

Telecommunications and Postal Services Markets in 1999

Market Information

from the German Regulatory
Authority for Telecommunications
and Posts

As at 30 June 1999

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Introduction

Telecommunications and postal services – two markets that are key to the further development of the information society and to Germany's attractiveness as a location for business and industry.

Since 1 January 1998 the development of these markets has been under the guidance of the Regulatory Authority for Telecommunications and Posts (*Regulierungsbehörde für Telekommunikation und Post*, or "RegTP"). The following information, for the most part, derives from the RegTP's market watch activities.

Consumer Advice

The RegTP's Consumer Advice was set up in March 1998. It quickly became well-established, and is regularly used by customers with inquiries or complaints about telecommunications services.

In the first six months of 1999 for instance, more than 8,500 consumers used the service to obtain information about their rights in relation to their service providers as a result of the Telecommunications Customer Protection Ordinance (*Telekommunikations-Kundenschutzverordnung*, or "TKV"). Specifically there were (by medium):

Telephone:	5,950 inquiries / complaints
Internet:	1,590 inquiries / complaints
Letters / fax:	980 inquiries / complaints

Complaints made up 37 percent of the total. While the telephone was used mainly for inquiries, the Internet and letters and faxes in particular were the chosen medium for complaints.

The **breakdown of the issues** is as follows:

1. Telephone charges (problems with bills)	19.1%
2. Numbering issues (allocation of numbers)	13.5%
3. Information on providers (addresses, numbers)	12.5%
4. Rates / charges	11.5%
5. Itemised billing	9.8%
6. Services provided (inquiries about best provider)	7.3%
7. Contractual matters	5.2%

Consumers using the telephone were seeking advice on bills they had difficulty understanding or whose charges were too high, on how to apply for numbers (especially personal numbers), and information on specific providers.

Internet users' complaints tended to be about prices for online use, local network rates and charges for access to special numbers.

Consumers used letters and faxes chiefly to complain about bills on which use of, say, 0190 numbers was disputed or about incorrect billing of call-by-call connections.

Itemised billing - favourable status list

In February 1999 the RegTP invited service providers to supply a voluntary entry to certify compliance with regulatory requirements for standard itemised billing free of charge. This call was issued in its Official Gazette. The updated list can be viewed on the RegTP's homepage (www.regtp.de) under the heading "*Kurz und bündig / Einzelverbindungs nachweis*".

Conciliation

The RegTP has now virtually completed setting up its conciliation procedures as required by the Telecommunications Customer Protection Ordinance. To date, it has received some 100 requests for conciliation. Given the complexity of the issues, the RegTP has decided to introduce a preliminary stage as a basis for dealing with the requests. The main cause of complaints is disputes about how the prices of telecommunications services have come about.

Public telephones as a universal service

Under Section 1 of the Telecommunications Universal Service Ordinance (*Telekommunikations-Universaldienstleistungsverordnung, or "TUDLV"*) the nationwide provision of public telephones in places that are accessible to the public at all times constitutes a universal service. The small number of complaints the RegTP has received on public telephones indicates the degree of success there has been in reaching agreement with the local authorities on this matter. In all cases, it was able to intervene in its regulatory capacity, preventing any significant reduction in the density of the public telephone network. As of 31 December 1998, according to information from Deutsche Telekom AG, the number of public telephones provided was some 148,000.

In a declaration to the RegTP, Deutsche Telekom AG has stated that it fully intends to continue to meet the statutory public telephone provision requirement (universal service). To do so, it has drawn up a concept for submission to the RegTP. This concept was presented in early 1999 to the Advisory Council and contains a commitment on the part of Deutsche Telekom AG not to reduce the number of public telephones for one year.

The Advisory Council also noted with approval the criteria submitted on ensuring the nationwide provision of public telephones. These criteria were published in the RegTP's Official Gazette 6/1999 of 14 April 1999 (www.regtp.de under "*Kurz und bündig*"). In a one-year pilot project, so-called basic telephones are to be tested in locations that are uneconomic on account of low demand but that are still to be served. This basic telephone will provide full public telephone functionality in a less sophisticated version of the traditional call-box telephone, but at greatly reduced investment and maintenance costs. Calls can be made using the Telekom Calling Card Service at the same price as for call-box phones. Emergency calls are free of charge. This pilot project will be closely followed by leading associations of local government bodies in conjunction with the RegTP. The criteria will then be subject to further review.

Market watch telecommunications

Growth in the services market

1998 revenues in the telecommunications market were clearly in excess of **DM 100 billion**, the services and equipment markets being taken together.

In 1998, the services market was worth around **DM 88bn**.

Greater demand and the impact of competition have boosted overall volumes, amid falling prices. Full liberalisation of the market has meant that the many new providers are increasingly offering services that build upon one another. The lengthening services chain (interconnection, purchase of intermediate input for telecommunications services, resale) is also contributing to these unprecedented revenue levels.

High revenues as in 1998 can be expected for the whole of 1999, falling prices more than being made up for by the greater volumes recorded.

1998 revenues in the telecoms market

DM 106 billion in all

DM 88bn telecoms services

inc

• Voice telephony:	DM 46bn	(52%)
• Mobile:	DM 19bn	(22%)
• Cable TV:	DM 4.5bn	(5%)

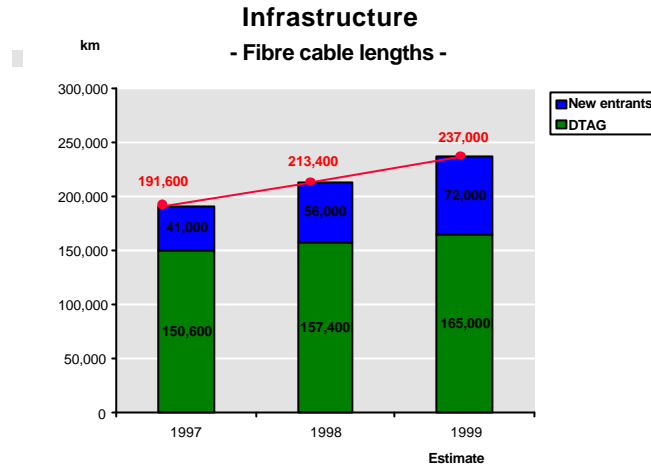
New entrants generated revenues of around DM 5bn
in segments other than cable TV and mobile

DM 18.4bn telecoms equipment market [\(Source:ZVEI\)](#)

The services market in Germany, as in other EU countries, continues to be dominated by fixed and mobile voice services – notwithstanding all the multimedia hype to the contrary. And one and a half years of intensive competition has resulted in inter-carrier trade (interconnection, carrier exchanges) becoming a distinctive and significant segment of the market, one in which providers make reciprocal use of their investment in switching and transmission capacity.

The 1998 investment volume of the services market, including the Deutsche Telekom group's tangible assets (DM 9.4bn), totalled DM 15.3bn. According to more recent information, DM 3.3bn of this was accounted for by Telekom's fixed network rivals alone. Even assuming lower investment by Telekom, a volume of around DM 13.6bn is still anticipated for 1999. The RegTP is assuming that fixed operators' investments for this period will even increase by more than 10 percent.

The investment activity of the new fixed network operators in particular is reflected in the expanded optical fibre infrastructure. Germany is expected to have almost 240,000 km of fibre routes by year's end.



This also has a positive impact on employment. The jobs Deutsche Telekom has shed in its quest for productivity gains have been fully offset in 1999 by the job creation of its competitors. The number of staff employed by the new entrants, including those in the broadband cable/cable TV segment (BC), will exceed **53,000** by year's end – an increase of **31 percent** over the previous year.

Staff employed in the telecoms market

	1998	1999	Growth 98/99	
Deutsche Telekom (group)	179,200	168,000	-11,200	-6.2%
New entrants (inc BC)	40,600	53,100	12,500	31.0%
Telecoms services market	219,800	221,100	1,300	0.6%
Equipment manufacture	101,000	101,000	0	0.0%
Total market	320,800	322,100	1,370	0.4%

As the table below shows, the RegTP is assuming – on the basis of licences granted, number of new entrants and market shares – that the employment figures of Telekom's competitors in the fixed network domain will rise more than twice as fast as in mobile communications, a market renowned for its dynamic growth.

Development of staff nos in the telecoms market

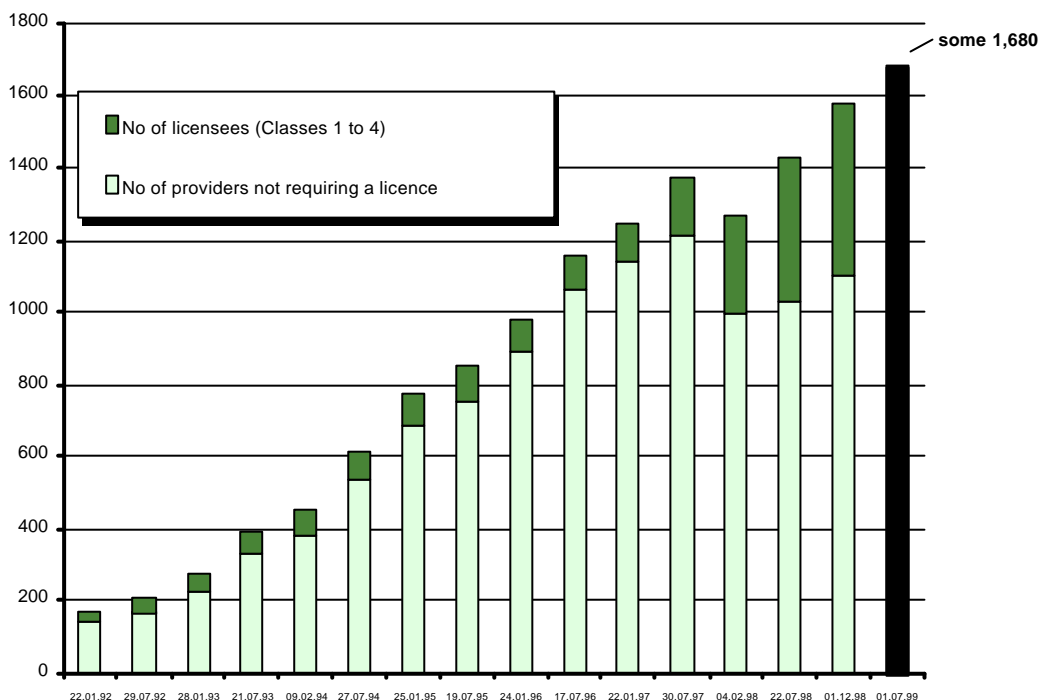
	1998	1999	Growth 98/99	
			absolute	%
<i>New entrants fixed netw (no BC)</i>	18,700	27,900	9,200	49%
<i>New entrants mobile telephony</i>	16,000	19,200	3,200	20%
Total new entrants	34,700	47,100	12,400	36%
Deutsche Telekom AG	179,200	168,000	-11,200	-6.2%

Service providers

The Official Gazette of 3 February 1999 listed 1,458 registered providers. By 1 July this number had risen to around **1,680**, including both new licensees and companies not requiring a licence for their operations. An updated list was published in Official Gazette No 13 of 28 July 1999. Further updated lists can be downloaded from the RegTP's Internet pages (<http://www.regtp.de>).

Telecoms service providers

Growth in the number of providers, licensees included (Classes 1 to 4)

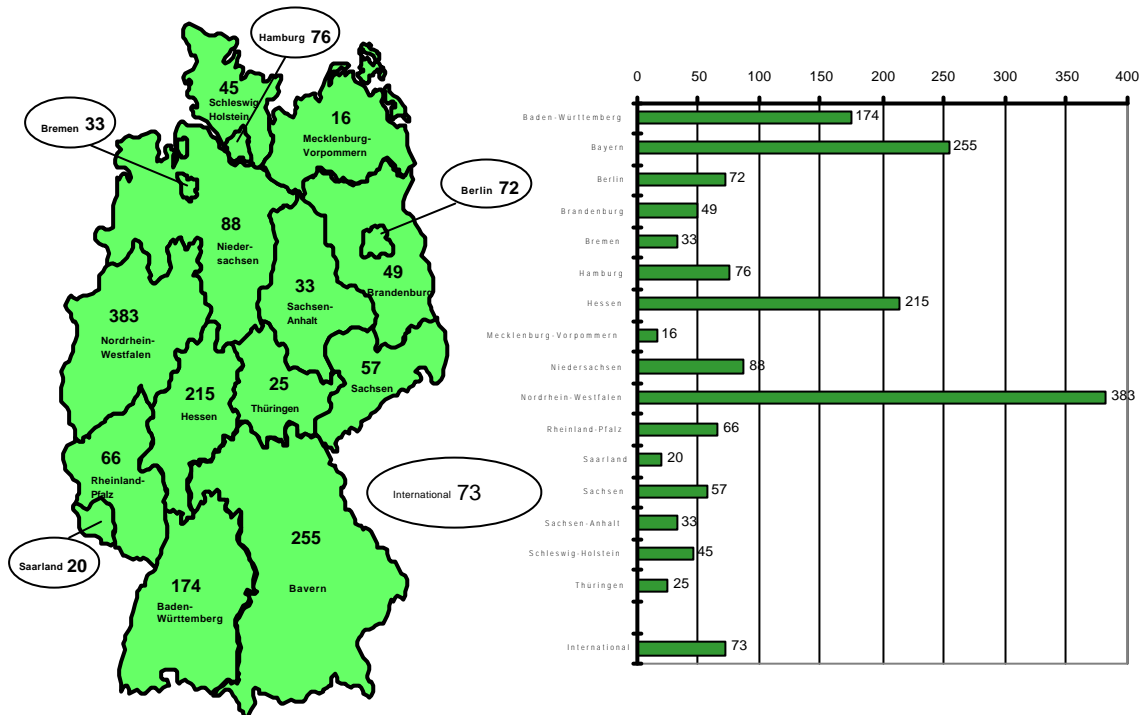


The drop in early 1998 is accounted for by revised data on providers and offers (elimination of offers no longer provided commercially and of inaccurate data).

Providers' operations (both licence-exempt and subject to licence) are broken down regionally as follows:

Telecoms service providers

Regional distribution of service providers and licensees (Classes 1 to 4)

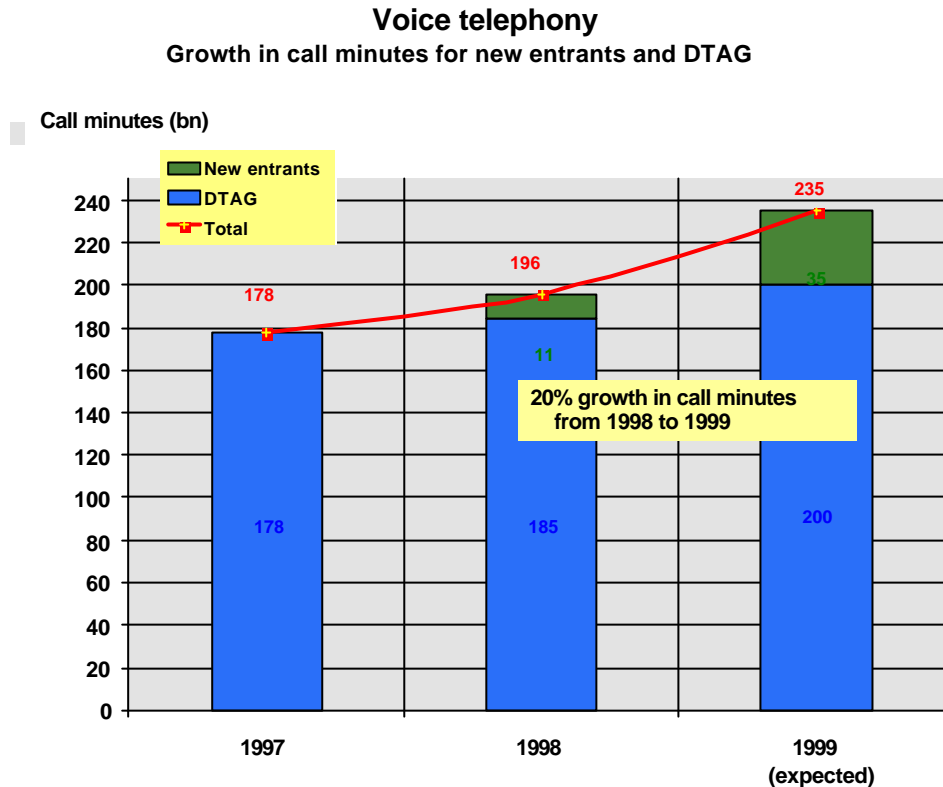


Growth in the voice telephony market

More than **70 companies** now offer telephony services, some of whom operate as resellers. Meanwhile, a trend towards provider loyalty, towards preselection, is emerging; more customers, business customers in particular, have opted for preselection than at the end of 1998 as a result of the good offers available. Use of the call-by-call facility still predominates, however. Although the number of competitors' local loops is growing as local providers become less thin on the ground, it is still comparatively low. Whereas **46.5m analogue and digital telephone channels** were recorded in 1998, a total of **48.5m channels** is expected by year's end from the increase in the number of ISDN connections. The share of new subscriber network operators will only be around 1 percent, however, according to current forecasts, the remainder still being accounted for by Deutsche Telekom AG.

On average, the volume of daily voice telephony traffic at the end of the first six months of 1999 was well over **600 million minutes**. New entrants' share of total minutes generated in Germany every day was some **14 percent (corresponding to over 85m call minutes per day)**. In terms of the volume of long-distance domestic calls, international calls and fixed to mobile calls, the new providers are currently notching up a market share of **35 percent**.

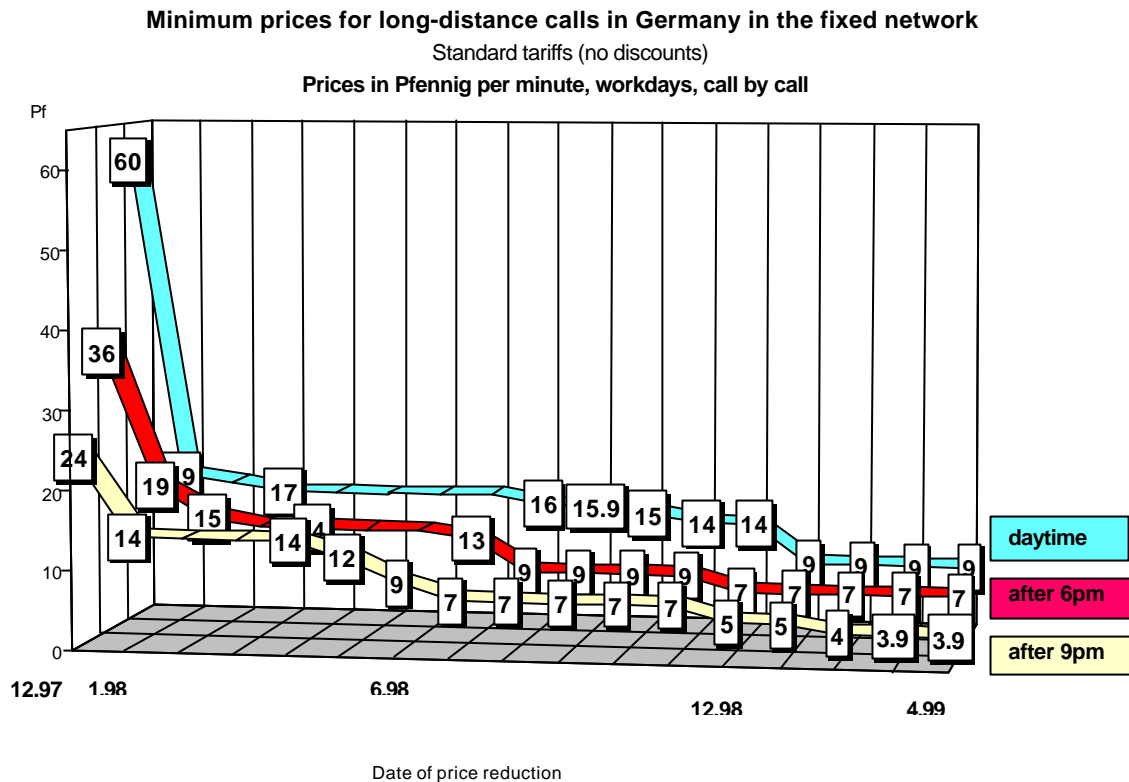
The rate of growth of telephone traffic in 1999 over the 1998 figure is expected to be 20 percent – the remarkable result of greater competition and lower prices.



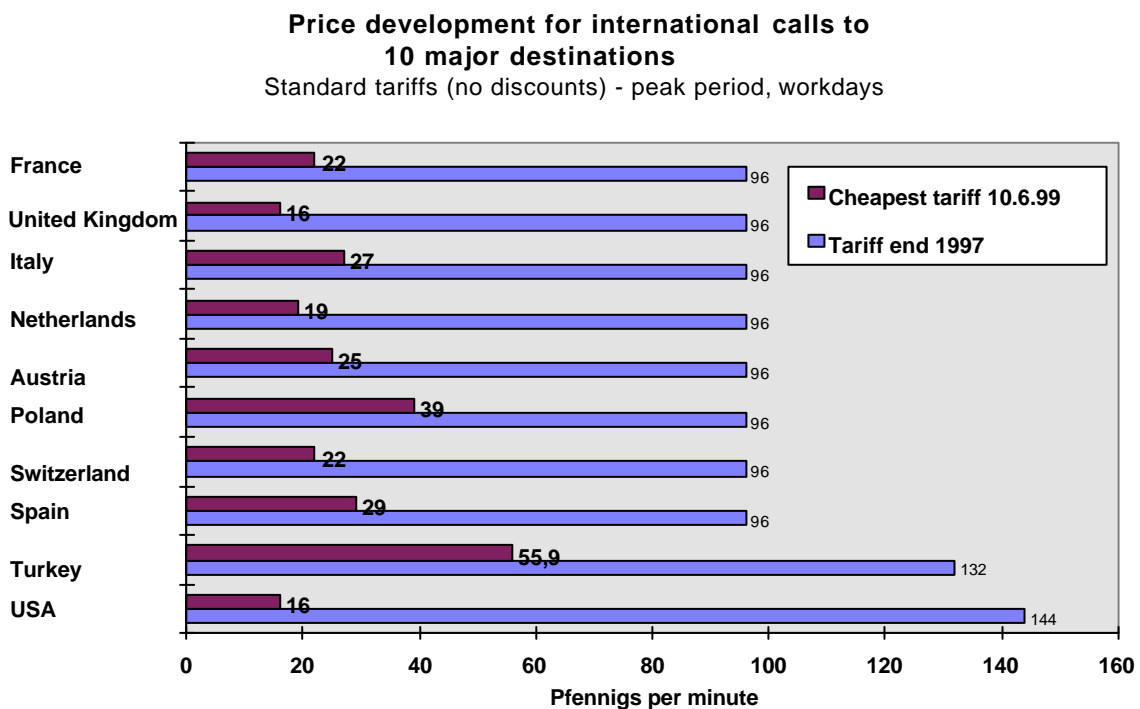
Dial-up traffic to online services is becoming a significant factor in the telephone networks. Although not voice telephony, it is now one of the growth engines of traffic in the telephone network. The combination of dial-up and Internet/online service is fast becoming the mainstay – along with voice telephony – of many new providers' activities. Trends in this field are described in the section on Internet and online services in the international context.

Price development

Since the market was fully deregulated on 1 January 1998 Germany has seen a sharp drop in the price of long-distance calls as a result of the competition deregulation has ushered in. Now, depending on the time of day, the customer pays anything up to **85 percent** less than 18 months ago for a domestic long-distance call on a weekday. And these savings are possible for everyone (without preselection or volume discounts). The following chart illustrates the development of price levels on the basis of the most favourable provider, with reference to call-by-call.



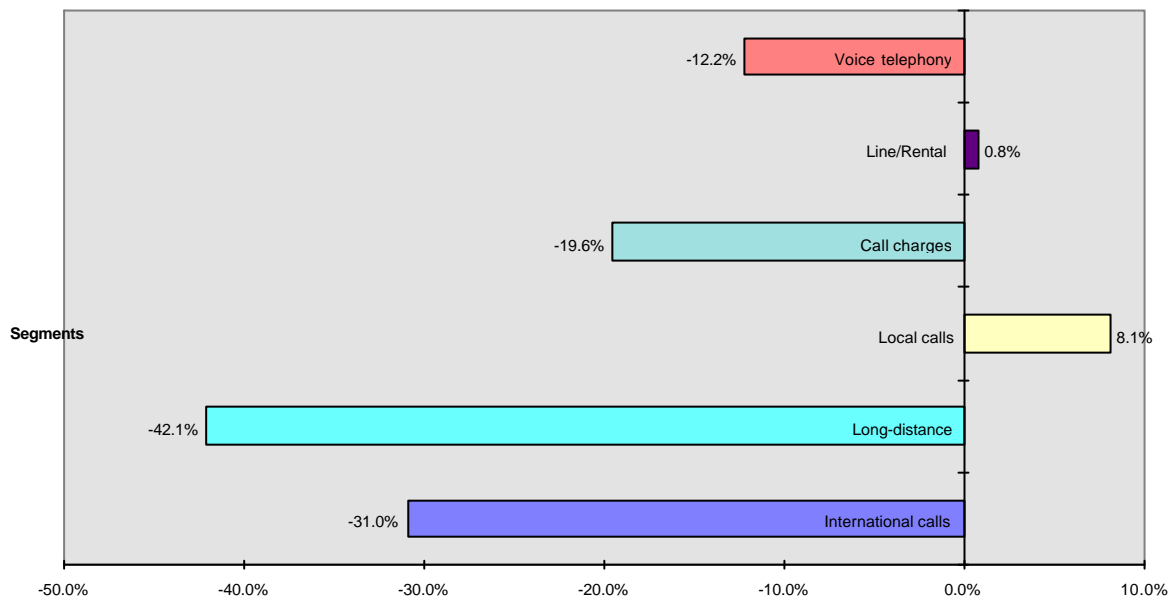
Competition for international calls has also brought the consumer huge benefits. Since the market was fully deregulated in 1998, prices at peak periods on the 10 major international routes have fallen by between **47 and 89 percent** (74 percent on average). This is illustrated in the following chart:



These tables show the maximum savings for the customer.

The consumer price index, based on a basket of telecommunications services and updated monthly by the Federal Statistical Office, shows the extent to which liberalisation has eased the pressure on the average German consumer's pocket. Between late 1997 and June 1999 consumers were able to spend **12.2 percent** less on voice telephony than previously.¹

Development of the consumer price index Voice telephony (End 1997 to June 1999)



Source: StBA

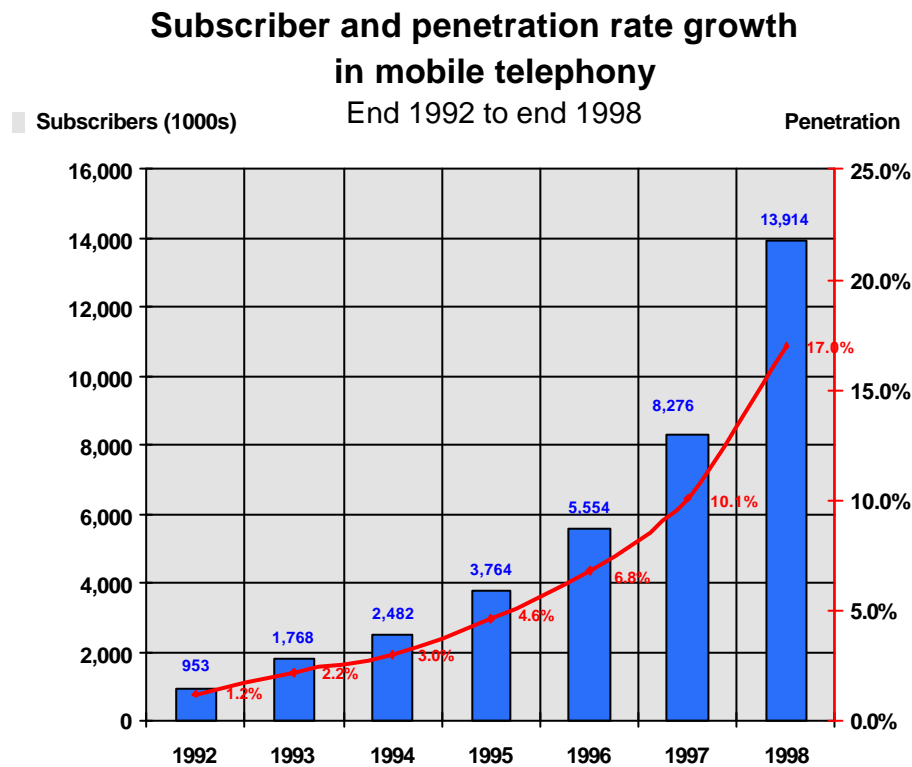
Consumers have also benefited from the price reductions Deutsche Telekom AG introduced on 1 January, 1 April and 1 June. The higher prices for local calls is a result, for instance, of converting the tariffs in Telekom's public telephones.

¹ Since January 1999 a factor of 30% has been used to take account of competitors' tariffs for long-distance calls. Solely Deutsche Telekom AG's tariffs feature in the index for connection charges/rental and for local and international calls.

Growth in the mobile market

Since the introduction of digital mobile telephony, the German market has experienced tremendous growth. With 15.94 million users, Germany ranked second only to Italy at the end of April 1999 in a comparison of western European markets. By the end of June, this number had risen to **16.9m** customers in Germany using mobiles to make calls; this translates into a **penetration rate** of **20.6 percent**.

The chart below illustrates growth in the number of subscribers and in the penetration rate in Germany from the end of 1992 to the end of 1998.

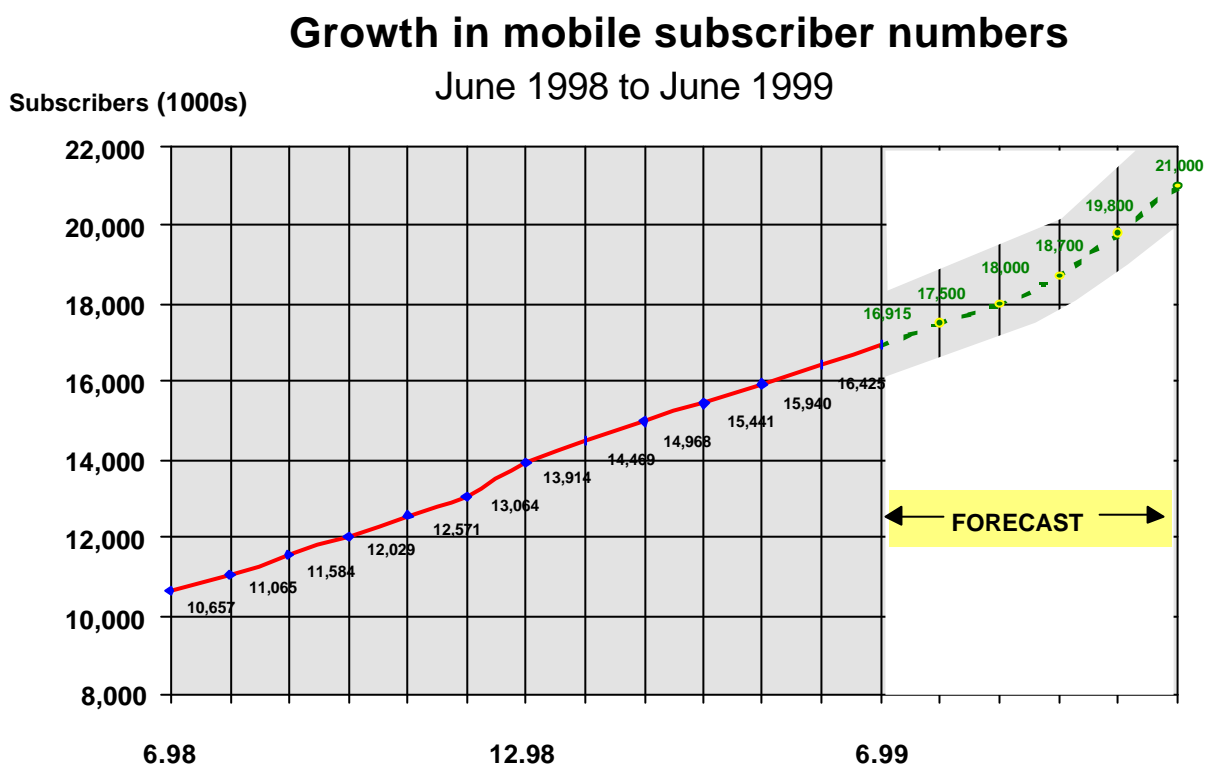


In 1998 the total number of mobile telephony users grew by 68 percent. By the **end of 1999** the number of German users is expected to have risen to around **21 million** at a penetration rate of 25 percent. These enormous growth rates are chiefly the result of lower call charges. But so-called local network tariffs, prepaid cards and less expensive equipment have also been contributory factors in the residential customer segment.

Price development

According to the Federal Statistical Office's price index for mobile communications services, consumers paid 25.3 percent less for the same basket of services between the end of 1997 and May 1999.

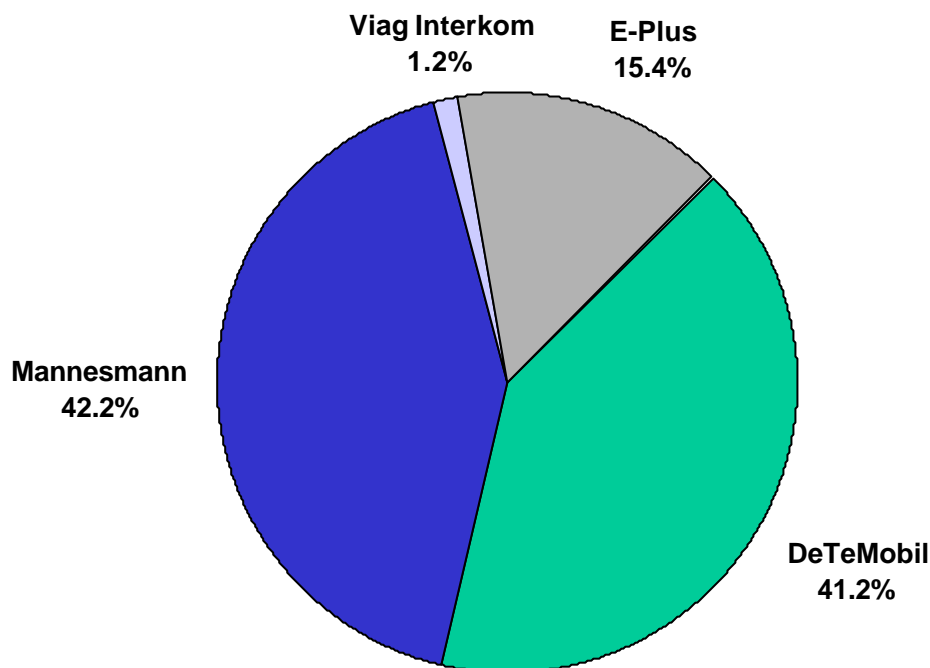
The chart below shows the monthly user growth rates in the C, D1, D2, E1 and E2 networks over the last twelve months; average monthly growth in this period is 478,000 users, and the trend is upwards.



How the June 1999 total number of mobile users, **16.9 million**, is distributed among the operators DeTeMobilNet, Mannesmann Mobilfunk, E-Plus Mobilfunk and Viag Interkom, is shown in the following chart:

Market shares of the mobile telephony operators

End June 1999



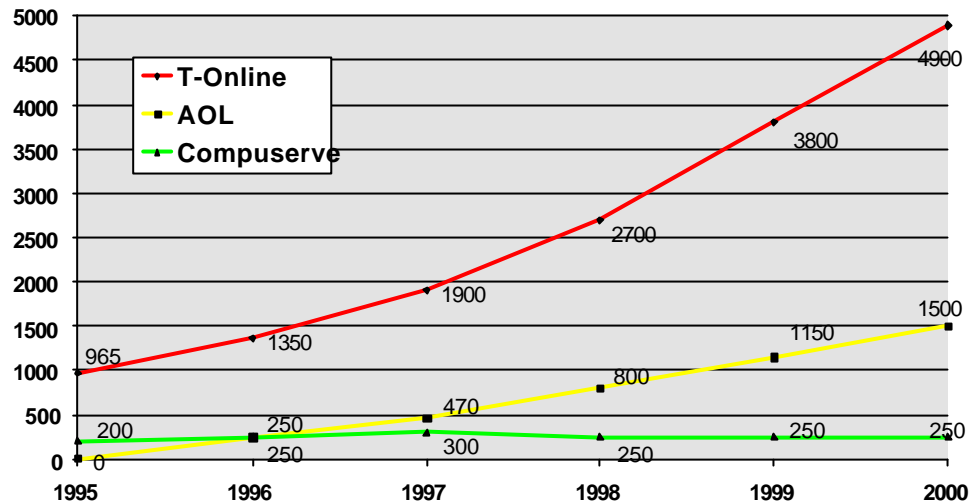
DeTeMobilNet's share of mobile customers also includes around 300,000 still using the analogue C network. This network is to be discontinued at the end of 2000 as subscriber numbers have long been in decline and it cannot be operated economically any longer. Customers will be made an attractive offer to encourage a switch to the D1 network.

Growth in the Internet and online services market

In Germany, this market has been one of the strongest growth areas since providers first began commercial operation in 1995. Business boomed in 1998, opening Internet use to the mass market, and the number of users has been rising steadily ever since. Thus the number of Internet/online subscribers is likely to rise from around 7.5 million at the end of 1998 to 8 million mid-year and 9 million by year's end. The market leaders have traditionally been the online service providers T-Online, AOL and Compuserve. They share the market, however, with around 1,000 Internet Service Providers (ISPs), who have already gained almost half of the market for themselves.

Development of online subscriber numbers in Germany

Subscribers (1000s)

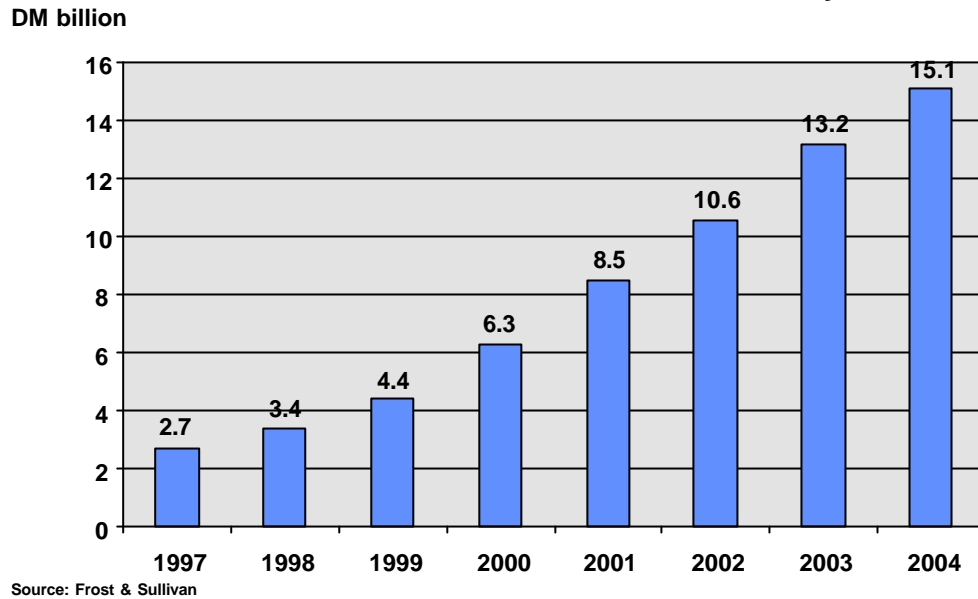


1999 and 2000: RegTP estimates

Many of these ISPs offer direct Internet access at flat rates – a particularly attractive solution for frequent surfers. The last few months have seen a further group of providers entering the market: the Internet-by-call providers. Now, for a usage-dependent per-minute fee that covers the cost of using the Internet and the dial-in charge to the Point of Presence (PoP), anyone interested can experience the network of networks easily and with no commitment (no monthly rental, minimum charge or contractually agreed period). This will further boost the spread of the Internet in Germany, making the profile of the Internet user less the computer buff than the man on the street.

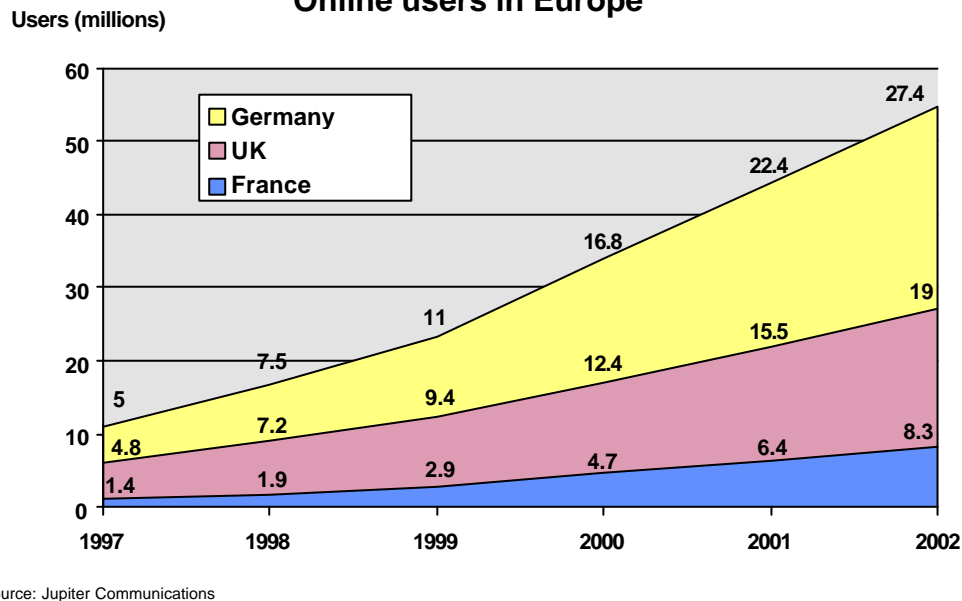
These Internet-by-call offers are attractive particularly for newcomers and occasional surfers. They are often offered by telephone companies to expand their product portfolio and encourage customer loyalty. More packages bundling services from the fixed network, from mobile communications and from the Internet market can be expected in the course of the year. All this will contribute to this segment of the market becoming more and more accessible to the general public. Strong growth is therefore certain. The following chart shows the tremendous potential of the Internet in Germany for the coming years.

Market for Internet services in Germany



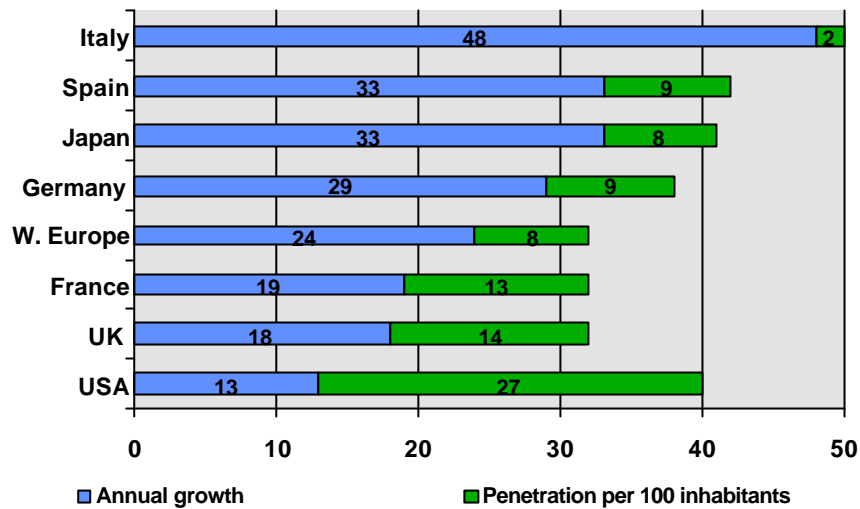
By European standards, Germany will continue, numerically, to be Europe's largest online community into and beyond the millennium.

Online users in Europe



Related to population figures, Germany lags the US, the UK and France admittedly, but is likely to catch up soon on account of its strong annual rates of growth.

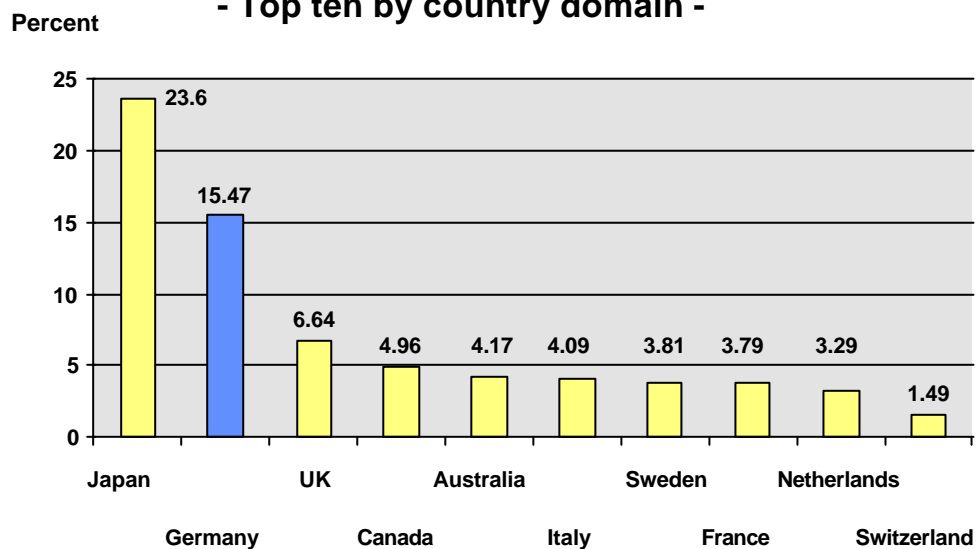
Growth in Internet / online subscriber numbers and penetration rate



Source: ITU

Germany's strong presence on the Internet is also documented by the high volume of traffic generated by German sites with the domain ".de". Around 44 percent of Internet traffic stems from domains outside the American address space (.com, .net, .edu, .org, .mil, .gov). Here, Germany ranks second to Japan.

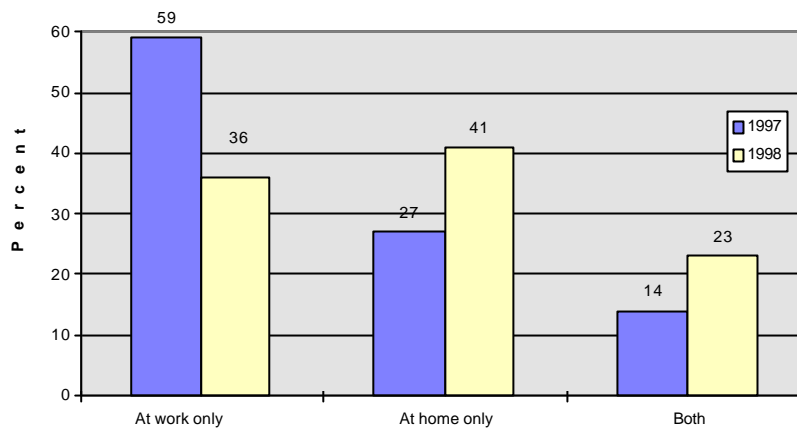
Internet traffic - Top ten by country domain -



Source: WebSideStory's StatMarket

This dynamic growth is attributable particularly to greater use in the private domain. And especially the Internet-by-call services described above have opened up the market to new residential customer groups. This is illustrated in the following chart:

Online use in Germany Deutschland



Source: ARD/ZDF Online Study 1998

The strong growth in the number of online households has been accompanied by an increase in the length of time spent on the Internet. According to the Society for Consumer Research (*Gesellschaft für Konsumforschung*, or "GfK"), 38 minutes a day is the average. Use is chiefly between nine and twelve in the morning and six and ten in the evening.

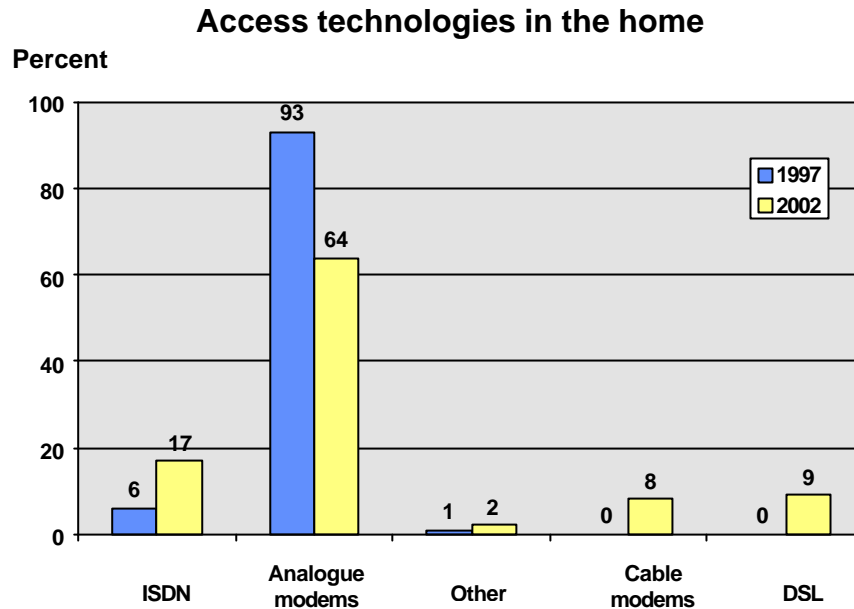
For some time now, the user structure has been changing from a medium used mainly for business purposes to one for private consumption. The percentage of purely business users has fallen this year from 59 to 36 percent. Almost half of these users surf daily. The average age has also risen to 36 years, showing the growing commercial trend.

The access methods, interestingly enough, show a renaissance of analogue transmission technology on the subscriber line. Evidence of this is the implementation, now almost complete, of the new V.90 standard, enabling signalling rates of up to 56 kbit/s in analogue technology, thus almost achieving ISDN levels. This cost-effective analogue technology is hence an attractive option for the private user in particular, compared to the more costly ISDN.

Business and corporate customers, on the other hand, will soon be offered broadband access via ADSL technology (Asymmetrical Digital Subscriber Line). Deutsche Telekom AG and some of the new entrants are planning a commercial offer of this access technology, which permits data to be delivered on the traditional copper pair at speeds of up to 8 Mbit/s.

Also, some providers are offering high-speed Internet access via cable television networks. This also promises signalling rates of the Mbit/s order. The first forecasts indicate that, by 2002, these alternative methods will already constitute 20 percent of total access technology.

Across the country, pilot projects are taking place to test high-speed access via power lines. Digital powerline technology is also providing the user with speeds of around 1 Mbit/s. The year 2000 is expected to see the first commercial offers.



Source: International Data Corporation

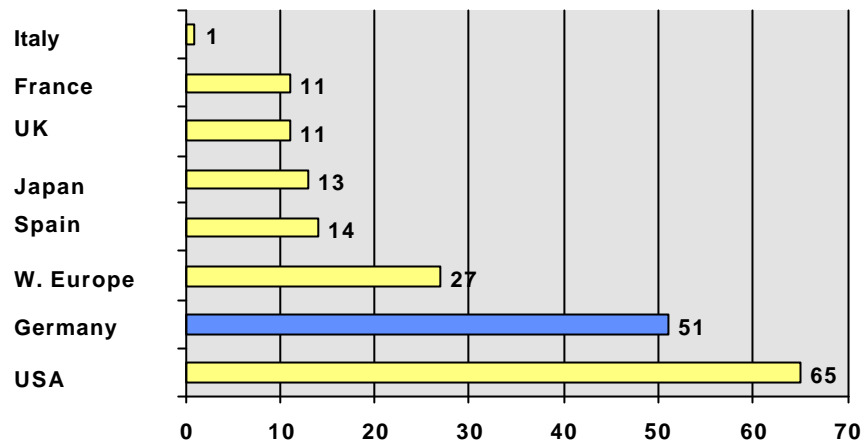
Broadband network

Business circles are closely following Deutsche Telekom AG's progress in spinning off its cable networks and setting up a broadband cable subsidiary, since private investors will also be able to take part in further stages. Also showing interest are some companies new to the telecommunications markets. The protracted negotiations indicate the great and diverse potential of the cable TV networks.

The background to this investor activity is the vigorous movement in the North American cable TV market, a pioneer in matters of new interactive services. The entry of AT&T into the cable TV market caused a stir on the other side of the Atlantic; at stake here, however, is local access to the customer. Crucial, however, is not cable telephony say, on the UK model, where the decision in favour of cable connection was determined by cable telephony, but high-speed Internet access based on broadband infrastructure. The technical innovation lies in the large bandwidth available – signalling rates of, for instance, 550 kbit/s – in the local loop. This is ten times normal ISDN capability in the telephone network.

The German cable TV network is one of the largest in the world. Some two-thirds of the 39 million households in the Federal Republic can be connected up to this network, consisting, in actual fact, of 1,200 island networks. Some 17.6 million do indeed receive their TV and radio programmes via the cable network.

TV cable connections per 100 households 1998

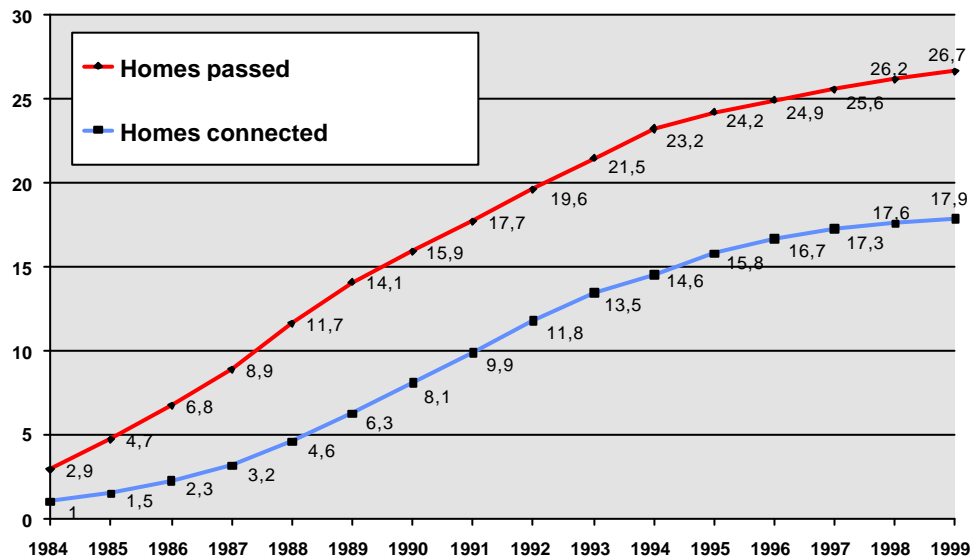


Source: EITO

Besides Deutsche Telekom AG, the main operator at network levels 1, 2 and 3, a number of competitors are active at the attractive level 4 which gives them direct access to customers in their homes or offices at local loop level.

Cable TV in Germany
Figures past and present

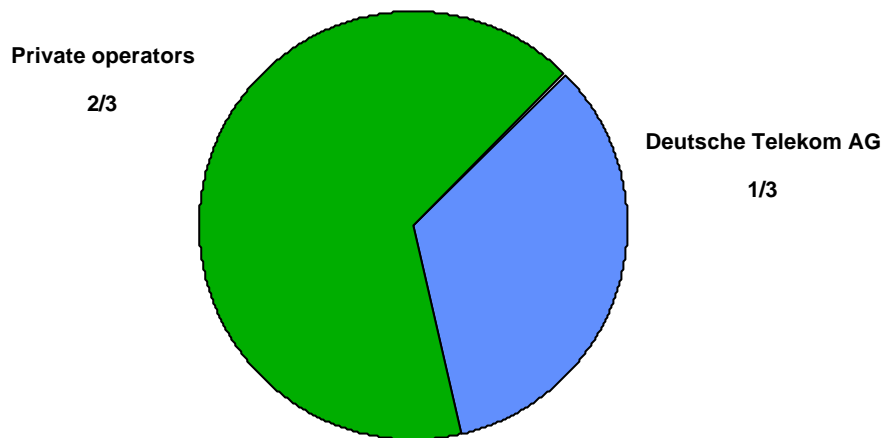
Homes (millions)



Source: Deutsche Telekom AG; 1999 figures and 1998 homes passed: RegTP estimate

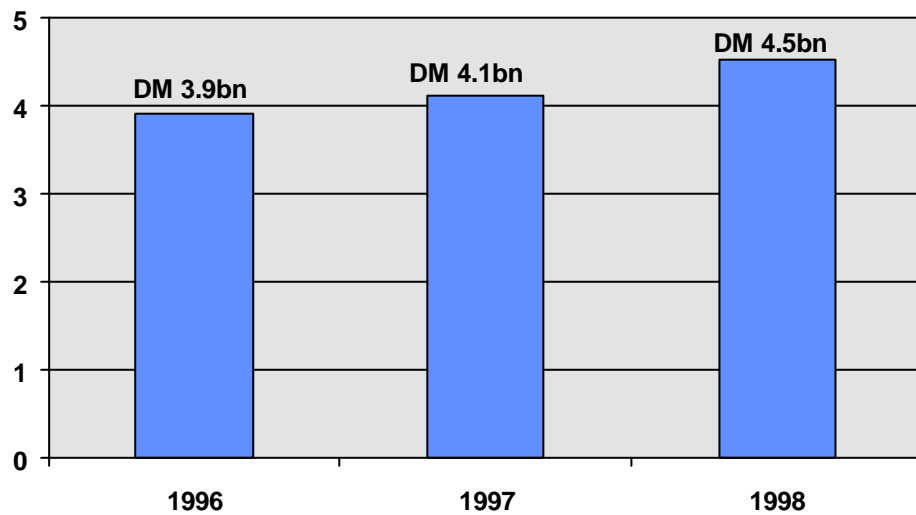
Only about a third of the households connected are served by Deutsche Telekom AG directly; homes are predominantly served by 4,000 to 6,000 mainly small and medium-size companies for whom level 4 as the local loop is becoming more and more important. The RegTP is assuming that some 3,500 persons are employed in the cable TV market alongside those employed by DTAG.

Cable network operators' access to the end user



Together, the cable network operators generated **revenues** of around **DM 4.5 billion** in 1998. 1999 will see this figure exceeded.

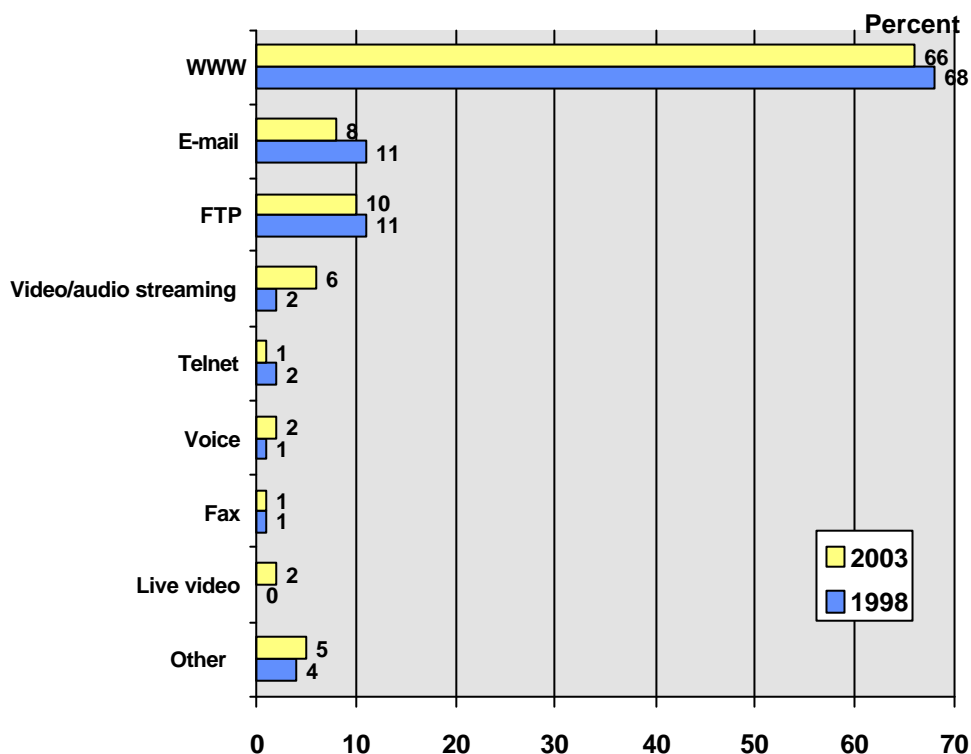
Development of cable TV revenues in Germany



Besides the normal programmes, digitised interactive broadband cable networks now provide a broad range of additional interactive services such as voice telephony and high-speed Internet access.

Broadband network access will be the platform for innovative Internet applications as the development of new access technologies in the telephone network (eg DSL) shows. Demand for bandwidth is attributable first and foremost to the capacity-intensive applications such as streaming and live video broadcasts that the next few years will bring.

Internet traffic by application: 1998 and 2003 (forecast)

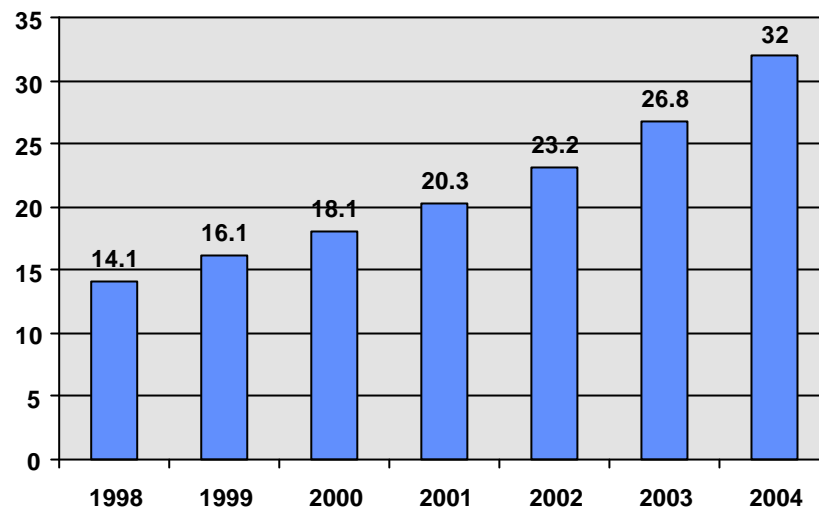


Source: Datamonitor

Last year saw the first broadband cable telephony and Internet offers in Germany. The number of providers is likely to rise substantially following the sale of the cable networks, a view reinforced by private operators' declared intention to **invest** in the region of **DM 3 billion** by 2000. Provider forecasts expect up to 5 percent of cable customers to be interested in this new service, even in its early stages.

And not least, the cable network will be the platform for the convergence of broadcasting and information technology. The first providers are planning virtual genre channels combining films with additional information, online ordering directly from television programmes, and the like. Growth in the cable television networks will therefore be considerable. This trend is not restricted to Germany, but is emerging across the whole of Europe, as the following forecast shows:

European cable operators' expected revenues
US\$ billion



Source: Forrester Research

Number management

Full competition has prevailed in the German telecommunications market since 1 January 1998. Network operators and service providers are keen to position themselves well and to secure as large a chunk of the market as possible. For their intended areas of business they need marketable telephone numbers.

For the RegTP, responsible for number management, this means:

- ◆ Allocation rules for the different types of number must be drafted and conditions of use for the numbers laid down.
- ◆ Compliance with these rules must be monitored.
- ◆ Every day, countless applications are received – for blocks of numbers at local level, for extended blocks of numbers, for value added numbers, for technical numbers, and so on. These must all be processed as quickly as possible.
- ◆ Users have queries and want advice. Number management seeks to provide all the information required.
- ◆ It will be necessary to set up a geographical information system for the management of the local network area plans and for the representation of current and forecast local network capacity.

The intensity of the allocation business is evidenced by the following figures:

The local network area: by June 1999

5,126 blocks of numbers (each with 1,000 numbers) for
1,848 local networks had been allocated to 66 operators, and more than
9,500 applications for extended blocks processed.

(NB: These figures are valid as from 1 January 1998)

Service numbers, allocated to network operators but also directly to users, have been allocated as follows:

19,923	Personal numbers	0 (700)
80,537	Freephone numbers	0 (800)
48,224	Shared cost numbers	0 (180)

Also allocated were:

51	Numbers for directory assistance (118)
135	Carrier selection codes
92	Carrier portability codes
6	User groups
19	International virtual private networks
1,324	National signalling point codes
167	International signalling point codes
18	Code blocks for CUGIC
68	Codes for other technical numbers

Further information is available on the RegTP's homepage (www.regtp.de) under the heading "*Rufnummernverwaltung*".

Telecommunications licences

Mobile and satellite communications

Class 1 (Mobile radio) and Class 2 (Satellite) licences

There has been a significant change in the development of trunked radio over the last two years. The trend has been towards mergers, in view of the relationship with GSM services.

Of the original 42 Type A licences, only 16 are still valid, 14 of which are held by one licensee, *Dolphin Telecom (Deutschland) GmbH*. Only 36 of the original 55 Type B licences still remain. No changes have been recorded in respect of the Type C licences for networks on public properties, no longer subject to licence under the Telecommunications Act. On the contrary, there have been another 9 frequency assignments for public, property-related trunked networks.

In the Federal Republic of Germany, 55 satellite licences and three licences for satellite personal communications services (S-PCS) are currently held.

Transmission lines and voice telephony

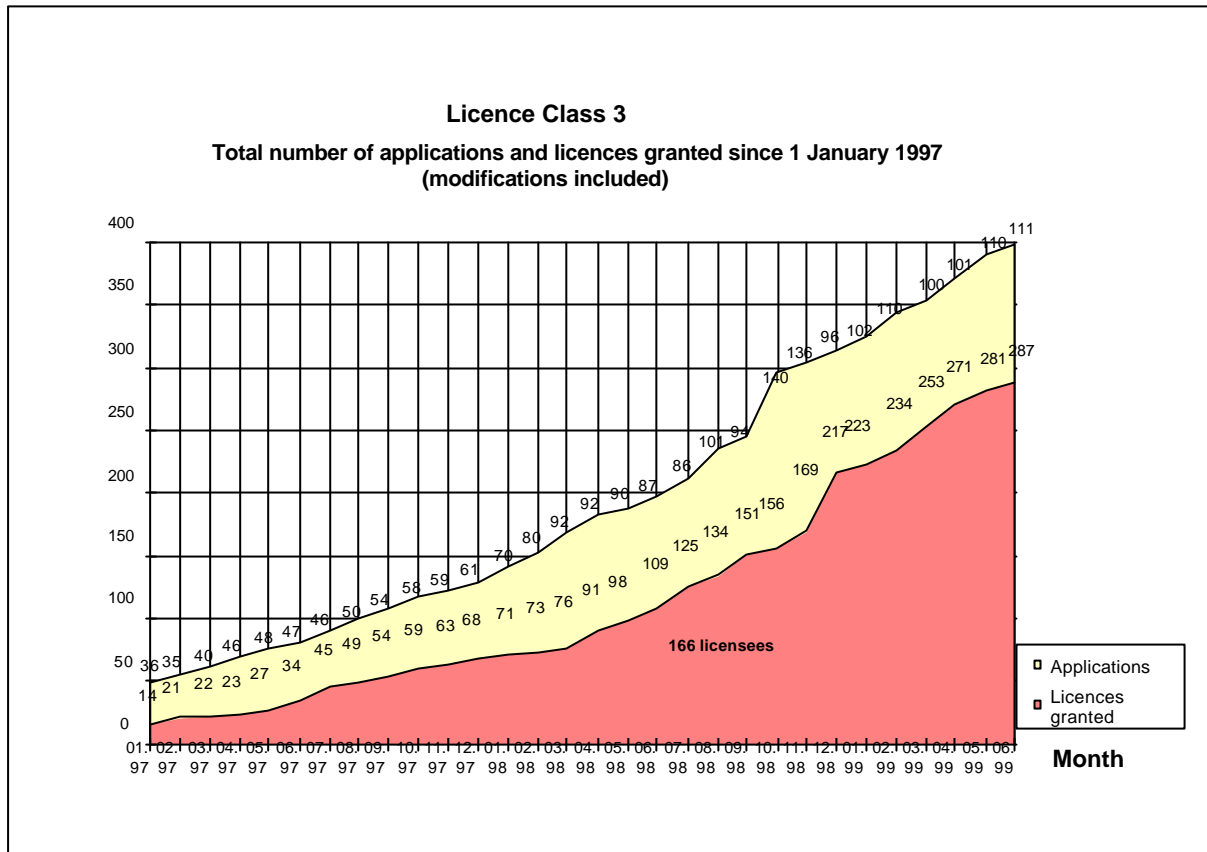
Class 3 (Transmission lines) and Class 4 (Voice telephony)

Total licences granted:	Granted in the first six months of 1999:
Class 3 (Transmission lines) : 287	63
Class 4 (Voice telephony) : 223	59

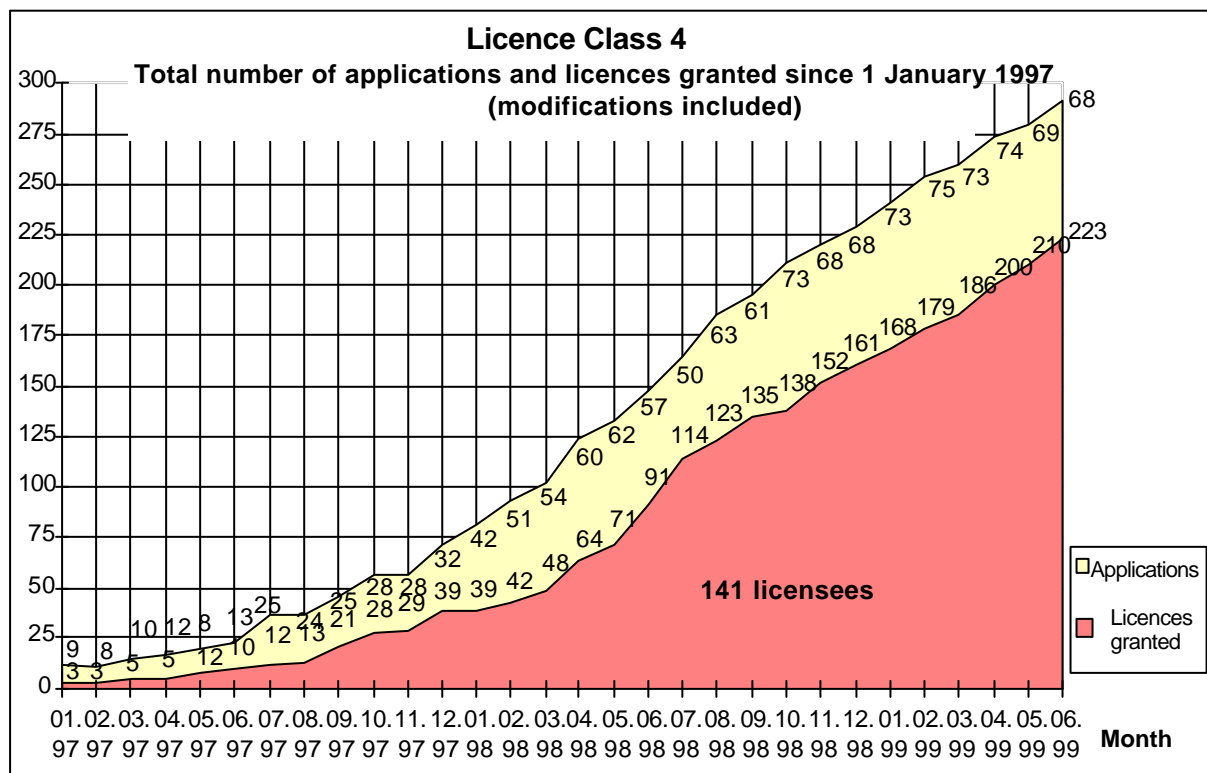
These 510 Class 3 and 4 licences are in the possession of 236 companies. About a third of these companies are spin-offs from public utilities / municipal plants / savings banks.

At present (July 1999), 111 Class 3 and 68 Class 4 applications are being processed.

The following charts show the continued strong growth of the telecommunications market after the abolition of the network and voice telephony monopolies. Simply the large number of licence applications bears witness to this. The boom is set to continue, at least for the time being.



Currently, there are **166** holders of a Class 3 licence.



Currently there are **141** holders of a Class 4 licence.

Year 2000 issues

Under Article 87(f) of the Basic Law, the federal government is committed to ensuring the availability of adequate and appropriate telecommunications services throughout the country. Section 87 of the Telecommunications Act is a facilitating provision, requiring licensed companies to take appropriate technical precautions or other measures to protect against malfunctions that could result in considerable harm to telecommunications networks.

This sets the context for the debate of problems that could arise in connection with Y2K and the date change. Whether disruption to infrastructure processes could occur must be clarified. Given the dimensions of the problem, all licensed companies active in mobile and satellite communications, the leasing of transmission lines and voice communications services were requested in early October 1998 to provide information on their preparedness for the date change. Specifically, they were asked to supply detailed information on the following:

- Has your company already made an analysis of potential problems in this regard and tested potentially endangered IT applications or IT-based telecommunications systems?
- If so, have you identified any faulty components or software?
- What arrangements have you made to guarantee availability?
- Do you anticipate problems at gateways to other operators?
- Do you anticipate any billing problems?
- Have you made any contingency plans to deal with any malfunctions arising despite taking precautions?

Attached to the letter was an information sheet showing a possible plan of action to combat the millennium bug. The responses received indicate that the larger companies in particular, are aware of the problems involved and have taken appropriate action. In many cases they have set up crisis groups whose action is directly controlled by members of the management (eg management boards) or who report to the management at regular intervals.

Some companies began their checks in 1997, while others are still in the process of identifying critical components. Many of the investigations have now been completed and suitable remedial action taken. Yet there are still some laggard companies.

In many cases, companies have requested their software and hardware manufacturers to certify Year 2000 compliance, and often also to provide a guarantee of this compliance. However, suppliers will not generally assume unlimited liability.

About a quarter of the licensees that have responded to our inquiries so far admit having found faulty components (hardware and software).

The tests companies are carrying out to ensure a glitch-free changeover are either individual or system tests, depending on the complexity of the applications. Simulation tests are performed using the dates 29.2.2000 and 1.3.2000 as well as 9.9.99, 31.12.99 and 1.1.2000. A number of licensees report still being at the test stage while others have already completed their preparations.

The companies that have expressed their views on possible problems with gateways to other operators do not anticipate any malfunctioning in principle; many companies, however, are still testing and not yet able to comment. In September, several companies are planning a joint dry run which will also test the functions of rating and billing alongside the functioning of the networks themselves. Nor do companies anticipate any fundamental problems with billing – some are simulating test bills to make sure everything goes smoothly.

Some operators are putting contingency plans in place for the date change. Others will decide their course of action once their tests have been completed. How much their systems are affected will be a factor in their decision.

Postal services market

The German postal services market is worth some DM 42 billion (1998 revenues). Around two-thirds of this market is now open to competition. The Postal Act makes provision for deregulation of the entire market by limiting the term of Deutsche Post AG's exclusive letter post licence to 31 December 2002.

Total Deutsche Post revenues for 1998 were around DM 28 billion, which translates into two-thirds of the entire German postal services market. The largest part is accounted for by the *Letter Mail Communications* division (approx DM 20bn). The remaining third is shared by a number of providers, most notably courier, express and parcel services.

1998 revenues in the licensed sector (conveyance of letter post items $\leq 1,000\text{g}$) was in the order of DM 19bn. Deutsche Post AG continues to have more than 99 percent of the market, even though some areas have been opened to competition. In its core letter post business it generated revenues 4 percent higher than in the previous year, despite the growing competition.

Entry to the market

Under the constitution, postal services are provided as a matter of private enterprise by Deutsche Post AG and other private companies. Private providers offering service for profit is deemed a basic freedom (freedom of occupation or profession). Accordingly, any individual or entity may offer postal services in the market.

Certain postal services require authorisation (a licence) under the Postal Act. Applicants have a legal right to a licence, provided they qualify. The number of licences is not restricted.

Other services are subject to the statutory fixed-term exclusive licence defined in the transitional provisions of the Postal Act (Chapter 12), granted to Deutsche Post AG by the Postal Act of 22 December 1997. This exclusive licence runs until 31 December 2002.

Opportunities for commercial providers to enter the market

☐ Licence-exempt postal services

- Conveyance of letter post items when the provider operates as a vicarious agent of the licensee or as a person employed in the performance of its obligations,
- Conveyance of letter post items enclosed with other items and relating solely to the contents of those items,

- Conveyance of letter post items such that the criteria for a courier service as set forth in the Postal Act are met,
- Conveyance of addressed parcels, books, newspapers, journals, non-addressed catalogues or addressed catalogues weighing 200g or more.

NB: Even though a licence is not needed for the above services, they are still subject to a notification requirement, ie the RegTP must be notified, in writing, within a period of one month of the startup of, changes to or termination of operations. Anyone, intentionally or negligently, failing to comply with this requirement will be deemed to have committed an administrative offence, punishable by a maximum fine of DM 100,000.

□ Postal services requiring a licence

A licence is required by anyone conveying (⇒ collecting, forwarding or delivering) letter post items (⇒ written, addressed communications) not exceeding 1,000g, for other parties, when this is done on a profit-oriented basis (licence requirement). This also applies to services not covered by the statutory fixed-term exclusive licence by virtue of the legal definition given.

NB: Anyone conveying (⇒ collecting, forwarding or delivering) letter post items not exceeding 1,000g without a licence is deemed to be committing an administrative offence, punishable by a maximum fine of DM 1 million.

□ Licensable postal services

Until the statutory fixed-term exclusive licence expires, licences can only be granted, upon written application, for services meeting the following criteria:

- A** Conveyance, on a profit-oriented basis, of letter post items weighing between 200 and 1,000g and/or the conveyance of letter post items costing more than five times the rate applicable on 31 December 1997 for appropriate postal items in the lowest weight category (⇒ **letter post items** ³ **200g or > DM 5.50**).
- B** Conveyance, on a profit-oriented basis, of letter post items having identical contents and weighing more than 50g, the sender mailing a minimum of 50 items (⇒ **identical content letter post items > 50g and** ³ **50 items**).
- C** Conveyance, on a profit-oriented basis, of letter post items handed in by the sender at a document exchange and collected by the addressee from the same or another document exchange of the same provider, sender and addressee using this service under a contract for the performance of a continuing obligation (⇒ **document exchange service**).

- D** Services distinct from universal services, having special features and higher quality (⇒ **higher quality services**).
- E** Conveyance, on a profit-oriented basis, of letter post items collected on the sender's behalf from the sender and mailed at the nearest Deutsche Post AG acceptance office or at another Deutsche Post AG acceptance office within the same community (⇒ **mailing at DPAG acceptance offices**).
- F** Conveyance, on a profit-oriented basis, of letter post items collected on the addressee's behalf from Deutsche Post AG PO box facilities and delivered to the addressee (⇒ **collection from DPAG PO box facilities**).

These restrictions will cease to apply with the expiry of the exclusive licence. Licences will then be granted for every kind of conveyance service (⇒ collecting, forwarding or delivering) for letter post items not exceeding 1,000g.

Applying for a licence

In its Official Gazette 8/98 of 12 May 1999 the RegTP published a communication on how to apply for licences for the conveyance of letter post items (Communication 206/1999). The aim was to set out the licence requirements clearly, in order that applications might be made accurately and in full from the outset. Only when all the necessary supporting documents are submitted can a licence be granted within the 6-week period specified in the Act.

The above communication supercedes administrative order 8/1998 in the RegTP's Official Gazette No 2 of 4 February 1998 on how to apply for a licence for the conveyance of letter post items.

Additional requirements

Applicants have been required to provide information on, amongst other things, their efficiency, reliability and specialised knowledge. Since 1 December 1998 however, all applicants are additionally required to supply the following credentials relating to their efficiency and reliability:

- a certificate of good conduct for presentation to a public authority (information from the Central Trade Register),
- a certified extract from the Commercial Register,
- a SCHUFA notice on the personal data stored.

Further details on the application are given in the above communication 206/1999 of 12 May 1999, copies of which are obtainable from the RegTP. Communication 206/1999 can also be viewed on the Internet (www.regtp.de).

Number of applications

<u>As of 30 June 99</u>	First six months 98	Second six months 98	First six months 99	Total
= Applications	101	320	181	602
↳ incomplete (1)	2	81	112	195
↳ pending decision	0	5	15	20

- (1) Documents lacking (notably extract from the Commercial Register, certificate of good conduct, SCHUFA notice) and/or licence requirements not/not yet met

Licensing in the postal services market

Changed requirements

Complying with the statute amending social insurance and ensuring workers' rights, the RegTP has introduced changes to its criteria for the investigation required in connection with Section 6(3) subpara 3 of the Postal Act (working conditions) of small businesses. This law, enacted on 1 January 1999, amends the small businesses clause of Section 23 of the Act on the Protection against Unfair Dismissal.

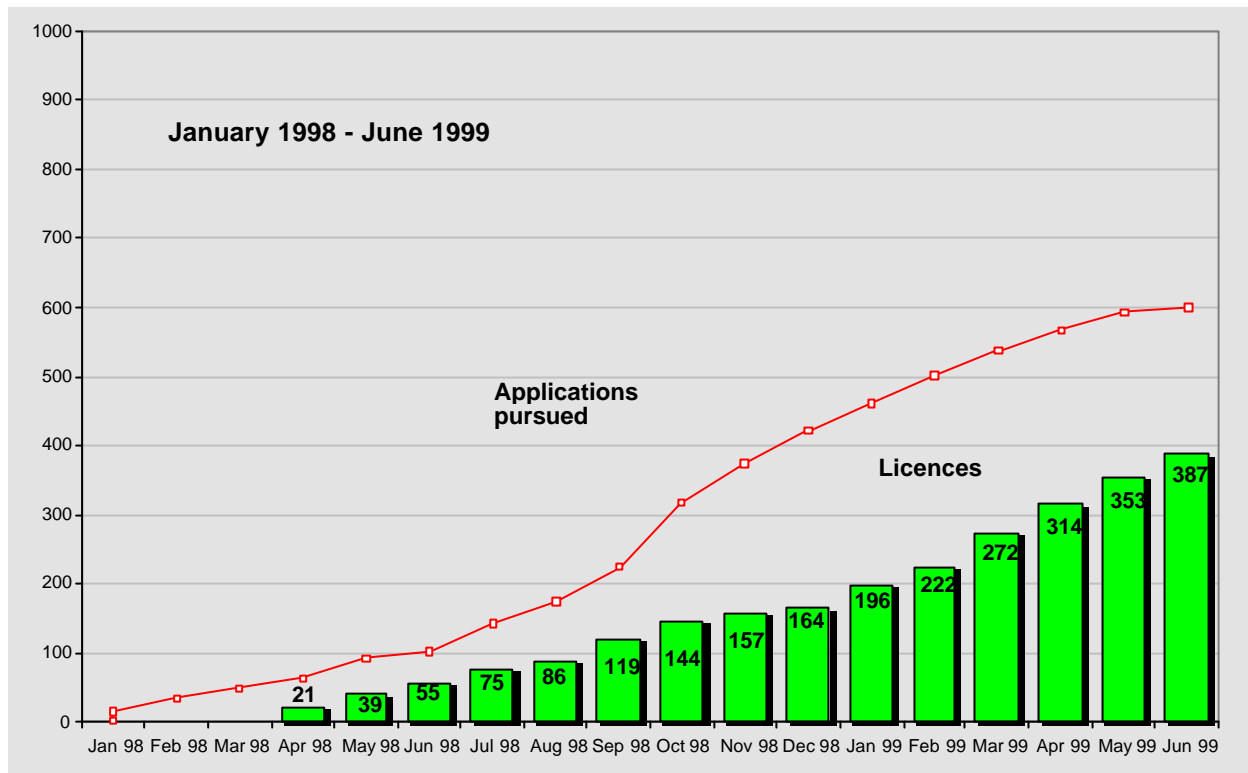
Following the above amendment, this "small businesses clause" now only applies to businesses employing five (*previously* ⇒ *ten*) or fewer members of staff. The number of staff employed is established using a factor of 0.5 instead of the previous 0.25 for part-time staff and persons in so-called insignificant employment who regularly work a maximum of ten hours. These changes have been incorporated in the revised criteria.

Licences granted / denied

As of 30 June 99	First six months 98	Second six months 98	First six months 99	Total
<u>Licences granted (licensees)</u>	113	212	62	387
<u>Licences denied</u>	--	--	3	3

Two of these licences were denied because there were grounds (entries in the Federal and Central Trade Register) for assuming that the applicants did not possess the necessary reliability and efficiency to exercise the licence rights. No other such entries were found in the documents submitted by the other applicants.

The third licence could not be granted to the applicant, it being a *Verein*, or association, to which licences may not be awarded.

Total number of licensees / licence applications

Licence breakdown by activity and area

As of 30 June 99		Licensed sector			
Activity (Separate licences)		Nation- wide	Federal state	Regio- nal	Total
A Conveyance of letter post items ³ 200g or > DM 5.50		72	63	93	228
B Conveyance of items with identical contents > 50g and ≥ 50 items		46	58	85	189
C Document exchange service		18	31	27	76
D Higher quality services		22	92	165	279
E Mailing at DPAG acceptance offices		31	94	162	287
F Collection from DPAG PO box facilities		33	92	158	283
Total		222	430	690	1,342

NB: A licensee may hold up to 6 of these licences (A, B, C, D, E, F)

Licence combinations

<u>Licensed sector</u>	<u>Combinations without a D licence</u>		<u>Combinations with a D licence</u>	
	Num- ber	Most frequent combinations	Num- ber	Most frequent combinations
Nationwide	43	A , AEF, ABEF, ABCEF	23	ABCDEF , ABD
Federal state	13	EF , ABEF	82	ABCDEF , ABDEF, D, DEF
Regional	35	A , AB, EF	195	ABCDEF , ABDEF, DEF, D

Licences for higher quality services

Changes in procedure / Determining criteria

What actually constitutes a higher quality service (Section 51(1) sentence 2 subpara 4 of the Postal Act) is couched in vague legal terms. Thus the Postal Act provides no clearly defined criteria.

The RegTP has now drafted the following standardised criteria as a basis for determining when the requirements of Section 51(1) sentence 2 subpara 4 of the Postal Act can be considered met:

- (1) Collecting letter post items from the customer at fixed times or on request
- (2) Delivery of the letter post items to the addressee
 - on the day of collection (mailing) and/or
 - when they are collected after 17.00 hours: by 12.00 hours at the latest on the following working day and/or
 - as agreed (on a day agreed by the customer on a case-by-case basis)
- (3) subsequent accounting at fixed periods
- (4) revised arrangements between the times of collection and delivery
- (5) contractually agreed non-payment of fees in the event of late delivery
- (6) provision of service in a major part of the territory of the Federal Republic of Germany (regarded as a major part of the territory of the Federal Republic without any further examination is an area corresponding to the smallest territorial state of the Federal Republic [some 2,500 sq km]).

Services with features differing from those cited from (1) to (6) may likewise qualify; this is subject to further examination in the individual case, however.

Growth in the number of D licences

As at 30 June 99	First six months 98	Second six months 98	First six months 99	Total
<u>D licences granted (licensees)</u>	35	129	113	279
<u>D licences denied</u> (1)	--	--	2	2

- (1) The RegTP currently has around 80 applications for D licences to hand in which service is only to be provided in an area of < 2,500 sq km. Under the above criteria, these services cannot be classed as higher quality services, and no reasons to prove otherwise have been received to date. The applicants have been advised accordingly. Thus decisions on licence grant or denial in these cases are still pending.

D licence areas

Extent of licensed area	Number of licences	Remarks
< 2,500 sq km	22	"Old-type licences" (see below)
2,501 – 5,000 sq km	99	Usually 3 – 4 rural districts
5,001 – 10,000 sq km	41	Usually 1 administrative district
10,001 – 100,000 sq km	91	One or more federal states
> 100,000 sq km	24	Usually nationwide

"Old-type licences"

Twenty six D licences for areas of < 2,500 sq km – so-called "old-type licences" – had been granted before the standardised criteria cited above came into effect. The holders are still entitled to operate under the grandfathering principle.

Meanwhile two licensees have applied to extend their area of operation to over 2,500 sq km and their request has been granted; two other licensees operating over an area of < 2,500 sq km have discontinued service. The number of "old-type licences" has therefore fallen to 22.

Post-licence-grant control

Licences are granted upon application when the requirements are met (ie when there is no reason for denial), and are valid for as long as and to the extent that applicants qualify. Qualifying is monitored by the RegTP.

To do so, the RegTP has set up a monitoring scheme that focuses on three main areas:

- on compliance with requirements in general and specifically with those deriving from Section 6(3) subpara 3 of the Postal Act (working conditions),
- on continued compliance with the requirements, notably those relating to higher quality services within the meaning of Section 51(1) sentence 2 subpara 4 (including serving a major part of the Federal Republic), and
- on compliance by postal service providers with the licence or notification requirement (non-compliance is deemed an administrative offence).

Compliance monitoring

This is a system of regular checks after licence grant. Every licensee is monitored at least once a year. Additional checks are made if occasioned internally or externally. In both cases, checks are made on site according to a predetermined checklist. The RegTP expects this scheme to act as an effective deterrent.

Licensees are given the opportunity to take remedial action if faults are found. The licensee is informed in writing of any shortcomings in the exercise of the licence rights and requested to take remedial action within a given period (a maximum of 4 weeks). When the licensee remedies the faults within the specified period and informs the RegTP accordingly, a renewed check is made after three months. Of particular importance is whether the faults have been eliminated on more than just a temporary basis.

If the licensee fails to comply with the request within a maximum of 4 weeks, proceedings may be instituted to revoke the licence, if need be. This may lead as a last resort to the licence being revoked wholly or in part. Revocation is carried out in line with the principles of the Administrative Procedures Act.

The checks are managed by the licensing sections of the RegTP. On-site checks are generally made by the regional offices, but also by the relevant licensing section, if appropriate.

Initial results

Two licences have been revoked because facts subsequently came to light that justified the assumption that the licensee did not possess the necessary efficiency and reliability.

Seven licensees have returned their licence on account of termination of business or bankruptcy. One licence has expired as the holder no longer operates independently.

The statistics below on revenues, sales and staff have all been determined as part of compliance monitoring. The poll has also produced the first concrete ideas on carrying out the regular checks, and on the order and focus in particular.

Further action

Regular checks will be introduced after the summer break. Parallel to this, licensees will be sent written requests 12 or 24 months after licence grant for information on compliance with the licence conditions (on working conditions in particular). Additional on-site checks may be necessary as a result.

Development of the market (licensed sector)

In April 1999 the RegTP requested Deutsche Post AG and all licensees granted a licence by 31 March 1999 to supply information for 1998 and for the first quarter of 1999 on revenues and sales in the licensed sector. The results are shown below:

Revenues and sales in the licensed sector

(exclusive licence included)

1998		1st quarter 1999	
Revenues	Sales [volume]	Revenues	Sales [volume]
DM 19,126m	14,945m	DM 5,039m	3,925m
1998 growth DM ~ 750m	⇐ <i>calculated from figures in the 1998 Deutsche Post AG Annual Report</i>		

Licensees' revenues and sales

(excluding Deutsche Post AG)

The response to the poll was roughly 70 percent. Computer forecasts were made to estimate the revenues and sales of licensees that have not (yet) answered, using comparable data to do so.

	1998		1st quarter 1999	
<u>Licensed activity</u>	Revenues [DM]	Sales [volume]	Revenues [DM]	Sales [volume]
A Letter post items > 200g or > DM 5.50	9.8m	0.8m	11.8m	2.6m
B Letter post items with identical contents > 50g and ≥ 50 items	32.6m	32.5m	8.0m	9.1m
C Document exchange	--	--	0.1m	0.2m
D Higher quality services	7.7m	8.0m	10.2m	12.8m
E Mailing at DPAG acceptance offices	2.2m	10.0m	0.6m	4.7m
F Collection from DPAG PO box facilities	1.4m	9.2m	0.5m	4.3m
Total	53.7m	60.5m	31.2m	33.7m
Total adjusted by service E und F volumes (1)	53.7m	41.3m	31.2m	24.7m

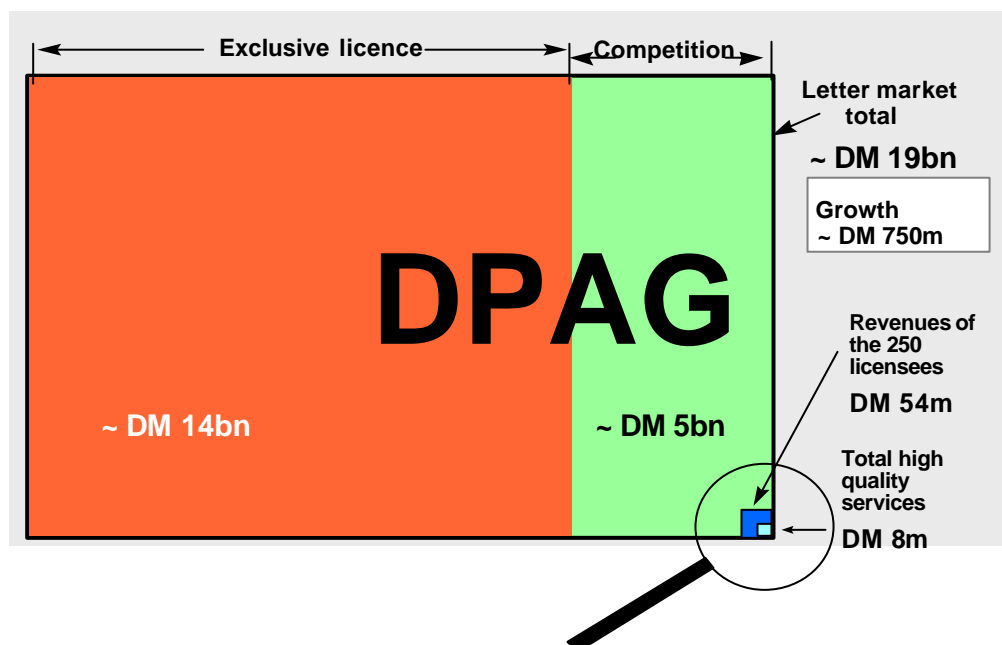
- (1) Adjusted because volumes would otherwise be counted twice
(upon mailing and upon conveyance after mailing
or upon conveyance and upon collection from PO box facilities).

Market shares	1998		1st quarter 1999	
	Revenues [DM]	Sales [volume]	Revenues [DM]	Sales [volume]
<u>Total market</u>	19,126m	14,945m	5,039m	3,925m
<u>Licensees</u> (excluding DPAG)	53.7m	41.3m	31.2m	24.7m
<u>Licensees' market share</u>	0.28%	0.28%	0.62%	0.63%
<u>DPAG's market share</u>	99.72%	99.72%	99.38%	99.37%

<i>For information purposes:</i> <i>Market shares for higher quality services (D licence)</i>	0.04%	0.05%	0.2%	0.32%
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Postal services market 1998 (Areas correspond to revenues)

Postal Services Market 1998 (Areas correspond to revenues)



The Postal Act of 22 December 1997 stipulates a reserved and a competitive area in the licensed sector (conveyance of letter post items weighing a maximum 1,000g). The RegTP is assuming the monopoly area to have been worth some DM 14bn in 1998.

Despite the emerging competition, Deutsche Post AG's 1998 revenues rose by 4 percent. The operations of the 250 licensees took place clearly within the area marked out for competition. The area reserved to Deutsche Post AG for a transitional period was not impinged upon (see chart). Licensees' total **revenues** for 1998 were around 7 percent of Deutsche Post AG's **growth** in revenue.

Businesses and employees in the licensed sector

(excluding DPAG)

Type of business			Number of businesses with revenues > 1m DM / year	
			1998	1999 (1)
Small businesses (≤ 5 employees)	New	146	--	1
	Continuation	87	2	3
Medium size businesses (> 5 employees)	New	60	1	2
	Continuation	94	4	6
Total		387	7	12

(1) Computer forecast (4 x first quarter 1999 revenues)

Breakdown of businesses by federal state and type of operation

As at 30 June 99			Small businesses		Medium size businesses	
<u>Federal state</u>	Licence holder	with a D licence	New	Continuation	New	Continuation
Baden-Württemberg	26	20	6	9	4	7
Bayern	33	21	8	7	5	13
Berlin	11	7	6	1	0	4
Brandenburg	22	19	10	5	4	3
Bremen	2	2	1	1	0	0
Hamburg	21	4	3	9	0	9
Hessen	16	12	5	2	3	6

Mecklenburg-Vorpommern	22	21	13	5	2	2
Niedersachsen	57	48	24	8	10	15
Nordrhein-Westfalen	78	50	32	19	14	13
Rheinland-Pfalz	12	3	4	2	2	4
Saarland	4	4	3	0	1	0
Sachsen	24	19	10	8	4	2
Sachsen-Anhalt	23	18	10	4	5	4
Schleswig-Holstein	24	20	7	4	3	10
Thüringen	12	11	4	3	3	2
Total	387	279	146	87	60	94

Licensees' staff (excluding DPAG)

Staff in the licensed sector	Full-time	Part-time	In insignificant employment	A_{VP} (1)
As at 31.12.98	632	1,123	3,989	54.5 %
As at 31.03.99	897	1,305	4,500	57.9%

(1) **A_{VP}** = Percentage of working time with liability to contribute to social insurance to total working time

The number of staff employed at Deutsche Post AG in 1998 (converted into full-time staff) fell from 233,350 to 223,863. This decrease is not due, however, to a decline in revenues or sales in the *Letter Mail Communications* division. Here, according to statistics in its 1998 Annual Report, Deutsche Post AG recorded increases of 3.0 percent and 4.3 percent respectively.

Additional jobs have been created at the licensees' by virtue of their having entered the market. Although the majority of new staff are classified as being in insignificant employment there is a clear trend towards more hours with the accompanying liability to contribute to social insurance. Following the recent legal changes, this trend is likely to be strengthened, so that the target of 75 - 80 percent will almost certainly be met in the foreseeable future.

Measurement of service quality

The RegTP and, previously, the now defunct Federal Office for Posts and Telecommunications have regularly monitored the quality of the letter post service since

1993. Measured are the end-to-end delivery times achieved by Deutsche Post AG as the dominant company.

Measurements are recorded throughout the country and over time on a continuous basis. The results are published quarterly, the delivery times being shown in business days. Measuring how well the system is working accords with customers' interest and expectations of the delivery time for a standard letter ($\leq 20\text{g}$, postage DM 1.10) in the ordinary letter post service. Delivery time for the customer means the time taken between posting a letter in the box or taking it to an acceptance office and receipt by the addressee.

Measuring is done by sampling, which uses test letters to measure delivery times across the country. Each year, some 300,000 test letters are analysed. Using a daily dispatch schedule with time and place targets, staff from the RegTP's regional offices send out the test letters. Given the extent and nature of the sampling, the results can be regarded as representative of the letter post business as a whole.

Delivery times

Period	D+1 – rate [%] (1)	D+2 – rate [%] (2)	Average \bar{x} delivery [days] (3)	Maximum delivery [days] (4)
1st quarter 99	94.5	4.6	1.06	2
4th quarter 98	93.6	5.5	1.08	2
3rd quarter 98	95.4	4.1	1.05	2
2nd quarter 98	95.2	4.3	1.05	2
1st quarter 98	94.8	4.7	1.06	2

- (1) Percentage of letters D + 1 (day of posting + 1 business day)
- (2) Percentage of letters D + 2 (day of posting + 2 business days)
- (3) Average delivery time for all letters, in business days
- (4) Number of business days after which 99 percent of all letters have reached the addressee

NB: Letters posted on day of posting D after the last collection can only be delivered to the addressee on D + 2, as a result of the way the system operates. The RegTP's measurements take this into account by calculating the delivery times for test letters posted after the end of the so-called "postal day"¹⁾ and thereby recording a time of > D + 1 – and only for these letters – as if they were posted on the next "postal day". (Example: Letter posted at 18.00 hours on day D, delivery D + 3, calculated delivery time \Rightarrow 3 days \Rightarrow delivery taking into account the end of the "postal day" at 17.00 hours: 2 days).

¹⁾ Currently fixed at 17.00 hours for measuring purposes