

RTR NET NEUTRALITY REPORT 2023

Report pursuant to Art. 5 Par. 1 of Regulation (EU) 2015/2120
laying down measures concerning open internet access

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June 2023

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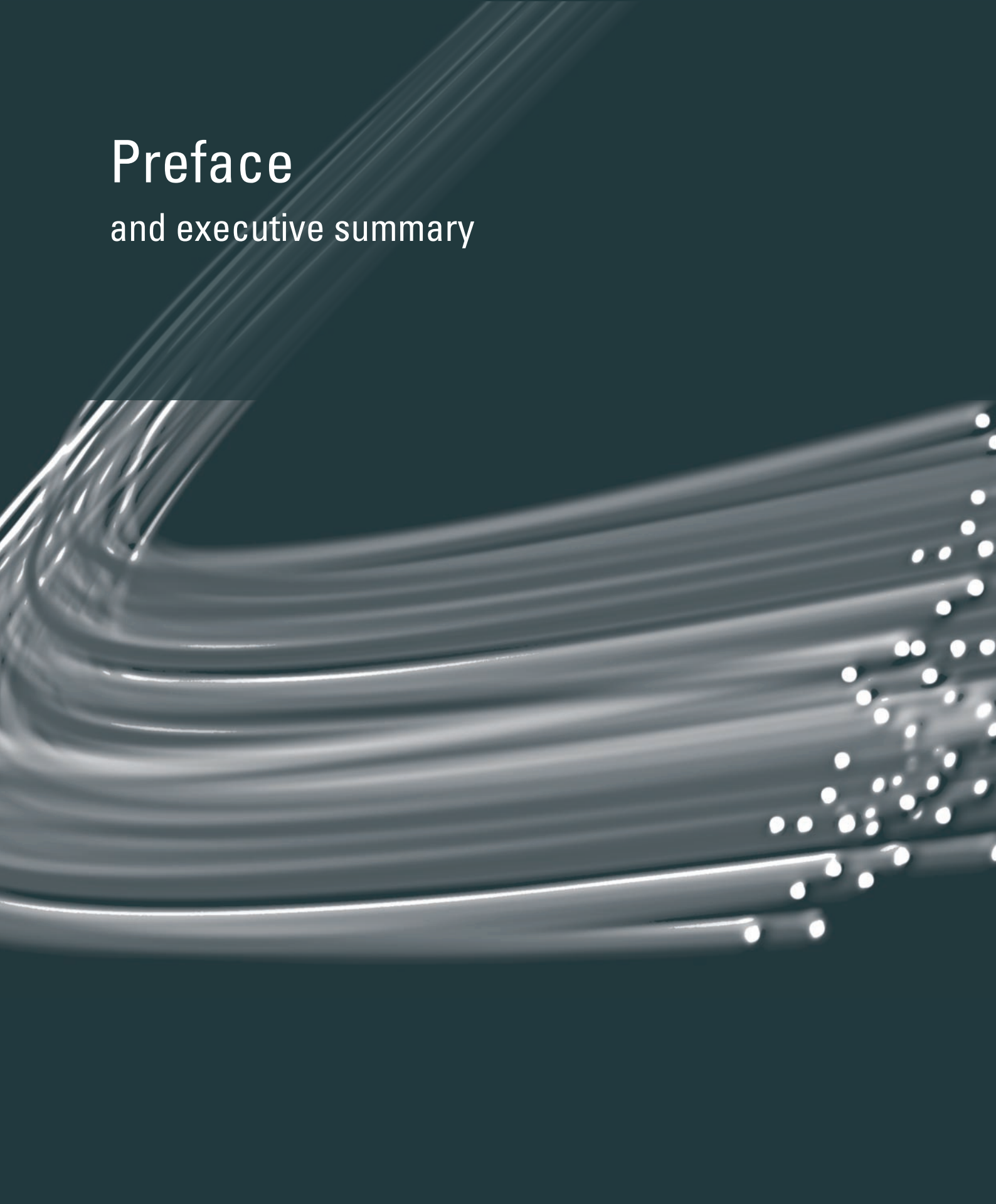
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Chapter 1

Preface and executive summary



01 Preface and executive summary

Dear reader,

Net neutrality has been a key issue in the past and still is today. Perhaps it is even more relevant now than in recent years. In many respects, how we handle or plan to handle net neutrality is very much affected by technological advances and accompanying developments in society. As we present you with this seventh Net Neutrality Report, only one thing is really certain: discussion on the topic is far from over, with no end in sight.

What value do we as a society place on an open internet that is freely accessible for every single individual? Do we have too much or too little regulation? And how indeed do we regulate net neutrality? Where is there a need to review current regulatory approaches?

And the list could go on and on...

With no end in sight. As soon as we have pegged the key issues and agreed on our basic response, new questions crop up, both challenging and exciting. A freely accessible, open internet is a pillar of our democratic society, and ensuring it is an exciting ongoing challenge that we as the competent regulatory authority face.

This is the seventh RTR Net Neutrality Report on the openness of the internet in Austria. It has been prepared to provide the interested public with a full overview of our activities as regulatory authority during the past twelve months, while also outlining changes in and the current status of net neutrality in Austria.

One long-standing issue here is how to ensure (fair) participation of all actors in the internet ecosystem. Even before 2015 when the Net Neutrality Regulation was being drafted, demands were raised to commit over the top players (OTTs) to contribute towards the cost of expanding infrastructure. Back then, arguments such as 'more fairness' and ensuring a 'level playing field' in relations between access networks (ISPs) and OTTs were discussed intensively, as is the case again today. As recently as the previous reporting period, one of the potentially key issues appearing on the EU horizon was whether to require content providers to share in the costs of using the networks operated by ISPs (i.e. 'fair share' or 'sending party network pays' models). Discussions culminated in a consultation announced by the European Commission on 17 February 2023.

As the RTR division competent for the issue, we held a workshop on 14 March 2023, inviting representatives from all stakeholder businesses and organisations, as well as from interest groups and other authorities. The regulatory authority contributed the information it had gathered to a statement published on 19 May 2023 by BEREC in response to the consultation by the European Commission. Here we take a rather critical view of introducing traffic-related tariffs as proposed by network operators. We are nonetheless keen on continuing the discussion of alternative incentives to support infrastructure expansion goals, playing an active role here.

On the topic of zero-rating, I would refer you to the details presented below in the report. The important point is that we have been able to resolve related disputes over products employing zero-rating. 'Conventional' zero-rating in Austria is now a thing of the past, thanks to an order issued by the Telekom-Control-Kommission (TKK) that provides for a solution suitably addressing the business concerns of operators as well. A freely accessible, open internet contributes, among other things, towards innovation in the internet ecosystem, and drives product diversity.

Network blocking is seeing more and more use cases, potentially increasing conflicts with net neutrality. The mechanism is being applied in a growing number of areas: copyright law, consumer protection law, as a wartime sanctions measure or even as a market control tool for products offered in the EU. This means that ISPs are constantly being held accountable for enforcing legislation relating to online activities. The current legislative framework faces national regulatory authorities, providers and internet users with a dilemma yet to be resolved by policymakers: how are we to harmonise the goals of preserving legal certainty, legal protection and the fundamental rights of all stakeholders concerned?

Here we need to recognise that the various circumstances leading to any network block also need to be differentiated when assessing the specific case. One of our main related activities during the reporting period was reviewing blocking mechanisms aimed at copyright protection. Certain types of blocking in particular have the inherent risk of overblocking, resulting in collateral damage by superfluously blocking legal websites. Such cases need to be carefully reviewed by the TKK, an independent authority. Little would suggest that such cases will decline in future.

I wish to take this opportunity to personally thank all of our experts at the RTR Telecommunications and Postal Services division, who through their work have contributed to various aspects of net neutrality in Austria and at an international level.

All of us here at RTR share the priority concern of ensuring a freely accessible internet, as a means of allowing each and every individual in Austria and throughout Europe to participate in the economy and society.

Vienna,
June 2023

Klaus M. Steinmaurer

*Managing Director
Telecommunications and Postal Services Division
RTR*

Chapter 2

Introduction, stakeholders, institutions and the scope of enforcement



02 Introduction, stakeholders, institutions and the scope of enforcement

This *seventh* Annual Report on *Net Neutrality* by the Telecommunications and Postal Services Division of the Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR) addresses the same major topics as covered in last year's report. The aim here is to provide readers with an overview of the regulatory authority's broad range of activities.

How open is the internet in Austria? Which measures had to be adopted by regulators in the reporting year (1 May 2022 to 30 April 2023, inclusive) to ensure the openness of the internet? What new product developments potentially offer advantages for consumers while at the same time potentially harbouring risks for the future sustainability of the internet?

As in the past, internet service providers (ISPs) continue to be the group primarily targeted by net neutrality provisions. The EU Regulation is mainly concerned with adapting to changing technical capabilities and enabling any new business models developed by ISPs, while not compromising the internet's innovative power. The TSM Regulation accordingly identifies business practices, technical measures and obligations (such as ensuring transparency for end users) that are necessary or to be avoided in order to uphold net neutrality. Besides ISPs, the Regulation both empowers and addresses in particular end users, meaning private citizens and businesses as well as providers of content, services or applications. These groups are entitled to free access to an open internet.

In Austria, the Telekom-Control-Kommission (TKK) and RTR are responsible for enforcing the TSM Regulation. Supervisory procedures are the TKK's responsibility, while the preceding request-for-information procedures are conducted by the RTR's Telecommunications and Postal Services Division. Another aspect relating to net neutrality is the requirement for general terms of business and fee provisions to be submitted to RTR before commencement of the service. The TKK may prohibit the application of general terms of business if they contravene the Telecommunications Act 2021 (TKG 2021) or specified consumer protection regulations. All relevant changes in contract conditions (including those that affect net neutrality) must be submitted to the regulatory authority. These changes are reviewed for compliance with the minimum contractual content given in the TSM Regulation. This gives the regulatory authority an efficient early warning mechanism – even though infringements of other provisions of the TSM Regulation can only be prohibited *ex post*. Another option is for the regulatory authority to impose reporting requirements on a company, which can help to better assess the impact on the market.

RTR is a convergent telecoms, postal and media organisation, and its divisions, for Telecommunications and Postal Services and Media, consult both mutually and with the TKK and the Austrian Communications Authority (KommAustria) on all key issues relating to net neutrality. This is significant, not least because certain net neutrality issues (such as specialised services) may also exhibit an overlap with media topics. The present annual report is based on an obligation imposed on the European national regulatory authorities by the TSM Regulation. One aim of this obligation is to achieve a highly consistent, EU-wide approach to the application of net neutrality provisions.

While working with ISPs, the regulatory authority continues to pursue the policy of identifying infringements of the TSM Regulation (monitoring), at the same time raising awareness for the topic among ISPs, with the ultimate aim of creating a stable environment for entrepreneurial activity and innovation. Where infringements of net neutrality rules are found, the authority envisages appropriate transition periods for their resolution. This allows businesses to adjust to the new legal standards without experiencing disruptive interventions.

Net neutrality is a topic that must always be approached in awareness of changes over time. Increasingly, issues are now emerging that relate to implementing net neutrality concepts in the context of the fifth-generation mobile network standard (5G). Other questions relate to resource distribution across various virtual network elements (network slicing) and their classification within the scope of the TSM Regulation or network blocks arising from sanctions imposed by the EU on Russia as a result of the war in Ukraine. Debate has recently been rekindled about the potential financial involvement of content providers for their 'use' of ISP networks, topic discussed back in 2012 during the drafting of the TSM Regulation. As more and more areas of day-to-day life shifted online, attention is increasingly being given to the importance of free access and the openness of the internet – the principle of net neutrality.

Section 3 presents readers with a chronological overview of the activities of the national regulatory authority, while section 4 focuses on current developments in relation to 'sending party network pays' ('fair share'). In section 5, we see that the review of the TSM Regulation by the European Commission commended both the Net Neutrality Regulation and the national regulatory authorities. Section 6 provides an overview of activities in relation to zero-rating, while section 7 covers internet blocking. Section 8 describes measures for protecting net neutrality. Section 9 takes a look at additional systems used to monitor net neutrality, while providing a set of key figures that describe the development of the internet in Austria. The last part of the report, section 10, presents a brief summary of the projects and events expected in the next reporting year.

Chapter 3

Timeline

of regulatory authority activities



03 Timeline of regulatory authority activities

Figure 01: Timeline of events in the reporting period

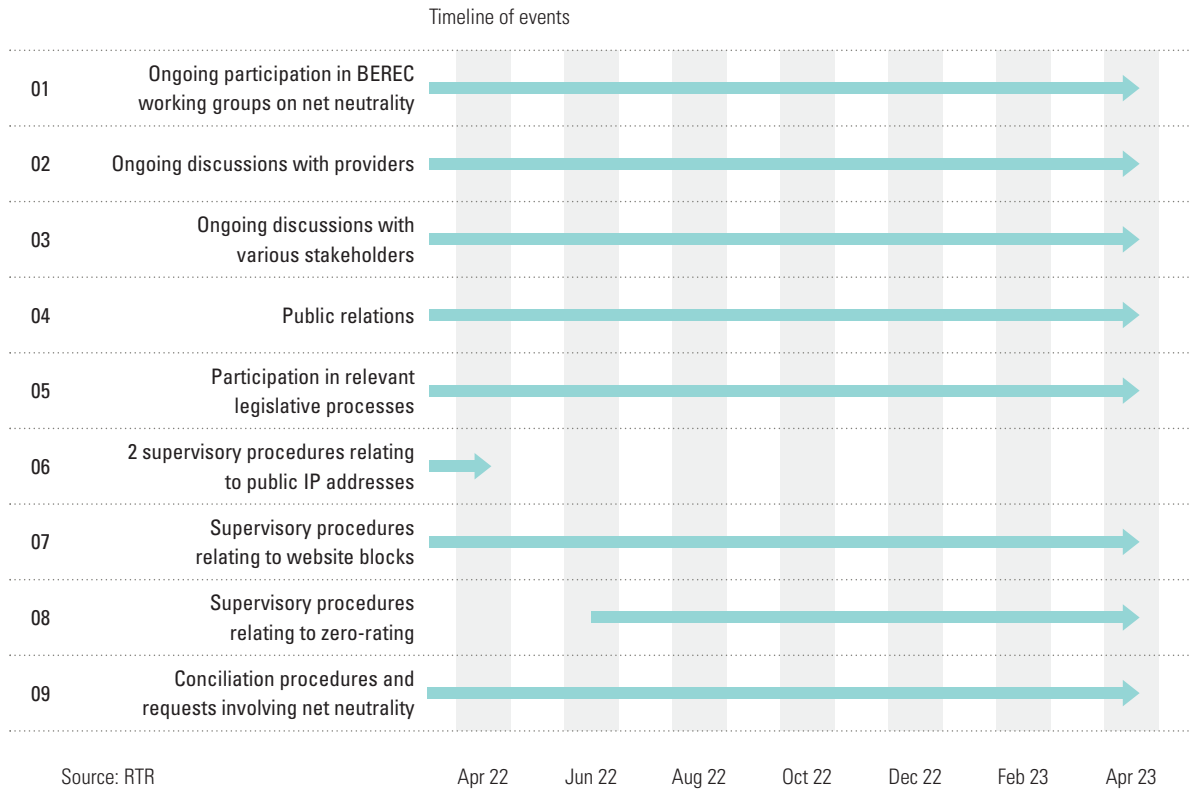


Figure 1 shows the chronological sequence of relevant events during the reporting period (May 2022 – April 2023). The table below gives an overview of these events, with a brief description in each case and giving the time period involved. Further details about these procedures can be found in section 8.

Table 01: Timeline of events in the reporting period

Work in EU bodies		
01	Current	<p>Participation in the BEREC Open Internet Working Group on net neutrality (open internet)</p> <p>Topics in 2022: Update to the Guidelines on the Implementation of the Open Internet Regulation, Implementation of Regulation (EU) 2015/2120 and BEREC Guidelines on the Implementation of the Open Internet (OI) Regulation, Collaboration on the Net Neutrality Measurement tools and evolution of the regulatory assessment methodology (carry over), Report on the Internet Ecosystem (carry over; previously: Report on the Internet Value Chain), Charging for interconnection/fair share</p> <p>Topics in 2023: Implementation of the Open Internet Regulation and the BEREC Open Internet Guidelines, Collaboration on Internet access service measurement tools, BEREC Report on the IP Interconnection ecosystem (carry over), BEREC Guidelines detailing Quality of Service (QoS) parameters, Charging for interconnection/fair share, BEREC input to the exploratory consultation on the future of the connectivity sector and its infrastructure</p>
National status quo analysis/discussion with ISPs		
02	Current	Discussions with providers on the topic of net neutrality
03	Current	Discussions with various stakeholders
04	Current	Public relations
05	Current	Participation in relevant legislative processes
Enforcement of TSM Regulation		
06	Nov. 2017 – April 2022	One ISP lodged a complaint in response to the TKK's decision to impose a cease order and submitted a petition for recognition of the suspensory effect. The Federal Administrative Court (BVwG) rejected in 2018 the petition for recognition of suspensory effect. In April 2022, the ISP withdrew the complaint and the BVwG ruled to terminate proceedings.
07	Oct. 2016 – December 2021	One ISP lodged a complaint in response to the TKK's decision to impose a cease order and submitted a petition for recognition of the suspensory effect. The Federal Administrative Court (BVwG) rejected in 2018 the petition for recognition of suspensory effect. The complaint was rejected by the BVwG in 2020. In June 2020, the ISP appealed to the Supreme Administrative Court (VwGH), submitting a petition for recognition of suspensory effect. In December 2021, this appeal was rejected as unjustified by the VwGH.
08	In progress since Jan. 2018	A total of 60 procedures involving the auditing of access blocks for certain websites due to injunction claims based on copyright. Of the total of 60 cases, 53 involve or involved supervisory procedures, meaning ISPs had already set network blocks. The procedures concluded to date were dropped in the absence of any infringement of Art. 3 of the TSM Regulation, i.e. a breach was either not identifiable at the outset or was resolved during the procedure. The other six cases involved 'assessment' procedures, where ISPs had requested an assessment as to whether a network block was prohibited. (See sections 7 and 8 for further details.)

Enforcement of TSM Regulation		
09	Feb. 2019 – April 2022	Continuation by the RTR Telecommunications and Postal Services Division of the request-for-information procedure initiated by the TKK against one ISP. The provider had until April 2022 to implement requirements.
10	April 2019 – April 2021	The TKK issued assessment decisions in order to prohibit the use of certain network blocks. In 2020 the BVwG overturned the TKK's decisions. Following appeals lodged by the TKK, the VwGH then overturned the decisions issued by the BVwG. The TKK's decisions were affirmed and are now final.
11	Apr 2021	In April 2021, the TKK issued a decision against a provider relating to failure to assign (at least) a dynamic public IPv4 address to end users. The ISP has submitted no complaint in response to the decision.
12	February 2022 – March 2023	Four request-for-information procedures were conducted relating to traffic management measures, and the equal treatment and non-discrimination of certain content, services or applications (zero-rating options). Four supervisory procedures were duly initiated in June 2022 and four decisions were issued in November 2022. The ISPs declined to lodge objections to the decisions and provided timely reports demonstrating that they had discontinued the practices as required by the end of March 2023 (see sections 6 and 8 for further details).
13	March 2022 – June 2022	Nine supervisory procedures in conjunction with the announcement of website blocks on the part of ISPs (based on Council Regulation (EU) 2022/350). Procedures dropped; no infringement of Art. 3 of the TSM Regulation identified (see section 8 for further details).
14	Apr. 2022 – May 2022	Announcement of website blocks by two ISPs in the context of the EU Sanctions Regulation (Council Regulation (EU) 2022/350). The TKK informed these ISPs that no supervisory procedures pursuant to the TSM Regulation would be initiated.
15	In progress since June 2022	Announcement of website blocks by five ISPs in the context of the EU Sanctions Regulation (Council Regulation (EU) 2022/350). The TKK informed these ISPs that no supervisory procedures pursuant to the TSM Regulation would be initiated.
16	January 2023 – February 2023	Announcement of website blocks by eight ISPs in the context of the EU Sanctions Regulation (Council Regulation (EU) 2022/350). The TKK informed these ISPs that no supervisory procedures pursuant to the TSM Regulation would be initiated.
17	February – April 2023	Announcement of website blocks by nine ISPs in the context of the EU Sanctions Regulation (Council Regulation (EU) 2022/350). The TKK informed these ISPs that no supervisory procedures pursuant to the TSM Regulation would be initiated.
18	Current	Conciliation procedures and enquiries relating to net neutrality (for further details, see section 8).

Chapter 4

Sending party network pays (fair share)

The background of the slide is a dark teal color. It features a complex, abstract pattern of glowing, curved lines that resemble fiber optic cables or light trails. These lines are primarily white and light gray, with some areas appearing as bright, multi-colored streaks. The lines curve from the top left towards the bottom right, creating a sense of movement and depth. The overall effect is a futuristic, high-tech aesthetic.

04 Sending party network pays (fair share)

During the reporting period, a discussion developed in relation to the topic of net neutrality about the fees charged for routing data traffic on the internet. A broad coalition of ISPs led by major European providers began the debate by calling for the introduction of mandatory 'fair share' fees to be paid to ISPs by content providers within a regime based on the 'sending party network pays' (SPNP) model. This request was justified by arguing that most of the data transfers that take place allegedly stem from a few major content providers, such as Amazon, Google, Netflix or Meta.¹ These content providers, argued the ISPs, thereby benefit from the network infrastructure investments made by ISPs, without themselves making any contribution.

These claims were investigated by the European Commission, which on 23 February 2023 ultimately decided to launch an exploratory consultation² with the aim of collecting additional data on the subject. At European level, BEREC had already published a preliminary assessment that addressed SPNP from a number of perspectives in September 2022.³ Alongside a number of other arguments that reject the introduction of these kinds of direct payments, the BEREC report concludes that such payments would also undermine the principles of net neutrality. One point of contact with the IP interconnection markets, which are not directly regulated per se by the Net Neutrality Regulation, is also identified by the BEREC Guidelines on the Regulation,⁴ which in paragraph 6 do consider practices in these self-same markets as being governed by the Net Neutrality Regulation insofar as they affect the rights that are guaranteed by the Regulation.

On 14 March 2023, RTR's Telecommunications and Postal Services Division (RTR FB TKP) held a workshop to gather stakeholder input. The regulatory authority contributed the information it had gathered, to be included a statement published by BEREC in response to the abovementioned consultation from the European Commission on 19 May 2023 (i.e. after the reporting period).⁵ For its part, the RTR FB TKP essentially follows the line of argument published by BEREC and therefore views the introduction of mandatory fees, such as has been proposed by the provider lobby, in a critical light.

State intervention, especially at this scale and to this degree, must be well-justified. In the opinion of the regulatory authority, this would require a clear failure of the markets to the disadvantage of end users. However, sufficient evidence for a market failure of this kind has not been observed to date in the IP interconnection markets – the markets in which any intervention would take place. Conversely, there is also considerable risk of such an intervention creating distortion in interconnection markets and neighbouring markets, which could ultimately have adverse effects on end users throughout Europe. In addition, an SPNP mechanism, in its most recently discussed form, would also seem unable to ensure that the fees received from content providers by telecoms providers would actually be invested in additional expansion.

¹ <https://etno.eu/library/reports/105-eu-internet-ecosystem.html>

² <https://digital-strategy.ec.europa.eu/en/consultations/future-electronic-communications-sector-and-its-infrastructure>

³ BoR (22) 137.

⁴ BoR (22) 81.

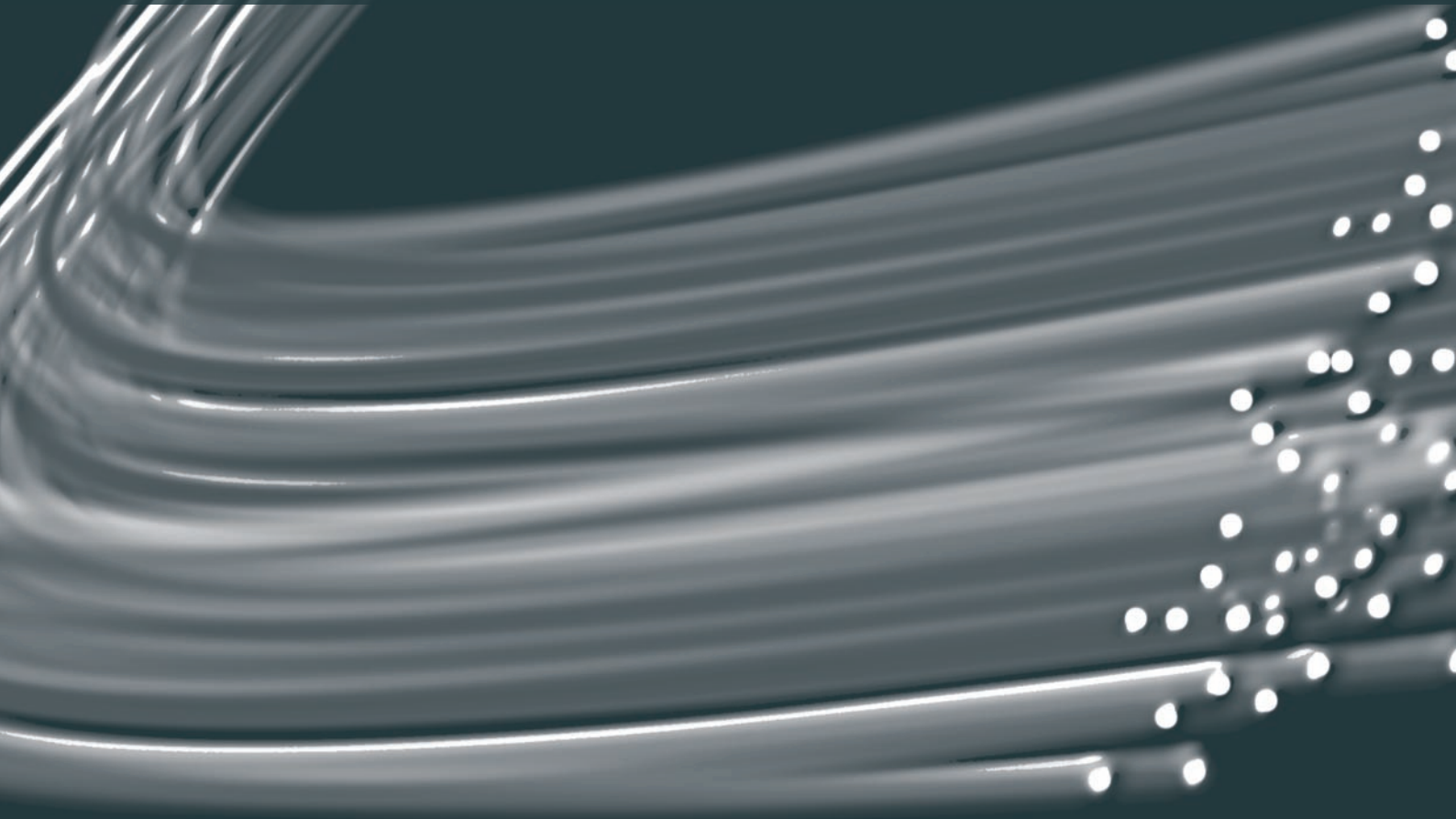
⁵ BoR (23) 131.

Whether this additional income would be used for infrastructure expansion, or for marketing, business expansion or dividends, has not been seriously addressed by the model proposed to date. Furthermore, these fees would not necessarily be paid out to the companies or organisations responsible for setting up access networks. After all, many networks in Austria are set up by municipalities that do not then operate as ISPs. Equally, there are many ISPs who rent network access and do not set up access networks themselves. Fair competition could even be threatened if major ISPs, who have greater negotiating power, could benefit disproportionately from the intervention.

The regulatory authority continues to take an active part in analyses and dialogue with stakeholders and is, as ever, ready and willing to discuss other potential forms of support for reaching rollout goals.

Chapter 5

Review of the Telecoms Single Market Regulation (TSM Regulation)



05 Review of the Telecoms Single Market Regulation (TSM Regulation)

The European Commission recently published a report⁶ on the implementation of the TSM Regulation on 28 April 2023. The Commission publishes such a report every four years. This second report aims to assess implementation of the Regulation since 2019 while also considering market developments and the latest technological advances.

The report confirms that restrictions on the use of terminal devices (free choice of router/network termination point) are relatively widespread and that the situation across Europe remains varied. It is recommended that “the NRAs and BEREC could explore a more coordinated approach and narrower definitions”. Regarding ECJ judgements on ‘zero tariff’ (zero-rating) options, the report states that there is general agreement among stakeholders that the ECJ rulings and the updated BEREC guidelines on the topic have provided clarity regarding these ‘zero tariff’ options.

In many Member States, content is blocked on the basis of legal requirements and thus court orders. Such content includes illegal games of chance and child pornography, extremist material, copyright infringements, threats to the State and content blocked as a result of sanctions targeted against Russia by the European Union. Regarding the impact of the Covid-19 pandemic on traffic management, the report cites this as an outstanding example of the adaptability and applicability of the Regulation to specific challenges. This example provides “strong evidence that the interplay of the Regulation, the BEREC guidelines, and the cooperation of the Commission provides for a future-proof tool to manage unexpected developments as and when they occur”.

On the topic of 5G technologies (network slicing, QoS identifier), the report notes that the Regulation was deliberately conceived as a rule set applicable to new technologies and services. Neither BEREC nor the Commission is aware of specific examples where the implementation of 5G technology would be impeded by the Regulation.

Looking at technological developments and specialised services, the report authors state that greater legal certainty could be beneficial for innovators and consumers alike in the future. The TSM Regulation has significantly improved transparency. Supervision and enforcement practices differ widely between Member States. Whereas some NRAs conclude cases with formal findings or decisions, others enforce the provisions of the Regulation by means of informal dialogue and others use a combination of approaches to achieve compliance. Stakeholders broadly agree that national regulatory authorities have acted in accordance with the BEREC guidelines. Sanctions imposed at national level for rule infringements in relation to ensuring net neutrality show considerable variation.

The report concludes by noting a significant pace of technological change since the 2019 report, with major changes experienced both within markets and at geopolitical level. The Commission views both the Regulation and its implementation as successful.

⁶ <https://digital-strategy.ec.europa.eu/en/library/second-report-implementation-regulation-open-internet-access>

Chapter 6

Zero-rating

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06 Zero-rating

6.1 Decisions by the TKK

In autumn 2021, the ECJ ruled that ‘zero tariff’ (zero-rating) options are unlawful (prohibition of ‘conventional’ zero-rating). Such options involve commercial considerations being applied to distinguish between certain kinds of internet traffic so that the data consumed by specified partner applications is not deducted from the base subscription package. A business practice of this nature infringes the general requirement imposed by the TSM Regulation to treat traffic equally without discrimination or disruption.

With zero-rating, data for certain application or groups of applications (including chat services and music services) are transferred at no cost, meaning these data are not deducted from the volume included in the subscription). This is therefore a business practice that primarily involves the billing of data consumption.

In February 2022, request-for-information procedures pursuant to the TSM Regulation were initiated, involving A1 Telekom Austria AG, educom GmbH, Hutchison Drei Austria GmbH and T-Mobile Austria GmbH. These procedures yielded an exhaustive and up-to-date dataset covering the number and nature of contracts potentially offering access to zero-rating subscriptions/packages.

In June 2022, BEREC published its updated guidelines on this topic while – almost simultaneously – the Telekom-Control-Kommission initiated supervisory procedures against the four providers, issuing decisions on 4 November 2022 requiring them to cease offering zero-rating contracts to existing customers by March 2023 (R 12/22, R 13/22, R 14/22 and R 15/22). A1 Telekom was prohibited from offering its zero-rated ‘Free-Stream’ service in subscriptions and options, and the zero-rated ‘epaper’ subscription service as part of existing customer contracts. T-Mobile was prohibited from offering its zero-rated ‘Magenta Stream’ service in subscriptions, as well as zero-rating as part of its add-on ‘Mediencenter’ subscription package for existing customer contracts. Hutchison was prohibited from offering its zero-rated ‘MyStream’ subscription service, as well as zero-rating as part of its ‘Spotify Premium’ and ‘3 Cloud’ add-on subscription packages for existing customer contracts. Lastly, educom was prohibited from offering its zero-rated ‘free e-learning’ subscription service for existing customer contracts, thereby infringing the principle of equal treatment as defined in the TSM Regulation.

6.2 End of the line for zero-rating in Austria

By the end of summer 2022, all providers had taken the proactive step of ceasing all advertising of zero-rated products and removing the possibility of signing up to new subscriptions featuring zero-rating. All providers also submitted timely confirmation that the measures required by the decisions (R 12/22, R 13/22, R 14/22 and R 15/22) had been implemented in November 2022 and that no zero-rated products were now being offered. Zero-rated products for existing customers were also discontinued by March 2023, which therefore marks the completion of the transition to compliant products according to the TSM Regulation.

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Internet blocking

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07 Internet blocking

7.1 Overview of activities

To safeguard net neutrality, the Net Neutrality Regulation requires providers of internet access services to refrain from blocking, throttling, changing, restricting, disrupting, impairing or discriminating against specific content, applications, services or categories of the same. The Net Neutrality Regulation does also include some exceptions to this basic principle. Specifically, the listed measures can be taken insofar and for as long as they are necessary to comply with EU legislative acts or national legislation or related implementing measures.

The regulatory authority has been taking a closer look at the issue of network blocking for a number of years now. This stems from concerns that every network block compromises the core principle of net neutrality and potentially affects the right of internet users to freedom of expression, and also forces providers into the involuntary role of judges. The aim here must be to identify ways and means of maximising the legal protection and certainty enjoyed by all stakeholders. In keeping with this aim, legislative activities at national and European level are closely observed, with the resulting insights actively applied when transposing EU-level provisions into national law.

Accordingly, we have submitted numerous statements in review of draft legislation in recent years. In these reviews we have underscored the importance of free access to the open internet, and the technical challenges raised by network blocking. The regulatory authority is clearly aware of the completely new challenges arising as more and more daily activities are shifted to the internet, making it even more difficult and tedious for users to assert their rights. Nonetheless, it needs to be emphasised that network blocking is and must always be a last resort. Any excessive use would result in collateral damage and potentially jeopardise freedom of expression in a liberal society. After all, network blocking often entails the risk of 'overblocking'. An ISP only has a certain set of options for blocking online content, and these options often result in the blocking of not only illegal but also legal content. Accordingly, such measures should be used sparingly.

To ensure transparency, the RTR publishes all of the currently active blocking measures on its website.⁷ This list is also provided as open data.⁸

⁷ https://www.rtr.at/TKP/was_wir_tun/telekommunikation/weitere-regulierungsthemen/netzneutralitaet/nn_blockings.de.html

⁸ <https://www.data.gov.at/katalog/dataset/f7e9b0f3-60ab-4f53-964a-c6c88c3f681d>

7.2 Internet blocks to protect copyright

For more than 20 years, copyright law has included provisions whereby providers of internet access services, alongside the often elusive hosting service providers, may be required to set up internet blocks for websites ‘intentionally structured to infringe law’. In the past, this circumstance has led to various court cases involving ISPs and rights holders. Such cases regularly end up before national or European supreme courts. More recently, additional EU legislative instruments have required measures to limit the web content provided by various online agents. Examples include the Consumer Protection Cooperation Regulation⁹ and the Market Surveillance Regulation.¹⁰

The last reporting period again saw many procedures arising from internet blocks based on copyright law. Specifically, 30 supervisory procedures were initiated in the reporting period. Of these procedures, roughly half had been concluded by the issuing of a decision whereas the remaining procedures were still pending at the end of the period under review. Since the entry into force of the Net Neutrality Regulation, a total of 60 procedures have been conducted in relation to copyright to date; some of these procedures also involved multiple websites.

At the end of August 2022, the topic of internet blocking and the related problem of ‘overblocking’ once again attracted media interest.¹¹ After receiving copyright injunctions, several ISPs acted to block certain IP addresses, including those assigned to the cloud provider Cloudflare. This led to the unavailability of many other websites not the subject of the formal warning. These blocks were removed promptly, since a spokesperson from the rights holder announced that blocking of those IP addresses specifically blocked was not included in the formal warning issued to the ISP. This example once again highlights the very real practical dangers of ‘overblocking’, particularly in conjunction with blocking based on IP addresses.

7.3 Internet blocking pursuant to the Consumer Protection Cooperation Act (VBKG)

As of March 2021, network blocks can now also be set in another context, as permitted by the EU Consumer Protection Cooperation Regulation (CPC)¹² and accompanying Austrian legislation, the Consumer Protection Cooperation Act (VBKG). These rules are intended as an effective means of countering cross-border infringements of consumer rights. Numerous European authorities coordinate their efforts in this cause. Authorities can now file injunctions against businesses that infringe upon consumer rights. Sometimes, however, companies cannot be directly prosecuted in an online context. This might be the case where a company is established outside the EU and does not respond to claims. In such cases, the online intermediaries can be held accountable for remedying infringements at internet level. This could potentially be any information society service, including access providers, host providers, caching providers, search engine providers or even domain registration services. These providers are then ordered to delete the unlawful online content or set a network block. In Austria, the TKK is the authority responsible for taking measures involving intermediary online service providers. Here, network blocks can only be set after review and authorisation by an authority. The corresponding procedure defined by the TKK is aimed at resolving challenges and deficits relating to network blocking arising in the past. The procedure could serve as a model to be applied in other areas as well. Network blocks based on the CPC Regulation were not initiated or required during the reporting period.

⁹ Regulation (EU) 2017/2394 of 12 December 2017 on cooperation between national authorities responsible for the enforcement of consumer protection laws and repealing Regulation (EC) No 2006/2004, OJ 2017 L 345, p. 1.

¹⁰ Regulation (EU) 2019/1020 of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011, OJ 2019 L 169, p. 1.

¹¹ <https://blog.cloudflare.com/de-de/consequences-of-ip-blocking-de-de/>, <https://www.derstandard.de/story/2000138619757/ueberzogene-netzsperre-sorgt-fuer-probleme-im-oesterreichischen-internet>

¹² Regulation (EU) 2017/2394 on cooperation between national authorities responsible for the enforcement of consumer protection laws and repealing Regulation (EC) No 2006/2004.

7.4 Internet blocking pursuant to the EU Market Surveillance Regulation

The new Market Surveillance Regulation¹³ creates a pan-European legal framework for responding to novel economic developments and challenges, with a particular focus on international e-commerce and logistics service provision. One aim for this Regulation was to close earlier loopholes that had permitted the distribution via online platforms of third-country goods without EU conformity on the EU market and without responsible economic operators being identifiable in the EU itself. This Regulation follows the CPC Regulation in extending the potential addressees of orders to take steps to prevent online infringements, going beyond economic operators to include online brokers, meaning those providing information society services, such as access, hosting or caching providers as well as search engine operators. In Austria, the competent body for ordering the introduction of such measures by online brokers is the Telekom-Control-Kommission. Network blocks based on the EU Market Surveillance Regulation were not initiated or required during the reporting period.

7.5 War in Ukraine: internet blocking pursuant to the EU Sanctions Regulation

The EU Sanctions Regulation¹⁴ adopted in March 2022 (and amended several times since) created new blocking requirements for ISPs, aimed at suppressing the EU-wide distribution of content from certain government-affiliated Russian media companies. In the opinion of the regulatory authorities responsible for safeguarding net neutrality, namely the TKK and RTR FB TKP, no additional transposition of the EU Sanction Regulations is required through a national administrative act. As an EU Regulation, the law applies immediately in Austria and also applies to providers of internet access services. The regulatory authorities consider the law to be an EU legislative act in the sense of Art. 3(3) subparagraph 3(a) TSM Regulation. This opinion is shared by BEREC.¹⁵

On 13 April 2022, supplementing the immediate applicability of the EU Sanctions Regulation, the Audio-visual Media Services Act (AMD-G)¹⁶ was amended to extend the remit of the Austrian Communications Authority (KommAustria) as a prosecuting authority to include measures against ISPs. Their website provides a detailed list of the content currently to be blocked according to their interpretation.¹⁷ Based on this publication, measures adopted by providers of internet access services in line with the accepted interpretation of the EU Sanctions Regulation therefore do not normally breach applicable laws aimed at safeguarding net neutrality.

¹³ Regulation 2019/1020 of 20 June 2019 on market surveillance and compliance of products.

¹⁴ Council Regulation (EU) 2022/350 of 1 March 2022 amending Regulation (EU) No 833/2014

¹⁵ <https://www.berec.europa.eu/en/news-publications/news-and-newsletters/berec-supports-isps-in-implementing-the-eu-sanctions-to-block-rt-and-sputnik>

¹⁶ See Art. 64 Par. 3a AVMDG as amended by Federal Law Gazette (FLG) I No. 55/2022.

¹⁷ https://www.rtr.at/Paragraf_64_3a_AMD-G

Chapter 8

Potential breaches of net neutrality and procedures

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08 Potential breaches of net neutrality and procedures

Since the enactment of the TSM Regulation, the regulatory authority has reviewed on a continual basis the products (previously) offered on the market as well as the technical and commercial practices adopted by ISPs.

Of the resulting procedures to be completed with the issuing of a decision, one procedure had been decided (by the Federal Administrative Court, BVwG) on 30 April 2020. In June 2020, the ISP appealed to the Supreme Administrative Court (VwGH), submitting a petition to recognise the suspensory effect. On 9 December 2021, this appeal was dismissed as unjustified by the VwGH and the decision of the regulatory authority was confirmed on all points (R 3/16). A complaint was also raised in response to another decision to impose a cease order by the TTK and a petition for recognition of the suspensory effect submitted. The BVwG also rejected this petition for recognition of the suspensory effect. In April 2022, the ISP withdrew the complaint and the BVwG ruled to terminate proceedings (R 5/17).

As in previous reporting periods, the work of the regulatory authority focused on auditing the products and the technical/commercial practices adopted by ISPs, first notifying the latter of any potential breaches identified and consulting with them to identify legally compliant solutions. The procedures completed in the reporting period were able to identify technical and commercial practices that raised issues in light of the provisions of Art. 3 of the TSM Regulation and therefore required investigation.

Table 02: Summary practices raising issues in light of the TSM Regulation

Pos.	Type of practice	Description
01	Port blocking	Certain UDP or TCP ports are blocked for incoming and/or outgoing traffic. This might render certain services unusable, which is a contravention of Art. 3(1) and (3) of the TSM Regulation. A more detailed description is given in section 8.1.
02	Private IP addresses and services	Customers are assigned private IP addresses, via network address translation (NAT). This prevents these customers from using or providing their own services; this right follows, however, from Art. 3(1) of the TSM Regulation. A more detailed description is given in section 8.2.
03	Zero-rating	The data volume used by a specific application or for a specific CAP is not counted towards the data volume cap included in the customer’s subscription. A more detailed description is given in section 6 and section 8.4.
04	Specialised services	A specialised service is a service that is not offered by the ISP via normal internet access service (IAS) but instead as a prioritised/optimised service. To be offered as a specialised service as defined by Art. 3(5) of the TSM Regulation, a service must first satisfy certain conditions.
05	Technical discrimination and restriction of internet access	Traffic modification/redirection or the placing of restrictions on the IAS contravenes Art. 3(3) of the TSM Regulation.

Pos.	Type of practice	Description
06	Disconnection of IP connections	Automated disconnection of IP connections restricts the rights of the end user to provide their own services (Art. 3(1) TSM Regulation).
07	Internet blocking	<p>Network blocks contravene net neutrality by their very nature, and are therefore only permitted if they are prescribed by law and the blocks are proportionate in the specific case so addressed. Legal provisions requiring ISPs to set up blocks can be found in the Copyright Act (UrhG), in the context of cooperative crossborder consumer protection (VBKG), in relation to market surveillance (EU Market Surveillance Regulation) or in the form of sanctions (EU Sanctions Regulation).</p> <p>A more detailed description is given in section 8.5.</p>
08	Domain blocks resulting from the EU Sanctions Regulation (Council Regulation (EU) 2022/350)	<p>The regulatory authority considers the EU Sanctions Regulation to be an EU legislative act in the sense of Art. 3(3) subparagraph 3(a) TSM Regulation. Measures adopted by ISPs in line with the accepted interpretation of the Regulation therefore do not normally infringe applicable laws aimed at safeguarding net neutrality.</p> <p>A more detailed description is given in section 5 and section 8.5.</p>

In previous reporting periods, many minor providers of fixed and mobile networks have been reviewed in line with this practice, alongside the major providers of internet access services. A total of twelve ISPs were selected, to whom questionnaires requesting information about products and technical practices were sent. On a positive note, we emphasise numerous ISPs' continuing readiness to cooperate, without the need for a formal supervisory procedure. In one of these procedures, a longer implementation period was granted (until April 2022) to enable technical changes establishing compliance with the TSM Regulation. All other request-for-information procedures had been terminated, although two only after referring them to the TTK for initiation of a supervisory procedure.

In all procedures, the focus of TSM Regulation violations was primarily on the non-assignment of public IPv4 addresses, port blocking and the forced disconnection of IP connections. The two procedures that had been referred to the TTK for the initiation of a supervisory procedure pursuant to Art. 5(1) of the TSM Regulation largely concerned a refusal to assign public IP addresses to end users on the part of these two MVNOs, both operating in the lowend segment. It was possible to drop a supervisory procedure against one of these MVNOs in April 2021. In the same month, the TTK also issued a decision against the second MVNO in response to the failure to allocate public IP addresses to end users (R 9/19). Both procedures were very timeconsuming, since intermittent technical audits were required (see the 2021 Net Neutrality Report for details).

In the previous reporting year, the regulatory authority sent requests for information (questionnaires) to the four providers of zero-rated products ('zero-tariff' options). A more detailed description is given in the 2022 Net Neutrality Report. In June 2022, four supervisory procedures were then initiated against four providers as a result of zero-rating in existing customer contracts (R 12/22, R 13/22, R 14/22 and R 15/22). The corresponding decisions, issued in November 2022, have since become legally enforceable and all measures required of the providers were duly implemented by March 2023 (see section 6.1 and 6.2).

Nine other supervisory procedures were also initiated in response to domains blocked as a result of the EU Sanctions Regulation (Council Regulation (EU) 2022/350) and then dropped in June 2022 as no net neutrality breach was identified.

Alongside activities previously described as part of the cited procedures involving existing products, general terms of business and fee provisions were also reviewed for compliance with the TSM Regulation pursuant to the authority's statutory remit to review contract terms (Art. 133 TKG 2021). With respect to the minimum content of contracts as required in Art. 4(1) of the TSM Regulation, in formal procedures no immediate steps, based on the TSM Regulation, needed to be taken in the reporting period. In the procedure concerning objections to general terms of business, the aim is to have non-conforming contract conditions amended before the conclusion of the procedure, so as to efficiently ensure the legal conformity of contract conditions.

8.1 Blocking of TCP/UDP ports or protocols

No new procedures addressing port blocking were initiated in the reporting period. Many such procedures have been completed in recent years. The technical reasons for blocking specific ports were clarified in most of these cases. Port blocking can be acceptable given sufficient legal justification. In comparison with recent years, there was a decline in active port blocking. This resulted from the replacement of a modem model whose inherent security vulnerabilities had previously been the reason for these blocks, which were consequently removed.

At this juncture, it needs to be understood that an assessment of the legitimacy of port blocking activities always requires a case-by-case approach. Accordingly, the fact that one procedure has considered a port block in a specific scenario to be legitimate does not automatically infer the outcome of other assessments of port blocking that involve other ISPs.

When attempting to assess the proportionality of port blocking, useful guidance is provided in the guidelines published by ENISA on assessing security measures adopted pursuant to Art. 3(3) TSM Regulation.

The following section offers a summary of selected previous outcomes.

- **TCP port 25 outgoing/bidirectional (SMTP)**

One mobile network provider and one fixed network provider stated that they block outgoing traffic on port 25. Another fixed network provider confirmed a bidirectional block on port 25. The key reason for such a block is to prevent a customer's computer from sending spam mail after becoming infected by malware. If the provider only assigns private IP addresses (via NAT) and a public IP address that is shared by many end users via NAT is blacklisted, all email from those end users could be blocked.

When assessed pursuant to point (b) of Art. 3(3) third subparagraph, this block was considered to be legitimate – as in previous procedures – since (pure) SMTP is a protocol frequently misused at retail level (for sending spam).

- **TCP/UDP port 53 incoming (DNS)**

Three ISPs reported using this block to avoid the risks of DNS amplification attacks and DNS spoofing. Two ISPs reported that use of these blocks was limited to end users with dynamic public IPs.

- **TCP ports 67–69 bidirectional (DHCP, BOOTPS, TFTP)**

One fixed network provider blocks this port for use by specific internet access technologies for technical reasons, because of the provider's network topology (CPE maintenance).

After a lengthy analysis, the block was considered legitimate pursuant to point (b) of Art. 3(3) third subparagraph in the absence of a less intrusive solution and since the TFTP protocol now has hardly any practical relevance for end users in terms of internet access.

- **TCP ports 137–139 bidirectional (NetBIOS)**

One fixed network provider blocks this port range, arguing that within a WAN there is no use case for the Windows file and printer sharing services, which function via these ports. Simultaneously, opening these ports would also expose customers to considerable risk, since they are not experienced in handling these services. In the event of a customer misconfiguration, there would be a risk of unauthorised parties gaining access to their network shares.

Following an analysis based on point (b) of Art. 3(3) third subparagraph, these blocks were considered legitimate for incoming traffic.

- **TCP port 445 incoming (SMB)**

One fixed network provider blocks this port for incoming traffic on account of security concerns in relation to end users. In the case of the other fixed network provider, following an analysis based on point (b) of Art. 3(3) third subparagraph, these blocks were considered legitimate for incoming traffic.

- **TCP port 455 incoming (CreativePartnr)**

One fixed network provider reported blocking this TCP port for maintenance reasons. The block has since been removed or is activated only in the event of maintenance.

- **TCP ports 10001, 10021, 10080 and 10081**

One fixed network provider reported blocking these TCP ports for maintenance reasons. As this affected only a few modems and the ports are not in the 'common port' range, this block was considered to be justified based on point (b) of Art. 3(3) third subparagraph.

- **TCP port 8089**

One MVNO requested an extension to allow time to replace affected hardware that sets up CPE maintenance connections via this port. This extension was granted due to the scope of replacement work.

8.2 Private IP addresses and services

The TSM Regulation grants end users the right to use and provide applications and services. A key technical prerequisite for the self-hosting of services is the direct accessibility from the internet of the server or service operated by the end user, and the assignment of a public IP address.

In mobile networks in particular, end users are occasionally assigned private IP addresses (using NAT). Apart from technical aspects, among the reasons for this practice is the ISPs' interest in keeping public addresses in reserve, since – as with IPv4 – these could become scarce.¹⁸ However, if multiple end users are required to share a single private IP address via NAT, this effectively prohibits any specific customer from directly providing services or content. The regulatory authority interprets Art. 3(1) as entitling the end user to at least one free public dynamic IP address – at least if the end user requests such an address, for example because of wishing to provide services. The end user can then utilise that address with dynamic DNS services to allow routing to their own services. Assigning a public IP address on condition of payment of an additional fee (defined for instance in a specific subscription model or as an added option) or only to certain customer segments (such as business customers) is unconditionally to be considered a breach of Art. 3(1).

Particular attention was paid to problems arising from the need for the availability of public IPv4 addresses in connection with the use of new modems/routers on the part of one ISP. Here, a newly deployed provider device appeared to offer no support for bridge mode or port forwarding and therefore, from a technical perspective, would be incapable of utilising a public IPv4 address, if assigned. There was also a suspicion that technical means had been put in place by the provider to prevent end users from using an additionally purchased alternative modem possessing this functionality. Ultimately, it was discovered that end users could request the provision of an alternative modem at no extra cost and this modem would indeed support a configuration in bridge mode. End user's right to provide their own services – as guaranteed by the TSM Regulation – was thereby maintained.

Information obtained in the last reporting period has shown that end users occasionally receive incorrect information on this topic in response to enquiries made to their ISP and then contact the regulatory authority to clarify the current legal situation.

8.3 Disconnection of IP connections

Another practice limiting the right of end users to selfhost services is the automatic disconnection of internet connections (IP connections) typically after a short period of time.

It was common for some ISPs to disconnect their customers' data connections (IP connections) automatically after a certain period of time (usually 24 hours). No heed was given here to existing internet connections, in other words, the connection was always disconnected after this period, not only when it was idle. The reasons given here by the ISPs ranged from technical considerations relating to the assignment of IP addresses, to claims of effectiveness in protecting user privacy. This is a problematic measure, mainly because of reassigning dynamic public IP addresses – even when user devices are automatically reconnected. It can take from several minutes up to half an hour until a dynamic DNS service in use recognises the change in IP address and updates the clients. In effect, the frequency of disconnections constitutes a disproportionate restriction of end user rights under Art. 3(1) of the TSM Regulation.

In recent years, ISPs have become very well aware of the limited cases where disconnection of IP connections is justified. Unsurprisingly, this was not a topic of any note in the current reporting period.

¹⁸ While fewer than 2³² (approx. 4 billion) IPv4 addresses are available and now becoming scarce, IPv6 provides a little less than 2⁶⁴ (approx. 18 trillion) subnets and therefore no scarcity is anticipated in the foreseeable future.

8.4 Zero-rating

In the past, providers could choose to zero-rate certain services (or groups of services) for a variety of reasons and therefore make the transfers of data incurred by these services free of charge (i.e. not deduct this data volume from that included in the end user's subscription).

For end users, zero-rating potentially offered a number of advantages. As one example, they could consume more data for certain zero-rated services without running up an additional bill, leaving the data available in their subscription for other services. Internet service providers also had a range of incentives to offer zero-rating. Zero-rating offered a route to product differentiation for mobile telecoms providers, for example, and a competitive strategy for partnering with content providers with the aim of acquiring new customers. Usually, this kind of product differentiation was applicable to subscriptions in any price segment.¹⁹ One possible strategy for ISPs would be to improve market penetration by zero-rating lowcost subscriptions (for young people) with the aim of tying end users to one provider. Conversely, zero-rating could also be used as part of an upselling strategy, as a premium add-on with the aim of boosting subscription revenues. Lastly, zero-rating was also deployed again as a product differentiation instrument, but in this case for services other than internet access. To name one example, ISPs could zero-rate their own services (e.g. cloud or video streaming products) to differentiate these services from the competition and create an appealing, integrated package.

Alongside the potential benefits, zero-rating was associated with risks to end users' freedom of choice when selecting services as well as to the process of innovation within various markets. Using zero-rating, ISPs were able to act as gatekeepers: they selected the services that would be affected and shut other groups of services out, while favouring certain technical standards and other wholesale conditions or criteria. Zero-rating had the inherent risk that ISPs (and not end users) would determine the winners and losers in other markets.

In recent years, RTR investigated the impact of zero-rating on competition in general as well as on downstream markets in the internet value chain. The assessment criteria that were applied here included the transparency of the zero-rated product for service and content providers, as well as price trends and the number of end users. Last but not least, RTR was also looking for safeguards on freedom of choice: namely, whether end users were able to select other (non-zero-rated) services, to ensure that future innovations remain accessible. In the past assessments conducted by RTR as part of zero-rating monitoring pursuant to Art. 3 Par. 2 of the Net Neutrality Regulation, no indications were found to suggest that these threats had materialised.²⁰

In late 2021, the European Court of Justice (ECJ) examined a number of issues related to zero-rating and net neutrality, handing down three landmark decisions that have made it necessary to revise guidelines issued by the Body of European Regulators for Electronic Communications (BEREC) on the open internet (net neutrality), and which also marked the end of the road for 'conventional' zero-rating products and services. The new version of the guidelines was adopted by the competent BEREC committee and published on 14 June 2022.

¹⁹ In 2019, RTR carried out an empirical study on the impact of zero-rating on the data volume included in subscriptions, monthly rates and the unit price of included data. Available (in German) at <https://www.rtr.at/TKP/aktuelles/publikationen/publikationen/ZeroRatingEU2019.de.html>

²⁰ The 2021 Net Neutrality Report has as one of its key topics the trends in zero-rating products appearing on the Austrian market in previous years. Available (in German) at <https://www.rtr.at/TKP/aktuelles/publikationen/publikationen/netzneutralitaetsbericht/NNBericht2021.de.html>

Following this, the Telekom-Control-Kommission initiated supervisory procedures against four providers in June 2022 and issued decisions on 4 November 2022 requiring them to cease offering zero-rating contracts to existing customers by March 2023 (R 12/22, R 13/22, R 14/22 and R 15/22). A1 Telekom was prohibited from offering its zero-rated 'Free-Stream' service in subscriptions and options, and the zero-rated 'epaper' subscription service as part of existing customer contracts. T-Mobile was prohibited from offering its zero-rated 'Magenta Stream' service in subscriptions, as well as zero-rating as part of its add-on 'Mediencenter' subscription package for existing customer contracts. Hutchison was prohibited from offering its zero-rated 'MyStream' subscription service, as well as zero-rating as part of its 'Spotify Premium' and '3 Cloud' add-on subscription packages for existing customer contracts. Lastly, educom was prohibited from offering its zero-rated 'free e-learning' subscription service for existing customer contracts, thereby infringing the principle of equal treatment as defined in the TSM Regulation.

All providers had proactively withdrawn their zero-rated offers for new customers by 2022. As required by the TKK decisions, all zero-rating for existing customers had been discontinued by the end of March 2023.

The ECJ rulings define 'conventional' zero-rating as the application of commercial principles to differentiate between certain kinds of internet traffic, thus violating the duty to treat all data traffic equally. MVNOs, who have offered very few zero-rating products in the past, could also stand to benefit from the discontinuation of zero-rating as a practice.

8.5 Internet blocking

To safeguard net neutrality, the Net Neutrality Regulation prohibits ISPs from blocking net content. Only a very few exceptions are permitted here, such as when legislation specifically requires blocking. One example here is copyright law, which for 20 years has obliged ISPs to block access to websites that are intentionally structured to breach rules. In the past, this circumstance has led to various court cases involving ISPs and rights holders. Such cases regularly end up before national or European supreme courts. More recently, additional EU legislative instruments have required measures to limit the web content provided by various online agents. Examples include the Consumer Protection Cooperation Regulation²¹ and the Market Surveillance Regulation.²²

The regulatory authority has been taking a closer look at network blocking for a number of years now. This stems from concerns that every network block compromises the core principle of net neutrality and potentially affects the right of internet users to freedom of expression, and also forces providers into the involuntary role of judges. The aim here must be to identify ways and means of maximising the legal protection and certainty enjoyed by all stakeholders. In keeping with this aim, legislative activities at national and European level are closely observed, with the resulting insights actively applied when transposing EU-level provisions into national law.

²¹ Regulation (EU) 2017/2394 of 12 December 2017 on cooperation between national authorities responsible for the enforcement of consumer protection laws and repealing Regulation (EC) No 2006/2004, OJ 2017 L 345, p. 1.

²² Regulation (EU) 2019/1020 of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011, OJ 2019 L 169, p. 1.

Since 2018, the regulatory authority has conducted procedures in 60 cases involving network blocking. Here care has been given to ensure that any measures enacted comply with the Net Neutrality Regulation, by avoiding excessive interference with users' fundamental rights and by respecting the rights of other parties concerned, including ISPs and website operators. Of the total of 60 cases, 53 involved supervisory procedures, meaning ISPs had already set network blocks. The other six cases involved 'assessment' procedures, where ISPs had requested an assessment as to whether a network block was prohibited. The administrative decisions issued in such cases are ultimately brought to the attention of the Supreme Administrative Court, which for the first time ruled on the Net Neutrality Regulation (more details in the section on network blocking).

Major activities in connection with network blocking include exchanging information with stakeholders, public relations and participation in legislative processes. Accordingly, we have submitted numerous statements in review of draft legislation in recent years. In these reviews we have underscored the importance of free access to the open internet, and the technical challenges raised by network blocking. The regulatory authority is clearly aware of the completely new challenges arising as more and more daily activities are shifted to the internet, making it even more difficult and tedious for users to assert their rights. Nonetheless, it needs to be emphasised that network blocking is and must always be a last resort. Any excessive use would result in collateral damage and potentially jeopardise freedom of expression in a liberal society. After all, network blocking often entails the risk of 'overblocking'. An ISP only has a certain set of options for blocking online content, and these options often result in the blocking of not only illegal but also legal content. Accordingly, such measures should be used sparingly.

As of March 2021, network blocks can now also be set in another context, as permitted by the EU Consumer Protection Cooperation (CPC) Regulation and accompanying Austrian legislation, the Consumer Protection Cooperation Act (VBKG). These rules are intended as an effective means of countering crossborder infringements of consumer rights. Numerous European authorities coordinate their efforts in this cause. Authorities can now file injunctions against businesses that infringe upon consumer rights. Sometimes, however, companies cannot be directly prosecuted in an online context. This might be the case where a company is established outside the EU and does not respond to claims. In such cases, the online intermediaries can be held accountable for remedying infringements at internet level. This could potentially be any information society service, including access providers, host providers, caching providers, search engine providers or even domain registration services. These providers are then ordered to delete the unlawful online content or set a network block. In Austria, the TTK is the authority responsible for taking measures involving intermediary online service providers. Here, network blocks can only be set after review and authorisation by an authority. The corresponding procedure defined by the TTK is aimed at resolving challenges and deficits relating to network blocking arising in the past. The procedure could serve as a model to be applied in other areas as well. Network blocks based on the CPC Regulation have not been implemented to date.

The EU Sanctions Regulation of March 2022 effectively created new blocking obligations for ISPs. In the opinion of the regulatory authorities responsible for safeguarding net neutrality, namely the TTK and RTR FB TKP, no additional transposition of the EU Sanction Regulations is required through a national administrative act. As an EU Regulation, the law applies immediately in Austria and also applies to providers of internet access services. The regulatory authorities consider the law to be an EU legislative act in the sense of Art. 3(3) subparagraph 3(a) TSM Regulation. Measures adopted by providers of internet access services in line with the accepted interpretation of the EU Sanctions Regulation therefore do not normally breach applicable laws aimed at safeguarding net neutrality.

Website blocking in the reporting period

In the reporting period, the TTK initiated a total of 39 supervisory procedures against ISPs, of which 30 involved copyright law and 9 the EU Sanctions Regulation. All procedures relating to internet blocks as a result of the EU Sanctions Regulation were concluded with a decision identifying no infringement of the Net Neutrality Regulation. Of the 30 procedures relating to copyright law, half of these have been discontinued while the remainder are still pending.

8.6 Measures in accordance with Art. 5(1) TSM Regulation

In relation to compliance with provisions on net neutrality, four decisions to ensure compliance with regard to zero-rating offers for existing customers (R 12/22, R 13/22, R 14/22 and R 15/22) became necessary during the seventh reporting period (until April 2023). These decisions, issued in November 2022, have since become legally enforceable and all measures required of the providers were duly implemented by March 2023 (see section 6.1 and 6.2). Various request-for-information and supervisory procedures, which were initiated but then dropped without an order by official decision (e.g. because the ISP resolved the issue voluntarily or was not found to be in breach of the TSM Regulation), are not listed here. The regulatory authority nonetheless monitored compliance with the provisions of the Net Neutrality Regulation on an ongoing basis.

The decisions on measures issued in December 2017 and April 2021 (in R 3/16, R 5/17 and R 9/19) remain valid. In the appeal proceedings for R 3/16, the VwGH issued a ruling in December 2021 that confirmed the regulatory authority’s decision in all points. A termination for R 5/17 was issued by the BVwG in April 2022, since the provider had withdrawn their complaint in response to the decision. The decision issued against another ISP in April 2021 has since become final (R 9/19).

Table 03: Procedures in accordance with Art. 5(1) TSM Regulation pending in reporting period

✓: final

Procedure	ISP	Brief description	Date of decision	Status
R 3/16	A1 Telekom Austria AG	<ul style="list-style-type: none"> Prohibition of prioritising a VoD service for lack of a specialised service, within 3 years Free assignment of public IPv4 at customer demand Increase in period for disconnecting IP connections from 24 hours to 31 days 	18 December 2017	✓
R 5/17	A1 Telekom Austria AG	Prohibition of applying traffic-shaping to an add-on package with zero-rated audio and video streaming services.	18 December 2017	✓
R 1/18	LIWEST Kabelmedien GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓

✓: final

Procedure	ISP	Brief description	Date of decision	Status
R 2/18	kabelplus GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓
R 3/18	Salzburg AG für Energie, Verkehr und Telekommunikation	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓
R 4/18	T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓
R 5/18	UPC Telekabel Wien GmbH, UPC Telekabel-Fernsehnnetz Region Baden Betriebsgesellschaft m.b.H., T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓
R 8/18	Hutchison Drei Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓
R 9/18	A1 Telekom Austria AG	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	26 November 2018	✓
R 1/19	kabelplus GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	12 April 2019	✓
R 2/19	Salzburg AG für Energie, Verkehr und Telekommunikation	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	12 April 2019	✓
R 3/19	Hutchison Drei Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	12 April 2019	✓
R 4/19	A1 Telekom Austria AG	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	12 April 2019	✓

✓: final

Procedure	ISP	Brief description	Date of decision	Status
R 5/19	LIVEST Kabelmedien GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	12 April 2019	✓
R 6/19	UPC Telekabel Wien GmbH, UPC Telekabel-Fernsehnetz Region Baden Betriebs-gesellschaft m.b.H., T-Mobile Austria GmbH, Lisa Film GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	12 April 2019	✓
R 7/19	T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	8 July 2019	✓
R 8/19	A1 Telekom Austria AG	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	22 October 2019	✓
R 11/19	Hutchison Drei Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	17 March 2020	✓
R 12/19	kabelplus GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	17 March 2020	✓
R 13/19	T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	17 March 2020	✓
R 14/19	LIVEST Kabelmedien GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	17 March 2020	✓
R 15/19	Kabelplus GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	23 June 2020	✓

✓: final

Procedure	ISP	Brief description	Date of decision	Status
R 1/20	Mass Response GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	21 July 2020	✓
R 9/19	Lycamobile Austria Ltd.	Supervisory procedure resulting from failing to assign (at least) a dynamic public IPv4 address to end users.	7 April 2021	✓
R 1/22	T-Mobile Austria GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 2/22	Mass Response Service GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 3/22	next layer Telekomunikationsdienstleistungs- und Beratungs GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 4/22	Kapper Network-Communications GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 5/22	kabelplus GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 6/22	LIWEST Kabelmedien GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 7/22	ELEKTRO-TECHNIK GÄRTNER Gärtner und Harauer OG	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 8/22	Salzburg AG	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 9/22	Stadtwerke Mürzzuschlag GmbH	Procedures pursuant to Art. 5 TSM Regulation assessing the admissibility of network blocks based on the EU Sanctions Regulation. Procedure dropped	13 June 2022	✓
R 12/22	A1 Telekom Austria AG	Supervisory procedure pursuant to Art. 5 of the TSM Regulation, relating to zero-rated offers for existing customers	4 November 2022	✓

✓: final

Procedure	ISP	Brief description	Date of decision	Status
R 13/22	Hutchison Drei Austria GmbH	Supervisory procedure pursuant to Art. 5 of the TSM Regulation, relating to zero-rated offers for existing customers	4 November 2022	✓
R 14/22	T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 of the TSM Regulation, relating to zero-rated offers for existing customers	4 November 2022	✓
R 15/22	educom GmbH	Supervisory procedure pursuant to Art. 5 of the TSM Regulation, relating to zero-rated offers for existing customers	4 November 2022	✓
R 18/22	LIVEST Kabelmedien GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 19/22	LIVEST Kabelmedien GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 21/22	next layer Telekommunikationsdienstleistungs- und Beratungs GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 28/22	A1 Telekom Austria AG	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 32/22	T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 34/22	Mass Response Service GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 37/22	Hutchison Drei Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 45/22	kabelplus GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓

✓: final

Procedure	ISP	Brief description	Date of decision	Status
R 22/22	next layer Telekommunikationsdienstleistungs- und Beratungs GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 24/22	Mass Response Service GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 26/22	T-Mobile Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 27/22	A1 Telekom Austria AG	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 36/22	Hutchison Drei Austria GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 41/22	Salzburg AG für Energie, Verkehr und Telekommunikation	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	9 January 2023	✓
R 42/22	Salzburg AG für Energie, Verkehr und Telekommunikation	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓
R 44/22	kabelplus GmbH	Supervisory procedure pursuant to Art. 5 TSM Regulation on the auditing of access blocks for certain websites due to injunction claims based on copyright. Procedure dropped; no infringement of Art. 3 TSM Regulation identified.	20 March 2023	✓

8.7 Ensuring legally compliant terms of contract

With the TKG 2021, the TKK's task of ensuring that communications service providers' contractual terms and conditions (including general terms of service, service descriptions and tariff provisions) are legally compliant was transferred to RTR as of 1 November 2021. Providers must draw up contract terms and notify them to RTR in advance for review. RTR can reject the application of these contract terms to business transactions if the terms infringe any provisions of telecommunications law or certain points of civil or consumer protection law. Especially compliance with the net neutrality-relevant provisions of Art. 4 TSM Regulation is also reviewed, so as to ensure that these transparency provisions are observed in order to safeguard net neutrality.

In 2022, 489 procedures were carried out. This represents a sharp rise compared with the previous year (402 procedures) as well as 2020 (333 procedures). Reasons for this change include the various adjustments necessitated by the new TKG 2021 as well as the fact that providers of interpersonal communications services (NIICS) are now also subject to reporting requirements. Numerous enquiries from both end users and providers were also handled on the subject of notifying or reviewing contractual conditions. Content reviews of terms and conditions focus not only on compliance with provisions of telecommunications law but also civil and consumer protection legislation. In detail, it became apparent in 2022 that more and more European and international undertakings are becoming active as providers on the Austrian market. In ensuring legal compliance of contract terms, the TKK – and since 1 November 2021 RTR – has been facing a new set of challenges, since some of these providers have only limited knowledge of the relevant substantive and procedural provisions of Austrian and EU law, and may also not have an adequate command of German as Austria's official language.

The TKK, and since 1 November 2021 RTR, has been primarily concerned with ensuring that telecoms make any necessary changes to contract terms early on during procedures, thus ensuring that legal compliance is established as soon as possible. Once again in every procedure in 2022, the TKK achieved this goal. For telecoms customers, checking through contract terms in advance reduces their risk of needing to go to court to clarify the legality of individual clauses once the contract has already been signed. Such legal proceedings are also associated with a very high financial risk. At the same time, consumers are often unable to identify potential legally non-compliant clauses that, although specified in the general terms of service, cannot be agreed with legal effect. This practice of vetting contract conditions terms also makes an important contribution to fair competition between communications service providers while also preventing them from gaining a competitive edge by introducing unlawful terms. In terms of net neutrality breaches, this also ensures monitoring and thus an early warning system as referred to in Art. 3 TSM Regulation.

8.8 RTR conciliation procedures

Under conciliation procedures (Art. 205 Par. 1 TKG 2021), complaints from end users are handled in a wide variety of ways. Only a very small proportion of such procedures have any connection to issues of net neutrality. The vast majority of these procedures involve enduser complaints about poor service provision on the part of an ISP. Notably, these sorts of complaints have in fact decreased in number over the last three years. Isolated cases involving other topics relating to net neutrality also led to procedures being initiated in the reporting period. The topics here included the blocking of certain ports or the usability of certain services such as VoIP. However, these were isolated cases in relation to enduser mediation work as a whole. It can be assumed that Austrian providers generally fulfil their duties towards end users under the TSM Regulation.

The section below presents a chronological overview of conciliation procedures arising from complaints about quality (in most cases relating to contractual internet access speeds), compared with the prior period.

Table 04: Conciliation procedures involving network quality

Network quality	05/20 to 04/21	05/21 to 04/22	05/22 to 04/23
Mobile network quality	162	118	69
Fixed network quality	85	54	47

8.9 General enquiries

Alongside conciliation procedures, RTR's Telecommunications and Postal Services Division also handles a wide variety of enquiries from end users. In the context of net neutrality, these may involve the forced disconnection of internet access, freedom of rotor choice or zero-rating, or the right to a public IP address. As with conciliation procedures, however, such enquiries tend to be few and far between. At no time was there any indication of provider behaviour that would lead one to suspect structural deficits. As a general observation, providers generally comply with the law in relation to all these issues, and so these requests can be attributed either to an interest in the legal situation on the part of the enquirer or to misunderstandings in providercustomer communications.

Chapter 9

Indicators of continuous availability of non-discriminatory IAS

The background of the page is a dark, teal-colored abstract image. It features several glowing, curved lines that resemble fiber optic cables or light trails, curving from the bottom left towards the right. The lines are composed of many thin, parallel strands, and some of them have small, bright white dots at their ends, creating a sense of depth and movement. The overall effect is a modern, technological aesthetic.

09 Indicators of continuous availability of non-discriminatory IAS

Art. 5(1) of the Net Neutrality Regulation requires national regulatory authorities to ensure compliance with Art. 3 and Art. 4 and to promote the continued availability of non-discriminatory internet access services at levels of quality that reflect advances in technology.

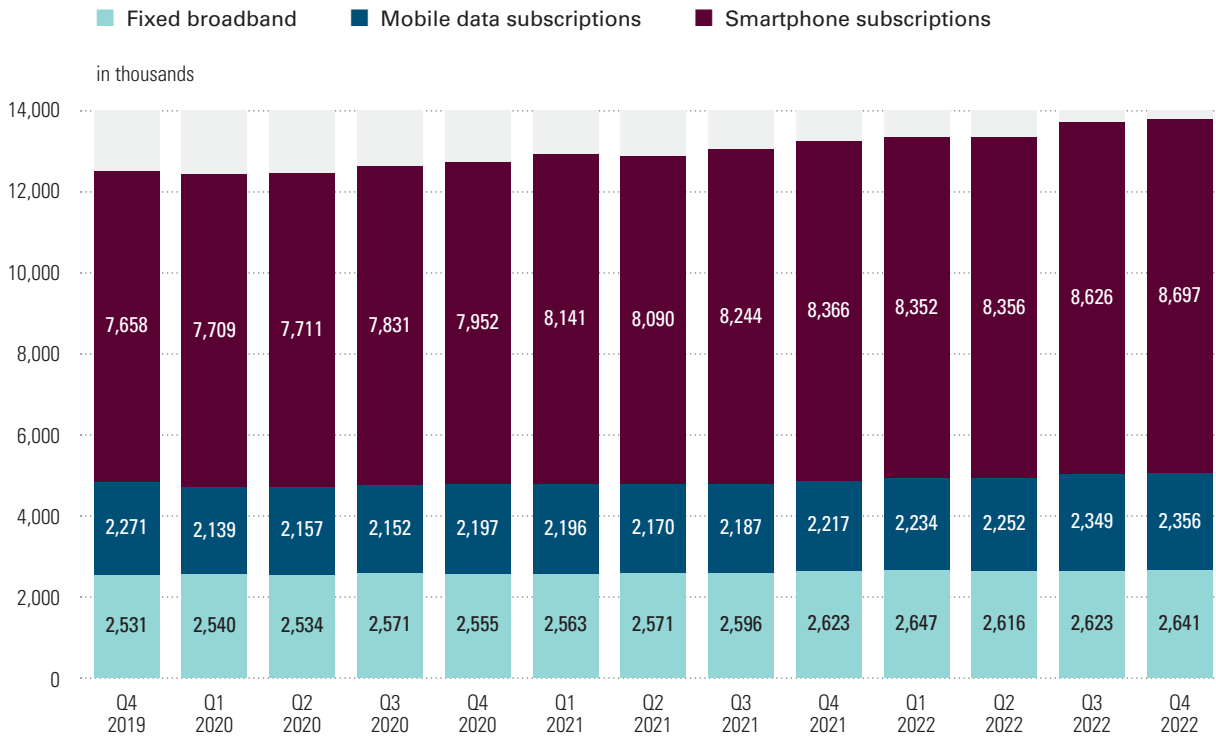
The following indicators²³ were used to assess whether availability of non-discriminatory internet access services (IAS) continued to be maintained at levels of quality that reflect advances in technology:

- Number of broadband connections
- Distribution of download and upload speeds in the reporting period
- Median of download and upload speeds and latency over time
- Distribution of download and upload speeds by hour of day
- Price baskets: fixed vs. mobile broadband
- Quality dimensions

Figure 2 shows the number of fixed and mobile broadband connections. Within mobile broadband, a distinction is made between mobile data subscriptions (without minutes and texts included) and smartphone subscriptions (with minutes and texts included). The number of fixed broadband connections remained stable year on year (Q4 2021 to Q4 2022) at around 2.6 million. The number of smartphone subscriptions rose slightly from 8.4 million to 8.7 million. In percentage terms, the highest growth was seen in mobile data subscriptions, which rose by 6% from 2.2 million to around 2.4 million. Overall, the total number of connections rose by 4% to 13.7 million in the fourth quarter of 2022.

²³ Detailed analyses are available (in German) in the current RTR Internet Monitor:
<https://www.rtr.at/TKP/aktuelles/publikationen/Uebersichtseite.de.html?l=de&q=&t=category%3Dinternetmonitor>

Figure 02: Fixed and mobile broadband connections^{*)}



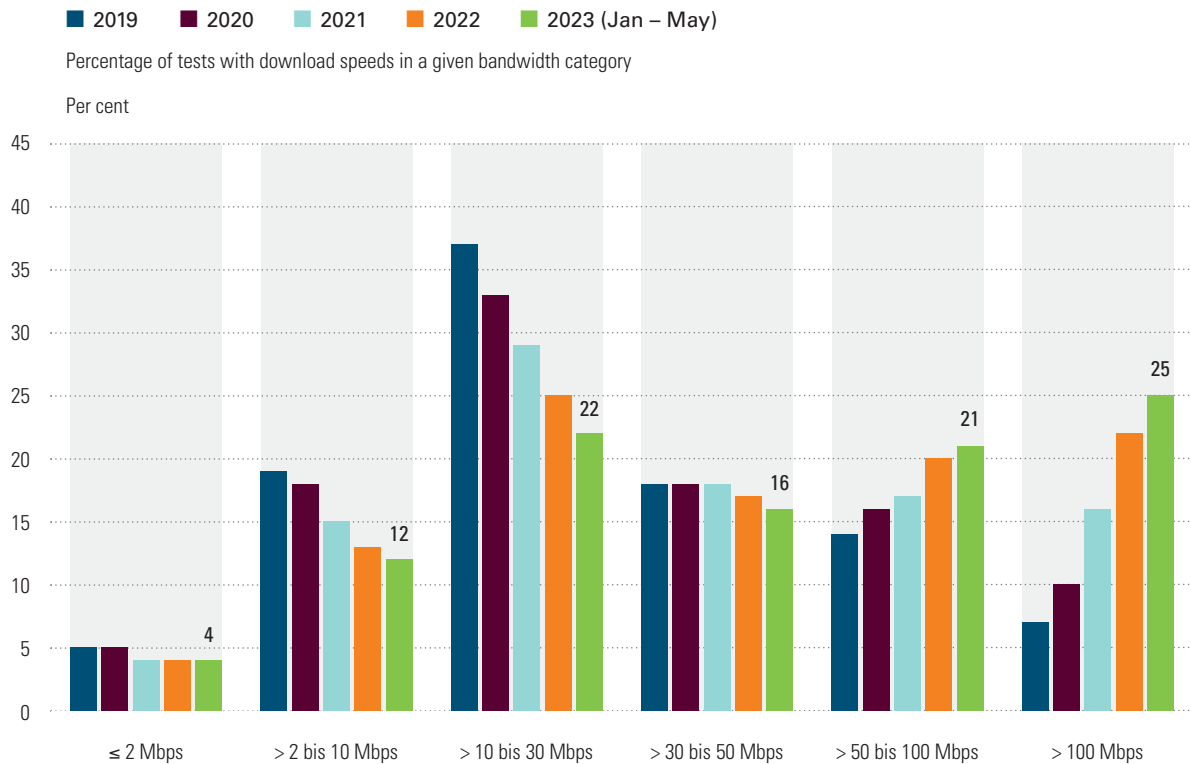
Source: RTR

*) Data on broadband connections are collected quarterly. M2M SIM cards are not shown in the chart. KEV data are available in the form of Open Data at: https://www.rtr.at/rtr/service/opendata/OD_Uebersicht.de.html

RTR makes data generated by the RTR-NetTest available as Open Data.²⁴ The RTR-NetTest gives end users a tool to check the speed and quality of their internet connection, reliably and independently of their provider.²⁵ These data are applied as a quality metric when evaluating the internet access provided. Figure 2 shows the percentage of tests with download speeds in a given bandwidth category. The period January to May 2023 marked the first time when the largest share of measurements (25%) was made in the category of download speeds greater than 100 Mbps. Compared with the download speed distribution in 2022, a decline is seen in the proportion of measurements in categories under 50 Mbps. In contrast, growth can be seen in both of the categories with higher download speeds. The trend towards measurements at higher download speeds therefore continues apace.

²⁴ The Open Data from the RTR-NetTest are available at <https://www.netztest.at/en/Opendata.html>

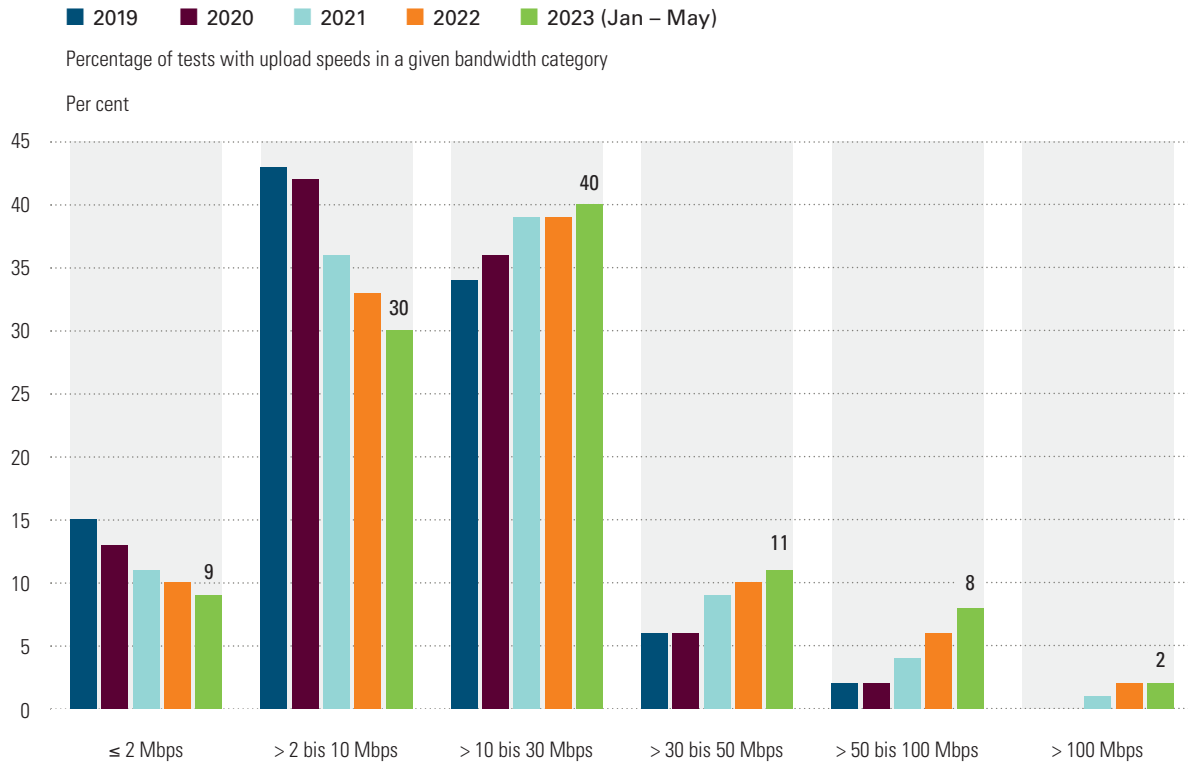
²⁵ Available as a mobile app (Android, iOS) and as a browser test.

Figure 03: Distribution of download speeds over reporting period

Source: RTR-NetTest

Upload speed measurements are also following an upward trajectory. Figure 4 shows the percentage of tests with upload speeds in a given category. Since 2021, most upload measurements are now in excess of 10 Mbps. The proportions for the categories with upload speeds below 2 Mbps and between 10 and 30 Mbps also fell in 2022 and 2023 (January to May), and so continued trends seen in past years. At 2%, the proportion of measurements in the category with upload speeds of more than 100 Mbps was still low in 2023 (January to May) but shows continual growth.

Figure 04: Distribution of upload speeds over reporting period

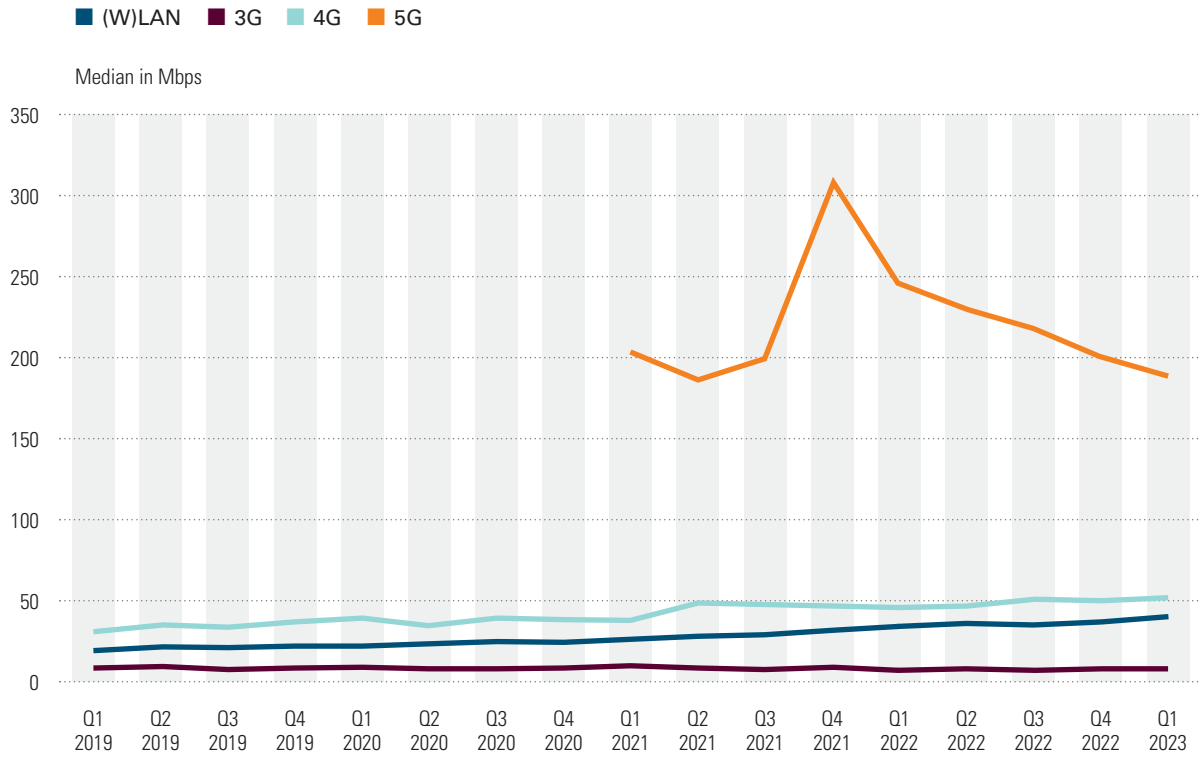


Source: RTR-NetTest

Figure 5 depicts the median download speeds measured with the RTR-NetTest over time, broken down by type of technology.²⁶ Distinctions are made between 3G (UMTS, HSPA), 4G (LTE), 5G (NR) as well as on the basis of measurements of various fixed and network technologies. These measurements were taken with the aid of a browser or app (for WiFi) and have been aggregated here under the heading of (W)LAN. The median for 5G connections is shown from the first quarter of 2021. As can be clearly seen, significantly higher download speeds can be achieved with 5G compared with other mobile telecommunications standards and measurements over (wireless) LAN. The median of measurements taken with 5G was around 189 Mbps in Q1 2023. The median download speed with 4G has risen from around 46 Mbps in Q1 2022 to around 52 Mbps in Q1 2023. In percentage terms, the median for measurements over (wireless) LAN showed the strongest growth, rising from 34 to 40 Mbps.

²⁶ The median is the value at the exact midpoint of a list sorted according to magnitude.

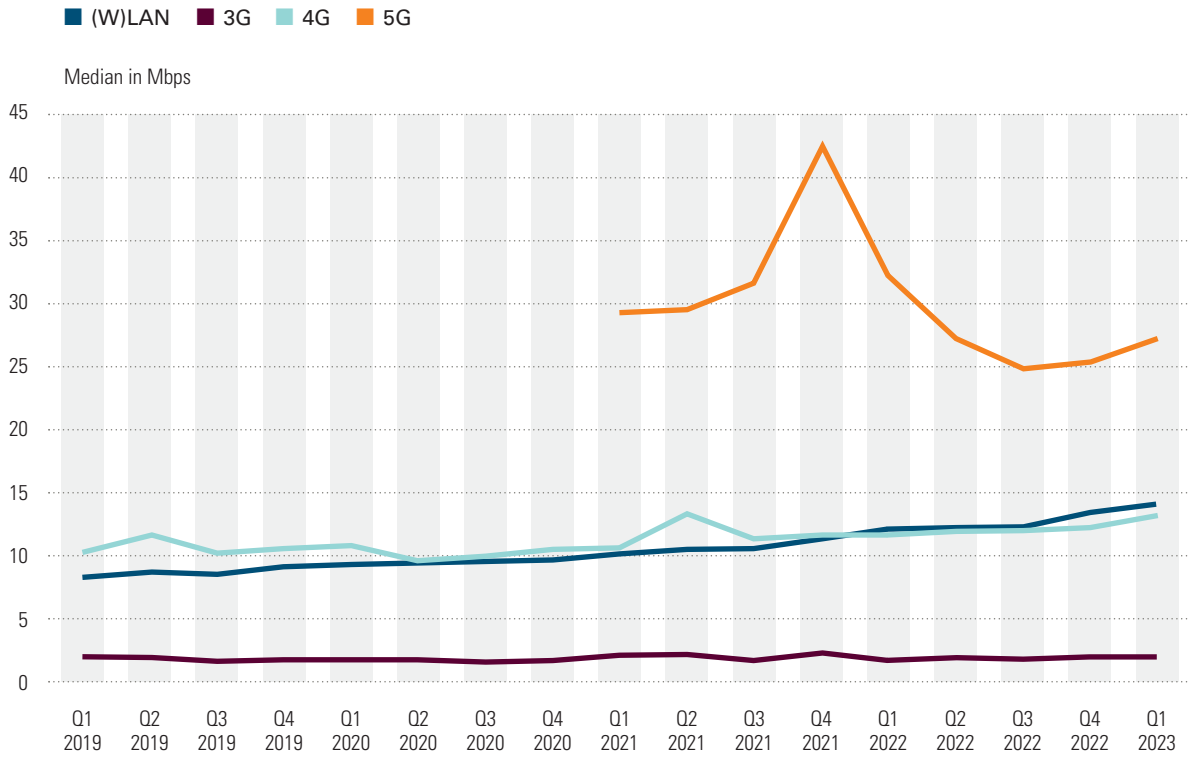
Figure 05: Download speed by technology



Source: RTR-NetTest

Figure 6, showing upload speeds by technology, makes it immediately clear that 5G is capable of achieving significantly higher upload speeds than other mobile telecommunications standards and measurements over (wireless) LAN. The 5G upload median in Q1 2023 was around 27 Mbps. When comparing values between Q1 2022 and Q1 2023, measurements over (wireless) LAN exhibit a rise in median from 12 Mbps to 14 Mbps and therefore the strongest percentage rise among all technologies considered. Measurements over 4G also reveal a slight gain from 12 Mbps to 13 Mbps.

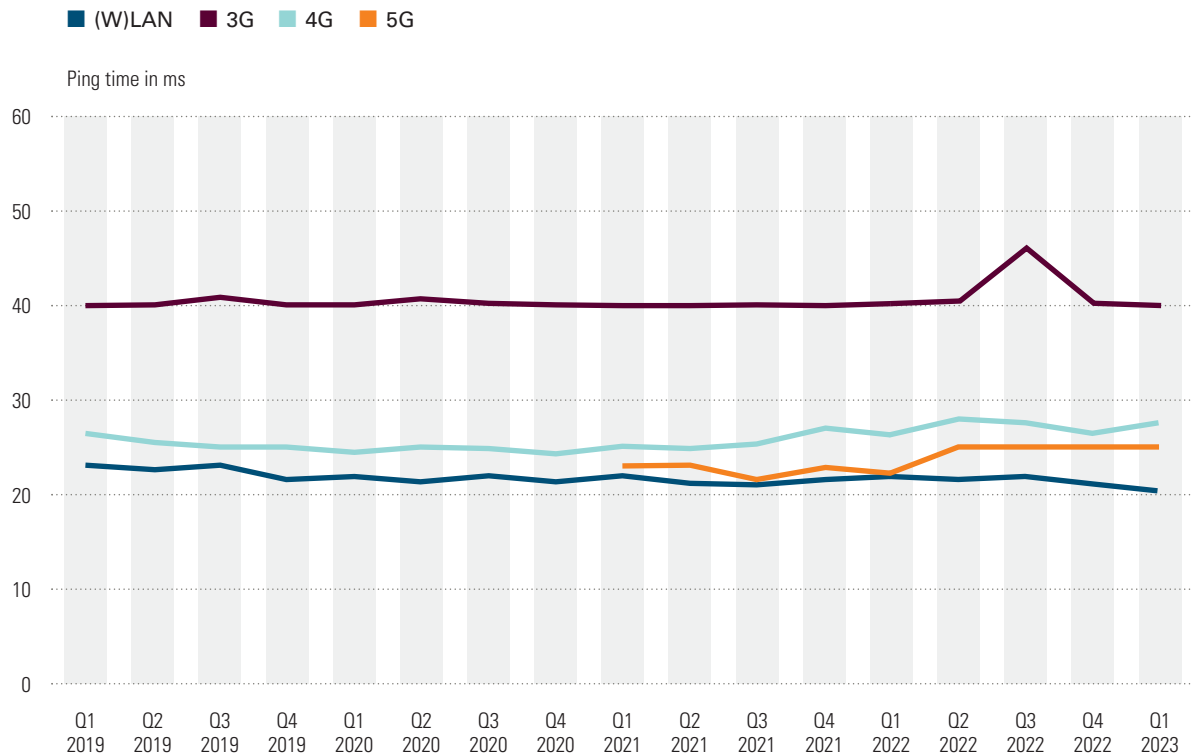
Figure 06: Upload speed by technology



Source: RTR-NetTest

Figure 7 shows the median latency in measurements year on year. The highest latencies occur in measurements over 3G.²⁷ Measurements over 4G, while exhibiting lower latency, rose from 26 ms to 28 ms in a year-on-year comparison (Q1 2022 to Q1 2023). Measurements over 5G reveal a slightly lower latency than those over 4G. Median 5G latency slightly increased from 22 ms in Q1 2022 to 25 ms in Q1 2023. The lowest latencies in Q1 2023 were found in (wireless) LAN measurements, with a median of around 20 ms.

²⁷ Compared with other technologies, the number of measurements over 3G is very low and can lead to fluctuations in median values as reported.

Figure 07: Latency (ping) by technology

Source: RTR-NetTest

Figure 8 shows the median download and upload speeds by time of day in 2021, 2022 and 2023 (January – May). The median download speed is lower in the hours between 6 pm and 10 pm than at other times of the day. The upload speed is barely affected during this period. The highest download speeds are found during nighttime hours (midnight to 6 am), around 57 Mbps on average during 2023 (January – May). As the ‘peak hour’ (8 pm to 9 pm) approaches, download speeds continue to fall, reaching only around 34 Mbps on average in the peak hour during 2023 (January – May). With the exception of the period 1 am to 2 am, the median download speed and median upload speed at each hour of the day were both higher than in the previous year.

The number of measurements conducted by RTR-NetTest varies considerably during the course of one day. During 2021 to 2023 (January to May), most measurements were carried out in the hour between 7 pm and 8 pm. During 2022 about 69,000 measurements were made during this hour of the day. This represents a decline from the volume achieved in 2021, when 85,000 measurements were made in this same hour. In 2020, the year when the first lockdowns were imposed in Austria in response to the coronavirus crisis and many companies switched to working from home, more than 93,000 measurements were conducted in this hour – the highest figure reported for this metric to date.

Figure 08: Download and upload speeds by time of day

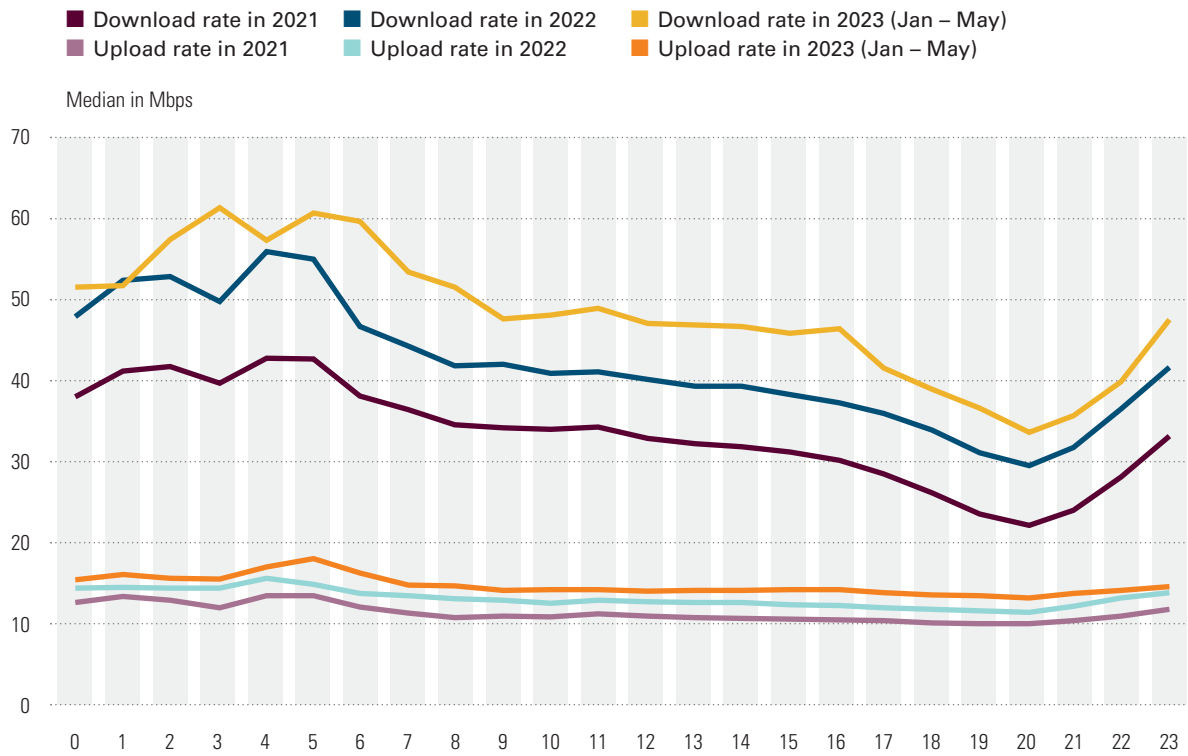
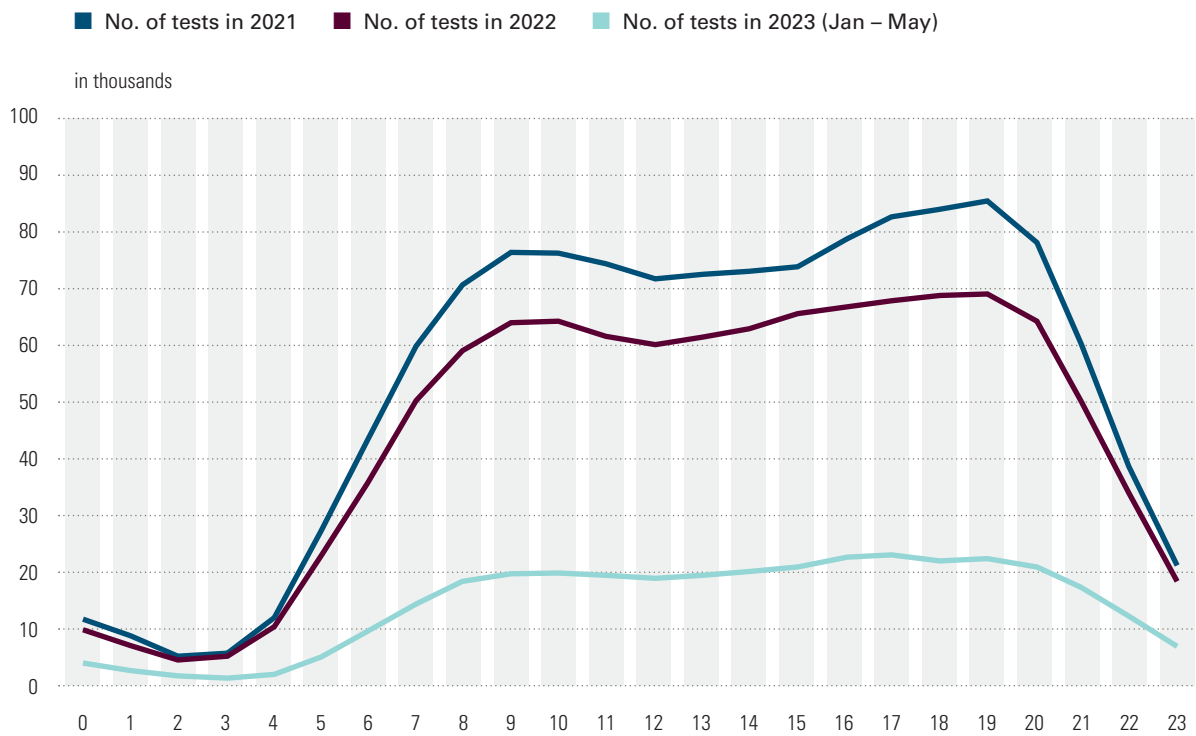


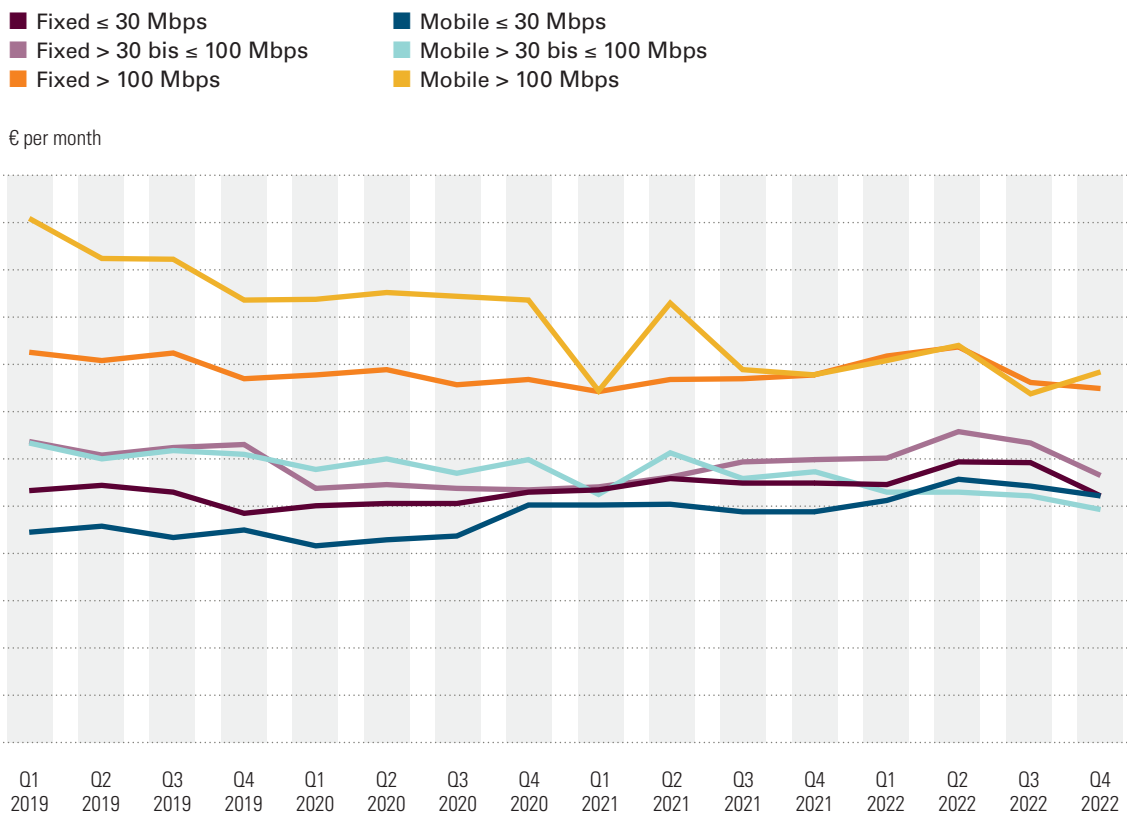
Figure 09: No. of tests by time of day



Source: RTR-NetTest

Finally, figure 10 contrasts the three price baskets for fixed network broadband (each without TV) with the three price baskets for mobile broadband (with unlimited data volume). The broadband categories differentiated in both cases are ≤ 30 Mbps, >30 to ≤ 100 Mbps, and >100 Mbps. The basket value is based on the least expensive product from each ISP that can be included in the respective basket (excluding subscription plans for young persons). In 2022, the price of mobile broadband with speeds of more than 100 Mbps continued at a level similar to that for fixed broadband, with speeds of more than 100 Mbps. The price in the fourth quarter of 2022 was EUR 26.10 for both mobile and fixed broadband. Year on year (Q4 2021 to Q4 2022), the highest percentage price growth was seen in the ≤ 30 Mbps mobile broadband basket, at around 7%. The largest percentage price decline was around 14%, in the >30 to ≤ 100 Mbps mobile broadband basket.

Figure 10: Price baskets: fixed vs. mobile broadband



Source: RTR

RTR-NetTest also offers end users an independent way of measuring other internet access quality metrics. Results for quality of service (QoS) ('Voice over IP', 'Unmodified content', 'Website', 'Transparent connectivity', 'DNS', 'TCP ports', 'UDP ports') are shown immediately after running the test. In this way, consumers can evaluate the quality of their internet connection while also identifying any potential restrictions affecting their access.

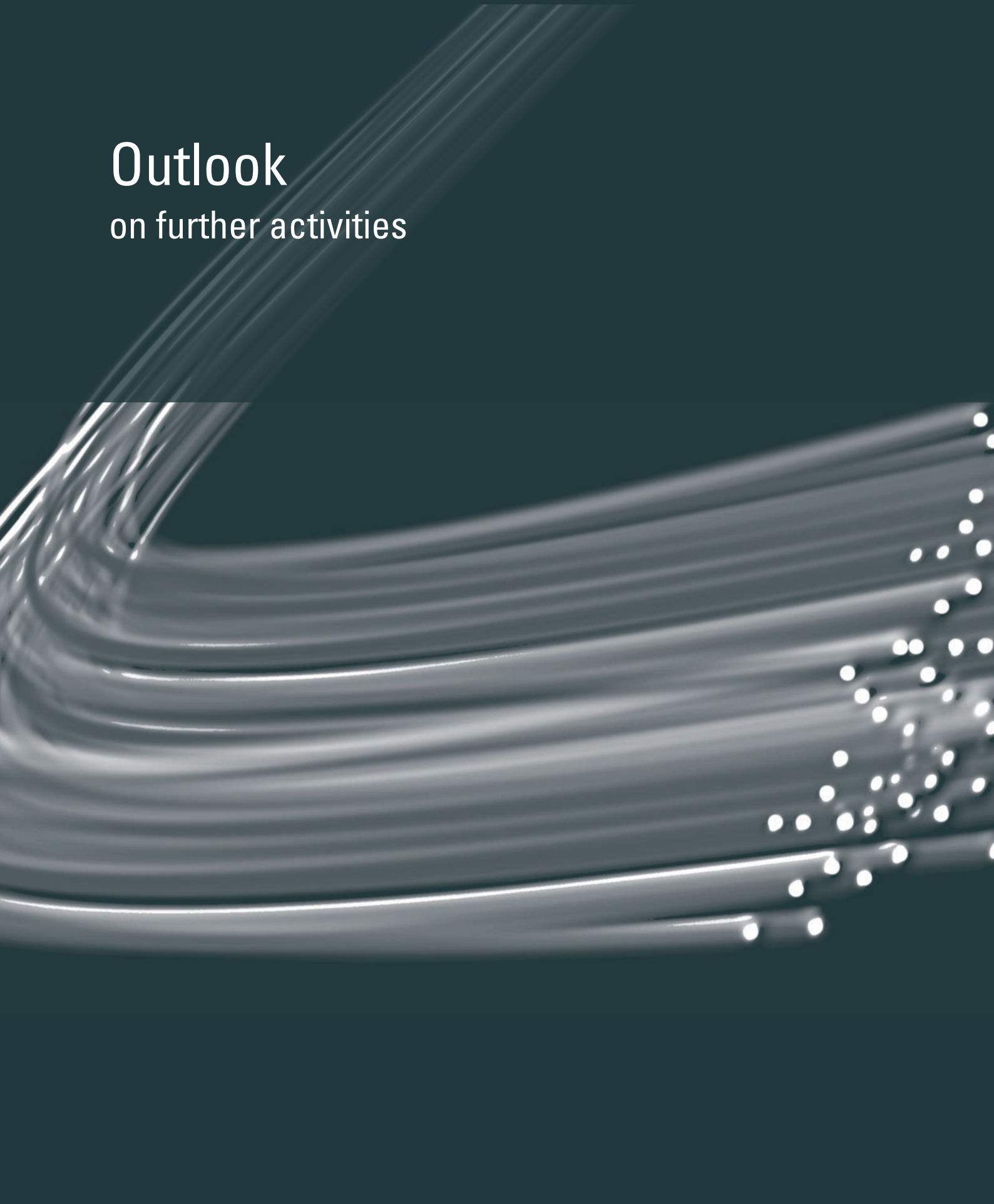
Conclusions

The key figures as presented here indicate a basically positive development in the availability of non-discriminatory internet access services during the reporting period. Measurements taken over 5G exhibit much higher speeds than measurements taken over other mobile or even fixed-network connections. Also on a positive note, download and upload speeds have seen further improvements in the reporting period. Around a quarter of measurements in 2023 (January to May) record download speeds in excess of 100 Mbps. The indicators presented above warrant the conclusion that, during the reporting period in Austria, the availability of non-discriminatory internet access services at levels of quality that reflect advances in technology pursuant to Art. 5 Par. 1 of the TSM Regulation was ensured.

Chapter 10

Outlook

on further activities



10 Outlook on further activities

In our future work, we at the Austrian regulatory authority will continue to follow the approach taken in the past. Specifically, we are committed to proactively monitoring developments in the markets as well as to being available as a partner to ISPs, internet users and all other stakeholders to consult on net neutrality issues. To this end, the corresponding organisational prerequisites have also been met.

Specifically, the activities described below are currently planned for 2023/2024 or by the end of the next reporting period in April 2024.

I. Monitoring

1. **Transparency investigation.** An investigation is planned in the coming reporting year to evaluate transparency status in relation to transmissions (whether traffic is modified). Further procedural steps should then be initiated in cases where there is evidence that data has been manipulated.
2. **Requests for information.** As in previous years, the verification of internet access products by additional request-for-information procedures is also planned for the next reporting year.
3. **Customer complaints as a source of information.** Customer complaints are viewed as a further source of information for ongoing monitoring of compliance with the provisions of the TSM Regulation. Any irregularities are to be followed up on accordingly.
4. **Ongoing review of general terms of business.** The regulatory authority's work of reviewing general terms of business also involves monitoring compliance with net neutrality rules. The use of these terms is prohibited if they are found to breach the provisions of Art. 4(1) of the TSM Regulation. Where products touch on net neutrality issues (such as the provision of specialised services) to a significant extent, the regulatory authority sets up monitoring teams as appropriate.
5. **Data from market observation and RTR-NetTest.** The regulatory authority periodically collects data (via the KEV, ZIB and ZIS) on aspects such as developments in telecommunications and internet access markets, the technologies implemented, infrastructure, and trends in demand and prices. These data are made available, together with related analyses (including hedonic prices, the mobile price index and geographical comparisons) as Open Data or in the form of quarterly reports (Internet Monitor, Telekom Monitor). Another important system that is used to provide information about the structure and development of the internet is RTR-NetTest.²⁸ This crowd-sourced tool provides a wealth of increasingly reliable information on technologies and QoS indicators such as upload and download speeds, ping times and signal strength. RTR-NetTest is being further enhanced on an ongoing basis.
6. **Certified monitoring mechanism.** A long-standing RTR measurement tool, RTR-NetTest was first deployed in conciliation procedures and court proceedings in November 2018, in order to furnish evidence for an ISP's compliance or lack of compliance with a contractually agreed service level. This is considered a type of certified monitoring mechanism within the meaning of Art. 4(4) of the TSM Regulation.

²⁸ See <https://www.netztest.at/en/>

7. **Internet blocking** Network blocks are a topic of increasing significance. The TKK's remit here has been further expanded by the Consumer Protection Cooperation Act (VBKG) in 2021 as well as responsibilities relating to the EU Market Surveillance Regulation in 2022. The regulatory authority expects to see network blocks receiving heightened attention because of the resulting need to weigh up one basic right against another, a factor also potentially impacting business models.
8. **Empirical surveys and analysis of platforms and digital gatekeepers.** While the Net Neutrality Regulation addresses questions of unhindered access to the open internet, the internet also faces risks beyond basic access that affect its status as a key driver of technical and social innovation. The RTR has prepared a series of analyses addressing these risks and is also working with other institutions such as the Federal Competition Authority (BWB) as part of the digital platforms task force. There has been a greater national and international focus on topics in this area since the publication of the draft Digital Market Act (DMA) by the European Commission in December 2020. The regulatory authority is concentrating efforts here on the continuous monitoring of developments in applications and groups of application within the Austrian market.

II. International cooperation

1. **Updated Open Internet Guidelines.** A first important step was the adoption of the revised BEREC Net Neutrality Guidelines by the BEREC plenary assembly in June 2022.
2. **Net neutrality provisions.** To drive harmonised implementation of net neutrality provisions, international exchange among regulatory authorities (within the framework of BEREC but also bilaterally) will continue in the form of ongoing procedures as well as the joint discussion and analysis of relevant products. Within this framework, the RTR Telecommunications and Postal Services Division also makes every effort to ensure the confidential handling of issues raised by domestic ISPs (e.g. relating to individual products) and the rapid clarification of ambiguities in the interpretation of net neutrality provisions at international level.
3. **Internet measurement tool and net neutrality.** For 2023, the BEREC Work Programme 2022 envisages the continuation of activities involving the application of tools to measure quality and net neutrality in relation to internet access services and their use in a regulatory context. RTR, which has had a tool of this kind available for a long time now in the form of RTR-NetTest, is closely involved in these activities, as well as in the auditing and updating of methods for the measurement of quality parameters in VHC networks.
4. **BEREC annual report on net neutrality in Europe.** A BEREC report on implementing the TSM Regulation will be compiled and published towards the end of 2023. The report will be based on the net neutrality reports that are to be prepared by the NRAs by 30 June 2023 and on the BEREC data survey carried out in mid-2022.
5. **Digital gatekeepers and the internet ecosystem.** The RTR's Telecommunications and Postal Services Division also provides contributions to work examining the internet ecosystem. Investigations here focus on topics such as openness and competition. This work, which also addresses interactions between the various elements and the various actors within the internet ecosystem, is planned to continue in the next reporting period.
6. **International work supports knowledge transfer.** Work at international level not only creates a space for dialogue and discussion of the issues at hand. It also offers an opportunity to follow the work of other regulatory authorities on the topic of net neutrality, while reviewing relevance for Austria and adopting suitable approaches where appropriate. Topics currently of particular importance internationally include network slicing, quality differentiation, specialised services and – last but not least – the approaches taken by regulatory authorities in the case of network blocks.

III. Cooperation with ISPs and the general public

- 1. Cooperation is key.** The RTR Telecommunications and Postal Services Division will continue to pursue and further expand the strategy mentioned above in this section – namely to promptly and constructively discuss, as part of an open dialogue with the sector or individual companies, any new issues, as a means of identifying solutions. Essentially, this lays the groundwork for all regulatory activities relating to net neutrality, since in many cases any specific proposed activity must first be understood in detail before any recommendations can be made or any conclusions can be drawn that might relate to potential regulation.
- 2.** As was the case this year, due attention will also be paid to **further development of the net neutrality website** in the next reporting year.²⁹ Alongside other activities, RTR not only maintains a list of all decisions made by the national regulatory authority and the courts, but also a list of all active network blocks in Austria. This service is offered in the form of Open Data to internet users and providers.³⁰
- 3.** Finally, an **event** will also be organised to address **current net neutrality issues**. Further details of an event of this kind – planned for early 2024 – will be offered for comment as part of the budget consultation to be published later this year.

²⁹ For details see: https://www.rtr.at/TKP/was_wir_tun/telekommunikation/weitere-regulierungsthemen/netzneutralitaet/Netzneutralitaet.en.html

³⁰ For details see: https://www.rtr.at/TKP/was_wir_tun/telekommunikation/weitere-regulierungsthemen/netzneutralitaet/Blockings.en.html

Chapter 11

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11 Appendix

11.1 Mapping of the report to the structure of the guidelines

Here, as described above in the introduction, interested readers are furnished with details on how this report maps to the BEREC Guidelines. This is important first and foremost to allow international comparisons of the report. Par. 183 of the BEREC Guidelines describes which sections should be included in national reports on net neutrality. In the following table these points are mapped to the individual chapters of the report.

Table 05: Sections of this report as mapped to the BEREC Guidelines

Text of the BEREC Guidelines (Par. 183)	Chapter
"overall description of the national situation regarding compliance with the Regulation"	Chapter 1 and 2
"description of the monitoring activities carried out by the NRA"	Chapter 6, 7 and 8
"the number and types of complaints and infringements related to the Regulation"	Chapter 8
"main results of surveys conducted in relation to supervising and enforcing the Regulation"	Chapter 3 and 8
"main results and values retrieved from technical measurements and evaluations conducted in relation to supervising and enforcing the Regulation"	Chapter 8 and 9
"an assessment of the continued availability of non-discriminatory IAS at levels of quality that reflect advances in technology"	Chapter 9
"measures adopted/applied by NRAs pursuant to Article 5(1)"	Chapter 8.6

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11.3 Abbreviations

AGB	AGB: general terms and conditions
BEREC	Body of European Regulators for Electronic Communications
BOOTPS	bootstrap protocol, serves to assign an IP address and other parameters to a computer in a TCP/IP network
BVwG	Federal Administrative Court
CAP	content and application provider
CDN	content delivery network
CPE	customer premises equipment (user device)
CreativePartnr	service via port 455/TCP
DHCP	Dynamic Host Configuration Protocol. This protocol allows a server to assign the network configuration to clients.
DNS	domain name system
GDPR	General Data Protection Regulation
EC	European Commission
HTTPS	Hypertext Transfer Protocol Secure; communications protocol on the World Wide Web that allows data to be transferred securely
IAS	internet access service
IP	internet protocol
IPv4	internet protocol version 4
IPv6	internet protocol version 6
ISP	internet service provider
KEV	Communications Survey Ordinance (Kommunikations-Erhebungs-Verordnung)
KommAustria	Austrian Communications Authority
MNO	mobile network operator
MVNO	mobile virtual network operator
NAT	Network Address Translation
NetBIOS	Network Basic Input Output System; an application programming interface (API) for communication between two programs via a local network
NN	net neutrality
NRA	national regulatory authority
RTR	Austrian Regulatory Authority for Broadcasting and Telecommunications

SSH	Secure Shell; refers to a network protocol and corresponding program, used to securely establish an encrypted network connection with a remote device
SMB	Server Message Block; also known as Common Internet File System (CIFS), is a network protocol for file, printing and other server services in computer networks
SMTP	simple mail transfer protocol
SNI	see TLS-SNI
TCP	Transmission Control Protocol
TFTP	Trivial File Transfer Protocol; very simple (and early) file transfer protocol
TKG	Telecommunications Act
TKK	Telekom-Control-Kommission
TLS-SNI	Transport Layer Security–Server Name Indication; an extension of the transport layer security protocol that allows multiple encrypted, retrievable websites with different domains to share one server on TLS port 443, even if it has only one IP address
TSM Regulation	Telecoms 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 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.
UDP	User Datagram Protocol; a minimal, connectionless network protocol that is part of the transport layer of the internet protocol family
UrhG	Federal Act on Copyright in Literary and Artistic Works and Related Rights (Urheberrechtsgesetz)
VIX	Vienna Internet eXchange
VoD	video on demand
WAN	wide area network

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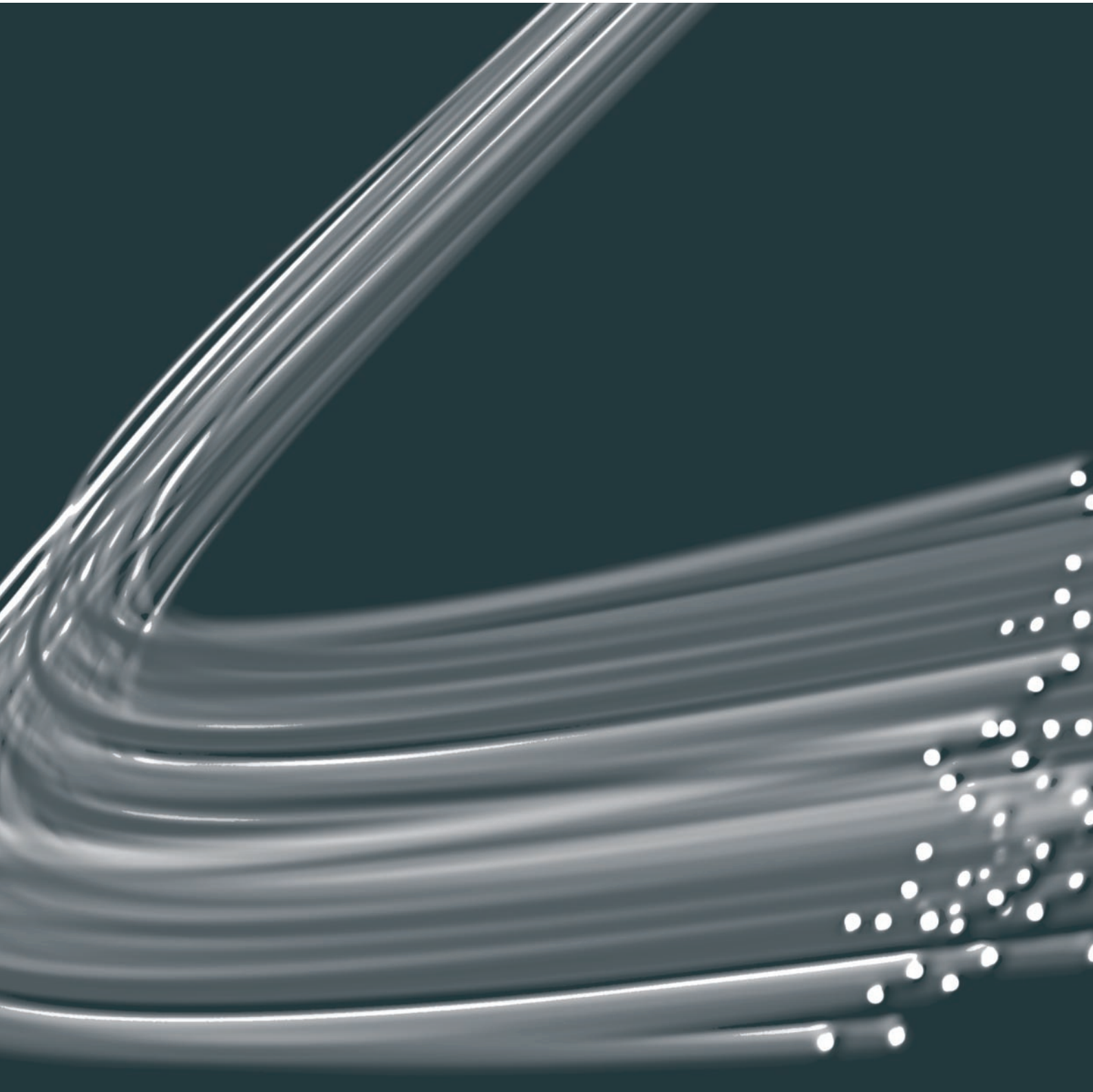
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