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Annual Report

Net Neutrality in Germany



Bundesnetzagentur

Net Neutrality in Germany

Annual Report 2022/2023

Report of the Bundesnetzagentur to the European Commission and BEREC
pursuant to Article 5(1) Regulation (EU) 2015/2120

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Courtesy Translation

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1 Introduction

1. Regulation (EU) 2015/2120 laying down measures concerning open internet access (TSM Regulation) aims to establish common rules to safeguard equal and non-discriminatory treatment of data traffic in the provision of internet access services and related end-users' rights.¹ It aims to protect end-users and simultaneously to guarantee the continued functioning of the internet ecosystem as an engine of innovation.²
2. In accordance with Article 5(1), national regulatory authorities (NRAs) must publish reports on an annual basis on their monitoring and findings, and provide these reports to the European Commission and the Body of European Regulators for Electronic Communications (BEREC).
3. BEREC published "Guidelines on the Implementation by National Regulators of European Net Neutrality Rules" on 30 August 2016 in accordance with Article 5(3). The guidelines are designed to provide guidance on implementing the obligations of NRAs and contribute to the consistent application of the Regulation. The guidelines have since been revised twice. The guidelines were first revised in 2020 to reflect the NRAs' practice to date as well as the first judgments by the European Court of Justice (ECJ). They were then revised again in light of the ECJ judgments of 2 September 2021 on zero-rating options. These revised guidelines were published on 14 June 2022.³ The Bundesnetzagentur was actively involved in both revision processes.
4. In accordance with the BEREC guidelines (see paragraph 182), NRAs should publish their reports on an annual basis by 30 June. The reports should cover the period from 1 May to 30 April. The present report covers the period from 1 May 2022 to 30 April 2023.
5. By publishing this report, the Bundesnetzagentur fulfils its reporting duty on its monitoring and findings for the seventh year of application of the TSM Regulation. Also by the publication of this report the Bundesnetzagentur simultaneously fulfils its reporting duty under section 55(4) sentence 3 of the Telecommunications Act (TKG).
6. The report focuses on the following issues: the safeguarding of open internet access (Article 3), transparency measures (Article 4), supervision and enforcement (Article 5), and penalties (Article 6).
7. The report covers the most significant activities of the Bundesnetzagentur with respect to the following:
 - the prohibition of restrictions on the free choice of terminal equipment in mobile flat rate contracts, including subsequent administrative court proceedings and parallel civil court proceedings (Article 3(1); see paragraph 15);

¹ Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union, Official Journal 2015, L310/1. Any Article without reference to an Act or to a Regulation shall be understood to refer to Regulation (EU) 2015/2120.

² See recital 1 of the TSM Regulation.

³ https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/10280-berec-guidelines-on-the-implementation-of-the-open-internet-regulation.

- enquiries about the admissibility of tariffs with minimum data transmission rates and about the legal classification of tariffs for machine-to-machine (M2M) applications (Article 3(2); see paragraphs 18-19);
- the prohibition of the "StreamOn" and "Vodafone Pass" zero-rating options (Article 3(3); see paragraph 21);
- domain name system (DNS) blocking because of copyright infringements, the EU Sanctions Regulation prohibiting the broadcasting of certain Russian media, and diverting data to combat specific significant threats (Article 3(3); see paragraphs 30-33, paragraphs 25-29 and paragraph 34);
- the investigation of transparency measures (Article 4(1); see paragraphs 41-45), including handling of consumer complaints relating to low data transmission rates (Article 4(1) sentence 1 point (d) in conjunction with Article 4(4); see paragraphs 52-61);
- the operation of a quality monitoring mechanism (section 55(3) TKG, Article 4(4) and Article 5(1); see paragraphs 67-81).

2 Supervision and enforcement of the TSM Regulation on open internet access

2.1 Competence

8. In Germany, the Bundesnetzagentur is responsible for enforcing the rules on net neutrality under the TSM Regulation.
9. Depending on the matter at issue, the Bundesnetzagentur may consult with other authorities, for example the Bundeskartellamt, the state media authorities and the Federal Commissioner for Data Protection and Freedom of Information (BfDI). Data protection falls under the joint responsibility of the Bundesnetzagentur and the BfDI (see paragraphs 35-37).

2.2 Methods of supervision and enforcement

10. Under Article 5(1), the Bundesnetzagentur must closely monitor and ensure compliance with provisions on the safeguarding of open internet access (Article 3) and on transparency (Article 4). The Bundesnetzagentur is responsible ex officio for enforcing the TSM Regulation. Its main information sources are complaints, public media and other authorities or providers of internet access services who inform the Bundesnetzagentur of a new business model.
11. In many cases the Bundesnetzagentur will take action following a complaint (complaint-based approach). The Bundesnetzagentur will support the complainant if the complainant's concerns seem plausible or justified. By taking this approach, the Bundesnetzagentur is able to identify the main issues from the end-user's perspective and take appropriate measures vis-à-vis the provider concerned if necessary.
12. In addition, the Bundesnetzagentur takes into account other information about any infringement of the TSM Regulation (for example information from public media or from the internet).
13. Providers of internet access services are required to carry out a self-assessment of the compatibility of their contracts with the net neutrality rules set out in the TSM Regulation and must amend their contracts accordingly if necessary. There is no obligation to notify the Bundesnetzagentur, but the authority is willing to discuss or answer questions regarding the design of new business models. Notwithstanding the above, it may intervene if it finds any contracts for internet access services are defective.

3 Enforcement activities regarding the TSM Regulation and the findings of monitoring work

14. The Bundesnetzagentur's activities related to various provisions of the TSM Regulation.

3.1 Safeguarding of open internet access

3.1.1 Agreements and commercial practices – Article 3(1) and (2)

Article 3(1) and (2) TSM Regulation

(1) End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user's or provider's location or the location, origin or destination of the information, content, application or service, via their internet access service.

This paragraph is without prejudice to Union law, or national law that complies with Union law, related to the lawfulness of the content, applications or services.

(2) Agreements between providers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed, and any commercial practices conducted by providers of internet access services, shall not limit the exercise of the rights of end-users laid down in paragraph 1.

Mobile flat rates

15. Several providers offering mobile flat rates had been prohibiting the use of fixed LTE routers. The Bundesnetzagentur had initiated action against the providers concerned in 2021 (see the 2019/2020, 2020/2021 and 2021/2022 annual reports). The Bundesnetzagentur found that all the providers were infringing the end-users' right pursuant to Article 3(1) of the TSM Regulation to use terminal equipment of their choice and prohibited the relevant contractual clauses.
16. Independent of this, the Federation of German Consumer Organisations (vzbv) brought civil actions against these providers at the end of July 2020 for violating the freedom of choice of terminal equipment. In the course of the civil law proceedings the Bundesnetzagentur adopted a position in line with vzbv. The point of view of vzbv and the Bundesnetzagentur on the inadmissibility of these terminal equipment clauses was confirmed in four different civil law proceedings and also by the Federal Court of Justice (BGH) (see ruling by the BGH of 4 May 2023 (III ZR 88/22); see also lower-instance judgments: Düsseldorf regional court (LG) of 25 August 2021 (12 O 147/20); Kiel LG of 22 October 2021 (4 O 120/20); Cologne higher regional court (OLG) of 11 February 2022 (6 U 94/21) – final; Munich OLG of 17 February 2022 (29 U 747/21)). The Federal Court of Justice ruled that contractual clauses restricting the use of internet access to terminal equipment that enables mobile use independent of a permanent cable-based electricity connection violate the freedom of choice of terminal equipment and are therefore ineffective. Only a decision in the appeal proceedings at the higher administrative court in Schleswig is still pending.

IPv4/IPv6 addresses

17. A number of complaints relating to IPv4/IPv6 addresses were again received in the reporting period. These were similar to other cases in the past: see the net neutrality report for 2021/2022, paragraph 19 et seq; for 2020/2021, paragraph 19 et seq; for 2018/2019, paragraph 19 et seq; and for 2017/2018, paragraph 28. Most cases related to the availability of public IPv4 addresses for end-users to provide their own services and applications. These cases were solved by the providers in various ways – either by providing a public IPv4 address or with alternative mechanisms, depending on the individual circumstances – without the Bundesnetzagentur needing to intervene. Other cases led to the need for clarification between consumers and providers about charges for public IP addresses. In these cases, the providers concerned were able to offer their customers a satisfactory solution. The Bundesnetzagentur is, however, continuing to monitor the situation. With respect to the availability of public IPv6 addresses, it should be noted that there is no breach of the net neutrality rules in these cases. BEREC also makes it clear in its guidelines (paragraph 16) that providers of internet access services are not required to offer connectivity with both IPv4 and IPv6. There is therefore no leverage in these instances to require providers to offer their end-users an IPv6 address as well.

Tariffs with minimum data transmission rates

18. Two enquiries related to prioritisation and the provision of minimum transmission rates for individual mobile connections enabling access to higher-quality internet services. A possible solution in both cases is the agreement of special tariffs that are in compliance with the net neutrality rules. Article 3(2) allows agreements between providers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed as long as they do not limit the exercise of the rights of end-users laid down in Article 3(1). Tariffs with different quality parameters, including minimum transmission rates, are therefore permissible.

Tariffs for M2M applications

19. A number of enquiries from businesses related to the classification of certain services and telecommunications services and the legal assessment of M2M services. In the Bundesnetzagentur's view, the decisive factor is who offers connectivity to the customers. This means that a reseller can also be the provider of a telecommunications service if the reseller offers connectivity as a separate element (for example a WiFi hotspot sold under the reseller's own name). If the M2M service or the connection of the M2M equipment does not have any special connectivity requirements, connection typically takes place via a "best effort" internet access service. This constitutes an internet access service as referred to in section 3 para 61(a) TKG. The provider of the internet access service must therefore comply with the provisions in the TSM Regulation applicable to internet access services, in particular the obligation laid down in Article 3(3) to treat all data traffic equally. The underlying internet access service must be provided without restrictions. A restriction to certain endpoints is only permissible if the relevant M2M provider makes the restriction at the level of the M2M equipment or service. If the M2M service or the connection of the M2M equipment has special connectivity requirements (such as low latency) that cannot be met via a "best effort" internet access service, it is not necessary to offer connectivity as an internet access service. This then constitutes a service consisting wholly or mainly in the conveyance of signals (section 3 para 61(c) TKG). In this case, the service is classified as a specialised service within the meaning of Article 3(5) of the TSM Regulation. It is permissible as long as the relevant conditions in Article 3(5) of the TSM Regulation are met. The provisions in the TSM Regulation applicable to internet

access services, in particular the principle of treating all data traffic equally, do not apply to specialised services. This means that it is permissible to give priority to a specialised service as long as it is not to the detriment of general internet access services (see Article 3(5) second subparagraph) and the transparency requirements laid down in Article 4(1) point (c) of the TSM Regulation are met. A specialised service is typically provided via a separate access point name (APN) and a separate logical network.

Inapplicability of the TSM Regulation

20. Investigations showed that the TSM Regulation did not apply to a number of consumer complaints. In several cases email service end-users could not receive incoming emails. They believed that internet access providers were blocking emails of certain email providers. The blocking, however, was not carried out at the network level by the internet access providers but at the application level by email service providers involved. For this reason the TSM Regulation did not apply.

3.1.2 Traffic management – Article 3(3)

Article 3(3) TSM Regulation

Providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.

The first subparagraph shall not prevent providers of internet access services from implementing reasonable traffic management measures. In order to be deemed to be reasonable, such measures shall be transparent, non-discriminatory and proportionate, and shall not be based on commercial considerations but on objectively different technical quality of service requirements of specific categories of traffic. Such measures shall not monitor the specific content and shall not be maintained for longer than necessary.

Providers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to:

(a) comply with Union legislative acts, or national legislation that complies with Union law, to which the provider of internet access services is subject, or with measures that comply with Union law giving effect to such Union legislative acts or national legislation, including with orders by courts or public authorities vested with relevant powers;

(b) preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users;

(c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.

Zero-rating

21. The providers of internet access services took measures in the reporting period to comply with the order prohibiting zero-rating options, in particular Telekom Deutschland GmbH's "StreamOn" and Vodafone GmbH's "Vodafone Pass" options.
22. The Bundesnetzagentur had prohibited the marketing of these zero-rating options on 28 April 2022 following several ECJ judgments and had set two different deadlines (see the net neutrality report for 2021/2022, paragraphs 24-28). It ordered that new marketing of "StreamOn" and "Vodafone Pass" had to end by 1 July 2022. The two zero-rating options were not bookable via any sales channel after that time. The zero-rating options for existing customers had to cease by the end of March 2023. This implementation period was necessary to enable a consumer-friendly transition to other tariffs for the large number of customers.
23. Both Telekom Deutschland GmbH and Vodafone GmbH met the two deadlines for discontinuing active marketing and terminating existing customer contracts for their zero-rating options. In conjunction with this, the two companies increased the inclusive data allowances for all their main tariffs and offered compensation to customers affected by the discontinuation of their zero-rating options (for example more inclusive data or unlimited data for a certain period of time). The Bundesnetzagentur received about 50 complaints and queries about the discontinuation of the zero-rating options.

DNS blocking

24. The Bundesnetzagentur checks that any site blocks implemented by internet access providers, such as DNS blocks, are not in breach of the net neutrality rules. However, the Bundesnetzagentur does not itself order blocking and cannot implement blocking. Site blocks implemented by internet access providers are essentially in breach of the principle of equal treatment of all data traffic. This principle is that providers of internet access services must not treat data traffic differently and in particular must not block or discriminate against websites, unless there is a reason to justify an exception. One particular reason justifying an exception is set out in Article 3(3) subparagraph 3 point (a). According to the provision, unequal treatment of data traffic such as site blocking is justified if necessary, and as long as necessary, to comply with Union or national legislation. A reason for justifying an exception may arise from various areas of legislation, including EU sanctions law or copyright law. Courts and authorities with relevant powers can also order the blocking of illegal content. In these cases, the blocking is compatible with the net neutrality rules.

Blocking to implement the EU Sanctions Regulation

25. The EU adopted sanctions against Russia because of its invasion of Ukraine. The aims of the sanctions include restricting the flow of information within the EU from Russian media participating in propaganda activities. The first broadcasting ban for content from Russia Today and Sputnik was

introduced in the last reporting period.⁴ The ban was extended in the current reporting period by Regulations (EU) 2022/879⁵, (EU) 2022/2474⁶ and (EU) 2023/427⁷, which each amend the EU Sanctions Regulation (EU) 833/2014. The Regulations extended the ban to cover content from RTR Planeta, Rossiya 24, TV Centre International, NTV/NTV Mir, Rossiya 1, REN TV, Pervyi Kanal, RT Arabic and Sputnik Arabic. Operators are prohibited from broadcasting and from enabling, facilitating or otherwise contributing to broadcast any content by these legal persons, entities or bodies (referred to below as "entities"), including through transmission or distribution by any means such as cable, satellite, internet protocol TV (IPTV), internet service providers, internet video-sharing platforms or applications, whether new or pre-installed. The EU Sanctions Regulation is directly applicable in Germany.

26. However, the Bundesnetzagentur is not responsible for enforcing the EU Sanctions Regulation and therefore does not monitor its implementation. If an internet access provider does not meet the obligations under the Regulation, it is the task of the law enforcement authorities (public prosecution offices) or (in the case of a negligent breach) of the authorities responsible for regulatory offences to take action. It is the responsibility of the offices and authorities for where the company not or not correctly implementing the Regulation is based.
27. The Bundesnetzagentur's task is instead to ensure compliance with the net neutrality provisions of the TSM Regulation. It therefore checks whether a traffic management measure under Article 3(3) subparagraph 3 is not in breach of the net neutrality rules by way of exception. Council Regulation (EU) 833/2014, as amended, provides such a reason justifying an exception. The Bundesnetzagentur therefore considers the internet access providers' blocking of domains distributing content from the above-mentioned entities to be compatible with the net neutrality provisions; BEREC also shares this view.⁸ The Bundesnetzagentur informed the internet access providers about this through the industry associations. It also pointed out that the list of domains whose blocking is not in breach of the net neutrality rules is not final and may be changed depending on further developments.
28. The broadcasting ban under the EU Sanctions Regulation was also a matter dealt with by the EU General Court and national courts. Russia Today France filed an application for interim relief to lift the broadcasting ban with the EU General Court on 30 March 2022. The application was dismissed (case T-125/22). The court ruled that there were no grounds of urgency justifying the ban on Russian state media to be lifted because the order suspending broadcasting activities by Russia Today France in the EU was only temporary – until 31 July 2022 or until the end of the military aggression against Ukraine.

⁴ Council Regulation (EU) 2022/350 of 1 March 2022 amending Regulation (EU) No 833/2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R0350>).

⁵ Council Regulation (EU) 2022/879 of 3 June 2022 amending Regulation (EU) No 833/2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R0879>).

⁶ Council Regulation (EU) 2022/2474 of 16 December 2022 amending Regulation (EU) No 833/2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R2474>).

⁷ Council Regulation (EU) 2023/427 of 25 February 2023 amending Regulation (EU) No 833/2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R0427>).

⁸ Press release of 4 March 2022: <https://www.berec.europa.eu/en/news-publications/news-and-newsletters/berec-open-internet-regulation-is-not-an-obstacle-in-implementing-eu-sanctions-to-block-rt-and-sputnik>; press release of 11 March 2022: <https://www.berec.europa.eu/en/news-publications/news-and-newsletters/berec-supports-isps-in-implementing-the-eu-sanctions-to-block-rt-and-sputnik>.

Furthermore, the interest of the applicant in up-to-date reporting by Russian state media had to be put behind the EU's vested interest in protecting the European population from the systematic disinformation and destabilisation campaigns undertaken by the leadership of the Russian Federation to justify and support its continued military aggression against Ukraine.

29. An application for interim relief was also filed by a private person with Cologne administrative court and Münster higher administrative court. The application requested the blocks for the websites www.vesti.ru and www.deutsch.rt.com to be lifted. In its response to the application, the Bundesnetzagentur dismissed the request as unfounded. Firstly, there is no infringement of Article 3(3) subparagraph 3 point (a) because the blocking of domains was ordered by Union law, in this case by the EU Sanctions Regulation (Council Regulation (EU) 833/2014) as amended by Council Regulation (EU) 2022/350. Secondly, there were no grounds of urgency justifying the application for interim relief. The application was dismissed by Cologne administrative court on 15 June 2022. The applicant filed an appeal against this ruling with the higher administrative court for North-Rhine Westphalia on 27 June 2022. The higher administrative court's ruling of 17 May 2023 dismissed the appeal seeking an order for the blocks for the Russian state media websites to be lifted and therefore confirmed Cologne administrative court's decision on the application for interim relief. The court followed the Bundesnetzagentur's view that the Bundesnetzagentur did not have to take action against the relevant DNS blocks.

Blocking because of copyright infringement

30. The Online Copyright Clearance System (CUII) is a joint initiative of rights holders from the cultural and creative industry and four major German internet access providers. Its aim is to enable DNS blocks to be implemented in an out-of-court procedure and by all internet access providers involved for websites with business models that are based on publishing copyrighted works without the permission of the rights holders. The amount of legal content on these websites is negligible compared to the amount of illegal content.
31. Rights holders can make a blocking request to the CUII; an examination body comprising former Federal Court of Justice judges assesses the request to determine whether the legal requirements enabling a block to be put in place are met. The body bases its assessment on the prerequisites for blocking developed by supreme court case law. Rights holders are able by virtue of section 7(4) of the Telemedia Act (TMG) to request internet access providers to block sites if there is no other way of resolving the infringement and if the blocking is reasonable and proportionate. The CUII's examination body forwards the results of its assessment as a recommendation to the Bundesnetzagentur. This is done on a voluntary basis.
32. The Bundesnetzagentur checks whether the prerequisites of Article 3(3) subparagraph 3 point (a) are met, that is whether the DNS block is necessary to implement national or European legislation and is therefore justified under Article 3(3) subparagraph 3 point (a). The Bundesnetzagentur's checks and opinions before a DNS block is set up are informal, since the TSM Regulation neither provides for an ex ante examination by the Bundesnetzagentur nor requires approval by or notification to the Bundesnetzagentur of DNS blocks implemented by internet access providers. The Bundesnetzagentur sends its informal opinion to the CUII. The internet access service providers can only set up a DNS block if there are no net neutrality concerns.
33. Three DNS blocks for the websites serienjunkies.org, cine.to and taodung.com were set up in the reporting period under this procedure. The websites infringed copyright by offering films and series for streaming, music for downloading or video games. In three other cases, the Bundesnetzagentur asked the CUII for

further substantiation of its recommendations because the grounds presented for blocking were insufficient on the basis of established case law.

Diverting data to combat specific significant threats

34. In order to combat specific significant threats to the security objectives set out in section 7c(2) of the BSI Act (BSIG), section 7c BSIG enables the Federal Office for Information Security (BSI) to order a telecommunications service provider within the meaning of the TKG with more than 100,000 customers to take action as referred to in section 169(6) and (7) TKG (diverting data) or to issue technical orders to information technology systems concerned to remove specific malware, if and as far as this is technically feasible and economically reasonable for the service provider. One order for diverting data as provided for by section 7c BSIG was issued.

3.1.3 Data protection and obligations for the protection of privacy – Article 3(4)

Article 3(4) TSM Regulation

Any traffic management measure may entail processing of personal data only if such processing is necessary and proportionate to achieve the objectives set out in paragraph 3. Such processing shall be carried out in accordance with Regulation (EU) 2016/679 (General Data Protection Regulation (GDPR)). Traffic management measures shall also comply with Directive 2002/58/EC of the European Parliament and of the Council.

35. Regulation (EU) 2016/679 replaced the repealed Directive 95/46/EC (see Article 94 GDPR). As the GDPR is directly applicable, the BfDI is solely responsible for monitoring data protection in telecommunications services insofar as it is not a matter of supervision with regard to the obligations laid down in Directive 2002/58/EC (see Article 95 GDPR). The obligations laid down there concern in particular the traffic data of interest within the framework of Article 3(4) of Regulation (EU) 2015/2120, so data that is collected, processed or used in the provision of a telecommunications service, section 3 para 70 TKG. To this extent the joint responsibility of the BfDI and the Bundesnetzagentur continues in principle unchanged.
36. The E-Privacy Regulation (2002/58/EC), which is currently being discussed at a European level, is likely to replace the E-Privacy Directive. The E-Privacy Regulation will probably also lead to changes in data protection supervision in Germany. It is not yet clear when the E-Privacy Regulation is expected to enter into force.
37. With the entry into force of the revised TKG in 2021, the sector-specific data protection rules set out in Part 7 of the old TKG are now part of a separate piece of legislation, the Telecommunications Telemedia Data Protection Act (TTDSG). Sector-specific rules for telecommunications, including telecommunications secrecy, are now set out in Part 2 (sections 3 to 18) of the TTDSG. Some of the Bundesnetzagentur's previous tasks are now the sole responsibility of the BfDI. The provisions assigning the responsibilities are set out in sections 29 and 30 TTDSG. The new TKG retains the requirement for telecommunications service providers to inform the Bundesnetzagentur, the BfDI and, under certain circumstances, those affected if a personal data breach occurs (section 169 new TKG; section 109a old

TKG). However, a distinction must be made between this requirement and the requirement to report to the BfDI under Article 33 GDPR. Further information is available on the websites of both the Bundesnetzagentur and the BfDI.

3.1.4 Services other than internet access services (specialised services) – Article 3(5)

Article 3(5) TSM Regulation

Providers of electronic communications to the public, including providers of internet access services, and providers of content, applications and services shall be free to offer services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality.

Providers of electronic communications to the public, including providers of internet access services, may offer or facilitate such services only if the network capacity is sufficient to provide them in addition to any internet access services provided. Such services shall not be usable or offered as a replacement for internet access services, and shall not be to the detriment of the availability or general quality of internet access services for end-users.

38. No complaints about specialised services were addressed to the Bundesnetzagentur in the reporting period. There were also no specific enquiries from providers of internet access services about business models that contain specialised services.
39. With regard to the expected future provision of services on the basis of 5G mobile technology, the Bundesnetzagentur takes the view that such services constitute specialised services as far as they meet the requirements in Article 3(5) of the TSM Regulation. This will be the case in particular with time-critical and safety-critical services, for example in the field of connected and autonomous driving.

3.2 Transparency measures – Article 4

3.2.1 Contractual arrangements – Article 4(1)

Article 4(1) TSM Regulation

Providers of internet access services shall ensure that any contract which includes internet access services specifies at least the following:

- (a) information on how traffic management measures applied by that provider could impact on the quality of the internet access services, on the privacy of end-users and on the protection of their personal data;

(b) a clear and comprehensible explanation as to how any volume limitation, speed and other quality of service parameters may in practice have an impact on internet access services, and in particular on the use of content, applications and services;

(c) a clear and comprehensible explanation of how any services referred to in Article 3(5) to which the end-user subscribes might in practice have an impact on the internet access services provided to that end-user;

(d) a clear and comprehensible explanation of the minimum, normally available, maximum and advertised download and upload speed of the internet access services in the case of fixed networks, or of the estimated maximum and advertised download and upload speed of the internet access services in the case of mobile networks, and how significant deviations from the respective advertised download and upload speeds could impact the exercise of the end-users' rights laid down in Article 3(1);

(e) a clear and comprehensible explanation of the remedies available to the consumer in accordance with national law in the event of any continuous or regularly recurring discrepancy between the actual performance of the internet access service regarding speed or other quality of service parameters and the performance indicated in accordance with points (a) to (d).

Providers of internet access services shall publish the information referred to in the first subparagraph.

40. The vast majority of the complaints the Bundesnetzagentur receives from end-users are not about the transparency of contractual agreements but are about non-fulfilment of the contractually agreed performance (discrepancies between the contractually agreed internet speeds and the speeds actually measured). This now applies to a greater extent because the rules in the new TKG in force since the end of 2021 give end-users special termination and reduction rights as long as the end-users use the measuring tool provided by the Bundesnetzagentur to prove discrepancies in performance. The tool can currently only be used to prove discrepancies in fixed-network performance.
41. The Bundesnetzagentur deals with these complaints on broadband speed discrepancies following the complaints procedure (see paragraph 47), also taking into account since December 2021 the general administrative order on the new reduction rules for fixed-network internet access (see paragraphs 53-55).
42. Where providers applied admissible traffic management measures, the Bundesnetzagentur endeavoured to ensure appropriate transparency in the contractual information. An example of this is the lower priority given when assigning resources to mobile-based fixed-line substitute products. If congestion occurs, users of this tariff are assigned fewer resources than other mobile users in the same cell. Traffic within each tariff is treated equally (and so there is no breach of the equal treatment obligation under Article 3(3) of the TSM Regulation).
43. No complaints about the transparency requirements under Article 4(1) sentence 1 points (b), (c) and (e) were addressed to the Bundesnetzagentur during the reporting period.

Report in accordance with section 55(4) sentence 3 para 1 TKG

44. In accordance with section 55(4) sentence 3 para 1 TKG, the Bundesnetzagentur publishes an annual report on its surveys and findings that presents, in particular, the extent to which providers of publicly accessible telecommunications services provide the information required under section 55(2) TKG and Article 4(1) of the TSM Regulation.
45. The following picture has emerged for the Bundesnetzagentur: fixed network providers provide information on the speeds as referred to in Article 4(1) point (d) in their general terms and conditions. The providers typically refer to specific figures for the respective speeds or express them as a percentage of the maximum speed. Advertised speeds typically correspond to maximum speeds. Mobile providers also provide information on the corresponding speeds in their general terms and conditions. The providers also increasingly describe the impact of traffic management measures (where they are applied and have been deemed admissible by the Bundesnetzagentur) on the internet access service.

3.2.2 Complaints procedure – Article 4(2)

Article 4(2) TSM Regulation

Providers of internet access services shall put in place transparent, simple and efficient procedures to address complaints of end-users relating to the rights and obligations laid down in Article 3 and paragraph 1 of this Article.

46. The Bundesnetzagentur, in coordination with industry representatives, has designed a standard procedure for handling the complaints it receives from end-users. One of the aims of the procedure is to ensure that providers deal with complaints swiftly and properly as far as possible, and especially in cases where the contractually agreed speeds are not delivered. All internet access providers were asked to set up special contact points to be able to deal with end-users' complaints about internet speeds as well as questions and complaints about the transparency of contracts as swiftly and properly as possible. The procedure means that, as a rule, the provider's response to a complaint is sent to both the Bundesnetzagentur and the end-user.

Number of complaints

47. The Bundesnetzagentur forwards legitimate complaints from end-users, for which no solution has yet been reached between the end-user and the internet access provider, to the provider. The Bundesnetzagentur asks the end-users to measure their internet speeds using the desktop app version of the Bundesnetzagentur's broadband speed checker (see paragraph 67). In the relevant reporting period, around 3,250 substantiated complaints under the terms of Article 4(4) were submitted. In the previous reporting period, there had been about 1,050.
48. Moreover, it is possible to submit a request for a dispute settlement procedure to the Bundesnetzagentur.
49. The Bundesnetzagentur does not enforce individual end-users' special termination or compensation rights vis-à-vis providers, as it is up to the civil courts to do that.

50. Legal remedies for consumer rights are governed by civil law. No specific, additional remedies for consumer redress have been introduced for net neutrality.

3.2.3 Monitoring mechanism – Article 4(4)

Article 4(4) TSM Regulation

Any significant discrepancy, continuous or regularly recurring, between the actual performance of the internet access service regarding speed or other quality of service parameters and the performance indicated by the provider of internet access services in accordance with points (a) to (d) of paragraph 1 shall, where the relevant facts are established by a monitoring mechanism certified by the national regulatory authority, be deemed to constitute non-conformity of performance for the purposes of triggering the remedies available to the consumer in accordance with national law.

This paragraph applies only to contracts concluded or renewed from 29 November 2015.

51. In its guidelines BEREC clearly set out that a monitoring mechanism provided by an NRA and implemented for the purpose of Article 4(4) should be considered a certified monitoring mechanism (see BEREC guidelines, paragraph 161). The Bundesnetzagentur thus considers its desktop broadband speed checker app to be such a certified monitoring mechanism.

Clarification of the undefined legal terms "significant discrepancy, continuous or regularly recurring [...] regarding speed"

52. The German legislators considerably strengthened consumer rights with the revised version of the TKG, which came into force at the end of 2021. Section 57(4) sentence 1 para 1 TKG gives consumers the right to reduce their contractually agreed fee or terminate their contract extraordinarily, without compliance with a period of notice, in the case of non-conformity of performance. The condition is that there is a significant discrepancy, continuous or regularly recurring, between the actual performance of the internet access service regarding speed or other quality of service parameters and the performance indicated by the provider of internet access services in accordance with Article 4(1) points (a) to (d) of Regulation (EU) 2015/2120.
53. In light of the new legislation, the Bundesnetzagentur published an administrative order on the new reduction rules for fixed-network internet access in December 2021. The administrative order entered into force on 13 December 2021.
54. The Bundesnetzagentur produced a guide with specific requirements for the proof of performance procedure. The Bundesnetzagentur also released an updated version of the desktop broadband speed checker app that can be used to prove reduced performance. Further information is available at www.bundesnetzagentur.de/internetgeschwindigkeit and at www.breitbandmessung.de (in German).

Report in accordance with section 55(4) sentence 3 para 2 TKG

55. In the first twelve-month period following the entry into force of the new reduction rules (December 2021 to December 2022), 107,788 users began one or more sets of measurements using the desktop app to prove reduced performance in their fixed network. One set comprises 30 individual measurements. A total of 28,776 users completed at least one set of measurements. This is just over one quarter of the users.
56. The great majority of users therefore did not complete their measurements. Many consumers stopped taking measurements part-way through a set if the results were good. About 40% of all sets of measurements that were not completed were discontinued after the first measurement.
57. A comparison between complete and incomplete sets of measurements shows that more users who completed their measurements had lower download speeds in percentage terms (see Figure 1). Overall, the download speeds measured by users not completing their measurements were considerably higher than those measured by users completing their measurements. The median speed measured in the incomplete sets of measurements is 77.7% of the contractually agreed maximum speed, while the median in the complete sets is only 55.5%. A comparison of the upload speed measurements also shows better results in the incomplete sets of measurements. The median speed measured in the incomplete sets is 94.1% of the contractually agreed maximum speed, while the median in the complete sets is 84.8%.

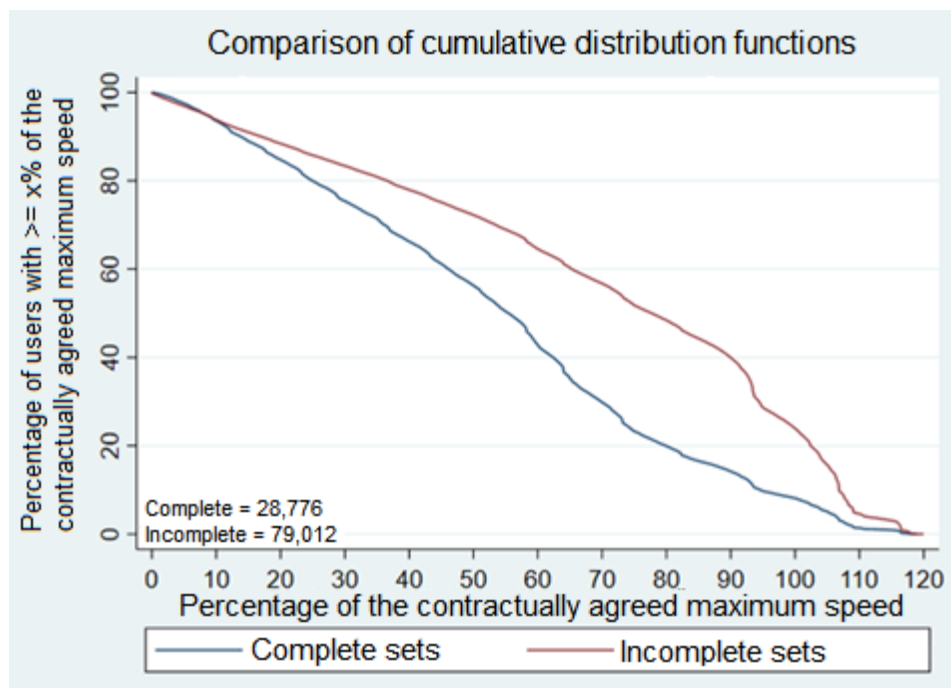


Figure 1: Comparison of the cumulative distribution functions for download speeds in complete and incomplete sets of measurements

58. The fact that the majority of the users obtaining considerably better results did not complete their measurements indicates that users will tend to discontinue their measurements when they obtain positive results. This may reflect lower expectations about a successful proof of performance procedure or basic satisfaction with the service provided.
59. The results also show that certain bandwidth categories have an unusually high proportion of users completing their measurements (see Figure 2). In bandwidth category 2 (8 Mbps to less than 18 Mbps), for example, the proportion of complete sets of measurements is 2.9 times larger than the proportion of

incomplete sets. The technical limitations of ADSL technology in this bandwidth category typically result in large differences between the maximum speeds advertised and those actually available. At the same time, the proportions are smaller in bandwidth categories 5 (50 Mbps to less than 100 Mbps), 6 (100 Mbps to less than 200 Mbps) and 7 (200 Mbps to less than 500 Mbps).

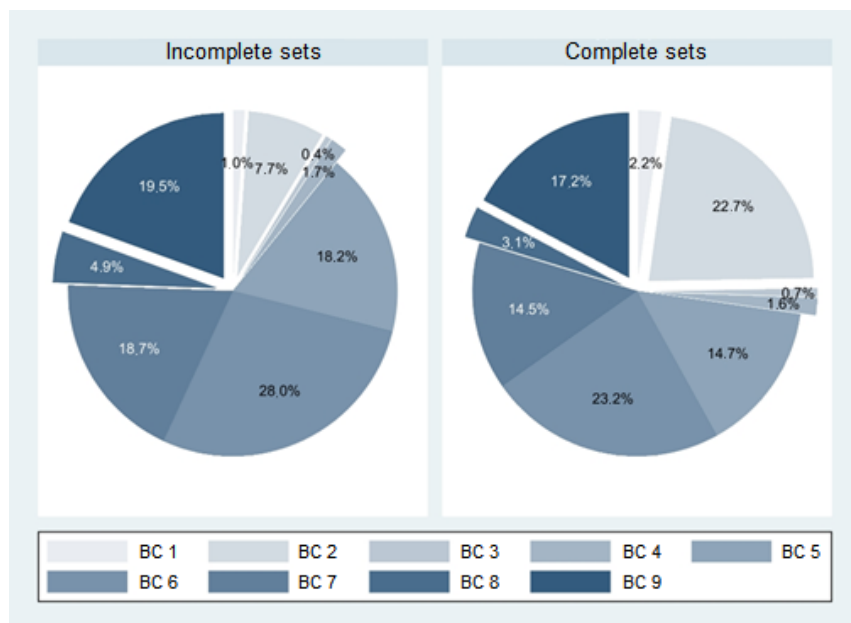


Figure 2: Proportions of users completing and not completing their measurements by bandwidth category⁹

60. Nearly all the sets of measurements that were completed demonstrated the end-users' entitlement to a reduction of their fee, with download speeds affected considerably more than upload speeds (see Table 1). This is due to a high proportion of asymmetric broadband connections for which it is comparatively easier to meet the upload criteria because the contractually agreed absolute speeds are lower. The pattern is the same for both download and upload speeds, with minimum speeds accounting for the lowest proportion of reduced performance and standard speeds accounting for the highest proportion in each case. Two or more criteria were not met in more than 90% of the complete sets of measurements.

Percentage of measurements in which criteria were not met

Criterion	Percentage of sets of measurements
Minimum download	50.4%
Standard download	88.2%
Maximum download	78.2%
Minimum upload	20.5%
Standard upload	60.0%
Maximum upload	47.1%

Source: Bundesnetzagentur

⁹ The broadband categories (BC) are defined as follows: BC 1: 2 Mbps to less than 8 Mbps; BC 2: 8 Mbps to less than 18 Mbps, BC 3: 18 Mbps to less than 25 Mbps; BC 4: 25 Mbps to less than 50 Mbps; BC 5: 50 Mbps to less than 100 Mbps; BC 6: 100 Mbps to less than 200 Mbps; BC 7: 200 Mbps to less than 500 Mbps; BC 8: 500 Mbps to less than 1,000 Mbps; BC 9: 1,000 Mbps to less than 2,500 Mbps.

61. The Bundesnetzagentur has also discussed the results of the proof of performance procedures with the largest providers affected who account for the large majority of the users of the procedure.

3.2.4 Additional legislative measures – Article 4(3)

Article 4(2) TSM Regulation

The requirements laid down in paragraphs 1 and 2 are in addition to those provided for in Directive 2002/22/EC and shall not prevent Member States from maintaining or introducing additional monitoring, information and transparency requirements, including those concerning the content, form and manner of the information to be published. Those requirements shall comply with this Regulation and the relevant provisions of Directives 2002/21/EC and 2002/22/EC.

62. At the national level, additional transparency requirements were adopted during a previous reporting period by way of the Ordinance concerning the promotion of transparency in the telecommunications market ("Transparency Ordinance"). This Ordinance regulates the publication of information and additional measures for cost control on the telecommunications market.
63. The Transparency Ordinance entered into force on 1 June 2017. It was amended by the Telecommunications Legislation Modernisation Act (TKModG) of 23 June 2021. As before, it requires fixed network and mobile providers to provide more transparency when offering internet access services.
64. Providers of internet access services must provide product information sheets where the consumer can quickly see the essential contractual provisions in a simple way before concluding the contract. The product information sheet contains details of the available data transmission rates, the term of the contract and the monthly costs. Consumers are also informed of the contractually agreed data allowance (if relevant).
65. Moreover, consumers have the right to inform themselves of the quality of their internet access service using reliable measurement results, in particular regarding the available data transmission rates and how the rates achieved compare to the contractually agreed maximum speed. The annex to the Ordinance sets out the format for this information. The provider of the internet access service must therefore inform the consumer of possible means of measuring the speed, for example by referring to the Bundesnetzagentur's broadband speed checker (see <https://breitbandmessung.de> – German website).

3.3 Supervision and enforcement – Article 5

Article 5(1) subparagraph 1 TSM Regulation

National regulatory authorities shall closely monitor and ensure compliance with Articles 3 and 4, and shall promote the continued availability of non-discriminatory internet access services at levels of quality that reflect advances in technology. For those purposes, national regulatory authorities may

impose requirements concerning technical characteristics, minimum quality of service requirements and other appropriate and necessary measures on one or more providers of electronic communications to the public, including providers of internet access services.

Enforcement measures

66. The Bundesnetzagentur takes action in the event of non-compliance with the net neutrality provisions. In the reporting period, in many cases providers of internet access services voluntarily ceased infringements of the provisions, whereas in others no infringement was detected. Some processes that were instigated in the reporting period to enforce Article 3 of the TSM Regulation are still pending.

Broadband speed checker

67. The Bundesnetzagentur provides a monitoring mechanism, the "Breitbandmessung" broadband speed checker, which allows consumers to monitor the quality and performance of their broadband internet access. An installable version (desktop app) can be used for fixed-line broadband and an app-based one (Android and iOS) for mobile connections. A browser-based test is also available to test performance when surfing the internet.

68. The measurement process used in the actual testing is technically identical for both fixed and mobile connections. The test measures the data transmission rate in both the download and upload directions. The measurement result is presented as an absolute value and as a relative value for the contractually agreed speed. Thus, the broadband speed checker allows the data transmission rate actually measured of a broadband connection to be compared with the data transmission rate contractually agreed. In addition, the delay and packet loss parameters are measured. However, only the time delay is presented to the end-user.

69. As well as being used as a monitoring mechanism to prove reduced performance (see paragraph 55 et seq), the broadband speed checker is used to collect test samples via crowdsourcing. The results are presented in an annual broadband speed test report. The seventh annual report was published on 15 March 2023.

70. Furthermore, the end-user can see in a map view the data transmission rates measured in specific regions; these are displayed as NUTS-3 clusters and in a table. Whereas the annual report on the broadband speed tests is for a fixed time period, the maps are updated daily and show the results of the previous 6, 12, 24 and 36 months.

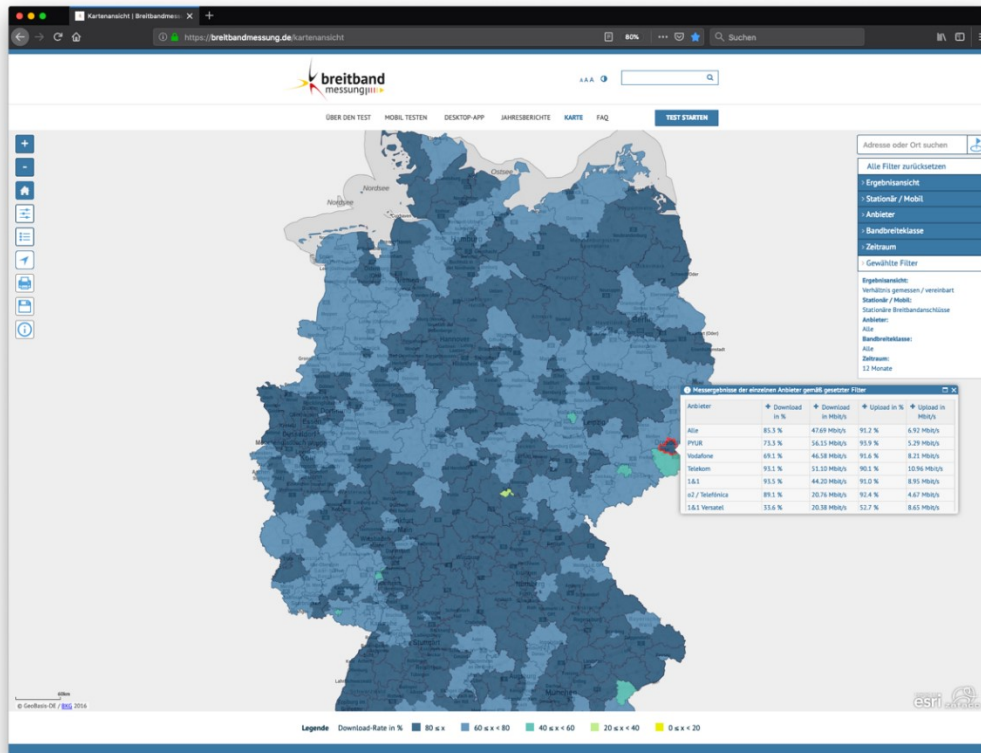


Figure 3: Example of map displaying aggregate results for the NUTS-3 level

71. It is important to note that the results obtained using the broadband speed checker depend on the end-user that is performing the test and the tariff that they have agreed with their provider. It is therefore not possible to draw conclusions from the results about broadband coverage or the availability of broadband internet access.
72. For the purposes of the speed tests, a drop-down list of providers' tariffs is drawn up using the tariff data reported by the telecommunications companies. The users then select their individual tariff from the drop-down list before carrying out their tests.
73. The test sample is validated in an extensive process. In particular, any possible cause of measurement errors due to the end-user's environment is excluded as far as possible using both technical information and information provided by the end-user.
74. Furthermore, multiple tests carried out on any fixed broadband connection are excluded for statistical reasons. Only one test per line and quarter is used for the report. Multiple tests on mobile broadband connections are kept in the sample due to the fact that even a minimal change in location may produce a completely different result.

Main findings of the seventh annual report

75. The tests covered in the seventh annual report were carried out in the period from 1 October 2021 to 30 September 2022. The report covers a total of 398,747 valid tests on fixed broadband connections and 623,581 valid tests on mobile broadband connections.
76. Fixed broadband lines: in the year under review the proportion of all desktop app users across all bandwidth categories and providers whose connection had a download speed at least half their

contractually agreed maximum speed was 84.4%; the proportion of users whose connection had a speed equivalent to or higher than their contractually agreed maximum speed was 42.3%. For the first time the report also includes gigabit-speed connections, which is why in terms of aggregated values no comparison can be made with the previous year, which only looked at connections up to 500 Mbps.

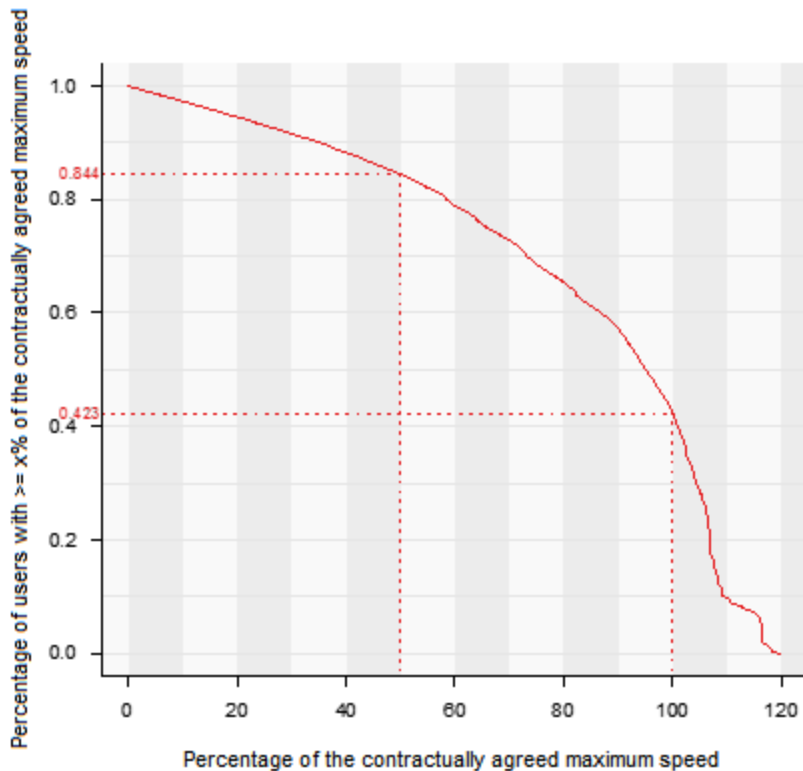


Figure 4: Percentage of the contractually agreed maximum speed

77. The results were mixed as regards bandwidth categories, providers and the time of day. Based on the speeds measured as a percentage of the contractually agreed maximum speeds, upload performance was generally similar to download performance. End-users in the upper bandwidth categories, in particular, generally obtained better results for latency times.
78. Most end-users (78.2%) were satisfied with the performance of their broadband connection (rating of 1 to 3 on a scale of 1 to 6, with 1 being the highest). Fewer than 11% of end-users gave their connection a rating of 5 or 6. Users were asked to rate their satisfaction before carrying out the speed tests. The actual speeds measured by satisfied end-users were closer to the contractually agreed maximum speeds.
79. Mobile broadband connections: overall, mobile broadband performance was considerably lower than fixed-line broadband. The proportion of users across all bandwidth categories and providers whose connection had a download speed at least half their contractually agreed estimated maximum speed was 23.2% (2020/2021: 20.1%); the proportion of users whose connection had a speed equivalent to or higher than their contractually agreed estimated maximum speed was 3.0% (2020/2021: 2.6%).

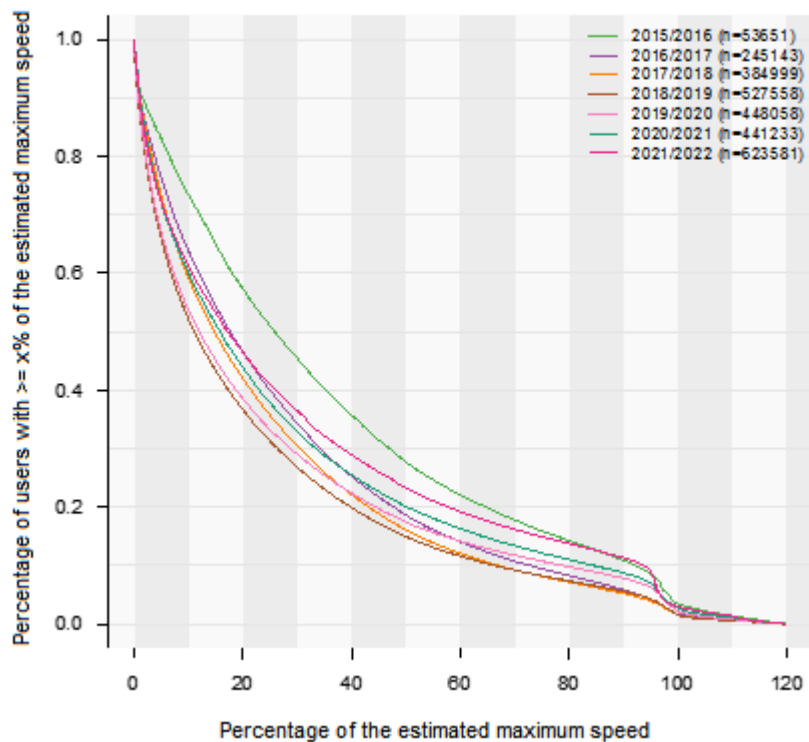


Figure 5: Percentage of the contractually agreed estimated maximum speed

80. Again, the results differ with respect to bandwidth categories, providers and time of day. The results show that the proportions for the higher bandwidth categories were generally lower. Based on the speeds measured as a percentage of the contractually agreed estimated maximum speeds, upload performance was similar to download performance. The latency measured on mobile broadband connections was noticeably higher than on fixed broadband connections. The positive trend towards decreasing latency that was seen in previous years has largely not continued.
81. A large majority of end-users (70.8%) once again gave their providers a rating of 1 to 3 (on a scale of 1 to 6, with 1 being the highest). This is lower than in the previous 12-month period (2020/2021: 75.7%). Users were asked to rate their satisfaction before carrying out the speed tests. The mobile broadband speeds measured as a percentage of the contractually agreed speeds were again low. This suggests that mobile broadband users still tend to rate mobility and absolute speeds rather than whether or not they actually receive their advertised speeds.

4 Penalties – Article 6

Article 6 TSM Regulation

The requirements laid down in paragraphs 1 and 2 are in addition to those provided for in Directive 2002/22/EC and shall not prevent Member States from maintaining or introducing additional monitoring, information and transparency requirements, including those concerning the content, form and manner of the information to be published. Those requirements shall comply with this Regulation and the relevant provisions of Directives 2002/21/EC and 2002/22/EC.

82. Various infringements of Article 3 and Article 4 can be penalised by a fine (see section 228 subsection (4) paras 1-5 in conjunction with subsection (7) TKG). The maximum fine that can be imposed differs in each case.
- The maximum fine for serious breaches of the net neutrality provisions – for example for 1) agreements and commercial practices infringing Article 3(2), 2) traffic management measures that are not permitted under Article 3(3) subparagraph 3 sentence 1, and 3) failure to comply with an order of the Bundesnetzagentur – is €1mn (see section 228(7) para 1 c)) or, in the case of legal persons or associations of persons with an average turnover of more than €100mn, up to 1% of the average annual turnover achieved worldwide in the previous three years (see section 228(8) para 2 TKG).
 - The maximum fine for infringements of the transparency measures in accordance with Article 4(1) sentence 1 is €100,000 (see section 228(7) para 4 TKG).
 - The maximum fine for failure to comply with information requests under Article 5(2) is €10,000 (see section 228(7) para 6 TKG).
83. Moreover, a fine between €1,000 and €10mn can be imposed if a provider of internet access services does not comply with an official order (see section 202(5) TKG).
84. A fine imposed in regulatory offence proceedings serves as a penalty, whereas a fine imposed in administrative proceedings serves to encourage the addressee to comply with an official order.

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List of abbreviations

APN	access point name
BEREC	Body of European Regulators for Electronic Communications
BfDI	Federal Commissioner for Data Protection and Freedom of Information
BGH	Federal Court of Justice
BSI	Federal Office for Information Security
BSIG	Act on the Federal Office for Information Security
Bundesnetzagentur	Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen
CUII	Online Copyright Clearance System
DNS	domain name system
GDPR	General Data Protection Regulation
ECJ	European Court of Justice
EU	European Union
IP	internet protocol
IPTV	internet protocol television
IPv4	internet protocol version 4
IPv6	internet protocol version 6
LG	regional court
LTE	long term evolution
M2M	machine-to-machine
Mbps	megabits per second
NRA	national regulatory authority
NUTS	Nomenclature of Territorial Units for Statistics
OLG	higher regional court

TKG	Telecommunications Act
TKModG	Telecommunications Legislation Modernisation Act
TMG	Telemedia Act
TSM Regulation	Telecommunications Single Market Regulation; Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and retail charges for regulated intra-EU communications and amending Directive 2002/22/EC and Regulation (EU) No 531/2012
TTDSG	Telecommunications Telemedia Data Protection Act
VG	administrative court
vzbv	Federation of German Consumer Organisations

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