contrast, no enterprise was found to possess significant market power on the markets for access and call services that are provided under master contracts with individual customers and are worth more than € 1 million (net) a year.

Following the conduct of a wide-ranging consultation and consolidation procedure, during which, apart from the enterprises concerned, numerous competitors, the Federal Cartel Office, the European Commission and national regulatory authorities in other EU Member States were also given the opportunity to state their views on

the regulatory obligations being envisaged, the Ruling Chamber issued a ruling on 23 June 2006, placing an obligation on DTAG and the subsidiary enterprises affiliated with it, in particular T-Systems International GmbH, to make it possible for its subscribers and the subscribers of affiliated enterprises to access the services of all directly interconnected providers of telecommunications services to the public, both through the selection of operators by dialling a prefix and also through operator preselection (what is known as the call-by-call and preselection obligation). Furthermore, DTAG and the affiliated enterprises were required to notify the Federal Network Agency of rates measures relating to the rates for access to the public telephone network at a fixed location (markets 1 and 2 of the Commission Recommendation) and the rates for publicly available local and/or national telephone services provided at a fixed location (markets 3 and 5 of the Commission Recommendation), ie both rates measures relating to conventional fixed-line local and/or national calls and rates measures relating to local and/or national VoIP calls, two months prior to the date when they are to enter into force (what is known as a notification obligation). The regulatory obligations imposed were supplemented with the condition that the documents required to carry out a well founded clearly anti-competitive test on the intended rates measures should be made available to the Federal Network Agency at the same time as tariff notifications are presented.

The imposition of this call-by-call and preselection obligation, which had previously been directly regulated in law, ensured that subscribers would be able to continue to use the services offered by alternative core network operators. In so far as this is the case, the regulatory obligations linked to DTAG's dominant position on markets 1 and 2 of the Commission Recommendation will represent a quite essential precondition for the workability of competition on the neighbouring telephone service markets in future as well.

From the point of view of the Federal Network Agency, the imposition of a notification obligation for connection and call rates represents an appropriate and effective way of taking preventive action against dumping prices, price-cost squeezes, impermissible bundled products and abusively excessive prices. As in the rates approval procedure, the notification procedure also allows rates measures to be prohibited before they come into force, provided it is found that they are not compatible with the criteria set out in section 28 TKG when a well founded clearly anti-competitive test is conducted. Even if no clear breach can be identified, the direct validity of the ex post regulation of the Federal Network Agency makes it possible to carry out a comprehensive ex post examination of the rates in question at any time where there are relevant suspicious circumstances and to prohibit such rates where there is a breach of section 28 TKG. If necessary, the authority may also take decisions on the basis of cost documentation in this field, should it not be possible to carry out a review under the benchmarking principle.

### Measures in the field of rates regulation

In the course of 2006, the Ruling Chamber received advance notification of approx. two dozen tariff measures being taken by DTAG (T-Com), including its T-Online, T-Systems and Congster divisions. One major aspect of these tariff measures, most of which were implemented in 2006, was the restructuring of DTAG's core tariffs to bring in a graduated range of bundled services introduced in the autumn as the "3 x 3 Komplettpakete", which extend from basic telephone tariffs to DSL and Internet (Call & Surf tariffs) and what is known as triple play. The formulation of the regulatory requirements inseparable from bundles of this kind went hand in hand with a review of the changes made to general contractual conditions. For instance, DTAG introduced contract terms of twelve or 24 months into its end customer contracts for the first time and discontinued the concessionary rates for the provision of connections to people who move house.

All tariffs were reviewed by the Federal Network Agency to ascertain whether they were clearly compatible with the requirements of section 28 TKG. In 2006, it did not prove necessary to prohibit any tariff measures on account of breaches of competition that were already clearly foreseeable. However, in some cases reference was made to the threat of competition conflicts, while in others ongoing reports on the development of usage statistics were demanded. For, in contrast to approval proceedings, the examination of tariff notifications is not conclusive and, where necessary, also allows the option of once again subjecting the tariff in question to an ex post rates review at any time after a notification has been made, should facts come to light that justify the assumption that a dominant position on a market has been abused.

In addition to this, since the issue of the regulatory order, all new individual contracts concluded to date by T-Systems, ie individually agreed services that are not easily transferable to a large number of other end users, have been submitted to the Federal Network Agency for its information following their conclusion and reviewed by means of a clearly anti-competitive test to ascertain whether there are any reasons to suspect a breach of section 28 TKG.

Furthermore, on account of continuing complaints from DTAG's competitors, the Ruling Chamber is following attentively the development of competition in the field of Internet or VoIP telephony. This has enjoyed increasing popularity as a technical platform for telephone services since 2004 and finally began to feature in the product marketing of the telecommunications industry in 2006. In order to ensure equal opportunities for all competitors engaged in the marketing of this technology, it is above all essential, from the perspective of competition law, to counter the danger of DTAG exploiting its dominant position on the fixed line segment of the voice telephony service market to extend this market power into VoIP telephony. The legal framework necessary for this was established when VoIP services were placed on the same footing as conventional voice telephone services with the entry into force of the regulatory order of 23 June 2006.

### Special control of anti-competitive practices

In 2006, the Ruling Chamber was able to finally conclude a total of five cases from previous years in the field of the special control of anti-competitive practices. One new complaint submitted by one of DTAG's competitors relates to the public payphones market. The complainant also operates public payphones and is demanding that DTAG pay a non-discriminatory payphone access charge, ie a user fee for the provision of public payphones from which calls to (0)800 numbers are made.

## RULING CHAMBER 3

### DSL NetRental decision

With a decision delivered on 22 May 2006, the Federal Network Agency prohibited DTAG from billing DSL connections that it supplies to Internet providers for the purposes of resale to end customers under the DSL NetRental model introduced in December 2005. In ex post rates control proceedings, Ruling Chamber 3, which has competence over this issue, came to the conclusion that DSL NetRental was ultimately a discount model that gave large DSL providers clearly higher margins for the resale of DTAG DSL connections than smaller providers without there being any objectively justified reason for this. DTAG's DSL NetRental model is also incompatible with the regulatory aim set out in the TKG of securing fair competitive conditions in rural areas because it clearly distorts competition to the detriment of small and medium-sized DSL providers and, furthermore, higher discounts can be achieved in the larger access areas of the major conurbations.

The Federal Cartel Office had expressly supported the intended decision in a statement to the Federal Network Agency.

### Resale DSL rates proceedings

On 6 June 2006, Ruling Chamber 3 halted the investigation into rate conditions for DSL connections that DTAG supplies to Internet service providers for the purposes of resale to end customers (Resale DSL). It was possible for the proceedings to be concluded without a concrete decision being taken on these rates after DTAG had offered new rate conditions for the resale of its DSL connections that took effect on the market as of 1 June 2006. These conditions provided, in particular, for the discount on the DSL end customer prices to rise from the previous 11.5 percent to 20 percent.

At the beginning of April, ex post rates control proceedings were initiated to investigate DTAG's Resale DSL rates because facts had come to light that justified the assumption that its Resale DSL rate conditions were anti-competitive. The suspicion was, in particular, that the margin of 11.5 percent granted by DTAG was insufficient to cover a reseller's additional costs. In the course of these proceedings, resellers requested markedly bigger discounts on DTAG's DSL end customer prices.

### Approval of mobile termination rates

The Federal Network Agency approved the rates charged by the four German mobile telephone networks when they accept calls from other networks, which are known as termination rates, in two tranches on 8 November 2006 and 16 November 2006.

In particular, since 23 November 2006 the termination rates have been: 8.78 cents/minute for T-Mobile and Vodafone D2 and 9.94 cents/minute for both E-Plus and O2 (Germany).

On account of the decisions that have been taken, mobile telephony rates in Germany are now governed by the criterion of the costs of efficient service provision for the first time. The proceedings conducted and the approvals now granted had come to be required after the Federal Network Agency decided at the end of August 2006 that, in future, the termination rates of the four mobile telephone network operators would be subject to prior approval under the criterion of the costs of efficient service provision. Urgent applications directed against this decision that were submitted to Cologne administrative court by the mobile telephone network operators, with which they wanted to prevent the conduct of the rates approval proceedings, remained unsuccessful.

The cost documentation submitted by the mobile telephone network operators with their rates proposals could not be recognised as a sound basis for decision-making. Nevertheless, in order to be able to reach a decision on this matter, something that would be in the interests of all market participants, the rates were determined on the basis of an international tariff comparison. The methodology used for this international tariff comparison of mobile termination rates was consistent with that deployed in the tariff comparison exercises undertaken by the Federal Network Agency in the past when it looked at element based interconnection charges on the fixed line network ("EBC rates"). Finally, in order to exclude remaining uncertainties in the comparison undertaken, Ruling Chamber 3 applied a contingency mark-up of five percent to the rates determined in this way. In this respect, the Ruling Chamber followed the case law of the Federal Court of Justice (BGH), according to which a contingency mark-up may be required in a particular individual case if the comparative material for the price comparison is based on estimates or is affected by other uncertain factors.

Despite the reductions applied, the tariff differential between the termination rates on T-Mobile's D-Netz and Vodafone D2 and the two E-networks (E-Plus and O2 (Germany)) has stayed the same in percentage terms and takes due account of the different costs of the 900 MHz and 1,800 MHz mobile telephone networks, which are conditioned by the frequencies allocated to them, the E-network operators' later entry onto the market, their lower market shares and the less favourable scale effects they achieve as a result. In this respect, the rates and the differentials between them are also oriented towards the levels found across Europe. The detailed calculation of the comparative criterion should ensure that, in future, German fixed line customers will no longer have to pay more for calls to mobile telephone networks than in the cheapest countries in the EU. For the new termination rates are now set at around the same level as those of comparable European mobile telephone companies with efficient operations.

The rates approvals apply until 30 November 2007.

### Initiation of proceedings for the imposition of regulatory obligations on the markets for broadcasting transmission services

Following the determination of the President's Chamber on the definition and analysis of the market issued on 20 September 2006, Ruling Chamber 3 initiated five sets of proceedings for the issue of regulatory orders in the field of broadcasting transmission services. Following prior consultation with the enterprises concerned, the Ruling Chamber published draft consultation documents on this issue on 25 October 2006 in the Official Gazette and on the Internet site of the Federal Network Agency, allowing interested enterprises and associations a month to respond to them. The intention is for the regulatory orders to be issued promptly after consultation with the Federal Cartel Office and consolidation at European level.

## RULING CHAMBER 4

Apart from its competence for the regulation of access to the local loop and interconnection with public telephone networks and their rates regulation, Ruling Chamber 4 temporarily assumed the responsibilities of Ruling Chamber 3 in 2006.

### Regulatory orders

Regulatory orders concerning access to the local loop were placed on alternative access network operators for the first time. In the original analysis of market 9 (termination service), the alternative access network operators were not described as enterprises with significant market power on their own networks. After the European Commission raised objections to this, the market analysis was changed to the effect that alternative access network operators also possess significant market power on their own networks. The order placed obligations on them to facilitate interconnection, provide termination services for other network operators and offer collocation facilities. In addition to this, an obligation was placed on them not to discriminate when making access arrangements and to ensure transparency with regard to their access conditions. However, their rates for access and collocation were only made subject to ex post regulation. No obligation to present a reference offer was imposed. The last two rulings took account of the circumstance that the position of the alternative access network operators on the overall market was not comparable to that of DTAG.

Furthermore, a regulatory order on IP bitstream was placed on DTAG. IP bitstream is a form of unbundled broadband access that is supposed to make it easier for DTAG's competitors to be enabled to provide broadband Internet access for the mass market with their own customer relations and the quality of service they set for themselves. An obligation was placed on DTAG to provide access on non-discriminatory conditions, keep separate accounts and publish a reference offer. The relevant rates were made subject to obligatory ex ante approval.

In comparison to IP bitstream, it is easier for specific capacities to be reserved for particular services, voice calls for instance,

when ATM bitstream is used. There has already been a national consultation on a regulatory order concerning these aspects of ATM bitstream, but this order has not yet been consolidated and so remains to be issued.

Following the failure to find a consensual sectoral solution, Ruling Chamber 4 issued the four mobile telephone network operators in Germany with the first regulatory orders concerning termination on the individual mobile telephone networks. These orders made the rates charged for this service subject to obligatory ex ante approval on the basis of the criterion of the costs of efficient service provision. This ruling took account, not least, of the demands made by the European Commission, the Monopoly Commission and many network operators.

Apart from determining the criterion to be applied in price control proceedings on the rates for access and collocation, the orders imposed obligations to facilitate interconnection with other operators of public telecommunications networks, terminate calls from other networks and offer collocation facilities.

### Rates regulation

In the field of rates regulation, there was a particular focus on the proceedings concerned with DTAG's rates for termination and call origination (the "basic services" T-Com-B.1 and T-Com-B.2) and the rates derived from them for "optional and additional services" that include transit between various networks and even the origination of Internet traffic (T-Com-O.12). With a few exceptions, new rates were set until 30 November 2008. For the first time, the rates were primarily determined on the basis of cost statements. However, these were supplemented with international tariff comparisons, and a cost model independent of DTAG's cost accounting was used. As a result, the tariffs were reduced by approx. ten percent on average. The intervals between the three tariff zones for origination and termination services were particularly controversial in these proceedings. In this respect, there was a fear that the rates applied for by DTAG would result in incentives to invest in infrastructure being lost because the differentials between the rates were too small. However, whereas the application had provided for a clear reduction in the differential between the rates for tariff zones I and II, the relative differential between the two tariff zones was actually slightly increased by the new approval.

Furthermore, with regard to the interconnection arrangements between DTAG and alternative access network operators, non-reciprocal rates were ordered for the termination services provided by DTAG's competitors in 32 cases. The criteria developed by the case law on section 19(4)(2) Competition Act (GWB) were taken into account when the benchmarking exercise used to evaluate the rates was being designed. This exercise found the "highest undistorted competitive price", which was also increased with a significance mark-up in order to determine the rates that should be ordered. In consequence, all items in the tariffs for the alternative access network operators' termination services ordered until 30 November 2008 are, as previously, 0.0017 €/minute above the rates for the T-Com-B.1

service. Reciprocal rates should find application between DTAG and its competitors as of 1 December 2008.

In rates regulation proceedings, the Ruling Chamber approved the rates for carrier fixed lines and the associated express fault repair rates until 30 June 2007 on the basis of a tariff comparison. This decision retained the rates at an unchanged level.

Another rates approval related to the rates for the connecting cable between the main distribution frame and the handover frame. In this case, DTAG was required to charge flat-rate prices. Some of the rates proposed by the applicant were reduced by more than half in the course of the approval procedure.

The tariffs for the "optional services" ICP-O.6 (traffic to shared cost services), ICP-O.7 (services for mass call traffic to particular destinations) and ICP-O.11 ((0)700 services) were initially approved for a period of six months only so that the volumes of traffic factored into the calculation could be updated over the short term. Subsequently, the rates in question were approved again on 1 December 2006, when the tariffs were slightly increased due to the rising proportion of transit traffic being routed via the DTAG network.

Another case concerned the rates for the set-up and activation of manual backup routing. After DTAG was able to demonstrate that it was having to bear most of the expense involved in these activities, the original order that the interconnection partners should bear their expenses for manual backup routing themselves was revoked and corresponding rates approved for DTAG. Finally, the billing of coexistence testing was again approved at cost price.

**Proceedings of the Ruling Chambers in the telecommunications sector, 2006**

| | Ruling Chambers | | | | Total |
|---|---|---|---|---|---|
| | BK 1 | BK 2 | BK 3 | BK 4 | |
| Rates regulation | | 44[1] | 7 | 40 | 91 |
| Control of anti-competitive practices | | 5 | | | 5 |
| Regulatory orders | | | | | |
| Section 10 and 11 TKG determinations | 4 | | | | 4 |
| Imposition of obligations | | 1 | 7 | 73 | 81 |
| Interconnection orders | | | 1 | 4 | 5 |
| Examination of reference offers | | | 4 | 2 | 6 |
| Other proceedings | | | | | |
| Mediation, complaints, approvals, dispute resolution | | 2 | 3 | 1 | 6 |
| **Total number of cases** | **4** | **52** | **22** | **120** | **198** |
| Number of third parties summoned to attend proceedings | | | 149 | 180 | 329 |

[1] 22 tariff notifications, 22 notifications of individual contracts

### Other proceedings

The Chamber had to find on an application from alternative access network operators for the resumption of proceedings concerning the approval of rates for the provision of local loops under section 51 Administrative Procedures Act (VwVfG). Due to the further reduction of the prices charged by DTAG for wholesale DSL, the applicants believed it was necessary for a new rate to be set for local loops, because otherwise providers with their own infrastructure would be disadvantaged in comparison to pure resellers. The Chamber did not accept this application because some of the facts presented by the competitors could have already been presented in the proceedings they wished to be resumed and otherwise would have to be considered when the anti-competitiveness of the rates for wholesale DSL was examined and could therefore not lead to an amendment of the rates for local loops.

# Further decisions

Interconnection issues raised by the transition to IP-based networks addressed proactively – Local numbers also opened up for VoIP providers – UMTS network coverage obligations reviewed – Concept for the award of further spectrum for mobile telephony adopted – First decisions on broadcasting transmission under sections 48 ff TKG

## EXPERT GROUP ON IP INTERCONNECTION

In August 2005, the Federal Network Agency set up a project group on framework conditions for IP-based network interconnection as a way of proactively addressing fundamental issues relating to interconnection raised by the transition to IP-based networks (see page 10). This group was made up of high-ranking telecommunications experts who represented the perspectives of various actors on the market – including network operators, Internet service providers and mobile telephone companies. They had an advisory remit and did not take any legally binding decisions.

As part of this project, the Federal Network Agency commissioned three academic reports that analysed thoroughly the economic and technical aspects of the interconnection of future networks.

The results of the Project Group's work are summarised in its final report, which was published in December 2006 on the Internet site of the Federal Network Agency for public consultation in order to encourage a broad discussion of IP interconnection with interested groups.

## 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. 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.

Examples of the most recent changes to local numbers and the telephone numbers for premium rate services are discussed below.

## Opening of local numbers to VoIP providers

Local numbers, which used to be allocated to customers when they were provided with a telephone connection, are the most important type of numbers in Germany.

Over the last few years, however, more and more telephone services have been on offer under which the provider of the service does not simultaneously provide a telephone connection. Usually, calls are originated via an existing broadband connection and the public Internet. Since providers and users have a justified interest in these services using the established local numbers, the relevant arrangements were adapted to take account of technological developments in the early summer of 2006. In particular, customers of Internet-based telephone services (VoIP services) can now use the established local numbers. As a result of this, it has also been possible for consumers and business users to retain their previous telephone numbers when they move from classic telephone technology to VoIP.

In this connection, the decision was taken to maintain the way local numbers relate to a particular part of the network. VoIP providers too may only allocate a local number if the customer has network access activated for them in the relevant local network area or they can prove that they are resident or their business is based in the local network area. This arrangement does limit the flexible use of telephone numbers, but ensures that the geographical information that is inherent in a local num-

| Year | Blocks of 1,000 local numbers assigned | Blocks of 1,000 local numbers assigned | Number of assignees (31 December 2006) |
|---|---|---|---|
| 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 |

| Services | Numbering range | Numbers allocated in 2005 | Numbers allocated in 2006 | Total telephone numbers allocated (31 December 2006) |
|---|---|---|---|---|
| Freephone services | (0)800 | 12,965 | 11,500 | 177,444 |
| Shared cost services | (0)180 | 12,066 | 11,005 | 135,122 |
| Premium rate services | (0)900 | 11,341 | 7,378 | 95,844 |
| Personal numbers | (0)700 | 5,197 | 3,166 | 102,804 |

ber is preserved and that forecasting and targeted measures will make it possible to guarantee sufficient availability of free telephone numbers at all times despite the constantly rising demand for numbers in all 5,200 local network areas.

The table shows that the number of blocks of 1,000 telephone numbers allocated to providers of access to the public telephone network rose markedly in 2006 compared to the previous year. The alterations made to numbering arrangements are regarded as the main reason for this.

### Decision on the transfer of premium rate services from (0)190 to (0)900

At the beginning of 2003, the Federal Network Agency introduced (0)900 numbers as a replacement for the (0)190 numbers used to provide premium rate services. The (0)190 numbers had to be deactivated by 1 January 2006. Considerable changes were associated with the transfer to a new numbering range:

Content providers can now decide freely what price they ask for their services within maximum limits laid down in the legislation. There is no longer a price table set by the state. The price of a service has to be given in the promotional material for the telephone number and announced free of charge at the start of each call.

Operators distinguish between numbers dedicated to different kinds of content within a framework of voluntary self-regulation. Telephone numbers that begin with (0)900-1 may only be used for information services. The content digits -3 and -5 stand for entertainment and adult services. Statutory provisions require the content digit -9 to be used for diallers.

The individual telephone numbers are allocated directly to content providers by the Federal Network Agency. Competitive disadvantages due to the unequal distribution of the blocks of (0)190 numbers that resulted from their historical development and the shortage of free blocks have been eliminated.

The content providers and their addresses can be found easily by interested consumers via a search engine on the Federal Network Agency's website. This makes it simpler to assert claims under civil law should conflicts arise.

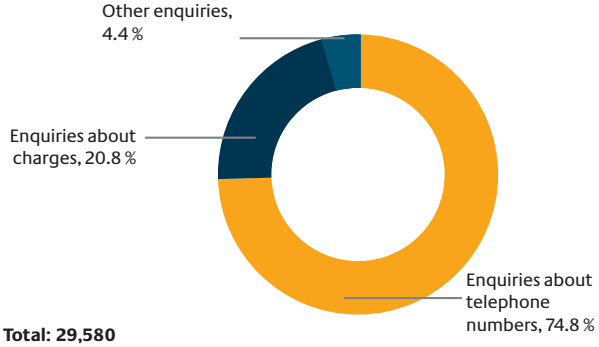
In the meantime, it is possible to sum up that the transition has been carried out

successfully and the goals pursued with the changeover have been achieved. Furthermore, it is to be noted that the new telephone numbers have been accepted by providers and consumers. The table summarises the statistics on the allocation of (0)900 numbers and the most significant other premium rate telephone numbers.

### Enquiries about number administration

This year, the number administration's call centre at the Federal Network Agency regional office in Fulda once again dealt with a large number of enquiries. These were mainly concerned with 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.

**Enquiries answered by the number administration**




**Total: 29,580**

## FREQUENCY REGULATION

The purpose of frequency regulation is to manage the provision of frequencies appropriately as a resource and ensure that demand is met and the requirements of the market satisfied. In this connection, it is not just the existing frequency uses that have to be kept in mind, but also future technological and market developments. Both nationally and internationally, comprehensive planning is required in order to facilitate efficient, interference-free frequency usage for a wide range of purposes and technologies and ensure fair, workable competition on the telecommunications markets.

### Review of UMTS network coverage obligations

When their licenses were awarded, the UMTS network operators were obliged to achieve coverage of at least 50 percent of the population by the end of 2005. The extent to which they had met their obligation to achieve "25 percent coverage" was reviewed in 2004. The 50 percent coverage obligation was then reviewed by the Federal Network Agency's radio monitoring and inspection service in 2006.

Once again, the methodology for this process was the two-stage review concept developed and agreed with the network operators when their licenses were awarded. Accordingly, the first stage of the review took place at the beginning of 2005, when the UMTS network operators submitted coverage maps drawn up on the basis of a predefined coverage threshold. These maps showed what the individual operators'

coverage of the population should be on the reference date, 31 December 2005. In the second stage, the Federal Network Agency then reviewed the forecast levels of coverage in what are known as reference areas by means of random sampling, taking measurements that could be compared with the coverage shown on the maps. The reviews found that all four network operators had far exceeded their coverage obligations in some areas.

### UMTS core and extension bands

Further frequencies can be made available to the market for mobile telephony in the frequency ranges at 1.9 GHz and 2.6 GHz (what are known as the UMTS core band and the UMTS extension band). In order to help secure far-reaching transparency and a predictable basis for planning, the Federal Network Agency launched a consultation, which provided the opportunity for the industry to comment on the frequencies needed and the Federal Network Agency's initial thinking about the main issues involved in the allocation of these frequencies (the UMTS concept, as it is known). The Federal Network Agency is taking account of the way telecommunications markets are merging as it develops this UMTS concept, which is understood as part of frequency regulation.

The comments submitted reflected a high level of demand for the spectrum available in conjunction with complex and extremely divergent interests on the market. The Federal Network Agency conducted an oral hearing in order to offer first insights into the interests evident from the comments that had been received and ensure there was discussion of the regulatory conclusions to be drawn. Subsequently, a survey of the various interests expressed was published and discussion invited on the initial regulatory assessments and possible award scenarios. The purpose of publishing this survey was to give interested circles, in particular those who had already submitted comments, a first overview of the interests evident from the comments received and to prompt discussion of possible regulatory conclusions before any evaluation of the claims made about frequency requirements that would have a bearing on the final award. The Federal Network Agency will draw conclusions with regard to the award of the frequencies from the comments made and the evident desire for frequency regulation to become more flexible.

At the European level too, ways of making frequency regulation more flexible are being discussed as part of the debate about "WAPECS". For instance, on 23 November 2005 the Radio Spectrum Policy Group (RSPG) adopted an Opinion on Wireless Access Policy for Electronic Communications Services (WAPECS), to which the Member States have committed themselves. This opinion stated that, apart from other frequency ranges, the UMTS bands also belong to the ranges covered by the WAPECS concept (section 3.3 of the Opinion, "Mobile bands").

In 2006, the Federal Network Agency was able to gain its first experience of a more flexible approach when frequencies were awarded for broadband wireless access (BWA) in the 3.5 GHz range. This experience will also have to be taken into account

in further award proceedings. There are therefore plans to develop and publish a concept for the award of further spectrum in the frequency ranges for the UMTS core band and the UMTS extension band in the first quarter of 2007 following the conclusion of the BWA award proceedings. This concept will take account of the heterogeneous interests involved and the desire for frequency regulation to be made more flexible.

### GSM concept

Following the conduct of a consultation, the Federal Network Agency adopted a concept for the award of further spectrum for digital cellular public mobile telephony below 1.9 GHz at the end of 2005. This GSM concept may be viewed as part of frequency regulation. The GSM concept is intended to pursue the purpose of harmonising the different framework conditions for frequency regulation (frequency allocations, term of licensing period) among the network operators in the field of public cellular mobile telephony.

At the beginning of February 2006, the Federal Network Agency implemented what is known as action complex I of the GSM concept. When this action complex was implemented, the E-network operators were allocated frequency spectrum made up of two blocks of five MHz in the E-GSM spectrum, but in return had to clear an equivalent amount of spectrum previously used at 1,800 MHz. This transfer of frequencies made it possible to ensure that all GSM network operators now have frequencies in the 900 MHz range available to them and so secure better coverage in rural areas. A further stage in the process will see decisions being made about the award of the spectrum that is being freed up at 1,800 MHz due to the transfer of uses to 900 MHz.

Furthermore, the Federal Network Agency is currently preparing the implementation of action complex II of the GSM concept. When action complex II, which provides for a uniform contractual term for GSM mobile telephone services, is implemented, GSM network operators will be allowed the option of extending their licenses until 31 December 2016.

### GSM on board aircraft

In 2005, market participants asked the Federal Network Agency to assign frequencies for the operation of GSM on board aircraft. The installation of GSM base stations on aircraft will enable air passengers to communicate via their own mobile telephones. The operation of GSM on board aircraft is currently being tested out on the basis of limited-period assignments subject to rigorous regulatory conditions.

Due to the international character of the aviation industry, supranational arrangements are being sought. The Federal Network Agency is playing a crucial part in the work on this topic in the competent CEPT working groups and bodies, which are drawing up technical, operational and regulatory solutions. For instance, the final report (Report 93) setting out the results of the research done into radio compatibility and an ECC decision on the harmonised use of airborne GSM systems were adopted in 2006. The European Commission has also taken up the issue of GSM on board

aircraft and commissioned ETSI to draw up appropriate standards for the GSM base stations that will be required (on technical compatibility, see page 95).

### Updating of the Frequency Usage Plan

In November 2003, the Federal Network Agency published its first complete Frequency Usage Plan. The Frequency Usage Plan had to be fully updated on account of the entry into force of the revised Frequency Band Allocation Ordinance (FreqBZPO) of 28 September 2004, which implemented the results and decisions of the 2000 World Radio Conference of the International Telecommunication Union into national law. In accordance with the procedure set out in the FreqBZPO, the updated Frequency Usage Plan was drafted in several stages with the participation of the Advisory Council, the German Federation and the German Länder, as well as interested groups among the public. The publication of the fully updated Frequency Usage Plan finalised in May 2006 was announced in the Federal Network Agency's Official Gazette (12/2006).

The Frequency Usage Plan gives an extensive overview of all frequency uses in the frequency range from 9 kHz to 275 GHz in the Federal Republic of Germany. The Frequency Usage Plan of May 2006 consists of a total of 477 frequency usage subplans for the individual frequency bands covered by the FreqBZPO. It contains information on the allocation of frequency ranges to radio services, the provisions on usage contained in the FreqBZPO and the frequency uses permissible in the individual frequency subranges and their frequency usage conditions.

Print copies of the Frequency Usage Plan can be ordered from the Federal Network Agency. Further information can be found at www.bundesnetzagentur.de/enid/frequenznutzungsplan.

### International and European harmonisation and the 2007 World Radio Conference

The Federal Network Agency is represented on the EU bodies that were created as a result of the Radio Spectrum Decision (676/2002/EC). Among them, the Radio Spectrum Policy Group (RSPG) draws up authoritative opinions on central topics of frequency regulation. In 2006, the RSPG was chaired by the President of the Federal Network Agency. During the period under review, apart from its ongoing follow-up activities relating to the opinions on wireless access for electronic communications services (WAPECS) and frequency trading, the RSPG adopted an opinion on the introduction of multimedia services in frequency bands allocated to broadcasting services. A great deal of progress was made in the work on an opinion on the digital dividend, a draft of which was adopted and published for public consultation.

In 2006, the Radio Spectrum Committee adopted Commission decisions on a harmonised European approach to the binding use of various frequency bands for particular services and applications.

The Federal Network Agency continued to take part actively in the shaping of a CEPT-wide framework for frequency uses. In particular, new and innovative radio applications require international cooperation on the development of rules and regulations

in the interests of a common European market. The decisions on IMT/UMTS and generic ultra-wideband applications (UWB) were of particular interest to Germany.

The 2007 World Radio Conference (WRC-07) will make major decisions on the global management of spectrum usage. The only examples of which mention will be made here are the topics of IMT/UMTS and additional frequency ranges for aeronautical telemetry and aeronautical radio. In 2006, the Federal Network Agency was involved in the preparatory work done by the ECC working groups. There are joint European proposals on many agenda items for WRC-07 that have already been largely finalised. The objectives of these proposals have also been presented in the ITU working groups. In 2006, the Federal Network Agency coordinated all the working groups for the preparation of WRC-07 established at national level under the national group led by the Federal Ministry of Economics and Technology.

### General authorisations

As a means of implementing Article 5(1) of the EU Authorisation Directive, the TKG provides for the general authorisation of frequencies as standard. This approach corresponds to the European Commission's unlicensed model (also known as the "commons" model). For its part, the Commission regards this – alongside the market-oriented model (frequency trading) – as one of the most important ways of making frequency regulation more flexible and cutting red tape. Work is being done by European bodies to translate the Commission's demand for the common, coordinated lifting of restrictions in this field into reality. The Federal Network Agency is actively involved in the relevant bodies. The Member States have been urged by the Commission to consistently implement Article 5(1) of the Authorisation Directive. Since the entry into force of the Authorisation Directive on 1 January 2003, the Federal Network Agency has been pressing ahead with the issue of general authorisations and continued this path systematically in 2006 by issuing further general authorisations and amending existing authorisations, eg for WLAN (5 GHz), audio applications, radio alarm applications, wireless microphones in the 1,785–1,800 MHz range, short-range radio, radiolocation (radio direction finding), general short-range devices (SRDs), hearing aids and CB radio. All general authorisations can be viewed on the Federal Network Agency's Internet site at www.bundesnetzagentur.de/enid/allgemeinzuteilungen.

### Broadcasting

The digitalisation of broadcasting services took further important hurdles in 2006. Apart from the adoption of key elements for the award of frequencies for analogue and digital long wave, medium wave and short wave radio, and the conduct of further proceedings to award DVB-T frequencies and T-DAB frequencies for multimedia applications under the DMB standard, its participation in the Regional Radio Conference 2006 (RRC06) was central to the work done by the Federal Network Agency in the broadcasting sector. This ITU conference had the goal of comprehensively revising the plans and guidelines that had

been in place since 1961 and, in this way, driving ahead the digitalisation of radio and television broadcasting internationally. Thanks to extensive preparatory work and preliminary negotiations with neighbouring states, Germany was able to ensure that there would be sufficient availability of the frequency resources required for national planning. The plans for mobile and multimedia applications can now be implemented in accordance with the results of the conference, which are set out in the 2006 Geneva Agreement. The success of the digitalisation of terrestrial broadcasting is also evident from the demand for frequencies. By the end of 2006, 395 DVB-T frequencies had been allocated for regular operation. A total of 1,140 T-DAB frequencies have now been allocated.

### Amateur radio

The Federal Network Agency played an active part in the work on the amended version of the Amateur Radio Ordinance, which entered into force in August 2006. Essentially, this extended the options for the usage of the 50 MHz range and modified the regulations on amateur radio examinations. In the course of the amendment process, the whole system of amateur radio examinations had to be comprehensively restructured in response to international requirements. These changes primarily involved a fundamental revision of the catalogues of questions used by examinees to prepare for examinations and the sheets of questions that have to be answered in the examinations. In 2006, the Federal Network Agency also issued approx. 1,800 amateur radio certificates, as well as assigning approx. 2,200 of the amateur radio admissions and call signs without which certified radio operators cannot participate in amateur radio activities.

### 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 2006, the Federal Network Agency issued 2,363 short-term assignments. These provided for a total of 20,435 frequency uses in extremely varied frequency ranges between 146 MHz and 22 GHz. The Football World Cup in Germany alone accounted for 966 of these assignments, which covered 9,948 frequencies. To ensure the interference-free and efficient use of these frequencies, the Federal Network Agency was present with personnel and measuring vehicles on the ground at all the Football World Cup games and a total of 104 other events.

### Private mobile radio

Private mobile radio consists of various radio applications characterised in particular by the way they are tailored to users' individual requirements and do not require an external network operator. One major subcategory is professional mobile radio, which is increasingly using trunked radio technology. This is deployed to transmit information internally within organisations in the form of voice calls and data transmissions across a regional area of operation. The users include industrial enterprises, transport and logistics companies and organisations in the public administration, such as municipalities and highway maintenance agencies. The radio systems

maintained by authorities and organisations with security duties, eg the police, fire brigades and other emergency services, constitute a distinct group within this field. Paging is also of great significance. Another subcategory of professional mobile radio is telemetry and telecommand remote control (remote control of machines, remote data retrieval, transport management systems and warning systems). Approx. 13,500 applications were processed in this field in 2006.

### Frequencies for broadband wireless access

The assignment proceedings for frequencies in the 3,400 to 3,600 MHz range for broadband wireless access (BWA) were opened in late 2005. By the end of February 2006, 1,221 applications for the realisation of radio-based fast Internet access systems and other uses had been submitted. This demand exceeded the number of available frequencies several times over. The key elements of the bidding procedure envisaged by the President's Chamber for the award of frequencies were published in the middle of the year and comments invited from interested parties. On 26 September 2006, following the evaluation of comments from 51 enterprises, the President's Chamber selected an auction as the most suitable procedure for the award of these frequencies and set the rules for its conduct. The frequencies to be auctioned should make it possible to ensure the whole population has access to radio-based broadband connections, above all in rural regions.

Like previous auctions (UMTS, GSM extension band), this process was conducted centrally in Mainz as a simultaneous multistage auction using special auction software. Four spectrum packages in each of 28 regions that cover the entire Federal Republic of Germany were auctioned. Six enterprises took part in the auction. On 15 December 2006, licenses were awarded to five enterprises. Licenses were awarded to three enterprises to operate in all 28 regions and so provide their services across the whole of Germany. Two enterprises obtained licenses to operate in regions that were auctioned in Bavaria. The total amount raised by the auction was about €56 million.

This made it possible for three BWA networks to be set up in every region of the Federal Republic of Germany and four networks in the regions Upper Palatinate, Upper Bavaria and Lower Bavaria.

## STANDARDISATION

Standardisation work at national and international level is the precondition for the introduction of innovative services. The active participation of the Federal Network Agency in these activities has concentrated on selected European Bodies within ETSI and the ITU-T concerned with numbering, access and transport technologies, network convergence and security and next generation networks (including TC TISPAN within ETSI and ITU-T Study Group 13). Federal Network Agency staff have also been actively contributing to the work that has started within the ITU-T on new developments in network design for identification systems (specifications for networks and communication via networks), in which

particular attention is being paid to the technology of radio-based systems (RFID). The Federal Network Agency's international liaison and coordination office, which is responsible for standardisation, has given technical and administrative support to the deliberations on documents that had to be evaluated and agreed in accordance with the statutes of the various bodies involved.

### Market surveillance under the EMVG and the FTEG

The Federal Network Agency conducts tests on electrical devices that have been placed on the market. The legal basis for these device tests is provided by the Directive on Electromagnetic Compatibility (EMC Directive), the Radio and Telecommunications Terminal Equipment Directive (RTTE Directive) and their transposition into national law by the Electromagnetic Compatibility Act (EMVG) and the Radio and Telecommunications Terminal Equipment Act (FTEG). The tests cover compliance with CE marking regulations, the plausibility of the EC declarations of conformity issued by manufacturers, compliance with EMC protection standards, compliance with fundamental requirements under the RTTE Directive, instructions for correct operation and possible restrictions on the operation of the radio and telecommunications terminal equipment.

In 2006, a total of 12,685 market surveillance activities were carried out by the Federal Network Agency. 8,185 series/unique devices were tested using measuring equipment or visually examined. Of these devices, 6,853 came under the EMC Directive and 1,332 under the RTTE Directive. Apart from this, 40 products were checked in 2006 to ascertain whether they complied with fundamental device and product safety requirements. A fault rate of 41 percent was found. With regard to CE marking and the declaration of conformity, defects were found in two percent of the products tested under the EMC Directive and 26 percent of the products tested under the RTTE Directive. Furthermore, 1,455 series and 83 unique devices were tested with measuring equipment. In these tests, 494 series devices and 18 unique devices were faulty, ie 34 percent of the series and 21 percent of unique devices did not meet the prescribed standards. The high percentage of faulty devices can be explained by the targeted sampling, which concentrated on those devices thought most likely to fall short of the prescribed standards. In the course of 2006, 442 sales bans were imposed under the EMVG and 325 under the FTEG. However, this breakdown does not permit conclusions to be drawn about the market as a whole.

The national authorities of the Member States that are responsible for frequency management must be notified of radio equipment operated at frequencies whose use is not harmonised across the Community at least four weeks before it is to be placed on the market. In Germany, this is done on the basis of the FTEG. The Federal Network Agency provides the parties that place equipment of this kind on the market with explanatory notes about the type of frequency assignment required for the operation of the radio equipment (general authorisation or individual authorisation)

and, where applicable, any restrictions that may be in place on the usage of frequencies in Germany. In 2006, the number of notifications received by the Federal Network Agency averaged 181 a month.

## RADIO COMPATIBILITY AND STANDARDISATION OF RADIO EQUIPMENT

The Federal Network Agency performs its responsibilities with regard to the determination of radio compatibility prior to the introduction of new radio services in close cooperation with other international administrations, the developers of new technologies and potential operators. Numerous technical compatibility studies undertaken in 2006 by international bodies within the ITU and CEPT were actively supported by the Federal Network Agency, among them detailed investigations that determined the conditions for the compatible use of GSM mobile telephones on commercial aircraft. The purpose of this work was to enable air passengers to use their own mobile telephones on aircraft, including all GSM functions. In this connection, the biggest challenge from a technical point of view was to exclude potential interference to terrestrial mobile telephone networks on the ground. A report on compatibility issues finalised within the CEPT that summarises the technical conditions to be placed on the base stations and receiver stations that will be installed on board aircraft was adopted by the CEPT Spectrum Engineering Working Group in September. The report defines maximum EIRP values outside the aircraft and the minimum altitude at which mobile telephones can be activated without causing interference. The Federal Network Agency is also working in a newly established ETSI project team charged with drafting a harmonised European standard under the RTTE Directive. ITU-T E.164 country codes have already been allocated to two network operators by the ITU. The introduction of a system can be expected in 2007 (for the regulatory view of the matter, see page 89).

## ELECTROMAGNETIC COMPATIBILITY AND THE ENVIRONMENT

The Federal Network Agency's responsibilities with regard to the protection of people from the electromagnetic fields generated by radio equipment include the monitoring of radio installations, the provision of information portals and active involvement in the work of standardisation bodies.

Every piece of radio equipment with an equivalent isotropic radiated power equal to or greater than 10 Watts requires a site certificate before it is put into operation. This site certificate sets out the exclusion zone required in order to ensure that people are kept at a safe distance from the individual transmitting antenna and the site as a whole. In the period from 1 October 2005 to 30 September 2006, the Federal Network Agency granted 20,237 site certificates. Radio installations that require site certificates are checked at irregular intervals at the locations where they are installed without the knowledge of the operator in question. In the period from 1 October 2005 to 30 September 2006, a total of 2,817 checks were carried out. However, there was no case in which any immediate threat to human health was found.

In order to inform local and municipal councils and Land authorities, the Federal Network Agency maintains the Local Authority Transmitter Site Database, which is a password-protected module of its EMF database. Once again, 2006 saw intensive use made of this area of the database by authorities that wished to view site certificates issued by the Agency. As of 1 October 2006, there were 2,264 registered users. Up to this point in time, a total of 61,040 site certificates had been viewed.

The part of the EMF database accessible to the public via the Internet site of the Federal Network Agency contains the same information as the site certificates that have been issued except the addresses of the sites and the operators of the radio equipment in question. Since the database went into operation in 2003, about 7.5 million searches have been registered.

In 2006, the Federal Network Agency successfully carried out the trial operation of an automatic measurement system on the roof of a school in Rheinkamp. The experience gained from this operational trial has been incorporated into the manufacture of series devices. In December 2006, the first series devices were supplied. They are due to go into effective operation in early 2007. Initially, a total of twelve measurement systems will be deployed.

## RECOGNITION OF CONFORMITY ASSESSMENT BODIES ON THE BASIS OF MUTUAL RECOGNITION AGREEMENTS

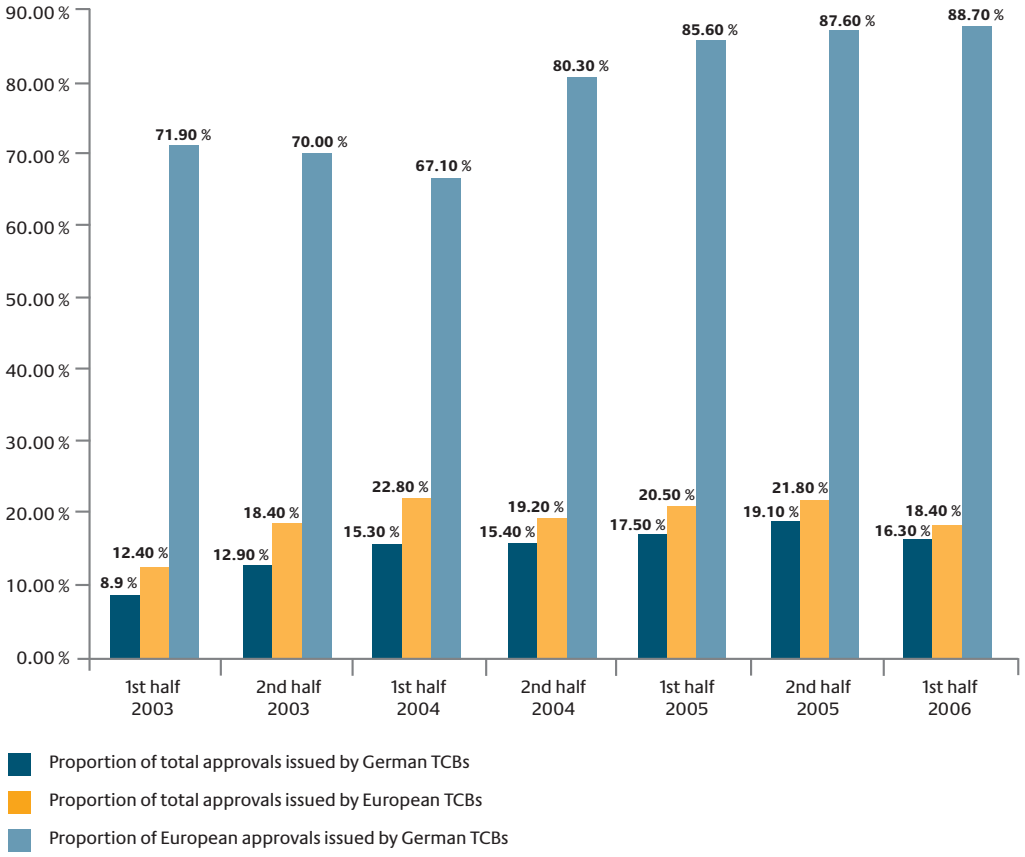
For several years, the Federal Network Agency has recognised conformity assessment bodies pursuant to agreements existing between the EU and various non-EU states known as mutual recognition agreements (MRAs). Working on the basis of these agreements and the Functions Assignment and Recognition Ordinance (BAnerkV), the Federal Network Agency examines and recognises the competence of suitable conformity assessment bodies (CABs). Activities under the mutual recognition agreements with the USA constitute a major part of this work. The bodies recognised by the Federal Network Agency as competent to assess radio equipment for the USA (telecommunication certification bodies (TCBs)) are able to carry out approval procedures under US rules and regulations. The number of approvals issued by German TCBs has now stabilised at over 80 percent of all approvals from European TCBs.

The relative development of approvals issued by European and German TCBs under US rules and regulations is shown on the next page.

## INTELLECTUAL PROPERTY RIGHTS

The significance of intellectual property rights (IPRs) has continued to increase over the last few years, particularly in the work of standardisation organisations. Industrial property rights can be decisive factors in competition. This is especially true where technical solutions for which industrial property rights exist have been incorporated into standards. For these reasons, the topic of IPRs is increasingly being discussed in international standardisation organisations, such as the International Telecommunication Union (ITU), the European

**Approvals under US rules and regulations issued by German and European TCBs**




Telecommunication Standards Institute (ETSI) and the Digital Video Broadcast Consortium (DVB). A working group within ETSI, on which the Federal Network Agency was also represented, looked intensively at this complex of issues. Following discussions marked by considerable controversy, the members of the working group came to the conclusion that the existing IPR regulations were adequate, provided they were implemented correctly. This was particularly true of the prompt disclosure of existing intellectual property rights and the licence conditions that apply to them.

## INTERFACE SPECIFICATIONS AND NOTIFICATIONS

Interface specifications are issued on the basis of the FTEG for radio equipment operated in frequency bands whose use is not harmonised across the Community. The specifications contain all the data necessary for manufacturers to independently select and carry out tests that demonstrate compliance with the fundamental requirements placed on radio equipment (eg efficient and interference-free usage of frequencies) when declarations of conformity are being prepared. To this end, binding minimum parameters and further information sources (eg reference documents

and organisations from which they can be procured) are specified. The draft interface specifications are drawn up and agreed by the Federal Network Agency jointly with other authorities, manufacturers and users. In 2006, 15 interface specifications were finalised and put into force. In consequence, a total of 60 interface specifications are now available and can be either viewed on the Federal Network Agency's Internet site or ordered from its publications dispatch service.

Interface specifications have to be notified in accordance with the Europe-wide information-sharing procedure in the field of technical standards. The Member States of the European Union have an obligation to notify the Commission and the other Member States of all draft technical standards (such as the above-mentioned interface specifications) before they are adopted into domestic law. This is intended to ensure there are no barriers to European technical harmonisation.

In 2006, the other Member States presented more than 60 draft technical standards in the telecommunications and radio sector for notification. These draft documents, some of which are extremely long, were examined by the relevant sections of the Federal Network Agency, which – where necessary – drew up appropriate remarks and forwarded them to the Commission for further action.

## INITIAL DECISIONS OF THE FEDERAL NETWORK AGENCY ON BROADCASTING TRANSMISSION UNDER SECTIONS 48 FF. TKG

Following a public consultation, Communication 251/2006 on the application of section 48(3)(1) TKG was published in the Official Gazette in July 2006. Since there is still no uniformly standardised conditional access system based on the common European scrambling algorithm for transmission paths realised via DSL connections, the use of set top boxes that do not meet this requirement is being tolerated for a limited period until 1 July 2007. However, the fact that they are merely being tolerated for a limited period is intended to underline that all concerned have to secure a solution in conformity with the legislation as quickly as possible. The risks of any technical adjustments that become necessary later and their costs are to be borne by the operators.

A decision was delivered at the beginning of November 2006 in proceedings under section 49(3) and (4) TKG. A set top box manufacturer felt its rights to obtain and exploit information under section 49(2) TKG were being infringed with regard to an application programming interface. The manufacturer claimed that a broadcaster was withholding the information required for the interface and argued that only this information would enable it to configure its set top boxes in such a way that they would receive the channel in question and so gain corresponding certification. The manufacturer's applications for remedies in this case were rejected.

The competent body under Land law in accordance with the agreement concluded at the end of 2005 with the Conference of Directors of Regional Media Authorities was involved in both cases.

## PUBLIC SECURITY

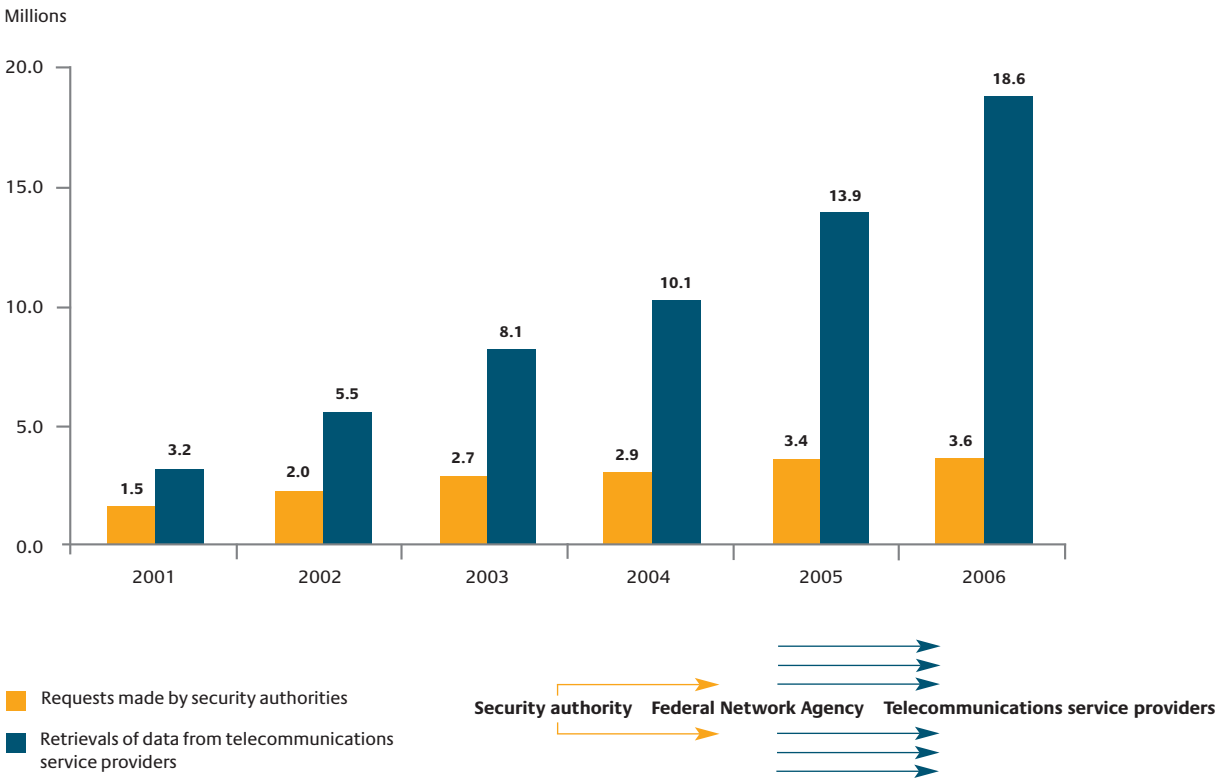
### Automatic information procedure under section 112 TKG

Following the liberalisation of the telecommunications markets, customer data are no longer 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 authorities and telecommunications companies involved in this system is continuing to increase. At present, about 1,000 authorities registered with the Federal Network Agency are able to retrieve corresponding customer data from a total of 95 telecommunications companies.

### Electronic signatures

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 ser-

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

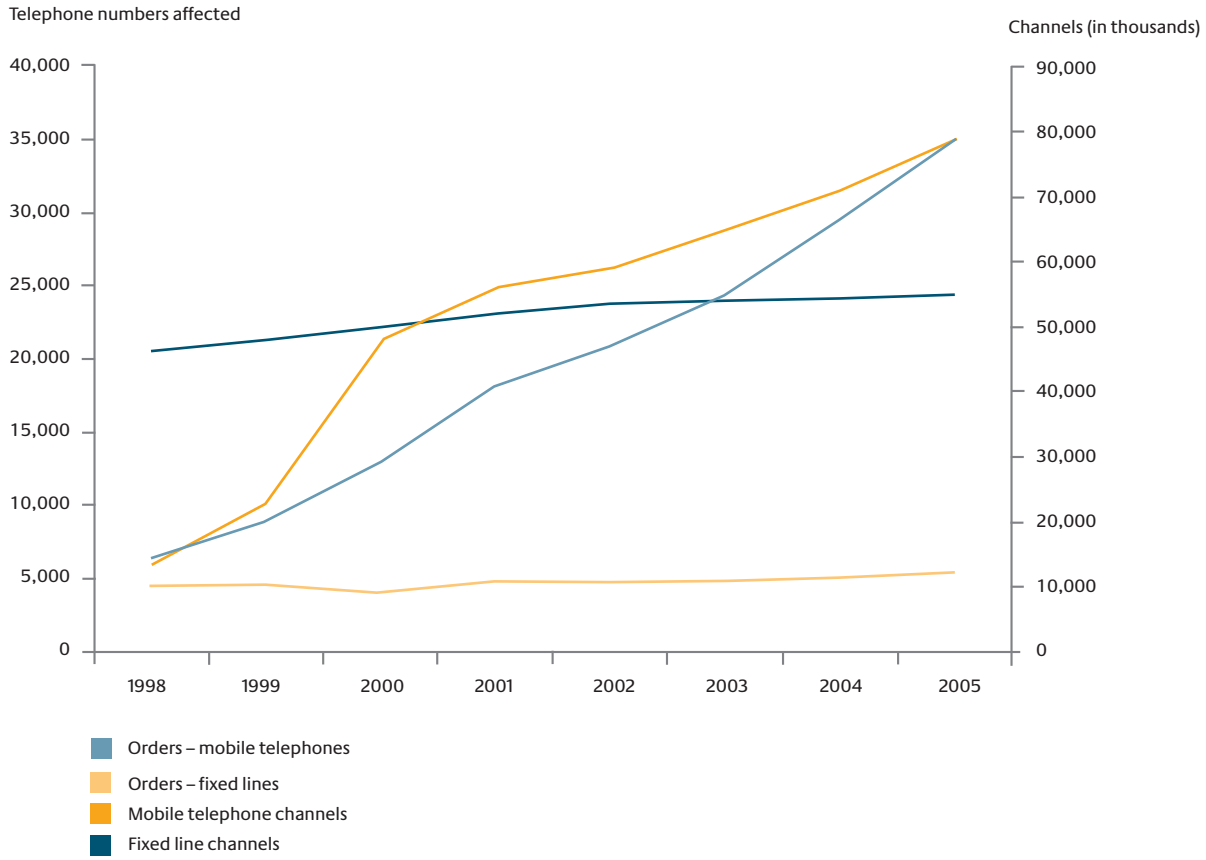


vice providers, the supervision of certification service providers, the operation of the state Trust Centre as the supreme certification authority (root authority), the administration of a directory of certificates issued and revoked, the recognition of evaluation and certification bodies, the determination of appropriate algorithms for qualified electronic signatures and the provision of support for legislative procedures.

The 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. Since the end of 2006, the systems deployed in the root authority have been adjusted to take account of the requirements of the current algorithm catalogue.

The amount of advisory work done on the topic of qualified electronic signatures has increased at the national and international levels. Advice is provided to businesses, public authorities and potential users. In 2006, the Federal Network Agency has continued to cooperate with CAST e.V., a competence centre for IT security in Darmstadt, and participate in ETSI and ISO working groups on specific topics.

**Intercept orders under the Code of Criminal Procedure**



In 2006, the Federal Network Agency complied with its statutory obligations to publish the following information: details of products for qualified electronic signatures that have received certification, manufacturers' declarations that comply with the requirements of the SigG and the Ordinance on Electronic Signatures, 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 the maintenance of public security in Germany. In particular, the Technical Directive provided for by 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 Federal Network Agency – as required by the legislation – contributes to the discussions about new topics, initially in the bodies responsible for standardisation. In the year under review, industry associations, authorised bodies and manufacturers were all involved in the drafting of the currently valid version (5.0) of the Technical Directive, which was extended, in particular, to cover the field of Internet access (DSL and cable). It was put into force by its publication in Official Gazette no. 24 of 20 December 2006 and can be viewed on the Internet site of the Federal Network Agency at www.bundesnetzagentur.de/enid/tkue.

In accordance with section 110(8) TKG, operators of telecommunications systems have to compile annual statistics on intercepts carried out under the Code of Criminal Procedure and make them available to the Federal Network Agency. The aggregated figures are published annually in the Official Gazette of the Federal Network Agency.

In 2005, a total of 40,253 intercepts were ordered; 5,398 of these orders applied to fixed telephone lines (analogue and ISDN), and 34,855 to mobile telephones. The constant increase in intercept orders in the field of mobile telephony is associated with the enormous rise in subscriber numbers.

### Technical safeguards under section 109 TKG

The reliability and security of "telecommunications" as part of the country's infrastructure represent a major factor in the functioning of the German economy, as has also been reflected in the provisions of the TKG. For instance, service providers and operators of telecommunications systems who offer their services to the public are required to comply with specific minimum security standards. These involve, among other things, measures to protect the privacy of telecommunications and personal data and measures to protect telecommunications and data processing systems.

In order to help parties subject to statutory obligations when they draw up the security concepts they are required to produce, the Federal Network Agency published its Guidelines on the Drafting of Security Concepts in Accordance with section 109(3)

TKG at the beginning of 2006. The Guidelines also contain notes on the organisation of technical precautions and other measures that can be implemented to achieve the protection goals specified, but consciously refrain from dogmatically prescribing specific solutions. This is a field in which the parties subject to statutory obligations need to display creativity and a capacity for technical innovation. More rigorous requirements than those covered by the concept of standard security have to be placed on those networks and services that are of particular significance to the general public. In this respect, operators and service providers need to examine independently how security-sensitive their telecommunications systems are, what significance they have for the general public, what safeguards should be put in place and the amount of technical or administrative work this will involve. The Guidelines should be understood as assistance companies can draw on when drafting and updating security concepts. They can be viewed on the Federal Network Agency's Internet site at www.bundesnetzagentur.de/enid/Leitfaden_SiKo.

## RADIO MONITORING AND INSPECTION SERVICE

Decision-making in the telecommunications sector is supported by measurements made by the Federal Network Agency's radio monitoring and inspection service.

### Research into levels of radio noise

In 2006, the research into "man-made noise" in the frequency spectrum begun the previous year was continued and extended to further frequency bands. The results of this "noise research" have supplied decisive parameters for the planning of radio networks and are required for the deliberations of international working groups within the ITU. There are plans to extend the research to the long wave, medium wave and short wave ranges in 2007. The research has also thrown light on the effectiveness of existing EMC standards and will inform any adjustments that may be required.

### Research into frequency usage in preparation for WRC-07

In May and November 2006, the Federal Network Agency coordinated Europe-wide projects designed to measure frequency usage in the range from 4 to 10 MHz. The results of measurements taken at over 20 monitoring stations in more than a dozen countries, a considerable volume of data, were evaluated, summarised in a report and forwarded to the project team that is preparing agenda items in this field within the CEPT, CPG-PT4. The results are being used to assess the ways the short wave range is currently being used and, where applicable, how frequencies in this range should be redistributed at WRC-07.

### Monitoring of frequency uses

In the course of its work monitoring frequency uses in 2006, the radio monitoring and inspection service (PMD) checked approx. 10,000 frequency assignments for a diversity of radio applications to ascertain whether operators were complying with the provisions on the assignment of frequencies. The legal foundations for this work are provided by section 64 TKG. The monitoring of frequency usage 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 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. The intention is to identify negative effects on frequency usage at an early stage and consequently minimise the amount of interference caused. This is a proactive element of the Federal Network Agency's frequency regulation activities.

A statistical procedure is applied when monitoring is carried out in the fields of private mobile radio and radio relay services. This statistical procedure represents an efficient and economic way of monitoring frequency uses. Thanks to the application of this procedure, as much testing is carried out as necessary, but also as little as possible. It is hoped that it will eventually be applied to all suitable radio services.

# Administrative court proceedings

Some of the administrative court proceedings in the telecommunications sector decided in 2006 related to the new legal framework and some to the transition from the old legal framework to the new one. A number of decisions were also delivered on questions that had been occupying the courts for a long time, such as the treatment of operating and business secrets in court proceedings.

Overall, 52 main proceedings and 23 summary proceedings were opened in the telecommunications sector in 2006. In the meantime, nine of the 52 main proceedings have been concluded. Seven of these cases ended with a positive result for the Federal Network Agency, and it was defeated in two cases. Of the 23 summary proceedings, 17 cases were decided in 2006. Of these cases, the Federal Network Agency won twelve, lost four and half-won one. The main focus of the disputes taken before the courts was the scrutiny of the legality of regulatory orders under section 13 TKG.

Cologne administrative court rejected urgent applications from mobile telephone companies for the suspension of regulatory orders on market 16 (voice call termination on individual mobile networks) (1 L 1549/06, 1 L 1441/06, 1 L 1380/06, 1 L 1383/06). In its decisions, Cologne administrative court limited itself to a consideration of the conflicting interests involved (consideration of consequences).

In its judgements of 28 September 2006 (1 K 2976/05, 1 K 2977/05, 1 K 2978/05, 1 K 2979/05 and 1 K 2982/05), Cologne administrative court rejected the action taken by a number of city carriers against the regulatory order on the local loop market (market 11) as unfounded. It is to be emphasised that, in the opinion of Cologne administrative court, neither section 21(3)(1) TKG nor section 21(1) TKG allowed it to be inferred whether and under what preconditions it would be possible to justify placing an obligation to grant access to local loops on DTAG despite the fact that it did not have the

capacity available to do so. Nor did these provisions imply that a party with market power could be required to expand its capacity enough to meet demand and bear the risks of this investment. Irrespective of these considerations, section 21 TKG (Access Obligation), section 20(1) TKG (Transparency Obligation) and the first sentence of section 24(1) TKG (Accounting Separation) offered no protection to the city carriers. This meant that all actions initiated by DTAG's competitors (Cologne administrative court had already rejected an action taken by DTAG competitors with its judgement of 17 November 2005 – 1 K 2429/ 05) remained unsuccessful at the first instance. Appeals on points of law were lodged with the Federal Administrative Court in all proceedings.

The proceedings for temporary relief and the associated appeal on the merits of the case with which DTAG is opposing the obligations imposed on it in the regulatory orders concerning markets 1 to 6 (voice telephone services), markets 8 to 10 (interconnection services), market 9 (call termination on the networks of alternative access network operators) and market 12 (IP bitstream) have still not been decided.

In its ruling of 19 January 2006 (21 L 1464/ 05), Cologne administrative court rejected the application in which DTAG requested that suspensory effect be granted to its action against the decision of the Federal Network Agency of 17 August 2005 (BK3c-05/036). Among other things, the court confirmed the Federal Network Agency's determination that DTAG's rates for the provision of subscriber data by means of offline use were anti-competitive and did not satisfy the criteria of section 28 TKG where the overall accounts drawn up following the expiry of a calendar year for the determination of reimbursements or balancing payments were based on total allowable costs of more than €770,000 a year.

The Federal Network Agency was partially defeated in proceedings under the second sentence of section 35(5) TKG, in which, with its ruling of 4 April 2006 (1 L 2056/05), Cologne administrative court placed an obligation on the Federal Network Agency to provisionally approve rates for DTAG's T-DSL-ZISP service higher than the usage-dependent rates originally approved in ruling BK3d-05/041 of 27 October 2005. With the T-DSL-ZISP service, DTAG forwards high bit rate traffic generated by T-DSL customers to other network operators. In the opinion of Cologne administrative court, there was an overwhelming probability that, when the rate was calculated, a higher number of users should be factored in than that assumed by the Federal Network Agency. However, Cologne administrative court did reject DTAG's applications for further-reaching concessions. A decision on the merits of the case has still not been delivered.

With its judgement of 7 July 2006 (Az. 11 K 2763/04), Cologne administrative court rejected an action brought by a mobile telephone company against the Federal Network Agency's determination concerning the assignment conditions for frequencies used in wideband private mobile radio and trunked radio. This action was

thrown out solely on grounds of inadmissibility because the company was not entitled to bring the action. In the opinion of Cologne administrative court, the mobile telephone company's own rights were not infringed by the assignment conditions. In particular, holding a UMTS licence did not protect any enterprise from the provision of identical or comparable telecommunications services by third parties. This judgement is non-appealable.

In three further decisions delivered on 2 November 2006, Cologne administrative court rejected actions brought by service providers in which they sought to have the rejection of their applications during a dispute resolution procedure under section 133 TKG declared illegal. These actions were brought because a mobile telephone company had introduced two new products onto the market without making the service providers a corresponding wholesale offer in advance. In the opinion of Cologne administrative court, the dispute resolution procedure was a special provision (lex specialis) that restricted the more general provisions of section 126 TKG. According to the first sentence of section 150(4) TKG, frequency usage and licence rights and the obligations they involved were to continue if they had been awarded on the basis of competitive or comparative selection procedures. This meant there was an obligation to continue to license service providers with rights obtained under the earlier regulatory regime. There was no contradiction between this and the fact that the mobile telephone companies did not have to treat other parties equally. This was objectively justified because the products in question were innovations on the mobile telephony market.

At the moment, an application under the second sentence of section 35(5) TKG is pending before Cologne administrative court. With this application, DTAG is seeking a provisional order that would impose an obligation on the Federal Network Agency to approve rates for basic, optional and additional call services associated with interconnections higher than those approved in the ruling of 12 May 2006 (BK4b-06-005/E02.02.06 of 13 April 2006). The question of the interpretation of the transitional provision in section 150(1) TKG still remains to be clarified by a decision of the highest court with jurisdiction over the matter. Essentially, what is at dispute is whether this provision requires the continued validity of abstract statutory obligations or is limited to the continued validity of obligations derived from concrete administrative decisions. The Federal Administrative Court has suspended three proceedings in this field in which appeals on points of law are pending and referred them to the ECJ for a preliminary ruling. The first case referred by the Federal Administrative Court relates to an action taken by DTAG against a ruling of the Federal Network Agency of 8 June 2004 under the old legal framework, which was still valid at that time. This ruling determined that official approval was required for specific offers made by DTAG to end customers (BVerwG 6 C 14.05; ECJ Case C-262/06). The referral from the Federal Administrative Court was intended to obtain a ruling of the ECJ on the question of whether the requirements in Community law on which section 150(1)

TKG is based are to be understood as meaning that "a statutory requirement provided for in the earlier domestic law for the approval of rates for the provision of voice telephone services to end users by a company with a dominant position on this market and therefore also any administrative act that makes a determination in this respect are to be maintained provisionally." The actions in the two other proceedings (BVerwG 6 C 17.05; BVerwG 6 C 18.05) are directed against the mobile termination rates ordered by the Federal Network Agency in its rulings of 8 November 2004 and 20 September 2004. In each of these preliminary proceedings, the ECJ has to decide whether the criterion anchored in the old legal framework of the costs of efficient service provision when an interconnection order is issued in relation to enterprises that do not hold a dominant position on the market continues to have validity during the transitional period, even though this is not required by Community law.

In its ruling of 26 January 2006, Cologne administrative court suspended the proceedings on 1 K 3427/01 and referred various questions concerning the interpretation of Directive 2887/2000/EC of the European Parliament and the Council of 18 December 2000 on Unbundled Access to the Local Loop to the ECJ. The subject of the proceedings is an action brought by a competitor against the approval of DTAG's rates for access to the local loop of 30 March 2001. The questions referred by Cologne administrative court for preliminary ruling relate to the requirement of cost orientation anchored in the Directive, in particular with regard to the consideration of specific cost items used in the calculations and their verification.

The question of the disclosure of operating and business secrets in administrative court proceedings has still not been clarified even following the decision of the Federal Constitutional Court of 14 March 2006 (1 BvR 2087/03, 1 BvR 2111/03). Under this decision, DTAG's constitutional complaints against the decisions of the Federal Administrative Court, which had decided in favour of the complete disclosure of operating and business secrets in administrative court proceedings in the telecommunications sector (local loop rates), were successful. The Federal Constitutional Court revoked the rulings of the Federal Administrative Court and referred the case back to the Federal Administrative Court. It was ruled that the Federal Administrative Court's criterion for non-disclosure – "permanent disadvantages or disadvantages that would threaten [a company's] existence" – did not satisfy the standards laid down in the constitution (Article 12(1) German Basic Law). Such an approach fundamentally downgraded the protection of the operating and business secrets of the dominant actor on the market unless the company with power on the market were to suffer permanent disadvantages or disadvantages that would threaten its existence. This criterion and the fundamental downgrading of confidentiality to which it led were not viewed as the results of an appropriate classification of conflicting legal interests (effective legal protection through clarification of the facts of the matter and granting of a fair hearing, on

the one hand; protection of operating and business secrets, on the other). The criterion defined by the Federal Administrative Court was also found to be inadequate because it failed to provide for a differentiated consideration of the matter that would take account of the potential disadvantages, however minor, that might ensue from the granting of effective legal protection to DTAG's competitors.

The cases referred to the ECJ and the continuing failure to clarify the approach to be taken to the treatment of operating and business secrets following the decision delivered by the Federal Constitutional Court have resulted in Cologne administrative court suspending a large number of proceedings until these questions have been clarified.

# Post

# Market watch

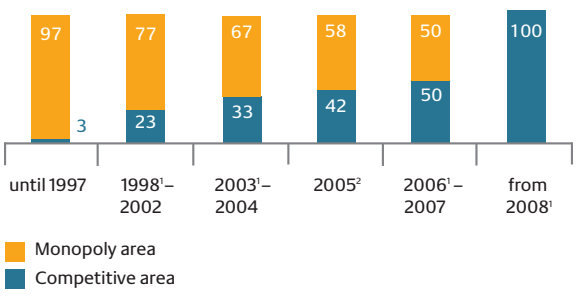
The statutory exclusive licence continues to hamper equitable, well-functioning competition.

## MARKET DATA

### Postal market stagnating overall

Postal services revenues in 2006 remained stable at around €23 billion. This market consists of the letter market along with courier, express and parcel (CEP) services. More than 75 percent of the postal market, more specifically the entire CEP segment, and parts of the letter market are already open to competition.

**Development of competitive area of the letter market 1997–2008 (in %)**




1 Change due to Postal Act
2 Change due to consolidation ruling

The letter market will be fully liberalised in 2008. On 1 January 2006 the monopoly weight limit was lowered to 50 g. Letter items up to 50 g account for around three quarters of all letters sent. In addition, the Federal Cartel Office and the Higher Regional Court in Düsseldorf issued a ruling on consolidation (2005) that granted competitors access to work sharing services within Deutsche Post AG's (DP AG) network. These measures led to a further extension of the competitive area.

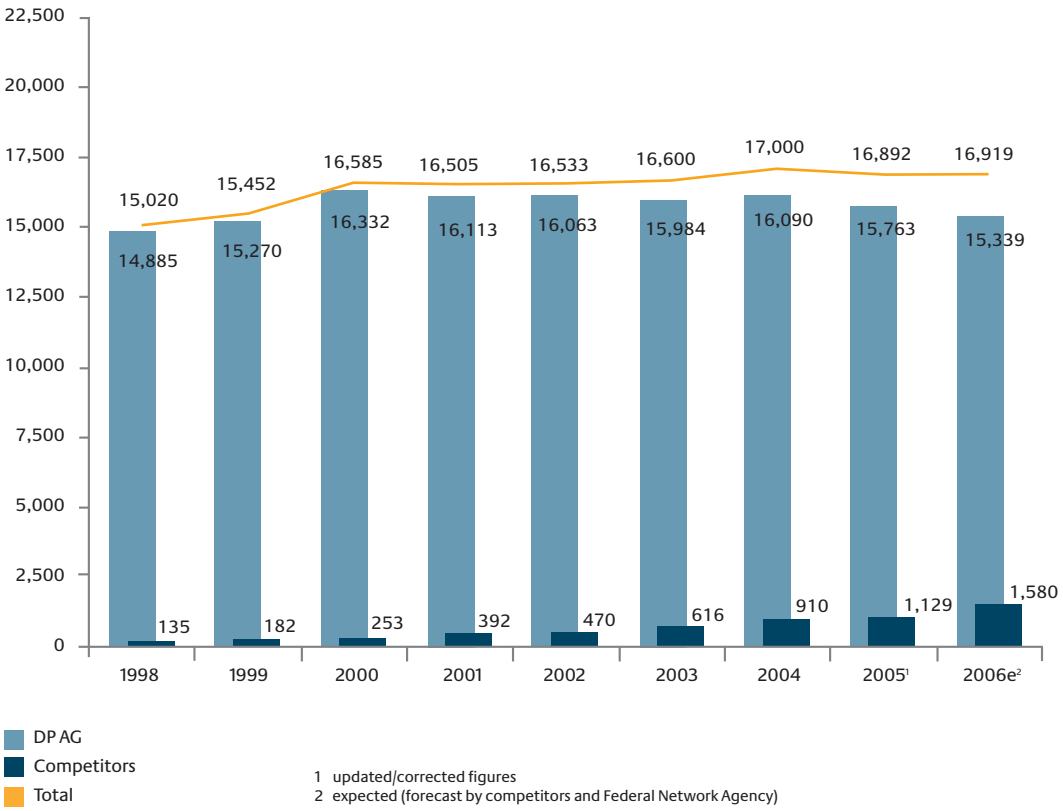
The expiry of the exclusive licence (monopoly area) along will not automatically create a well-functioning, equitable competitive environment. The situation in Sweden and the UK has shown that even in a fully liberalised market, competition can only be established by regulatory intervention.

## Letter volumes constant

Volumes in the licensed area (conveyance of letter items up to 1,000 g) remained virtually constant. In 2005 DP AG and its competitors conveyed some 16.9 billion letter items. The competitors crossed the one billion threshold for the first time. For 2006 they expect a further increase in volumes to just under 1.6 billion.

Further liberalisation notwithstanding, in 2006 DP AG expects to maintain a market share of just under 91 percent.

### Letter volumes (in m)



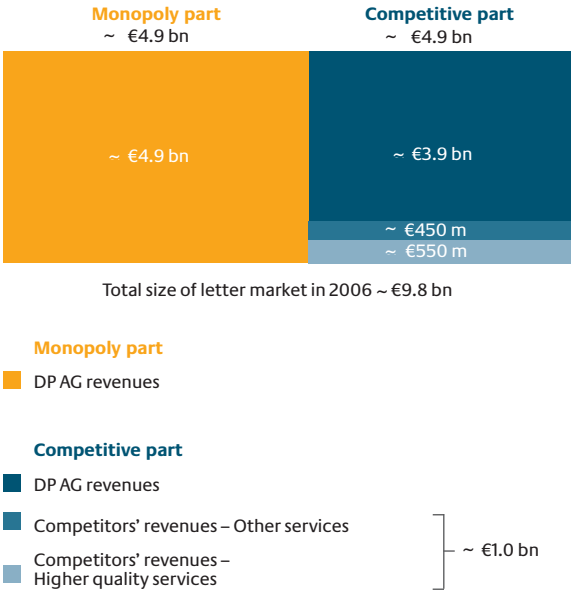

1 updated/corrected figures
2 expected (forecast by competitors and Federal Network Agency)

### Market shares

| Year | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005[1] | 2006e[2] |
|---|---|---|---|---|---|---|---|---|---|
| Licence holders' market shares (%) | 0.9 | 1.2 | 1.6 | 2.4 | 2.8 | 3.7 | 5.4 | 6.7 | 9.3 |
| DP AG's market shares (%) | 99.1 | 98.8 | 98.4 | 97.6 | 97.2 | 96.3 | 94.6 | 93.3 | 90.7 |

1 updated/corrected figures
2 expected (forecast by competitors and Federal Network Agency)

**Monopoly and competitive part of the letter market in 2006** (expected)




## Letter revenues down slightly

Revenues in 2006 in the licensed area are expected to reach around €9.8 billion, of which some €1 billion will be generated by DP AG's competitors. The area reserved exclusively for DP AG (monopoly area) will account for around €4.9 billion in 2006.

Of the competitors' revenues of around €1 billion, some €840 million are generated with end users.

## LICENSING

To date 2,245 postal service providers have been issued with a licence. 775 of these have withdrawn from the market. Previously, these market exits were mainly due to insolvencies and business wind-ups; now, acquisitions due to market consolidation are the main reason for the decline in market players.

Of the 1,470 remaining licence holders around 750 are still active on the market and are generating revenues.

## MARKET STUDY IN THE LICENSED AREA

The results of the Federal Network Agency's market study demonstrate that the positive shift observed in recent years towards higher quality (D) services continued also in 2005. More than 51 percent of all competitors' revenues were generated in this segment. It is expected that this trend will continue into 2006, with more than € 500 million in revenues achieved with value-added services.

**Licence applications, licences and market exits since 1998**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Licence applications | 384 | 291 | 210 | 238 | 181 | 236 | 260 | 273 | 255 | 2,328 |
| Licences granted | 164 | 455 | 241 | 221 | 179 | 239 | 255 | 281 | 210 | 2,245 |
| Licences denied | 3 | 1 | 0 | 0 | 0 | 3 | 3 | 0 | 1 | 11 |
| Market exits | 0 | 17 | 70 | 134 | 181 | 68 | 81 | 105 | 119 | 775 |

Other positive developments are taking place in the G (international), B (identical content) and A (higher-weight/higher-price) areas of the letter market. For instance, competitors' revenues in the B segment (> 50 g) rose from €88 million in 2003 to around €125 million in 2005. Overall, new market entrants expect this trend to continue also in 2006.

Altogether it is apparent that the quality of service provided by competitors has continued to improve.

The service of documents (Postzustellungsauftrag, or PZA) is a special case in the Postal Act and is not covered by DP AG's exclusive licence. In this area, the effects of a functioning competitive environment became tangible for the first time in 2005. In previous years it had seen a pronounced drop in revenues and volumes, leading to increasing pressure on prices and competition not just between DP AG and its competitors but also between competitors. A decrease in market prices and a drop in revenues (in 2005) are the results.

For 2006 licence holders expect to serve around 18 million documents and generate some €62 million in revenues.

## Licence holders' revenues (excluding DP AG) in the licensed area

| Services | | 2003 [€ m] | 2004 [€ m] | 2005 [€ m] | 2006 [€ m] (expected) |
|---|---|---|---|---|---|
| **PZA**[1] | Service of documents[2] | 18.5 | 73.6 | 56.4 | 62 |
| **A** | From 2003: > 100 g or ≥ 3 times the price<br>From 2006: > 50 g or ≥ 2.5 times the price | 26.1 | 37.6 | 51.8 | 80 |
| **B** | Letter items of identical content > 50 g | 88.0 | 107.4 | 125.4 | 140 |
| **C** | Document exchange service | 1.0 | 1.0 | 1.0 | 1 |
| **D** | Higher quality services | 183.4 | 260.6 | 380.7 | 550 |
| **E** | Drop-off at DP AG acceptance offices | 13.5 | 10.8 | 23.7 | 33 |
| **F** | Collection from DP AG PO box facilities | 6.4 | 5.6 | 4.9 | 5 |
| **G** | Letters to other countries | 16.2 | 6.4 | 68.5 | 85 |
| **H** | Letters from other countries | < 0.1 | < 0.1 | 4.6 | 6 |
| Old-type licences (bulk mail) | | 34.4 | 25.4 | 25.5 | 18 |
| Commercial consolidation | | – | – | 3.0 | 50 |
| **Total** | | 387.6 | 528.5 | 745.5 | 1,030 |

1 Formal delivery orders (service of documents under public law, Section 33 Postal Act)
2 See also Federal Network Agency's Official Gazette No. 1, 11 January 2006

### Formal delivery orders – Revenues and volumes in 2005[1]

| | Volume (in m) | Revenues (in € m) |
|---|---|---|
| DP AG | ~ 36 | ~ 200 |
| Competitors | 16.0 | 56.4 |
| Total | 52.0 | 256.4 |
| Competitors' share | 30.8 % | 22.0 % |

1 updated/corrected figures

## WORKSHARING SERVICES AND ACCESS TO PO BOX FACILITIES AND CHANGE-OF-ADDRESS INFORMATION

### Worksharing services

To encourage competition in the market for licensed postal services the Postal Act obliges the incumbent to grant access to its infrastructure (worksharing services). A worksharing service is a service that is normally offered as a full conveyance service under licence but in this case, minus those parts that are rendered by the requesting provider itself. Worksharing agreements are subject to approval by the Federal Network Agency.

DP AG offers 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.

In 2005 the Federal Cartel Office and the Higher Regional Court in Düsseldorf paved the way for consolidation, obliging DP AG to grant access to its mail sorting centres also to those providers that – in the exclusive area – consolidate mail items from several senders and prepare them for injection into the network via DP AG's mail sorting centres, a process referred to as consolidation. The Federal Network Agency has since issued and/or confirmed the licences (so-called E licences) required for this service.

While several competitors decided to formalise this extended network access by entering into worksharing agreements for consolidators, the intensity of competition has not tangibly increased. Two thirds of

### Worksharing agreements in 2006

| | Type of item | | | |
|---|---|---|---|---|
| | Individual items | | Infopost | Total |
| Point of access | BZA | BZE | BZE | BZA/BZE |
| **Contracting party** | | | | |
| End users | 86 | 157 | 57 | 300 |
| Competitors[1] | 0 | 0 | 0 | 0 |
| Consolidators | 30 | 35 | 16 | 81 |
| **Total** | **116** | **192** | **73** | **381** |

Last updated: 31 October 2006
1 Excluding consolidators; no agreements in 2006, only in previous years

competitors have not yet actually exercised their rights under these agreements. The volumes and revenues generated by the remaining third were as follows:

### Commercial consolidation – Volumes and revenues

| | 2005 | Q1/2006 | 2006e[1] |
|---|---|---|---|
| Items injected (in m) | 29 | 60 | 400–600 |
| "Revenues" (reimbursements) (in € m) | 3 | 6 | 50–60 |

1 expected (forecast by competitors and Federal Network Agency)

Complaints were made with regard to the pre-sorting, legibility, content, postage prepayment, addressing and posting times of the items. According to the consolidators, on some occasions DP AG had refused to accept the items (this happened to one in three consolidators surveyed) or even returned items that had already been handed over to a mail sorting centre (one in seven consolidators). However, the consolidators reported that these difficulties were not so severe as to make it difficult for them to fulfil their worksharing obligations.

### Access to PO Box facilities and change-of-address information

The Federal Network Agency is currently in receipt of 229 agreements concerning access to change-of-address information and 115 agreements on access to PO box facilities. More than 1 million items were delivered to PO box facilities in 2006.

## PROVIDER SIZE

The revenue breakdown and total number of genuinely active licence holders reflects the current state of the market. For one, an increasing number of small-scale enterprises (with annual revenues of up to €500,000) are joining forces to form larger, higher-revenue providers (annual revenues above €500,000). For another, small companies are increasingly being taken over by larger providers who aim to develop supra-regional distribution and delivery networks. With DP AG's exclusive license expiring at the end of 2007, these are clear signals of the imminent market consolidation in 2008.

Three of the highest-revenue providers (> €10 m) generated more than €50 m in annual revenues.

### Number of companies by revenue group 2000 – 2006

| | Up to € 10,000 | € 10,001 up to € 100,000 | € 100,001 up to € 500,000 | € 500,001 up to € 1 m | > € 1 m up to € 10 m | > € 10 m |
|---|---|---|---|---|---|---|
| **2000** | 91 | 178 | 129 | 23 | 15 | 4 |
| **2002** | 96 | 186 | 149 | 32 | 41 | 7 |
| **2004** | 181 | 263 | 175 | 53 | 77 | 10 |
| **2005** | 127 | 209 | 152 | 47 | 91 | 12 |
| **2006[1]** | 110 | 196 | 147 | 51 | 118 | 20 |

1 2006 (= licence holders' expectations)

## INTERNATIONAL COMPARISON OF LETTER PRICES

In 2006, letter prices in Germany were around 5 percent lower than in 2002. Conversely, prices in most European countries have risen considerably since 2002.

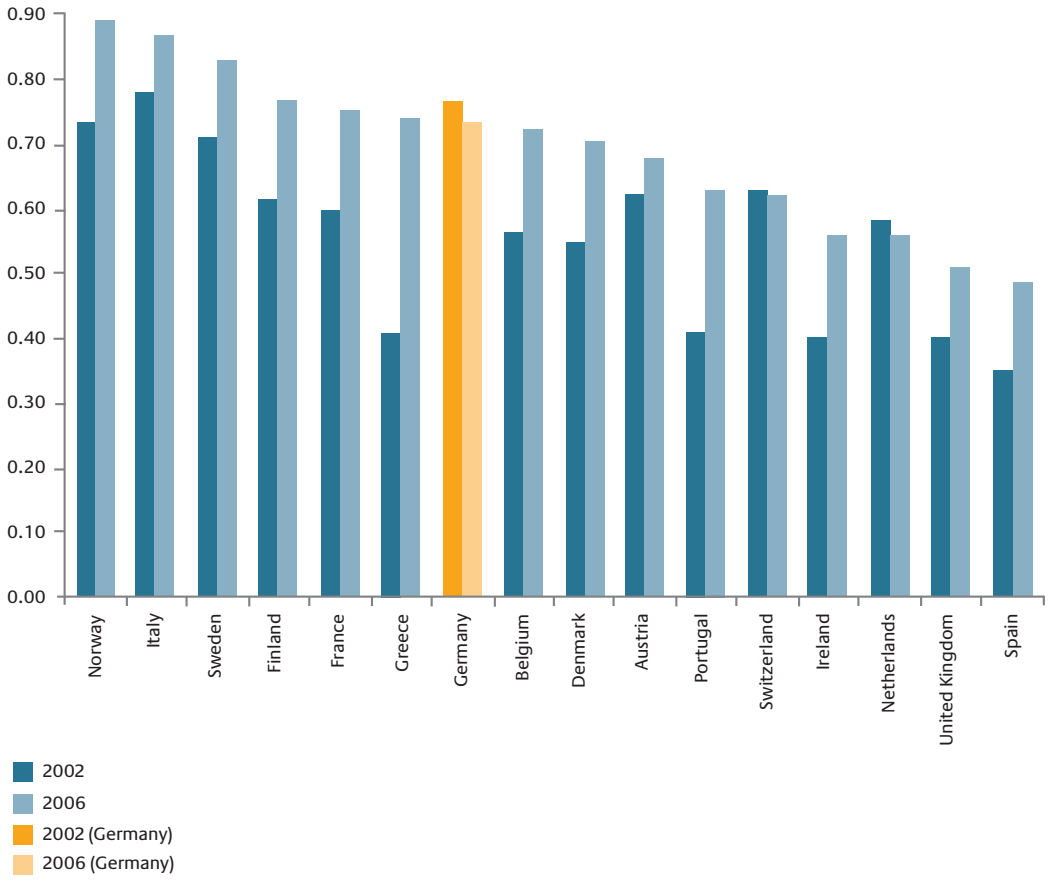
The comparison included selected European countries. Products were chosen that most closely corresponded to DP AG's postcard, standard letter, compact letter, large size letter, and maxi letter products. Their prices (weighted by volume) were calculated in the national currency and then converted using the consumer price parities as determined by the Federal Statistical Office.

## WORKFORCE DEVELOPMENT IN THE LICENSED AREA (CONVEYANCE OF LETTER ITEMS UP TO 1,000g)

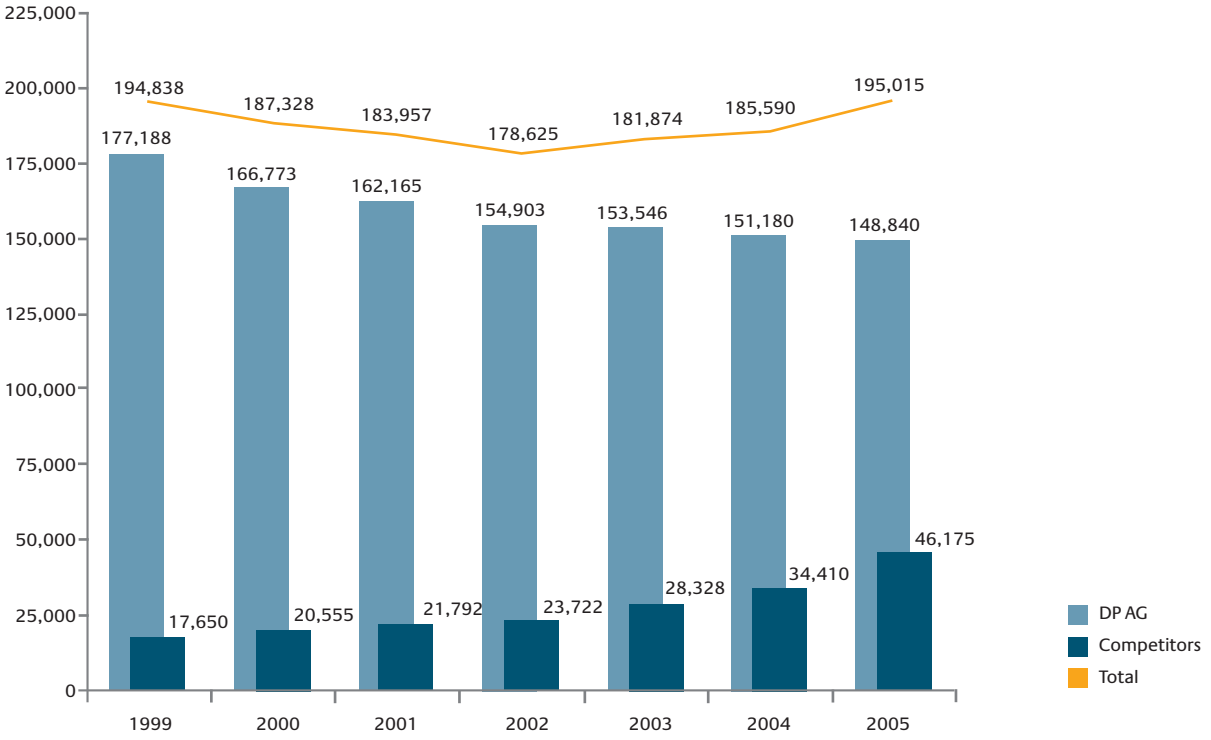
### Overall development

Since 1999 DP AG has shed the number of jobs in the licensed area by around 29,000 net. However, in the same period competitors created just under 29,000 new jobs. Their total workforce currently stands at over 46,000.

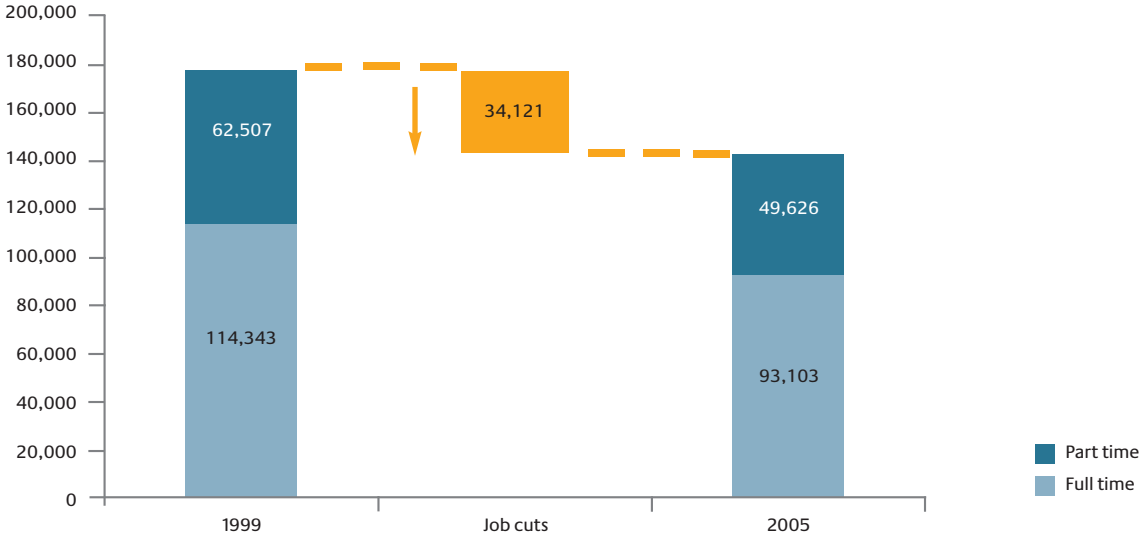
**Letter price levels (€) in 2002 and 2006**
(November 2006 – Consumer price parities)



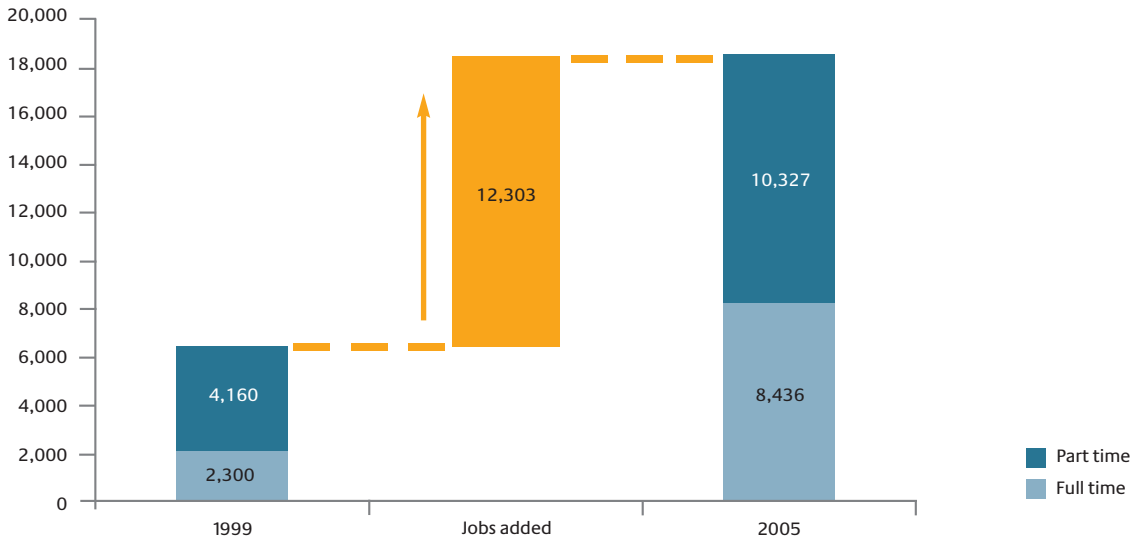
## Jobs at DP AG vs. competitors (full- and part-time jobs and insignificant employment contracts)




## Full- and part-time jobs at DP AG
(excluding insignificant employment contracts)



**Full- and part-time jobs at competitors**
(excluding insignificant employment contracts)




## Full- and part-time jobs

Between 1999 and 2005 DP AG cut the number of full- and part-time jobs by over 34,000. Since 1999, however, competitors have created more than 12,000 new full- and part-time jobs. These were not transferred from DP AG and there is no connection to DP AG's workforce reduction programme.

## Insignificant employment

Generally speaking, the trend at DP AG in recent years has been to turn full-time positions into part-time jobs. In addition, the company also offers employment on what is known as an insignificant basis. For instance, Post Service outlets are staffed exclusively with persons in insignificant employment (around 4,000). These outlets are classed as fixed-location facilities staffed with company employees as required by the Postal Universal Service Ordinance (PUDLV). In addition, in the course of 2005 DP AG had more than 1,200 positions that, according to the Federal Network Agency, it staffed with around 7,200 employees on short-term contracts. An additional 900 employees on permanent insignificant employment contracts has increased the number of DP AG's employees in so-called minijobs to over 12,000 in the mail area alone.

The number of persons in insignificant employment at DP AG would probably be higher if DP AG did not outsource to quite such an extent. In the licensed area it uses more than 1,800 subcontractors mainly to collect and transport mail (eg, taxi companies to empty letter boxes). Outside the licensed area, in the field of parcel delivery, 600 parcel delivery districts are already operated and staffed by DP AG's subcontractors. Another 280 districts are expected to follow.

The relatively high share of insignificantly employed persons at the competitors (more than 27,000) is explained, amongst other things, by a still fairly unstable, not yet established customer base, customer behaviour, and in some cases very small mail volumes.

Regardless of these factors, measured in terms of their volumes competitors employ a disproportionately high number of full- and part-time staff.

**Full- and part-time jobs (excluding insignificant employment contracts) per billion items in 2005**

| | DP AG | Competitors |
|---|---|---|
| Full-time jobs per 1 bn letter items | ~ 5,900 | ~ 7,470 |
| Part-time jobs per 1 bn letter items | ~ 3,150 | ~ 9,150 |

# Ruling Chamber decisions

## Rates regulation and special control of anti-competitive practices in the postal market

Besides rates regulation, in 2006 emphasis was laid once again on resolving conflicts of interest between DP AG and its competitors.

### PRICE CAP PROCEEDINGS

In the autumn Ruling Chamber 5 approved the rates for letter services under licence. DP AG's rates application made no reference to raising rates for domestic letters. A price increase application was made for certain international letter products. According to the price cap formula DP AG theoretically could have raised its 2007 postage rates by 0.2 percent. However, it chose not to do so. The approval is valid until 31 December 2007.

The price cap formula in use was set in 2002 and will expire at the end of 2007 when the exclusive licence for letter services expires. The greatest price cut of 4.7 percent for monopoly products was implemented at the beginning of the price cap period in 2003.

### ACCESS TO CHANGE-OF-ADDRESS INFORMATION

Due to the expiry of the existing rates approval the Ruling Chamber had to take a new decision on the rates for access to change-of-address information. Once the Ruling Chamber had tested and verified the overall functionability of the so-called black box system and no objections were received from competitors during the rates regulation process, the system was approved once again. The Ruling Chamber approved a slight decrease in the one-off fee for the supply and installation of the required components to €48.77 alongside a

rate of €0.14 (unchanged) per returned record. These rates were approved for the period 1 July 2006 to 31 December 2008.

## ACCESS TO PO BOX FACILITIES

Following an application by DP AG, due to the expiry of the existing approval the Ruling Chamber once again reviewed the rates for access to PO box facilities. As costs of efficient service provision, rates were approved in the amount of €0.53 per posting, plus €0.04 per item, for the period 1 July 2006 to 31 December 2009. The price per posting hence dropped from €0.57 to €0.53 while the price per item remained constant at €0.04.

## SPECIAL CONTROL OF ANTI-COMPETITIVE PRACTICES

Having received a number of complaints, as part of its control of anti-competitive practices the Ruling Chamber reviewed whether there was any unlawful cross-subsidisation of rates for over-the-counter parcels. However, having evaluated the cost documentation provided by DP AG it concluded that the rates were neither discounted nor discriminatory.

Anti-competitive behaviour in the form of squeezing out the competition on the part of DP AG could not be established also for the simple reason that rival products are available in this segment at even lower prices. Furthermore, the competitor filing the complaint had forecast an increase in its market share to 25 percent, despite DP AG's price cuts.

This situation is borne out by market studies by the Federal Network Agency. A benchmark of comparable products (price and scope of service) on offer by providers on the private parcel market revealed that the price measure caused prices to approximate, but not undercut, competitors' prices.

At the end of 2005 the Ruling Chamber had received complaints relating to a limitation on access to mail sorting centres under existing work sharing agreements between customers, competitors and consolidators on the one hand, and DP AG on the other. DP AG assigned these parties access slots, subject to latest drop-off times and capacity limitations. The intervention by the Ruling Chamber succeeded in most cases in finding an acceptable solution for both sides. The Ruling Chamber is currently developing a non-discriminatory framework for the assignment of such slots, which should meet the needs of those who inject items into the network – ie, late drop-off – as well as those of DP AG – ie, uninterrupted operations in line with capacity.

Complaints were also received in connection with dropping off worksharing items where DP AG had refused to accept items with a one-day old or even older prepayment mark. This dispute was also resolved by intervention by the Ruling Chamber. A final solution to this problem is anticipated.

## SERVICE OF DOCUMENTS

Several provisions of the German Code of Civil Procedure and other administrative procedural laws stipulate that there be a

system to serve documents formally, together with proof of delivery and of the time of delivery. To this end, postal service providers are issued with a so-called PZA. Proof is furnished by means of a certificate of service issued by the provider that is returned to the sender.

The rates approval procedure for the service of documents constitutes a particular form of rates regulation. In accordance with Section 34 of the Postal Act, the criteria in Section 20(1) and (2) of the Postal Act are applied to all providers of such qualified conveyance services. The requirement that rates may not include surcharges or discounts and may not be discriminatory is widened to include all providers of this kind of service, even though it is normally only applied to dominant providers.

By early December 2006 110 new rates applications plus 28 applications for rate amendments had been received. The Ruling Chamber no longer publishes rates approvals issued to any postal service providers including DP AG, as an increasing number of courts and public authorities are inviting tenders for formal delivery order service. What will remain a firm part of the process, however, is the sealed submission of offers, which would be preempted if the rates were made public.

# Administrative court proceedings

With regard to access to PO box facilities, the Federal Network Agency's rates approval practice was confirmed by the Cologne Administrative Court. The European Court of Justice is deliberating on access to worksharing services.

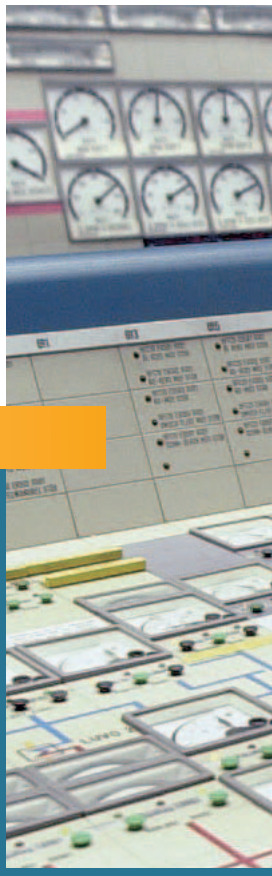
A ruling dated 27 June 2006 by the Cologne Administrative Court rejected a complaint filed by DP AG concerning a rates approval issued by the Federal Network Agency (then the Regulatory Authority for Telecommunications and Posts) concerning access to PO box facilities. On 3 December 2001 DP AG had submitted an application for rates in the amount of DM3.17 per posting plus DM0.15 per item, each plus statutory VAT, for the period 1 April 2002 to 30 June 2004. On 6 February 2002 the Regulatory Authority had approved net rates of DM1.14 per posting plus DM0.08 per item, and rejected DP AG's application citing insufficient cost documentation, among other things.

The court confirmed the lawfulness of the Agency's partial approval. This also confirmed the practice of the Ruling Chamber, which performs its own alternative calculations if the cost documentation is insufficient before proceeding to issue a partial approval. DP AG has filed an appeal with the Münster Higher Administrative Court against the rates decision.

The Cologne Administrative Court has suspended six further cases concerning consolidators against decisions by the Federal Network Agency to refuse access to the sought-after worksharing services to obtain a preliminary decision from the ECJ. The question to be resolved is: "Is Section 47 (2) in connection with Section 95 of the EC Treaty in connection with Section 12, point 5 in connection with Section 7 (1) of the Directive 97/67/EC as amended by Directive 2002/39/EC of the European Parliament and the Council to be interpreted such that in those cases where a universal service operator offers special rates for business customers that inject pre-sorted postal items into the postal network at points that are not access points, this

operator is obliged to offer these special rates also to those companies that collect postal items from the provider and inject these, pre-sorted, at the same point of access and under the same terms as business customers, without the operator being able to refuse, citing its obligation to provide universal service?"

A similar question had been put to the ECJ in parallel proceedings back in 2005. However, the complaint was prematurely withdrawn by the plaintiff and no ruling was issued.



# Energy

# Market watch

In 2006 the Federal Network Agency conducted a comprehensive survey of the German energy market, based on a number of different inquiries and reports. This survey serves as the basis for necessary measures, but also as an indicator of the efficiency of legal rules and regulation.

Under section 35 of the German Energy Act, the Federal Network Agency is obliged to perform monitoring tasks in order to fulfil its regulatory tasks in the areas of electricity and gas, in particular for the purpose of creating market transparency. For that purpose the Federal Network Agency is tasked under section 63 (4) of the Energy Act to publish an annual report. The Federal Network Agency's first monitoring report was presented to the public on 30 August 2006.

The monitoring report focuses in particular on a review of whether or not key requirements of the Energy Act were implemented by the market players. The current monitoring report reveals that this has not yet been fully achieved in many areas of the electricity and gas market. In order to lay the foundations for effective competition, the affected market players are therefore required to fulfil their requirements under the Energy Act without any further delay. Reviewing the fulfilment of and compliance with obligations under the Energy Act will be one of the Federal Network Agency's main tasks in the near future.

Below are some selective results of the 2006 monitoring exercise in the area of gas and electricity supplies to final customers, in particular on the subjects of change of supplier and price composition.

## CHANGE OF SUPPLIER FOR ELECTRICITY AND GAS

According to information from distribution system operators (DSOs) for electricity, final customers with a total take-off of 31.18 TWh changed suppliers in 2005. This equates to a share (change ratio) of 7.79 percent of the total amount final customers withdrew from distribution system operators, amounting to 400.11 TWh.

According to information from distribution system operators (DSOs) for gas, final cus-

tomers with a total take-off of 3.3 TWh changed suppliers in 2005. This equates to a share (change ratio) of 0.4 percent of the total amount final customers withdrew from gas system operators, amounting to 832.04 TWh.

However, a change of supplier does not give a sure indication of the intensity of competition. Even just a simple change in the company name or a change of suppliers within a business unit (eg between subsidiaries) are classified as changes of supplier. A change in demand – eg within the context of portfolio management – can be an indication of a large number of procurements, which are also classified as a change of supplier. When changing suppliers to a trader, a distinction in terms of competition is made between independent traders and those who are associated with large supply companies.

Divided by consumption sectors, the change ratios for a change of electricity supplier were recorded at 11.42 percent and 10.9 percent and therefore fell into the categories "large and very large industrial customers" (over 2 GWh p.a.) and "medium-sized industry and trade sector") (50 MWh p.a. up to 2 GWh p.a.). This is much higher than the change ratio of 2.22 percent in the category "households and small trade" (50 MWh p.a. and below).

The change of gas suppliers revealed the highest change ratio of 0.74 percent in the category "large and very large industrial customers" (> 10,000 MWh p.a.). The change ratios in the categories "medium-sized industry and trade sector" (> 300 MWh up to 10,000 MWh p.a.) and "households and small trade" (300 MWh p.a. and less) was significantly lower at 0.12 percent and 0.01 percent.

However, the distinction between medium-sized industrial customers on the one hand and large or very large industrial customers on the other hand is only of limited significance, since it is not possible to always distinguish the demand by industrial customers within the context of portfolio management simply on the basis of the amount needed.

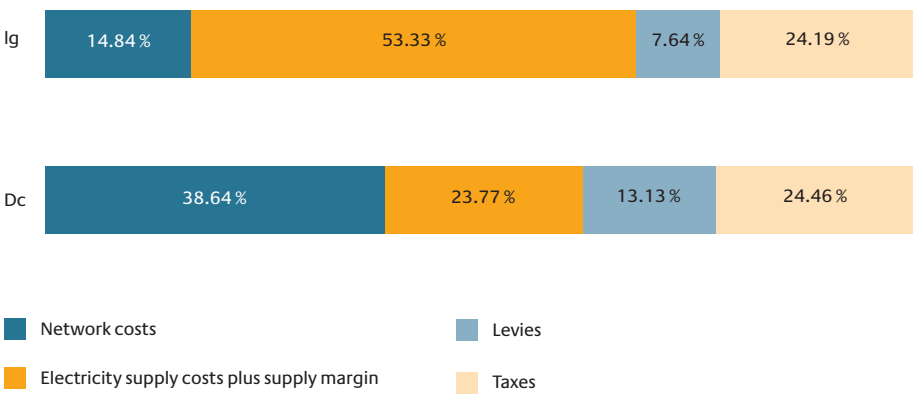
## COMPOSITION OF THE ELECTRICITY AND GAS PRICE

The data collection for the monitoring report served to gather data from wholesalers and suppliers for electricity to reveal the current retail price level (as at 1 April 2006) for the Eurostat customer categories Ig (industrial customers with an annual consumption of 24 GWh, a maximum demand of 4,000 kW, medium voltage) and Dc (households with an annual consumption of 3,500 kWh, low voltage), including all taxes and levies. Furthermore an estimated breakdown into network costs (system charges incl. charges for metering, billing and collection, without licence charges and CHP surcharge), electricity supply costs plus supply margin (costs for obtaining energy plus margin and pro-rata overheads), levies (licence charge, RE and CHP surcharge) and taxes (electricity tax and VAT) was requested. The mean averages weighted by volume, and taking into account the sales volume 2005 for each company in the related customer category, were found to be 11.12 ct/kWh for category Ig (industrial customers/producing sector) and 18.89 ct/kWh for category Dc (households). The illustration shows the total price with its

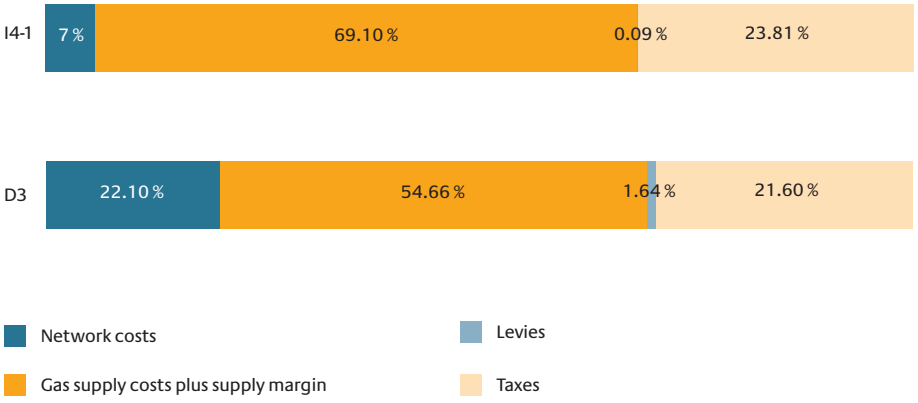
individual component network costs, electricity supply costs plus supply margin, levies and taxes for both categories Ig and Dc expressed as percentage.

The data collection for the monitoring report also served to collect data from wholesalers and suppliers of gas to reveal the current retail price level (as at 1 April 2006) for the Eurostat customer categories I4-1 (annual consumption of 116,300 MWh p.a. with a maximum demand of 250 days or 4,000 hours) and D3 (annual consumption of 23,260 kWh), including all taxes and levies. Furthermore an estimated breakdown into network costs (system charges incl. charges for metering, billing and collection without licence charges), gas supply costs plus supply margin (costs for obtaining energy plus margin and pro-rata overheads), levies (licence charge) and taxes (natural gas tax including discounts and VAT) was requested. The mean averages weighted by volume, and taking into account the sales volume 2005 for each company in the related customer category, were found to be 4.28 ct/kWh for category I4-1 and 6.11 ct/kWh for category D3. The illustration shows the total price with its individual component network charges, gas supply costs plus supply margin, levies and taxes for both categories I4-1 and D3 expressed as percentage.

**Percentage composition of the electricity retail price for Eurostat customer categories Ig (industrial customers/producing sector) and Dc (household customers)**



## Percentage composition of the gas retail price for Eurostat customer categories I4-1 (industrial customers) and D3 (household customers)[1]




1 Due to the fact that at the time of data collection gas is commonly procured at the regio/city gate via integrated contracts, it is not possible to rule out that the gas supply costs may include network costs of the upstream domestic network levels.

# Activities and proceedings

In 2006 the work of the Federal Network Agency in the energy sector was largely characterised by three major areas. In addition to reviewing and approving the energy supply network charges applied for, other key areas were network access by energy users and generators, in particular the model for access to the gas network, and the report on the introduction of incentive regulation in Germany.

## ACCESS TO ELECTRICITY SUPPLY NETWORKS

### Standardised business processes and data formats

Binding market rules for system operators and suppliers form the basis of non-discriminatory network access for all users of the system. By setting out standardised business procedures and data formats for supplying electricity to customers, the Federal Network Agency laid the necessary foundations for the first time in July 2006.

Following a very comprehensive and partially controversial consultation procedure, this decision made business processes, which can be electronically automated, legally binding if they arise in connection with supplying electricity to customers (in particular change of supplier as well as people moving house) and if the market is largely agreed upon their necessity. In addition the Agency determined a standardised German data format (EDIFACT) required for an electronic exchange of data, and the related message types. Owing to the fact that many system operators will be required to implement EDP changes, the Federal Network Agency has allowed a time limit of 1 August 2007 and/or 1 October 2007 to implement an electronic billing system for system usage. Furthermore the Federal Network Agency now offers undertakings the opportunity to make arrangements in derogation of the standardised business processes and data formats. This way affiliated companies can permanently continue their customised solutions, provided they offer other suppliers the same access rights to the database. Where such equal treatment is not ensured, customised solutions for a distributor affiliated to the system operator may be continued until

1 October 2009, provided certain conditions are met.

Of 900 affected system operators, 39 undertakings had appealed against the decision, in some cases with identical wording, by the end of 2006. These appeals are not directed at the decision as a whole but rather at individual items subject to regulation, such as a time limit for how long a system operator may grant special treatment to its own, affiliated distributor.

### Market for control energy

A second, fundamental determination by the Federal Network Agency was made in terms of the market for control energy. In August 2006 the Federal Network Agency initially set the terms and conditions of a joint tender for the minute reserve by all transmission system operators on a joint internet platform. This is of particular importance to the further market development because control energy is a primary cost factor for the system charges levied by the transmission system operators. This determination aims to achieve a long-term reduction of these charges by creating effective supplier competition. In addition control energy provides an important basis for the costs of control energy and plays an important role regarding the direct costs of the electricity suppliers.

The so-called minute reserve is the form of control energy that must be made available within 15 minutes after requesting it by telephone. Control energy, and with it the minute reserve, is essential in order to ensure system security. The transmission system operator is responsible for offsetting the difference between the feed-in and take-off of all balancing groups in his region (section 12 (1) of the Energy Act). The so-called control energy needed (primary reserve, secondary reserve and minute reserve) is obtained from the transmission system operators by way of competitive tendering.

To date control energy has not been obtained in a sufficiently transparent and efficient manner. At the beginning of 2006 the relevant market players initially took part in a consultation on the transmission system operators' concept for a joint tendering for minute reserves. The mandatory procedure set by the Federal Network Agency for the joint tendering for minute reserves has been in force since 1 December 2006. A determination regarding tendering for primary and secondary reserves is expected in early 2007.

The market has unanimously welcomed this determination. It is already final, since no appeals have been lodged. On 1 December 2006 the tendering for minute reserves took place for the first time in the newly determined form. Relevant experiences will be incorporated into the determination for obtaining so-called primary and secondary reserves, which is due in 2007. The Federal Network Agency assumes that the overall package of determinations, ie in particular the reduction of the minimum volume offered, the significantly increased market transparency, the standardised (business) daily tendering before the stock market opens and the specification of

concrete time windows will lead to more competition on the market for minute reserves and therefore ultimately to decreasing prices.

### Grid connection of power plants

Based on an increasing demand over the next few years to replace existing power plants, as well as plans for abandoning nuclear energy, and against the background of planning certainty provided until 2012 by the National Allocation Plan II, a large number of thermal power plants with a total capacity of approximately 50 GW is currently either being projected or already under construction. A large proportion of the power plants are to be erected in the Rhine-Ruhr area and in North Germany and connected to the respective transmission system. Since May 2006 the Federal Network Agency has been supporting a number of undertakings in their efforts to have their new, conventional large-scale power plants connected to the transmission system. This role of mediator has been assumed upon the (express) wish of the power plant builders/operators/undertakings. The Federal Network Agency has conducted numerous bilateral talks and negotiations with the undertakings desiring a connection and with the affected transmission system operators RWE and E.ON. These talks revealed complex and multi-layered problems. They entail, inter alia, the relationship between grid connection and grid access, the obligation of the transmission system operator to expand the network and the absorption of costs for such network expansion. In addition there are aspects of the protection of vested rights for old power plants as opposed to new plants as well as aspects of promoting new plants or independent generators, which need to be discussed. The examination of the transmission system operators' grid connection concepts also deals with the issue of transparency and non-discrimination – major criteria of the grid connection as set out in section 17 of the Energy Act – as well as matters of financial incentives for building new power plants in locations where they are needed. Finally the examination deals with the question of which congestion management measures actually meet the requirements of section 15 of the Electricity Network Access Ordinance.

In October 2006 the Federal Network Agency was able to convince the transmission system operator RWE Transportnetz Strom GmbH, who was particularly affected, to back away from the position held to that date regarding the relationship between grid connection and grid access, thereby being able to bring about a consensual solution.

According to this solution matters of grid connection and grid access must be dealt with separately as a matter of principle. At the same time a connection to the transmission system does not imply an entitlement to a predefined feed-in-capacity. Any potential congestion must be managed in a non-discriminatory way and in accordance with the system stipulated by an ordinance or a determination by an authority. The obligation to expand the system according to needs only applies to the system operator, while the connected parties are not obliged under applicable law to contribute

to the costs of the system expansion. RWE Transportnetz Strom GmbH provides selected experts with information on its own system, which can then be used to calculate flow simulations, thus enabling interested power plants using their own assumptions about future development to gain insight into the location and size of future congestion.

Another transmission system operator, E.ON Netz GmbH, has fallen in line with the position of the Federal Network Agency regarding a separation of grid connection and grid access and has agreed in this context to not refuse requests for a connection of power plants on the grounds of future congestion in the transmission system.

This market development initiated by the Federal Network Agency allows for a certain degree of optimism – by building and connecting new power plants, competition on the market for the generation of electricity might be stimulated, leading in the long term to consumer-friendly prices .

And finally, in October 2006, the Federal Network Agency initiated ex officio determination proceedings to clarify matters of principle regarding the management of potential future network congestion. In this case the main focus is on the relationship between new plants and the so-called pre-existing power plants and on the fundamental choice of a suitable congestion management procedure. 20 interested parties have made use of the opportunity to comment on the planned determination by the deadline stipulated.

### Further issues of grid access

Below is a selection of the numerous further issues in the area of grid access, which had to be processed in 2006 due to either undesirable developments in the market or complaints by individual undertakings or groups of companies.

These issues enabled the Agency to draw up a catalogue of criteria in order to implement the entitlement to a change at the network level to which a final customer is connected. At the same time this was an important step to ensure that the behaviour of the system operators is in line with demand. The proposal is currently being discussed with the affected associations and undergoing further clarification.

Furthermore the Federal Network Agency has developed a first proposal for a transparent, non-discriminatory and market-oriented procedure for procuring energy dissipation. The foundations for the procurement of energy required for covering dissipation are provided by section 22 of the Energy Act in conjunction with section 10 (1) of the Electricity Network Access Ordinance. Pursuant to these sections, all system operators with at least 100,000 customers are obliged to invite tenders for energy dissipation, provided there are no major reasons to prevent that. These operators are also obliged to manage a balancing group which serves exclusively to offset energy dissipation. In this regard the regulatory authority is entitled to enforce its power to make determinations as provided by section 27 (1) no. 6 of the Electricity Network Access Ordinance and to determine a tender for energy dissipation under

section 10 of the Ordinance as well as a procedure for determining the network dissipation.

In preparation for a possible determination, the Federal Network Agency has looked at this issue in 2006 and is currently drawing up a categorical position for establishing procedures that are in accordance with the laws and ordinances. This work is still in its early stages; its continuation is envisaged for 2007 as part of talks with associations and undertakings as well as a possible consultation that discusses the form and content of the amount of network dissipation and the form of procurement. This process must result in a practice that leads to a reduction of the costs of procuring control energy for energy dissipation, thereby affecting the system charges positively, and promoting liquidity in the market for energy trading.

By entering into a constructive dialogue with the transmission system operators, the Federal Network Agency was able to agree a binding schedule for the introduction of the so-called scheduled intraday trading. This helps to practically implement the difficult regulations set out in section 5 (2) of the Electricity Network Access Ordinance, which came into effect on 1 January 2007, and presents an important partial step towards a functioning market for electricity trade. In principle the balancing group manager can notify the transmission system operator of their planned electricity supply and trading actions for the particular day until 14.30 hours of the day before (section 5 (1) of the Ordinance). Section 5 (2) of the Electricity Network Access Ordinance, however, states that schedules within a control area and schedules extending beyond a control area can be changed every quarter of an hour, at least three quarters of an hour in advance. The automation of processes required for this has made the introduction of an interim solution inevitable. Since January 2006 it has therefore been possible, as proposed by the transmission system operators, to make changes to intraday trading at least one hour in advance; this interim solution was limited for a period of one year, expiring on 1 January 2007. During this transitional period the Federal Network Agency monitored the changes to the schedules; where they were already available, these results were documented in the Monitoring Report 2006.

In addition the Federal Network Agency has drawn up a first proposal for the settlement of balancing groups by the transmission system operators and for the timely provision of the required data by the distribution system operators; this proposal strengthens the rights of the balancing group managers and will therefore lead to better framework conditions for competition. In this context it has also been possible to induce the transmission system operators to develop a proposal for a standardised balancing group agreement.

The rights of retail customers are strengthened, inter alia, by the fact that the Federal Network Agency has taken on board the issue of the so-called contributions to the infrastructure. In this case a completely non-uniform and inconsistent way of collecting charges that had evolved over

decades had to be measured against and reflect the new energy industry law, and a discussion with the relevant associations about the meaning and purpose of contributions to the infrastructure and the thus resulting calculation methods had to be initiated.

The Federal Network Agency has conducted a successful consultation on the subject of supplier agreements. Using a dispute revolving around a large number of contractual provisions it was then possible to bring out critical questions for the future market development and to clarify related issues.

Moreover the Federal Network Agency has been able to achieve improvements regarding the connection of small, decentralised generation units, by holding intensive talks with distribution system operators, thereby taking the next step to gradually improve competition in this market. In particular the system operators agreed to exempt such plants from inclusion in a so-called network safety concept and to no longer levy charges for the network compatibility checks of such plants as set out in section 1 (1) and (3) sentence 4 of the Energy Act. That increases the chances of this type of electricity generation in the market.

And finally, in September 2006 the Federal Network Agency, after extensive consultations with the committee of federal state representatives and the federal regulatory authorities represented therein, issued a detailed bulletin on the so-called object networks within the meaning of section 110 of the Energy Act. This bulletin presents the joint interpretation of the regulatory authorities of the criteria to be applied when checking and deciding on applications in accordance with section 110 (4) of the Energy Act. This created legal certainty for these networks, some of which tend to be very small – a certainty that affects clarification not just in terms of the relationship with the regulatory authorities but also in terms of strengthening the relationship of these system operators with the upstream systems.

## ACCESS TO GAS SUPPLY NETWORKS

### Transport capacities for gas release quantities

As part of the ministerial approval by the Federal Minister of Economics and Technology, E.ON AG had been required, in the context of its merger with Ruhrgas AG, to offer gas quantities amounting to a total of 200 billion kWh (Gas Release Programme) in several auctions, starting on 1 October 2003. One of the requirements stipulated had been the obligation to transport the gas auctioned off.

After the auction 2005 EnBW Trading GmbH had unsuccessfully applied to E.ON Ruhrgas Transport AG & Co. KG (ERT, now E.ON Gastransport AG & Co. KG) for firm transport capacities. Instead ERT had only consented to interruptible capacities. They claim that at the time in question all firm capacities had already been booked by third parties. When allocating capacity they had given priority to capacities from companies of the E.ON group. In the winter of 2005 ERT had then repeatedly interrupted the gas transports of EnBW, because

firm capacity rights had almost without exception been used by other transport customers.

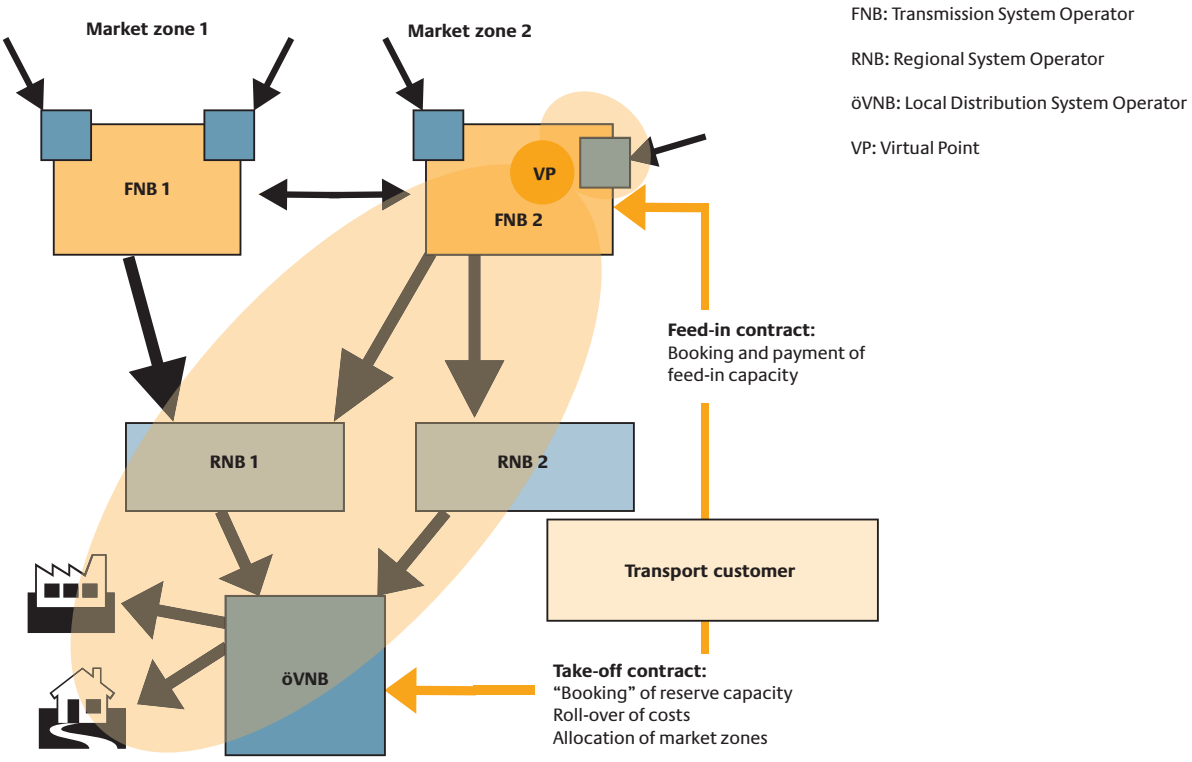
Due to an application by EnBW Trading claiming anti-competitive conduct, the Federal Network Agency found in May 2006 that ERT had acted in a discriminating and thereby anti-competitive way when allocating capacity. ERT was therefore obliged to allocate EnBW Trading the firm capacities applied for. A particularly critical factor in this decision had been the interpretation of their obligations under the ministerial approval. ERT had not been able to justify their behaviour either formally or on the merits of the case. Their objection that the Federal Network Agency was not allowed to take into account the ministerial approval, did not bear up under a judicial review. In doing so ERT failed to appreciate that the stimulation of competition intended with the ministerial approval can only be achieved if firm transport capacities are available for the gas quantities auctioned off. Insofar as bookings for capacity by the E.ON Ruhrgas-Gruppe preclude this, they must be treated as secondary under the terms of the ministerial approval and be allocated lower priority. In line with the legal interpretation of the ruling made, ERT must offer all buyers of release quantities firm transport capacities where this is requested. Without this ultimately related decision, the ministerial approval would have been deprived of its intrinsic value in a critical area. The affected undertaking has appealed against this decision at the higher regional court Düsseldorf. The proceedings are still awaiting completion.

### Access to gas supply networks

One main task in the area of energy regulation (gas) in 2006 was the details of access conditions for the gas network in accordance with section 20 (1b) of the Energy Act. The consultation proceedings between the Federal Network Agency, associations of the gas industry, network users/traders and industry associations, initiated in October 2005, were continued in 2006 with numerous meetings of the consultation group. The objective of the meetings was to develop an access model that would ideally be supported by all parties and implemented the stipulations of section 20 (1b) of the Energy Act. This objective was achieved for the so-called two-contract model. However, the admissibility of the single capacity booking model, demanded additionally by the energy industry, continued to be a controversial issue. By 1 June 2006 the Federal Association of the German Gas and Water Industries (BGW) and the Association of Local Utilities (VKU) presented a "cooperation agreement" as arranged, which was signed by the first 20 system operators on 19 July 2006; by the end of 2006 most system operators had joined this cooperation agreement.

In the cooperation agreement dated 19 July 2006, two parallel models were contracted, which according to claims by the BGW and VKU have the same effect: in addition to the two-contract model required by section 20 (1b) of the Energy Act, the agreement also regulated the so-called single capacity booking model. During its consultations on the cooperation agreement the Federal Network Agency had brought about the

**Scope of contract in the two-contract model**




inclusion of a clause that provided system operators with the opportunity of signing on the condition that only the legally required two-contract model was implemented. Right from the outset the Federal Network Agency had reserved the right to review the admissibility of the single capacity booking model in terms of the above-mentioned "identical effectiveness".

Overall the two-contract model achieves a comprehensive cooperation between system operators, which ensures that the transport customers are not subjected to any additional transaction costs, even if the transport booked by them touches upon several networks. Upon pressure from the Federal Network Agency the number of market zones was restricted from 28 to 19 when the cooperation agreement came into effect.

Upon application by the Federal Association of New Energy Suppliers e.V. and the gas trader NUON Deutschland GmbH, proceedings on the grounds of anti-competitive conduct were initiated against the system operators RWE Transportnetz Gas GmbH, E.ON Hanse GmbH and Stadtwerke Hannover AG. The matter under investigation was the admissibility of access to the gas system under the single capacity booking model and the subdivision of the German gas network into 19 market zones. In November 2006 the Federal Network Agency made a decision in this matter.

According to the current decision the provisions of the single capacity booking model must no longer be used, effective immediately. The prohibition of this model was necessary because the single capacity booking model was not provided for either in law or in the ordinances. In addition even recognition of the single capacity booking model in general results in its unlawfulness when it comes to the specific details of the cooperation agreement, due to manifold violations of the Energy Act. Furthermore, shortcomings inherent to the system make the single capacity booking model unlawful as a matter of principle.

The two-contract model is now the only admissible model. Undertakings have been granted a suitable transition period to adapt to that. Network access agreements concluded on the basis of the single capacity booking model must be changed over in two steps by 1 April 2007 or 1 October 2007 at the latest.

This decision initially only affects the system operators directly involved in the proceedings. However, the Federal Network Agency assumes that these proceedings will constitute a model case for the entire German gas industry. It therefore proceeds from the assumption that this decision will be observed by all system operators. This is the only way to ensure that the general legal uncertainty arising from the co-existence of access models to date and the obstruction of the legally stipulated access to the gas supply network can be terminated. By reaching legal finality on 21 December 2006, an important first, intermediate objective has been achieved.

The application submitted in the same proceedings for prohibiting the 19 indicated market zones was rejected by the Federal Network Agency on the grounds of inadmissibility. At the same time the current subdivision into 19 market zones presents a significant obstacle to the creation of a sufficiently liquid, open and flexible gas market and can therefore not be tolerated in the long term. This issue will therefore be pursued further with the objective of significantly reducing the number of market zones. To achieve that, the undertakings will first be given an opportunity to submit their own proposals. If voluntary solutions cannot be brought to bear, formal regulation proceedings are to be initiated. This may for example entail proceedings for merging sub-networks.

### Standardised business processes and data formats

One of the major objectives of network regulation is to enable competition in the upstream and downstream network operation markets, in order to offer final customers effective supply prices and conditions in the long term. In this respect the suitability of processes for changing suppliers at bulk business level is of critical importance. The gas market is currently still lacking standardised processes for changing suppliers; this presents a major obstacle to the entry of new suppliers on the German gas market. The effort required due to the non-standardised processes and data formats involved in changing suppliers is considerable and creates non-acceptable efficiency losses. The results of the first monitoring exercise conducted by the Federal Network Agency also point in this direction.

According to section 37 of the Gas Network Access Ordinance the gas supply network operators are obliged to standardise supplier changes in terms of the processes and data formats involved. At the end of June 2006 the industry association BGW and VKU presented a roadmap entitled "business processes for changing natural gas suppliers", which serves as a starting point for formal determination proceedings by the Federal Network Agency that started mid-July 2006. The aim of this determination is to provide, in a timely manner, a standardised framework for changing gas suppliers, which meets the needs of all market players in terms of transparency and legal certainty.

## SYSTEM CHARGES (ELECTRICITY)

### Approval of general charges

Under section 23a (1) of the Energy Act the charges for access to the system require approval. Operators of electricity supply networks had to submit a first application by 31 October 2005 (section 118 (1b) of the Energy Act). The Federal Network Agency received 256 applications for approval of use of system charges (electricity) under section 23a of the Energy Act. Of these, 101 network operators come under direct federal responsibility, while 155 applications were dealt with through an official delegation of powers.

By the end of 2006 the Federal Network Agency had approved 75 charges; initially only applications submitted by the four transmission system operators and the majority of the large regional network operators have been decided upon. Their new charges are a major component of the cost and price calculations of the downstream distribution system operators. In the cases of all system charges approved to date, the Federal Network Agency has cut the charges applied for. These cuts are based on the main aspects reviewed by the Federal Network Agency and affect primarily the calculated evaluation of fixed assets, the expected returns on equity and the imputed corporation tax.

Considering the cost volume applied for, the approvals granted already cover more than 75 percent of the market that is represented by the network operators which the Federal Network Agency has to review as part of the proceedings for approving charges. The charges were approved until 31 December 2007.

In terms of approving agreements for individual system charges in 2006, the Federal Network Agency made decisions about the approval of ten applications for individual charges pursuant to section 19 (2) sentence 2 of the Electricity Network Charges Ordinance.

Under section 19 (2) sentence 2 of the Ordinance network operators are obliged to offer wholesale customers an individually calculated system charge in derogation of the general principles of calculation, if their consumption data is characterised by a legally defined, particularly even and considerable consumption of electricity. The intention here is to achieve a fairer allocation of the system charges in accordance with the principle of causation. At the same time this leads to a cost reduction

for the preferential users and improves their local conditions. Agreeing the application of individual system charges is subject to approval by the Federal Network Agency.

One application was rejected. The actual consumption of the network user submitting the application did not meet the requirements under section 19 (2) sentence 2 of the Electricity Network Charges Ordinance. In case of the nine applications with a positive decision, the approved individual charges lie between 50 and 91.5 percent of the general charges levied by the respective operator. These varying reductions result from differences in the customers' network connections. Major criteria for delineation were the distance between the customer and the nearest base load power plant and the customer's integration into the network.

### Special anti-competitive proceedings

The Federal Network Agency made two decisions in special anti-competitive proceedings under section 31 of the Energy Act. In both decisions the issue at stake was whether a network user is entitled to the determination of an appropriate charge vis-à-vis the operator as set out in section 19 (3) of the Electricity Network Charges Ordinance because he exclusively uses all facilities in the network or substation level for his own purpose. In this case the Federal Network Agency has classified the busbar essentially as a regular exit point from the substation. When connecting facilities solely for own-purpose to the busbar, the charge to be applied must therefore always be the general charge for withdrawal at substation level rather than the charge for withdrawal at the downstream network level.

However a network user does not use all facilities used by him solely for his own purpose within the meaning of section 19 (3) sentence 1 of the Ordinance, if he relies on other facilities when even one of the used facilities fails. In case "n-1"[1] the busbar to which the network user is connected is no longer exclusively fed by the upstream substation but instead by the intermeshed 110-kV network of the neighbouring, not directly connected substation; this no longer constitutes a case as set out in section 19 (3) sentence 1 of the Electricity Network Charges Ordinance.

## SYSTEM CHARGES (GAS)

### Approval of general charges

Under section 23a (1) of the Energy Act the charges for access to the system require approval. Operators of gas supply networks had to submit a first application by 30 January 2006 (section 118 (1b) of the Energy Act).

At the end of January/beginning of February 2006 approximately 220 operators of gas supply networks had submitted applications for approval of access charges. Approximately 60 of these applications come under the direct responsibility of the Federal Network Agency, the others are approved through an official delegation of powers.

1 Failure of a facility needed for the supply of electricity

In this first round of approving access charges, which has to be conducted simultaneously for a large number of undertakings, the Federal Network Agency must concentrate on a few central areas for review when checking the cost estimates submitted by the applicants. Central areas for review are in particular differences between the budgeted amounts and the actual values, additional staff costs, the calculated evaluation of the fixed assets, network purchases, the expected return on equity and the imputed corporation tax.

As part of the ongoing approval of access charges, the Federal Network Agency requires the operators to notify the agency immediately – in the case of upstream operators using cost-oriented pricing immediately after availability of the first charges approved – of the take-off charges applicable to their network, including costs rolled over and/or charges rolled over and to lay open their calculations for the rolled-over costs/charges. In order to clarify issues in connection with rolling over and to achieve a standardised procedure, as far as possible, the Federal Network Agency will enter into a consultation process with the association.

By the end of 2006 the Federal Network Agency had approved the charges of a total of 45 applicants. Overall these operators hold a share of around 65 percent on the market that is represented by the gas supply network operators, which the Federal Network Agency has to review as part of the proceedings for approving charges. The charges approved take effect upon dispatch of the decisions and are valid until 31 March 2008.

### Notification pursuant to section 3 (3) of the Gas Network Charges Ordinance

"Operators of supraregional transmission systems can calculate their charges for use of the system in accordance with section 19 of the Gas Network Charges Ordinance if their transmission system is, for the most part, exposed to effective existing or potential pipeline competition" (section 3 (2) of the Gas Network Charges Ordinance). Operators of transmission systems must notify the Regulatory Authority immediately, as stipulated in section 3 (3) of the Ordinance, and demonstrate the existence of effective competition. At the beginning of 2006 13 undertakings had submitted notifications of calculating their charges in accordance with section 19 of the Ordinance.

In August 2006 the Federal Network Agency obliged one of these companies to submit to the Federal Network Agency an application for approval of their charges under section 23a of the Energy Act as this undertaking is not an operator of a supraregional gas transmission system. The decision was made in the context of anti-competitive proceedings under section 30 of the Energy Act. Mention of the other undertakings was by no means sufficient to reach a final conclusion as to whether the respective network is exposed to pipeline competition under section 3 (2) of the Gas Network Charges Ordinance. The notifying undertakings were therefore requested to fill in a comprehensive catalogue of questions regarding different aspects of section 3 (2) of the Ordinance. Furthermore the

Federal Network Agency has sent requests for information to over 50 network customers (gas traders, industrial customers, and municipal utilities) about their practical experience of competition at the supraregional transmission system level. At present the Federal Network Agency is analysing the information received, requesting further details where needed.

## BENCHMARKING

Under section 22 (1) of the Electricity Network Charges Ordinance and section 21 (1) of the Gas Network Charges Ordinance, the Federal Network Agency is entitled to conduct regular benchmarking exercises. The objective of benchmarking is to increase transparency and to provide an overview of the status quo at the beginning of energy regulation. The first request for data was issued on 1 November 2005. The operators were requested to transmit to the Federal Network Agency data relating to the last finished business year, which in most cases was 2004, or relating to 31 December 2004. Initially a large number of unsatisfactory and/or obviously incorrect data was received, so that the process of data consolidation and plausibility checking continued into April 2006.

For benchmarking under section 24 (1) of the Electricity Network Charges Ordinance and section 23 (1) of the Gas Network Charges Ordinance, a variety of structural classes were formed. The structural classes are based on the location (east vs. west) of the network and on high, medium and low consumption density. The number of structural classes and the critical delineation criteria are defined by the Electricity Network Charges Ordinance and the Gas Network Charges Ordinance. The allocation of an operator to a structural class only provides structural comparability in terms of consumption density and network location and does not present a final evaluation in terms of an individual “comparability”.

In order to determine the specific limits of structural classes, the Federal Network Agency has used a stochastic model based on the criterion of “consumption density”.

In order to assess the efficiency of network operations, the Federal Network Agency has used costs, in both the electricity and the gas sector, as the critical element for benchmarking. Furthermore the revenue from system charges and the charges themselves are guided by the network costs. In order to allow for a comparison of costs in terms of operators of different sizes, the costs were set in relation to the dimension of the network, as stipulated under Section 23 (1) no. 3 of the Electricity Network Charges Ordinance and section 21 (3 and 4) of the Energy Act in conjunction with section 22 no. 3 of the Gas Network Charges Ordinance. The costs were then compared on the basis of costs per km pipeline length for the entire gas network. For the electricity network the costs were set in relation to the length of the circuit and/or the power.

The costs of the gas supply network operators are based on parameters set out in the German Commercial Code for drawing up their activity reports (Energy Act, old version). Even if the relevant evaluation methods for

benchmarking are different to the current requirements of the Charges Ordinances, in the eyes of the Federal Network Agency they still allow for a current comparison of the network operators' cost relations among themselves. One can safely assume that the cost relations between the network operators will only show significant changes in individual cases if a different evaluation method is applied.

Due to the details of the regulations in sections 23 and 24 of the Electricity Network Charges Ordinance and sections 22 and 23 of the Gas Network Charges Ordinance, it was not possible to include any other cost drivers beyond consumption density in the results of the benchmarking. The network operators are therefore given the opportunity, even in the Energy Act, to rebut the assumption of inefficiency by claiming particular circumstances. As a result of the benchmarking, serious cost differences became apparent within one class of comparison. The bandwidth of costs within one structural class cannot be explained solely on the basis of structural particularities and therefore indicates potential inefficiencies in the network operations. However, despite extensive efforts and consultations with the operators it is impossible to guarantee that the data material used does not contain individual instances of flawed data not recognisable as such. The Federal Network Agency published the results of the benchmarking exercises for electricity and gas on 30 August 2006 in its Official Gazette No. 17/2006.

However, it must be established that the efficiency potential can at present not be fully revealed, considering the use of the rather simplistic benchmarking exercise stipulated by the issuer of the ordinance (the Federal Ministry of Economics) and the approval proceedings under section 23a of the Energy Act, which had to be dealt with under tight time constraints.

## INCENTIVE REGULATION

In June 2006 the Federal Network Agency, as tasked in section 112a (1) of the Energy Act, presented to the federal government a report on the introduction of incentive regulation pursuant to section 21a of the Act. This report sets out a concept for incentive regulation that is executable under the statutory provisions.

Based on this report the federal government is obliged to draw up a draft ordinance for incentive regulation (section 118 (5) of the Energy Act). The Federal Network Agency is responsible for implementing incentive regulation on the basis of this ordinance to be passed with the approval of the German Bundesrat (section 21a (6) of the Energy Act).

In the context of incentive regulation the prices and/or revenue of an undertaking are not strictly guided by its costs. Instead, inefficient undertakings are allowed lower returns while efficient undertakings are allowed higher returns. This provides an incentive for undertakings to increase their efficiency. The regulator sets a glide path for a certain regulatory period (usually two to five years), either for prices (Price Cap) or for revenues (Revenue Cap). This takes into account the inflation trends, the overall

productivity trend in that industry and company specific targets for increasing efficiency, which are dependent on existing efficiency levels. The relative efficiency of a system operator is measured by suitable benchmarking methods.

With reference to drawing up the report on incentive regulation, the Federal Network Agency initiated and organised an international scientific conference on the subject of "Incentive Regulation in the German Electricity and Gas Sector – Efficiency and Reliability to set the Yardstick", which took place in April 2006. At this conference representatives of international research institutes presented their proposals for the details of an incentive regulation system.

### Consultation process

When drawing up the report on incentive regulation, participation of the federal states and the economic circles affected was secured via a broad-based consultation process that went beyond just the agreement called for in section 112s (2) of the Energy Act. The monthly series of discussions and consultations, which had already begun in August of the previous year, was continued in 2006. Consultative documents were drawn up on the following issues and comments on the draft invited:

- Price Caps, Revenue Caps and hybrid approaches,
- General productivity trends in the sector, seen in the context of incentive regulation,
- Analysis of the cost drivers in the electricity and gas markets for identification of suitable benchmarking parameters from a technical and economic viewpoint,
- Concept of quality regulation.

The consultative documents and comments were taken into account when drawing up the draft report, which was published on the Federal Network Agency's website on 2 May 2006, comments were invited. After a thorough evaluation and analysis of the comments received and after finalising it, the report on the introduction of incentive regulation was provided to the federal government on 30 June 2006.

### Advisory reports and Advisory projects

Under the 2005/2006 research programme the Wissenschaftliche Institut für Infrastruktur und Kommunikationsdienste GmbH (WIK Consult) was commissioned with a number of advisory reports. In addition seven further reports and advisory projects were awarded and completed, which dealt with the international application of incentive regulation systems, a qualitative analysis of cost drivers, analytical cost models, methodical approaches of regulating quality, plausibility checks of data, efficiency comparisons and the consolidation of a database for a geographical information system (GIS).

In order to allow for a smooth start of incentive regulation, further advice will be needed, eg in terms of data definition, efficiency comparisons and the intended customer survey for evaluating the supply quality; relevant projects are planned.

### Data collection

Essential to the development of a concept of incentive regulation is a reliable data base. To minimise the need to collect data from the companies themselves, the use of further sources (eg state statistical and geological offices) is envisaged alongside the surveys themselves.

The data collected for the electricity and gas benchmarking exercise could also be used for the report on incentive regulation. Furthermore, additional data was requested as part of the data collection for benchmarking (electricity) – data which was required specifically for incentive regulation. For the gas sector a further collection of data was made in the context of a request for information under section 69 (1) in conjunction with section 112a (1) of the Energy Act. In this case additional structural data was collected – data on historical demand and supply volumes, the use of gas storage facilities, interruptions, leakages and the network structure as well as the upstream network. In addition those system operators, who set their charges on the basis of section 3 (2) of the Gas Network Charges Ordinance, were requested to provide information on their costs.

Incentive regulation will require a renewed data collection process. The work required for this process was begun in 2006 and tenders for the necessary advisory projects have been invited so that the data can be collected in the year 2007.

## UNBUNDLING

With a view to the completion of legal unbundling by 1 July 2007, the Federal Network Agency has, in close consultation with state regulatory authorities and the Federal Cartel Office, substantiated the authority's understanding of the statutory framework by publishing the “Auslegungsgrundsätze der Regulierungsbehörden zu den Entflechtungsbestimmungen nach §§ 6–10 EnWG” [Interpretation principles of the regulatory authorities for the unbundling provisions pursuant to sections 6–10 of the Energy Act]. Another so-called “Richtlinie zur Umsetzung der informatorischen Entflechtung nach § 9 EnWG” [Guidelines on the implementation of unbundling of the use of information pursuant to section 9 of the Energy Act] has been subject to consultations with the affected market players since November 2006. This is to counteract any uncertainty amongst small and medium-sized companies, all of whom are obliged to unbundle their use of information. It has helped to achieve the objective of the Federal Network Agency, ie to provide content for the legal framework before concrete regulatory measures are imposed, and to provide the industry with specific help for implementation.

The above-mentioned “Auslegungsgrundsätze” (interpretation principles) and “Richtlinien” (guidelines) were presented and discussed by a total of over 300 participants at two information events hosted by the Federal Network Agency in March and November 2006 for the compliance officers of undertakings.

The Federal Network Agency has received and viewed equal treatment programmes from all undertakings under its remit. As of 31 March 2006 all equal treatment reports had also been received, as required by law. In three cases preliminary proceedings were initiated on the grounds of insufficient implementation of the statutory provisions.

The Federal Network Agency has also followed the European debate on the approach of firming up the regulation of the existing legal framework. As part of the CEER working group "Competition and Unbundling Task Force" (CUB TF – Competition and Unbundling), Germany contributed significantly to a European best practice guideline for the implementation of operational unbundling and unbundling of the use of information. The CEER "Guidelines of Good Practice on Accounting Unbundling", drawn up in the year 2005, were also subject to public consultation by the ERGEG (see page 47).

## QUALITY OF SUPPLY

Based on section 52 of the Energy Act, the year 2006 saw the first collection of data on interruptions of supply. Energy supply system operators are obliged to present to the Agency by 30 June of each year a report on all such interruptions in the previous year. In March 2006 the Federal Network Agency drew up clear and specific requirements for the form and content of electronic data to be reported. For reports relating to the gas industry, work on drawing up such requirements is currently under way. The data submitted to the Federal Network Agency in 2006 is not yet sufficient to allow for general statements on the frequency and extent of interruptions of supply, since the quality of the available data varies greatly. Only in future will the Federal Network Agency have comparable data that will allow for a reliable indication of interruptions of supply in Germany.

In 2006 the Federal Network Agency had to deal with two interruptions of supply that had supra-regional effects. In and around Münster, electricity pylons fell over on 25 November 2005, resulting in a power cut that lasted several days. The Federal Network Agency investigated this case thoroughly and presented its findings in a final report in June 2006. According to that report, extreme weather had caused a greater strain on the pylons than anticipated in the erection standard. Upon investigation the pylons themselves showed no signs of insufficient repairs or maintenance. However, the Federal Network Agency finds that the security of supply might be impaired by electricity pylons made from Bessemer steel and therefore considers their reconstruction necessary within the context of economically feasible programmes.

On 4 November 2006 there was a power cut across Europe, which originated in the Emsland region. E.ON Netz had switched off a very high voltage line due to the planned transportation of a ship. In this case, too, the Federal Network Agency initiated investigations into the causes of the failure. Upon completion of its investigation the Federal Network Agency will inform the public about its results. The

Federal Network Agency is also involved in investigations of this incident at European level.

## LAW ON RENEWABLE ENERGIES

On 1 December 2006 the amended Law on Renewable Energies (EEG) entered into force. For the first time the Federal Network Agency now has powers of implementation.

According to section 19a (1) no. 1–3 of the Law on Renewable Energies it is the responsibility of the Federal Network Agency to monitor that

- the electricity supply companies only receive remunerations pursuant to section 5 (2) of the Law, minus the network charges that were avoided,
- system operators and electricity supply companies fulfil the publication requirements and their obligation to transmit data to the Federal Network Agency,
- third parties are only informed of the actual differential costs.

The objective of the amended Law on Renewable Energies is, inter alia, to create more transparency in the balance of electricity volume and remuneration across Germany. In addition the level of apportionment to renewable energies (EEG), which the electricity supply companies usually pass on to the end user, is to be made transparent.

In order to prepare for this new area of responsibility, the Federal Network Agency has drawn up initial concepts for implementing the law.

## COOPERATION WITH THE STATE REGULATORY AUTHORITIES

Regulation of the energy networks (gas and electricity) in the Federal Republic of Germany is included in the remit of the Federal Network Agency and/or the respective state regulatory authority, depending on the number of customers and the supply area of the operator. The Federal Network Agency is responsible for operators with more than 100,000 customers and/or a distribution network operating across the borders of one federal state. Where these criteria are not met, the operators are generally 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. Intense information processes and work meetings ensure that the state regulatory authorities are able to fulfil their monitoring duties and are extensively informed of all decisions the Federal Network Agency makes as part of the powers delegated to it.

The committee of federal state representatives, set up at the Agency under section 60a of the Energy Act, is tasked with ensuring unified and standardised regulation processes and proceedings across Germany. In the year 2006 this panel convened for a total of eight meetings, exceeding the legally stipulated minimum of two meetings. Issues addressed were both matters of the current proceedings for approving

charges as well as concepts for incentive regulation. To complement the meetings by the committee of federal state representatives there is a continuous and intense contact at working level, which is supported by working groups on issues such as network charges, unbundling and incentive regulation. Furthermore the Federal Network Agency and the state regulatory authorities regularly exchange information on pending proceedings of both the state regulatory authorities and the Federal Network Agency.

## COOPERATION WITH THE FEDERAL CARTEL OFFICE

The Federal Network Agency works very closely with the Federal Cartel Office in all areas of energy regulation. In accordance with statutory provisions set out in section 58 (1) of the Energy Act there is a steady mutual exchange of information and consultation processes regarding pending proceedings; where intended by the legislator, agreement is brought about. According to section 58 (3) of the Energy Act both organisations work towards a consistent interpretation of the Energy Act to preserve the context of the Competition Act. The national contribution to the EU benchmarking report, which the Federal Networking Agency must draw up annually until the year 2009 and thereafter every two years for presentation to the European Commission, was discussed and agreed with the Federal Cartel Office as required by the Energy Act.

# Court proceedings

As part of the introduction of energy regulation and the Federal Network Agency's adoption of new responsibilities, a large number of determinations and provisions are reviewed by courts. The Federal Network Agency hopes to be able to efficiently process the number of cases by concentrating on precursory proceedings.

In 2006 several hundred main and summary proceedings were opened against the Federal Network Agency before the higher regional court Düsseldorf. Despite published assurances of equal treatment, there was a tendency toward mass proceedings in these cases, where individual law practices represented a large number of appellants. In light of its experiences which show that only one or a few proceedings were actively pursued in these mass proceedings, the Federal Network Agency is hoping to be able to concentrate on precursory proceedings next year in order to minimise the number and costs of proceedings in the interest of all parties involved.

The following proceedings before the higher regional court (OLG) Düsseldorf are of particular interest.

On 28 June 2006 the OLG Düsseldorf confirmed in all eight main proceedings regarding a request for information for the report on incentive regulation (gas) that this request for information was lawful under sections 69 and 112a of the Energy Act, thereby confirming the previous ten summary decisions. An appeal had been lodged by several gas network operators who had considered such a request incompatible with possible pipeline competition. In their opinion supraregional transmission system operators that are not subject to cost-oriented pricing (section 3 (2) of the Gas Network Charges Ordinance) would then also be obliged to provide information, in line with the court ruling.

In the opinion of the higher regional court the Federal Network Agency's request for information is only limited by its objective. The objective under consideration is the creation of a report that provides the basis for an effective concept of incentive regulation, for which a broad data base is needed.

In this respect the Federal Network Agency was to be allowed discretion in terms of planning and evaluation. The duty of disclosure set out in section 69 (1) sentence 1 no. 2 of the Energy Act also encompasses, as ruled by the 3rd senate, information and documents of affiliated undertakings, where an undertaking is in possession of the requested information or able to obtain these on the basis of existing legal connections. Under section 86 of the Energy Act four system operators have appealed to the Federal Supreme Court against this decision of the higher regional court.

In the only court ruling to date on the Federal Network Agency's approval of network charges for the electricity sector, the higher regional court Düsseldorf on 21 July 2006 largely rejected the summary application of a transmission system operator against the Agency's approval of network charges. With this decision the court has confirmed the approval proceedings of the Federal Network Agency for the time being. The higher regional court explicitly pointed out that it is not sufficient to attack individual or several cost items of the complex calculation of charges. Instead the applicant must demonstrate the overall likelihood that the access charges approved to date are ultimately to be raised in his favour, taking into account the balance of all relevant cost and revenue items. The only aspect, in which the arguments of the Federal Network Agency were not confirmed, is the obligation to compute and take into account as a cost-reducing factor additional revenue from the past for the next calculation period. In this matter the higher regional court Stuttgart has in the meantime reached a different decision. A decision of the higher regional court Düsseldorf in the main matter is still pending.

Overall there has been a total of 16 complaints to date regarding the approval of network charges; nine in the electricity sector and seven in the gas sector, which have not yet been substantiated, though.

With regard to the approval of individual network charges for electricity (section 19 (2) of the Electricity Network Charges Ordinance), two appeals to the higher regional court were withdrawn, one of those after an oral hearing and upon recommendation by the court. Two further appeals are likely to go to an oral hearing in spring 2007.

In one case an application has been made for temporary relief from a determination by the Federal Network Agency on business proceedings and data formats for the electricity sector. Furthermore, a number of mainly small municipal utilities have appealed against the ruling in the main proceedings.

One final issue worth mentioning is that of invitations to attend proceedings of the ruling chambers. The higher regional court Düsseldorf always assesses the specific, individual case but will allow the Federal Network Agency at its discretion to influence the proceedings in a steering capacity where possible.

# Railway

# Market watch

Greater importance has been attached to market observation since the General Railway Act (Allgemeine Eisenbahngesetz) was amended. It provides an overview of the general situation prevailing in the market.

## MARKET STRUCTURE

Public railway undertakings, public railway infrastructure companies and other parties with the right of access are subject to regulation in the field of the railway transport market.

Under the old legal situation, it was up to all public railway infrastructure companies to decide themselves whether their railway infrastructure could be used by all railway undertakings in accordance with the rules with regard to purpose. With the Third Act Amending Railway Regulations of 27 April 2005, the legislator abolished this self-determination right. The rules with regard to purpose of "under public law" subsequently came under the definition of access rights within the meaning of section 14 of the General Railway Act. Public railway infrastructure companies were unable to bring their influence to bear on the matter in any way. The term "public railway transport" is defined in the General Railway Act. It states that railways are used for the purposes of public transport (public railways) if they are run as railway undertakings commercially or as a business and if they can be used by anyone for the purposes of transporting persons or goods, if they are obliged to grant access to their railway infrastructure as public railway infrastructure or if they are obliged to grant access to their railroads as railway infrastructure operators.

As a result of this amendment, a large number of railway infrastructure companies which were previously not deemed public railway infrastructure companies automatically became public railway infrastructure companies. This also goes hand in hand with the obligation to provide information pursuant to the German Railways Act which in turn means they are obliged to report to the Federal Network Agency. The Federal Network Agency estimates, taking account of the new legal situation, that there are approximately 330 railway

undertakings and 760 public railway infrastructure companies.

## MARKET OBSERVATION

Each year, the Federal Network Agency draws up a report on its activities and on the situation and developments in the field of railway regulation in accordance with the German Railways Act. This market observation represents a suitable tool for obtaining the latest, comprehensive information on the railway transport market and for assessing the situation and how competition is progressing.

There had been no suitable database available prior to this. This is why it was indispensable to gather primary data in a survey that covered all market players in the railway transport market.

In order to carry out the survey as swiftly as possible, the associations of the railway transport market were invited to attend an information event at the Federal Network Agency before the questionnaire was sent out in order to mobilise the necessary support for the project.

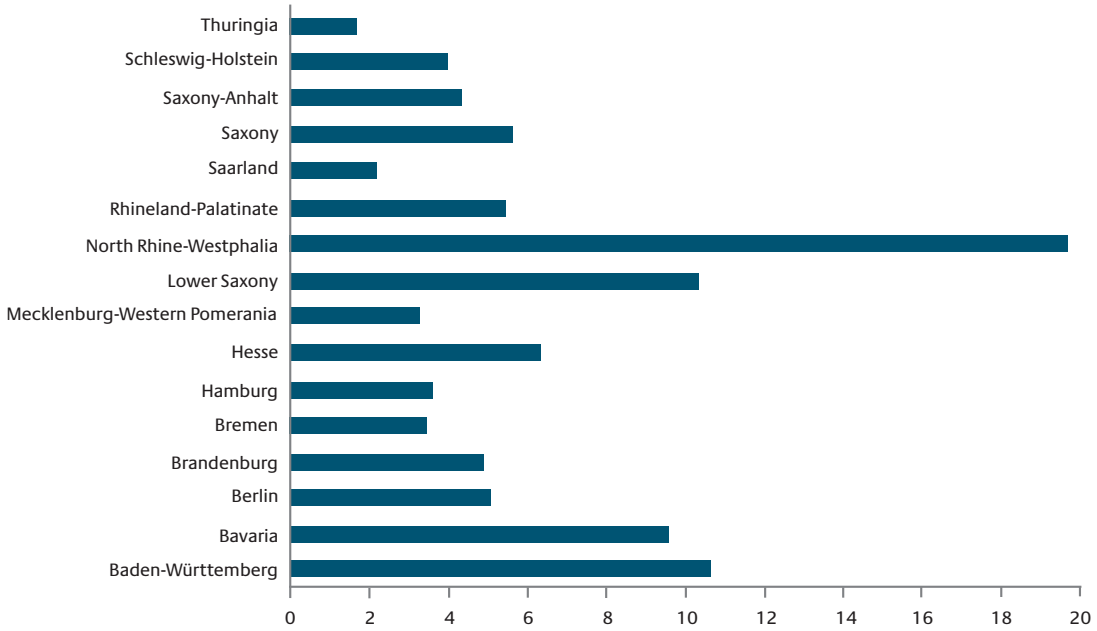
The companies had until 19 July 2006 to supply company-specific, comprehensive data. The questions related, inter alia, to operational and technical equipment and facilities, security technology available, transport services, service facilities, revenue and concessions granted. As the volume of data supplied was not always sufficient, the Federal Network Agency had to request explanations for and verify the data. This meant the survey dragged on until December 2006. The survey itself generated a huge need for information at the railway undertakings concerned. Many of them only discovered after receiving the questionnaire that because of the changed legal situation following the amendment to the General Railway Act they are actually obliged to give access to their infrastructure and that they hence belong to the companies that are subject to regulation.

## RESULTS

The first survey of data relating to the railway transport market conducted by the Federal Network Agency was a full survey. It was the first one of its kind to be carried out as it did not provide any ceilings, such as threshold values for ton kilometres. This survey not only covered state-owned railway undertakings and infrastructure companies but also non-state-owned railway undertakings and infrastructure companies.

The data gathered in 2006 provides the basis for subsequent annual surveys on the railway transport market. As this was the first time the survey was carried out, it will only be possible to make forecasts and to identify trends in the years to come. The evaluation of the data provides an initial overview of the situation in the railway market.

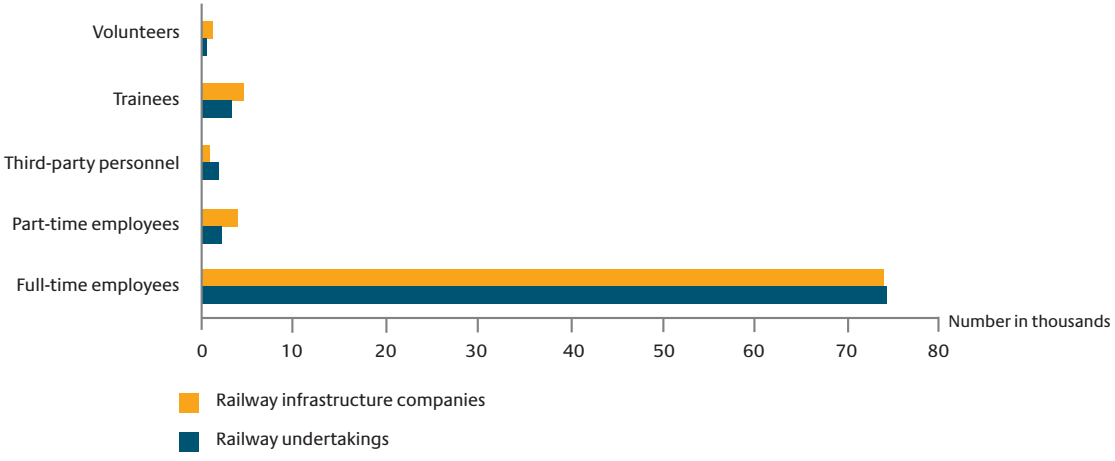
## Breakdown of railway undertakings by Federal Länder in percent 2005




Source: Federal Network Agency

When railway undertakings are allocated to the respective Federal Länder, it becomes apparent that the Federal Land of North Rhine-Westphalia has a particularly high number of companies (cf diagram). This can be attributed to the intermodal transhipment points on the one hand, for instance, the relatively high number of domestic ports, and to the large infrastructure density in this region on the other. The large Federal Länder of Bavaria, Baden-Württemberg and Lower Saxony have an above average share of ca. 10 percent respectively and are thus the three Federal Länder with the highest number of railway undertakings. Thuringia has the lowest

## Employees per category and type of company 2005



number of railway undertakings, accounting for just 1.6 percent.

The staff in both types of companies (public railway undertakings, public railway infrastructure companies) show hardly any difference in terms of distribution. The vast majority are full-time employees whose jobs are permanent. The percentage of volunteers is relatively small, accounting for just 0.76 percent of all employees. Whereas in Germany, approx. 17 percent of all employees liable to pay social security contributions work part-time, the share of part-time employees in the railway market is just around 4 percent.

Compared to the largest rival modes of transport, namely road transport, one third of the goods transported by lorry are transported by rail. This volume of goods is transported by rail using 164,138 freight cars as opposed to 2 1/2 million lorries. The infrastructure available for this accounts for around 38,000 km in respect of the railway network and around 231,000 km in respect of public roads (not including rural roads).

# Regulatory decisions and procedures

The key task of the Federal Network Agency in the field of railways is to regulate access to railroad and service facilities. To this end, the companies are obliged to draw up terms of use that are subject to ex post and ex ante controls by the Federal Network Agency – which also has monitoring duties in individual cases.

## EXAMINING THE RAILWAY NETWORK-TERMS OF USE AND TERMS OF USE FOR SERVICE FACILITIES

Railway undertakings are obliged under the Ordinance on the Use of the Rail Infrastructure (Eisenbahninfrastruktur-Benutzungsverordnung) (EIBV) to draw up terms of use for railroad networks and to publish them. Public railway infrastructure companies that operate service facilities within the meaning of the German Railways Act are also obliged to draw up terms of use for railroad networks under the Ordinance on the Use of the Rail Infrastructure. The Federal Network Agency may request that the terms of use be amended before they are published if they do not comply with statutory regulations.

In addition to being obliged to publish their terms of use for railroad networks, public railway infrastructure companies are also obliged to notify the Federal Network Agency of any intended revision or amendments to the terms of use for service facilities. The legislator has bestowed comprehensive inspection rights upon the Federal Network Agency. Under the German Railways Act, the Federal Network Agency is entitled to object to the intended revision or amendments to the terms of use for service facilities within four weeks. The terms of use do not enter into force until this four-week period has elapsed. It is also possible for the regulatory authority to examine the terms of use retrospectively.

The public railway infrastructure companies licensed in Germany are not just

limited to the companies belonging to the Deutsche Bahn AG (DBAG) group. In fact there are a large number of non-state-owned public railway infrastructure companies, including more than 130 public ports that have railway platforms. The obligation to draw up terms of use also applies to these companies. Within the framework of symmetrical regulation, the Federal Network Agency is entitled to examine the terms of use of all public railway infrastructure companies. Priorities arise, for instance, from the number of users. The Federal Network Agency also takes action if parties with a right of access express the notion that the terms of use include some discriminatory elements or do not contain all the necessary information.

## DEUTSCHE BAHN AG

In the first quarter of 2006, the Federal Network Agency completed its first preliminary examination of the terms of use of railroad networks and the terms of use of service facilities belonging to the infrastructure companies of DBAG. After the Federal Network Agency supplied DB Netz AG, DB Station&Service AG and DB Energie GmbH with comprehensive amendments to the intended revised general contract conditions, the Federal Network Agency had to take a decision on the objections filed. These procedures were supposed to be completed by 10 April 2006, the date when by law the general contract conditions were to enter into force.

The aim of the Federal Network Agency was to achieve the greatest possible conformity between the general contract conditions and regulations set forth in the German Railways Act on the one hand and to ensure they entered into force on the prescribed deadline in order to offer the market players the best possible legal security in registering train paths and ordering services on the other. During exploratory talks with the infrastructure companies of DBAG, the Federal Network Agency managed o push through comprehensive amendments to the general contract conditions. As a result of the discussions, the infrastructure companies of DBAG submitted versions that had been amended accordingly. The Federal Network Agency notified the market players of the results of the exploratory talks on 1 March 2006. This public information event was received very well by the market players.

With the decisions taken on 10 March 2006, DB Netz AG and DB Station&Service AG were instructed to apply the same terms of use of railroad networks and the terms of use for service facilities to all parties with the right of access as those set forth in the revised version submitted to the Federal Network Agency. These decisions ensured that the infrastructure companies of DBAG would be applying valid terms of use from 10 April 2006 onwards for the railway schedule period beginning on 10 December 2006. The obligation was limited for a one-year period in order to enable the market players and the Federal Network Agency to take any experienced gained in the meantime into account.

The new versions of the terms of use that entered into force on 10 April 2006 greatly enhanced the general contract conditions

compared to the versions previously submitted. The amendments made by DB Netz AG and DB Station&Service AG during the exploration talks will help to safeguard and guarantee effective, undistorted competition between railway undertakings.

## HAMBURG PORT AUTHORITY

In the notification of 22 September 2006, the Federal Network Agency objected to the terms of use for service facilities issued by Hamburg Port Authority (HPA). HPA operates the railway infrastructure in Germany's most important sea port. This fulfils a particularly important function for the arrival and departure of transhipped goods. The terms of use are broken down into one general part and one special part, as shown in the draft terms of use issued by the Verband deutscher Verkehrsunternehmen (VDV) (Association of German Transport Undertakings), both of which contain potentially discriminatory elements. Among other things, the Federal Network Agency objected to the software relevant for network access, the Hafenbahn-Betriebs- und Informationssystem (HABIS) (Port Railway Operation and Information System in Hamburg). This resulted in two independent proceedings being instituted by the Federal Network Agency.

The Federal Network Agency instituted network access proceedings in relation to the use of HABIS by Hamburg Port Authority. The reason why the aforementioned proceedings were instituted was, by and large, the fact that the data required to implement freight train transport at the sea port in Hamburg, some of which contained business secrets, was currently being entered into the HABIS programme by staff of Railion Deutschland AG. The railway undertakings which filed complaints considered this to be an act of discrimination on the part of Hamburg Port Authority, as it disclosed business secrets to one of their competitors in rail freight transport. Hamburg Port Authority accepted the need to adapt the software in order to meet the requirement of granting non-discriminatory access to its infrastructure. It is currently revising the HABIS system and will implement relevant adjustments gradually throughout the course of 2007.

In addition, proceedings were instituted in relation to the introduction of the HABIS Customs software. This was prompted by complaints filed by parties with the right of access who thought that the compulsory use of HABIS Customs represented discrimination. Hamburg Port Authority introduced HABIS Customs mainly at the instigation of the revenue and customs authorities in Hamburg. The Federal Network Agency was unable to establish that the introduction of HABIS constituted a violation of substantive law.

In view of the two aforementioned facts, the regulations governing non-discriminatory network access were violated as the mandatory use of HABIS had not been incorporated into the terms of use for service facilities issued by Hamburg Port Authority. For this reason, the Federal Network Agency instituted further proceedings within the framework of which objection was raised against Hamburg Port Authority's failure to incorporate the man-

datory use of HABIS into the terms of use for service facilities and a schedule was fixed for the implementation of adjustments in the HABIS system. After the HABIS software has been adapted, parties with the right of access will be able to enter their data into HABIS direct which means there will be no need for Railion Deutschland AG to enter the data.

In the notification issued on 29 November 2006, the Federal Network Agency therefore instructed HPA to adhere to this strict schedule in adapting the HABIS software programme. By obliging HPA to adhere to this schedule, it has ensured that situations relevant in terms of discrimination can be steered clear of at short notice. If HPA does not act upon the Federal Network Agency's instructions, this would lead to further sanctions being imposed and to the clause in the terms of use which states that the use of HABIS is mandatory for access to the railway infrastructure being declared null and void retroactively and to the current version of the software programme being banned from use.

## HÄFEN UND GÜTERVERKEHR KÖLN AG

The terms of use of Häfen- und Güterverkehr Köln AG (HGK) were also carefully examined by the Federal Network Agency as this is an extremely important railway undertaking. The company runs both railway routes and service facilities and is hence obliged to draw up terms of use for railroad networks and terms of use for service facilities. Both sets of rules were submitted to the Federal Network Agency in February 2006 in the revised version. Not all terms met the statutory requirements.

Several informative exploratory talks were held between HGK and the Federal Network Agency that were aimed at finding a solution which was agreeable to both parties. The most important topics of discussion were, inter alia, the description of the infrastructure, the availability of the valid operational regulations, provision of information on locations and routes, coordinating construction measures with parties with the right of access and the use of control, safety and communications systems. Furthermore, the Federal Network Agency advocated that the transparency of pricing principles and the directory of railway charges be enhanced. The cooperation between both sides led to a revised version of the terms of use being published in the fourth quarter of 2006, containing transparent content that is geared to promote competition. The new terms of use for railroad networks and the terms of use for service facilities including the directory of railway charges entered into force following approval by the Federal Network Agency with notification of 4 December 2006 and came into effect on 10 December 2006.

## DB STATION&SERVICE AG AND DB NETZ AG

Furthermore, the Federal Network Agency adopted three decisions as part of the preliminary examination conducted in November 2006.

In its notification of 17 November 2006, the Federal Network Agency objected to parts

of the intended new version of the terms of use for the passenger railway stations of DB Station&Service AG. In several notifications dated 20 November 2006, it objected to numerous clauses in the intended new version of the terms of use for railroad networks and the terms of use for service facilities of DB Netz AG. The preliminary examination conducted by the Federal Network Agency revealed that numerous provisions of the intended revised version were not compatible with statutory provisions. The objections related, inter alia, to claims to damages being ruled out completely if use of the facilities was impaired as a result of construction or maintenance measures and to regulations giving DB Netz AG the right to change the contractually agreed condition of the infrastructure during the year even for reasons that could be avoided in terms of security without having to face any sanctions. The Federal Network Agency also objected to the fact that freight transport was ruled out fully on selected newly constructed routes. In respect of the infrastructure description presented by DB Netz AG, the Federal Network Agency managed to establish that major progress had been made vis-à-vis the previous year. Nonetheless, it instructed DB Netz AG to implement further concrete measures to promote competition. The Federal Network Agency also instructed the infrastructure companies belonging to the DBAG group to design and evolve the incentive system prescribed by law aimed at optimising performance and reducing disruption to the railway infrastructure, making it more customer-oriented.

The Federal Network Agency obliged DB Station&Service AG and DB Netz AG to adapt the clauses it raised objections against before 10 December 2006 so that the legally compliant new version could enter into force on 10 April 2007, the legally prescribed date. The decisions had been preceded by extensive hearings of the parties.

In all three proceedings, the Federal Network Agency announced that the system of charges would undergo a thorough legal examination. Before this examination is conducted, the Federal Network Agency will, however, await the results of a thorough legal and regulatory economics report. The Federal Network Agency has commissioned a consortium of experts under Professor Dr. jur. Jürgen Kühling (University of Karlsruhe) to examine and set valid, statutory standard charges. The expert report is to be published in late January 2007.

### RAILWAY LOADING AREAS: SERVICE FACILITIES

In a number of similar adversary proceedings on network access, the Federal Network Agency examined complaints filed about access to railway loading areas/loading ramps and the charges levied for usage of these facilities. Railway loading areas are used to tranship cargo from road to rail and vice versa. They are hence covered by the term “goods terminals” within the meaning of section 2 subsection 3c no. 3 of the German Railways Act. The loading areas on which these proceedings were based were operated by a number of divisions within the DBAG group. However, in

the cases involving DB Services Immobilien GmbH and aurelis Real Estate GmbH & Co. KG, no terms of use for service facilities prescribed by law were drawn up or published. The Federal Network Agency managed to ensure that DB Netz AG was the only company within the DB group to operate the railway loading areas/loading ramps from mid-2006 onwards. This created a more transparent access system to these service facilities for parties with a right of access. The Federal Network Agency also expressed legal doubts about the current method used to calculate charges levied for use of the railway loading areas which are based on the respective standard ground values and objected to this within the framework of the examination of DB Netz AG's terms of use.

The charges levied may be subject to more extensive examinations in additional proceedings. In a similar vein, the Federal Network Agency examined the terms of use of other public railway infrastructure companies. It plans to step up its endeavours in this field in future and will take the concerns of all market players into account within the framework of railway regulations.

Certain content and regulatory issues relating to terms of use will be subject to further and ongoing observation and, if necessary, examination by the Federal Network Agency. This refers in particular to the principles governing the charges levied, the rules for allocating capacity and the compatibility with statutory priority regulations, the general agreements and the description and information about the railway infrastructure available to parties with the right of access. In order to safeguard the necessary transparency, the Federal Network Agency has notified the railway infrastructure companies and the other market players that they will be subject to ongoing monitoring and examinations.

The Federal Network Agency is also involved in talks with the Verband deutscher Verkehrsunternehmen (VDV) (Association of German Transport Undertakings) about its recommendations on "Terms of Use for Service Facilities – General Part", which were sent to all companies that are members of the Association to help them to implement the new statutory provisions set forth in the German Railways Act and the Ordinance on the Use of the Rail Infrastructure (Eisenbahninfrastruktur-Benutzungsverordnung) (EIBV). This is the very first time these non-binding recommendations by the Association have been drawn up in consultation with the parties with the right of access and with the regulatory authority. In further exploratory talks, the Federal Network Agency's newly gained experience and the current market requirements are to be incorporated into the present recommendations. The talks are likely to end in early March 2007. The amended version of the recommendation is to be subsequently published.

## INTRODUCTION OF GSM-R

The conversion of lines from analogue to digital train radio, GSM-R, by DB Netz AG, which began in 2004 on the first section (basic package) of the entire rail network, comprising a total of some 24,500 km, was

still underway in 2006. GSM-R will also be put into service on additional sections. It will come on stream on a gradual basis on entire routes or on individual sections. The review carried out by the Federal Network Agency, which is monitoring the introduction of GSM-R in the area of railway regulation, is mainly focused on whether DB Netz AG is adhering to deadlines that were agreed in respect of the notification of commissioning dates to parties with the right of access. Compliance with notification deadlines is relevant to access because from the time the system goes into operation trains run by the railway undertakings have to be equipped with GSM-R train radio systems on these routes.

## ACCESS FOR PASSENGER TRAINS WITHOUT ADEQUATE SAFETY EQUIPMENT

A number of railway undertakings have applied for access to railway routes for passenger trains that definitely do not meet the relevant legal requirements in respect of safety equipment. There have been differences of opinion between the railway undertakings and the railway infrastructure companies involved about fundamental compensatory measures which are intended to compensate for this lack of equipment and need to be designated by the Federal Railway Authority as the prerequisite for a possible special permit, as well as about the procedure that needs to be adhered to in respect thereof.

The Federal Network Agency has stressed the existing fundamental entitlement to network access for passenger trains, also in respect of such routes. The interest that all of the railway undertakings involved have in implementing this legal entitlement has led to clarification involving the Federal Network Agency and Federal Railway Authority insofar as applications for the granting of a special permit upon which a decision can be taken have been submitted to the Federal Railway Authority. If the decisions are positive, passenger trains will be able to travel on the routes as long as the stipulated compensatory safety measures are complied with.

# Court proceedings

The Federal Network Agency looks back on positive initial main and fast-track administrative court proceedings.

## DEUTSCHE BAHN AG

The fast-track proceedings instituted by DB Netz AG, DB Station & Service AG and DB Energie GmbH against the Federal Network Agency in respect of the extensive objections to the envisaged new 2006/07 versions of the terms of use for railroad networks and the terms of use for railway infrastructure were won by the Federal Network Agency before the Administrative Court of Cologne. After DBAG's infrastructure companies had first lodged an appeal with the Higher Administrative Court of Münster, they withdrew their applications before the court had even handed down a decision.

In other proceedings, the Higher Administrative Court of Münster, in fast-track proceedings, quashed a decision which had been handed down by the Administrative Court of Cologne. The Administrative Court of Cologne had confirmed a decision handed down by the Federal Network Agency requiring a railway infrastructure operator not to refuse a railway undertaking access to the railway infrastructure with reference to outstanding claims for payment that were the subject of dispute between the parties. In the Federal Network Agency's view, the legitimate interests of an infrastructure operator are adequately protected by the statutory right to demand that security deposits be provided. The Higher Administrative Court of Münster made a judgment on this question that was still based on the legal situation prior to the entry into force of the new regulatory provisions of the Third Act amending Railway Regulations and arrived at the view that exercising the right to refuse to provide a service did not breach statutory regulations even where there were disputed claims.

## ROUTES FOR OCCASIONAL SERVICES

In its ruling of 20 October 2006, the Administrative Court of Cologne found that DB Netz AG must desist from levying a ten-percent surcharge for special routes. DB Netz

AG bases the price it charges its customers for the use of infrastructure services on the so-called modular route price system (Trassenpreissystem (TPS)). Ever since the timetable change on 12 December 2004, it had been levying a surcharge equal to ten percent of the basic price for processing orders for the use of routes for occasional services, so-called "special routes", which are not registered for the annual timetable and are used at most thirty times during the timetable year. A large number of railway undertakings felt that this arrangement discriminated against them.

At the end of proceedings which had been instituted as a result, DB Netz AG was instructed to desist from levying these special surcharges. DB Netz AG brought an action against this decision before the Administrative Court of Cologne. The court followed the legal view of the Federal Network Agency, which held that levying the "special surcharge" constitutes unlawful discrimination against the railway undertakings affected by the surcharge, which restricts competition. Accordingly, it found that the instruction to desist was lawful. No appeal was possible; whether DB Netz AG will apply for leave to appeal remains to be seen. Even before the court had made its ruling, DB Netz AG announced that it would in future no longer be levying the disputed "special surcharge".

# Agency's functions, structure and core tasks

## Functions and structure

The Federal Network Agency was set up on 1 January 1998 as the – now defunct – Regulatory Authority for Telecommunications and Posts (RegTP) and established 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 Posts and Telecommunications (BMPT) and the Federal Office for Posts and Telecommunications (BAPT). While taking over the functions flowing from the new Energy Act, which came into force on 13 July 2005, the name RegTP was changed to Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (Federal Network Agency).

First and foremost, the Agency's remit is, through regulation, to promote competition in the telecoms, postal and energy markets, to ensure the provision of appropriate and adequate services across the country, to guarantee non-discriminatory network access, to provide frequency regulation arrangements and numbering regulations. These responsibilities are detailed in the Telecommunications Act (TKG), the Postal Act (PostG) and the Energy Act (EnWG), and are regulated additionally in ordinances and other implementing provisions. Since 1 January 2006 the Agency has also performed the new function of supervising compliance with the legislation on access to rail infrastructure under the General Railway Act (AEG).

Further tasks of the Federal Network Agency flow from various other special laws such as the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG), the Amateur Radio Act (AFuG) and the Electromagnetic Compatibility 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.

Its task-oriented organisation, enabling the Agency to deal with these tasks efficiently, is described in the following:

In the telecoms sector the Ruling Chambers deal with ex ante and ex post rates regulation, the control of anti-competitive practices and special network access, including interconnections. In the postal sector the activities of the Ruling Chamber also focus 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. The newly established Ruling Chambers for electricity and gas markets are responsible for all decisions which the Federal Network Agency is obliged to take in the energy sector under the EnWG and the ordinances having the force of law and implementing the EnWG, including the review of system charges. The President's Chamber decides in particular on award procedures for scarce frequencies and requires companies to provide universal services.

The departments perform specialised and central administrative functions which, among other issues, include economic and legal regulation policies in telecoms and post and technical aspects of frequencies, standardisation and numbering. The Federal Network Agency cooperates in international bodies drafting standards for the development of new network generations and radio systems. One of the departments' major functions is to give Ruling Chambers expert assistance in the process of taking decisions.

Combating abuse of premium rate services continues to be a great challenge. Another function refers to the database of sites of transmitters operated at a specific power. Of particular importance as direct services provided to the citizens are the dispute resolution procedure under section 35 of the Telecommunications Customer Protection Ordinance (TKV) and section 10 of the Postal Services Ordinance (PDLV), and customer protection.

The amended EnWG provides for the establishment of a regulatory authority to deal with the regulation of electricity and gas markets. The Agency's legal function under the EnWG is to create, through unbundling and regulation of the network, the basis for efficient competition in the upstream and downstream markets for electricity and gas. The aim is to secure non-discriminatory network access and to monitor the system charges levied by the

companies. The Federal Network Agency can draw on its experience of regulating telecoms and postal markets to achieve lean and practicable regulatory practices.

On 1 January 2006 the Federal Network Agency also assumed responsibility for monitoring compliance with the legislation on access to rail infrastructure.

The rail regulator's powers were widened considerably during the legislative passage. Regulatory activity was extended to cover all railway companies, and competitors were given greater rights of access to all the service facilities. Preventative regulation is now also in place besides "repressive" regulation, under tight time limits. This extension of tasks applies to access, the level and structure of infrastructure and other charges included, so that questions of price regulation have become prominent.

With the entry into force of the First Act amending the Renewable Energy Sources Act (EEG) on 1 December 2006, the Federal Network Agency assumed implementing functions for the first time. The aim of the amended EEG is to make the level of the EEG contribution to the costs of generation of renewable energies, which energy suppliers usually pass on to electricity users, more transparent. The Federal Network Agency has thus also assumed responsibility for protecting consumers.

To put more emphasis on the uniform structure of the Federal Network Agency, a special department has been set up to assist in and coordinate the work of the regional offices which keep contact with consumers and the industry throughout the country.

The regional offices are mainly responsible for technical matters. They provide advice, for instance, on compliance with the TKG, on electromagnetic compatibility provisions (EMV) and the electromagnetic compatibility of apparatus (EMVG). They are also responsible for frequency assignment, eg for mobile radio and PMR systems. Another important area is 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. The regional offices' responsibilities also cover monitoring compliance with the terms and conditions of licences, eg postal licences. As a result of certain tasks (such as the processing of medical allowances for all the staff, call centres) being transferred to the regional offices, the headquarters can focus on its core tasks and local staff of the regional offices are meaningfully employed.

### Human resources

A modern staff management system is a top priority at the Agency. In times when there are more and more constraints on staffing levels, it is of utmost importance both to deploy staff optimally and to recruit new qualified staff.

The Federal Network Agency has succeeded in recruiting excellent staff from a group of several thousands of candidates at all levels in the new energy and railway regulation areas. In selecting staff, the Agency focused not only on excellent

expert knowledge, but also on the ability to structure, within teams, new complex tasks, which are not or were not defined in their entirety, and to tackle such tasks with competence, giving due regard to the practical requirements of the markets and their mechanisms. The staff recruited for other functions within the framework of budget legislation had to meet the same conditions.

The Agency employs a total of some 2,400 specialists from a wide range of backgrounds for its highly inter-disciplinary fields of activities. These include law, economics, all fields of engineering, mathematics, information technology, administration, etc.

The Agency has already been providing places for trainees since 1999. In 2006, a total of 10 young people joined the Agency at the headquarters in Bonn and Mainz to begin training as office communication trainees. Within the scope of traineeships in electronic equipment and systems offered since 2003, a total of 16 places for trainees were created, which are available at Göttingen, Bremen and Magdeburg. Thus in 2006, a total of 79 young men and women were trained at the Agency 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 2006 (target and performance) and 2007 (budget):

| Type of income | 2006 target € ´000 | 2006 performance € ´000 | 2007 target € ´000 |
|---|---|---|---|
| Telecoms fees, contributions and other charges | 71,390 | –34,753 | 172,635 |
| Fees and other charges under the Postal Act | 100 | 123 | 111 |
| Fees and expenses under the Federal Rail Transport Administration Act (BEVVG) | 0 | 53 | 254 |
| Charges and contributions under the Energy Act | 0 | 0 | 500 |
| Other administrative income, rents, disposals | 1,060 | 1,256 | 1,106 |
| **Administrative income** | **72,550** | **–33,321** | **174,606** |
| Other income | 17 | 7 | 4 |
| **Total income** | **72,567** | **–33,314** | **174,610** |

At the end of December 2006, the income totalled minus € 33,314 thousand. The negative figures deviating from the target of the budget are due to large refunds in the fields of local number allocation and frequency usage contributions (so-called TKG contributions) and shifts of income to the following year.

The chart on the right-hand side shows the expenditure for 2006 (target and performance) and 2007 (budget):

| Type of expenditure | 2006 target € ´000 | 2006 performance € ´000 | 2007 target € ´000 |
|---|---|---|---|
| Staff costs | 104,419 | 101,526 | 102,679 |
| General administrative expenditure and appropriations | 32,096 | 32,986 | 35,084 |
| Investments | 10,953 | 7,830 | 9,787 |
| Total expenditure | **147,468** | **142,342** | **147,550** |

# Strategic plan 2007

The Agency is required under section 122(2) TKG to include a strategic plan in its Annual Report, listing matters of legal and economic policy 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 2007. Following a public consultation and input from the Advisory Council, the strategic plan[1] set out below has been adopted.

## TELECOMMUNICATIONS

### NGNs

Next Generation Networks (NGNs) are multi-service networks based on the principle of packet switching. A main characteristic is the separation of the functional levels of services, transport and control. As a consequence of this separation, these functions can be performed by different providers. From the regulatory point of view, it may be necessary to secure access at these functional levels in order to provide customers with cross-network use of IP-based services. The migration to NGNs has various structural implications, for instance, as regards the number of network nodes and their location, the number of hierarchical levels in the network and the functional significance of the nodes. Further, it may be necessary for the regulator to take greater account of consumer protection issues.

The migration to NGNs has begun already. Thus in 2006, Deutsche Telekom (DTAG) announced that it would migrate its networks sooner than planned to a single IP-platform, citing substantial cost savings. Transparent DTAG network architecture is of paramount importance for the alternative operators, for their own network planning.

These changes in network structure may make it necessary to adapt today's wholesale products. In this connection we will also have to investigate the implications of NGNs for market definition and SMP findings. The transition to NGNs may be accompanied, for instance, by changes in economies of scale and scope, and in access requirements, too. We plan to widen the

1 As of 1 February 2007

structure and costs information basis and to hold a consultation on NGNs.

### IP interconnection

The migration to NGNs will have a major impact on the current interconnection system and is hence directly related to IP interconnection issues. The advisory project group "Framework conditions for IP-based networks" set up by the Agency submitted its final report at the end of the year and invited responses. The group's aim was to develop a viable interconnect regime for all-IP networks in light of the migration and to show ways of achieving this regime over time.

The responses must be evaluated and discussed. The Agency will use the insights from the consultation to concretise the new IP interconnection framework. Its core elements will include the number and siting of the points of interconnection, quality requirements and charging principles. Possibly, an agreed migration path for the transition to NGNs will require regulatory tracking. We will also need to guarantee suitable interconnect and access products that reflect the interdependence of an efficient network structure and topology between the incumbent and the competitors, to ensure fair competitive conditions for all, even after the transition to IP networks.

### Market definition and market analysis procedures and regulatory orders

Now that most of the market definition and analysis procedures have been completed, it is time to review the first decisions, in line with the statutory two-year cycle. This concerns access to the local loop and the markets for interconnection services.

The new Markets Recommendation announced by the European Commission is likely to be taken into account in this "second round". As matters stand at present, the amendments are expected to relate primarily to the retail markets (markets 1–7 of the current Recommendation) and to combine previously separate markets or to reduce the extent.

These new market definition and analysis decisions will be the starting point for new regulatory orders from the Agency. The order on access to the local loop will also address questions of sub-loop unbundling. Various players are seeking access to DTAG's primary connection point in places where DTAG is upgrading the existing PCP with its own active systems to provide very high bit rate connections. To some extent, the competitors are interested in a form of access that lets them house their own active systems in DTAG's PCP but possibly use the power supply and air conditioning there. Competitors are also seeking to use DTAG's empty pipes to provide the connection from the main distribution frame to the

particular PCP, to avoid the cost of installing separate cable systems of their own. We must examine, with reference to the Telecommunications Act, whether competitors have these rights and whether access obligations to this effect can be imposed by way of regulatory order. Work on the order will involve detailed study of these issues.

As part of the analysis of the interconnection service markets we will study whether termination services to national numbers (032 range) should be included in the termination services.

So far the Agency has not – in common with the large majority of national regulators in the EU Member States – carried out market definition and market analysis of the international roaming market and hence has not issued a regulatory order. Here we are waiting for the European Commission to issue a Regulation. This process, supported by the federal government, is to be completed in 2007. The Agency intends to begin quickly with any national steps required by the Regulation and to help the Regulation achieve a breakthrough by taking the appropriate decisions.

### Bitstream access

Following the issue of the IP bitstream access regulatory order and presentation by DTAG of a reference offer, the Agency, in the coming year, will approve the access charges with reference to efficient operator costs and examine the reference offer against the requirements of the Telecommunications Act, most notably with regard to fairness, reasonableness and timeliness.

In January 2007 the Agency submitted to the European Commission and the NRAs of the other Member States a draft ATM bitstream access regulatory order. The draft envisages an obligation on DTAG to grant ATM bitstream access. The conditions are access on non-discriminatory conditions, accounting separation, and publication of a reference offer. Charges are to be made subject to ex post controls. The Agency will then take a final decision, taking the utmost account of the representations of the Commission and the NRAs of the other Member States.

### Mobile termination charges

The termination charges for the four German mobile networks, first approved in 2006, are applicable for one year until 30 November 2007. Thus a review of the termination charges will be on the agenda next year too. Under section 31(5) TKG the companies concerned must submit, not later than ten weeks before expiry of this period, all the necessary documents to the Ruling Chamber, who will then reexamine the costs, again with reference to those of an efficient operator. The Agency will use the time to look in more detail at some of the fundamental issues that could not be clarified last time round because they were too complex and because the cost statements were inadequate. In particular, other regulatory authorities' experience of cost models will be used and evaluated. It is already clear that the premises and requirements underlying a cost model are crucial. The Agency is also looking to propose a dialogue between the EU regulators and the Commission on this.

### Basic rates regulation issues – consistency requirement

Consistency in charging is one of the main requirements for a competitive environment in which companies with different network and service strategies can compete fairly. This is the background against which the principles for consistent rates regulation must be taken forward, for regardless of the fact that consistency is reflected first of all in Chamber decisions, this is a permanent endeavour to which the Agency is fully committed. Thus we intend to specify and communicate our position on central aspects of the consistency requirement, independently of individual procedures. This is to give market players a high degree of planning certainty and to launch an ongoing dialogue that will facilitate adaptation to practice.

As far as retail pricing is concerned, we observe a growing trend to far-reaching bundling practices and comprehensive flat rates. This poses various regulatory questions concerning, most notably, the treatment of bundled products that have regulated and non-regulated elements. We need to tighten up the examination criteria of section 28 TKG further if we are to effectively counter the risk of transferring and consolidating market power in a dynamically changing environment and to secure sustainable competition in the retail markets.

Bundled broadband access products comprising the connection, VoIP, broadband Internet access and video or broadcasting services (IPTV) are gaining prominence. Providing suitable network infrastructures is critical to further growth in these markets. Regulation of access to the local loop, bitstream access, broadband origination and voluntary line resale mean that wholesale products are available at different levels of the value chain. So that these wholesale products can have the intended effect, a strategy for consistent charging must be developed in timely manner.

### Resale obligations in the fixed network

Another important project is the examination of various aspects of resale. This concerns first of all the obligation the Agency has imposed on DTAG to lease analogue and ISDN telephone lines on the conditions set out in its current general terms and conditions for the telephone service at the retail prices shown (so-called 1:1 resale). Depending on the outcome of the appeal against this or the repeal of the applicable provision – section 2 of the Telecommunications Customer Protection Ordinance (TKV) – we will decide whether it is necessary, supplementing the regulatory order for markets 1–6, to impose an obligation giving access to 1:1 resale so as to create legal and planning certainty.

In 2007 already, in light of the expiry on 30 June 2008 of the exclusion of unbundled wholesale line rental (cf section 150(5) TKG), we must identify demand and prepare an obligation on DTAG, if necessary, to take effect on 1 July 2008. In particular, we will study and determine the contractual and pricing framework conditions for unbundled wholesale line rental.

Finally, we will take a closer look at the requirements for the regulatory treatment of voluntary DTAG resale offers.

### Numbering strategy

The progress of technology and the markets requires constant changes to the structure of the national numbering space. Necessary (individual) measures are being placed in context through the work that has begun on a numbering strategy. The strategy aims to secure the interests of the market players in respect of transparency, planning certainty and the long term supply of needs, taking account of efficiency considerations. Work on a first draft, with input provided by network operators, service providers and consumer representatives, is to be completed in 2007.

### Spectrum management

By securing efficient and interference-free use of frequencies, with broadcasting interests also being taken into account, spectrum management makes a fundamental contribution to promoting innovative telecommunications services and fair competition generally. This is true of both long term conceptual planning for the limited resource of frequency spectrum and its specific award. Promotion of the internal market and the international alignment of the technical parameters of use play an important part. In 2007, the focus will be on the following conceptual projects:

- flexibilisation of spectrum management in light of the findings of the WIK study in relation to the national system and in consideration of technology and service convergence;
- updating the Agency's Frequency Usage Plan;
- drawing up key elements for the award of broadcasting frequencies;
- preparations for WRC-07 of the International Telecommunication Union (ITU);
- opening up new frequency bands for innovative applications within the European Conference of Postal and Telecommmunications Adminstrations (CEPT) and the European Union.

As regards concrete spectrum award, the following projects must be highlighted:

- drawing up a concept for the award of released spectrum in the band below 1.9 GHz (eg 1,800 MHz) and in the band from 2 GHz or 2.5 GHz;
- award of further spectrum in the bands 1.9 GHz and 2.6 GHz, most probably in an auction;
- award of spectrum for wideband PAMR at 450–470 MHz, most probably in an auction;
- demand-driven provision of transmission capacity for broadcasting and multimedia services, most notably mobile TV, implementing the results of RRC-06.

Also, the Agency will hold a consultation on further action as regards spectrum in the 3.5 GHz band for Broadband Wireless Access not awarded in the December 2006 auction, taking special account of the interests of successful companies in that auction.

New, innovative services and new transmission technologies, too, call for wider ways of being used in the airwaves and regular updating of the technical and regulatory requirements and compatibility criteria by the Agency, weighing all the regulatory aims. This is done in conjunction with the industry and public authorities at

national and international level. Of great importance here are the medium and long term strategic goals of flexibilisation. Thus the Agency is actively involved in the CEPT, ITU and EU bodies. Work in 2007 will focus on the following:

- regulatory and technical criteria and framework conditions in implementing concepts for flexible frequency use, eg WAPECS (Wireless Access Policy for Electronic Communication Services);
- adoption and implementation of the Opinion of the EU's Radio Spectrum Policy Group (RSPG) on the digital dividend;
- identification of new frequency bands in consideration of compatibility aspects for future mobile generations (eg IMT-Advanced), aeronautical telemetry and air traffic control applications at WRC-07;
- opening the 60 GHz band for use by a number of new applications (eg multiple gigabit wireless applications, radio-based transport telematics), mindful of compatibility aspects.

An overlapping topic is the approximation and further development of interference models with reference to EMC and wireless.

### Consumer protection

In 2007 there will be a host of tasks in connection with implementing and clarifying the consumer protection amendments to the TKG, notably

- checking compliance with the amended provisions of sections 66a ff on combating the misuse of premium rate numbers, eg price indication, price ceilings, cutting the connection, right to receive information in relation to additional kinds of service and numbering sub-ranges. Activities to combat misuse are expected to be greatly widened;
- giving legal contours to companies' publication duties and the Agency's publication powers with special attention being given to consumer interests;
- setting up a black list (database) of numbers and lines to be blocked by collect call providers for incoming collect calls, and provision of this black list six months after it has taken effect.

The Agency will take all the necessary implementation steps and decisions in transparent, non-discriminatory procedures, with the participation of those affected.

The Agency also plans to hold a consultation on the minimum information in, and form of, the itemised bill. It likewise plans to identify general demand, in terms of extent and degree of coverage, for a text and video relay service for deaf and hearing-impaired persons.

Finally, as a result of the inclusion of section 45g in the TKG, we will be looking at the need for arrangements to test the billing and charging accuracy of volume-dependent tarification.

### Standardisation

The harmonised standardisation activities between the industry and the Agency for mobile communications at European and international level are of great economic importance for Germany. Besides work on the fourth mobile generation, the fields listed below are particularly challenging as regards technical regulation and standardisation:

- introduction of wireless technologies for dynamic use of the spectrum, so-called cognitive radio;
- RFIDs for intelligent logistics in the consumer goods industry, for instance;
- specification of wireless applications on aircraft, "GSM on board aircraft", and on board ships, "GSM on board vessels";
- extending emergency calling in the new network and service structures (emergency calls using VoIP, location information for emergency calls, emergency calls from vehicles/ecalls); global radio-based communications structures to alert the public;
- progressing NGN standardisation aspects;
- communication between vehicles on the road, "car-to-car" systems.

### Securing the interoperability of broadcast transmissions

Against the background of the current debate on the encoding of free to air content within the traditional transmission platforms (terrestrial, cable and satellite) and of the introduction of mobile transmissions (DVB-H, DMB) and transmissions via DSL connections (IPTV) the Agency intends to use to the full the narrow legislative framework to secure interoperability in respect of broad-based access to content for the end user.

The cooperation agreed between the Agency and the state media authorities for opening access to application programming interfaces and conditional access systems has proved successful in the past and will be continued.

In the DVB project the Agency will work towards standardising a common conditional access system for IPTV. We will further concretise the scope for action provided by the TKG and use it in such a way that, in particular, individual platforms are prevented from being technically closed off so that users continue to have wide access to a variety of content.

### Technical EMC issues

In July 2007 the new version of the German Electromagnetic Compatibility Act (EMVG) will become effective. This will transpose the revised EMC Directive into national legislation. The amended legislation will adapt the Agency's scope for action as the market surveillance body and its scope for troubleshooting to the new requirements. It enables, for instance, simplified conformity assessment procedures and clearer marking arrangements, and puts dealing with radio interference resulting from wire-based frequency usage on a new footing.

### Applying for safety certificates online

The federal government is steadily augmenting its online offer and making its IT-based procedures more customer-friendly, innovative and efficient.

The Agency issues certificates of safety for radio transmitters that comply with the limits to protect persons exposed to electromagnetic fields. To minimise the administrative effort and to optimise the application procedure, applicants will largely be able to apply for these certificates online in 2007. Talks are currently being held with the mobile operators on this. In a further step, the federal state authorities could

then be included in the data exchange between the applicant and the Agency.

### Technical implementation of intercepts

The tasks the Agency performs in connection with the technical implementation of intercepts make an important contribution to public safety. Notably, the technical directive referred to in section 110(3) TKG (TR TKÜ) is fundamental to intercept systems design by telecommunications companies, manufacturers and security authorities. The directive is adapted to new telecommunications technologies as required.

In 2005 and 2006 already, the Agency included interception systems for Internet access (DSL, cable and wireless LAN) and VoIP in its strategic plan and initially – in line with its mandate – addressed the issues in the standardisation bodies. With the participation of the industry associations, the authorised bodies and the manufacturers an interim solution for VoIP was adopted in July 2005 (published in Official Gazette No 14 on 27 July 2005). This has had to be implemented by VoIP providers with more than 10,000 customers since January 2006. ETSI is expected to adopt a first specification for IP-based multimedia services (such as VoIP) in early 2007. Thus the Agency is considering having the requirements of this specification feed into a new technical directive. Work on this should begin in 2007.

The technical directive issued in December 2006 regulates Internet access. This will then be followed in 2007 for wireless LAN by supplementary studies on the market players and their business models.

## ELECTRONIC SIGNATURE

Electronic signature is a key element of the government's BundOnline and eCard strategy. The Agency is pushing development of the necessary infrastructure, particularly in view of long termism (eg archives) and ever more rigorous security requirements. It also has a role in the government's major projects, for instance the activities in the Economics Ministry's international strategy, national and international projects and aid schemes. Supporting the nascent mass market is still high on the agenda.

The infrastructure (PKI) is in place, and for some time market penetration has been visible on a wide front. Thus every user can now have qualified electronic signatures verified in their mails free of charge with an appropriate plug-in in standard software products like Adobe Reader. With a signature card and card reader – such readers are increasingly replacing the disk drives installed by the manufacturers – users can now effect legal “signatures”.

For some time now the SparkassenCard, for instance, has been delivered with a prepared signature function, and the planned health card and electronic passport will have electronic signature capability.

Advisory projects have shown the first foreign governments to be impressed by the use of qualified electronic signatures. In some countries, German companies are about to build their national infrastructure; in other countries registration centres are being set up for German certification service providers.

Soon then, there will be no more barriers to cross-border, fully electronic business transactions.

## POST

### Implementation of the statutory arrangements for securing universal service

One of the regulatory aims in the postal sector is to secure the provision, across the country, of a minimum set of services at an affordable price (universal service). For the period of its exclusive licence, DPAG is required to provide universal service. This obligation will lapse when its licence expires on 31 December 2007. In the event of universal service not being adequately provided after this time, the Agency will step in. Thus the procedures for implementing the arrangements in sections 12 to 17 and 56 of the Postal Act (PostG) will be determined in order to prevent, or close as quickly as possible, any gaps in supply.

### Use, conditions of access and possible problems in delivering letters to PO boxes

Letters to PO box addresses cannot simply be delivered there. The Postal Act therefore makes provision for these items to be deposited in the dominant operator's PO boxes, against payment of a charge. Overall, the use of access and the intensity of this use depend fundamentally on the concrete conditions and good cooperation between the players.

The extent to which access to DPAG's PO boxes reflects demand and is practicable will be investigated.

### Systematic definition and analysis of the postal markets

The definition and analysis of the postal markets differs depending on who defines and analyses and with what aims in mind. Further differences occur when the definition is made from the legal, business management, demand-oriented or product-oriented point of view. Included in the postal markets is the parcels, express and courier market. The letter market has been subject to rigorous analysis by the Agency for some years now, whereas just subsets of the parcels, express and courier market have been studied.

We therefore intend to carry out a systematic definition and analysis of the postal markets with the help of the specialists. This will also provide clarification on borderline cases and overlap with the parcels, express and courier market.

### New price cap procedure

In view of the fact that the current price cap regime expires on 31 December 2007, creating the baskets and setting the benchmarks for approval of the charges on the basis of the new regime will be one of the main activities in 2007.

First of all, the price cap baskets will be defined. This is the basis for deciding which products should be placed in which baskets. Basket composition requires a thorough investigation of the postal services markets and the competition conditions. The markets will be looked at in particular with reference to the intensity of competition and the potential for substitution competition.

Based on the baskets thus defined, the benchmarks will be set for each, a procedure in which the expected rate of growth in productivity is the main determinant, alongside the rate of price increases. The expected rate of growth in productivity can be derived analytically, or on the basis of cost modelling or benchmarking studies. Particularly important in determining this is the ratio of the initial charging level in the crucial base year to efficient operator costs; hence we must examine and evaluate the basket-related costs with reference to efficiency. For this purpose, comprehensive process- and product-related cost statements and evaluations from DPAG must be gone through and assessed. We will consider whether, in order to assess the rationalisation potential, we will also consult international tariff comparisons as well. If we do, we must draw up the necessary methods and criteria for such price benchmarking exercises.

The price cap is an efficient mechanism for preventing firstly, unlawful cross subsidisation from monopoly to competitive areas. It thus promotes fair and effective competition. Secondly, it enhances pricing flexibility for the regulated company and planning certainty for the other market players.

Once the benchmarks have been determined, the regulated company will apply for approval of the charges set by the Chamber for the first period, given compliance with the requirements of the benchmark decision.

### Approval of service of document charges

Now that the service of documents market has been successfully opened, the approval process for providers with a significant share of the market is to be extended. Specifically, the duty to submit evidence of costs will be made subject to more stringent requirements. The simplified procedure will continue to apply to SMEs.

### Regulatory treatment of bundled products and possible risk of cross-subsidisation

The Agency considers it necessary to draw up principles for checking bundled products and contractual special models, as DPAG is increasingly offering such products in response to the growing pressure of competition.

In the pricing of logistics services, we observe a growing trend towards wide-ranging bundled products and comprehensive flat rates. Thus the criteria for approval, anchored in section 20 of the Postal Act, will need to be tightened up.

In markets where an SMP enterprise operates there is the potential risk of this company influencing competition by anti-competitive cross-subsidies. Taking this as our starting point we will investigate the potential for anti-competitive practices and the controls with which such abuse could be averted.

### Examination and definition of basic working conditions as per section 6(3) para 3 of the Postal Act

The Agency will review working conditions in and around the field of postal services subject to licence and consider the implications for the Agency's licensing policy.

## ENERGY

### Unbundling

The statutory transitional period for legal unbundling will end on 1 July 2007 for the distribution system operators concerned. The Agency will use this occasion to look more closely at the provisions on legal and operational unbundling. The review will focus on the unbundling models and restructuring measures chosen by the companies. The Agency will also explore the contractual constructs for the implementation of legal and operational unbundling. The review will be particularly concerned with establishing whether the contractual arrangements are suitable for ensuring the independence of the network companies and that of the management staff.

### Energy regulation policy issues

We will continue to address a number of policy issues resulting from implementation of the new Energy Act and related ordinances. Notably, the incentive regulation ordinance scheduled for 2007 will stipulate the main fields of activity. A principal task will be to calculate the interest on equity in accordance with section 7(6) of the Electricity Network Charges Ordinance/Gas Network Charges Ordinance.

### Incentive regulation

Preparations for a data survey must be made for the ordinance and subsequent incentive regulation system. This concerns on the one hand the development and installation of the necessary database structure, and on the other, an examination and revision of the data definitions previously used. But preparation of incentive regulation itself is at the heart of the activities. Once the content and the technical framework have been determined it will be a matter of setting up the internal processes.

Carrying out the data survey and incentive regulation involve, in the main, the following fields of tasks for the Agency, listed in order of sequence:

- data collection and checking,
- determining the start basis and calculating the formula elements,
- determining the company-specific revenue path and issuing notices to the operators,
- reviews/adjustments within the regulatory period.

### Electricity and gas rates regulation

Use-of-system charges account for about a third of domestic electricity retail prices and for about a fifth of domestic gas retail prices (see Monitoring Report 2006). The Agency's aim is to encourage efficient provision of service by regulating these charges and thus to bring them down for the consumer.

After the first approvals, attention will remain focused on this area in 2007. As a rule, the approvals have been issued until the end of 2007 in the electricity sector, and until the end of March 2008 in the gas sector; however, any further increases are subject to approval and must be applied for. An ongoing task of approval is monitoring the publication duties as set out in section 27 of the Electricity Network Charges Ordinance/Gas Network Charges Ordinance. This is to create greater transparency in the energy market.

## Access to the electricity grid

### Standardising the terms and conditions of suppliers' framework contracts

Currently, most of the 900 or so distribution system operators negotiate their framework contracts themselves. This means that national suppliers have up to 400 different contractual offers to hand. Standardising the terms and conditions of these framework contracts will create uniform competitive conditions that will benefit the national suppliers, in particular, and revive competition.

### Conditions for grid connection

The Agency has received a number of complaints, showing a considerable need for action as regards conditions for connecting to the grid. Not only have diverse complaints been made against the operators, but conversely, the operators have complained that new network structures to be introduced in the public interest have been jeopardised. Specifically, the following problems can be identified:

- criteria for the choice of higher voltage level that can deliver cost reductions for SMEs. Yet the concerns of customers remaining at the lower levels must also be heeded;
- conditions for connecting decentralised production facilities (combined heat and power stations);
- conditions for connecting systems used solely to meet a supplier's own needs, small community networks and retail cooperatives.

### Complaints in connection with infrastructure contributions

End customers are complaining more and more about the practice of infrastructure contributions. These are payments customers make for creating or extending their connection to the grid and with which not the costs of connection itself, but the costs for setting up and maintaining the grid are settled. The contributions to the infrastructure are thus directly related to the use-of-system charges. Unlike with these, it is not just the level of infrastructure contribution charge that is contested but more fundamentally whether, for what purpose and under what conditions the contributions to the infrastructure should be levied at all.

### Further issues

With regard to distribution network access the Agency, under section 27(1) para 6 of the Electricity Network Access Ordinance, must draw up a procedure for determining network loss and tender for energy loss. Under section 10(1) of the Ordinance, operators of supply networks must procure energy loss (network loss) in transparent, non-discriminatory and market-oriented procedures unless fewer than 100,000 customers are connected to their distribution networks. Tendering procedures are to be followed unless there are major reasons for not doing so. The reason for the Agency's action is the patchy implementation of this obligation by the operators. The aim is to establish a uniform tendering process that is binding on all distribution system operators. A consultation involving the market players concerned will be held before the Agency makes its determinations. Related to this is the question of the proper identifi-

cation and hence determination of the level of network loss. In 2007 basic work is to be done to find a method of identification that represents a manageable compromise between accuracy and effort. For this, the physical aspects of what causes the loss, depending on the voltage level, must be discussed and network specifics taken into account, where appropriate.

The Agency will continue to devote its attention to the suitable establishment and application of standard profiles and standard feed-in profiles, a basic prerequisite for well-functioning competition. Addressed in particular will be analytical standard profile procedures – seldom applied in practice to date –, the assessment of existing standard profiles and determining demand for further standard load and standard feed-in profiles.

To allow traders to respond to changes at short notice in load, generation and pricing in the electricity market, scheduling changes within the particular day must be possible (intraday scheduling). Traders report the changes to the schedules announced by 14:30 hours on the previous day resulting from the day's business to the transmission system operators in timely fashion. Section 5(2) of the Electricity Network Access Ordinance allows schedules to be changed every quarter of an hour, at least three quarters of an hour in advance. The Agency has called for these periods to be implemented in Germany at the beginning of 2007, and will monitor the introduction and implementation by the transmission system operators. Likewise of great importance is the introduction of cross-border intraday capacity award on the German borders, enabling cross-border intraday trading. As only the auction rules applicable at the Germany – Switzerland border currently allow a system of intraday trading with time-limits oriented by the requirements of the Ordinance, the Agency in 2007 will seek introduction/further development at the other borders. This will be done mainly under the Regional Initiatives described under International cooperation (see page 47).

Congestion in the German transmission system has been discussed in connection with various requests from power plant operators for access to the system. Section 13 of the Energy Act and section 15 of the Electricity Network Access Ordinance set out requirements for the avoidance and management of congestion within Germany. The different congestion management methods must be studied and discussed so as to ensure security of low-cost, efficient supply and to counter any congestion arising in the German transmission system. The studies and discussions will focus on the effects of these methods on the structure of the German electricity market and on the allocation signals of congestion management.

Under section 14 of the Renewable Energy Sources Act (EEG) the transmission system operators must balance amongst themselves the fluctuating energy volumes from renewables and settle the volumes and payments. Electricity suppliers serving final consumers are required under section 14(3) of the above Act to take and pay for the share of electricity purchased for them by their regular transmission system oper-

ator in accordance with a profile approximated to the volume of electricity actually purchased. Conversion of the fluctuating intake into this "approximated profile" is the process of turning the main intermittent generation from renewable sources (mainly wind) into a constant monthly profile. Under section 22(1), first sentence of the Energy Act, operators of energy supply systems must acquire the power they need to cover losses and to balance differences between intake and output in accordance with transparent, non-discriminatory – with regard to related and associated undertakings also – and market-oriented procedures. As the transmission system operators have mostly awarded the above conversion service to their group trading associates in the past, the Agency is looking to have this market segment opened up to all – sufficiently reliable and technically qualified – market players on a non-discriminatory and transparent basis. In 2007 it will be chiefly concerned with the details of how this segment is to be opened.

Finally, the amendment of the Renewable Energy Sources Act in 2006 gives the Agency executive tasks for the first time. It does not have to act in execution of the law in its entirety, but must monitor compliance with the obligations incumbent on the network operators, the supply companies and merged undertakings under section 5(2) and section 14 of the Act. This does not include, however, whether the payments claimed by the plant operator are justified. Thus under section 19a(1) of the Act the Agency must monitor calculation of the section 5(2) payments to the supply companies, minus the avoided charges, the correct publication of the data as referred to in section 15(2), implementation of the reporting requirements under section 14a(8) and correct notification of the differential costs as set out in section 15(1). One of the Agency's first tasks will be to create the proper environment so that the market players can meet their reporting requirements in a timely, practicable way.

Due to the number, extent and complexity of the new energy regulation tasks there are still two fundamental access regulation issues, work on which took up most of 2006, to be completed in 2007:

- First of all, development of a balance group accounting model. In the interests of independent traders in particular, the Agency must specify binding requirements for balance group accounting by the transmission system operators and the prompt, reliable provision of the necessary data by the distribution system operators on the basis of the proposals already drawn up.
- The determinations on the provision of control energy must supplement the determination already made on tendering for minute reserve with determinations on tendering for primary and secondary reserve. We will evaluate the responses to the Agency's key elements and find practicable solutions by way of consensus, as far as possible.

Diverse complaints and requests show that the Agency will also need to address the following issues:

- Developing criteria for handling supplies to medium voltage customers taking a maximum of 100,000 kWh a year and for

metering and accounting for these customers. The background to this is the question of the accounting method to be applied and how the metering and accounting charges should be drawn up for customers connected to the medium voltage network and with an annual consumption up to 100,000 kWh. For customers with an annual offtake of less than 100,000 kWh, section 12 of the Electricity Network Access Ordinance provides for the application of simplified methods such as the standard profile, as opposed to the metered one. There is nothing in the wording or philosophy of this Ordinance to restrict the ruling to connection to the low voltage network. However, operators whose group of customers as referred to above calls for the application of standard profiles, refer to the wording of section 17(6) of the Electricity Network Charges Ordinance which explicitly provides a ruling for offtake without metering in the low voltage network, but not, however, for customers at other voltage levels. The Agency intends to use the criteria to reconcile the arrangements in the two Ordinances:

- requirements for determining the prices of annual surplus and deficit volumes in standard profiles,
- requirements for keeping balance groups as per sections 10–12 of the Electricity Network Access Ordinance,
- test suits against individual municipal utilities on account of reaching the 100,000 customer mark,
- complaints regarding the metering of customers' standard profiles,
- authorisation of the calculation methods for cross-border line capacity.

### Access to the gas pipeline networks

The new gas network access model, which provides greatly simplified access to the supply networks, will also be a work item in 2007. The focus will be on identifying access problems and progressing the new access model. Monitoring implementation of the model is an extremely important, complex task given the large number of network operators in Germany. Implementation includes creating the market areas. These will be critically reviewed, the aim being to further reduce their number (currently 19).

In 2007 the Agency will take a close look at the operators' methods of calculating capacity. We hope to ascertain the extent to which different methods possibly hinder the efficient allocation of capacity or market area consolidation. A first survey of transmission system operators was made in late 2006 and will be evaluated in depth. In 2007 the Agency – as far as required – will conduct its own load flow simulations so that it can better check operator data.

The development of the capacity situation in Germany, in particular booking many points of import to Germany for years in advance, is a major problem as regards third-party access. The Agency will concentrate on this in 2007. 2007 will also see publication of a joint grid map whose redesign and updating is scheduled for completion in early 2007.

Under section 3(2) of the Gas Network Charges Ordinance supra-regional gas transmission system operators are not required to have cost-based charges approved if they face predominantly effective actual

or potential pipeline competition. The 13 notifications the Agency has received will need extensive economic and legal examination, to be completed in 2007 for the first round. The examination will involve looking at the options available for transport customers to switch supplier, suppliers' network structures, TSO pricing and other practices in the market.

Another project is determining uniform procedures for switching gas supplier. The lack of a standardised set of steps is a big hurdle for new suppliers looking to enter the German market. As there are still no uniform specifications, traders have to organise supplies to new customers on an individual basis in each network area. If customers are supplied in different networks, the trader will possibly have to make arrangements for operations to be carried out in a number of different ways. The effort that goes into doing this is considerable and generates unnecessary efficiency losses. Thus the Agency, with recourse to its powers to make determinations under section 42(7) para 4 of the Gas Network Access Ordinance, will specify and make binding the business processes needed for customers to switch supplier. The aim is to introduce standardised procedures suitable for use on a large scale, and in doing so to create a regulatory framework that reflects the needs of all the market players for transparency and legal certainty.

### International cooperation

The Agency is a member of both ERGEG and CEER. It is actively involved in all the issues addressed by ERGEG and CEER and participates in nearly all their working groups. For Germany as a major energy market at the heart of Europe there is a need for diverse action in creating an internal market for gas and electricity. Thus work in these two organisations is very important for the Agency.

Very important, too, is the Agency's participation in the Gas and Electricity Regional Initiatives. The aim of the Electricity Regional Initiative is to push regional market integration as an important intermediary stage on the way to the single energy market. The guidelines on congestion management which took effect in December 2006, called for by Article 8 of the EU exchanges of electricity Regulation 1228/2003, give formal status to the regions that also underlie ERGEG's Regional Initiatives. For Germany, four of the seven regions are relevant: Central Western Europe (CWE), Central Eastern Europe (CEE), Northern Europe (NE) and Central Southern Europe (CSE). Among the issues to be given priority in 2007 are congestion management and improved transparency. Work is done in bodies comprising the regulatory authorities and in those comprising TSOs and other market players.

Germany is also a member of the Pentalateral Energy Forum, founded on the initiative of the energy ministers of Germany, France, Belgium, Luxembourg and the Netherlands. The issues addressed are optimisation of available interconnector capacity and allocation mechanisms, security of supply and the development of new interconnectors, and the removal of legal barriers to closer cooperation between the countries involved.

## RAILWAY

With regard to regulating access to rail infrastructure, the Agency will continue the work it began when it assumed responsibility for this on 1 January 2006. Organisationally, the Rail Regulation startup team will morph rapidly into Department 7, Rail Regulation, with five specialist sections, reflecting the importance of rail regulation as a separate function. This will optimise performance in the rail sector. The work of the startup team will be documented in the first-time publication of the Activity Report for the timetable year 2006. The following work items from the large number scheduled for 2007 are outlined below.

### Rates regulation

The pricing of rail infrastructure use is a central element of non-discriminatory access. Charges that act as a deterrent may mean that the exercise of statutory access rights is made substantially more difficult or is undermined in anti-competitive manner. As regards rail networks and the majority of service facilities, the infrastructure market is characterised by an established provider and a number of smaller providers. As the rail infrastructure companies as well as those with access entitlements and all the other market players need legal clarity and certainty on the infrastructure companies' charging duties and the regulatory instruments available to the Agency, the Agency has commissioned a legal opinion for clarification of the charging issues in the General Railway Act and the Rail Infrastructure Usage Regulations. Changes in the pricing regimes of the major infrastructure companies have a considerable effect on the market. As the charges for use are not subject to any approval proviso, the market players expect prompt, consistent and transparent regulation from the Agency.

Particularly relevant to rates regulation is whether the current legal arrangements contain methodical approaches for regulation by fully distributed costing, efficiency costs or incentive regulation. There are far fewer provisions on rates regulation in the rail sector than there are in other regulated sectors. The core regulatory provisions on charging are found in section 14 subsections (4) and (5) of the General Railway Act and section 21 subsections (1), (4) and (5) and section 24 subsection (1) of the Rail Infrastructure Usage Regulations.

The findings of the legal opinion are expected in the first quarter of 2007. The insights gained will enable the Agency to push on with confidence with its examination of charging systems and levels. The findings will create the basis for implementation into regulatory practice and the market. Also, the Agency will use its experience in other regulatory areas to introduce lean and effective work practices. Further concretisation in law may be required, as first assessments of the legal opinion show.

### Conditions of use for rail networks and service facilities

A fundamental part of access regulation is the preliminary examination of the conditions of use for the rail network and the conditions of use for service facilities as part of preventive regulation. The conditions set by the 900 or so infrastructure

operators are examined against a list of priorities. The examination has been considerably widened over last year's to include, amongst other things, port operators' service facilities and further technical facilities such as workshops. The hearing, first conducted in 2006 amongst those concerned, proved beneficial. The Agency's decisions will further spur the opening up of the rail network to more competition. A supporting function in the Agency's processes will be the electronic mapping of rail network operators' infrastructure, which will improve how access conflicts in the working timetable and in occasional services are dealt with and assessed. The Agency intends to obtain free, direct access to the data kept by the rail network operators and to collect data itself.

### Incentive system to lessen disruptions

Under section 21(1) first sentence of the Rail Infrastructure Usage Regulations, rail network operators must charge for their mandatory services in such a way that they offer railway undertakings and rail network operators incentives, through performance-related components, to lessen disruptions and enhance rail network efficiency. The incentive system concerns the relationship between the railway undertakings and the infrastructure companies. Its aim is to improve the reliability of rail transport overall by making both sides liable to a charge for delays they have caused. To be kept strictly separate from this are civil law matters of damages between the companies concerned and compensation paid to final customers for delays.

DB Netz AG as the largest rail infrastructure operator introduced an incentive system on 10 December 2006, with its timetable change. Under the system every delay longer than two minutes is registered along with information on 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. Naturally, the new system raises a number of questions such as establishing the delay and its cause, concrete charging and dealing with objections.

The Agency will watch over the start and advancement of the system, along with the companies concerned. Insights won in 2007 will affect its further shape and the introduction of such systems at other rail network operators. We will also assess whether the administrative effort is proportionate to the usefulness, how the administrative effort can be reduced if need be, and whether the nature and level of the current charge is suitable to provide an effective incentive to lessen disruptions.

### Market watch

Alongside its regulatory tasks, the Agency watches the market constantly. It has information rights under section 14c(3) of the General Railway Act to give it the information it needs. To perform its statutory reporting duties, market watch is supported by an annual data survey. An Internet portal will be set up in 2007 to facilitate communication with the Agency. The Agency will then be able to make information available online with the minimum of delay, and the market players to supply the Agency with information.

# List of abbreviations

## A

**ADSL**
Asymmetric Digital Subscriber Line

**AEG**
General Railway Act

**AFuG**
Amateur Radio Act

**AGB**
General terms and conditions

**ATM**
Asynchronous Transfer Mode

## B

**BAFA**
Federal Office of Economics and Export Control

**BAM**
Federal Institute for Materials Research and Testing

**BAnerkV**
Functions Assignment and Recognition Ordinance

**BAPT**
Federal Post and Telecommunications Office

**BEMFV**
Ordinance concerning the Controls for the Limitation of Electromagnetic Fields

**BGH**
Federal Court of Justice

**BGW**
Federal Association of German Gas and Water Industries

**BKartA**
Federal Cartel Office

**BLM**
Bavarian Regulatory Authority for Commercial Broadcasting

**BMPT**
Federal Post and Telecommunications Ministry

**BMWi**
Federal Economics and Technology Ministry

**BVerwG**
Federal Administrative Court

**BWA**
Broadband Wireless Access

**BOS**
Emergency organisations

**BZA**
Outbound mail sorting centre

**BZE**
Inbound mail sorting centre

## C

**CAB**
Conformity Assessment Body

**CEE**
Central Eastern Europe

**CEER**
Council of European Energy Regulators

**CEN**
European Committee for Standardization

**CEPT**
European Conference of Postal and Telecommunications Administrations

**CERP**
European Committee for Postal Regulation

**CNSA**
Contact Network of Spam Authorities

**CSE**
Central Southern Europe

**COCOM**
Communications Committee

**CPG**
Conference Preparatory Group

**CRE**
Independent administrative body in charge of regulating the French electricity and gas markets

**CUB TF**
Competition and Unbundling Task Force

**CWE**
Central Western Europe

## D

**DAB**
Digital Audio Broadcasting

**DBAG**
Deutsche Bahn AG

**DG COMP**
Directorate-General for Competition

**DG TREN**
Directorate-General for Energy and Transport

**DMB**
Digital Multimedia Broadcasting

**DMR**
Digital Mobile Radio

**DPAG**
Deutsche Post AG

**DRM**
Digital Radio Mondiale

**DSL**
Digital Subscriber Line

**DTAG**
Deutsche Telekom AG

**DVB**
Digital Video Broadcasting

**DVB-H**
Digital Video Broadcasting – Handheld

**DVB-T**
Digital Video Broadcasting – Terrestrial

## E

**e**
estimated

**EBA**
Federal Railway Authority

**EBC**
Element-based charging

**ECC**
Electronic Communications Committee

**EDIFACT**
Electronic Data Interchange For Administration, Commerce and Transport

**EEG**
Renewable Energy Sources Act

**EEX**
European Energy Exchange

**EFET**
European Federation of Energy Traders

**EFIS**
ERO Frequency Information System

**EIBV**
Rail Infrastructure Usage Regulations

**EMC**
Electromagnetic compatibility

**EMVG**
Electromagnetic Compatibility Act

**EMVU**
EMC and the environment

**EnWG**
Energy Act

**ERG**
European Regulators Group

**ERGEG**
European Regulators Group for Electricity and Gas

**ERI**
Electricity Regional Initiative

**ETSI**
European Telecommunications Standards Institute

**EU**
European Union

**EuGH**
European Court of Justice

## F

**FCC**
Federal Communications Commission

**FM**
Frequency Management

**FreqBZPV**
Frequency Band Allocation Ordinance

**FTEG**
Radio Equipment and Telecommunications Terminal Equipment Act

**FTTH**
Fibre to the home

## G

**GasNEV**
Gas Network Charges Ordinance

**GasNZV**
Gas Network Access Ordinance

**GIS**
Geographic Information System

**GKG**
Court Costs Act

**GPRS**
General Packet Radio Service

**GRI**
Gas Regional Initiative

**GSDZ**
Digital access office

**GSM-R**
Global System for Mobile Communications – Rail

**GW**
gigawatt

**GWB**
Competition Act

## H

**HDTV**
High definition TV

**HPA**
Hamburg Port Authority

**HSDPA**
High-Speed Downlink Packet Access

## I

**ICAO**
International Civil Aviation Organisation

**ICT**
Information and communication technology

**IEB TF**
Information Exchange und Benchmarking Task Force

**IPTV**
Internet Protocol Television

**IRG**
Independent Regulators Group

**ISDN**
Integrated Services Digital Network

**ISO/IEC**
International Organization for Standardization

**ISP**
Internet Service Provider

**ITE**
Information technology equipment

**ITU**
International Telecommunication Union

**ITU-R**
ITU Radiocommunication Sector

## K

**kWh**
kilowatt hour

## M

**MHz**
megahertz

**MPEG**
Motion Pictures Experts Group

**MRA**
Mutual Recognition Agreement

**MWDG**
Premium Rate Services Act

**MW**
megawatt

**MWh**
megawatt hour

## N

**NGN**
Next Generation Network

**NotrufV**
Emergency Services Access Ordinance

**NSPC**
National Signalling Point Code

**NTR**
National number

## O

**OLG**
Higher regional court

**OVG**
Higher administrative court

## P

**PAL**
Phase Alternate Line

**PDLV**
Postal Services Ordinance

**PKI**
Public Key Infrastructure

**PMD**
Radio monitoring and inspection service

**PMR**
Professional mobile radio

**PostG**
Postal Act

**PSTD**
Public Switched Telephone Network

**PUDLV**
Postal Universal Service Ordinance

**PZA**
Formal delivery order

## R

**RegTP**
Regulatory Authority for Telecommunications and Post

**RFID**
Radio Frequency Identification

**RNB**
Number block

**RNE**
Rail Net Europe

**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

**SDR**
Software Defined Radio

**SE**
Spectrum Engineering

**SigG**
Electronic Signatures Act

**SRD**
Short Range Device

**SRR**
Short Range Radar

**SSBn**
Interface specifications

**StromNEV**
Electricity Network Charges Ordinance

**StromNZV**
Electricity Network Access Ordinance

## T

**TCAM**
Telecommunication Conformity Assessment and Market Surveillance Committee

**TCB**
Telecommunication Certification Body

**T-DAB**
Terrestrial Digital Audio Broadcasting

**TDSV**
Telecommunications Data Protection Ordinance

**TFTS**
Terrestrial Flight Telecommunications System

**TKE**
Telecommunications equipment

**TKEE**
Telecommunications terminal equipment

**TKG**
Telecommunications Act

**TKV**
Telecommunications Customer Protection Ordinance

**TPS**
Rail infrastructure charging system

**TR**
Technical directive

**TSO**
Transmission system operator

**TW**
terawatt

**TWh**
terawatt hour

## U

**UMTS**
Universal Mobile Telecommunications System

**UN**
United Nations

**UWB**
Ultra-wide band

**UWG**
Unfair Competition Act

## V

**VDEW**
Electricity industry association

**VDN**
Association of German network operators

**VDSL**
Very High Bitrate DSL

**VDV**
Association of German Transport Undertakings

**VEA**
Federal Association of Energy Users

**VIK**
Electricity industry association

**VG**
Administrative court

**VKU**
Association of Local Utilities

**VO Funk**
Radio Regulations

**VoIP**
Voice over Internet Protocol

## W

**WAPECS**
Wireless Access Policy for Electronic Communications Services

**WAR**
Specialist Group for Regulatory Issues

**WIK**
Wissenschaftliches Institut für Kommunikationsdienste (consultancy)

**WIMAX**
Worldwide Interoperability for Microwave Access

**WLAN**
Wireless Local Area Network

**WMV**
Windows Media Video

**WPV**
Universal Postal Union

## Z

**ZPO**
Code of Civil Procedure

**ZPOEG**
Code of Civil Procedure Introduction Act

# Contact points

Practical information and help for those seeking advice

Please use the contact points below for queries on the following:

**General questions on telecoms, post and rail**
Tel: +49 (0) 30 22 48 05 00
Fax: +49 (0) 30 22 48 05 15
verbraucherservice@bnetza.de

**General questions on gas and electricity**
Tel: +49 (0) 30 22 48 05 00
Fax: +49 (0) 30 22 48 05 15
verbraucherservice-energie@bnetza.de

**Telephone spam**
Tel: +49 (0) 29 19 95 52 06
Fax: +49 (0) 63 21 93 41 11
rufnummernspam@bnetza.de

**Diallers**
Tel: +49 (0) 291 99 55 206
Fax: +49 (0) 18 05 73 48 70 90 08*
dialer.postfach@bnetza.de

**Number management**
Tel: +49 (0) 18 03 68 66 37*
nummernverwaltung@bnetza.de

**Radio interference**
Tel: +49 (0) 18 03 23 23 23*

**Publications dispatch**
Tel: +49 (0) 36 17 39 82 72
Fax: +49 (0) 36 17 39 81 84
druckschriften.versand@bnetza.de

*Nationwide telephone/fax information service priced at local rates

**Published by**
Federal Network Agency for Electricity, Gas,
Telecommunications, Post and Railway
Press and Public Relations
Tulpenfeld 4, 53113 Bonn
Tel: +49(0) 228 14-99 21
Fax: +49(0) 228 14-89 75
pressestelle@bnetza.de
www.bundesnetzagentur.de

**Responsible within the meaning of press law**
Rudolf Boll

**Edited by**
Renate Hichert
Linda Sydow
Ulrike Weller

**Layout**
heimbüchel pr, Berlin/Cologne

**Printed by**
Bonifatius GmbH, Paderborn

**Date of going to press**
1 February 2007

**Images**
Bildagentur-online/TIPS, Bundesnetzagentur,
John Foxx Images, Masterfile Royalty Free,
Kirsten Neumann/ddp-Archiv,
Hans-Guenther Oed/STOCK4B, PhotoDisc,
Werner Schuering

Agency's Annual Report 2006 under
section 122 of the Telecommunications Act

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

Tulpenfeld 4
53113 Bonn, Germany
Tel: +49 (0) 228 14 - 0
Fax: +49 (0) 228 14 - 88 72