

2025

Telecoms Annual Report



Bundesnetzagentur



Contents

Market trends.....	4
Internet and digitalisation.....	36
Consumer protection and advice.....	56
Rulings, activities and proceedings	76
International cooperation	110
Tasks and organisation.....	126
Publisher's details	133

Market trends



The number of high-speed broadband connections increased further in 2025, with demand for speeds of at least 300 Mbps rising 20% year on year.

There were 6.4 mn active fibre broadband connections (FTTH and FTTB) at the end of 2025, which is an increase of 1.1mn on the previous year.

Telecommunications markets as a whole

External revenue

External revenue in the German telecommunications market fell to €59.6bn in 2025, according to preliminary calculations. This represents a year-on-year decrease of €1.7bn.¹

The external revenue of the competitors was down by about 1.8% year on year to €33.3bn and that of Deutsche Telekom by 4.0% to €26.3bn.² The competitors' share of external revenue in 2025 was 56% and Deutsche Telekom's 44%.

A breakdown by market segment shows that the largest share of external revenue in 2025 was attributable to the fixed network. Fixed services accounted for a projected 52% (€30.91bn) and mobile services for 46% (€27.16bn).

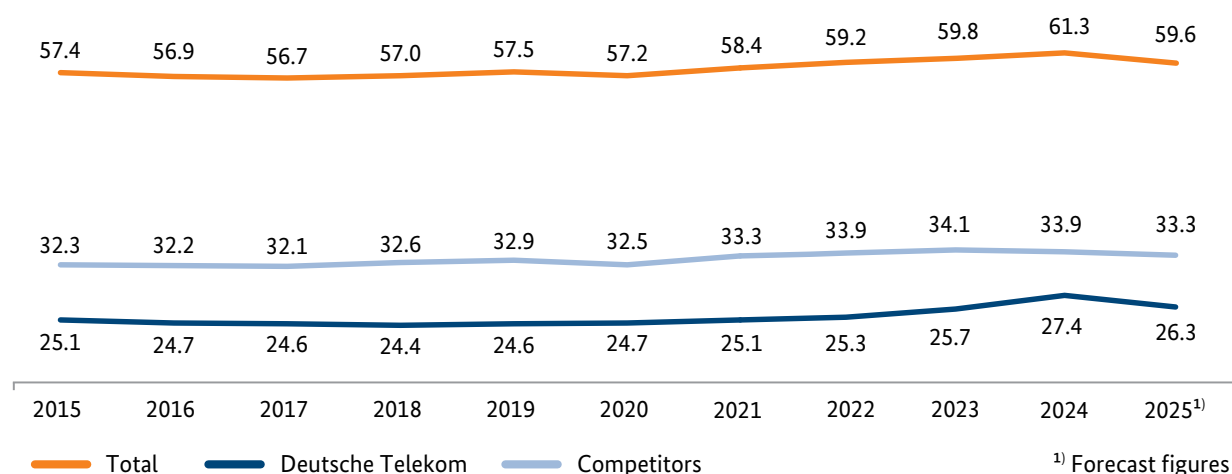
Other external revenue made up 3% (€1.56bn). This segment includes revenue from satellite networks (broadband internet, telephony and TV) and from virtual voice communication services provided over the internet using publicly assigned numbering resources (eg cloud telephony). It also includes additional revenue reported by Deutsche Telekom as external revenue in Germany that does not count as revenue from fixed and mobile services as well as revenue from joint ventures that does not count as external group revenue due to the regulatory classification of the joint venture companies.

¹ The decrease taking into account Deutsche Telekom's new figure published for 2024 (€26.2bn instead of €27.4bn) is €0.5bn.

² Taking into account Deutsche Telekom's new published figure for 2024, its external revenue increased slightly by 0.4%.

There are two categories of fixed network: xDSL/FTTx networks and HFC networks. xDSL/FTTx networks accounted for by far the largest proportion of external revenue from fixed services in 2025, with 83% (€25.66bn), and HFC networks for 17% (€5.25bn).

External revenue in the telecommunications market (€bn)



External revenue by segment

	2023		2024		2025 ¹⁾	
	€bn	%	€bn	%	€bn	%
External revenue in the telecommunications market	59.8	100	61.3	100	59.6	100
External revenue in fixed networks	31.02	52	31.33	51	30.91	52
External revenue in mobile networks	27.60	46	27.48	45	27.16	46
Other external revenue	1.21	2	2.48	4	1.56	3

¹⁾ Forecast figures
Inconsistencies in the sums are due to rounding.

External revenue from mobile services

	2023		2024		2025 ¹⁾	
	€bn	%	€bn	%	€bn	%
Total	27.60	100	27.48	100	27.16	100
Network operators	22.75	82	22.65	82	22.30	82
Service providers/MVNOs	4.85	18	4.83	18	4.86	18

1) Forecast figures

xDSL/FTTx networks

External revenue in the xDSL/FTTx network segment totalled €25.66bn in 2025, according to current figures.

Revenue from retail services for private, business and public-sector final consumers accounted for 83% of this revenue. Revenue from wholesale services for fixed and mobile operators and pure service providers outside of the company group, which include wholesale products for voice traffic and telephony, broadband, internet and infrastructure services, made up 17%. Revenue from other services had a share of 1%.³

HFC networks

External revenue in the HFC network segment totalled €5.25bn in 2025, according to preliminary calculations. Retail revenue accounted for by far the largest proportion of this revenue, with about 95%. Wholesale revenue made up 2%. Wholesale business in this segment is of little importance compared with the xDSL/FTTx segment. Revenue from other services had a share of 3%.

Mobile networks

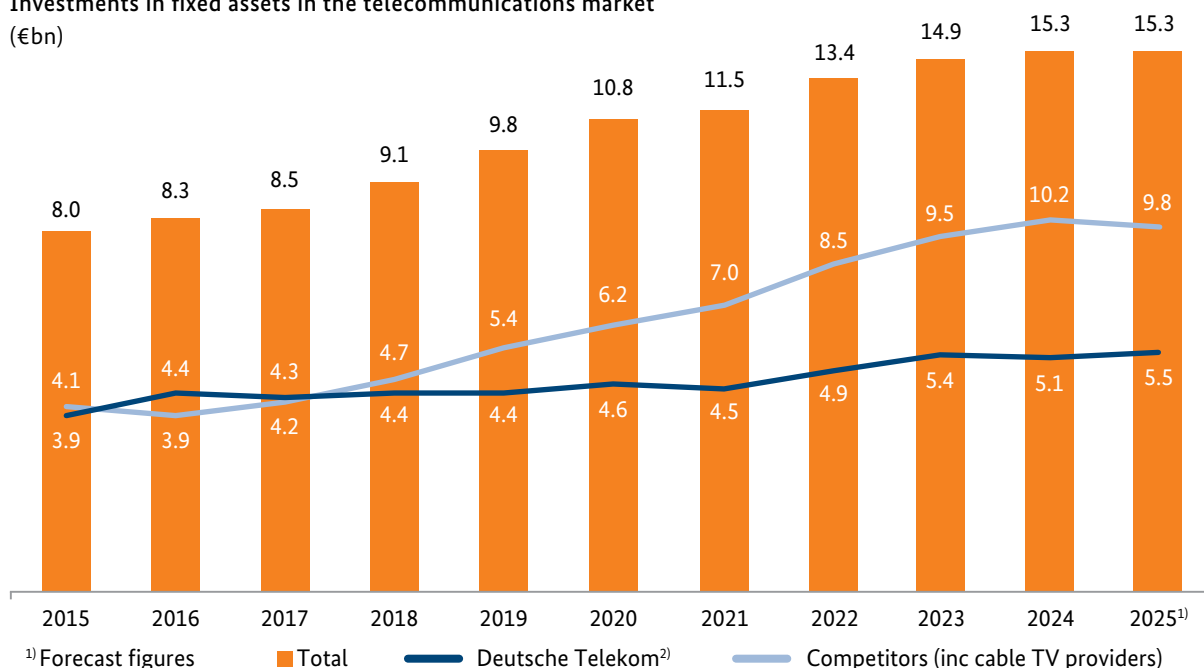
External revenue from mobile services totalled €27.16bn in 2025, according to current figures. Retail services (excluding terminal equipment) had a share of 72%, wholesale 8%, terminal equipment 17% and other services 3%.

There is a large difference between the shares attributable to network operators and to service providers/MVNOs. In 2025, as in the two previous years, network operators accounted for 82% of total external revenue from mobile services and service providers/MVNOs for 18%.⁴

3 The inconsistency in the sum of the individual figures is due to rounding.

4 1&1 Mobilfunk GmbH did not complete migrating its customers to its own network and thus end its dual role as service provider and network operator until the end of 2025. All of its external revenue from 2023 to 2025 was counted as revenue generated by service providers/MVNOs.

Investments in fixed assets in the telecommunications market
(€bn)



Investments in fixed assets

Investments in fixed assets in the telecommunications market totalled €15.3bn in 2025, the same as in 2024, according to preliminary calculations. The focus of investments was again on the rollout of optical fibre and mobile infrastructure.

Investments by the competitors totalled about €9.8bn in 2025, compared with €10.2bn in 2024. Deutsche Telekom's investments amounted to €5.5bn in 2025, compared with €5.1bn in 2024.⁵

The companies were mostly investing in new broadband network infrastructure. This includes investments to expand coverage and/or upgrade connection performance. These investments accounted for about 80% of total investments in 2025. Investments to maintain existing broadband network infrastructure made up about 10%. Other investments, such as investments in subscriber terminal equipment, the expansion of data centres and customer support, also had a share of about 10%.⁶

⁵ 50% of the investments by joint venture Glasfaser NordWest GmbH & Co. KG and 100% of the investments by joint venture GlasfaserPlus GmbH were counted as Deutsche Telekom investments. Glasfaser NordWest GmbH & Co. KG is a 50:50 joint venture founded by Telekom Deutschland GmbH and EWE AG in 2020. GlasfaserPlus GmbH is a company founded by Telekom Deutschland GmbH in 2020. In 2021, Telekom Deutschland GmbH partnered up with the Australian infrastructure investor IFM Investors through the IFM Global Infrastructure Fund. Glasfaser NordWest GmbH & Co. KG and GlasfaserPlus GmbH operate as wholesale-only companies exclusively in the wholesale market with no retail business.

⁶ When interpreting these figures, it should be noted that the companies surveyed for this report may have understood the categorisation of investments under "existing broadband network infrastructure", "new broadband network infrastructure" and "other" differently. In addition, a few companies were unable to provide a breakdown of their figures and are not included in the calculation of the shares.

From the time the market was opened up in 1998 through to the end of 2025, companies invested a total of €245.1bn in fixed assets in the telecommunications market. The competitors invested 56% (€136.8bn) of this total and Deutsche Telekom 44% (€108.3bn).

These investments cover acquired and internally generated fixed assets. They also include leased fixed assets for which the lessor grants the lessee the right to use the asset. Companies reporting under IFRS 16 are required to recognise such right-of-use assets in their financial statements. In the telecommunications sector, right-of-use assets typically relate to leased network infrastructure, mobile base station sites or data centres.

Sale and leaseback arrangements are a special form of leasing where an asset is sold and then subsequently leased back. In the mobile sector, sale and leaseback is mainly used by mobile network operators in connection with the sale of passive network infrastructure. Deutsche Telekom and

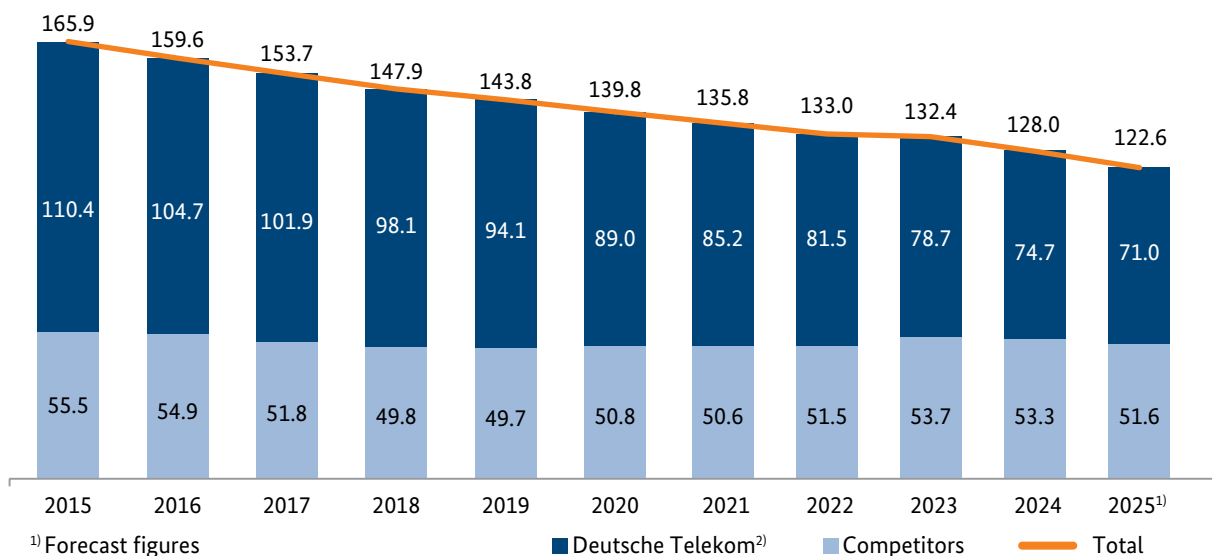
Vodafone sold and leased back passive mobile network infrastructure and capitalised the associated right-of-use assets in 2023, and Telefónica Deutschland did so in the two previous years.

The rights of use for newly acquired leased fixed assets in the telecommunications sector were valued at about €2.5bn in 2025. Leased passive mobile network infrastructure accounted for more than 50% of these assets. These figures are not included in the chart “Investments in fixed assets in the telecommunications market”.

Employees

A total of 122,600 people were employed by companies in the telecommunications market in Germany at the end of 2025, according to preliminary calculations. This is 4.2% less than at the end of 2024 (128,000). The number of employees at Deutsche Telekom fell by 3,700 to 71,000 and at the competitors by 1,700 to 51,600.

Employees in the telecommunications market
(thousands)



Fixed network

Broadband connections

The number of contract-based broadband connections increased again in 2025, continuing the trend in the previous years.⁷ There were about 38.8mn contract-based broadband connections at the end of 2025.

The majority of broadband connections, about 59% (22.7mn), continue to be based on various DSL technologies.⁸ All other technologies together accounted for around 16.1mn connections (41%). More than half of these (about 8.5mn) were based on HFC networks. Approximately 6.4mn were full fibre connections, with the majority (about 5.2mn) being FTTH and the remainder (about

1.2mn) FTTB connections. Around 0.8mn connections were fixed wireless broadband comprising LTE/5G connections for fixed use.⁹ About 0.3mn were broadband wireless access (fixed links), fixed connections or satellite connections.

The growth in broadband connections in 2025 was mainly due to a large increase in full fibre (FTTH/FTTB) connections. This more than compensated for the decrease of about 4% in DSL connections in each of the previous two years. In general, fibre products are mainly replacing DSL connections.

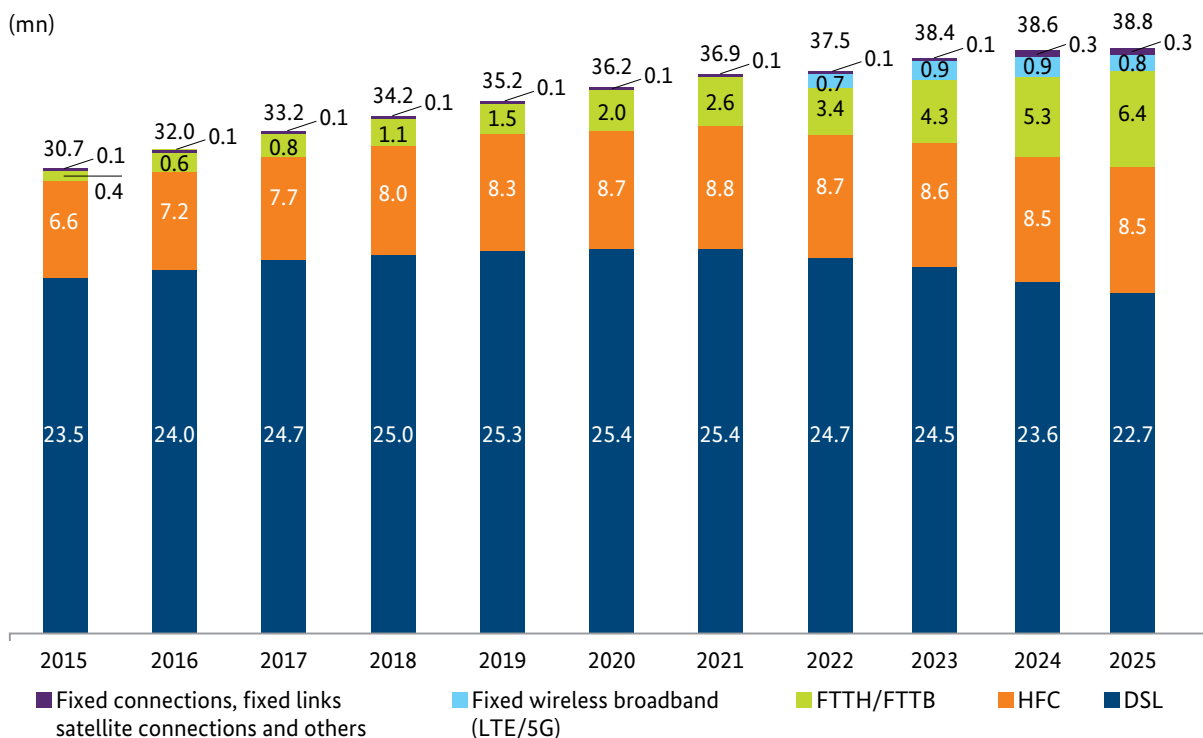
As far as marketing to end-users was concerned, the share of Deutsche Telekom's competitors of all broadband connections stood at around 61% at the end of 2025.

⁷ Broadband connections include all connections with a bandwidth of at least 144 Kbps. The Bundesnetzagentur bases this threshold on the requirements defined by the European Commission in its latest broadband report (COCOM).

⁸ Including hybrid connections (combined use of DSL and LTE/5G).

⁹ Includes fixed wireless broadband since 2022. Prior to this, these connections were reported under mobile services.

Active fixed broadband connections
(mn)



Inconsistencies in the sums are due to rounding

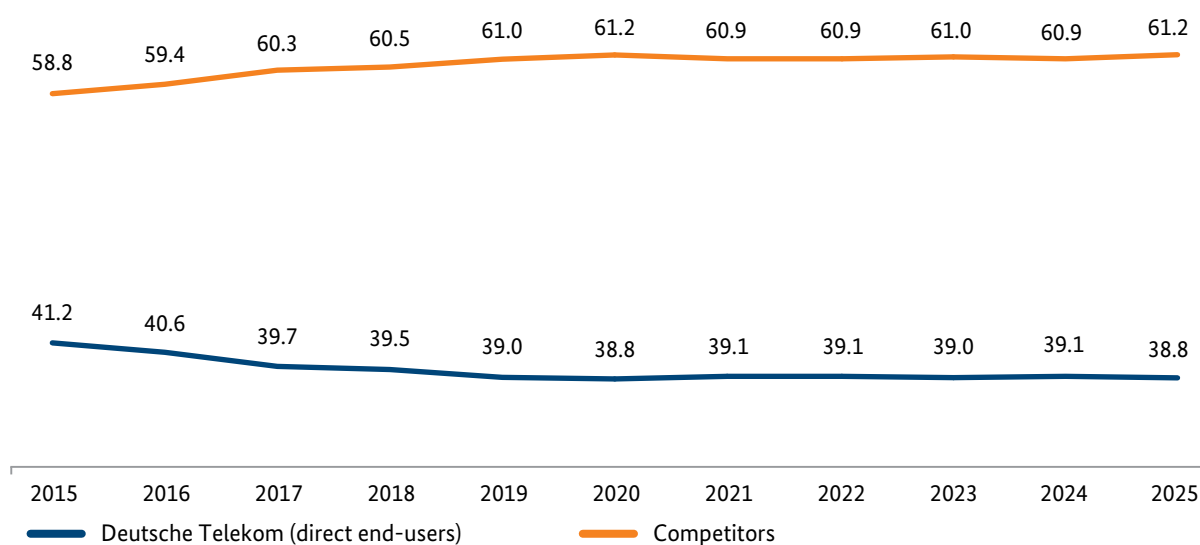
Transmission rates

In the broadband market, demand remains strong for connections with fast nominal transmission speeds. There were about 23.6mn broadband connections with an advertised maximum download speed of at least 100 Mbps at the end of 2025. This was about 61% of all fixed broadband connections (38.8mn).

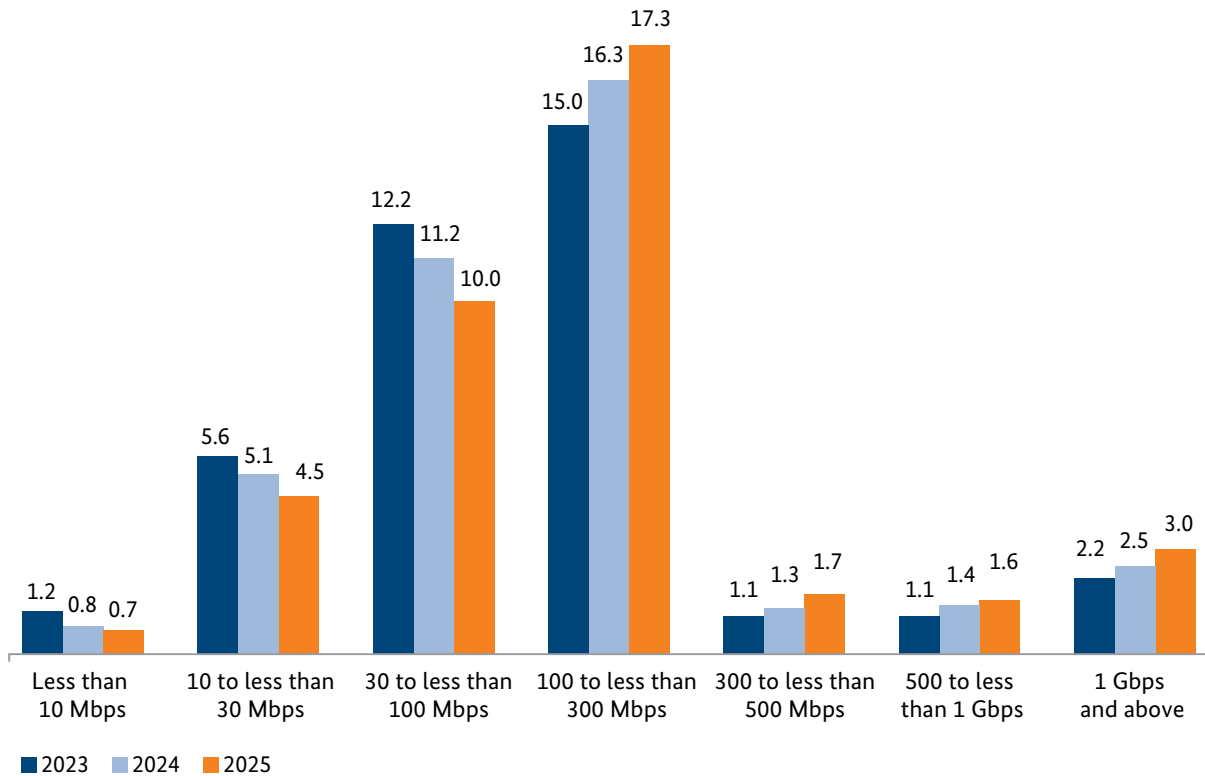
Over the last three years, demand has been shifting towards connections with high nominal speeds to replace lower-bandwidth connections.

There was also a large increase in 2025 in the number of connections with advertised speeds of at least 300 Mbps or more. At the end of 2025, there were about 6.3mn broadband connections with a nominal minimum speed of at least 300 Mbps and 3.0mn with speeds of 1 Gbps or more. Around 0.7mn connections still had a nominal speed of less than 10 Mbps.

Share of fixed broadband (%)



Advertised maximum download speeds of active fixed broadband connections
(mn)



DSL connections

There were about 22.7mn active DSL connections at the end of 2025. Around 13.2mn of these were attributable to direct end-users of Deutsche Telekom and around 9.5mn to the competitors, which primarily marketed DSL connections to end-users on the basis of specific wholesale products from Deutsche Telekom or alternative carriers.

Based on these figures, the share of Deutsche Telekom's competitors in the DSL segment was about 42% at the end of 2025.

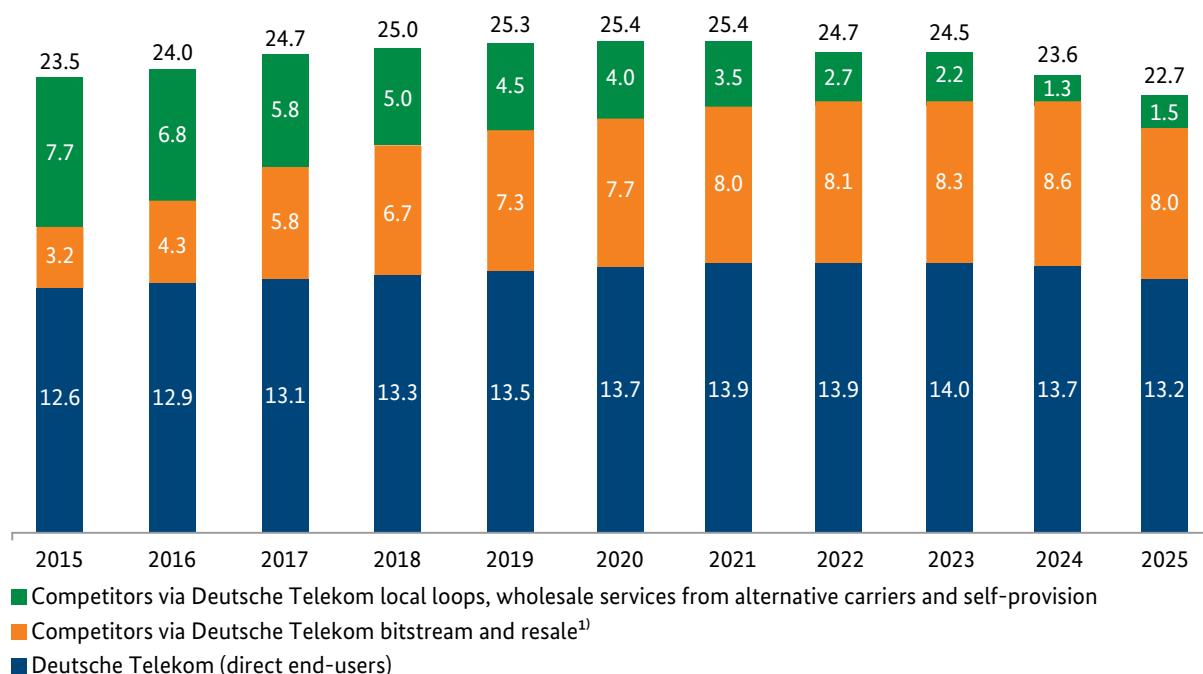
VDSL accounted for around 88% (19.9mn) of all DSL connections at the end of 2025. About 8.5mn of these VDSL connections were provided by competitors and about 11.4mn directly by Deutsche Telekom.

Vectoring technology is the main reason for the wide spread of VDSL. It can be used to provide download speeds of up to 250 Mbps.

There was a decrease in demand for specific VDSL wholesale products from Deutsche Telekom for the first time in 2025. The number of wholesale services sold was down by about 0.4mn.

At the end of 2025, there were 1.5mn competitor-operated connections based on Deutsche Telekom's high-bit-rate, unbundled local loops, wholesale services provided by other carriers and self-provision. It should be noted that the possibilities for using local loop wholesale products are limited because of the rollout of vectoring technology.

Active DSL connections (mn)



¹⁾ The figures for bitstream and resale up to 2023 include a small number of wholesale services for fibre connections

HFC broadband connections

These hybrid networks comprising fibre and coaxial cables currently offer download speeds of up to 1 Gbps. There were about 8.5mn HFC broadband connections at the end of 2025, with around 27% (2.3mn) providing a speed of up to 1 Gbps.

Fibre broadband connections (FTTH and FTTB)

Fibre optic cables are considered to be the ideal medium for data transmission thanks to their outstanding technical properties and almost unlimited transmission rates.

A more detailed differentiation is now needed to depict progress in fibre rollout and fibre broadband take-up, in particular in light of the political objective of nationwide fibre rollout to each (rented) home and the upcoming copper to fibre migration

that is currently under discussion.¹⁰ Against this background, the Bundesnetzagentur explained the need for more precise parameters to measure progress in fibre rollout in its regulatory approach to the copper to fibre migration.¹¹ It has to be possible in future to differentiate between fibre installed all the way to a dwelling in a multi-dwelling building (FTTH)¹² and fibre installed just to the basement of a multi-dwelling building (FTTB)¹³. In the past, connections in multi-dwelling buildings counted as “connected” or “activated” when the fibre ended in the building but did not run to each individual dwelling. The Bundesnetzagentur’s figures for

¹⁰ See German federal government’s coalition agreement “Verantwortung für Deutschland”, page 68.

¹¹ See “Regulierungskonzept der Bundesnetzagentur zur Kupfer-Glas-Migration” (January 2026), para 18.

¹² FTTH is when the in-building wiring to the individual dwellings is fibre and so fibre runs all the way to an end-user’s network termination point (eg the end-user’s apartment).

¹³ FTTB is when fibre runs just to the building and copper (G.Fast/VDL) or coaxial (DOCSIS) wiring is used within the building for signal transmission to the individual end-users.

“homes connected” and “homes activated” comprised both FTTH and FTTB connections in each case.

The figures for homes connected and homes activated now only comprise FTTH connections, in other words only connections for which all the investments for installing fibre infrastructure have been made and which can therefore be put into operation at any time without any further infrastructural measures. This enables a more direct interpretation of progress in fibre rollout. However, as the installation of FTTB connections represents a significant step in rolling out fibre all the way to the homes, the figures for FTTB will still be presented in addition to those for FTTH.

No further differentiation is made for “homes passed”. Homes passed include active and non-active FTTH and FTTB connections as well as cases where fibre ducting or cabling is installed close to the boundary of an end-user’s property and is intended for fibre rollout to the property so that the installation of an active connection to the premises is technically feasible at affordable market conditions and within a reasonably short period of time (maximum of four weeks).¹⁴ Further investment is required to connect these end-users. It is not relevant whether the fibre ducting or cabling is used for an FTTH or (initially) FTTB connection.

The number of active FTTH and FTTB connections for private, commercial and public-sector end-users increased year on year by about 1.1mn to 6.4mn at the end of 2025. There were around 5.2mn active FTTH connections (81%) and about 1.2mn active FTTB connections (19%). As a result of the growth in demand, the share of active fixed

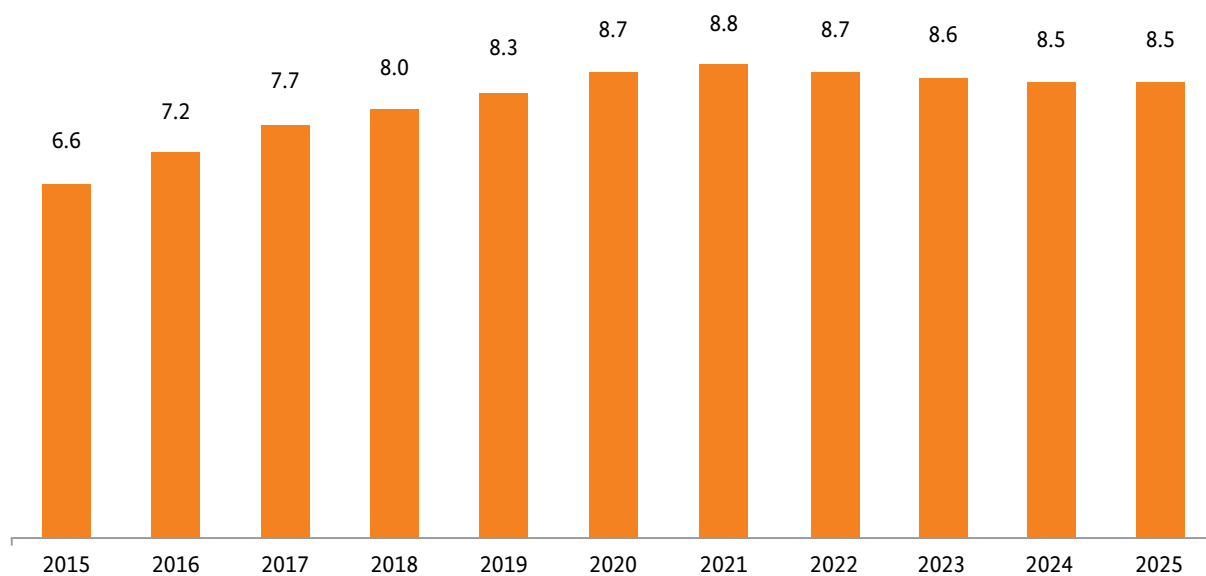
broadband connections accounted for by active fibre connections has increased by three percentage points in each of the past three years to 17% at the end of 2025. This development is expected to continue in the coming years due to the rising demand for faster data speeds.

A higher proportion of active fibre broadband connections (FTTH and FTTB) have faster speeds compared with other broadband connections overall. At the end of 2025, nearly 87% (5.6mn) of the 6.4mn fibre connections had an advertised maximum download speed of at least 100 Mbps, compared with 61% (23.6mn) of all 38.8mn active fixed broadband connections. Within this segment, the largest increases were in fibre connections with a maximum download speed of 100 to less than 300 Mbps and 300 to less than 500 Mbps. The number of these connections increased year on year by 0.4mn in each case, while the number of connections in the categories 500 to less than 1 Gbps and 1 Gbps and above only increased by half as much.

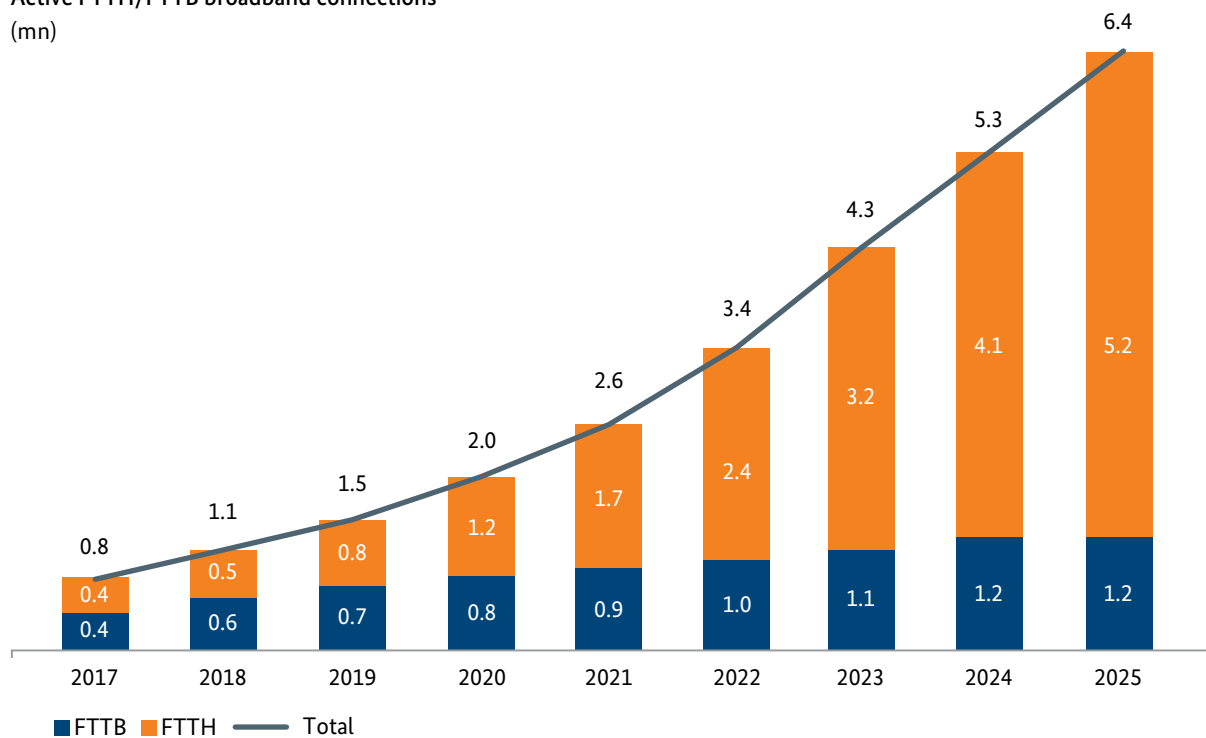
There were 7.1mn active and non-active FTTH connections (“FTTH connected”) at the end of 2025, up 1.6mn on the previous year. Active FTTH connections (“FTTH activated”) accounted for well over half of this increase (1.1mn). There were 3.3mn active and non-active FTTB connections (“FTTB connected”) at the end of 2025, up by about 0.2mn on the previous year.

¹⁴ The four-week period only relates to completing the technical connection and not to the whole period from the end-user making contact to the connection being activated. This period therefore does not include delays due to non-technical factors, such as delays on the end-user’s part, for administrative reasons or because of extreme weather conditions.

Active HFC broadband connections
(mn)



Active FTTH/FTTB broadband connections
(mn)



The number of homes passed increased by 5.3mn to 27.1mn at the end of 2025.¹⁵ The take-up rate (the proportion of homes passed with an active FTTH or FTTB connection) was about 24% at the end of 2025 and has been more or less unchanged at this relatively low level for several years.

Owing to the data collection method, end-users with fibre ducting or cabling installed close to the boundary of their property but not connected may be counted more than once if fibre is being

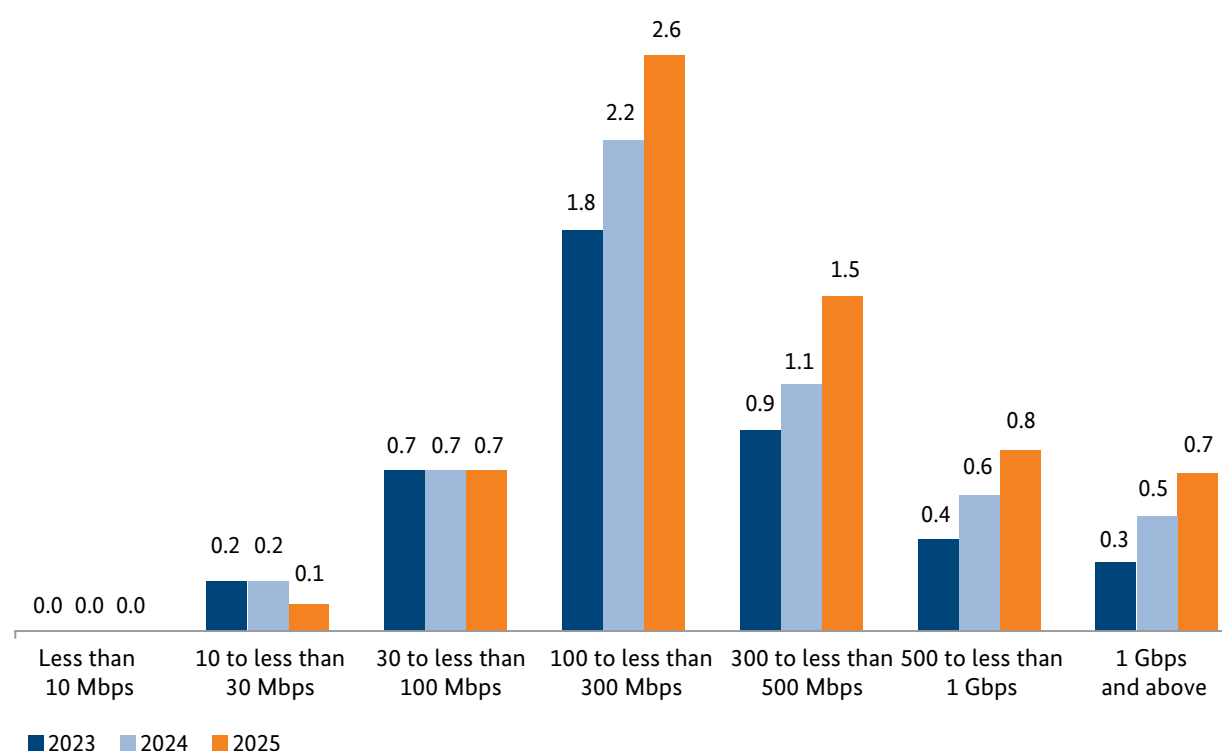
rolled out in their area by more than one telecommunications company; however, the number of these end-users is likely to be relatively small.

The more precise distinction for homes passed was introduced for the data survey for the 2025 annual report and will also apply to other data collected by the Bundesnetzagentur, such as for the broadband atlas. However, not all the companies participating in the data survey were able to break down their data in line with the new distinction.

The number of homes passed shows the extent to which fibre infrastructure has been rolled out and the extent to which infrastructure is ready to connect additional end-users. It does not indicate how long it will actually take for end-users to be able to book and activate a connection, which depends on various factors.

¹⁵ Deviations from Bundesnetzagentur data published in the broadband atlas and elsewhere are due mainly to the following differences in the methods used to collect and process data:
a) The results described in this section are based on the absolute values for active and non-active fibre connections and homes passed as reported by the companies for all of Germany. By contrast, the data on FTTH and FTTB coverage provided by the companies for the broadband atlas is based on individual addresses or address-related coverage areas. This address-based coverage data is overlaid with data on households to determine coverage for specific households and business locations (see the methodology report for the broadband atlas).
b) The results in this section are based on categorisation by the companies into active and non-active fibre connections and homes passed, while the broadband atlas does not distinguish between FTTH/FTTB connected and homes passed. This distinction is being introduced for the data collected for the broadband atlas as from 30 June 2026. It is also planned to include this distinction in the broadband atlas maps.

Advertised maximum download speeds of active fibre connections (mn)



Homes passed, FTTH connected and activated, FTTB connected and activated

	2023	2024	2025
Homes Passed	17.9mn	21.8mn	27.1mn
of which active and non-active FTTH end-user connections (FTTH connected)	4.5mn	5.5 mn	7.1mn
of which active FTTH end-user connections (FTTH activated)	3.2mn	4.1mn	5.2mn
of which active and non-active FTTB end-user connections (FTTB connected)	2.8mn	3.1mn	3.3mn
of which active FTTB end-user connections (FTTB activated)	1.1mn	1.2mn	1.2 mn
Take-up rate (FTTH and FTTB activated as a percentage of homes passed)	24%	24%	24%

The figures for the period from 2020 to 2025 show that Deutsche Telekom's competitors had higher shares in fibre rollout than Deutsche Telekom in each of the three categories (1) FTTH and FTTB activated, (2) FTTH and FTTB connected and (3) homes passed. Deutsche Telekom had been cautious in its approach to rollout for many years and guided more by its interest in upgrading the copper network to keep it attractive.¹⁶ Deutsche Telekom's increased interest in fibre roll-out is best reflected by the number of (potential) connections (or homes passed) and not by the number of active FTTH and FTTB connections. In 2023, Deutsche Telekom for the first time installed more homes-passed connections than all of its competitors together. Although the competitors accounted for more than half of the new homes-passed connections in 2025, their share of homes passed has decreased continuously from 73% in 2020 to 56% in 2025. Deutsche Telekom is also catching up in the case of active FTTH and FTTB connections, although far less. While it already accounts for 44% of homes passed, it only accounts for 32% of active FTTH and FTTB connections.

Deutsche Telekom's share of active and non-active FTTH and FTTB connections (FTTH and FTTB connected) is as low as 27%. It is plausible to assume that in time Deutsche Telekom will also catch up with its fibre rollout competitors in respect of active FTTH and FTTB connections.

¹⁶ According to the company's information, Deutsche Telekom has plans to roll out fibre to the majority of households in Germany (see article dated 5 June 2024 at www.telekom.com/de/konzern/details/glasfaser-undglasfaserausbau-fakten-628116). It plans to provide FTTH to up to 25mn German households and businesses by 2030 (see article dated 5 June 2024 at www.telekom.com/de/konzern/details/glasfaser-kooperationen-beim-netzausbau-631492).

In view of the large number and range of companies involved in fibre rollout, a comparison between Deutsche Telekom and its competitors is not sufficient to adequately describe the competitive landscape in the fibre segment.¹⁷ It is also relevant to look at the shares of the largest rollout companies. This allows conclusions to be drawn about, for example, market concentration in the fibre segment. Generally speaking, the more shares are divided between a small number of market participants, the more concentrated a market is. A high level of market concentration can lead to negative effects on competition. The table below shows the collective shares of the three, five and ten largest companies for the categories (1) FTTH and FTTB activated, (2) FTTH and FTTB connected and (3) homes passed.

The figures show, for instance, that the top three companies together have a share of 51% of contracted fibre connections (FTTH and FTTB activated). Their share is smaller for FTTH and FTTB connected (43%) but larger for homes passed (59%). It has to be taken into account that Deutsche Telekom – as the largest company in all

three rollout categories – has a relatively small number of completed connections but a relatively large number of homes passed. The top five companies have a share of at least 50% in each of the rollout categories.

However, there are differences between the different categories in how the level of concentration has developed. The top three companies' share for FTTH and FTTB activated has increased almost continuously from 44% in 2020 to 51% in 2025. The share of the top five and top ten companies has only changed slightly. The share of the top five companies has decreased from 61% in 2020 to 59% and that of the top ten companies from 74% to 71%.

The shares of the top three, five and ten companies for FTTH and FTTB connected decreased between 2020 and 2024 but increased slightly again in 2025. This year-on-year increase is presumably due to the increase in Deutsche Telekom's share for FTTH and FTTB connected. The development in the shares for home passed is different. The shares of the top three, five and ten companies have increased since 2020 and have most recently been stable or changed only slightly.

¹⁷ There are more than 200 network operators investing in fibre rollout in Germany. Most of them are pure telecommunications providers or municipal operators and utilities that have extended their activities over the past few years into the telecommunications sector.

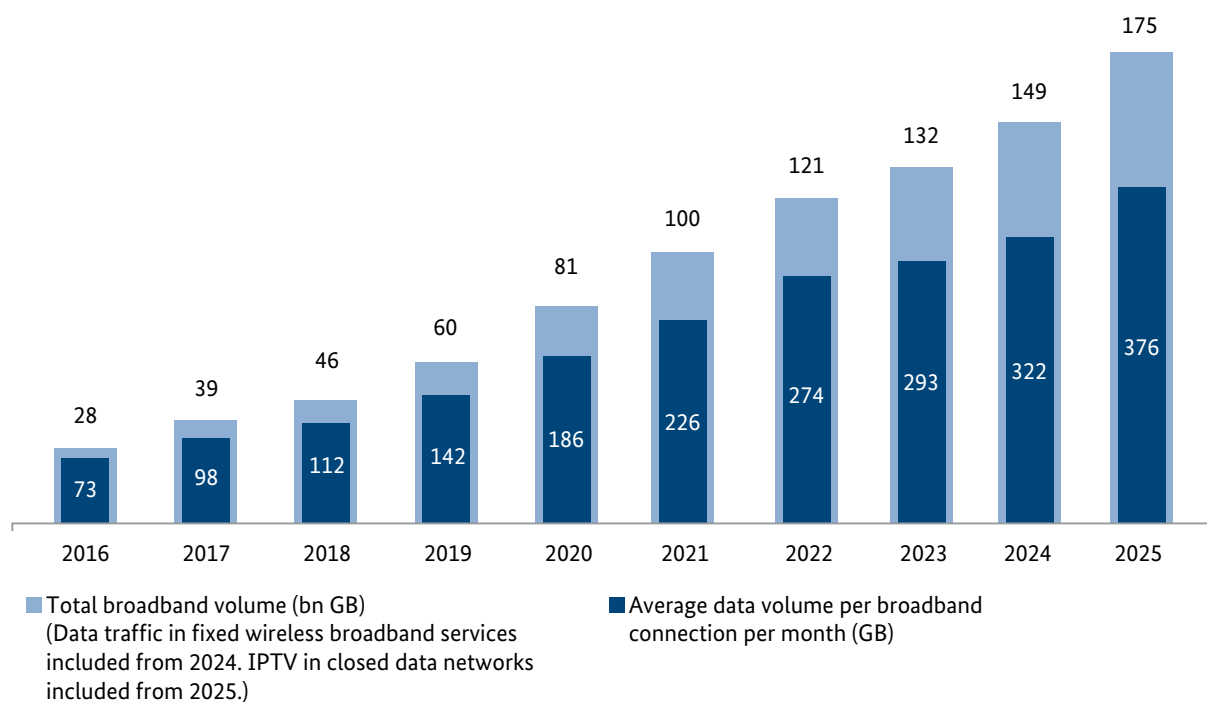
Comparison of fibre rollout by Deutsche Telekom and competitors

	2020	2021	2022	2023	2024	2025
FTTH and FTTB activated	2.0mn	2.6mn	3.4mn	4.3mn	5.3mn	6.4mn
Deutsche Telekom's share	19%	20%	21%	25%	28%	32%
Competitors' share	81%	80%	79%	75%	72%	68%
FTTH and FTTB connected	4.5mn	5.5mn	6.4mn	7.3mn	8.6 mn	10.4 mn
Deutsche Telekom's share	22%	24%	25%	24%	22%	27%
Competitors' share	78%	76%	75%	76%	78%	73%
Homes passed	6.7mn	8.9mn	13.1mn	17.9 mn	21.8 mn	27.1mn
Deutsche Telekom's share	27%	33%	37%	41%	43%	44%
Competitors' share	73%	67%	63%	59%	57%	56%

Fibre rollout by top 3, top 5 and top 10 companies

	2020	2021	2022	2023	2024	2025
FTTH and FTTB activated	2.0mn	2.6mn	3.4mn	4.3mn	5.3mn	6.4mn
Top 3	44%	44%	45%	47%	48%	51%
Top 5	61%	57%	56%	57%	57%	59%
Top 10	74%	72%	71%	71%	71%	71%
FTTH and FTTB connected	4.5mn	5.5 Mio	6.4mn	7.3mn	8.6mn	10.4mn
Top 3	47%	45%	43%	43%	40%	43%
Top 5	61%	61%	57%	56%	53%	54%
Top 10	74%	75%	71%	70%	69%	70%
Homes passed	6.7mn	8.9mn	13.1mn	17.9mn	21.8mn	27.1mn
Top 3	50%	54%	54%	57%	59%	59%
Top 5	63%	65%	63%	65%	66%	64%
Top 10	75%	76%	73%	73%	76%	75%

Data volume in fixed networks



The overall picture shows only small differences in market concentration in 2020 between (1) FTTH and FTTB activated, (2) FTTH and FTTB connected and (3) homes passed. By contrast, there are now considerable differences between the three categories. The level of concentration for homes passed is much higher than for FTTH and FTTB connected and FTTH and FTTB activated. As it can be assumed that the large majority of today's homes passed will become FTTH and FTTB connected and then FTTH and FTTB activated in the foreseeable future, the level of concentration for FTTH and FTTB connected and FTTH and FTTB activated is also likely to be similar to the current high level for homes passed in a few years' time.

Nevertheless, the overall level of concentration for fibre rollout is now lower than in 2020 and is still shaped by a three-figure number of companies. The large number of companies not in the top ten, including small and solely regional operators, together still have a significant share of about 30% in total fibre rollout. The division of shares between the large number of rollout companies again shows that fibre rollout in Germany is very highly diversified.

Satellite broadband connections

Around 175,000 customers were using satellite internet access from virtually any location at the end of 2025 (2024: 83,000). Demand remained at a low level despite the large increase. However, satellite internet connections can help to provide broadband coverage in regions where other technologies are not, or not sufficiently, available.

Data volume

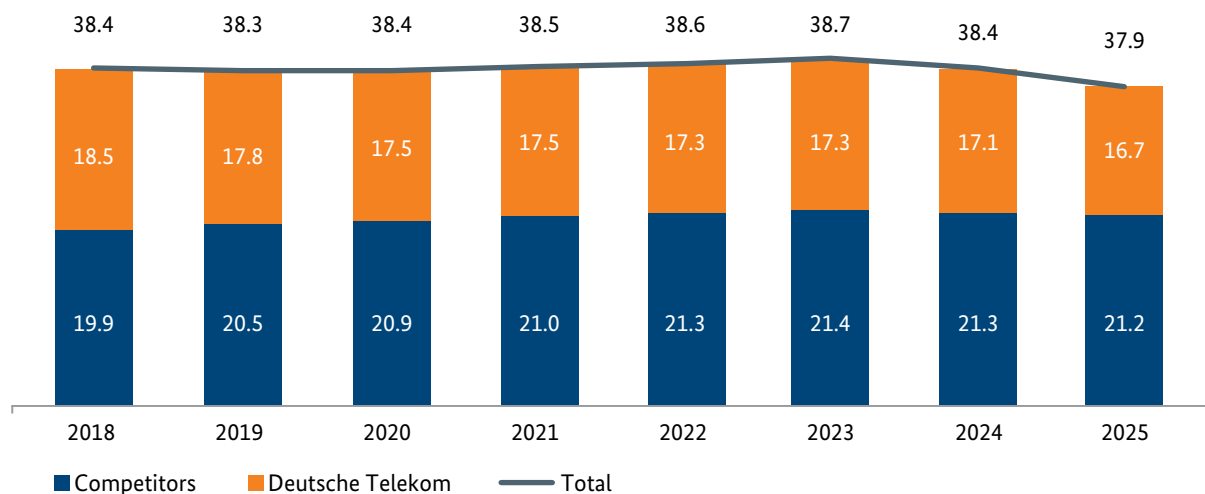
The volume of data transmitted using fixed broadband connections continues to rise sharply. Customers used a total volume of about 175bn GB in 2025. This corresponds to an average of approximately 376 GB per connection per month and another steep increase against the previous year.

Bundled products

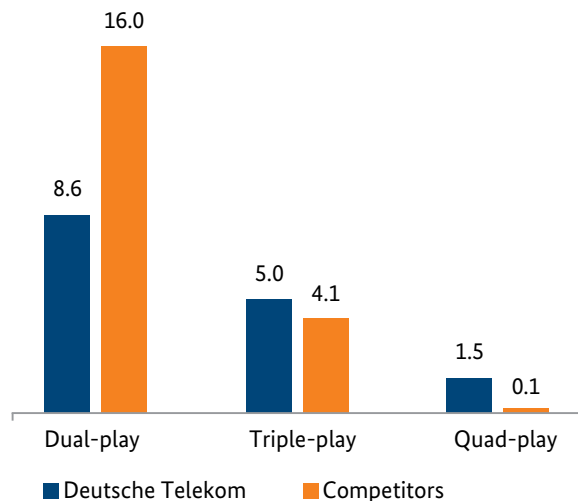
Bundled products that, in addition to fixed internet access, include at least one other telecommunications service (fixed-network telephony, TV or mobile services) in a single contract are the products offered most frequently by companies in their marketing to end-users. Sometimes these services cannot be purchased separately or are more expensive individually. Bundled products without a broadband connection are less common.

Consumers who have already entered into a fixed-network and mobile contract with a provider can usually take advantage of discounts and exclusive offers by bundling the two contracts in special advantage programmes. By offering such measures, providers seek primarily to increase customer loyalty to their products.

Voice communication connections (mn)



Bundles in fixed networks in 2025 (mn)



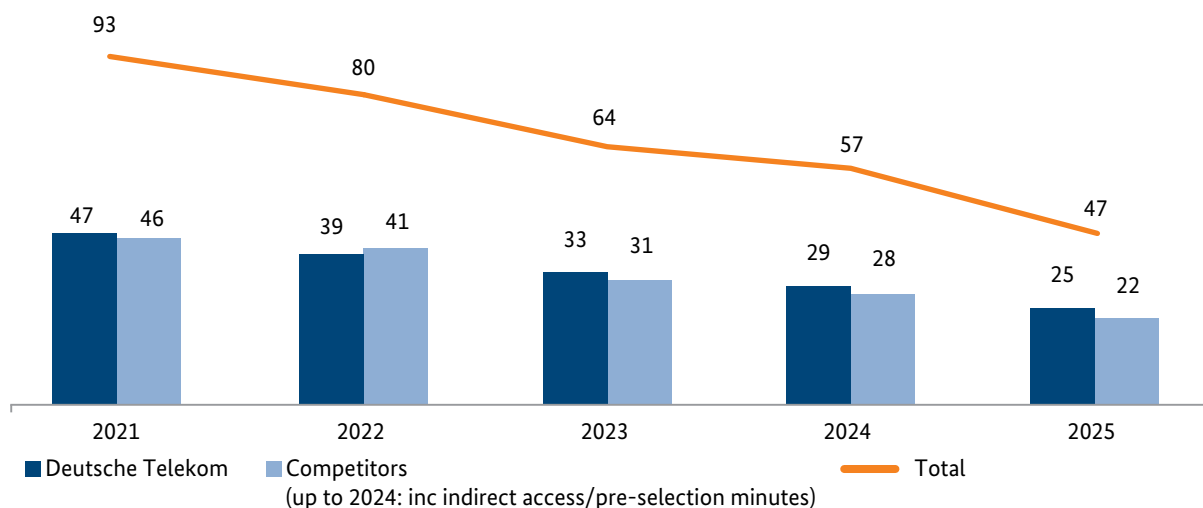
At the end of 2025, Deutsche Telekom and its competitors had around 35.3mn contracts with bundle tariffs and advantage programmes.¹⁸ Bundled products with two services were still the most common of these, accounting for approximately 24.6mn customers. The majority of these dual-play bundles consist of an IP-based telephone service in addition to a broadband connection. A smaller share of customers had bundles consisting of fixed-network telephony, mobile or TV services.

Around 9.1mn customers had triple-play bundles at the end of 2025. Approximately 62% of these consisted of a broadband and telephone connection and an additional TV service, while about 38% had a mobile component instead of the TV service.

At the same time, around 1.6mn customers were using quad-play bundles and advantage programmes consisting of four fixed-network and mobile services.

¹⁸ The figures are not fully comparable with the figures from previous Bundesnetzagentur publications due to inconsistencies in individual companies' datasets and corrections to datasets, including from larger companies.

Outgoing call minutes in fixed networks (bn)



Voice communication connections

The number of voice communication connections in the fixed networks was largely stable in the period from 2018 to 2024, averaging 38.5mn connections per year. The total number of connections at the end of 2025 was 37.9mn, down from 38.4mn in 2024 and for the first time just below the 38.0mn mark.

Deutsche Telekom's competitors accounted for 21.2mn voice communication connections at the end of 2025, a slight year-on-year decrease of 0.1mn. The number of Deutsche Telekom voice communication connections fell by 0.4mn from 17.1mn at the end of 2024 to 16.7mn at the end of 2025. In 2025, competitors thus had a share of 56% (2024: 55%) and Deutsche Telekom 44% (2024: 45%).

Conventional fixed-network telephony using analogue and ISDN connections has moved almost completely to VoIP.¹⁹ At the end of 2025, the majority of voice communication connections (37.86mn) were based on IP technology and the number of analogue/ISDN connections accounted for a negligible proportion.

In addition to IP-based voice communication connections, the companies also market other internet-based connections that use publicly assigned numbering resources. These include SIP trunks and cloud telephony.²⁰ Such virtual connections require a broadband connection. There were about 0.3mn such connections at the end of 2025 (these are not included under IP-based voice communication connections).

¹⁹ ISDN: Integrated Services Digital Network

²⁰ SIP trunks are voice communication connections that usually consist of multiple voice channels (trunks) based on the session initiation protocol.

Call minutes in fixed networks

The volume of call minutes from fixed networks in Germany to fixed and mobile networks in and outside Germany fell from 57bn in 2024 to 47bn in 2025, continuing the downward trend of the past few years.²¹ This represents a year-on-year decrease of 18%.

Approximately 25bn of the total call minutes in 2025 can be attributed to Deutsche Telekom, down 14% on the previous year (29bn). The volume of calls handled by competitors decreased by 21% to about 22bn minutes in 2025. The competitors' share of 47% (2024: 49%) was lower than Deutsche Telekom's share of 53% (2024: 51%).

As from 2025, all calls in fixed networks are direct connections, since indirect access and pre-selection services were discontinued on 31 December 2024.

About 39bn of the total 47bn minutes in 2025 were calls to German fixed networks. Around 7bn minutes were calls to German mobile networks and around 1bn to fixed and mobile networks outside Germany. The competitors had shares of about 47% (German fixed networks), 45% (German mobile networks) and 47% (international networks) of these call minutes.

Approximately 1.8bn call minutes were made in 2025 over internet-based virtual voice communication connections using publicly assigned numbering resources. These minutes are not included in the call minutes over IP-based connections.

²¹ It should generally be noted when interpreting these call minutes that certain traffic volumes are not included in the dataset. These are primarily voice and video telephony call minutes using number-independent interpersonal communications services, especially messaging and video calling services.

Use and distribution of active SIM profiles

		2023		2024		2025	
		mn	%	mn	%	mn	%
Total excluding M2M		105.5		109.2		106.4	
Penetration (SIM-profiles/inhabitant¹⁾)		-	126	-	131	-	127
Business:	Network operators (MNOs)	81.0	77	86.6	79	95.5	90
	Service providers/MVNOs	24.5	23	22.6	21	10.9	10
Contract type:	Postpaid	75.0	71	79.7	73	78.1	73
	Prepaid	30.5	29	29.5	27	28.3	27
SIM profiles used for M2M		62.8 ²⁾	-	73.7	-	86.1	-
LTE subscribers (excluding M2M)		88.2	-	89.7	-	90.1	-
of which 5G subscribers (NSA)		19.7	-	37.4	-	57.9	-
VoLTE users		68.8	-	75.0	-	79.1	-

¹⁾ Number of inhabitants according to the Federal Statistical Office

²⁾ Improved analysis of inactive SIM profiles for M2M use for one network operator

Mobile services

Actively used SIM profiles

There were 106.4mn active SIM profiles at the end of 2025, according to data collected by the Bundesnetzagentur.²² This figure does not include profiles for M2M data communications. Statistically speaking, each resident has around 1.3 SIM profiles. SIM profiles are defined as active if they have been used for communication in the last three months or if an invoice has been generated for the SIM profile in this period.

The share of SIM profiles attributable to network operators compared to service providers and MVNOs continued to increase. The network operators accounted for 90% (95.5mn) of the profiles and the service providers/MVNOs for 10% (10.9mn) at the end of 2025. The shift is due to the market entry of 1&1 Mobilfunk GmbH as a mobile network operator and the associated migration of SIM profiles to its own network. 1&1 Mobilfunk GmbH completed migrating its customers and ended its dual role as service provider and network operator at the end of 2025 and is now active in the German market solely as a network operator.

The proportion of prepaid and postpaid SIM profiles was unchanged from 2024. At the end of 2025, 73% (78.1mn) of SIM profiles were on postpaid contracts and 27% (28.3mn) on prepaid contracts.

Some 86.1mn SIM profiles were being used for M2M at the end of 2025, approximately 17% more than in 2024 (73.7mn).

The number of SIM profiles in active use in LTE networks was 90.1mn at the end of 2025, a decrease of nearly 0.5% year on year (2024: 89.7mn). Some 57.9mn of these end-users use 5G NSA, a 55% increase on the previous year. 5G NSA uses a 4G/5G radio access network to establish connections and a 4G core network to transport traffic.

Internet-based VoLTE services are increasingly being used for voice communications. VoLTE services are IP-based and offer much better call quality, faster connections and more efficient use of bandwidth. The number of active users with a VoLTE-capable device in combination with a suitable mobile contract was up from 75.0mn at the end of 2024 to 79.1mn a year later.

Actively used SIM profiles of MVNOs

The Bundesnetzagentur began assigning telephone numbers for mobile services to MVNOs in 2013. MVNOs do not operate their own radio network infrastructure on the basis of assigned spectrum. Six companies in the German market currently use this business model. 1&1 Mobilfunk GmbH no longer counted as an MVNO at the end of 2025 as it had ended its dual role as service provider and MVNO and is now only active as a network operator.

At the end of 2025, about 1.7mn end-users were using SIM profiles from number blocks originally assigned to MVNOs. These are not included under “Use and distribution of active SIM profiles”.

In addition to the SIM profiles originally assigned to them, the MVNOs mainly use SIM profiles from number blocks assigned to the mobile

²² The SIM profile is a set of parameters comprising an IMSI, an authentication key and other associated data that enables devices to authenticate against and gain access to a mobile network. All profiles for all SIM technologies are included (eg physical SIM cards, eSIMs).

network operators. The total number of active SIM profiles attributable to the MVNOs is about 2.0mn. At the end of 2025, around 91% (1.8mn) of these profiles were logged in to the LTE network. The number of active users with a VoLTE-capable device in combination with a suitable mobile contract was 0.6mn at the end of 2025.

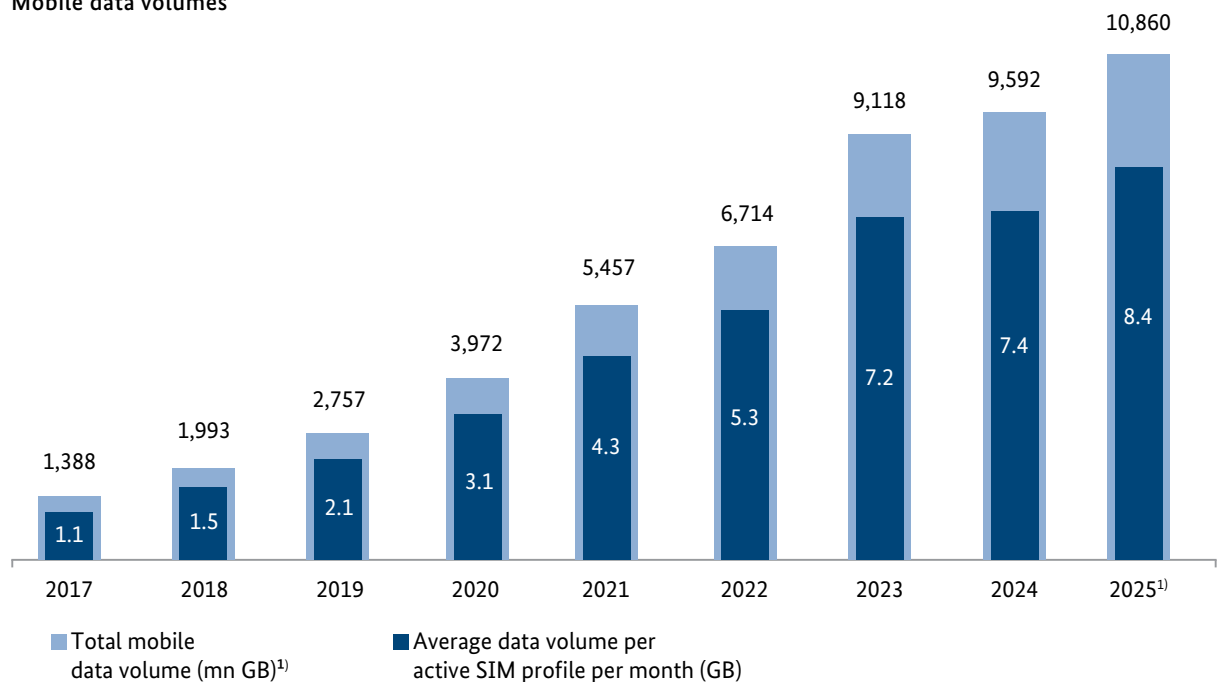
Registered SIM profiles

The total number of SIM profiles registered in Germany is significantly higher than the total number of SIM profiles in active use. One reason for this is that second and third devices or other spare SIM profiles are not in constant use.

The total number of registered SIM profiles was 214.4mn at the end of 2025, according to data from the mobile network operators.²³ This is around 13mn more than at the end of 2024. This figure includes SIM profiles used for M2M.

²³ There is no standard definition for the total number of SIM profiles reported by the network operators. Each company decides for itself how to count SIM profiles and when adjustments are required.

Mobile data volumes



¹⁾ Excluding data traffic via fixed wireless broadband services since the end of 2024

Total volume and usage figures

Mobile broadband

Mobile data volumes are continuing to increase. Data volumes increased by about 13% from 9,592mn GB in 2024 to 10,860mn GB at the end of 2025, according to the latest data collected by the Bundesnetzagentur.

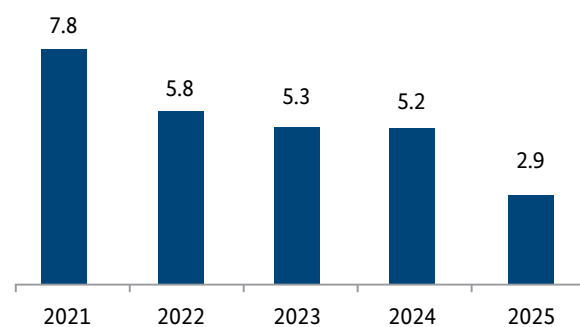
Average data usage per active SIM profile per month was up about 13% year on year to 8.4 GB in 2025.

SMS messages

The number of SMS messages sent had been in decline since it peaked in 2012 at 59.8bn, as more and more people used internet-capable smartphones and instant messaging services were introduced. The downward trend has continued, with the exception of a short-term increase in 2021 to 7.8bn messages. The main reason for the decline is the increased use of internet-based

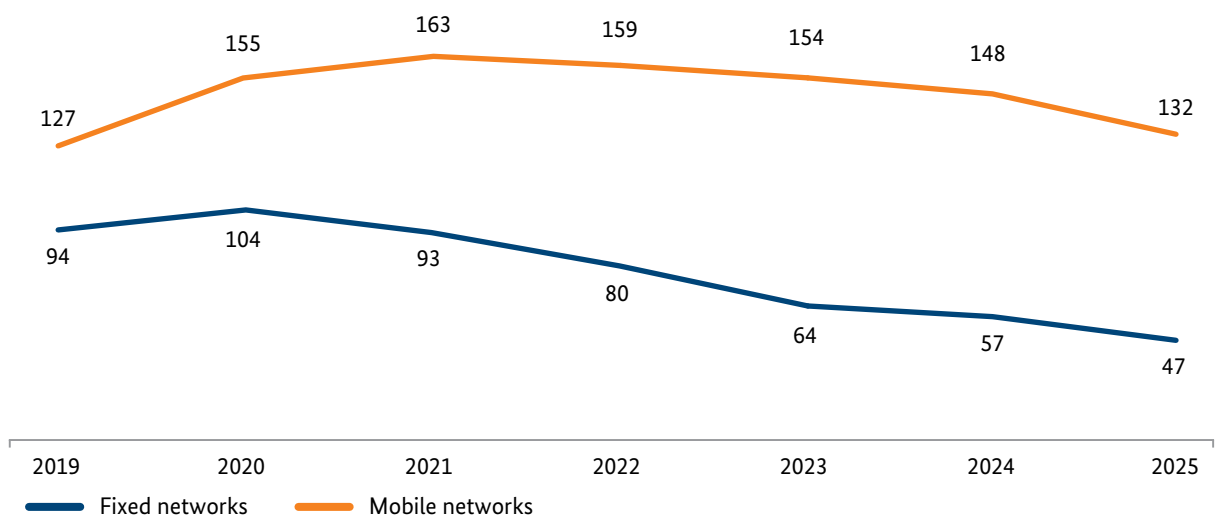
messaging services such as WhatsApp, iMessage, Threema, Signal and RCS.²⁴ The number of SMS messages sent was down to 2.9bn in 2025, which corresponds to an average of about two SMS messages per active SIM profile per month.

SMS messages sent (bn)



24 RCS: Rich Communication Services

Outgoing call minutes in fixed and mobile networks (bn)



Outgoing and incoming mobile voice minutes

	2023	2024	2025
	Minutes (bn)	Minutes (bn)	Minutes (bn)
Outgoing traffic from mobile networks	153.49	147.80	131.57
To German fixed networks	30.70	28.89	28.52
To the same mobile network	65.37	62.56	52.71
To other German mobile networks	53.73	53.41	48.04
To foreign networks (fixed/mobile)	1.74	1.55	1.28
Other traffic	1.95	1.39	1.02
Incoming traffic to mobile networks	133.68	129.86	115.20
From German fixed networks	11.23	9.92	8.62
From the same mobile network	63.52	60.08	49.68
From other German mobile networks	56.08	56.35	55.23
From foreign networks (fixed/mobile)	2.14	1.66	1.05
Other traffic	0.71	1.85	0.62

Call minutes

The number of mobile-originated call minutes to networks in Germany was 131.6bn in 2025. This corresponds to an average of around 102 minutes per active SIM card per month. It also represents another decline in mobile telephony, down by nearly 11% in 2025. One reason for this is the introduction of alternative communications services such as messaging and video calling in recent years. For instance, the number of outgoing voice and video call minutes using NI-ICS totalled 387bn in 2025.

The breakdown of mobile voice traffic has varied only slightly in recent years. Around 40% of mobile call minutes in 2025 were within the same mobile network (2024: about 42%), approximately 37% were to other German mobile networks (2024: 36%) and about 22% (2024: 20%) to German fixed networks.

The number of incoming call minutes terminated in German mobile networks decreased by around 11% to 115.2bn minutes in 2025. The majority of

these call minutes were from other German mobile networks (around 48%) and from the same mobile network (43%).

Mobile call volumes significantly exceed the volume of around 47bn in the fixed networks. There were about 2.8 times more mobile than fixed call minutes. This was mainly due to mobility, improved voice quality, continuous availability and the pricing of mobile services. Video and internet telephony (VoIP) minutes were not included.

International roaming

The volume of data generated abroad was 457.7mn GB in 2025. The number of outgoing call minutes abroad was 2,594mn and the number of SMS messages sent was 96mn. While the volume of data was up year on year by nearly 7%, the number of outgoing call minutes was down 20% and the number of SMS messages sent down 36%.

International roaming

	2023	2024	2025
	mn	mn	mn
Volume of data generated abroad (GB)	347.4	429.0	457.7
Outgoing call minutes abroad	3,422	3,246	2,594
SMS sent abroad	212	150	96

Mobile base stations

	2023		2024		2025	
		%		%		%
Total	214,677	100	222,474	100	238,820	100
5G	49,571	23	56,558	25	67,272	28
LTE/4G	87,905	41	88,373	40	92,036	39
GSM/2G	77,201	36	77,543	35	79,512	33

Infrastructure

The expansion of the mobile networks relies heavily on the installation of additional base stations, the interfaces between the wireless and wire-based networks. The number of base stations increased year on year by more than 7% to 238,820 at the end of 2025, according to data from the network operators, due mainly to the expansion of 5G networks. The number of LTE base stations in operation increased by about 4% to 92,036. The number of 5G base stations was up around 19% from 56,558 in 2024 to 67,272 at the end of 2025. There were 3,464 sites with small cells at the end of 2025. These densify the network in city centres to provide additional capacity at locations with a high user concentration, with an effect on both the speed of data throughput and the data quality (such as high-resolution streaming).

Current rollout of 5G networks is still partly based on the existing 4G infrastructure. This is

known as 5G NSA. The current 5G networks that use DSS are also 5G NSA networks. DSS allows bands to be used for both 4G and 5G at the same time. Base stations with DSS were mostly counted as both 4G and 5G base stations. About 82% of 5G-capable base stations used DSS technology at the end of 2025.

Further progress was also made last year with the rollout of 5G SA networks through the connection of existing radio sites to their own 5G core networks. The exclusive use of 5G network infrastructure and spectrum resources will enable 5G technology to reach its full potential, not least the higher speeds and lower latency required for real-time applications.

In practice, a physical antenna site usually contains base stations of different mobile communication standards. The number of antenna sites (93,395 at the end of 2025) is therefore lower than the number of base stations (238,820 at the end of 2025). Infrastructure operated jointly

by more than one network operator, a practice known as site sharing, is counted multiple times in the physical site data.

Most of the antenna sites are connected using fibre or fixed links. About 60% of the sites were connected using fibre and about 41% using fixed links at the end of 2025. Some sites are connected using both, which explains why the total is greater than 100%. The number of fibre-connected sites was up around 12% year on year. A small number of sites are still connected using copper-based transmission paths.

Key figures and competitors' shares

The following table summarises selected key figures and competitors' shares in the telecommunications market for the period from 2023 to 2025.

Key figures and competitors' shares in the telecommunications market			
Key figures	2023	2024	2025
External revenue (€bn)	59.8	61.3	59.6 ¹⁾
Investments (€bn)	14.9	15.3	15.3 ¹⁾
Employees (thousand)	132.4	128.0	122.6 ¹⁾
Total active fixed broadband connections (mn) ²⁾	38.4	38.6	38.8
- DSL	24.5	23.6	22.7
- HFC	8.6	8.5	8.5
- FTTH and FTTB	4.3	5.3	6.4
- Other	1.0	1.2	1.1
Total fixed voice communication connections (mn)	38.7	38.4	37.9
Active SIM profiles (mn)	105.5	109.2	106.4
Mobile penetration rate (active SIM profiles/inhabitant) (%) ³⁾	126.3	130.6	127.5
Competitors' shares (%)	2023	2024	2025
External revenue	57	55	56 ¹⁾
Fixed broadband connections	61	61	61
DSL connections	43	42	42
Fixed voice communication connections	55	55	56

¹⁾ Forecast figures

²⁾ Any differences between the totals and the sums of the individual figures are due to rounding.

³⁾ Number of inhabitants according to the Federal Statistical Office

Gigabit register

Further progress was made in 2025 in consolidating the broadband atlas and infrastructure atlas platforms to create a central information system, the “Gigabit-Grundbuch” (gigabit register). The new “Mein Gigabit-Grundbuch” user portal provides access to all the restricted areas of the gigabit register and opens up access to the analysis platform to a wider group of users. The broadband atlas and the analysis platform were redesigned to make them much more user-friendly and accessible. Additional datasets, for example from the mobile sector, were integrated into the broadband atlas, the analysis platform and the infrastructure atlas and various functional improvements were made.

Background

The German government’s gigabit register went online in December 2022 at gigabitgrundbuch.bund.de. The aim of the gigabit register is to make fixed and mobile network rollout planning easier for companies and generally create transparency as regards the availability of broadband networks. The Bundesnetzagentur maintains the gigabit register. The tasks of the single information point of the Federation were delegated to the Bundesnetzagentur by the Federal Ministry for Digital Transformation and Government Modernisation (BMDS).

Services

The gigabit register currently comprises six information services with different purposes for different target groups.

1) Services accessible to all users:

- Broadband atlas: the central information and transparency tool for current fixed and mobile broadband coverage in Germany.
- Mobile communications monitoring: the transparency tool with details of the mobile network coverage provided by mobile operators.
- Broadband speed checks map: map showing the results of end-users’ fixed and mobile connection speed tests.
- Dead-spot map: map showing mobile coverage based on the results from users of the dead spot checker app (now mobile checker).

2) Services only accessible to those involved in broadband rollout:

- Infrastructure atlas: the information and planning tool with details of infrastructure for the purposes of gigabit rollout project planning.
- Analysis platform: the analysis tool with broadband and rollout information for decision-makers from federal, state, district and municipal bodies and their contractors.

The efficient rollout of digital infrastructure in Germany needs a sound and transparent basis of data, without which it is impossible to identify sharing potential, prepare investment decisions and plan effective national and regional support measures. The existing geographic information systems were therefore consolidated to create a central portal.

Gigabit register IT project

The gigabit register IT project was established in 2023 to manage the technical migration, operation and ongoing development of the broadband atlas and analysis platform services in cooperation with an external service provider. Together with the infrastructure atlas, these are the gigabit register's largest IT platforms.

The applications were migrated to a private open-source cloud in 2025. Further technical and functional improvements were then made (eg integration of data from the mobile network operator 1&1, new differentiation for 5G, introduction of a new colour scheme, redesign). In addition to front end adjustments, the focus was on stabilising system measures and optimising data preparation processes. This led, among other things, to the completion of back end developments for the applications. One such development was the implementation of a basic structure for integration tests. Parts of the source code for data preparation had not been safeguarded using sufficiently automated tests, resulting in a high risk of errors especially in the case of source code changes. The creation of appropriate structures and the implementation of integration tests counter this problem. Another development was the implementation of validation steps in the various stages of data preparation so that incorrect data can be identified early on and corrected. Validation applies to all supplementary data (eg administrative areas, schools, hospitals, addresses). It is planned to make further back end improvements to the data preparation process where possible. Potential improvements include redesigning the configuration (basis for controlling the data preparation process), modularisation of individual source code elements and performance optimisation for individual components (eg administration tool, database queries).

Broadband atlas

Concept

The broadband atlas is part of the gigabit register and is the central tool for current information on fixed and mobile broadband coverage in Germany. It is updated twice a year and is accessible to everyone free of charge.

The interactive maps show which speeds and connection technologies are available for data transmission. The maps can be navigated to display any location in Germany down to an individual place or address. Broadband availability is shown as a percentage of the households to be served in raster cells of 100m by 100m.²⁵ Unpopulated areas without households are shown in the mobile coverage view in terms of wide-area coverage only. The interactive map is accompanied by an information panel with settings and filter options and a chart showing the percentage of broadband availability. It is also possible to compare current and past data. A table shows which companies have reported the availability of which technologies in each raster cell.

History

While the origins of the broadband atlas go back to 2005, the provision of data did not become compulsory until 2022. Before that, the data was provided voluntarily by telecommunications companies to the broadband atlas operator. The entry into force of the updated TKG on 1 December 2021 created the first legal basis for the provision of information about broadband rollout. Responsibility for operating the broadband atlas was then delegated to the Bundesnetzagentur following a short transitional period.

²⁵ The broadband atlas also provides information on coverage for businesses, schools, hospitals and industrial estates.

Data on the fixed network

Fibre (FTTH/FTTB) was available to 44% of households in mid-2025 (mid-2024: 36.8%), according to the broadband atlas. Gigabit connections (all technologies) were available to 79% (2024: 76.5%) of households, mostly based on upgraded HFC networks. Standard speeds, which are often requested even with the availability of faster connections, are available almost everywhere. Connections with at least 50 Mbps are available to 97.3% (2024: 96.5%) of households and connections with at least 100 Mbps to 94.8% (2024: 93.7%) of households.

Data on the fixed network for the broadband atlas is now supplied by more than 470 companies. The number of companies required to provide data for the broadband atlas is continuously increasing. However, some supply either no data at all or unusable or implausible data, which is therefore not included in the database. Typical errors are the provision of projected data or coverage data for large polygons without a breakdown into smaller areas.

Data on the mobile network

The mobile coverage map is based on data collected twice a year by the Bundesnetzagentur from the mobile network operators. The operators state which technologies (2G, 4G, 5G) are available in each raster cell (100m by 100m). The Bundesnetzagentur has set minimum thresholds for reception quality for each technology. Measurements must be taken from the end-user's perspective (1.5m above ground level). Further technical parameters have been defined for signal quality, in particular for 4G and 5G. The data is based on predictions for outdoor reception from the network operators.

Infrastructure atlas

Background

The infrastructure atlas is the central information and planning tool for gigabit rollout in Germany with special restricted access. It contains data on the location of network operators' infrastructure available for sharing, such as fibre cabling, ducts, carrier infrastructure and access points, as well as information about civil works and publicly owned property. It also provides the contact details of infrastructure owners and information on availability and funding. This helps to speed up rollout planning and decision making in the pre-project phase and save costs during rollout through sharing existing infrastructure. The infrastructure atlas is not public. The data can be accessed upon request and is only accessible to authorised users for a limited time and for a limited area. Companies involved in rollout and local or regional authorities can apply for access.

The information from the infrastructure atlas has been used in over 17,000 projects since 2009. More than 4,000 infrastructure owners are required to supply data for the infrastructure atlas.

Regular infrastructure atlas updates/data acquisition

The data for the infrastructure atlas is updated on 1 July each year. 95% of the datasets provided had been checked and imported into the infrastructure atlas by the end of 2025. This was by far the most successful data update in the history of the infrastructure atlas.

Coercive fine proceedings were opened in 216 cases in which data providers had failed to submit data on time.

The requirement to supply data was enforced in 164 cases by the end of the year. The established processes have proven successful and can potentially make work more efficient in future. They enable the Bundesnetzagentur to respond more quickly to non-compliant data providers and enforce the data provision requirements more effectively.

Exemptions

The location data provided for the infrastructure atlas includes sensitive information that must be protected accordingly. Section 79(3) TKG allows infrastructure owners to request an exemption from inclusion in the infrastructure atlas for especially sensitive data for critical infrastructure that merits particular protection. The Bundesnetzagentur verifies whether the criteria for such an exemption are met in a separate administrative procedure. If an exemption is justified, the data is not included in the infrastructure atlas. No data is imported in any case until the conclusion of the separate administrative procedure, in order to protect the infrastructure owner's interests.

The Bundesnetzagentur completed the processing of 50 requests for exemption in 2025. Most of the requests were from 2024. A total of 31 were rejected and 15 were approved (14 fully and one partly approved). Four requests were withdrawn. The Bundesnetzagentur relies on information from the infrastructure owners to verify whether the criteria for an exemption are met, as only they have details of the circumstances potentially justifying an exemption. Requests are mostly rejected when only very general and illogical reasons are given to justify an exemption; in these cases, irrelevant explanations are frequently provided instead of specific proof that the criteria are met.

Inclusion of publicly owned property

Information about property and property owners is of great interest for planning and installing mobile masts, antennas or fibre cable routes. Section 83 TKG provides for the inclusion of information about publicly owned property in the gigabit register to help companies involved in rollout find suitable locations. As a first step in a pilot project, data on publicly owned property in North Rhine-Westphalia was incorporated into the infrastructure atlas in March 2025. The data is based on the Official Land Register Information System (ALKIS). It is planned to use the ALKIS data to identify publicly owned property in other federal states, too. The BMDS, individual land survey authorities – for example in Bavaria, Brandenburg, North Rhine-Westphalia, Lower Saxony and Rhineland-Palatinate – and the Bundesnetzagentur have developed a special procedure to identify publicly owned property within a dedicated project group. Other land survey authorities have now for the first time used this procedure to identify publicly owned property in their databases and allow use of the data in the infrastructure atlas for a pilot project. The Bundesnetzagentur will gradually check the property identified by the authorities and import the data into the infrastructure atlas.

Technical development of the infrastructure atlas

A development package was rolled out in February 2025 to improve the security of the infrastructure atlas. The package included an authentication mechanism for telephone support and two-factor authentication that requires users to enter a unique, time-sensitive six-digit code (one-time password) as well as their user name and password to log in to the infrastructure atlas systems.

The infrastructure atlas was extended in July 2025 to cover data on future mobile network rollout.

This shows the locations at which mobile network operators plan to expand their networks in the 12 months following collection of the data as well as the anticipated 4G and 5G wide-area coverage from each operator. Details of access to the data are included in the access conditions for the mobile network forecast. Local and regional authorities can apply to access the data for general planning and funding purposes. The data is updated twice a year.

The “Mein Gigabit-Grundbuch” user portal went live in December 2025 as an extension of the infrastructure atlas portal. The new user portal provides central access to all the restricted areas of the gigabit register and to services relating to user accounts, applications for access and data submissions.

Usage of “Mein Gigabit-Grundbuch” (previously the infrastructure atlas portal)

Approximately 1,600 users applied to register with the portal in 2025; about 13% of these applications were rejected. The majority of applications (just under 60%) were from local or regional authorities.

Nearly 2,000 applications to access data in the infrastructure atlas were submitted in 2025, which is 53% more than in the previous year. 8% of these applications were rejected because the applicants were not authorised to access the data.

The majority of applications (about 68%) were from owners and operators of public telecommunications networks and their contractors. 19% were from local or regional authorities and their contractors, 9% from owners and operators of public supply networks and their contractors, and 4% from others involved in the gigabit rollout.

Nearly 4,100 datasets were submitted to the Bundesnetzagentur through the portal.

Analysis platform

Concept

The analysis platform is an information and analysis tool for public administration with restricted access. Access was extended in December 2025 following the introduction of the “Mein Gigabit-Grundbuch” user portal. The platform is now accessible not only to decision-makers from federal and state bodies but also to representatives of (rural) districts and the approximately 11,000 municipalities across Germany, and their contractors.

Authorised users have access to detailed information on fixed and mobile coverage, public funding and infrastructure. The platform provides information on areas with an undersupply of mobile services (white and grey spots), funding projects and expression of interest procedures in the mobile sector in addition to all the data from the public broadband atlas. It also provides statistical information on broadband infrastructure. Information on fixed networks is available down to individual addresses.

One of the analysis platform’s key applications is the tailored overview of information for a user’s allocated area. The platform also allows users to analyse and compare broadband coverage for certain administrative regions and download the results.

The aim of providing central access to information is to increase transparency for public administration and thus support efficient (public) rollout planning.

Usage

In the period from the beginning of January to the beginning of September 2025, a total of 39 user accounts for the analysis platform were in active use for at least three months. 33 accounts (84.6%) were for federal state bodies, five (12.8%) for federal ministries and one (2.5%) for a contractor.

At the beginning of December, access to the analysis platform was automatically authorised for nearly 3,000 local and regional authorities following integration of the platform’s user management system into the “Mein Gigabit-Grundbuch” user portal.

Internet and digitalisation



The Bundesnetzagentur acts as both regulator and enabler of the digital transformation, facilitating new business models, designing markets and implementing regulations, with its tasks bundled in a new digital department created in 2024. Artificial intelligence and data economy will come into the spotlight in 2026, and the Bundesnetzagentur will take on a key role in implementing European legislation in these fields.

Implementation of EU data regulations

Data Act

The EU Data Act (Regulation (EU) 2023/2854) entered into force on 11 January 2024 and largely came into effect in the European Union on 12 September 2025. The Data Act aims to improve the availability of data within the EU by breaking up data silos. It creates opportunities for new business models as well as incentives for innovation. It introduced new rules on accessing, using and sharing data, especially in the IoT sector. The Data Act also lays down rules that make it easier for customers to switch between providers of data processing services (eg cloud services), reduce switching costs and improve interoperability between these services to prevent lock-in effects.

With the entry into force of the German Data Act Application and Enforcement Act (DADG) on 30 May 2026, the Bundesnetzagentur became the authority responsible in Germany for the imple-

mentation of the European Data Act. As a single point of contact for all questions relating to the Data Act, the Bundesnetzagentur supports market players and monitors compliance with the new rules.

As the central supervisory authority for the Data Act, the Bundesnetzagentur is assuming several new tasks. It is responsible for domestic and cross-border cooperation with other authorities, such as the Federal Commissioner for Data Protection and Freedom of Information (BfDI) in matters related to data protection, as well as the European Commission and the European Data Innovation Board, to ensure that the Data Act is applied consistently and efficiently.

In addition, the Bundesnetzagentur certifies dispute resolution bodies in Germany, monitors technological and economic developments in the area of data economy and contributes to the work of various standardisation bodies to improve the interoperability of data. The Bundesnetzagentur will also be monitoring compliance with the new rules to simplify switching cloud providers.

The Bundesnetzagentur started to prepare intensively for its new tasks in 2025, in consultation with the Federal Ministry for Digital Transformation and Government Modernisation (BMDS). It published a wide range of information in both German and English about the new rules in the Data Act for when they took effect on 12 September 2025. It also held discussions with numerous market players and authorities in Germany and other European countries in 2025 to prepare for its new role, clarify outstanding issues and develop a common understanding of the Data Act.

The Bundesnetzagentur continually updates and expands its range of information (bundesnetzagentur.de/data-act) on the Data Act.

Data Governance Act

The Data Governance Act (Regulation (EU) 2022/868) is another key pillar of the European data strategy. It entered into force on 23 June 2022 and took effect in all Member States on 24 September 2023.

The Data Governance Act is a cross-sectoral regulatory tool with the aim of enhancing trust in data exchange and strengthening the mechanisms for increasing data availability. The newly created rules serve to reduce technical obstacles to data exchange so that the untapped potential of the data economy can be unleashed. With this in mind, the Data Governance Act essentially regulates four areas:

- rules for the re-use of protected data that is owned by public sector bodies,
- establishment of a notification, registration and supervisory procedure for the provision of services by data intermediaries,

- framework for the voluntary registration of entities that collect and process data made available for altruistic purposes, and
- creation of a European Data Innovation Board (EDIB).

The EDIB met four times in 2025 and, among other things, discussed the evaluation of the Data Governance Act and other data regulations. The EDIB's sub-group on competent authorities mainly addressed issues relating to the implementation and interpretation of the Data Act (see section on the Data Act).

In 2025, the Bundesnetzagentur looked into numerous aspects of the implementation of the Data Governance Act, held discussions with various stakeholders and prepared for its new tasks. Germany's national Data Governance Act (DDG) implementing the EU legislation entered into force on 19 May 2026. The Bundesnetzagentur assumed the role of the national competent authority for the enforcement of the requirements applicable to data intermediation services and data altruism organisations (Chapters III and IV of the EU Data Governance Act). Its responsibilities include the notification of data intermediation services, the registration of data altruism organisations and the issue of the "data intermediation services provider recognised in the Union" and "data altruism organisation recognised in the Union" labels.

A summary of the main provisions of the European Data Governance Act and information on notification, registration and application for labels are available online bundesnetzagentur.de/dga (in German).

Data Use Act

The objective of Germany's Data Use Act (DNG) is to simplify the availability of public sector data and improve the options for using the data. Use of the data is generally free of charge (section 10 DNG). Public sector bodies that are required to generate revenue to cover a substantial part of their costs relating to the performance of their public tasks and that wish to be exempted from not being able to charge for data use can notify the Bundesnetzagentur of the invocation of the exemption. The Bundesnetzagentur maintains a list of the public sector bodies making use of the exemption, which it publishes on its website (section 10(4) DNG).

In 2022, the European Commission issued Commission Implementing Regulation (EU) 2023/138 laying down a list of specific high-value datasets and the arrangements for their publication and re-use. The Implementing Regulation requires datasets of particularly high value to be made available free of charge. Following an initial transition period, the Implementing Regulation has applied in full since 9 June 2024. The relevant exemptions invoked by public sector bodies from the principle of not being able to charge for data use ceased to apply in 2024.

In 2025, several applications from public sector bodies to be included in the Bundesnetzagentur's list were rejected. Final decisions on the remaining applications were still outstanding. Public sector bodies meeting all the legal requirements can be added to the list with retroactive effect from 9 June 2024. The Bundesnetzagentur will then publish the new list online. No public sector bodies applied for inclusion in the Bundesnetzagentur's list in 2025.

Implementation of EU regulations on digital services and commerce

Digital Services Act

With the entry into force of the German Digital Services Act (DDG) in May 2024, the Bundesnetzagentur assumed its role as central coordinator for digital services in Germany. As Digital Services Coordinator (DSC) the Bundesnetzagentur monitors online services' compliance with the rules of the European Digital Services Act (DSA). The DSC may impose fines when there are systematic violations. The DSC is part of the Bundesnetzagentur but remains an independent body and reports on its activities in a separate annual report.

Platform-to-business Regulation

The European P2B Regulation (Regulation (EU) 2019/1150) aims to ensure a fair and transparent environment for business between providers of online platforms and online search engines and business users. The P2B Regulation contains obligations on information and transparency for providers of online intermediation services and online search engines, as well as rules on internal complaint-handling and out-of-court dispute settlement.

The Bundesnetzagentur is responsible for enforcing the P2B Regulation if business users have their place of establishment or residence in Germany and offer goods or services to consumers in the EU. The Bundesnetzagentur can issue orders and impose fines of up to €300,000 for infringements of the P2B Regulation.

The Bundesnetzagentur provides comprehensive information on the P2B Regulation under the topics section of its website. It also has an online complaints form for business users to submit complaints directly to the Bundesnetzagentur.

In 2025, the Bundesnetzagentur received 79 complaints from business users, leading to various extensive proceedings against national and international platforms. The main focus of the complaints was on accounts being suspended or terminated without exact reasons and without sufficient notice (Article 4 in conjunction with Article 3(1)(c) P2B Regulation). Other ongoing proceedings relate to the provisions on the transparency of ranking mechanisms (Article 5 P2B Regulation in conjunction with the European Commission's guidelines) and to terms and conditions that are unintelligible or barely intelligible for the average business user (Article 3(1)(a) P2B Regulation). Another focus was providers' obligations in respect of internal complaint-handling systems (Article 11 P2B Regulation) and mediation (Article 12 P2B Regulation). Here, it was found that many platforms name mediators in their terms and conditions but that the mediators' websites themselves are often confusing and do not meet the requirement for mediators to be easily accessible (Article 12(2)(b) P2B Regulation). Some of the platforms in question amended their terms and conditions and processes to comply with the requirements of the P2B Regulation while the Bundesnetzagentur's related proceedings were still ongoing.

As the competent authority for enforcing the P2B Regulation, the Bundesnetzagentur worked closely with the Bundeskartellamt and provided input on P2B issues in the Bundeskartellamt's proceedings against Amazon.com Inc. (Seattle, USA) and Amazon EU S.à.r.l. Luxembourg) relating to concerns about the use of price control mechanisms to monitor sellers' prices.

The Bundesnetzagentur also processed one application for designation as an association with the right to take action before competent national courts pursuant to Article 14 P2B Regulation.

In 2025 the Bundesnetzagentur commissioned a study from concertare Beratungs- und Dienstleistungsgesellschaft mbH with an empirical survey on business users' experience with online platforms in Germany. The survey covered 500 business users established in Germany that offer goods and services on various online platforms to consumers in the EU. The study focused on how well business users established in Germany are familiar with the P2B Regulation, which P2B-related challenges they face when dealing with providers of online platforms and whether they have already had cause to actively invoke their rights under the P2B Regulation. The results of the study have been published on the Bundesnetzagentur's website.

In 2025, the Bundesnetzagentur continued to work closely with national and European authorities, including the DSC, the Bundeskartellamt and the European Commission, and played an active role in the informal P2B network comprising P2B authorities from EU Member States.

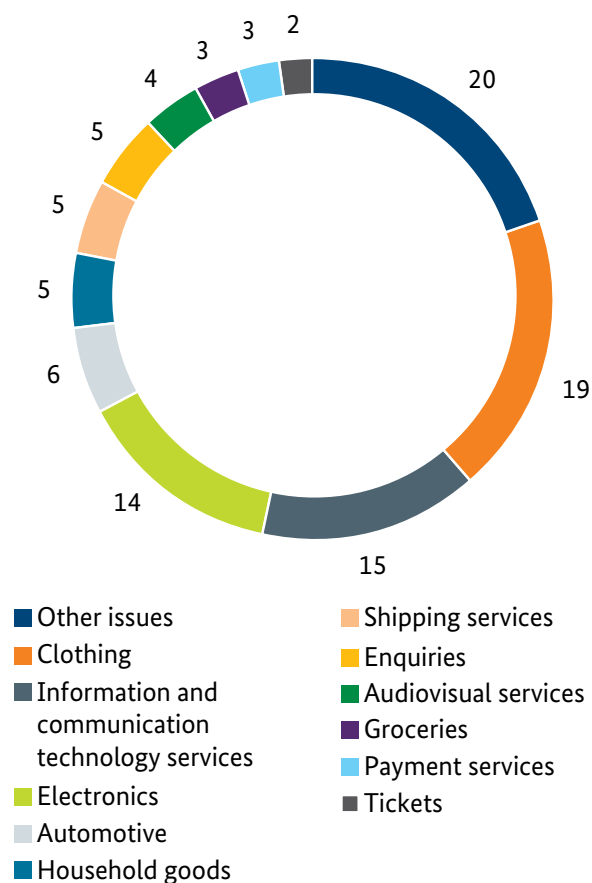
Geo-blocking Regulation

The Geo-blocking Regulation (Regulation (EU) 2018/302) is part of the European Union's strategy to create a digital single market. The Geo-blocking Regulation aims to prevent discrimination in cross-border trade in the EU against customers based on their nationality or place of residence. Providers may not restrict European customers from accessing their online shops or purchasing products and services on the basis of the customers' place of residence or nationality.

Some sectors are not covered by the scope of the Geo-blocking Regulation, including audiovisual, healthcare, financial, telecommunications and transport services. Likewise, the Regulation does not apply to access to electronically supplied services whose main feature is the provision of access to or use of copyright-protected works. The Regulation also specifies that a customer buying goods is not entitled to delivery to a location outside the area in which the provider operates.

Customers can submit complaints about non-compliance with the geo-blocking rules through the Bundesnetzagentur's consumer portal as well as the Federal Portal. In 2025, the Bundesnetzagentur received 151 complaints and enquiries about geo-blocking. A large proportion of the complaints were about orders for clothing, IT services, shipping services, electronic equipment and home appliances. Complaints were also received about discriminatory terms and conditions for European holidays and about pricing systems where locals paid cheaper prices than tourists. There were again complaints about the non-availability of apps and electric vehicle charging tariffs, in particular because apps were only available from the specific country versions of the app stores.

Enquiries and complaints related to geo-blocking (%)



Once again in 2025 the Bundesnetzagentur worked closely with the European Commission and other EU Member States' national geo-blocking authorities as part of the Consumer Protection Cooperation (CPC) Network.

The Bundesnetzagentur worked together with the competent CPC authorities in Ireland and Belgium and with the European Commission in coordinated proceedings at European level against Apple Distribution International Limited, which were still ongoing at the end of 2025. The joint action focused on possible infringements of the Geo-blocking Regulation due to the design of Apple's app store. The fact that consumers can only access apps designed for their specific coun-

try may constitute unlawful discrimination based on the consumers' place of residence. Another point of criticism is that the means of payment consumers can use is also country-restricted.

In addition, the Bundesnetzagentur continued its cooperation with the European Consumer Centre Germany (ECC).

eIDAS 2.0: new digital opportunities for markets and consumers

Trust in digital transactions is one of the cornerstones of successful digitalisation and its acceptance in our society. The revised eIDAS Regulation (Regulation (EU) 2024/1183) represented an important step in 2024 in the transition to a sovereign digital society. The European Digital Identity (EUDI) Wallets will be a secure and easy way for EU citizens to prove their identity with just an app on their smartphones. Citizens will be able to use the new app to share a digital version of, for example, their professional qualifications or driving licences, whilst still keeping control over their personal data. Wallet users will also be able to create digital signatures using a qualified electronic signature, which will be free of charge for private purposes.

In 2025, the Bundesnetzagentur extended the market for trust services by qualifying new providers. It fosters regular dialogue with industry at specialist events including the forum for electronic trust services (FEV) and the eIDAS summit. As a member of the Board of the Forum of European Supervisory Authorities for trust service providers (FESA), the Bundesnetzagentur also promotes intensive collaboration Europe-wide in support of harmonisation in the market.

The Bundesnetzagentur acts as the single point of contact in the field of trust services, the EUDI Wallet and notified electronic identification (eID) schemes for a wide range of market players.

The Bundesnetzagentur is a member of the European Digital Identity Cooperation Group, which facilitates cross-border cooperation among the other Member States and with the European Commission, the development of concepts and the exchange of best practices.

The Bundesnetzagentur contributes to the drafting of numerous implementing acts as the basis for the harmonised implementation of the eIDAS in the EU single market through its work in the various committees. In 2025, uniform rules and technical standards were drawn up and published for a large number of trust services. The rules cover existing services such as signatures, seals and timestamps and new services such as attestations of attributes, electronic ledgers (blockchain) and archiving. The implementing acts serve as the fundamental basis for a uniform level of trust and interoperability between services.

Terrorist Content Online Regulation

Regulation (EU) 2021/784 on addressing the dissemination of terrorist content online became applicable on 7 June 2022. The Regulation aims to combat the misuse of hosting services for the dissemination to the public of terrorist content online. The Regulation requires hosting service providers to remove terrorist content within one hour of receiving a removal order and, if their web space has been used repeatedly to distribute terrorist content, they must take specific measures to prevent it in the future. Hosting service providers whose main establishment is not in the EU but who offer services here must designate a legal representative within the EU.

Germany's Act addressing terrorist content online (TerrOIBG) assigns regulatory tasks to the Bundesnetzagentur and the Bundeskriminalamt. Under the Act, the Bundeskriminalamt issues orders to hosting service providers requiring them to remove terrorist content. The Bundesnetzagentur monitors implementation of specific measures by the providers in accordance with Article 5 of the EU Regulation and imposes penalties as provided for by Article 18 of the Regulation and section 6 of the German Act. The Bundesnetzagentur has published a range of information about terrorist content online on its website.

In 2025, the Bundesnetzagentur pursued two active procedures against hosting service providers that are based, or whose legal representatives are based, in Germany. In addition, the competent authority in Spain issued a removal order against a hosting service provider with a legal representative based in Germany. The Bundesnetzagentur is currently assessing the next steps.

The Bundesnetzagentur coordinates its activities closely with the Bundeskriminalamt.

Protection for users of digital services and connections

Broadband speed checker

The Bundesnetzagentur published its tenth report presenting detailed results from tests made using the broadband speed checker (breitbandmessung.de/ergebnisse). The tests were carried out in the broadband speed checker's tenth operational year between 1 October 2024 and 30 September 2025. The report covers a total of 184,452 valid tests on fixed broadband connections and 766,838 valid tests on mobile broadband connections.

The proportion of fixed broadband users across all bandwidth categories and providers whose connection had a download speed at least half their contractually agreed maximum speed was 85.9% (2023/2024: 86.5%); the proportion of users whose connection had a speed equivalent to or higher than their contractually agreed maximum speed was 45.9% (2023/2024: 45.2%).

The ratio between actual and contractually agreed estimated maximum speeds for mobile broadband connections was once again well below that for fixed broadband connections. A distinction was made between the 4G and 5G technologies, as in the previous year. This is because it is possible to achieve very high speeds with 5G, which are sometimes well over the contractually agreed estimated maximum of the relevant tariff. The results from tests with 5G in the two highest bandwidth categories are considerably better than with 4G.

The test results depend on the tariffs agreed between the users and their providers. It is therefore not possible to draw conclusions from the results about broadband coverage or the availability of broadband internet access.

The first national “Mobilfunkmesswoche” (mobile network measurement week) took place from 26 May to 1 June 2025. The measurement week was a joint initiative of the federal government, federal states and municipalities. Throughout the measurement week, more than 150,000 users measured coverage at test points with the app, with 4G and 5G technology accounting for a vast majority (around 98%) of the test points. Just over 1% of the test points had 2G technology. At less than 1% of the test points users determined there was no coverage.

A detailed analysis of the results is available online at breitbandmessung.de/mobilfunk-messwoche (in German).

Interoperability

Interoperability requirements in the area of number-independent interpersonal communications services (eg messaging services) aim to stimulate competition by enabling users of different services to communicate across providers.

Under the Digital Markets Act (DMA), which was adopted at European level and entered into force on 1 November 2022, messaging service providers that are classified as gatekeepers must meet certain interoperability requirements. The European Commission designated the first gatekeepers under the DMA in September 2023. In the area of messaging, Meta Inc., as a designated gatekeeper, is required to allow its competitors access to its WhatsApp and Messenger services to enable cross-provider communication.

In 2025, the Bundesnetzagentur contributed within BEREC to drafting opinions on the further implementation and possible future amendment of the interoperability requirements in the DMA. It also supported the European Commission in implementing the requirements through its activities within a working group under the High-Level Group for the Digital Markets Act.

Net neutrality and IP interconnection

The Bundesnetzagentur monitors and ensures compliance with the net neutrality provisions of the European TSM Regulation (Regulation (EU) 2015/2120) laying down measures concerning open internet access. Four proceedings relating to throttling, 5G+ gaming, a heavy user clause and M2M were of particular importance in 2025.

On 25 April 2025 several complainants, including the Federation of German Consumer Organisations (vzbz), lodged an extensive complaint with the Bundesnetzagentur about a network operator in breach of the net neutrality rules.

The network operator was suspected of deliberately undersizing IP interconnection interfaces so that other market players, especially content providers, only had the choice between bottlenecks at the “public entrance” to the operator’s network and paid “private fast lanes”. The usability and quality of applications, content and services not provided through the paid “fast lanes” to end-users in the operator’s network were reduced. Applications, content and services provided using (paid) peering were not affected. This was said to be in breach of the European net neutrality provisions. The Bundesnetzagentur is investigating the complaint and consulting with various stakeholders on the matter.

In another case, a mobile network operator had been offering an additional “5G+ gaming” tariff option for its mobile phone tariffs since mid-October 2024. The option is based on network slicing in the 5G standalone network. Applications that run in the network are expected to have both lower jitter and lower latency in data transmission, leading to an improved user experience. In general, services based on network slicing can be provided in a way that is compatible with net neutrality rules, regardless of whether the technology is used to provide internet access services or specialised services. In both cases the requirements of the European net neutrality rules must be met. The Bundesnetzagentur considers the “5G+ gaming” option to be part of the internet access service compatible with the net neutrality rules and thus to be permissible. According to Telekom, no prioritisation of traffic takes place either between slices or within the same slices.

The “5G+ gaming” option was the subject of a legal dispute between vzbz and the mobile network operator at Cologne higher regional court in 2025. According to vzbv, the option breaches the European net neutrality rules.

The third case of particular importance concerns the use by a mobile network operator of a “heavy user clause” in its contracts. In the case of network congestion, the data traffic of customers with certain “unlimited” tariffs who have exceeded a specific data volume within a billing month is transported in congested cells with lower priority than other traffic in the same cells until the end of that month. The Bundesnetzagentur found that this clause violated the general obligation to treat traffic equally (Article 3(3) of Regulation (EU) 2015/2120). The Bundesnetzagentur objected to this clause and the company lodged an appeal against the Bundesnetzagentur’s decision. The appeal was rejected, and the mobile network

operator lodged an action against both the rejection and the immediate enforceability of the order. Final binding decisions by the administrative courts are still outstanding.

Proceedings were also still underway in 2025 regarding a contractual clause under which a mobile network operator makes the automated exchange of data between end devices (machine-to-machine), for example for flat rate and volume-based tariffs, subject to approval. The Bundesnetzagentur found that this clause violated the general obligation to treat traffic equally (Article 3(3) of Regulation (EU) 2015/2120). The Bundesnetzagentur objected to this clause and the company lodged an appeal against the Bundesnetzagentur’s decision. The appeal was rejected, and the mobile network operator lodged an action against both the rejection and the immediate enforceability of the order. Final binding decisions by the administrative courts are still outstanding.

Roaming and intra-EU calls

The Bundesnetzagentur monitors compliance with the provisions of the European Roaming Regulation (Regulation (EU) 2022/612), including the application of fair use policies and the methodology for assessing the sustainability of the abolition of roaming surcharges.

The Bundesnetzagentur continually monitors compliance with the detailed rules on applying a fair use policy for roaming within the EU. This includes reviewing the price plans of roaming providers based in Germany for conformity. The application of a fair use cap, especially in the case of price plans with high data allowances, is based on the regulated wholesale charge for regulated data roaming services. Maximum wholesale charges are being reduced on the basis of a glide path up to 2032 and were capped at €1.30 net in 2025.

In 2025, the Bundesnetzagentur examined one case in which information on a provider's customer portal differed to that in the contractual documents. The information on the portal did not include a fair use policy, but the contractual documents did. As the provider's answers to users' queries were not adequate or referred users to the European legislation, the Bundesnetzagentur contacted the provider. The provider subsequently changed the information on the customer portal and carried out relevant training. The Bundesnetzagentur generally considers application of the fair use policy to be lawful.

In 2025, there were again complaints about cross-border mobile networks, especially near the border between Germany and Switzerland. As radio waves do not stop at national borders, terminal equipment might automatically connect to a mobile network in a neighbouring country. If that neighbouring country is not within the EU,

the user may have to pay higher charges. The Bundesnetzagentur examines each individual case to see if the provider is at fault and advises how to avoid terminal equipment automatically connecting to a different network.

At international level, the Bundesnetzagentur continued to make an active contribution in 2025 to BEREC's work, with a focus on international roaming and regulated intra-EU communications (in particular the introduction of a fair use policy for intra-EU communications), for which opinions were drawn up.

In 2025, the "roam like at home" principle was extended to Ukraine and Moldova.

NI-ICS market overview

Legal classification

The revised Telecommunications Act (TKG), which entered into force in 2021, expanded the definition of telecommunications service to include two categories of interpersonal communications services: number-based interpersonal communication services (NB-ICS) and number-independent interpersonal communication services (NI-ICS). The main difference between the two is how they use numbers. NI-ICS are prohibited from establishing a connection with publicly assigned numbering resources and from enabling communication with numbers in national or international numbering plans. NI-ICS typically comprise messaging (including internet and video telephony), video calling and email services, provided they meet the criteria set out in the TKG.¹ The regulatory obligations for NI-ICS relate above all to public safety/security, customer protection and market monitoring.

NI-ICS market data survey 2025

The Bundesnetzagentur requires the providers with the greatest market relevance in Germany to provide data in an annual survey on NI-ICS.² The aim of the survey is to assess the market structure and the status and development of competition in the telecommunications sector. The latest round of the survey in 2025 identified a total of 44 relevant services provided by 32 companies. The following description of the current market situation and trends in 2022 to 2025 is based on aggregate market data on the use of NI-ICS in Germany.^{3,4}

User numbers and multi-homing

In 2025, the messaging and video calling service providers surveyed had an average of 198.42mn monthly active users (2024: 192.45mn), while the email service providers surveyed had an average of 159.38mn monthly active users (2024: 156.46mn).⁵ The idea behind “monthly active user” is to only cover users who have used an NI-ICS at least once in a month to make calls or send text messages, images or videos.⁶ Since users frequently use multiple services simultaneously, an individual user can represent multiple monthly active users (known as multi-homers).

¹ See section 3 paras 24, 40 and 61 TKG for the definition of number-independent interpersonal communications services. An interpersonal telecommunications service is defined as a service normally provided for remuneration which enables direct interpersonal and interactive exchange of information via telecommunications networks between a finite number of persons, whereby the persons initiating or participating in the telecommunication determine its recipient(s).

² The market relevance of the services was determined on the basis of user numbers.

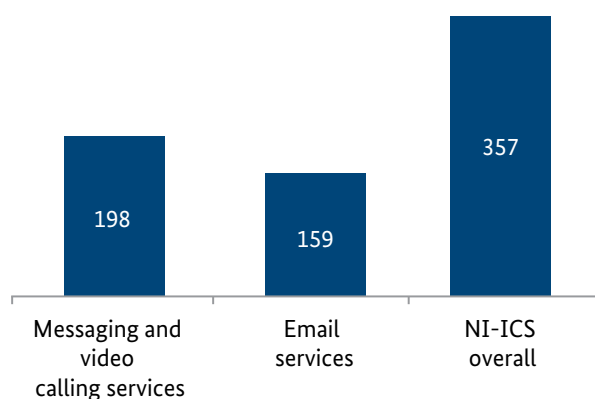
³ Some of the figures included in the aggregate market data are estimates.

⁴ Due to the general novelty of the survey it is possible that data will fluctuate in initial years (eg as a result of subsequent corrections), which may restrict the comparability of the figures across several years.

⁵ The average monthly active user figures for 2022 to 2024 were adjusted following a correction on the providers' side. The corrected figures are shown in the chart “Monthly active users of NI-ICS in Germany 2022-2025”.

⁶ See BEREC (2021): BEREC Report on harmonised definitions for indicators regarding over-the-top services, relevant to electronic communications markets, BoR (21) 127.

Monthly active users of NI-ICS in Germany in 2025 (mn)

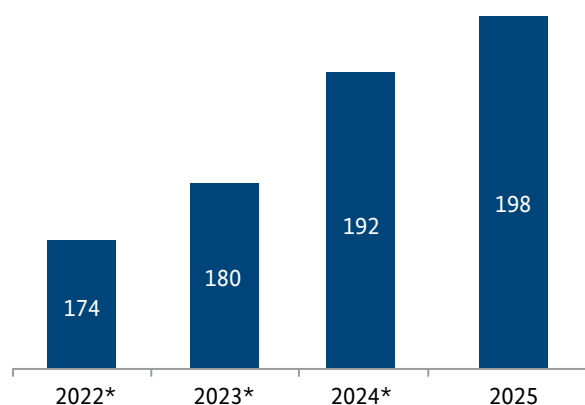


The numbers for messaging and video calling services do not include the figures for a few, presumably medium-sized, services.⁷ The user numbers given above are therefore to be seen as minimum figures. Based on an estimate of the missing figures, the Bundesnetzagentur assumes that the whole messaging and video calling services market comprises an additional approximately 39.77mn users.⁸ The total number of monthly active users in Germany in 2025 is therefore estimated to be up to 238.19mn.

For various reasons, users of messaging and video calling services, unlike NB-ICS users, typically use multiple services simultaneously (known as multi-homing).⁹ The market data from the survey indicates a multi-homing rate of 3.10 (2024: 3.02¹⁰) messaging and video calling services

per user.¹¹ Email users also often use multiple services at the same time, with a multi-homing rate of 2.54 (2024: 2.50) email services per user.¹²

Monthly active users of messaging and video calling services in Germany in 2022-2025 (mn)



*corrected figures; whole market without estimated figures

NI-ICS providers report using a variety of different approaches to financing. Many use multiple sources simultaneously, whilst 62% say they make money through direct one-off or recurring payments (eg monthly charges). 46% of providers charge for some add-ons and other extra services. Over two thirds of all providers (68%) also use indirect forms of financing, such as revenue from advertising/data use, donations or cross-subsidisation.

⁷ The classification of some services as NI-ICS is still to be clarified. The figures for these services were therefore estimated.

⁸ The missing figures for the services were estimated using the user shares for each service based on a representative consumer survey made by the Bundesnetzagentur. See Bundesnetzagentur (2023): Use of online communications services in Germany.

⁹ See, for example, Bundesnetzagentur (2023): Use of online communications services in Germany.

¹⁰ Figure adjusted following a correction to the average monthly active user figure for 2024.

¹¹ Assuming a user share of around 90% of the total population in Germany (16 years and above), ie a total of approximately 64.1mn users; Destatis population data as of 31 December 2024.

¹² Assuming a user share of around 88% of the total population in Germany (16 years and above), ie a total of approximately 62.6mn users; Destatis population data as of 31 December 2024.

Usage figures

The majority of providers of messaging and video calling services offer a bundle of different communication options, mainly including text and voice messaging and voice and video telephony. Many services usually include other functions, such as delivery and read receipts, status and story posts, emoji reactions, animated GIFs and integrated AI functions.¹³ The scope of these functions depends on how innovative the provider is and on their business model.

Instant messaging is the most popular of all the functions of messaging and video calling services and is used daily by the majority of users.¹⁴ Instant messaging enables users to send images, videos, documents, voice messages and emojis as well as text messages. In 2025, users in Germany sent a total of 913.52bn instant messages (2024: 901.86bn).¹⁵ This represents another increase in the number of instant messages sent and corresponds to an average of around 384 per monthly active user per month or about 13 per day.

The figures below relate to the volume of voice calls made via messaging and video calling services. In 2025, 19.6bn (2024: 17.68bn) outgoing voice telephony calls were placed through messaging and video calling services in Germany. This corresponded to an 11% year-on-year rise in the number of calls. The volume of calls also rose slightly to a total of 198.02bn minutes (2024: 196.69bn). This corresponds to about 99 voice calls per monthly active user per year and an average duration of 10 minutes per call.

In the same period, 9.48bn outgoing video calls were made (2024: 8.81bn), representing a 7% year-

on-year increase. The volume of calls in video telephony also saw further growth to a total of 188.54bn minutes (2024: 183.71bn). This corresponds to about 48 video calls per monthly active user per year and an average duration of 20 minutes per call.

According to the email service providers, the monthly active users in Germany sent a total of 36.51bn emails in 2025 (2024: 50.09bn), a considerable decrease on the previous year, averaging around 229 emails per monthly active user per year. The volume of emails has thus decreased for the second successive year. One possible explanation is that users are now using messaging and video calling services instead of email services for some of their communications, with all segments of messaging and video calling services (instant messages and telephony) recording a further increase this year. In view of the slight increase in the number of email service users, however, the general popularity of email services does not currently seem to be on the decline.

¹³ See, for example, RTR (2024): More than just Text Messages: The Numerous Functionalities of Messengers.

¹⁴ See Bundesnetzagentur (2023): Use of online communications services in Germany.

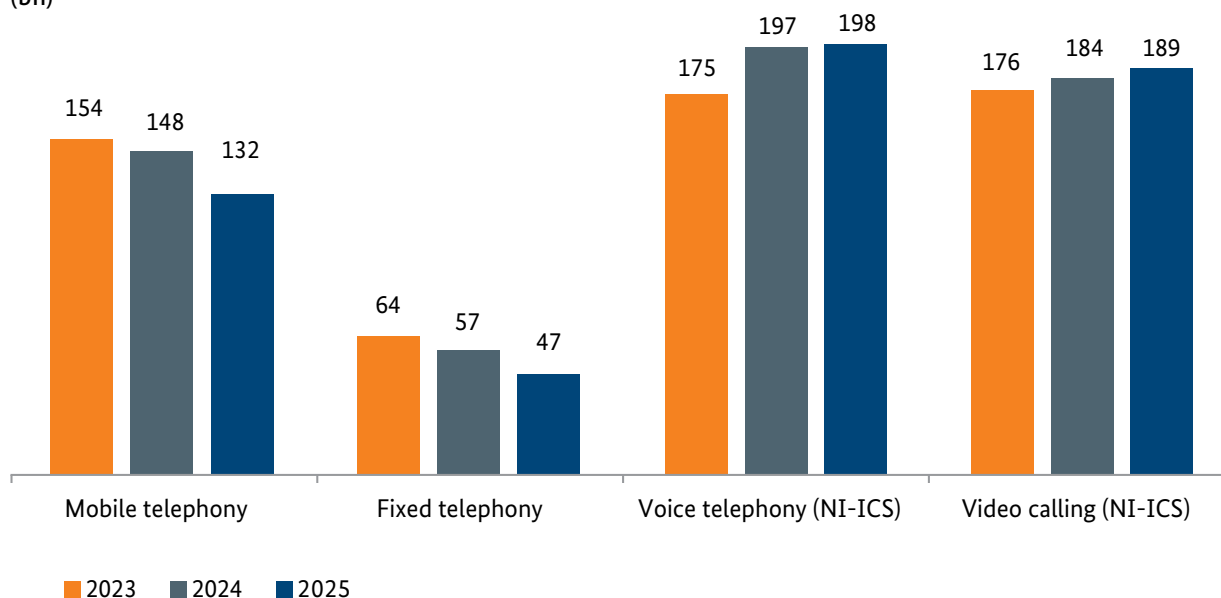
¹⁵ The providers were asked to provide figures based on the point of origin of the communication. This also applies to the other usage indicators in this section.

Comparison with traditional telecommunications services

The market data available makes it possible to compare the volumes of calls made using messaging and video calling services with those made using traditional fixed and mobile telephony. In 2025, 132bn outgoing call minutes were generated in the mobile networks and 47bn minutes in the fixed networks. By contrast, users in Germany generated at least 198bn voice telephony minutes and 189bn video telephony minutes using NI-ICS.

The decline in the volume of calls made using traditional voice telephony services therefore continued in 2025, while the use of NI-ICS continued to rise. However, growth in the volume of voice calls using NI-ICS has been slowing in recent years and, at least now, seems to be levelling out. Following several years of these contrasting trends, the volume of voice and video calls using NI-ICS in 2025 was more than twice as large as the call volume in both the fixed and mobile networks. Voice and video calls using NI-ICS are growing enormously in popularity, driven even more by advancements in the digital transformation.

Outgoing call minutes (bn)



Artificial intelligence

The year 2025 was characterised by intensive work relating to the new regulatory framework for artificial intelligence. The EU's AI Act (Regulation (EU) 2024/1689) entered into force on 1 August 2024. The first provisions became applicable on 2 February 2025. This marked a new phase of adjustment to the comprehensive rules for the use of AI in the European Union that aim to protect fundamental rights and to support innovation.

The Bundesnetzagentur's interdepartmental project group that was established in 2024 to handle the conceptual and organisational preparations continued to support the development of the national implementing legislation and the creation of European guidelines. In view of the general applicability of the AI Act as of 2 August 2026, the project group focused on cooperation with the competent ministries with the goal of safeguarding harmonised rules at national and European level and strengthening the Bundesnetzagentur in its role. In this context, the Bundesnetzagentur launched its AI service desk (bundesnetzagentur.de/KI) in July 2025. The AI Service Desk provides practical information about the new European requirements for using and developing AI and, in doing so, helps to increase legal certainty for those implementing the EU's AI Act. The service is designed primarily for businesses, in particular small and medium-sized enterprises and start-ups, as well as for authorities and organisations.

In addition to cooperating with various ministries and European institutions, the Bundesnetzagentur was involved in an intensive exchange of views with operators in the AI ecosystem, including at various events.

The Bundesnetzagentur and the AI Village in Hürth ran a series of "Coffee with the Regulator" events in the interests of exchanging practical experience. This gave businesses and start-ups the opportunity to present individual issues and discuss questions about the interpretation and implementation of the AI Act with experts from the Bundesnetzagentur.

The Bundesnetzagentur's project group presented the AI Service Desk at an event about AI perspectives in federal administration held by the Federal Ministry for Digital Transformation and Government Modernisation (BMDS) in Berlin on 4 November 2025. A quiz about the AI Act and the AI compliance compass provided the opportunity for interaction and individual dialogue.

The AI Act requires the establishment of at least one national AI regulatory sandbox as from August 2026 as an important tool for promoting innovation. The Bundesnetzagentur, the Federal Commissioner for Data Protection and Freedom of Information (BfDI) and the Hessian Ministry for Digitalisation and Innovation tested the implementation conditions for such an AI regulatory sandbox in a joint pilot project. The project, based on two use cases, provided initial, valuable experience of the processes and organisation in setting up and operating an AI regulatory sandbox.

Digitalisation at small and medium-sized enterprises

Empirical monitoring

In 2025, the Bundesnetzagentur published the findings from a business survey on selected aspects of the use of AI. Bonn Survey Centre (uzbonn GmbH) conducted a telephone survey of around 800 companies at the end of 2024. The results show that about three in ten companies currently use AI in their business processes. The use of AI tends to increase with company size. One third of all companies surveyed generally see no scope for AI in their businesses. Challenges in using AI include lack of time, skills gaps and legal uncertainties, with acceptance among personnel playing a smaller role. The companies expect AI to become more important for their products and processes in the future.

The study on AI use, resources and challenges in businesses has been published online (bundesnetzagentur.de/868312). (in German).

Networking activities

Numerous players support SMEs with the digital transformation through a variety of programmes promoting the digitalisation process. Networking between these players is a key aspect. It provides the opportunity for dialogue about the challenges specifically facing SMEs and promotes synergies for measures supporting SMEs in the digital transformation. The players can be divided into the following groups:

- digital agencies of the federal states,
- competence and service centres,
- digital hubs,
- SME and industry associations and
- scientific institutions.

The Bundesnetzagentur has been offering regular online networking events since 2023. In 2025, the series continued with four events focusing on the Data Act as an opportunity for businesses (March), the fundamentals of the AI Act and building AI literacy (June), the classification of risks under the AI Act (September) and the importance of AI standardisation for businesses (December). These events explore the subject matter through the lens of SMEs. More than 300 people from the above-mentioned groups took part in the networking events in 2025. Information about the networking events is available on the Bundesnetzagentur's website (bundesnetzagentur.de/1026958) (in German).

The next DigiKon digital conference will take place on 17 March 2026. The Bundesnetzagentur's aim in hosting the conferences is to foster networking and dialogue on current digital policy matters between industry, science, public administration and civil society. The conference in March 2026 is on the new rules of play in the digital sector and the balance between supervision and innovation. The conferences provide a comprehensive overview of the new, complex regulatory framework in the digital sector, with a focus on key legislation such as the AI Act, the Data Act and the Digital Services Act. Further information is available online (bundesnetzagentur.de/digikon) (in German).

Information for SMEs

Points of contact support companies with the digitalisation of their businesses or selected processes. The Bundesnetzagentur's extensive database provides details of more than 291 points of contact across Germany, most of which are publicly funded, which support SMEs with the digital transformation ([bundesnetzagentur.de/Anlaufstellen-Datenbank](https://www.bundesnetzagentur.de/Anlaufstellen-Datenbank)). Support is increasingly focused on artificial intelligence and cybersecurity. The points of contact offer:

- project support,
- advisory services and demonstrators,
- training measures and
- financing opportunities.

Information about current government funding programmes is available online ([bundesnetzagentur.de/869164](https://www.bundesnetzagentur.de/869164)) (in German). The list specifically includes programmes for SMEs. Best practice examples from SME projects provide impetus for digital transformation in SMEs and show in practical terms how, for example:

- AI can be introduced in businesses,
- digital solutions promote sustainability or
- financing programmes drive forward digital innovation.

The best practice examples have been published online ([bundesnetzagentur.de/best-practice](https://www.bundesnetzagentur.de/best-practice)) (in German).

Sustainability

The EU's goal is to achieve climate neutrality by 2050, with the telecommunications sector and digitalisation playing a key role. While innovative digital applications and technologies such as AI can contribute to creating a more sustainable economy, digitalisation generates ever-larger data volumes. The transport of huge data volumes and quick response times (lower latency) rely on powerful modern telecommunications networks. Optical fibre and 5G are two energy-efficient network technologies that offer significant carbon reductions per gigabyte of data. The swift migration to energy-efficient gigabit networks makes sense not only from an ecological perspective. Fast networks are also the basis for digitalisation and help to safeguard the competitiveness of both the EU and Germany. The Bundesnetzagentur supports the rollout of high-performance and sustainable networks with its regulatory decisions and strategy papers such as its regulatory approach to the copper to fibre migration. This regulatory approach is available online ([bundesnetzagentur.de/1088840](https://www.bundesnetzagentur.de/1088840)) (in German).

The savings made through the use of energy-efficient gigabit networks are, however, offset by rising electricity consumption driven by the increase in data traffic. In 2025, the European Commission developed a Code of Conduct for the sustainability of telecommunications networks with the aim of making the telecommunications sector's footprint transparent by identifying common indicators for measuring the environmental footprint of communications networks and services. The Bundesnetzagentur made an active contribution to the development of the EU Code of Conduct, with the results from a study commissioned by the Bundesnetzagentur on the comparability of sustainability standards for telecommunications infrastructure feeding into the Code of Conduct.

The study is available online (bundesnetzagentur.de/1067800).

Digitalisation and sustainability in business practice

The Bundesnetzagentur and the German Environment Agency (UBA) published a joint report in 2025 on the link between digitalisation and sustainability in business practice. The report followed an online survey of more than 1,500 German businesses.

The findings show that most businesses consider both topics to be important for their competitiveness, develop relevant strategies and employ dedicated staff. However, a direct link between the two is less common. Many businesses give consideration to the energy efficiency of their IT and extend the useful lives of their hardware. Used hardware is passed on less often, among other things for security reasons. A small number of cloud users take account of sustainability criteria when choosing their provider.

Gaia-X funding competition

The Gaia-X funding competition was launched in 2021 to promote innovative applications and data spaces on the basis of the Gaia-X infrastructure as flagship projects. The aim of Gaia-X is to create a digital data ecosystem for Europe in which data can be shared and interlinked in a trustworthy environment using open interfaces in line with set EU standards. The result is not a new cloud infrastructure but a federated system of data that enables many different cloud service providers and data owners to connect with each other on the basis of common standards. It is therefore different from existing solutions on the market because the data always remains with the owners and is shared in line with specified conditions.

All 11 Gaia-X projects were successfully completed in 2025.

The funded projects come from the education, financial, healthcare, construction, mobility, aerospace, maritime and public sectors. The objective of all the projects was to develop trustworthy data spaces and smart services. The results achieved are impressive and will be made usable beyond the completion of the projects.

In the healthcare sector, for example, secure data spaces were developed in which patient data can be securely and efficiently shared and used for scientific purposes. In the construction sector, the digitalisation of planning and approval processes was driven forward. The OpenGPT-X published a multilingual language model, “Teuken-7B”, which enables the use of sensitive company data or personal data in compliance with the highest European data protection and security standards.

It is planned to transfer the results of the projects to other branches of industry and applications.

The new data spaces and smart services create new opportunities for the exchange of data by businesses and organisations as well as consumers. Transparent and secure data exchange within the Gaia-X ecosystem enables companies to develop new data-based business models. Citizens benefit from secure and transparent digital solutions and retain control over their data at all times.

The Gaia-X funding competition was organised by the Bundesnetzagentur on behalf of the Federal Ministry for Digital Transformation and Government Modernisation (BMDS). The Bundesnetzagentur verified and approved the funding applications and monitored the projects until their successful completion. Its tasks included managing the funding as earmarked, monitoring the success of the projects and checking project reports and proof of expenditure. The last checks on project expenditure and the final assessment of the success of the funding competition will be carried out in the coming year.

A close-up, slightly blurred photograph of several people's hands holding various smartphones. The phones have different colored cases: pink, black, orange, purple, and green. The background is out of focus, showing parts of people's clothing. A solid blue rectangular overlay is positioned in the upper left corner, containing white text.

Consumer protection and advice

The Bundesnetzagentur was in demand as a consumer protection authority in 2025. It advocated for a supply of telecommunications services with much higher minimum requirements, monitored electric products with millions of devices affected and was the point of contact for consumers. The numbers of complaints both about unsolicited marketing calls and about individual telecoms providers were well up, while the dispute resolution requests more than doubled.

Combating unsolicited marketing calls

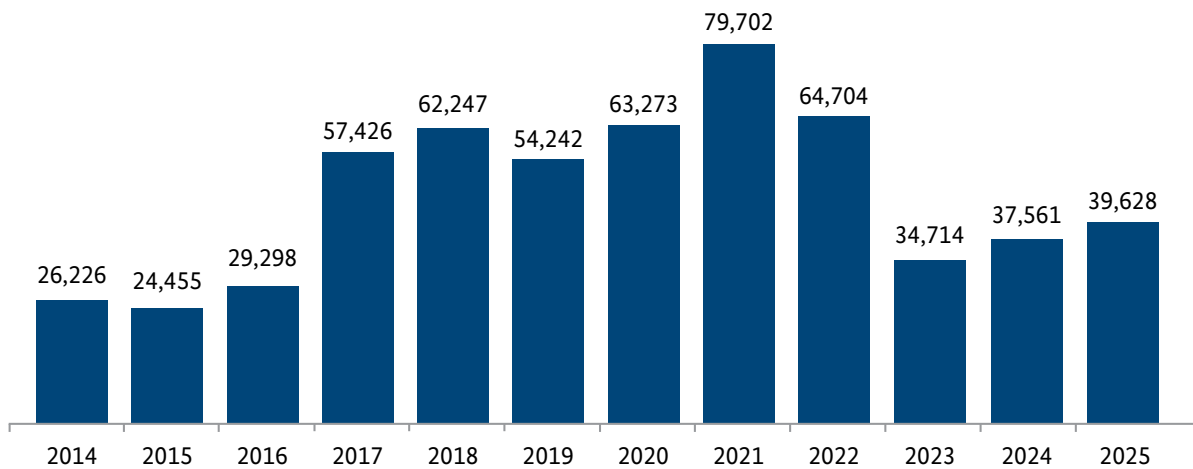
Innumerable consumers across Germany are bothered by unsolicited marketing calls each year. These calls are not allowed unless the recipient has expressly consented to them in advance. The Bundesnetzagentur actively pursues these practices and, where it finds breaches, consistently imposes high fines.

The number of written complaints about unsolicited marketing calls in 2025 reached 39,628, about 6% more than in 2024, when the authority received 37,561 written complaints. Following a very clear drop in the number of complaints in

2023, a negative trend with complaint submissions rising again may now be observed.

There were some particularly noticeable topics in 2025. Prize draws, for example, were the top subject, with over 11,500 complaints received (more than 28% of all complaints regarding unsolicited marketing calls). There were far more of these complaints than in the year before: in 2024, the 7,500 complaints on this issue made up about 20% of the total received. Home improvements and services were also common subjects of consumer complaints made to the Bundesnetzagentur about unsolicited marketing calls. Calls advertising the sale and installation of solar panels and calls relating to agents' and tradespersons' services came under this category.

Written complaints about unsolicited marketing calls



On a positive note, the number of complaints relating to energy supply has gone down, although it is still high. During the Covid pandemic and due to the sharp rise in energy prices in 2022, such complaints were unusually high for several years, making up 20% to 30% of the total. This proportion dropped from 14% in 2024 to 12% in 2025. The Bundesnetzagentur believes that its long-standing, consistent pursuit of companies practising unsolicited marketing contributed to the decline. The authority conducted six major administrative fine procedures against energy supply companies in 2025 alone, imposing large administrative fines in some cases.

The Bundesnetzagentur issued a total of 13 major administrative fine notices in the year under review against marketing companies and in some cases against their management as well. It imposed fines amounting to about €1.1mn for unsolicited marketing calls, impermissibly withholding telephone numbers in marketing calls, and breaching the requirement to document and retain consent to telemarketing. However, as some of the fines were appealed by the relevant companies or parties concerned, not all of the procedures have been concluded yet.

Unsolicited marketing calls attempting to sell care products was a particularly troublesome telephone advertising campaign for consumers. These calls mainly concerned “care boxes” containing products like gloves or disinfectant. People requiring care and already assigned a care level, or their carers (such as relatives), were specifically targeted. The complainants explained that the callers first told them that they were legally entitled to have costs for care products reimbursed to the tune of €40 a month. They were advised to use this entitlement to order the care boxes sold by the callers and have them funded by the long-term care insurance fund. In some cases, the callers put the people needing care under a great deal of pressure to agree to the boxes without actually going into their specific needs. This kind of marketing is a considerable problem for those it targets and for the community of insured people as a whole, especially if the care products are substandard or do not meet the actual needs of the recipients. It is not just that care recipients or the family members caring for them have their privacy unlawfully breached with unsolicited marketing calls. The aggressive direct selling of standardised care boxes that are not based on their recipients’ individual care needs also places a significant burden on the social system.

For the first time, the amount of administrative fines imposed in 2025 includes those relating to the transparency rules for consent to telemarketing that were recently added to the Act against Unfair Competition (UWG). Since October 2021, the Act has required advertising companies to document and retain consent given to telemarketing and to provide it to the Bundesnetzagentur without delay upon request (section 7a UWG). Documenting consent to advertising is intended, among other things, to make it easier for companies to check compliance in their own advertising campaigns but the companies in the cases pursued by the authority had not done so. The unclear data records at the companies led to numerous unsolicited marketing calls to consumers. In its first proceedings focused on these transparency rules, for example, the Bundesnetzagentur imposed administrative fines of more than €42,000 on the former managing director of a call centre company acting mostly in the energy sector for not properly documenting consent to advertising. During these proceedings, the Bundesnetzagentur was shown consent to telemarketing that consumers had supposedly supplied in conjunction with their participation in online prize draws. It turned out, however, that the consent documentation was not authentic. The consumers in question had never consented to advertising. The management of the company should have checked the quality of the data it had accepted from a third-party prize draw operator. If it had done so, it would have easily recognised the systemic failings in the data.

Combating number misuse

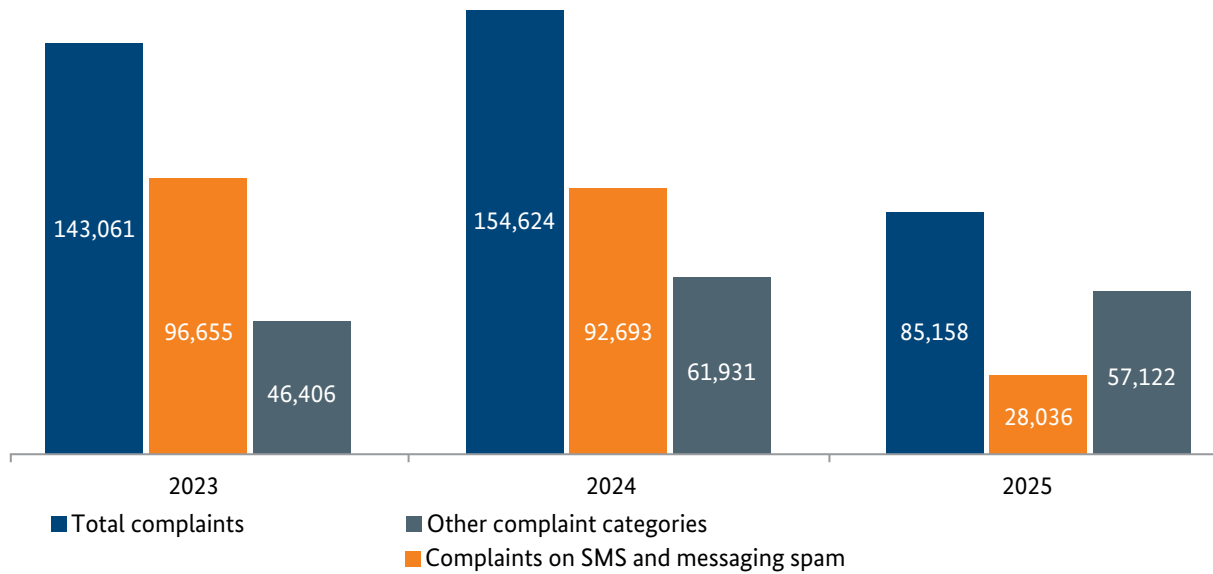
The Bundesnetzagentur is the supervisory authority responsible for combating number misuse. It follows up on any breach of number use. Cases pursued in this context frequently concern breaches of the consumer protection provisions of the Telecommunications Act (TKG) and the UWG. A variety of measures can be taken to protect affected parties from disturbance and financial losses.

In total, the authority received 85,158 written complaints and enquiries about number misuse in 2025. The number of complaints thus remains at a high level. Most of the complaints from consumers in 2025 were about spam messages (33% of all complaints) and unwanted calling behaviour (27.5%).

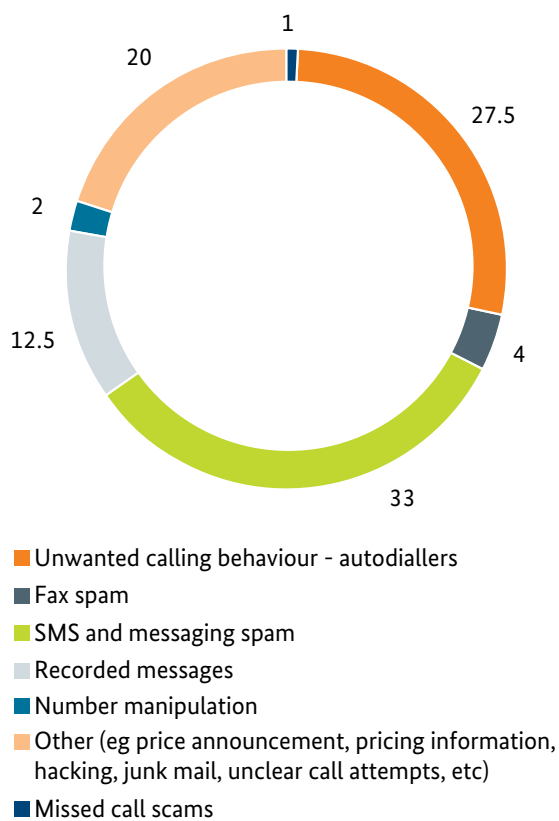
In addition to the written complaints, the Bundesnetzagentur received 9,060 telephone enquiries and complaints about number misuse and unsolicited marketing calls.

The Bundesnetzagentur works to protect consumers from unsolicited advertising and nuisance calls, charges for call queuing and the unauthorised billing of third-party services and subscriptions. It opened administrative proceedings to investigate the breaches in 1,229 cases, resulting in orders to disconnect 6,155 phone numbers. Bans on billing and collection were issued with regard to 2,003 numbers.

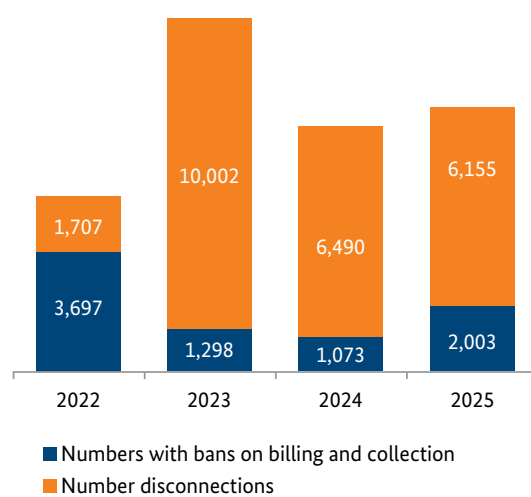
Written complaints and enquiries



Share of complaints by subject (%)



Number of measures related to number misuse



All actions are published (in German) online in a continually updated list at bundesnetzagentur.de/Massnahmenliste.

Nuisance calls

The Bundesnetzagentur recorded a total of 24,981 complaints about nuisance calls during the reporting period. The nuisance can arise from calls that are attempted multiple times a day or where there is a connection but no one speaks on the other end. This is often the result of call centres making use of automated predictive diallers.

Depending on the circumstances, call recipients can be subjected to considerable harassment. In such cases, the Bundesnetzagentur can take various measures, including reprimands, warnings and orders to disconnect the call centre telephone numbers. Before it can do so, it is reliant on complaints containing descriptions of the nuisance call attempts that are as detailed as possible.

This type of calling behaviour takes place prior to telemarketing that is subject to an administrative fine and as such cannot be prosecuted for being attempted. Therefore complaints concerning unreasonable calling behaviour are recorded separately from complaints about telemarketing and statistics on such complaints are reported separately.

In 2025, 42 reprimands were issued. These provide companies with information about complaints about their calling behaviour at an early stage, giving them the opportunity to make changes.

Router and telephone system hacking/malware

The Bundesnetzagentur took wide-ranging measures to deal with hacking incidents in 2025. In such cases, third parties generate calls that incur charges via routers or telephone systems of end-users. The Bundesnetzagentur regularly orders bans on billing and collection to protect the end-users affected. These incidents are mostly reported by the telecommunication service

providers. The orders ensure that the affected end-users are protected from financial damage. The ordering of payment bans is another tool that can be used to enable the domestic telecommunication service providers involved to avoid payments of unlawfully generated charges on a lasting basis. The industry itself continues to make targeted efforts to prevent payment flows and improve the early detection of such cases. There was another year-on-year rise in the numbers for which bans on billing and collection and payment bans were issued in 2025. The number of reported cases rose slightly too but was still at a low level.

Third-party providers

As a result of procedures determined by the Bundesnetzagentur in October 2019 to protect consumers in the area of mobile payment, third-party services may only be billed via mobile phone bills under certain conditions. Either the customer has to be technically redirected during the process of paying for a third-party service from the third-party provider's website to a website of the mobile provider (redirect) or the mobile communications company has to implement various prescribed consumer protection measures (combination model).

Overall, the number of complaints received on this issue continues to be comparatively low. The number of complaints concerning billing by Trusted Partners that appear to be due to phishing attacks went down in 2025. The Bundesnetzagentur examines all complaints it receives and passes the matter on to the relevant mobile companies.

Number manipulation

The Bundesnetzagentur continued to take action against violations of the regulations on telephone number transmission in 2025. In these proceedings, it focuses on finding out the origin of the call in question. To accomplish this, it requires the network operators that made the connection to supply the relevant data within the applicable storage period. They can find and trace the individual connection route using connection data. Once the origin of the call has been identified, specific measures can be taken. The number of complaints was about 20% higher than the year before.

In cases where a number was spoofed and it proved possible to identify the number actually used to make the call, the Bundesnetzagentur ordered this originating number to be disconnected due to violations of the regulations on call number transmission. A further focus of activities in this area during the reporting period was again identifying unlawful business models, revealing the causes and responsibilities that make breaches of the law possible in the first place. Under these circumstances, there are often more parties involved than in other proceedings. The actual way in which the connection is established is often complex, which makes it more difficult to clear up the matter and find out who actually caused it. Clarifying the circumstances relies on the involvement of the network operators making the connection.

SMS and messaging spam, including the family emergency scam

As in previous years, the majority of complaints in 2025 were about SMS and messaging spam. During the reporting period, a total of 28,036 complaints about unlawful messages sent via

SMS or messaging services were recorded, making up more than 30% of all complaints.

The number of complaints related to “family emergency” scam messages was down on the previous year. This kind of scam involves situations where recipients receive unsolicited text messages that appear to have been sent by a relative – usually their child or grandchild – who has recently started using a new mobile phone number. The text messages urge the recipients to transfer money to help the sender that is posing as a family member out of a dire emergency. The drop in complaints might be partly due to the fact that this trick is now widespread and most people know about it. About 6,500 complaints were received on this subject in 2025. Despite the decline, the family emergency scam remains a relevant type of fraud. The violations of criminal law in such cases allow the Bundesnetzagentur to order numbers to be disconnected on the basis of section 123 TKG. The Bundesnetzagentur once again exercised its authority during this reporting period and ordered the disconnection of several thousand mobile phone numbers used for messaging or advertised for the purpose of returning calls.

In contrast to the family emergency scam, there was a rise in complaints about various types of phishing, which made up the second-largest group of complaints about SMS and messaging spam. Consumers reported receiving messages in which, under one pretext or another, they were asked to “click” an internet link. Such messages often contained information about alleged security issues with bank access data or the imminent delivery of a parcel. Upon following the link, the recipients were redirected to a website where they were asked to enter their personal data, in particular their credit card details. To gain the confidence of unsuspecting users, these websites

often mimicked the corporate identity of well-known organisations such as banks or parcel delivery services. The data were presumably collected for the purposes of misuse. The sending of these types of text messages often exposes the recipients to an unreasonable nuisance and consequently constitutes a violation of the provisions of the UWG. In such cases the Bundesnetzagentur regularly orders the sending numbers to be disconnected.

The Bundesnetzagentur also registered a rise in cases of “CEO fraud”. In these cases, a company’s employees are contacted by someone claiming to be a high-ranking executive in their company. This person then tries to get the target individual to transfer large sums of money, usually under time pressure. In order to make their false identity as believable as possible, the fraudsters use photos and other data and information they have managed to obtain. The criminal offences committed in these incidents often enable the Bundesnetzagentur to impose measures and to this end it ordered the disconnection of numerous mobile phone numbers used for CEO fraud during the reporting period.

By ordering the disconnection of sender numbers, the Bundesnetzagentur ensures that the disconnected numbers can no longer be used to send fraudulent text messages. Likewise, unlawfully advertised services can no longer be accessed under these numbers.

In addition to disconnecting mobile numbers, the Bundesnetzagentur also ordered the disconnection of geographic numbers given in SMS messages during the reporting period.

Nuisance recorded message scams

Many complaints were again received in the year under review relating to calls with automated recorded messages. There were different types of these but many of them claimed to be from health insurance companies or online payment services, although this was not true. The recipients were requested to press a button on their phone to get more information.

The numbers were mostly allocated to non-existent persons or private individuals, which suggested that the intention was to commit fraud. The calls also breach the provisions of the UWG and the Criminal Code (StGB). Consequently, the Bundesnetzagentur ordered several numbers to be disconnected.

As far as the authority is aware, none of the consumers in question actually suffered a financial loss by accepting the call or from call forwarding that could have incurred charges. Many consumers end such calls as soon as the recorded message starts. Nevertheless, it may be assumed that the perpetrators intend to access personal data.

Fax spam

Complaints about unsolicited advertisements sent via fax transmission without the express prior consent of the recipient (fax spam) rose in 2025 from the previous year, reaching about 3,300 complaints. In 2024, by contrast, only 2,736 complaints concerned fax spam and in 2023 there were 4,416 complaints received.

Although the use of faxes is generally in decline, this means of communication is still used unlawfully to advertise various products and services. As usual, the Bundesnetzagentur tackles the issue with measures including, in particular, orders to shut off the contact numbers given in the faxes.

Fake hotline fraud

The Bundesnetzagentur disconnected many numbers that were being used for fake hotlines.

In one version, a computer pop-up window falsely claimed that there were virus and software problems and promised to solve them via a geographic number shown in the pop-up. The aim of the scam was to pressure the caller into accepting expensive and unnecessary solutions to the error message using remote access and concluding long-term maintenance contracts.

In another variant of the scam, consumers received emails supposedly from cryptocurrency exchanges claiming that there had been a new log-in to the customer account from abroad. If the account holders had not logged in themselves, the emails stated, they should immediately contact customer service using a geographic number provided. The perpetrators were trying to get consumers to transfer cryptocurrency to external crypto wallets.

Consumers also received emails with supposedly exclusive offers for the sale of machinery, motor vehicles or goods from insolvency estates. It was made to look like the senders were well-known car dealerships, logistics companies, insolvency administrators, etc. Geographic numbers were given as contacts. The aim is to entice consumers to pay in advance for the goods on offer, which they will never receive.

In another version of the scam, numbers were advertised on search engines and looked like they belonged to prominent airlines, travel portals, parcel delivery services and so on. When people called the numbers, the perpetrators encouraged them to install software on their smartphone for remote access and then tried to gain access to personal details, account and credit card data.

The advertisements of the numbers used for the fraudulent messages often featured company brands, identities of third parties, slightly altered email addresses and cloned websites.

Individual cases of financial losses in the upper four-figure range have been reported to the Bundesnetzagentur. The numbers advertised are usually registered using fake details. The data of consumers that previously had contact with the supposed hotline staff are sometimes misused for this purpose. Alternatively, public data of companies or lawyers are used for the registration.

It is for this reason that the Bundesnetzagentur responded by ordering the disconnection of the numbers in many cases.

Other areas and public relations work

As in previous years, the Bundesnetzagentur received a large number of complaints in this reporting period that did not fall under any of the above topics. The Bundesnetzagentur is regularly contacted by law enforcement authorities and supports them in carrying out their duties. Among other things, it establishes contact with network operators and telecommunication service providers so that measures to avert danger can be put in place directly and effectively.

Where possible, the Bundesnetzagentur also imposes the consumer protection measures at its disposal, such as disconnecting telephone numbers, in these cases too.

As part of its public relations work, the authority provides information as early as possible about types of fraud and, where it can, advises consumers on what to do.

Right to be supplied with telecommunications services

In an increasingly digital world, everyone in Germany has the right to be supplied with telecommunications services, meaning internet access and voice communications services, for the purpose of social and economic participation. The internet access service should enable the use of basic online services and applications like online banking, working from home and online content services (including video streaming) as is usual on the market. The minimum technical requirements for this are set out in the Telecommunications Minimum Supply Ordinance (TKMV).

Test report on the TKMV minimum requirements

The Bundesnetzagentur regularly reviews the appropriateness of the TKMV minimum requirements. The result of its review is put into a public assessment report. Following the review in 2023/2024, the minimum requirements were raised from 10 Mbps to 15 Mbps for downloads and 1.7 Mbps to 5 Mbps for uploads from 2025. The latency requirement was left unchanged at no more than 150 ms “one way”.

In its latest report for 2025, the Bundesnetzagentur has advocated leaving the minimum requirements unchanged. It based this assessment on various legal criteria. The service criterion ensures that the internet access service enables at least the services listed in Annex V of the Directive (EU) 2018/1972 establishing the European Electronic Communications Code, such as email, search engines, eGovernment service use, working from home including the usual extent of encryption procedures, and a use of online content services as is usual for consumers on the market. In its recommendations on the TKMV minimum

requirements, the Bundesnetzagentur takes into account the download and upload speeds and latency enjoyed by 80% of consumers in Germany (majority criterion). It includes the effects of the determined minimum requirements on incentives for the private-sector broadband rollout and measures to promote broadband (incentive criterion). No new findings justifying a change in the requirements were made in the 2025 reporting period on the basis of these criteria. In particular, the applicable values take sufficient consideration of the real lives of families. Thanks to the increased requirements introduced in 2025, individual family members can make use of services even when several people are online at once.

The Federal Ministry for Digital Transformation and Government Modernisation (BMDS) and the Committee on Digital Transformation and Government Modernisation of the German Bundestag have to give their agreement to the result of the TKMV assessment report. This agreement on the 2025 report had not yet been given as this annual report went to press.

Information for the public and user survey

The Bundesnetzagentur took several initiatives in 2025 to provide end-users with even more comprehensive and comprehensible information about their right to be supplied with telecommunications services. It informed them about the various supply technologies and on how people could assert their right.

A digital flyer was produced to provide easily understandable information in graphic form. It complements the detailed information to be found on the Bundesnetzagentur's website about the minimum supply of telecommunications services. The flyer has been made available to external bodies, such as the federal states and municipalities, the Federal Gigabit Bureau and consumer protec-

tion organisations, so that they, too, can inform the public. The flyer is available in a printed version as well as a digital one.

The Bundesnetzagentur's contact form is continually being improved and developed. To further improve the usability of the form on the Bundesnetzagentur website, a user survey was integrated. The feedback received from potentially undersupplied consumers can provide data to help improve the user-friendliness of the contact form. People reporting undersupply can give their impressions of using the contact form directly. Participation is voluntary and anonymous. The data from the responses are analysed with the aim of fully understanding users' experiences and making specific improvements to the form on this basis. The results of the evaluation are helpful in improving communication between consumers and the Bundesnetzagentur.

Simplified method for measuring broadband and latency

The Bundesnetzagentur launched a measurement method relating specifically to the right to the supply of telecommunications services on 17 December 2025. The new tool offers end-users a much quicker and simpler method to compare their telecommunications connection with the minimum requirements, speeding up the process of the right to be supplied with telecommunications services. The development of the measurement tool was the result of a request from the Committee on Digital Transformation of the German Bundestag.

The new software is user-friendly and efficient. The ten measurements that have to be made can be completed in a single day. The tool measures download and upload speeds as well as latency. The measurements are divided into two blocks of five successive measurements each. There has to

be a break of several hours between the blocks to identify and allow for any interruptions in supply that are only temporary. The tool checks the measuring environment to receive reliable proof of the available telecommunications services and to create a basis for the rest of the process. The measurement results show end-users whether there are indications of undersupply. If there are, the system sends users a direct request to transmit the results to the Bundesnetzagentur using the linked contact form. The Bundesnetzagentur then initiates further investigations on its own initiative. The measurement tool can be downloaded at breitbandmessung.de/messverfahren-ravt.

Cases, trends and results

Users wanting to assert their right to a minimum supply of telecommunications services have been able to turn to the Bundesnetzagentur since 2021. Each year, consumers, companies and increasingly also property builders and municipalities contact the authority for this reason. Even though fibre infrastructure is continuing to expand and mobile coverage is improving, security of supply remains an important topic.

The Bundesnetzagentur responded to 1,642 submissions relating to minimum supply in 2025. Many people contacted the authority specifically because they wanted a fixed-line connection, better performance from their existing telecommunications connection or new residential areas to be connected.

There were considerable differences in the distribution of requests from the federal states. The Bundesnetzagentur received a particularly high volume of enquiries from Lower Saxony in relation to its population, followed by Bavaria and Rhineland-Palatinate. For example, around 9.6% of German residents live in Lower Saxony but they

made up around 21.8% of enquiries about basic services (a factor of 2.26). These differences in the supply situation could be due to multiple structural factors, including a high proportion of rural areas with a low population density and unfavourable geographical conditions. In addition, low or no economic incentives for companies to invest in the telecommunications supply have a negative effect on the degree of coverage in a region.

In 2025, the Bundesnetzagentur assisted the rural district of Göttingen in large-scale proceedings on minimum supply with the involvement of the economics ministry in the state of Lower Saxony and the broadband centre of Lower Saxony and Bremen. According to the initial information available to the Bundesnetzagentur, around 500 households were potentially undersupplied. An actual request for supply was made by 110 households. To ensure that people living between the highland areas of Harz and Solling had a minimum supply of telecommunications services, the Bundesnetzagentur carried out extensive research on the supply situation, informed those affected about their individual options and was available for contact at an information event. It was ultimately possible to offer each household either a fixed-line connection and/or supply using mobile or satellite communication meeting the minimum parameters of the TKMV.

To require one or more companies to provide a minimum supply of telecommunications services, an undersupply must have been identified in accordance with sections 157, 160(1) and (2) TKG. To do this, the available supply options in the locations mentioned are examined in a structured administrative procedure. With the involvement of the affected end-users and the participation of potential telecommunications suppliers, detailed investigations follow about the specific supply situation of the individual addresses. If there is disagreement or a lack of clarity about the supply

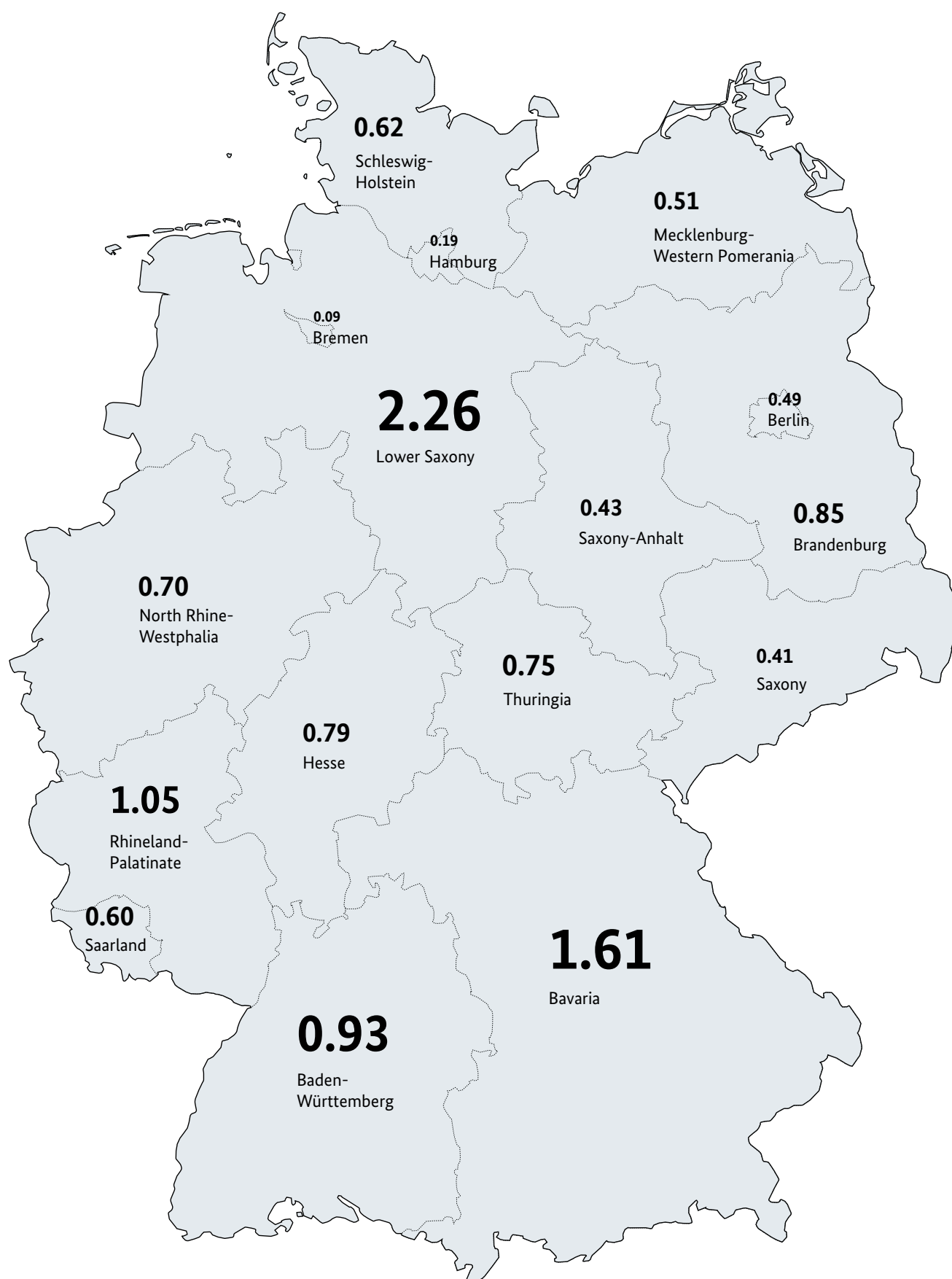
situations, the Bundesnetzagentur's radio monitoring and inspection service is brought in to measure the supply on the ground.

In 2025, a provider was offering an affordable product across almost the whole country with performance exceeding the minimum requirements. In light of this, in July 2025 the Bundesnetzagentur revoked its previous identification of undersupply for a location in Alfter.

In all cases in which the authority had previously officially identified undersupply and end-users had declared an actual need for supply, either supply options were found or suppliers were required to provide them.

One identification of undersupply by the Bundesnetzagentur was challenged in court. It is currently being appealed before the Federal Administrative Court (BVerwG).

Enquiries about basic telecommunications services in relation to population per federal state



Market surveillance and affordable prices

The Bundesnetzagentur monitors the minimum acceptable level of telecommunications services. When it receives a complaint from an end-user, it evaluates all the supply data for the location in question and provides the data to the complainant. The Bundesnetzagentur also monitors the availability of basic provision throughout Germany regardless of any enquiries it may receive. It has developed its own tool for the proactive monitoring of minimum supply across Germany. The tool can be used to identify all addresses in Germany that are shown as supplied in accordance with the minimum requirements of the TKMV and those that might not be sufficiently supplied. The tool takes account of a wide range of supply data for this purpose, including data from the single information point of the Federation.

The market surveillance tool, which has so far been used within the authority, is planned to be made available in a public version on the Bundesnetzagentur's website in 2026. It will help end-users to quickly and easily check if the minimum supply is potentially available at their address. People have a right to receive a minimum level of telecommunications services as well as the connection to a public telecommunications network at an affordable price. The Bundesnetzagentur collects data on the prices for monthly services and connection prices from the telecommunication service providers to calculate the affordable prices. The affordable price is derived from the average price of comparable products.

Until the end of 2024, the affordable monthly price for the minimum supply was about €30 (gross). Now that the minimum supply figures in the TKMV have been raised, since the beginning of 2025 the affordable price has been around €35 (gross).

The Bundesnetzagentur regularly evaluates the affordable prices and the principles used to calculate them.

Consultations on relevant product market and on net costs

The TKG envisages that all providers of telecommunications services operating on the product market for minimum supply contribute to the minimum supply. If a provider has to be required to provide the minimum supply because the market does not offer it of its own accord and if it incurs unreasonably financial burdens (net costs) as a result, all providers have to contribute to these costs proportionately.

This compensation mechanism was first set out in the 2021 version of the TKG. Thanks to cooperation in the market and affordable prices, it has not yet had to be applied. However, in 2025 the Bundesnetzagentur made preparations and drew up criteria to determine the relevant product market forming the basis for calculating the net costs that can be passed on and compensated and for more precisely determining the unreasonable costs. The Bundesnetzagentur will put its considerations on this issue out for consultation in spring 2026.

Customer protection

Customers of telecommunications service providers tend to approach the Bundesnetzagentur for help when they have not managed to satisfactorily resolve their issue with their provider directly.

The Bundesnetzagentur registered 28,106 provider-related individual cases (not including dispute resolution requests) during the reporting period, a rise of roughly 25% on the previous year. The majority of these were related to fault repair, internet speeds, provider switching and number portability. The other cases concerned a wide range of other contract-related issues such as contract duration, transparency and billing.

The Bundesnetzagentur uses the individual cases as the basis for determining whether providers are violating their statutory obligations under the customer protection provisions of the TKG. Where the Bundesnetzagentur identifies breaches of customer protection regulations, it can demand that the provider remedy the situation. Further measures may be ordered if necessary. The authority succeeded in pursuing almost every single complaint for possible relevance to customer protection during the reporting period (by hearing the providers). The majority of complaints were not justified. For the rest, around 10,000 individual cases were cleared up in the interests of consumers in individual administrative procedures with the help of the providers.

The number of complaints received by the Bundesnetzagentur rose sharply at the end of 2025 to over 800 new submissions a week. Due to limited capacity, it is not possible to provide the same level of customer service as before. In the interests of “digital public services”, the

Bundesnetzagentur must prioritise instances of supply disruptions occurring during a switch of suppliers or porting of numbers and complete loss of telecommunications services at a fixed location. For other cases, consumers can turn for assistance in particular to consumer protection organisations, which have far-reaching possibilities to take action under civil law (primacy of consumer protection before the civil courts). It is also possible to request dispute resolution proceedings at the Bundesnetzagentur.

The Bundesnetzagentur has to ensure that consumers have access to at least one independent comparison tool. To this end, the Bundesnetzagentur is preparing a call for tenders. During the reporting period, the Bundesnetzagentur also ensured the financing of the levy for the text and video relay service for people who are deaf or hard of hearing operated by Tess Relay Dienste.

Dispute resolution

The Bundesnetzagentur's telecommunications consumer dispute resolution panel offers customers of telecommunications companies a means of settling disputes out of court. The aim is to reach a speedy and amicable resolution for both parties.

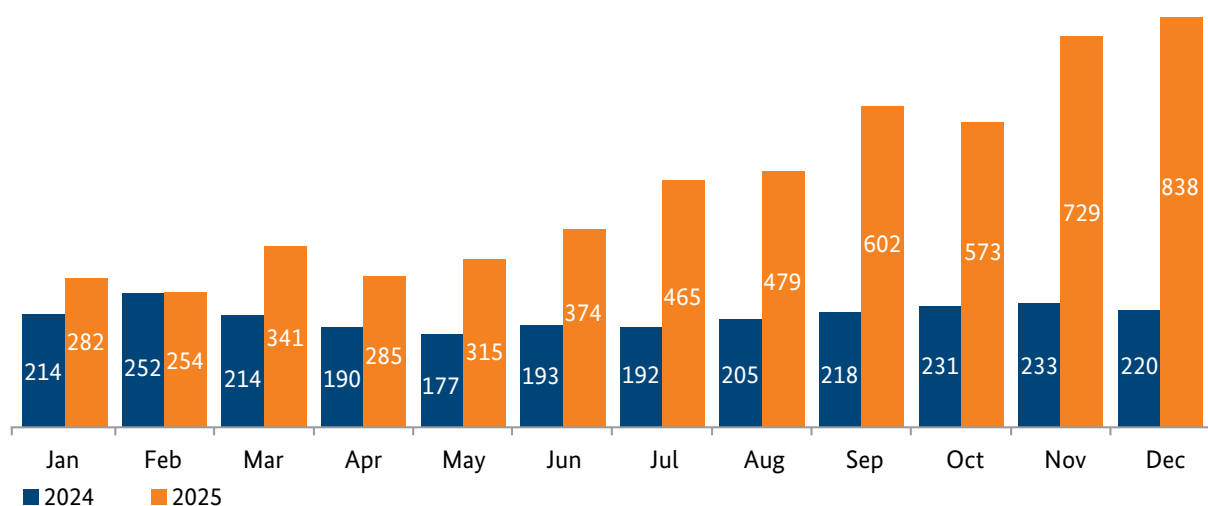
The telecommunications consumer dispute resolution panel is an official consumer conciliation body under the Act on Alternative Dispute Resolution in Consumer Matters (VSBG). In general, however, this dispute resolution is available to all end-users. End-user means a user neither operating public telecommunications networks nor providing publicly available telecommunications services. However, restrictions may arise from some provisions of telecommunications legislation. The prerequisites for a dispute resolution procedure are set out in the dispute resolution rules of the telecommunications consumer dispute resolution panel. These state, for instance, that end-users must take the initial step and attempt to settle the issue with the telecommunications company before submitting a request for

dispute resolution. The dispute resolution procedure is free of charge for both telecommunications companies and customers.

In 2025, the telecommunications consumer dispute resolution panel received 5,524 applications for the initiation of a dispute resolution procedure. While in 2024 the dispute resolution panel reported the highest number of requests (2,534) in a year since the panel had been founded in 1999, the number received in the year 2025 was more than twice as high. In addition, the panel received 1,551 enquiries and requests for assistance, mostly relating to whether the facts presented in particular cases could be resolved through dispute resolution.

The huge increase in the number of dispute resolution requests received by the dispute resolution panel in the reporting year shows the great need for out-of-court dispute resolution among customers of telecommunications companies. However, as the dispute resolution panel has limited resources, it also means that procedures took longer to resolve.

Dispute resolution requests received



More than a third (35%) of the dispute resolution requests received by the telecommunications consumer dispute resolution panel in 2025 concerned disputes relating to the content or implementation of contracts. These cases varied considerably, with some of the more frequent reasons for dispute including which prices had been agreed, when a contract actually begins (upon the conclusion of the contract or when the provision of services begins), when the provider is supposed to make the contractual services available in the event of new connections, and when and how contracts can be terminated. However, there are also disputes in which it turns out that a contract concluded over the phone is not even legally valid because the consumer had not given their approval following the receipt of the contract summary in text form.

Another frequent subject of applications involved disputes over disruptions (19%). The disruptions – both short-term and long-lasting – involved both mobile and fixed networks. Frequently at issue was the prompt elimination of the disruption by the provider. Another subject of disputes was whether the provider must pay the consumer compensation if the service completely ceased to function.

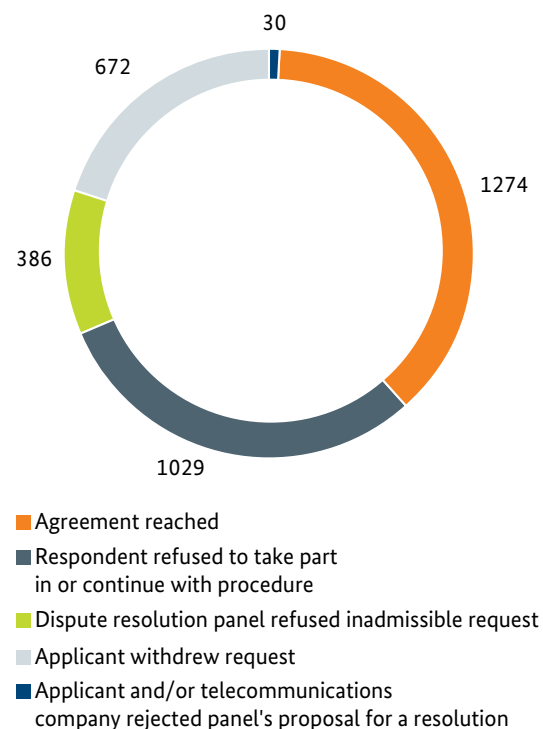
A considerable share of the applications received concerned disputes about billing complaints (13%) and reduced data transmission speeds (12%). Dispute resolution requests also addressed issues such as moving premises, provider switching and disconnection.

The dispute resolution panel handled and closed 3,391 cases in the reporting year. The parties in dispute reached agreement in 1,274 cases, which is 38% of terminated dispute resolution procedures. The agreement rate is 42% of those cases terminated in which the requests were admissible.

Frequently, companies offer their customers a resolution once the procedure is underway. In 1,029 cases, the telecommunications companies implicated in the dispute resolution procedure refused to take part in or to continue the procedure and offered no solution to the issue at hand. In 672 cases, the applicants withdrew their requests, for example because the matter had already been resolved. The dispute resolution panel refused a total of 386 inadmissible requests for dispute resolution.

In accordance with the VSBG, additional information is published in the dispute resolution panel's annual activity report, which can be found on the Bundesnetzagentur's website.

Outcomes of dispute resolution procedures 2025



Market surveillance

The Bundesnetzagentur's market surveillance activities are based on the EU Regulation on market surveillance and compliance of products and the German Market Surveillance Act (MüG), Electromagnetic Compatibility of Equipment Act (EMVG) and Radio Equipment Act (FuAG).

In 2025, the Bundesnetzagentur screened electrical and radio equipment from both online and bricks-and-mortar retailers. In the scope of the online market surveillance in 2025, a total of 1,266 offerings were identified as non-compliant and taken off the relevant e-commerce platforms, impacting more than five million devices. Smart-watches and private mobile radios had the largest numbers of items affected. The EU's Safety Gate rapid alert system lists some smartwatch models as not fit for circulation on the market because the watches claim to monitor blood sugar levels but actually only simulate this. Despite this, the Bundesnetzagentur detected instances of these smartwatch models, which did not comply with the requirements of the FuAG either, being offered for sale. The Bundesnetzagentur reported these cases to the relevant sales platform operators, which then removed the offerings. The Safety Gate System is an important tool for the different market surveillance authorities in the EU to exchange information.

In 2025, the Bundesnetzagentur examined around 2,100 device and equipment categories on offer in bricks-and-mortar retail and took action in 707 cases involving around 1.9mn devices.

In 2025, the Bundesnetzagentur was notified by the customs authorities of some 8,200 suspicious consignments. About 89% of the reported consignments were found to be non-compliant and were prevented from entering the European market. More than 359,000 products were affected by the import ban.

Interoperability in the area of audiovisual media transmission

The freedom of choice of terminal equipment, which is laid down in law, enables customers of public telecommunications network operators to use compatible telecommunications terminal equipment like routers and modems they have bought themselves. This is often referred to in the media as “router freedom” although it actually covers all telecommunications terminal equipment at the passive network termination point. For the industry to develop compatible terminal equipment, it relies on network operators notifying the interface specifications at the passive network termination point as required under section 74(1) TKG.

A survey in spring 2025 showed that in a highly dynamic market phase characterised by the roll-out of fibre, many new market participants were not yet fully meeting this requirement. As a first step, the Bundesnetzagentur provided information about the requirement to companies before enforcing it where necessary. In another survey seven months later, interface specifications had been received from network operators for more than 90% of the retail market. The Bundesnetzagentur will continue to actively ensure that these legal requirements are met in the future.

The Bundesnetzagentur also remains committed to promoting competition, interoperability and consumer protection in the transmission of broadcasting and audiovisual media. It thus worked on issues including digital radio reception, the planned future market launch of DVB-I in Germany and standardisation work.

Investigating interference – the radio monitoring and inspection service

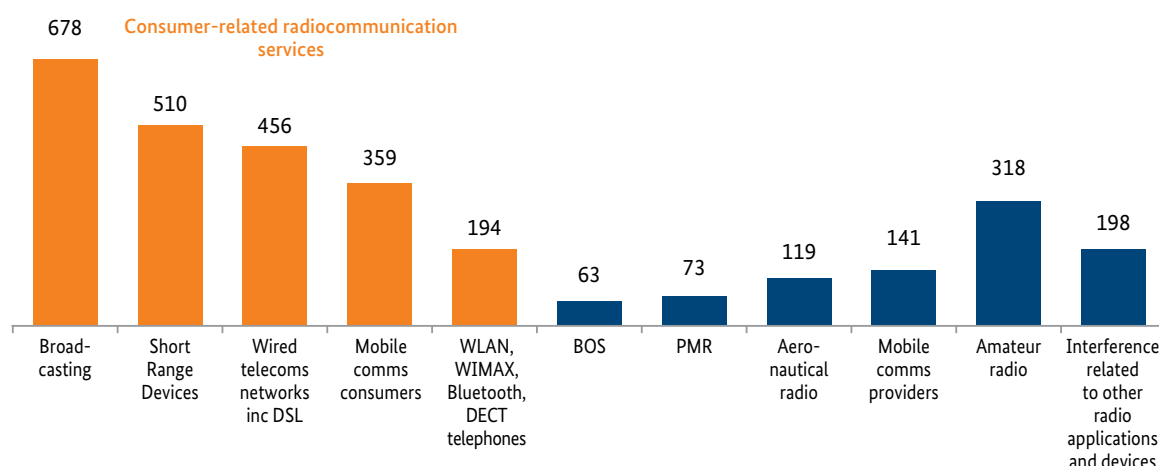
The Bundesnetzagentur’s radio monitoring and inspection service is responsible for monitoring and ensuring the disruption-free use of radiocommunications. Its core tasks include investigating and resolving radio interference and electromagnetic incompatibility. In addition to interference with prioritised radiocommunications services like aeronautical radio, radio applications of the authorities and organisations with security and safety tasks (BOS) and maritime and inland waterways services, it also deals with radio interference cases related to everyday radio applications in households such as radio reception, WLAN networks, mobile service, and smart home applications.

By providing this service, the radio monitoring and inspection service makes an important and ever-growing contribution to consumer protection. In 2025, more than 2,100 cases (over 70% of all reported instances of radio interference) directly involved consumer interests. A total of over 3,100 instances of radio interference and electromagnetic incompatibility were reported to the radio monitoring and inspection service in the same year. The majority of them (>60%) were submitted online by consumers, organisations and companies using the Federal Portal (the central point for access to online services offered by Germany’s federal, state and local governments). These reports can then reach the ticketing system of the radio monitoring and inspection service directly and seamlessly and can be further processed there.

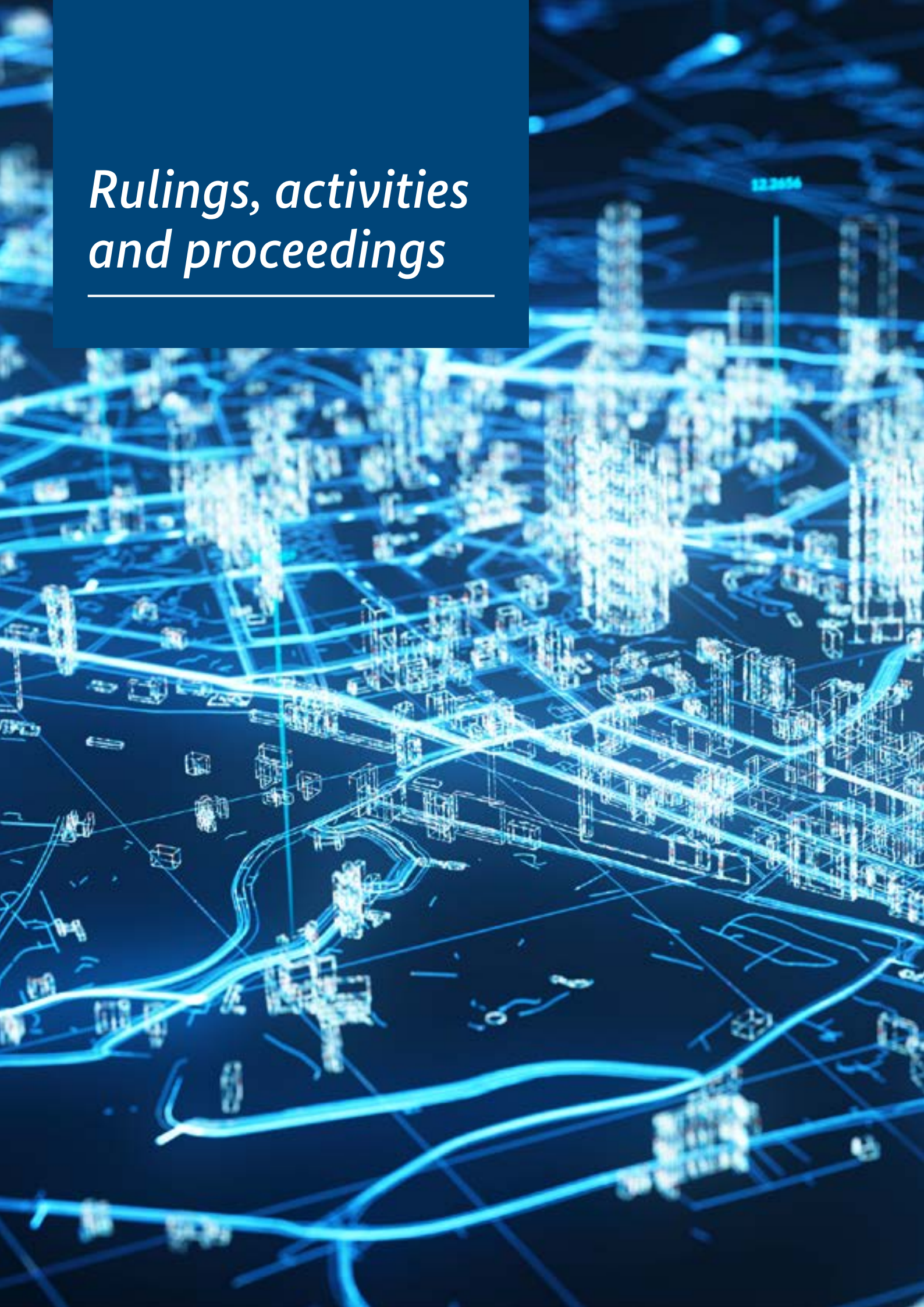
As well as the ability to transmit reports of radio interference round the clock, it is still possible to notify the fault reporting service of radio interference or electromagnetic incompatibility by phone from Monday to Friday. For priority radiocommunication services, especially for the authorities and organisations with security and safety tasks (BOS) and aeronautical radio, the radio monitoring and inspection service is available 24/7 to avert danger to particularly protected assets, in particular a threat to life.

There is no charge for consumers, organisations or companies for the service of investigating and resolving radio interference. This also applies to those who caused the radio interference, provided it was not their fault.

Interference volumes by type of service 2025



Rulings, activities and proceedings



In March 2025 the Bundesnetzagentur temporarily extended the rights of use for various mobile frequency bands by five years. The network operators Telekom, Vodafone and Telefónica must comply with various coverage obligations. One focus of the disputes before the national dispute settlement body was on requests for open access to publicly funded telecommunications networks.

Spectrum management

Proceedings for the provision of spectrum at 800 MHz, 1800 MHz and 2600 MHz (extension decision)

At the request of the users Telekom Deutschland GmbH, Telefónica Germany GmbH & Co. OHG and Vodafone GmbH, the President's Chamber of the Bundesnetzagentur decided on 24 March 2025 to extend the spectrum usage rights by five years in the 800 MHz, 1800 MHz and 2600 MHz bands, which are important for mobile communications and are due to expire at the end of 2025. In addition, other usage rights at 1800 MHz that will be expiring at the end of 2033 will be extended for three years on application.

The Bundesnetzagentur plans to carry out competitive proceedings at a later point in time. The aim of the five-year extension is to bring the expiry dates of the usage rights in line with other usage rights that are due to expire at a later date. This would enable more spectrum to be made available for award at a later stage, in turn avoiding regulation-induced scarcity. In addition, market developments could be taken into account in later proceedings. A larger framework for proceedings would offer the companies more opportunities for accessing spectrum. The three-year extension in the 1800 MHz frequency band that begins in 2033 is linked to the required legal and planning certainty in connection with granting national roaming.

The extension of the usage rights will be accompanied by obligations for the further rollout of the mobile networks and arrangements aimed at promoting competition. These should serve to further improve mobile coverage. The objective is to create equivalent standards of living in urban and rural areas in terms of telecommunications services.

The extension decision was linked with the following coverage obligations: as from 1 January 2029, each assignment holder must provide

- a downlink transmission rate of at least 100 Mbps for at least 99% of households in thinly populated municipalities in each federal state;
- all federal roads with a downlink transmission rate of at least 100 Mbps;
- a downlink transmission rate of at least 50 Mbps for all state and national roads and inland waterways of the federal core network.

As from 1 January 2030, each assignment holder must provide

- at least 99.5% of the surface area of the country with a transmission rate of at least 50 Mbps;
- all federal roads with a downlink transmission rate of at least 50 Mbps.

Each assignment holder is also required to cooperate in jointly establishing infrastructure for the provision of telecommunications services using very high capacity wireless networks along rail routes. In addition, assignment holders are required to enter into negotiations with railway infrastructure undertakings on jointly using infrastructure for the provision of telecommunications services

using very high capacity wireless networks along rail routes.

Having assessed the competitive conditions, the Bundesnetzagentur considers competition in both the wholesale and the retail market to be sufficiently effective. Further obligations have been imposed to preserve and promote competition and to compensate for the lack of opportunities for other companies to acquire new spectrum. These obligations include a negotiating requirement for service providers/MVNOs, a negotiating requirement on national roaming, an obligation to lease spectrum at 2600 MHz, a negotiation requirement to promote cooperation among the mobile network operators and reporting obligations relating to mobile network rollout and the negotiations on access to wholesale mobile services.

Extension of mobile spectrum assignments

In accordance with the President's Chamber decision mentioned above under Spectrum management, the applications for extension were submitted by the current spectrum assignment holders on time. Spectrum usage concepts for efficient and interference-free spectrum use, together with an explanation of financial capacity, reliability and specialist knowledge, were submitted by the mobile companies with their application in accordance with section 91(4) of the German Telecommunications Act (TKG). The Bundesnetzagentur was not able to identify any reasons against an assignment extension and issued the spectrum assignment decisions accordingly.

Setting site-related parameters is the second stage of assigning spectrum. The mobile companies submitted their nationwide spectrum usage parameters to the Bundesnetzagentur before the end of 2025. An IT-supported procedure confirmed the interference-free continued use of the existing antenna configurations. Spectrum usage can be continued seamlessly from 1 January 2026.

The renewal allocations are subject to fees in accordance with the Bundesnetzagentur's special fee ordinance for spectrum assignment (BNetzA BGebV-FreqZu). The Bundesnetzagentur has issued fee notices to the mobile companies. The fees are due as from the period of use and can be paid in instalments upon request. For the extension periods ending 31 December 2030 and 31 December 2036, the mobile companies Vodafone GmbH, Telekom Deutschland GmbH and Telefónica Germany GmbH & Co. OHG are required to pay a total of €607mn in spectrum usage fees.

Coverage obligations

The mobile spectrum assignments that were auctioned in 2019 to the three established mobile network operators Telekom Deutschland GmbH, Telefónica Germany GmbH & Co. OHG and Vodafone GmbH contain extensive coverage obligations, some of which had to be fulfilled by the end of 2022 and some by the end of 2024.

By the end of 2022, each of the three established mobile operators Telekom, Telefónica and Vodafone had to provide coverage with a transmission rate of at least 100 Mbps for at least 98% of the households in each of Germany's states and for all motorways, most important federal roads, and busy rail lines. The coverage obligations additionally include the requirement to put into operation 500 base stations with a minimum of 100 Mbps in designated white spots. Furthermore, all holders of a frequency assignment – including the new entrant 1&1 – were obligated to put 1,000 base stations for 5G applications into operation by the end of 2022.

By the end of 2024, all state and national roads, the remaining federal roads, the remaining railway lines as well as the most important seaports and inland waterways of the federal core network had to be provided with coverage. Coverage provided by other assignment holders is to be taken into account on all traffic routes except federal motorways.

The network operators have – even beyond the respective coverage obligation deadlines – provided monthly progress reports on their network rollouts and submitted their electronic coverage data for this purpose. The Bundesnetzagentur assessed the reports and, using its radio monitoring and inspection service, verified the submitted coverage data in selected regions and on selected traffic routes.

Where coverage obligations could not be completely fulfilled, the assessment showed that in the vast majority of cases the mobile network operators justified delays by the lack of or slow cooperation from third parties. Due to the coverage obligations not being fully fulfilled on time, the Bundesnetzagentur initiated enforcement and regulatory offence proceedings and listened to feedback from the mobile network operators in this regard.

The coverage obligations are a regulatory component of partial decision III of the President's Chamber decision BK1-17/001. Therefore, when Cologne Administrative Court's final decision of 26 August 2024 took effect, the regulatory offence proceedings were not pursued further and were closed. The Bundesnetzagentur is examining whether the pending enforcement proceedings will be continued.

Meanwhile, network expansion is steadily progressing for all mobile network operators. The coverage obligations have now largely been fulfilled. However, coverage in tunnels, particularly on railway lines, remains a major challenge. In this regard, however, the mobile network operators are largely dependent on the cooperation of the infrastructure managers.

Despite the possibility of taking into account coverage by other assignment holders on traffic routes, the three mobile network operators are striving for their own coverage and have largely implemented it.

The new entrant 1&1 Mobilfunk GmbH also has coverage obligations to fulfil. It was to provide and put into operation 1,000 base stations by 31 December 2022 in accordance with the federal state proportion for 5G applications. This obligation was not fully met by the deadline. Here too,

when Cologne Administrative Court's final decision took effect, the regulatory offence proceedings were not pursued further. In the meantime, 1&1 has continued to drive forward its network expansion to meet its coverage obligation and now has more than 1,000 base stations in operation in accordance with the federal state proportion.

In addition, 1&1 met the other obligation to ensure coverage of at least 25% of households by 2025.

Switching off the 2G mobile networks

Worldwide, mobile network operators are converting their networks to modern technologies and shutting down old networks. Telekom is expected to shut down its 2G mobile network in Germany at the end of June 2028. Vodafone and Telefónica are planning to shut down their 2G mobile networks in the second half of 2028.

Generally the Bundesnetzagentur awards spectrum on a technology and service-neutral basis. In order that the limited spectrum available is used to supply mobile coverage efficiently, the Bundesnetzagentur considers it necessary to switch off old technologies at the end of their respective life cycle. By switching to new technologies and away from older technologies, the Bundesnetzagentur aims to limit negative effects for users as much as possible. Currently most consumers already own a 4G/5G device.

Short-term assignments

The main purpose of short-term assignments is to provide spectrum for events that do not require permanent coverage. They are typically issued for major events, film and television productions, motorsport events, temporary trade fairs and exhibitions, temporary tests or demonstrations of wireless applications and state visits. The spectrum is usually only needed for a few hours or days at a time. Many of the spectrum users are from outside Germany and frequently apply to use spectrum designated in Germany for other purposes. In these cases, the Bundesnetzagentur checks whether the spectrum can be used for a short time without interfering with other, designated uses. This is a complex task if an event is held near the border to another country because the Bundesnetzagentur then needs to coordinate with the neighbouring country.

Several major events of international importance took place in 2025 in which the Bundesnetzagentur's spectrum team was involved and monitored interference-free use using on-site measurements. These included, among others, the American National Football League (NFL) game in Berlin, the finals of the UEFA Champions League and Nations League, the FISU World University Games Summer 2025, the Ocean Race 2025 and the Loop One Biathlon Opening Festival.

Experimental radio

Innovative wireless applications do not usually fit into existing regulation, so experimental radio can be allowed, for a limited period of time, to deviate from the provisions contained in the Spectrum Ordinance or in the Spectrum Plan.

This flexibility with spectrum assignment makes it possible to develop and test new radio systems in Germany. The fact that there were more than 1,000 applications in 2025 demonstrates that there is a great amount of interest in the research and development of wireless technologies. The experimental radio requests include all wireless applications and the entire regulated spectrum from 8.3 kHz to 3,000 GHz, from public mobile communications (eg research on 6G) to the development of new short-range wireless applications.

Each assignment in experimental radio is a case-by-case decision to ensure the unaffected operation of the existing spectrum use. This normally requires coordination with the holders of the existing assignments.

Satellite communications

Demand for satellite communication has increased sharply. From the transmission of television and radio signals, navigation, weather forecasts and air traffic, financial markets and telecommunications to the provision of communications services in remote areas, satellite communication has many applications. It is indispensable in many areas of the modern world and technological advancements continually drive innovation. The satellites all work according to the same principle: they transmit data and signals almost in real time. Satellite communications often play an essential logistical role in floods, tsunamis, earthquakes, peacekeeping missions and preserving domestic and international security.

In 2025, the Bundesnetzagentur again made filings to the International Telecommunication Union (ITU) for 142 satellite systems. German satellite operators submitted a total of 5,000 coordination requests to the ITU for hundreds of frequencies used in orbit. This resulted in bilateral negotiations with other states and their satellite operators to ensure interference-free operation of all satellite systems in the frequency spectrum. This year, coordination negotiations were conducted with Indonesia, Luxembourg, Malaysia, Qatar and the Netherlands.

Also in the course of 2025, 11 geostationary and 42 non-geostationary satellite systems (including, in addition to orbiting satellites, deep space probes, orbital space tugs and service missions, launch systems and in-orbit manufacturing) were notified by the Bundesnetzagentur as a notifying administration to the ITU. Moreover, 89 other regulatory processes (eg amendments, notifications, suspensions, extensions, investigations) were carried out with ITU's Radiocommunication

Bureau. International satellite coordination was conducted mainly by correspondence and comprised around 5,000 letters in 2025. Bilateral coordination meetings took place and agreements were implemented in 2025 with Azerbaijan, Indonesia, Luxembourg, the Netherlands, Malaysia, the United Arab Emirates and Qatar. New satellite applications in higher frequency bands (> 70 GHz) for coordinated earth stations were introduced in 2025 and regulatory solutions were developed and put into operation.

Mobile communications monitoring

Mobile communications monitoring uses an interactive map to create transparency about each provider's actual mobile coverage throughout the country. It provides all interested parties in the gigabit register with tailored information on mobile availability.

The network operators collect the necessary data on a quarterly basis and in doing so comply with the uniform requirements of the Bundesnetzagentur. The Bundesnetzagentur validates the network operators' data using data from its dead spot checker app (now called "Mobilfunk-Check").

Maps and data in the interactive mobile communications monitoring map

The interactive map of the mobile communications monitoring shows the country-wide coverage with the mobile standards 2G, 4G and 5G in outdoor areas. The map makes it possible to gain an impression of the current mobile coverage. Users can filter by mobile network operator and mobile technology. The "mobile broadband" filter shows the geographical coverage of 4G, 5G or both technologies.

The view of the map across all network operators shows where there are still white or grey spots in the country. The filter shows those regions where complete rollout of the mobile networks is proving difficult, not least because of the topography.

In addition to the interactive map, the gigabit register also features a shared download section with additional data, maps and analyses.

New measurement concept in mobile communications monitoring

In July 2025, the Bundesnetzagentur introduced a uniform measurement method for monitoring mobile coverage in Germany. The concept was developed on behalf of the Federal Ministry for Digital Affairs and State Modernisation (BMDS) together with the Bundesnetzagentur's radio monitoring and inspection service.

Key to the new measurement concept is the use of eight smartphones using specialised software to carry out the measurements. The focus is placed on data relating to voice telephony and the available data rates. Four of the phones check the quality of voice telephony during measuring trips through defined areas. The other four

phones measure the data rates available in the four mobile network operators' networks. The measurement series is controlled and recorded via a cloud-based application.

Up to now, scanners have been used for measuring, which mainly recorded the strength of a local radio signal. The use of terminal equipment means that the actual possible data rates for users can be recorded.

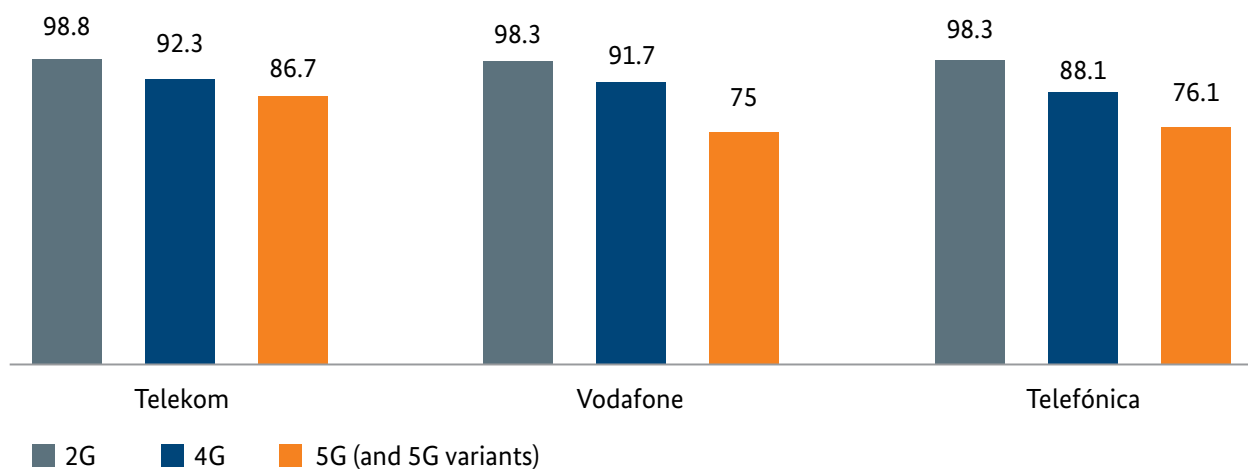
The new measurement concept can be used by third parties. Federal states, municipalities and service providers can use the measurement concept to commission their own measurements. They can then share the results with the Bundesnetzagentur and thus continuously add to the national database. To ensure comparability of measurement data, a minimum set of requirements has been defined.

The current version of the measurement concept is available in PDF format in the shared download area of the gigabit register.

Mobile network coverage in October 2025

Nearly all of the country has 2G coverage through at least one network operator. In October 2025, the overall coverage of all mobile network operators was unchanged from the previous year at 99.8% and 4G coverage increased slightly on the previous year's level (97.5%) to 97.7%. The following chart compares the level of the individual network operators' coverage. It shows that all network operators have a very high level of 2G and 4G coverage. The mobile network operator 1&1, which is currently configuring its network, is not represented in the chart below. A subsequent section of this report provides an update on the development status of the new network.

Mobile coverage by operator and technology
(%)



5G network coverage in Germany

The level of 5G coverage nationwide varies between about 75% and 86.7%, depending on the network operator. These figures take all technological variants of the 5G standard into account.

Today around 95% of the country has 5G coverage from at least one network operator. Compared with the first data collection in October 2021, 5G coverage has increased by more than 40 percentage points. Combined coverage with 4G, 5G or both technologies is 98% nationwide. The mobile communications monitoring map in the gigabit register shows the coverage with high-performance mobile internet under “Mobiles Breitband”.

The most powerful 5G variant 5G standalone (5G SA) shows until October 2025 an increase of around 1.8 percentage points compared to the same month of the previous year. In terms of percentage, the 5G SA coverage is around 94.9% nationwide, almost identical to the overall 5G supply. In 5G SA, only 5G infrastructure is used in the radio access network and the core network. Mobile customers benefit from the higher data rates. In addition, the delay in signal transmission (latency) is lower than with 5G non-standalone (5G NSA).

In combination with other technologies, 5G SA enables data-hungry real-time applications in mobile communications. These include delay-free video transmission or augmented reality applications that blend the real world with the digital world. In addition, mobile communications technology simplifies the automated exchange between devices and machines (machine-to-machine communication). This is important for industry in particular, for example in process automation.

1&1 mobile coverage including national roaming

1&1 has been operating its own mobile network since December 2023. According to the company, as at October 2025, the network it is developing supplied 1.4% of Germany with 5G and 1.3% with 4G. In areas where 1&1 has not developed its own network, it provides coverage to customers through national roaming.

In 2024, 1&1 switched its national roaming partner from Telefónica to Vodafone. According to 1&1, all existing customers were transferred to the new roaming partner during the course of 2025. Since March 2025, the mobile communications monitoring map has shown the national roaming network of Vodafone in hatching and in a more transparent colour compared to 1&1's own network.

White and grey spots

The Bundesnetzagentur saw a positive development in grey and white spots in 2025. The share of white spots throughout Germany has fallen from around 2.2% to 1.9% and grey spots have decreased by around 0.9 percentage points to 13.3%. The share of areas without mobile coverage (dead spots) is around 0.2%.

Overall approach to 410-470 MHz

The Bundesnetzagentur intends to create an overall approach to 410-470 MHz to ensure efficient and interference-free use of spectrum in this band by the various wireless applications in the future as well. The overall approach should serve as the basis for assigning and providing this spectrum in the future. In this connection, the needs of the individual wireless applications to which this spectrum is assigned under the

Spectrum Ordinance are to be taken into account while considering technological developments.

From 21 March to 21 May 2025, the Bundesnetzagentur put out a paper entitled “Initial considerations for an overall concept for 410-470 MHz” for consultation. The aim of the consultation was to determine the relevant facts and the interests affected. A total of 86 comments were received. The initial assessment of the comments showed that a supplementary consultation was necessary in order to determine the relevant facts. Interested parties had the opportunity to do so until 1 August 2025.

The feedback on future needs and technological developments as well as developments in the markets for radio communication services and wireless applications in the 410-470 MHz spectrum band was studied closely and assessed. The overall approach to 410-470 MHz will be published in the second quarter of 2026.

Further information is available (in German) at bundesnetzagentur.de/1045302.

Campus networks

For the implementation of new internal networks confined to certain premises, 5G technology is gaining attention and popularity in the 3.7 to 3.8 GHz frequency band as well as in the 26 GHz band. The Bundesnetzagentur established the assignment procedure for applications in both of the above-mentioned bands in 2019 and 2021, respectively. The application procedure for the 3.8 to 4.2 GHz range is expected to open in 2026. The preparation and coordination process throughout Europe between the Bundesnetzagentur and the other participating spectrum management authorities for campus networks with low and medium power has begun. The aim is for a low-threshold, simple application procedure.

Depending on the technology available on the international market, the intelligent networking of machines and processes in industry and the associated demand for spectrum for campus networks is gaining importance. Approximately one third of spectrum use to date is accounted for by telecommunications, information technology and services as well as society, research and development; use in the industrial sectors of metal and electronics account for around one quarter of total use.

Fixed links

A large number of applications are still being received for fixed links, although this has decreased by around 13% compared to 2024. High data speeds are increasingly being achieved with full fibre connections. Nevertheless, fixed links are a necessary complement to meet the increased demand quickly and easily. To meet the increased demand for high data speeds, there continues to be a sharp increase in the frequency bands where stable transmission of data is possible.

In addition to assigning spectrum for fixed links, the Bundesnetzagentur provides public agencies with official assistance on request when they are making construction plans, such as the expansion of wind farms or other construction projects, by identifying expected conflicts with existing fixed links and providing contact details of the fixed link operators. Around 6,200 such requests were processed in 2025, which was an increase of about 15%

Aeronautical and aeronautical radionavigation services

Frequencies for aeronautical and aeronautical radionavigation services are essential tools for providing air traffic management services. Smooth and safe civil air traffic is not possible

without this spectrum usage. In close cooperation with the Federal Supervisory Authority for Air Navigation Services, the Bundesnetzagentur assigns spectrum for ground radio stations of aeronautical and aeronautical radionavigation services on a location-specific basis.

The spectrum is used partly for radiotelephony between the cockpit and flight controller (including cockpit-cockpit) and partly to measure the distance or altitude of the aircraft and to determine its location in space, for example with respect to a runway. Radar systems are also used to identify aircraft. The Bundesnetzagentur issues an individual Aircraft Station Licence for each aircraft station. It currently administers around 29,000 licences in total.

Maritime and inland waterways

Maritime and inland waterways radio services are the main means of communications at sea and on inland waterways, enabling information to be exchanged between ships and fixed stations. This ensures orderly, safe shipping, coordination with ports and locks, and the ability to provide rapid, targeted assistance in sea rescue missions.

The Bundesnetzagentur issues spectrum and number assignments pursuant to section 91 and section 108 TKG, with each maritime and inland waterway radio station receiving an individual identifier. These include call signs, maritime mobile service identities (MMSIs) and/or automatic transmitter identification system (ATIS) numbers to guarantee a unique identification and reliable communication. The assignment is in the form of a Ship Station Licence.

There are around 71,200 active number assignments for mobile Ship Station Licences and 70 active spectrum assignments for fixed-location radio equipment.

High-power radiodetermination (EIRP ≥ 50 Watt)

High-power radiodetermination comprises radio equipment used for positioning, observation or surveillance purposes. It is used in sectors such as shipping and meteorological observation radar, aircraft detection lighting systems for wind turbines and drone detection equipment.

The Bundesnetzagentur issues the relevant spectrum assignments under section 91 TKG. A total of 286 high-power radiodetermination stations are active.

Copper to fibre migration

The transition from copper to fibre will strongly shape the telecommunications market in coming years. In the Bundesnetzagentur's view, it is very important to address the copper to fibre migration early on and not just before the copper switch-off actually begins.

The Bundesnetzagentur has therefore played an active role since 2021 in supporting pilot projects and project groups under the umbrella of the "Gigabitforum" that have addressed various operative aspects of the copper to fibre migration. In 2025, the project groups continued their work with a focus on various implementation issues, such as how to deal with different customer groups (private and business customers, property owners) and how to adapt, develop and redesign processes within telecommunications companies for the copper to fibre migration.

On 28 April 2025, the Bundesnetzagentur published a consultation paper as an impetus for discussion on the regulated migration from copper to fibre networks. The paper looked at the current legal framework under section 34 of the German Telecommunications Act (TKG).

The provisions in section 34 TKG regulate the structure and steps in the procedures for switching off and replacing the copper network. Even though, in accordance with the TKG, no specific decisions are taken until copper network owners notify their migration plans, the discussion paper aimed to pre-empt foreseeable questions and provide transparent information about the regulated transition from copper to fibre.¹ The Bundesnetzagentur's objective with the paper was to help make the transition to fibre as smooth and swift as possible.

The paper addressed the steps in the procedure on the basis of the TKG, from an undertaking with significant market power notifying its migration plans to actually switching off a copper network. It also looked at requirements arising from section 34 TKG, such as submission by the undertaking with market power of a transparent migration timetable and the reasonable conditions for migration that have to be met before a network can be switched off. These conditions include requirements relating to alternative access products and allocation of the migration costs.

The consultation procedure for the discussion paper gave all market players and other interested parties the opportunity to comment on substantive aspects of the future procedures for switching off the copper network. A total of 28 responses were submitted by the 23 June 2025 deadline and provided a good overview of the market players' positions. The consultation also helped to explore any potential for market solutions.

Discussions about the copper to fibre migration continued following the consultation paper. On 2 October 2025, the Federal Ministry for Digital Transformation and Government Modernisation (BMDS) published "Key findings for an overall approach to the copper to fibre migration" for consultation.

The copper to fibre migration will continue to be a point of focus for the Bundesnetzagentur in 2026. The European Commission's draft Digital Networks Act of 21 January 2026 and the revision of the TKG will be instrumental in setting the regulatory course at European and national level.

On 19 January 2026, the Bundesnetzagentur therefore published a regulatory approach to the copper to fibre migration, which built on the Ministry's key findings and the responses to the Bundesnetzagentur's own discussion paper. This

¹ It should be noted that the statements made in the discussion paper do not have any binding effect with respect to future ruling chamber proceedings or decisions.

regulatory approach took up the two previous strands of work and combined them with the Bundesnetzagentur's regulatory vision. In contrast to the previous work, the Bundesnetzagentur deliberately departed from the existing legal framework and presented its latest assessments of and ideas about a competitive and consumer-oriented migration from copper to fibre.

To create equal conditions in rollout competition and thus reliable investment conditions for the companies involved in fibre rollout, the Bundesnetzagentur advocated in its regulatory approach that the copper network in an area should be switched off as soon as certain objective criteria and conditions relating to network coverage and wholesale offers are met in that area, irrespective of which network operator has rolled out fibre in the area

The Bundesnetzagentur's regulatory approach and discussion paper are available at bundesnetzagentur.de/1058028 (in German).

The debate about the transition to fibre will continue to play a central role in coming years, especially because the urgency of the issue for the telecommunications market will increase as time progresses.

Gigabitforum

The "Gigabitforum" is the key platform for dialogue to agree on common principles, positions and standards in preparation for the copper to fibre migration. The forum comprises representatives of telecommunications industry associations, providers of telecommunications networks and services, the Federal Ministry for Digital Transformation and Government Modernisation (BMDS), the federal states and the Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste GmbH (WIK).

The copper to fibre migration requires processes within telecommunications companies to be adapted, developed and redesigned, as well as dialogue between the different companies, ie with external players. In 2024, local migration pilot projects conducted under the umbrella of the Gigabitforum indicated the complexity and range of operative issues in respect of key processes. The Gigabitforum's aim is to build on the findings from the pilot projects and develop solutions to these operative issues as quickly as possible. The Bundesnetzagentur is seeking to prepare early for a smooth and swift procedure for the large-scale migration of all DSL end-users to fibre networks later on.

More specifically, the goal is to jointly identify problems and questions arising from the practice of migrating end-users to fibre and to develop solutions before the first regulatory proceedings are initiated. The procedures developed would then also be applied later when the copper network is switched off. Efficient processes and IT solutions for ordering fibre that replicate the copper switch-off are required at retail and wholesale level. An early start to work on adapting processes is necessary because of the long lead time for IT projects. This will help all involved to provide fibre to customer as quickly as possible in the first phase of voluntary migration. It is not only more efficient for telecommunications companies to work together across industry under the umbrella of the Gigabitforum than to work individually, it also increases the probability of a smooth process from the end-users' perspective in the standard migration phase later on.

Another goal of the Gigabitforum is to facilitate the conclusion of open access agreements. The Gigabitforum therefore discusses common open access principles and acceptable industry standards that can reduce transaction costs in negotiations between telecommunications companies. This

increases the chances of more agreements being concluded.

On 3 November 2025, the Gigabitforum presented a checklist describing “cornerstones” intended to regulate open access agreements (liability issues, leased bandwidth, fault repair, etc). The checklist is available under “Schwerpunkt Open Access” on the Gigabitforum’s website at gigabitforum.de (in German).

The Gigabitforum is aiming in 2026 to draw up a non-binding catalogue of possible contractual elements on this basis, which should serve to provide the market with a basic guiding framework for open access agreements. The focus is on technical and process-related elements; it does not cover commercial aspects.

Duplicate fibre infrastructure

The Bundesnetzagentur published its final report on the monitoring of duplicate fibre infrastructure projects on 30 July 2025.² The report includes the results of the individual cases assessed by Ruling Chamber 3, the competent ruling chamber at the Bundesnetzagentur.

The Bundesnetzagentur and the Federal Ministry for Digital Transformation established a monitoring unit in July 2023 to keep a systematic record of duplicate fibre infrastructure projects. The monitoring unit created a comprehensive picture of the competitive situation from notifications of duplicate fibre infrastructure, including any possible hindrances. It also looked at the extent to which an undertaking with market power could potentially prevent competitors from rolling out their own fibre infrastructure.

The final report was based on 691 notifications from telecommunications companies, municipalities and other players (eg private individuals) that were recorded up to and including 1 July 2025. The notifications related to 539 geographically separate cases of duplicate fibre infrastructure.³

No further insights were gained to supplement those from the interim report published in April 2024.⁴ The main findings were confirmed:

- According to the notifications received, Telekom Deutschland GmbH (Telekom) was more likely than other network operators to start its deployment in close proximity to a commercial launch by a competitor acting first or it frequently only deployed infrastructure in lucrative core areas.
- It was extremely rare for a second undertaking not to implement its duplicate fibre deployment as announced. This also applied to cases from the interim report about which new information on their further development had become available since April 2024. This was irrespective of whether the second undertaking was Telekom or one of its competitors.

² The final report has been published on the Bundesnetzagentur website at <https://www.bundesnetzagentur.de/DE/Fachthemen/Telekommunikation/Breitband/Doppelausbau/Abschlussbericht.pdf> (in German).

³ See paragraphs 15 to 28, 48 and 49 of the final report for more details of the data basis.

⁴ Available at <https://www.bundesnetzagentur.de/DE/Fachthemen/Telekommunikation/Breitband/Doppelausbau/zwischenbericht.pdf> (in German)

The monitoring unit's assessments were based solely on non-verified information from notifications. Firm conclusions about competitive behaviour could not be drawn from this alone. The monitoring unit referred seven cases for detailed examination and legal assessment to Ruling Chamber 3, which is the direct contact for market participants with concrete accusations of abuse of competition and which examines the corresponding complaints on a case-by-case basis.

The cases were selected in particular because they were comparatively well documented, but not because the monitoring unit necessarily classified them as more conspicuous or more critical than other notified cases. The documentation from the monitoring unit on the individual cases did not provide an initial suspicion of abuse within the meaning of section 50 TKG.

The ruling chamber first developed an abstract approach specifically designed to examine different duplicate fibre infrastructure scenarios for non-compliance with section 50 TKG. The ruling chamber then carried out a detailed investigation of each of the cases referred. It requested Telekom (or Telekom's joint venture GlasfaserPlus), the competitors in question and the local or regional authorities involved to fill in any gaps in the monitoring unit's information on the case and provide relevant detailed proof. Two of the competitors affected by duplicate fibre infrastructure rollout in three of the cases assessed did not respond.

The ruling chamber assessed the seven cases in line with its abstract approach. It did not identify any indications in any of the cases to justify opening abuse proceedings under section 50 TKG. In most cases, the overall assessment of the circumstances, including an evaluation based on the regulatory objectives, showed that the behaviour of Telekom (or GlasfaserPlus) – where

recorded in the case file – was not to be classed as unreasonable. The ruling chamber found indications of possible abuse in just one case. As the behaviour had since ceased, the indications were no longer applicable, and as there were no indications of a risk of repetition, the prerequisites for opening proceedings under section 50 TKG were not met.

The Bundesnetzagentur will continue to look into any concrete reports of competitive problems in duplicate fibre infrastructure rollout, provided that the necessary information, together with adequate proof, is available from competitors. The assessments based on this information will be carried out using the criteria identified by the ruling chamber in its summary report. The potential abuse of market power in the duplicate rollout of fibre networks by an undertaking with market power must always be assessed in the individual case on the basis of the overall local conditions.

Proceedings of Ruling Chambers 2 and 3

Proceedings for the full revocation of regulatory orders for mobile communications

The market for wholesale voice call termination on individual mobile networks (Market 2 in the 2014 Commission Recommendation) was identified in the determination of 8 May 2025 (BK 1-24/003) as no longer requiring ex ante regulation. The regulatory measures that had been put in place on the basis of the determination of 26 October 2020 (BK 1-20/003), most recently through regulatory orders of 9 May 2025 (BK3-24/002 to 011), were therefore revoked.

Telekom Deutschland GmbH's reference offer for fibre broadband

On 28 May 2025, the Bundesnetzagentur published the first partial decision in the proceedings involving Telekom Deutschland GmbH (Telekom) for the examination of Telekom's reference offer for fibre broadband (BK3d-22/018).

One of the requirements in the regulatory order of 21 July 2022 (BK3i-19/020) for Market 1 was for Telekom to publish a reference offer for virtual unbundled access to its fibre infrastructure. Telekom submitted its reference offer for examination following the regulatory order.

As access to new fibre broadband connections can be granted while an access network is still being rolled out, Telekom had to redesign its ordering and provisioning processes compared with those for its existing copper network. Individual fibre connections for access seekers can be ordered even before rollout has been completed. The ordering process depends on the status of rollout at an end-user's address. There are two

different ordering/provisioning processes: "connected", where the connection only has to be activated in the system, and "not connected", where the network or parts of the fibre link (connectivity) still have to be put in place. These ordering and provisioning processes are therefore considerably more differentiated than the processes for copper access.

In addition to differentiating between the status of rollout, Telekom introduced different ordering processes for when connectivity is established on request for one specific end-user connection only (standard order) and when connectivity is established for an entire building, even if not all the households in the building have ordered a fibre connection (yet) (bulk order).

However, the reference offer conditions originally submitted were neither transparent nor adequately detailed and required extensive investigations by the ruling chamber. In addition, Telekom submitted further changes to its contracts during the proceedings.

Following the issue of the first partial decision, Telekom submitted an amended reference offer on 28 July 2025 that is being examined in the second stage of the proceedings in respect of implementation of the changes required by the first partial decision.

Rates approvals for Glasfaser NordWest GmbH & Co. KG and GlasfaserPlus GmbH for access to civil engineering assets

On 25 July 2025, Ruling Chamber 3 issued decisions on the rates for access to the civil engineering assets of Glasfaser NordWest GmbH & Co. KG and GlasfaserPlus GmbH (BK3c-25/004 and BK3c-25/005).

The regulatory orders for Market 1 issued on 16 July 2024 also required Glasfaser NordWest GmbH & Co. KG and GlasfaserPlus GmbH to grant access to underground duct infrastructure for the purpose of rolling out and operating very high capacity networks and to submit the relevant rates for approval.

The key points of the decisions were, as in the decision issued for Telekom Deutschland GmbH (Telekom) in 2024, firstly the calculation of the efficient investment values and (based on this) the costs of efficient service provision – in this case specifically for the applicants' rollout areas – using a cost model and secondly the implementation of section 38(5) para 3 TKG (taking into account, when regulating rates, the consequences of granting access for the business plan of the undertaking with significant market power).

Account generally had to be taken of the effects on the dominant undertaking's business plan of the rates of Glasfaser NordWest GmbH & Co. KG and of GlasfaserPlus GmbH for both the distribution cable segment (connections between street cabinets and end-users) and the main cable segment (connections between exchanges and street cabinets). Both companies' networks in the main cable segment are likewise based on newly installed infrastructure.

As in the proceedings for Telekom in 2024, the positions of the applicants and several summoned parties were very wide apart and the rates that were ultimately approved lay between the two extremes. Considerable reductions were made to the rates submitted for approval, although the ruling chamber took account of a "very high capacity network markup" as well as any "business plan effects markups" when calculating the imputed rate of return.

The European Commission took a critical view in its comments on the draft decisions of taking into account effects on the business plan. It also required the ruling chamber to take the actual costs of the civil engineering assets as a basis for the approval of the access rates.

The approvals are valid until 31 March 2027.

Approval of Telekom Deutschland GmbH's one-off charges for local loop access and rates for additional services

On 30 September 2025, Ruling Chamber 3 approved one-off charges for local loop access and rates for various additional services following an application from Telekom Deutschland GmbH (Telekom) on 17 April 2025 (BK3c-25/006). The approval covers a total of 130 different prices and is valid until 30 September 2032.

The rates had last been given approval until 30 September 2025 in a decision on 30 September 2022 (BK3c-22/004).

Telekom's application was part of extensive agreements concluded between Telekom and five high-revenue companies in advance of the rates approval proceedings. The terms of these agreements required the companies to withdraw any action against previous approvals that were not

yet final and – subject to approval of the new application by the ruling chamber – to refrain from taking action against the future decision. Comparable agreements had been concluded in 2022 for the local loop access charges. The agreements aim to achieve long-term stability for the one-off charges as well and to draw a line under the legal proceedings that are resource-intensive for all parties concerned.

It was necessary to determine if the prices agreed and put forward by Telekom were eligible for approval on the basis of the highly differentiated processing times presented and the other cost components (hourly rates, common costs, billing and materials costs, costs of outsourcing to contractors, and expenditure provided for by section 42(2) TKG).

The decision allows an increase of 8% on all the currently approved prices with effect from 1 October 2025 and a further increase of 7.5% with effect from 1 October 2028, as proposed in Telekom's application.

The unusually long seven-year approval period accommodates the repeated interests of all market players in long-term price stability and the accompanying legal and planning certainty, which is a key basis for the rollout of fibre to the home. The approval was issued following the necessary consultation and consolidation procedures.

Rates approvals for Telekom Deutschland GmbH for access in multifunction street cabinets, to underground duct infrastructure and to dark fibre

On 30 June 2025, Ruling Chamber 3 issued two rates approvals for Telekom Deutschland GmbH (Telekom) for access in multifunction street cabinets, to underground duct infrastructure and

to dark fibre (BK3a-24/014 and BK3a-25/007). The two decisions approved the rates for a longer period until 31 December 2029.

The rates for leasing a quarter of a cable duct in a conduit with multiple ducts and for leasing a dark fibre pair were the subject of decision BK3a-24/014. A new decision on these rates was needed because of the (partial) revocation of the previous approval (BK3a-22/003) with retroactive effect from 1 July 2022.

All the other access services were given new approval with effect from 1 July 2025 in decision BK3a-25/007. Telekom had decided not to present current cost statements (as required by section 43(1) para 1 TKG) but instead to refer to the cost statements submitted in the previous proceedings.

The ruling chamber used an (updated) cost model for calculating the eligible investment values to determine the two leasing rates to be newly approved (BK3a-24/014). It also replaced the previous forecast figures with actual figures in the cost calculation for the retroactive period of approval from 1 July 2022 to 30 June 2025.

In the case of the flat-rate service charges covered by decision BK3a-25/007, the rates presented by Telekom for approval had to be set against relevant “cost-based” reference values.

Ultimately, only slight increases were made to the rates for leasing a dark fibre pair.

The calculations carried out in the cost examination for decision BK3a-25/007 for the flat-rate service charges produced higher efficient costs than Telekom's proposed rates in each case. However, in this scenario the rates proposed by Telekom are the upper limit for rates approval.

The longer approval period (until the end of 2029) for all the services covered by the two decisions for the regulated wholesale segment is mainly due to the extremely low market relevance of the services for several years. This is also the reason why no consultation and consolidation procedures were needed.

Rates approval for Telekom Deutschland GmbH for co-location electricity, air conditioning/ventilation and other co-location services

On 18 November 2025, Ruling Chamber 3 issued a decision (BK3a-25/009) on the application from Telekom Deutschland GmbH (Telekom) of 21 May 2025 for re-approval of the rates approved until 31 July 2025 for co-location electricity, air conditioning and ventilation, and various other co-location services at main distribution frame sites (such as metering and meter reading, ancillary rental costs, and contractor and subcontractor services).

The rates approved for ongoing electricity consumption and for air conditioning and ventilation were lower than those that had been approved until 31 July 2025 owing to lower network usage costs. Any rates approved by the ruling chamber for other co-location services will be increasingly superseded by charges in connection with dismantling co-location sites because of the decreasing market relevance of the co-location services. Most of the market players have already fixed these dismantling charges in contractual conditions for co-location dismantling in project form (BK3a-23/001).

These proceedings required the annual setting of the imputed rate of return for legacy infrastructure. The imputed rate of return was calculated in full line with the European Commission's WACC Notice; the real rate of return was set at 2.88% (corresponding to a nominal rate of 4.88%).

A consultation procedure and a consolidation procedure at EU level were necessary because of the new WACC calculation.

Regulatory order

On 28 November 2025, Ruling Chamber 2 published a key elements paper in advance of the proceedings (BK2-25/004) involving Telekom Deutschland GmbH relating to maintaining, amending, imposing or revoking obligations in the market for wholesale dedicated capacity (Market 2 in the Commission Recommendation of 18 December 2020) in view of the significance of the proceedings.

The key elements paper was based on the results of the analysis of the market for wholesale dedicated capacity published by the Bundesnetzagentur's President's Chamber on 11 July 2024 and on the relevant determination, which had been reviewed and confirmed after a follow-up data survey at the end of 2024/beginning of 2025.

The key elements paper was put out for consultation until 23 January 2026 to provide the opportunity for public discussion of the key elements before the publication of a consultation draft of a new regulatory order.

The ruling chamber will evaluate the comments received and draw up a draft regulatory order, which it will put out for national consultation in accordance with the usual statutory procedure and then submit for comment to the European Commission, the Body of European Regulators for Electronic Communications (BEREC) and the national regulatory authorities in the other EU Member States.

Reference offers

After Ruling Chamber 2 had issued a first partial decision on 4 July 2023 requiring Telekom Deutschland GmbH (Telekom) under section 29(3) TKG to change various aspects of its reference offer for VPN 2.0, Telekom submitted a revised reference offer on 4 September 2023. Ruling Chamber 2 examined this revised reference offer in accordance with section 29(5) TKG within the framework of a second partial decision to determine if Telekom had correctly implemented the required changes. Where the required changes had not been (adequately) made, Ruling Chamber 2 made the changes to the reference offer itself in the second partial decision.

The national consultation procedure to be conducted in accordance with section 12(1) TKG for the draft of the second partial decision began on 19 February 2025. Interested parties had the opportunity until 19 March 2025 to comment on the draft. Ruling Chamber 2 evaluated the responses received and incorporated them accordingly into the draft decision. The second partial decision (BK2-19/008) was issued on 26 November 2025 following the conclusion of the European notification procedure in accordance with section 12(3) TKG and the required consultation of the Bundeskartellamt in accordance with section 197(2) para 2 TKG. The decision has since become final.

Request from Multiconnect GmbH for dispute resolution with Telefónica

On 6 September 2023, Multiconnect GmbH requested that a dispute resolution procedure pursuant to section 212(1) TKG be initiated with respect to Telefónica Germany GmbH & Co. OHG (Telefónica) at the competent ruling chamber of the Bundesnetzagentur. The parties had previously conducted negotiations on full mobile virtual

network operator (MVNO) access to Telefónica's mobile network but were unable to reach agreement. In essence, Multiconnect GmbH alleged that Telefónica had infringed the negotiation requirement set forth in III.4 point 15 of the President's Chamber decision of 26 November 2018 by offering Multiconnect GmbH conditions that would be objectively unsuitable to ensuring the conclusion of an agreement. Multiconnect GmbH criticised several aspects of the agreement offer, including wholesale rates, the exclusion of access to 5G and exclusivity provisions, and essentially requested that Telefónica be ordered to submit an offer that had been modified accordingly. Telefónica rejected these allegations. It maintained that negotiations had been conducted without any fixed expectations regarding the results. According to Telefónica, the negotiation requirement encompasses the aim of concluding, in the course of private, autonomous negotiations, an agreement on access to the network of a spectrum assignment holder, but is not however suited to serve as the basis for laying down individual terms. Telefónica noted that the negotiation requirement is not about some form of access regulation or reference offer procedures.

This dispute resolution procedure (BK2-23/002) involved important competitive and regulatory issues regarding the content and scope of service provider regulation in the context of the special features of MVNO access and was unusually complex. Expedited proceedings before Cologne Administrative Court (1 L 1095/23) were instigated by Telefónica due to the number of redactions. Following the first hearing on 4 July 2023, Multiconnect GmbH made comprehensive changes to the applications. A market data survey was required to determine central questions of the facts of the case; another public hearing on its scope was held on 15 December 2023. The required information was finally provided in 2024.

Ruling Chamber 2's decision of 7 July 2025 required Telefónica to present a modified offer for access to 5G wireless technology. The prices for data roaming services, roaming SMS messages and outgoing voice calls were not to exceed the caps set in the Roaming Regulation (excluding transit for data services and excluding transit and termination for outgoing voice calls). The prices for incoming voice calls were not to exceed the cap set in the Commission Delegated Regulation. In addition, the modified offer was not to include any separate charges for the administration of active SIM cards or any clauses restricting Multiconnect GmbH's sales activities in geographic terms to the German retail market. Furthermore, the exclusivity provisions negotiated by Telefónica were found to be impermissible because they restricted Multiconnect GmbH's countervailing power too severely. Telefónica's maximum download speed limit of 50 Mbps was also found to be no longer permissible as it was no longer in line with market standards. By contrast, Multiconnect GmbH's demand for simultaneous access to Telefónica's fastest data speeds and future technologies was rejected, as was its request for the deletion of a clause prohibiting Multiconnect GmbH from reselling mobile services at wholesale level.

The decision was based among other things on a letter from Telefónica of 1 July 2025 that acknowledged Multiconnect GmbH's central demands, especially those relating to the price caps. Both Multiconnect GmbH and Telefónica have appealed against the decision (BK2-23/002).

Request from 1&1 Mobilfunk GmbH for dispute resolution with Telefónica

On 28 August 2025, 1&1 Mobilfunk GmbH submitted a written request for dispute resolution in accordance with section 212(1) TKG with Telefónica Germany GmbH & Co. OHG (Telefónica) to Section 212 at the Bundesnetzagentur; Ruling Chamber 2 carried out the procedure (BK2-25/002) as the body responsible.

The parties had conducted negotiations about the leasing of spectrum at 2600 MHz but had been unable to come to an agreement. The basis of the dispute resolution procedure was the condition in III.2. point 11 of the President's Chamber Decision on not ordering award proceedings and on extending spectrum rights at 800 MHz, 1800 MHz and 2600 MHz of 24 March 2025 (BK1-22/001), which required Telefónica as from 1 January 2026 to continue leasing 2 x 10 MHz of spectrum at 2600 MHz to 1&1 Mobilfunk GmbH on request.

With the ruling chamber acting as moderator, the parties concluded a spectrum leasing agreement at the beginning of November 2025; it was agreed to keep the details of the agreement confidential. The effectiveness of the spectrum leasing agreement depended on formal approval by the Bundesnetzagentur. The Bundesnetzagentur's written approval for the continuation of spectrum leasing at 2600 MHz was issued on 8 December 2025 by Department 2 at the Bundesnetzagentur as the department responsible.

Ruling Chamber 2 subsequently discontinued the dispute resolution procedure (BK2-25/002).

Rejection of the application for approval of rates for Wholesale Premium 2.0 with an Ethernet interface and a transmission rate of 150 Mbps and other services

On 30 November 2023, Telekom Deutschland GmbH (Telekom) applied for the first-time approval of monthly rates for leasing lines and connections and charges for the one-off provisioning of lines, migration, additional journeys, proactive fault management and the “High Performance Solution (HPS)”. The rates put forward were rejected in a decision of 4 April 2025 (BK2-23/006) on the grounds that the cost and quantity data submitted had been out of date and Telekom had failed to provide updated data in response to a request from Ruling Chamber 2.

Rates approvals for the provision of Ethernet 2.0 carrier leased lines (native Ethernet)

On 18 June 2025, Telekom Deutschland GmbH applied for the approval of one-off charges for line provision, eight-hour express fault repair, migration, additional journeys and capacity upgrades because the relevant approvals were due to expire. It also applied for the first-time approval of charges for the relocation of network termination equipment.

On 26 November 2025, a decision (BK2-25/001) was issued approving the one-off charges with effect from 1 December 2025 and approving the charge for the relocation of network termination equipment with retroactive effect from 18 June 2025; approval of the charges is valid until 31 March 2028. Different charges for line provision were approved depending on the type of line (customer sited/co-location), type of implementation (copper/fibre) and the bandwidth to be provided. The copper-only lines (not upgradeable) are offered as SDSL lines with bandwidths up to

8 Mbps and as VDSL lines with bandwidths up to 20 Mbps, while fibre-only lines (upgradeable) are offered with bandwidths up to 150 Mbps.

Approval was given for monthly rates for express fault repair for Ethernet 2.0 carrier leased lines and one-off charges for additional journeys, migration, capacity upgrades and relocation of network termination equipment.

Notification procedure for wholesale Ethernet VPN 2.0

On 10 October 2025, Telekom Deutschland GmbH (Telekom) submitted a notification for charges for wholesale Ethernet VPN 2.0 that were to take effect on 10 December 2025. The Bundesnetzagentur sent various questions to Telekom about the additional service for a change of connection endpoint for the purpose of examining the notified service for indications of anti-competitiveness. Telekom responded to only some of these questions. Telekom then withdrew the notification on 17 October 2025. On 23 December 2025, Telekom notified a planned change to certain charges for wholesale Ethernet VPN 2.0 and re-notified the additional service for a change of connection endpoint. No indications of anti-competitiveness were identified within the two-week period allowed for examination.

Dispute settlement through the national dispute settlement body under the Digital Networks Act

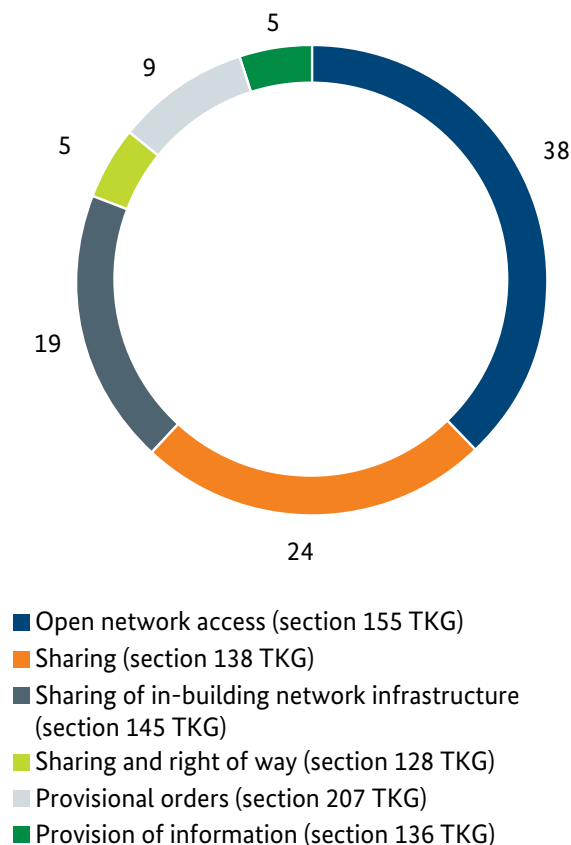
In 2025, the national dispute settlement body under the German Digital Networks Act (DigiNetzG) was again frequently contacted by market participants. In addition to seven cases already pending in the reporting period, 21 new requests for dispute settlement were submitted in the course of the year. The dispute settlement procedures initiated in 2025 revolved primarily around sharing public supply networks and granting open access to publicly funded infrastructure. The parties in dispute represented various interest groups – from small and large telecommunications companies to public-sector bodies. In addition, many different companies and associations participated in the pending proceedings at their request and actively presented their views on the matters.

Dispute settlement proceedings on sharing public supply networks

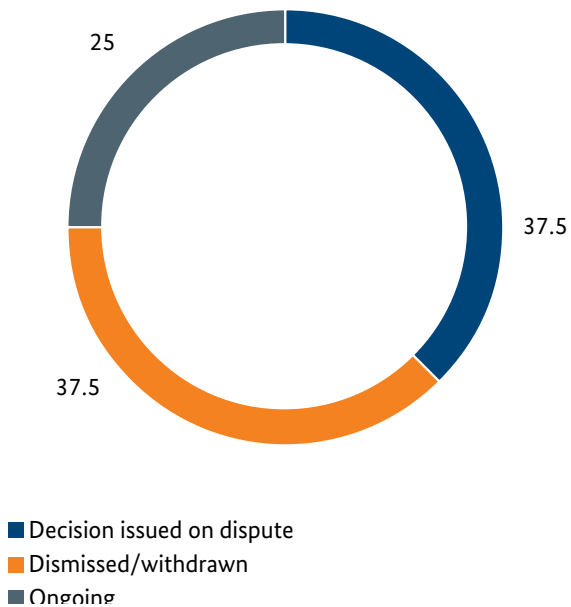
In 2025, the ruling chamber dealt with numerous disputes over the “whether” and “how” of the shared use of physical infrastructure (such as ducts) in public supply networks.

Note: the chart includes both proceedings pending since 2024 and proceedings initiated in 2025.

Breakdown of dispute settlement cases in 2025 (%)



Dispute settlement cases involving sharing as per section 138 TKG (%)



The following proceedings are of particular interest.

Proceedings between Telekom and DB InfraGO

In April 2024, Telekom Deutschland GmbH (Telekom) requested a thorough examination of an offer from DB InfraGO AG (DB InfraGO) for sharing ducts to cross a railway line over a length of six metres at a level crossing (BK11-24-015).

Following an extensive public hearing, an amendment to the request and intensive talks between the parties in dispute, the ruling chamber issued a decision on 1 April 2025 ordering DB InfraGO to make various modifications to individual contractual clauses in its offer.

Changes were made to rates and to terms and conditions in a total of 17 contractual clauses in line with the criterion of fair and reasonable terms and conditions. The modified clauses included rules on the content of sharing, information requirements, liability, securities and contract termination.

Telekom and DB InfraGO both filed legal action against the decision with Cologne Administrative Court. The parties in dispute reached an out-of-court settlement in 2025. One of the parties withdrew its legal action in January 2026.

Proceedings between Vodafone and Flughafen Stuttgart

In other dispute settlement proceedings, Vodafone GmbH (Vodafone) requested the shared use of physical infrastructure in the public supply networks of Flughafen Stuttgart GmbH (Flughafen Stuttgart) under fair and reasonable terms and rates (BK11-24-018). Vodafone was planning to construct three new mobile base stations on the airport premises and connect them to its telecommunications network to expand 5G mobile coverage at the airport. Vodafone was working with Vantage Towers AG (Vantage Towers), which was to erect the masts and lease them to Vodafone. The question to clarify in the proceedings was whether Vodafone could request the shared use of masts that had yet to be erected by Vantage Towers. It was necessary to examine how to deal with the group of entitled parties as defined by the legislature as Vantage Towers would not have been able to submit its “own” sharing request (based on the legal situation at the time).

Following consultation with the parties in dispute and two public hearings, the ruling chamber ordered Flughafen Stuttgart to submit an offer to Vodafone for the shared use of two of the three physical infrastructures named in the request under fair and reasonable terms and conditions. A right to share the third site did not exist as it was a green space not covered by the term “physical infrastructure”. The decision is final.

Proceedings between 1&1 Versatel and Telekom

In October 2025, 1&1 Versatel GmbH (1&1 Versatel) requested settlement of a dispute with Telekom Deutschland GmbH (Telekom) and a decision on sharing physical infrastructure in public supply networks. More specifically, 1&1 Versatel GmbH requested an order for contracts for the shared use of a speednet duct on a certain route in Bautzen (BK11-25-013) and in Landshut (BK11-25-014). The order was to be based on the last version of the draft contract presented by Telekom, with modifications to individual contract terms and conditions. The contractual clauses under dispute mainly covered monthly charges for route leasing, maintenance and fault repair.

It was necessary to clarify whether the requested shared use of Telekom's physical infrastructure was covered by Ruling Chamber 3's regulatory order on civil engineering assets (BK3i-19/020 of 21 July 2022). Following explanations from Ruling Chamber 11 and Ruling Chamber 3 on this question in the public hearing, 1&1 Versatel withdrew its request concerning the route in Landshut but is still seeking a decision by the ruling chamber in the proceedings on the shared use of infrastructure in Bautzen, which are still ongoing.

Dispute settlement proceedings on open access in publicly funded networks

In 2025, requests for non-discriminatory open network access to publicly funded telecommunications lines or telecommunications networks under fair and reasonable terms and conditions in accordance with section 155 TKG were again the substantive focus of disputes before the national dispute settlement body.

A positive development in proceedings on open access in 2025 was that several disputes were resolved following public hearings as the parties

entered into negotiations and found mutually acceptable solutions. The proceedings included the following.

Proceedings between Stadtwerke Flensburg and GVG Glasfaser

In February 2025, Stadtwerke Flensburg GmbH (Stadtwerke Flensburg) requested an obligation for GVG Glasfaser GmbH (GVG) to grant Stadtwerke Flensburg non-discriminatory open network access pursuant to section 155(1) TKG in the form of layer 2 bitstream access to publicly funded telecommunications lines and networks within the municipalities belonging to the special broadband associations Breitbandzweckverband Angeln (BK11-25-002) and Breitbandzweckverband Mittelangeln (BK11-25-003) in Schleswig-Holstein.

The structure and level of the wholesale charges for the requested network access were to allow Stadtwerke Flensburg to compete effectively with GVG in the retail market and achieve a reasonable return on its competitive efforts.

The parties reached an agreement on the wholesale products under dispute following a public hearing, and Stadtwerke Flensburg subsequently withdrew its request in September 2025.

Proceedings between Telekom and sewikom

In July 2025, Telekom Deutschland GmbH (Telekom) requested settlement of a dispute with sewikom GmbH (sewikom). Telekom requested an obligation for sewikom to grant non-discriminatory open network access pursuant to section 155(1) TKG to publicly funded telecommunications lines and networks (in this case ducts).

In this case, too, the parties reached an agreement following the public hearing and Telekom withdrew its request for dispute settlement.

Basic principles of the type, scope and terms and conditions of open network access pursuant to section 155(4) TKG

The aim of open network access is to promote competition on networks built with public funding (State aid). Access must be granted to the telecommunications lines and telecommunications networks within the meaning of section 3 paras 64 and 65 TKG that have been built with public funding. End-users should have a choice of products from different providers, at different levels of quality and price, comparable to that available in areas that enjoy private-sector investment.

On 30 July 2025, the Bundesnetzagentur, in consensus with the Federal Ministry for Digital Affairs and State Modernisation (BMDS) and the Federal Ministry for Economic Affairs and Energy (BMWE), published principles on the type, scope and conditions of open network access as referred to in section 155(4) TKG.

Dispute settlement proceedings on in-building telecommunications infrastructure

In 2025, the ruling chamber again dealt with disputes over in-building telecommunications infrastructure. The proceedings included the following.

Proceedings between COMTEC Bautzen and Wohnungsgenossenschaft “Aufbau” Bautzen

At the end of November 2024, COMTEC Bautzen GmbH (COMTEC) requested settlement of a dispute with the housing cooperative Wohnungsgenossenschaft Aufbau Bautzen eG (Wohnungsgenossenschaft Aufbau) (BK11-24-022) about the shared use of in-building coaxial network infrastructure to provide coverage to COMTEC’s existing customers. COMTEC wanted to provide residential units and tenants with uninterrupted telecommunications

and broadcasting services after the housing cooperative had terminated a contract with COMTEC with effect from the end of 2024. The cooperative had re-tendered operation of the in-building infrastructure and awarded the tender to another bidder.

COMTEC stated that it had concluded a contractual agreement with a third party for the shared use of the in-building wiring under dispute. The ruling chamber subsequently rejected the request upheld by COMTEC for settlement of the dispute with the housing cooperative and for other decisions.

Proceedings between Telekom and Tele Columbus

In October 2025, Telekom Deutschland GmbH (Telekom) requested settlement of a dispute with Tele Columbus AG over the shared use of in-building fibre distribution networks at four locations in Jena, Erfurt and Halle an der Saale, as part of a set of ongoing proceedings (BK11-25-017 to BK11-25-020). At the beginning of December 2025, Telekom requested an extension of the dispute settlement to cover the owners and operators of the infrastructure in question – Tele Columbus Netz GmbH and Tele Columbus Netzwerk GmbH – as well.

A public hearing was held but the parties in dispute are still unable to reach an agreement on possible access and charges.

One of the issues that needs clarifying in the proceedings is the impact of the entry into force of the EU’s Gigabit Infrastructure Act (GIA) on the ruling chamber’s competence with respect to a decision pursuant to section 149(1) para 4 TKG.

The proceedings are still pending.

Dispute settlement proceedings on the right to information

In another dispute settlement case, RSM Freilassing submitted a request in October 2025 for the provision of information by ip-fabric GmbH (ip-fabric). ip-fabric had installed ducts in an area of Freilassing, and RSM Freilassing had requested information about the physical infrastructure that had been installed as part of its preparations for sharing.

RSM Freilassing had not received a response from ip-fabric to its request for information, which it had made before making its request for dispute settlement.

ip-fabric did not respond in the further course of the proceedings either, so the ruling chamber decided without carrying out a public hearing that ip-fabric should provide at least the information listed in section 136(3) TKG, including the geographical location of the site and the routes of the physical infrastructure, the type and current use of the physical infrastructure, and the details of one or more contact points.

The ruling chamber warned that it would impose a coercive fine if ip-fabric did not provide the information as required. As ip-fabric has yet to provide the required information, preparations are being made to set and issue the coercive fine.

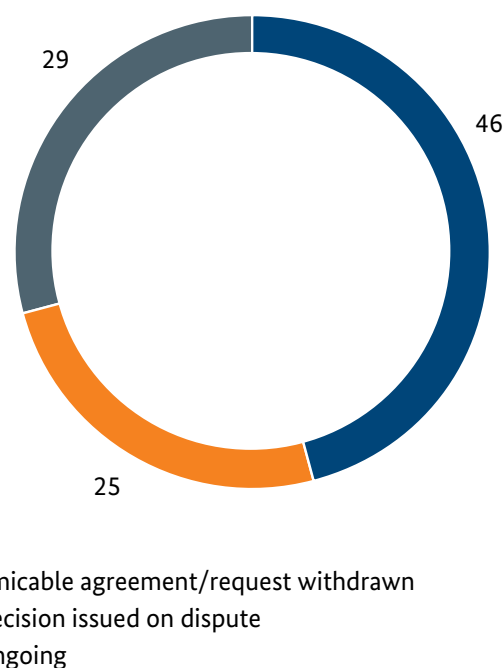
General overview

The dispute settlement proceedings dealt with by Ruling Chamber 11 involve disputes between parties with contradictory and conflicting interests and legal opinions. These disputes can be settled through a binding decision by the ruling chamber or through an amicable agreement and withdrawal of the dispute settlement request.

During the reporting period, the ruling chamber ruled on a total of seven proceedings, representing about 25% of the proceedings pending in the period. In 46% of the cases pending in 2025, the parties reached an amicable agreement without a decision on the matter by Ruling Chamber 11, in some cases following a hearing with the parties to discuss the matter in dispute; 29% of the proceedings are still pending.

In some cases, other authorities such as the Federal Railway Authority were involved in the proceedings in accordance with the legislative provisions.

Status of cases in 2025
(%)



Note: the chart includes both proceedings pending since 2024 and proceedings initiated in 2025.

Numbering

Return of numbering ranges no longer needed to the number reserve

Technological developments are frequently leading to services being discontinued that were previously relevant to the telecommunications market but that are now no longer used or can no longer be used. These include indirect access and carrier preselection services, which were available between 1998 and 2024. In the case of indirect access (or carrier selection), a carrier code (010xy or 0100yy, with x between 1 and 9 and y between 0 and 9) was dialled before the actual telephone number being called in order to select a carrier. In the case of carrier preselection, a carrier code was permanently preselected for all outgoing calls. Customers could make cheaper calls or set up cheaper data connections by using indirect access or carrier preselection services.

Carrier (pre)selection was a key instrument in promoting competition in the telecommunications market for many years. However, changes in the market led to a gradual decrease in the importance of this instrument. On 31 December 2024, carrier (pre)selection services were discontinued in the telecommunications market. This meant that use of the numbering range in compliance with the numbering plan was no longer possible. All of the carrier codes that had been assigned were returned by the assignment holders.

Numbers from the (0)31-0 and (0)31-1 ranges had been used to test the transfer of calls between networks to implement carrier (pre)selection. The discontinuation of the services with effect on 31 December 2024 meant that the test numbers were no longer needed. The Bundesnetzagentur repealed its general authorisations for the use of the test numbers.

The numbers in the two ranges – carrier codes and test numbers – were therefore decommissioned and returned to the number reserve. This supports the regulatory objective of effective number management.

The Bundesnetzagentur plans to return other numbering ranges that no longer play a role in the current telecommunications market to the reserve. Preparations are being made for the return of 019 online service numbers that were used in the past for narrowband internet access.

Action against unlawful third-party use of numbers and misuse of the geographic link

Unlawful third-party use of geographic telephone numbers and misuse of the geographic link between number and location remained a focus of consumer protection activities in the telecommunications sector in 2025.

Third parties were given geographic numbers that they were not eligible to use, in particular to obscure their responsibilities. In many cases, the numbers were used for business models that were exploitative of consumers, such as emergency call-outs for tradespeople.

The link between number and location must be retained when using geographic numbers: the number user must have an actual telephone line or their place of residence or business in the area linked to the number they are using. It is therefore possible to identify the location of a subscriber from the geographic number.

In order to protect consumers and other market participants, the Bundesnetzagentur initiated administrative proceedings against companies faking their location. This action was sufficient to remedy most violations of numbering and competition law. If companies fail to take

remedial action, the Bundesnetzagentur orders the network operator to disconnect the numbers that are being used unlawfully.

A special online complaints form for reporting these violations is available on the Bundesnetzagentur's website. This is an easy way for consumers to submit complaints about businesses misusing geographic numbers to appear local together with the information needed to process the complaints.

The Bundesnetzagentur also investigated several cases of number misuse by third parties using a false identity to apply for numbers. In some cases, stolen identities were being used and the persons whose names were being used did not know anything about a number supposedly being assigned to them. In cases where false identities are used, the Bundesnetzagentur does not usually have to order the network operator to disconnect the number because the operator has already done so after being contacted and consulted about the matter.

Large number assignments for the 1&1 mobile network

Numbers for mobile services are assigned in a two-stage procedure. The Bundesnetzagentur assigns blocks of one million numbers to the mobile providers. The providers then assign individual numbers from the blocks to their customers. Under the rules of the numbering plan for mobile services, additional blocks of numbers can only be assigned if 50% of the numbers in the blocks that have already been assigned are in use.

In April 2025, the Bundesnetzagentur deviated from these assignment rules (Administrative Order 11/2011 and Notice 63/2011) owing to special circumstances and assigned ten million numbers to 1&1 Mobilfunk GmbH (1&1); it had already

assigned nine million numbers to 1&1 in September 2023.

The exceptional assignment of the total of 19 blocks of one million mobile numbers took into account the special circumstances of 1&1's mobile network launch. 1&1 had credibly argued that the assignment was necessary to accommodate the expected growth in customer numbers and the migration of existing customers to its own mobile network.

The assignment of a sufficiently large amount of free mobile numbers provided 1&1 with competitive conditions for the launch of its mobile network. The three other mobile network operators likewise had large blocks of numbers for the rollout of their mobile networks. The restriction of number assignments to blocks of one million numbers was introduced in an amendment of the numbering plan for mobile services in 2013; the blocks originally comprised ten million numbers each.

Action against unlawful number trading

In 2025, the Bundesnetzagentur received several reports from the public about unlawful number trading on internet platforms. "VIP" mobile numbers with easy-to-remember patterns were being offered at high prices.

Offers of SIM cards where the main focus is on the attractiveness of the mobile number are unlawful under both the Telecommunications Numbering Ordinance (TNV) and the special rules on the assignment and use of numbers for mobile services.

In 2025, the Bundesnetzagentur had various unlawful advertisements and traders removed from public internet platforms following the reports and its own investigations.

The Bundesnetzagentur published on its website a detailed description of the legal situation relating to number trading for the purposes of clarification.

Public safety/security

Technical safeguards

Protecting the privacy of telecommunications and personal data, protecting systems against faults or interference, and managing the risks to the security of telecommunications networks and services are the key objectives of section 165 TKG.

To achieve these objectives, the Bundesnetzagentur, together with the Federal Office for Information Security (BSI) and the Federal Commissioner for Data Protection and Freedom of Information (BfDI), has outlined details in a catalogue of security requirements. This catalogue provides the basis for security concepts that operators of public telecommunications networks and providers of publicly accessible telecommunications services are required to prepare. The work on updating the catalogue continued through 2025.

In 2025, random checks were carried out at 219 companies on the implementation of their security concept. One check that the BSI conducted in accordance with section 165(9) TKG was evaluated by the Bundesnetzagentur. Additionally, 110 new and 373 revised security concepts were submitted to the Bundesnetzagentur for review to determine compliance with section 166(1) TKG.

The Bundesnetzagentur received 81 reports of security incidents within the meaning of section 168 TKG in 2025.

Implementation of interception measures, provision of information, cooperation with technical investigative measures in the case of mobile terminal equipment, manual information procedure

Article 10 of the Basic Law (GG) states that the privacy of correspondence, posts and telecommunications is inviolable and that restrictions may be ordered only pursuant to a law (such as the Code of Criminal Procedure (StPO)). The Code of Criminal Procedure lists the criminal offences that warrant the interception of telecommunications and provision of information. Telecommunications may only be intercepted and information provided if an offence is particularly serious. Under the statutory provisions, anyone providing or cooperating in providing telecommunications services must enable authorised bodies (such as police authorities and authorities responsible for the protection of the Constitution) to intercept and record telecommunications and must provide the authorities with information about user, customer and traffic data when ordered in writing to do so. Sections 170 and 174 TKG in conjunction with the Telecommunications Interception Ordinance (TKÜV) set out whether and to what extent telecommunications companies are required to make relevant arrangements. Section 171 TKG requires mobile network operators to cooperate with investigations involving mobile terminal equipment, such as searches for missing persons.

The Bundesnetzagentur stipulates the technical details for these requirements in a technical directive (TR TKÜV). Changes to the technical directive are made in consultation with the authorised bodies and with the participation of industry associations and manufacturers. Adjustments to the technical directive became necessary due to further developments in the technical specification ETSI TS 103 120 for communicating

orders from the authorised bodies to the telecommunications companies subject to the obligations. The requirements for email services were also aligned uniformly with ETSI standards. There was also a need to make content and editorial adjustments to other parts of the technical directive. For this purpose, the new edition 8.3 of the technical directive was developed and entered into force when it was published on 22 January 2025.

The new edition 8.4 of the technical directive was also drawn up and submitted for EU notification. Section 8.4 of the technical directive now also sets out the technical details for RCS services in mobile networks, which became relevant to the regulatory objective of the TR TKÜV through an extension of the 3GPP TS 33.128 technical specification. In addition, the provisions on the handover points for voicemail systems and unified messaging systems were consolidated. Furthermore, changes were made to the provisions relating to timings, reporting public IP addresses for internet access, AAA information and other parameter descriptions for email services. There was also a need to make content and editorial adjustments to other parts of the technical directive.

Automated information procedure

The automated information procedure enables statutorily authorised bodies (mainly the police, state criminal police, federal agencies, state security authorities and emergency call centres) to request subscriber data including names, addresses and telephone numbers from telecommunications undertakings via the Bundesnetzagentur's automated and highly secure systems 24 hours a day. Information can now be provided extremely rapidly – if necessary, within a few seconds – thanks to technological improvements. In 2025,

the Bundesnetzagentur's systems processed a total of 35.11 million requests, which is an average of about 96,200 per day. At present 135 systems as authorised bodies and 142 telecommunications companies as obligated undertakings take part in the scheme.

Supervisory activities were continued and intensified to further improve the quality of data in the obligated undertakings' responses and strengthen the quality of the provision of information in the long term. The compliance summit was supplemented by specialist working groups that focused intensively on operative and technical issues of access holder identification together with representatives of the telecommunications sector. In addition, two half-yearly workshops were held for authorised bodies and were each attended by more than 40 participants.

Work on revising the requirements for identification procedures in the prepaid mobile sector and the attendant conformity assessment programme continued through 2025 and is currently not expected to be completed before 2026. The background to this is the upcoming amendment of the Telecommunications Act that is being undertaken for the purpose of the Telecommunications Network Rollout Acceleration Act. Following this, the Customer Data Information Ordinance (KDAV) is to be revised to create the foundation for drafting a new technical directive for the automated information procedure (TR-AAV). The Bundesnetzagentur will continue to closely involve the parties concerned.

Emergency preparedness

The emergency preparedness provisions in sections 184-190 TKG serve to ensure that there is a minimum supply of telecommunications services in the case of substantial disruption and in exceptional crisis situations and that priority is given in the provision of telecommunications services to certain users. The provisions are primarily addressed to operators of public telecommunications networks and providers of publicly available telecommunications services. The Bundesnetzagentur continued in 2025 to remain in close contact with the obligated telecommunications undertakings to ensure that the statutory requirements for safeguarding and prioritising telecommunications are observed and implemented.

Supplement to the technical directive on emergency calls

The Bundesnetzagentur lays down the technical details for certain emergency call-specific regulatory matters in a technical directive (TR Notruf). The Bundesnetzagentur issued the current technical directive (version 2.0) on 22 August 2018. State of the art technology and European requirements subsequently made it necessary to update this version. The relevant European provisions are mainly in Commission Delegated Regulation (EU) 2023/444 of 16 December 2022 and relate to the equivalence of emergency communications for persons with disabilities (accessibility) and the reliability and accuracy of location information.

The provisions of the technical directive are subject to an extensive participation process involving numerous bodies (associations of telecommunications service providers and telecommunications network operators, designated representatives of public safety answering point operators, manufacturers of technical facilities used in telecommunications networks and public

safety answering points). This process was completed and the update of the technical directive to version 2.1 was published in Bundesnetzagentur Official Gazette No 13 of 9 July 2025 (Administrative Order No 66/2025).

Technical regulation

German Market Surveillance Conference 2025

The German Market Surveillance Conference (DMÜK) takes place in Berlin in the autumn of each year. Last year the hybrid event was held on 17 and 18 September 2025 under the auspices of the Federal Ministry for Economic Affairs and Energy (BMWE) at PTB (Physikalisch-Technische Bundesanstalt – National Metrology Institute) in Berlin. The Office of the German Market Surveillance Forum (DMÜF), which is part of the Bundesnetzagentur, helped to prepare and organise the conference.

The conference was attended by around 250 participants in person and 150 online. It provided the opportunity to discuss current market surveillance challenges with representatives of the European Commission, various industry associations and the business community.

The main points of focus in 2025 were the implementation of Regulation (EU) 2024/1689 (the AI Act), international and European activities relating to the digital transformation of market surveillance, including the “QI-Digital” initiative, the digital product passport and current problems with cross-border online trading.

Radio equipment/EMF protection

The Bundesnetzagentur's site certification procedure ensures that the electromagnetic field (EMF) exposure limits are met at sites where radio equipment is operated. In 2025, a total of 19,176 site certificates were issued, with 4,460 sites being assessed using the field theory-based WattWächter tool.

The findings from the report on the environmental factor were integrated into the site certification procedure in 2025. The new approach simplifies the procedure for taking into account the relevant field strengths in the vicinity of a base station site to be certified.

In 2025, too, the results of the EMF monitoring campaign, which comprises snapshot immission measurements and long-term measurements using the automated measuring system, showed compliance with the statutory EMF limits at all the sites where measurements were made. The immission levels measured were well below the limits. This is proof that the site certification procedure continues to ensure EMF protection for persons even with the ongoing expansion of mobile communications.

Radio interface specifications

In 2025, the Bundesnetzagentur continued its work drawing up radio interface specifications. These specifications are provided by the Bundesnetzagentur in accordance with section 33(1) of the Radio Equipment Act (FAG). The specifications contain all the information necessary for manufacturers to carry out the relevant tests of their choice for the essential requirements applicable to their radio equipment. Currently there are 83 radio interface specifications for the various radiocommunication services. They are available on the Bundesnetzagentur website at [bundesnetzagentur.de/schnittstellenbeschreibungen](https://www.bundesnetzagentur.de/schnittstellenbeschreibungen) (in German).

Technical checks undertaken pursuant to the Radio Interference Suppression Ordinance

As part of a technical contribution for the use of secure and efficient energy infrastructure, the Bundesnetzagentur carried out analyses of individual powerline communications (PLC) systems. PLC enables data transmission over electricity lines. Electricity undertakings use PLC for smart metering, for example, which enables remote meter reading and general electricity network monitoring. Preventive measurements were carried out by the Bundesnetzagentur in cooperation with PLC system manufacturers and operators to identify deviations from standardised requirements. The subsequent elimination of these deviations supports not only objectives for the design of a future energy infrastructure but also the development of a technical basis enabling the parallel operation of different PLC technologies and techniques.

International cooperation



The Bundesnetzagentur is represented in all the key organisations and bodies for telecommunications regulation in Europe. It plays an active role within BEREC, whose work in 2025 was especially shaped by the planned Digital Networks Act. It also participated in 2025 in activities within IRG, the ECC, the RSC, the RSPG and ETSI.

BEREC and BEREC Office

The Bundesnetzagentur has participated within the EU's Body of European Regulators for Electronic Communications (BEREC) since BEREC was established in 2009.¹ BEREC's specialist work is undertaken by 12 working groups dealing with various issues relating to the EU's internal telecommunications market. BEREC's work programme for 2021 to 2025 is based on three strategic priorities: connectivity, sustainable and open digital markets, and empowering end-users and their rights.

BEREC's highest decision-making body is the Board of Regulators (BoR), which is composed of the heads or nominated high-level represen-

tatives of the national regulatory authorities in each EU Member State and is responsible for the final adoption of the deliverables from the working groups. The BoR is also open to participation (without the right to vote) by national regulatory authorities of third countries and the European Commission. The position of Chair was held in 2025 by Robert Mourik (ComReg, Ireland).

BEREC's structure is based on two pillars. The work programme is implemented within BEREC's working groups, with the BEREC Office, which has its seat in Riga, providing administrative support. The BEREC Office is overseen by the Management Board (MB), in which the national regulatory authorities of all EU Member States and the European Commission are represented with one vote each.

¹ berec.europa.eu

The Bundesnetzagentur was actively involved in all of BEREC's projects in 2025. Bundesnetzagentur representatives acted as one of the two co-chairs in three working groups: Fixed Network Evolution, Open Internet, and Remedies and Market Monitoring.

BEREC Mini-Board and Digital Markets Act High-Level Group

Bundesnetzagentur Vice President Dr Daniela Brönstrup held the position of one of the BEREC Vice-Chairs in 2025 and was therefore one of six members of the BEREC Mini-Board, which acts as a point of contact for BEREC and represents BEREC's interests at the European institutions and vis-à-vis stakeholders. In her function as a member of the Mini-Board, Daniela Brönstrup was responsible for overseeing the work of the Remedies and Market Monitoring, Digital Markets and Fixed Network Evolution working groups.

Daniela Brönstrup, as a member of the Mini-Board, was also one of BEREC's representatives within the High-Level Group for the Digital Markets Act, which provides advice to the European Commission. The High-Level Group is composed of representatives of the national regulatory authorities as well as data protection institutions, competition authorities, consumer protection associations and media regulators. BEREC is represented by the Mini-Board and one selected BoR member.

Recast of the European regulatory framework

In 2025, BEREC's work and discussions at European level were mainly shaped by the European Commission's considerations about redesigning the telecommunications regulatory framework.

The European Commission initiated several studies as the basis for an impact assessment of the planned Digital Networks Act (DNA) and published a Call for Evidence in early summer 2025 requesting feedback from stakeholders on the planned regulations. In July 2025, BEREC provided input to the European Commission's Call for Evidence, with the Bundesnetzagentur making a significant contribution with its expertise.² The national regulatory authorities presented their views on the effectiveness and the applicability of the regulatory framework, the fundamental principle of the regulatory objectives, the European Commission's proposals on the simplification of several regulations and harmonisation efforts relating to spectrum, access regulation and ex-ante regulation, net neutrality, consumer protection, environmental sustainability, security and resilience.

The European Commission published a proposal for the Digital Networks Act in January 2026.³

² BoR (25) 101

³ <https://digital-strategy.ec.europa.eu/en/library/proposal-regulation-digital-networks-act-dna>

International roaming and intra-EU calls

At the end of 2024, BEREC was asked for its opinion on the introduction of a fair use policy for intra-EU communications. Intra-EU communications mean voice calls and SMS messages from end-users in their home country (such as Germany) to end-users in other EU countries or in Liechtenstein, Iceland or Norway. BEREC published its opinions in the first half of 2025.⁴ The European Commission published the relevant Implementing Act in December 2025.⁵

Work began at the end of 2025 on revising BEREC's existing guidelines on wholesale and resale roaming. The two sets of guidelines provide orientation on the practical application and consistent implementation of the roaming regulations by national regulatory authorities. The revisions were necessary because the geographic scope of application of the provisions of the EU Roaming Regulation were extended to cover Ukraine and Moldova with effect from 1 January 2026. As from 2026, EU citizens travelling to these countries can use mobile voice, SMS and data services as if they were at home without having to pay any extra roaming charges. The same applies to citizens from Ukraine and Moldova travelling to EU Member States.

End-user rights/consumer protection

In May 2025, BEREC organised a workshop on preventing number misuse and possible fraudulent activities as a result of the impact of new technologies. The workshop was attended by representatives of regulatory authorities, consumer protection organisations, providers of electronic communications services, the European Banking Federation, Europol and the European Commission, and provided the opportunity for participants to present and discuss their individual perspectives and activities.⁶ On account of the complexity of the problem, regular dialogue between the participants and unified solutions were seen as essential to safeguard trust in electronic communications systems.

In 2024, the European Commission evaluated the effectiveness of various EU consumer protection laws and identified gaps in consumer protection in the digital space. These gaps are to be addressed by the Digital Fairness Act, which the European Commission is expected to present in 2026. In July 2025, the European Commission launched a public consultation on the issues to be covered in its planned Digital Fairness Act. These include unfair business practices in connection with dark patterns, misleading marketing by influencers, addictive designs of digital products and unfair personalisation practices. BEREC looked at these issues and published its input in October 2025.⁷

In 2025, the Bundesnetzagentur also followed and participated in the discussions about revising the Directive on alternative dispute resolution for consumer dispute⁸ and repealing the Regulation on online dispute resolution for consumer disputes⁹. The amending Directive was published at the

⁴ BoR (25) 48, BoR (25) 57

⁵ Implementing Act: <https://digital-strategy.ec.europa.eu/en/library/implementing-act-intra-eu-communications>

⁶ BoR (25) 129

⁷ BoR (25) 158

⁸ Directive 2013/11/EU

⁹ Regulation (EU) No 524/2013

end of December 2025.¹⁰ The Directive extends the geographic scope of application to include traders established outside the EU provided that a joint request has been made by the consumer and the third-country trader and the trader directs its activities towards the Member State in which the consumer is resident. The Regulation on online dispute resolution was repealed in December 2024.¹¹ The previous European platform was discontinued and all case-related information deleted in July 2025. The European Commission plans to replace the platform with a new digital information tool.

Market regulation

BEREC's focus in the field of market regulation was on the rollout of very high capacity networks, physical infrastructure access, and migration and the copper switch-off. BEREC closely followed the process initiated by the European Commission for revision of the regulatory framework. In the context of market regulation, this concerned above all the revision of the European Commission's Recommendation on relevant markets, which defines at EU level the telecommunications markets that are identified as being susceptible to regulation. In September 2025, BEREC published its input to the European Commission's consultation on the revision of the Recommendation, in which BEREC argues in favour of keeping the current markets susceptible to regulation.¹²

In 2025, BEREC revised its guidelines on very high capacity networks and reviewed the performance parameters for classification of a fixed network as a very high capacity network. It concluded that the performance parameters

determined in 2019 still reflect the state of the art. BEREC adopted the final guidelines in December 2025 following a public consultation.¹³

BEREC's report on the regulation of physical infrastructure access describes the regulatory approaches currently in practice in Europe.¹⁴ The report focuses on the use of physical infrastructure access for the deployment of very high capacity fixed networks. It makes it clear that the degree of complexity of the regulatory regime for physical infrastructure access is increasing and that there are indeed differences between the approaches in practice in Europe due to different circumstances.

Regulating access within the framework of traditional market regulation gives the national regulatory authorities considerably more flexibility, in particular with respect to pricing, than would be possible under the Gigabit Infrastructure Act (GIA), which is why these instruments are seen as complementary.

BEREC published a progress report on migration and the copper switch-off, following on from its 2022 Report on a consistent approach to migration and copper switch-off and showing that moderate progress has been made.¹⁵ Communication with alternative operators and with end-users is described as essential for the success of the process. In addition, the importance of sufficiently long transition periods and the existence of adequate alternative products were highlighted.

BEREC also organised several workshops on the rollout of very high capacity networks. BEREC held workshops on the new ex ante regulatory tools introduced in the European Electronic Communications Code (EECC) for commitments, wholesale-only undertakings and commercial agreements review. One focus of discussion was

¹⁰ Directive (EU) 2025/2647

¹¹ Regulation (EU) 2024/3228

¹² BoR (25) 146

¹³ BoR (25) 182

¹⁴ BoR (25) 77

¹⁵ BoR (25) 66

on why these tools are only used to a very small extent. BEREC also held workshops on strategic fibre networks deployment, with one of the markets highlighted being the German market.

Network deployment monitoring

In 2024, BEREC drew up an implementation report¹⁶ on the BEREC Guidelines on Geographical surveys of network deployments¹⁷ in accordance with Article 22 EECC. According to the report, there has been an increase since 2020 in the number of national regulatory authorities carrying out geographical surveys of network deployments (infrastructure atlas) and basing their surveys on the BEREC Guidelines. The report also concluded that it would be appropriate to update the BEREC Guidelines for various reasons. In particular, it would make sense to take into account technology developments, more recent BEREC Guidelines such as the VHCN Guidelines and new legislation such as the Gigabit Infrastructure Act (GIA).

In 2025, BEREC worked on updating its guidelines and presented its proposed changes for public consultation until 9 February 2026.¹⁸ BEREC plans to publish the final guidelines in mid-2026.

Remedies

As in previous years, BEREC published its WACC parameters Report in 2025. BEREC calculates the weighted average cost of capital (WACC) parameters in line with the European Commission's WACC Notice of 6 November 2019 using the capital asset pricing model.¹⁹ The European Commission's WACC Notice aims to ensure a consistent calculation of the cost of capital so that any

differences are due to fundamental factors and there are no deviations due to the methodology. The national regulatory authorities are required to apply the parameters calculated by BEREC using this methodology in their calculations of the cost of capital for investments in legacy infrastructure when imposing price control obligations. The report for 2025 has been applicable since 1 July 2025.²⁰ The single EU-wide equity risk premium of 5.96% was nearly unchanged from the previous year.

Digital sector

BEREC's focus in the digital sector was on the implementation (and revision) of the EU Digital Markets Act and the EU Data Act. Further information about these two legislative acts can be found in the "Internet and digitalisation" chapter.

The Bundesnetzagentur contributed to various BEREC documents drawn up in response to the European Commission's consultations on the implementation and revision of the Digital Markets Act. The Bundesnetzagentur also represented BEREC in 2025 in the Digital Markets Act High-Level Group, including in the sub-group on interoperability.

The Data Act came into effect in the EU on 12 September 2025. National regulatory authorities including the Bundesnetzagentur discuss implementation issues within the framework of BEREC. BEREC also participates in workshops at EU level.

¹⁶ BoR (24) 146

¹⁷ BoR (20) 42

¹⁸ BoR (25) 184

¹⁹ See <https://digital-strategy.ec.europa.eu/en/library/commission-publishes-notice-calculation-cost-capital-legacy-infrastructure>

²⁰ BoR (25) 64

Net neutrality

The national regulatory authorities and BEREC have been monitoring compliance with the EU rules for many years to ensure net neutrality.²¹ In 2025, BEREC again published a Report on the implementation of the Open Internet Regulation.²² The report concludes that the national regulatory authorities' monitoring and enforcement activities have led to a consistent and harmonised application of the Open Internet Regulation, which aims to guarantee the freedom to innovate and protect end-users' rights.

Cybersecurity and resilience

Cybersecurity and resilience issues continued to be particularly relevant and topical in 2025. In this context, the EU Directive on measures for a high common level of cybersecurity (NIS 2 Directive) and the EU Directive on the resilience of critical entities (CER Directive) are particularly worth mentioning. Both directives were supposed to have been transposed into national law by October 2024. Germany's NIS 2 Implementation Act finally entered into force on 6 December 2025.²³ However, it was not possible to complete the necessary legislative procedure for implementation of the CER Directive in 2025. The Bundesnetzagentur is continuing to accompany the procedure as the authority responsible for the subject.

In 2025, BEREC again addressed the cybersecurity and resilience challenges facing the telecommunications sector. At the end of 2024, BEREC held a stakeholder workshop on network resilience.²⁴ The workshop provided the opportunity for various national regulatory authorities to present the resilience strategies in their countries. The use of submarine cables plays an important role especially for coastal countries. Operators also presented their technical and operative solutions and reported about cooperation with competent authorities. Other issues addressed included responses during crises and emergency communications.

BEREC and the European Union Agency for Cybersecurity (ENISA) jointly organised the Telecom and Digital Infrastructure Security Forum in March 2025. BEREC coordinated a workshop as part of the Forum with several presentations from stakeholders on cybersecurity challenges and opportunities related to technological advancements.²⁵

Satellite communications and submarine cable systems

In 2025, comprehensive discussions took place on networks and connectivity not only in the context of resilience, but also with respect to all communications paths. BEREC is keeping a focus on this in view of the increasing importance of submarine cable systems for connectivity. The European Commission called for the mapping of submarine cable infrastructures in its 2024 Recommendation on secure and resilient submarine cable infrastructures and reinforced this in 2025 in its EU Action Plan on Cable Security. BEREC published a report that provides an overview of (domestic) submarine cable systems in European

²¹ Regulation (EU) 2015/2120

²² BoR (25) 125

²³ <https://www.recht.bund.de/bgbl/1/2025/301/VO.html>

²⁴ BoR (25) 36

²⁵ BoR (25) 82

countries and supports the mapping of existing submarine cable infrastructure.²⁶ For the report, BEREC collected information from its members through a dedicated questionnaire. The report also provides an analysis of economic regulatory approaches based on three case studies focusing on Iceland, Portugal and Spain.

Environmental sustainability

BEREC adopted a report on the positive effects of infrastructure sharing on environmental sustainability.²⁷ The joint use of networks provides obvious environmental benefits as it minimises infrastructure deployment and in turn reduces material consumption and land use and conserves energy throughout the life cycle. The joint use of infrastructure can therefore significantly lower carbon emissions and optimise use of resources. At the same time, these positive effects have to be weighed against potential technical and legal risks and potential negative effects for the development of effective competition. BEREC concludes in its report that the addition of an environmental objective to the regulatory mandate is a favourable development as it facilitates the inclusion of environmental considerations in regulatory decisions.

Gigabit Infrastructure Act

The EU's Gigabit Infrastructure Act (GIA) entered into force on 11 May 2024.²⁸ The aim of the Act is to reduce the costs of deploying very high capacity telecommunications networks and to accelerate deployment by leveraging synergies. Most of the substantive provisions become 18 months after the Act's entry into force and replace the 2014 Broadband Cost Reduction Directive. The GIA requires BEREC to draw up guidelines on the coordination of civil works and on access to in-building infrastructure by November 2025. The Bundesnetzagentur's contribution drew on its experience from its activities as a dispute settlement body.

BEREC's guidelines on the coordination of civil works provide recommendations on, for example, cost sharing among coordinating parties, principles for dispute settlement bodies' administrative procedures and determining the size of surplus capacity when coordination requests are refused.

The BEREC guidelines on access to in-building infrastructure provide recommendations mainly on the application of the "fair and reasonable" principle in the context of Article 11 of the Gigabit Infrastructure Act and on principles for dispute settlement bodies' administrative procedures.

Both sets of guidelines were adopted in October 2025 and have been applicable since 12 November 2025.²⁹

²⁶ BoR (25) 171

²⁷ BoR (25) 68

²⁸ Regulation (EU) 2024/1309

²⁹ BoR (25) 140, BoR (25) 142

Independent Regulators Group

The Bundesnetzagentur again participated in 2025 in the activities of the Independent Regulators Group (IRG).³⁰ IRG was established in 1997 by the national regulatory authorities with the aim of bringing together independent regulatory authorities from countries within and outside the EU (such as Switzerland and the United Kingdom) for an international exchange of experience. IRG is open to a larger group of members than BEREC and, as an independent body, can therefore cover topics outside BEREC's mandate. In 2025, IRG organised workshops on topics of current interest for the national regulatory authorities' representatives, such as the evolution of the telecommunications sector, cybersecurity and the impact of the NIS 2 Directive. IRG also provided other opportunities for an in-depth exchange of views and experience between and among the regulatory authorities and the various stakeholders, such as its webinar on current and future challenges in the cloud sector, which experts from the Bundesnetzagentur attended.

ITU Radiocommunication Sector

Work within ITU-R's study groups and working parties is divided between preparations for the World Radiocommunication Conferences (WRCs) and ITU-R's other tasks. One particular aim of these tasks is to harmonise the use of the spectrum. The Bundesnetzagentur represents Germany's varied interests in the radiocommunications sector together with representatives from industry, research, academia and administration in the related ITU-R activities.

Study Group 1 (SG 1) – Spectrum management

Study Group 1 deals with all aspects of spectrum management and spectrum monitoring. The following activities in the period under review can be highlighted:

- Working Party 1A: progress in work on recommendations with the characteristics of unwanted emissions and the broadband requirements for wireless power transmission systems for mobile and portable devices,
- Working Party 1B: reports on the economic aspects of spectrum management and methodologies for predicting spectrum availability, and
- Working Party 1C: work on the use of drones and small satellites to improve the efficiency and range of spectrum monitoring and the initiative from the Bundesnetzagentur to revise the Spectrum Monitoring Handbook.

³⁰ irg.eu

Study Group 3 (SG 3) – Radio-wave propagation

Study Group 3 deals with all aspects of radio-wave propagation and radio noise.

Working Party 3J's activities included in particular work on modelling lunar radio-wave propagation, propagation predictions for Moon missions and the use of machine learning for wave propagation studies.

The focus of Working Party 3K's work was on the development of prediction models for short ranges in urban environments. The assessment of propagation loss from building penetration and scattering is important in particular for services at 100 MHz to 100 GHz.

Study Group 4 (SG 4) – Satellite services

Study Group 4 deals with all aspects of satellite services. Of special interest are Working Party 4A's activities relating to coexistence between geostationary and non-geostationary satellites, in particular updating the calculation method for limits for non-geostationary satellites to protect geostationary satellites. In 2025, a relevant technical analysis (sensitivity and specificity analysis) was drawn up and submitted to ITU-R Working Party 4A that allows a sound assessment of the calculation methodologies.

Work is also in progress on a handbook for sustainability in space.

Study Group 5 (SG 5) – Terrestrial services

Study Group 5 deals with all aspects of terrestrial services. Working Party 5C's activities relating to the framework for IMT for 2030 and beyond is worth a special mention, with the completion of the first reports and a recommendation with technical conditions relating to the technological trends for the next decade's generation of mobile communications.

Study Group 7 – Science services

Study Group 7 deals with the scientific aspects of spectrum use. Of particular interest are the passive use of spectrum by radio astronomy and weather sensors and the wide range of applications for Earth observation. One important topic in the reporting period was the regulatory framework for the sustainable use of space.

Preparations for WRCs

The activities in preparation for WRC-27 continued in 2025. The following agenda items are worth a special mention:

- the use of smaller antennas for the fixed-satellite service in the band at 13.75-14 GHz,
- studies on various (NATO) bands with a view to future use by/sharing with public mobile services,
- complementary extension of terrestrial public mobile networks through direct satellite links,
- the protection of radio astronomy and Earth exploration-satellite services.

Overall, a large number of items on the WRC-27 agenda relate to satellite systems, for example for broadband coverage. The detailed preparatory work is undertaken by the individual ITU-R working parties, in particular by Working Party 4A and Working Party 4C for satellite systems.

Preliminary work in progress in preparation for WRC-31 is on improving the conditions for the radionavigation-satellite service in the 10 GHz band, the regulatory assessment of wireless power transmission technology, and possible restrictions to the use of the 10 GHz band by TerraSAR Earth exploration systems.

The regional preparations for Europe WRC-27 take place within the European Conference of Postal and Telecommunications Administrations (CEPT).

CEPT's Electronic Communications Committee

The Bundesnetzagentur cooperated with other European spectrum management authorities to offer support with numerous technical and regulatory studies and help finalise European spectrum rules (<https://docdb.cept.org>).

The European regulatory framework is developed by the Electronic Communications Committee (ECC) within CEPT. The ECC's tasks include producing ECC Decisions and ECC Recommendations, studies on radio spectrum issues (ECC Reports) and reports from CEPT in response to mandates issued by the European Commission.

One of the points of focus in 2025 was the development of harmonised technical conditions for low power devices communicating with satellites (LPD-S) within the frequency range 862-870 MHz. This provides a framework enabling numerous IoT and M2M communication usage scenarios in Germany and Europe where there is no terrestrial network coverage.

A new ECC Report was drawn up on the regulatory framework for satellite-based Direct-to-Device communications using smartphones (D2D-MSS and D2D-IMT), which serves as a valuable basis for CEPT's response to its mandate issued by the European Commission.

The ECC also revised the regulatory framework for intelligent transport systems (ITS) in the 5875-5935 MHz frequency band; the new framework takes into account future requirements by facilitating the use of ITS with larger bandwidths. In this context, a response was provided to a mandate issued by the European Commission as the basis for future EU-wide harmonisation.

Responses to two other mandates from the European Commission were drawn up. One related to amending the regulatory framework for the future railway communications system (FRMCS) to take into account the latest technology evolution. The other related to creating a harmonised framework for communications between public mobile networks and unmanned aircraft.

Radio Spectrum Committee

The European Commission's Radio Spectrum Committee (RSC) draws up implementing decisions binding on all Member States with the aim of harmonising conditions for the use of radio spectrum. In 2025, the RSC's work, with significant contributions from the Bundesnetzagentur, included the following:

A new Commission Implementing Decision on the harmonisation of the 3800-4200 MHz frequency band for the shared use by terrestrial wireless broadband systems capable of providing local-area network connectivity (WBB-LMP), based on a mandate response from the ECC, was adopted. The conditions for local-area network connectivity enable shared use of the spectrum together with the existing radio applications and services in the band (terrestrial fixed links and satellite communications) and provide protection for applications in adjacent bands (MFCN below 3800 MHz and radio altimeters for the aeronautical radionavigation service operating in the 4200-4400 MHz frequency band).

The tenth update of the Implementing Decision for short range devices (SRDs) was adopted, providing for new applications such as security scanners at airports and other high-resolution sensor applications.

In addition, a new mandate was issued to CEPT to study the conditions for the use of

EU-harmonised frequency bands for the terrestrial provision of electronic communications services by satellite systems providing Direct-to-Device (D2D) connectivity. These satellite systems are intended to complement the coverage of terrestrial wireless systems (<https://ec.europa.eu/digital-single-market/en/radio-spectrum-committee-rsc>).

Radio Spectrum Policy Group

The Bundesnetzagentur's activities for the Radio Spectrum Policy Group (RSPG), the high-level advisory group that assists the European Commission with spectrum policy issues, involved supporting the Federal Ministry for Digital Transformation and Government Modernisation (BMDS) and providing input for various opinions and reports, including the following:

- RSPG Peer Review Report,
- RSPG Report on 6G Strategic vision,
- RSPG Opinion on the EU-level policy approach to satellite Direct-to-Device connectivity and related Single Market issues,
- RSPG Interim Opinion on WRC-27,
- RSPG Opinion on Long-term vision for the upper 6 GHz band, and
- RSPG Report on Assessment of future usage of the frequency band 470-694 MHz within the EU (https://radio-spectrum-policy-group.ec.europa.eu/opinions-and-reports_en).

International technical regulation

Standardisation for radio equipment within ETSI

The Bundesnetzagentur continued to play an active part in 2025 in work within the European Telecommunications Standards Institute (ETSI) to promote radiocommunication services in the field of information and communication technology. The aim is to develop modern, open and high-quality standards for radio equipment for a wide range of radio services and applications (including mobile radio, broadcasting, satellite communications, fixed links, aeronautical, radio-determination and radionavigation, wireless local area networks (WLANs) and short range devices (SRDs)) and incorporate the regulatory objectives defined in the German Telecommunications Act (TKG) as far as possible in the standardisation process.

The Bundesnetzagentur also continues to make a substantial contribution to work on standardising new radio technologies for reconfigurable radio systems (RRS). The work involves developing standards for flexible radio systems that are capable of adapting to dynamic changes in the operational environment. The technologies include software defined radio (SDR) and cognitive radio (CR). The existing technical specifications for Dynamic Spectrum Allocation Service (DSAS) system requirements were revised to take into account the requirements of local private networks for dynamic and temporary spectrum sharing. Work was also continued on a feasibility study on the role of AI/ML techniques to enhance spectrum sharing frameworks.

To support the safe provision of software components that may affect compliance with the Radio Equipment Directive (RED), a new technical specification is being developed that defines the

requirements for a common and safe mechanism for software updates. Through the definition of a standardised approach for updates to software in radio equipment, regardless of whether the software is from the hardware manufacturer or a third-party provider, the proposed solutions could become relevant within the framework of a delegated act pursuant to Article 3(3)(i) and Article 4 of Directive 2014/53/EU.

Revision of the EU Standardisation Regulation

At the beginning of 2025, the European Commission launched a consultation on revising the EU Standardisation Regulation (Regulation (EU) No 1025/2012) as the basis for a revision in 2026. The objective of the initiative is to ensure that European standardisation remains expedient, stimulates innovation and fosters the competitiveness of the EU in the global market. The European Commission's aim is to make standard-setting processes faster, more agile and more efficient in order to be able to improve responsiveness to the fast innovation cycles of new technologies, including 5G and 6G, AI and IoT.

The Bundesnetzagentur actively supported the Federal Ministry for Economic Affairs and Energy (BMWE) in producing Germany's response to the evaluation of the EU Standardisation Regulation and will continue to contribute its technical expertise during the planned revision process in 2026. From Germany's perspective, the main focus should be on speed and flexibility, inclusiveness, access and transparency, and retaining and strengthening the EU's role as a global standard-setter, without losing sight of the proportionality of the amendments, since the EU Standardisation Regulation can still generally be seen as "fit for purpose" today.

Recognition of conformity assessment bodies

The services of notified bodies under the German Radio Equipment Act (FuAG)/EU Radio Equipment Directive (RED) (Directive 2014/53/EU) and the German Electromagnetic Compatibility Act (EMVG)/EU Electromagnetic Compatibility Directive (Directive 2014/30/EU) are used voluntarily by a manufacturer for conformity assessment or are mandatory because, for example, harmonised European standards are not applied or do not exist.

Notified bodies fall within the remit of the Bundesnetzagentur under Germany's Conformity Assessment Body Recognition Ordinance (AnerkV) in conjunction with the Radio Equipment Act (FuAG) and the Electromagnetic Compatibility Act (EMVG). Notified bodies are examined and recognised by the Bundesnetzagentur, notified to the European Commission as part of the notification procedure and listed in the NANDO (New Approach Notified and Designated Organisations) database.

The Bundesnetzagentur also acts as the interface between other notifying authorities and the NANDO database beyond its own scope of responsibility.

In addition to its responsibilities under the Radio Equipment Directive and the Electromagnetic Compatibility Directive, the Bundesnetzagentur also notifies conformity assessment bodies in the telecommunications sector within the framework of mutual recognition agreements. To support global trade the European Union has signed free trade agreements or Mutual Recognition Agreements with countries such as the US, Canada and Japan, covering the mutual recognition of recognised bodies in the respective economic zones.

These agreements make it possible for conformity assessment bodies of a particular economic zone to assess products according to the legal requirements of the partner countries or zones.

A list of bodies recognised by the Bundesnetzagentur in the telecommunications sector is available at bundesnetzagentur.de/konformitaetsbewertungsstellen (in German).

The Bundesnetzagentur manages the KBeB platform that facilitates coordination among the notifying authorities in Germany.

In 2025, further delegated acts under the Radio Equipment Directive were added to the recognition procedure. These acts include Commission Delegated Regulation (EU) 2022/30 on cybersecurity, which will be applicable until the end of 2027, when it will be replaced by the EU's Cyber Resilience Act (CRA). In the field of artificial intelligence, the Bundesnetzagentur is preparing for its new tasks as notifying authority under Annex I(6) of the EU's AI Act (Regulation (EU) 2024/1689).

Activities in the field of artificial intelligence

Harmonised standards play a key role in the practical implementation of the EU's AI Act. They create uniform technical requirements in the European single market and enable manufacturers to prove the conformity of their AI systems efficiently. The application of these standards is voluntary but leads to the presumption of conformity: if a product meets the standards, it is assumed that the product meets the statutory requirements. Standards are therefore a decisive factor for legal certainty, market surveillance and the competitiveness of European businesses.

The former Federal Ministry for Economic Affairs and Climate Action (BMWK) issued an organisational decree to take account of this special responsibility. The decree applies for a transitional period until the entry into force of the national legislation implementing the EU's AI Act. Among other things, the decree assigns the task of standardisation in the field of artificial intelligence to the Bundesnetzagentur.

The Bundesnetzagentur is therefore actively involved in the standardisation work of the relevant national European and international bodies. In doing so, it also supports the implementation of the European Commission's standardisation request relating to the AI Act.

Bundesnetzagentur's AI standardisation conference

The Bundesnetzagentur's first AI standardisation conference took place in Mainz on 1 December 2025, bringing together players from industry, research and administration and promoting dialogue on AI standardisation issues. Representatives of the federal government, testing companies and standardisation bodies gave presentations on national and European standardisation work and

on the use of AI for software tests. Representatives of the Bundesnetzagentur and the Federal Ministry for Digital Transformation and Government Modernisation (BMDS) provided insight into the practical implementation of the EU's AI Act in Germany. The conference highlighted the importance of harmonised standards for the compliant development and use of AI systems in the EU internal market. Given the outstanding response, a second AI standardisation conference is planned for 2026.

International Telecommunication Union: Plenipotentiary Conference 2026

The Bundesnetzagentur represents Germany's interests in meetings and conferences at the ITU on behalf of the Federal Ministry for Digital Transformation and Government Modernisation (BMDS) in accordance with section 221 TKG. Preparations for the next Plenipotentiary Conference (PP-26), ITU's highest policy-making body, are in progress. The first project teams have now been established. The Bundesnetzagentur and the BMDS jointly draft contributions coordinated at national and European level and will present them for discussion at the Conference. Resolutions adopted at these conferences have a significant impact on the strategic focus of ITU's activities and its three sectors.

Electromagnetic compatibility standardisation

In 2025, several standardisation projects that had been the subject of debate for a long time were completed.

The majority approval for the final draft of the international generic emission standard for equipment in residential environments closed the gap for the 9 kHz to 30 MHz band after nearly a decade. This represents a milestone for the protection of various key radiocommunication services (such as

defence, maritime and aeronautical radiocommunications and radionavigation, long-range broadcasting and local GPS beacons) which are allocated to this band and for which low-power communications are especially important.

As regards the work on requirements in the 6-40 GHz band, with the particular aim of providing radio protection for 5G applications, the frequency of the international meetings was increased considerably in order to produce a draft for approval in the near future.

In the field of electromobility, publication of the latest edition of CISPR 12 marked the conclusion of a difficult process of agreement, especially on requirements for electric vehicle charging. The focus here was on the protection of radiocommunication services as well as the smooth operation of smart applications such as autonomous driving and smart charging.

Work on supplementing CISPR 11 with limits and methods of measurement for wireless electric vehicle charging in the 9 kHz to 30 MHz band and on CISPR 37, which will cover in-situ electromagnetic interference measurements on large industrial equipment, was also continued in 2025. Work on IEC 61400-40, which lays down the electromagnetic interference requirements and test methods for wind turbines, was finally completed after many years.

5G-Advanced/6G standardisation

The 3rd Generation Partnership Project (3GPP) is the major driver behind 5G and 6G standardisation. The Bundesnetzagentur represents Germany's interests in mobile communications standardisation at the 3GPP meetings on behalf of the Federal Ministry for Economic Affairs and Energy (BMWE) in accordance with section 221 TKG.

In 2025, 3GPP completed its work on Release 19 with the focus on 5G-Advanced. Alongside this, work continued on Release 20, which covers the evolution of 5G-Advanced and fundamental studies on 6G. Following the launch of the first study on 6G requirements in 2024, further studies were initiated, for example on 6G architecture, security and radio interfaces. Various key topics and core innovations for 6G have been identified, for example in the fields of artificial intelligence, satellite-based mobile communications, IoT, integrated sensing and communication, and energy efficiency.

At national level, the Bundesnetzagentur maintained the 6G Exchange Platform (AP6G) as a forum for experts to discuss and agree on specific 6G issues and requirements in preparation for key 3GPP meetings. The overall aim of the platform is to strengthen networking between research, administration and industry and enhance Germany's role in international standardisation competition.

ITU-R's Working Party 5D is responsible for defining the framework conditions for IMT-2030 (6G). The Bundesnetzagentur takes part in Working Party 5D's meetings to present and represent German interests.

Tasks and organisation



The Bundesnetzagentur aims to ensure nationwide fibre, mobile and spectrum coverage. As a federal authority it is also strongly committed to consumer protection. It acts as a mediator in citizens' complaint procedures. The Bundesnetzagentur covers a wide range of constantly increasing responsibilities.

Tasks and structure

The Bundesnetzagentur, originally known as the Regulatory Authority for Telecommunications and Post, was set up on 1 January 1998 as a separate higher federal authority under the Federal Ministry for Economic Affairs and Energy. It took over the responsibilities of the former Federal Ministry of Post and Telecommunications and the Federal Office for Post and Telecommunications. In 2005, on being assigned responsibilities under the Energy Industry Act and subsequently the General Railway Act, the Regulatory Authority for Telecommunications and Post was renamed the Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen.

First and foremost, the Bundesnetzagentur's remit is to promote competition through

regulation in the energy, telecommunications, postal and railway network infrastructures and to guarantee non-discriminatory network and thus market access. Alongside regulatory measures in the energy sector, as the planning authority the Bundesnetzagentur is also responsible for electricity transmission lines crossing national or federal state borders in the context of the energy transition. In the telecommunications and postal sectors it ensures appropriate, adequate and nationwide services and provides regulations for the use of spectrum and numbering resources. Furthermore, the Bundesnetzagentur is the competent authority under the Electronic Signatures Act (SigG).

The Bundesnetzagentur also carries out the function of the national Digital Services Coordinator (DSC) under Germany's Digital Services Act

(DDG), which serves to implement the EU's Digital Services Act (DSA).

The Bundesnetzagentur's tasks are complex and highly diverse. They range from cases addressed in quasi-judicial proceedings in regulation areas, reporting requirements and planning authority responsibilities, consumer protection and information activities in the regulated sectors, to the nationwide investigation and processing of spectrum interference complaints.

Below the management level the Bundesnetzagentur comprises ruling chambers and departments. The President's Chamber takes decisions in specific cases, in particular on award proceedings for scarce radio spectrum resources and the imposition of universal service obligations.

In the telecommunications sector it determines which markets require regulation and which companies have significant market power in these markets.

On the basis of these determinations, the ruling chambers then decide on the regulatory measures to be imposed on companies with significant market power. This is how decisions on specific details of obligations are reached, for example in the field of network access conditions or ex ante or ex post price reviews. In the postal sector the ruling chamber focuses on (ex ante and ex post) rates approval and the control of anti-competitive practices, including the regulation of access to the postal network. In the energy sector the ruling chambers have decision-making powers on general and individual issues regarding access to electricity and gas networks and network tariffs. The Grand Ruling Chamber for Energy issues determinations laying down nationally applicable uniform methodologies and conditions for network access and for setting the tariffs for network access. The departments perform specialised and

central administrative functions. These include economic and legal policy issues in the various areas of regulation and the relevant international coordination, as well as technical aspects of frequencies, standardisation, numbering and public safety. The Bundesnetzagentur is involved in international standardisation bodies, cooperating in the development of next-generation networks and new radio systems.

All of the Bundesnetzagentur's responsibilities have a strong international element. Coordination at European level, in particular, has always been an important aspect of its regulatory activity. This is reflected by the fact that the international activities are mostly concentrated and dealt with in one department.

In the telecommunications sector the Bundesnetzagentur is mainly responsible for the key decisions and objectives that promote investment, innovation and competition for the benefit of all citizens. In the context of Industry 4.0, ideas are being developed to promote the spread of digital technology and internetworking in key future-oriented fields; at the same time economic opportunities offered by the digital revolution and internetworking are being assessed with respect to growth, employment and competitiveness in the national economy.

Consumer protection remains another key focus area in the telecommunications sector. In this regard, particular emphasis is placed on investigating problems that hinder a smooth change of supplier. Furthermore, the Bundesnetzagentur continues to vigorously combat misuse as regards the unlawful use of telephone numbers, anti-competitive behaviour and cold calling. In protecting the consumer, particular attention is given to preventing the illegal billing of call queues. Another primary function is to ensure transparency of consumer contracts, especially with respect to the bandwidth guaranteed in the contract. The Bundesnetzagentur also maintains a database of sites of fixed transmitters operating above a specified power level. Also of particular importance for consumers are the resolution of radio interference, the dispute resolution procedure and general consumer services. Moreover, the Bundesnetzagentur plays an essential role in ensuring public safety. Its tasks include checking the technical protection measures for critical telecommunications infrastructure, protecting personal data and telecommunications privacy, the technical implementation of interception measures, and implementing and safeguarding information procedures.

In the energy sector it is the Bundesnetzagentur's duty to create and secure the basis for efficient competition in the electricity and gas markets. This is done in particular through unbundling and regulating non-discriminatory access to the energy networks, including tariff regulation. In addition, the statutory decision in 2011 to phase out nuclear power as part of the energy transition and the continued expansion of renewable energy require state measures with respect to the various market players, including monitoring the electricity and gas wholesale markets and intervening where necessary to safeguard security of supply. The Bundesnetzagentur also monitors the development of upstream generation and import markets along with consumer markets. In the event of an electri-

city or gas deficit situation, the Bundesnetzagentur immediately acts as the federal load distributor, taking on the statutory duty of distributing energy resources.

One of the major tasks for the Bundesnetzagentur in the context of the energy transition is the fast, large-scale expansion of the electricity transmission networks. To achieve this, the Bundesnetzagentur has been given wide-ranging authority in network development planning and in approving network expansion measures. This includes implementing the federal sectoral planning for extra-high voltage lines crossing federal state and national borders and, as of 2013, their planning approval. As part of the statutory planning process, the network development plan is constantly being updated to take account of the latest developments. This also involves network planning and connection in the offshore sector.

In rail regulation the Bundesnetzagentur monitors compliance with the legislation on rail infrastructure access. A core task here is to ensure non-discriminatory use of the rail infrastructure by transport undertakings and other access beneficiaries. The term rail infrastructure includes the infrastructure and services connected with both tracks and service facilities (eg stations, freight terminals). Rates regulation includes the examination of the level and structure of infrastructure charges and of other charges levied by the infrastructure managers.

A nationwide presence is vital for the Bundesnetzagentur to perform its duties. To ensure consistency the work of the Bundesnetzagentur's regional offices, which are the contact point with consumers, businesses and industry, is managed and coordinated by the relevant specialist departments.

The regional offices are mainly responsible for technical matters. They provide information, for

example, on compliance with regulations on electromagnetic environmental compatibility and telecommunications. They are also in charge of spectrum assignment, for instance for private mobile radio systems, for granting site certificates and for sampling equipment under their market surveillance duties. Another important area is the investigation and processing of radio interference using state-of-the-art measuring equipment, monitoring compliance with regulations generally and carrying out radio monitoring and inspection tasks.

Additional executive tasks are carried out by specific regional offices. In particular, this involves activities in number administration, number misuse and cold calling, consumer protection and information, the core energy market data register and the registration of railway infrastructure. They also carry out some human resources management functions for other government bodies and institutions, primarily those falling under the Federal Ministry for Economic Affairs and Energy.

Human resources management

Human resources management is a top priority at the Bundesnetzagentur. It is important both to deploy staff optimally and to recruit new qualified staff. This is only possible when human resources management takes account of work requirements and staff skills and preferences in equal measure. The basis for this is the Bundesnetzagentur's new leadership model, which was developed in 2025 with the participation of all staff in leadership positions. The special characteristics of individual leadership roles and organisational structures fed into the model and are reflected in the mission, values and principles. A combination of pro-active, appropriate staff deployment and motivated employees will allow the Bundesnetzagentur to perform its responsibilities in an efficient way even in times of tight budgets. Aspiring to modern

human resources management, the Bundesnetzagentur offers not only corporate health schemes, but also models for balancing work and family life. In this connection, the Bundesnetzagentur was again certified in 2024 by the berufundfamilie Service GmbH in recognition of its long-term commitment for its personnel policies that take both family life and the various stages of life into account. By signing the Diversity Charter the Bundesnetzagentur underscores its commitment towards recognising, appreciating and embracing diversity as one of its core principles.

In recruiting new staff the Bundesnetzagentur requires excellent specialist knowledge as well as the ability to work as part of a team and the ability to structure and address complex new tasks in an interdisciplinary team quickly and with a flair for practical solutions.

Given its diverse areas of activity, the Bundesnetzagentur attaches particular importance to an interdisciplinary work approach. In total the Bundesnetzagentur employs around 3,200 specialists, including legal experts, economists, engineers, technicians, computer scientists and natural scientists as well as professionals from various other fields, to ensure the efficient, proper performance of tasks in all areas.

The Bundesnetzagentur follows a sustainable human resources development policy that helps to recognise staff members' potential to perform and develop, to maintain that potential while taking into account constantly changing demands, and to foster potential by including individual staff members' career goals. Bundesnetzagentur employees have a wide range of options for obtaining advanced training and advancement qualifications as well as for active involvement in international institutions.

The Bundesnetzagentur has been offering apprenticeships since 1999. In view of the recruitment of future staff and the challenges of demographic change, the training qualifications offered by the Bundesnetzagentur have become ever more diverse. In 2025, a total of 185 trainees and students were employed at the Bundesnetzagentur in various vocational training and study programmes. Vocational training is available for office management trainees, electronic equipment and systems trainees, and for IT trainees in system integration. Within its recruitment scheme at higher intermediate level, the Bundesnetzagentur offers places on training-integrated and practice-integrated dual study programmes for electrical engineering and business informatics students. Moreover, civil servants preparing for the rank of Regierungsin-spektor are able to take a university degree in IT in public administration or digital administration and cyber security. Vocational and university training courses are offered at a total of eleven Bundesnetzagentur locations, which especially includes regional offices.

Budget

The Bundesnetzagentur's income and expenditure is budgeted for in the federal budget as part of the departmental budget of the Federal Ministry for Economic Affairs and Energy.

The Bundesnetzagentur holds auctions with multi-stage bidding procedures to determine the successful bidders for offshore wind farm sites for operation from 2030 that have not been centrally pre-investigated. The proceeds depend on participation in the auctions, which always take place mid-year. The proceeds from the highest, successful bids in the first auction in 2023 amounted to about €1.4bn and were paid in 2024; expectations for the auction in 2024 and the proceeds to be paid in 2025 were unfortunately not met. This trend continued in the auction in 2025, resulting in a further reduction in the auction proceeds to be paid in 2026.

Expenditure in 2025 was subject to the provisional budget, which was not approved until October 2025. Nevertheless, a large part of the available financial resources was used for maintaining service operations, implementing new legal tasks, setting up and expanding organisational units and, of course, filling vacancies.

Type of income			
	Target 2025 €'000	Performance 2025 €'000	Target 2026 €'000
Fees, contributions and other charges in the telecoms sector	53,341	71,507	50,932
Fees and other charges in the postal sector	9	39	0
Fees and other charges in the rail sector	650	193	600
Fees and other charges in the energy sector (electricity, gas, EEG)	9,733	14,063	6,816
Fees and other charges under the Grid Expansion Acceleration Act (NABEG)	40,000	49,759	20,000
Other administrative income, eg fines and rental and sale income	452,985	241,767	38,735
Administrative income	556,718	377,328	117,083

Type of expenditure			
	Target 2025 €'000	Performance 2025 €'000	Target 2026 €'000
Staff costs	203,062	204,604	204,107
General administrative expenditure, appropriations and special financing expenditure	98,845	90,354	83,820
Investments	14,208	12,382	15,536
Total expenditure	316,115	307,340	303,463

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