Report of the President of the Office of Electronic Communications on compliance in the Polish market with Regulation 2015/2120 on open internet access

Warsaw, 30 June 2021

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1. Conclusions

Please read the fifth report of the President of UKE on compliance in the Polish telecommunications market with Regulation (EU) 2015/2120 of the European Parliament and of the Council laying down measures concerning open internet access[1]. The present report covers the period from 1 May 2020 to 30 April 2021.

In this period, the President of UKE analysed the conditions for the provision of internet access services, with particular emphasis on traffic management measures. The terms and conditions for the provision of specialised services by internet service providers (ISPs) were also investigated. Complaints by end-users have also been followed up with regard to the rights and obligations under Articles 3 and 4(1) of the Regulation. The present report also presents information showing the quality of the internet access service in Poland and the functioning of the certified service quality monitoring tool the President of UKE made available to consumers, which was enriched in 2020 with new functionalities.

The following phenomena were observed in the telecommunications market in the reported period:

- The most frequently indicated specialised services by ISPs were IPTV, VoIP telephony, VPN and data services. Compared to previous years, ISPs did not indicate any new specialised services. More than half of the providers provided specialised services in their network, and almost one in three intermediated in the provision of such services for other providers. This means broadening the portfolio of services provided by ISPs to include the provision of services other than just internet access service.
- Similarly to the previous year, the telecommunications market operated under “pandemic conditions” in 2021. Many users were working remotely from their homes. For this purpose, they used domestic volumes of internet access services, very often in mobile network technologies. The education system was also based on e-learning solutions, which placed a significant strain on the resources of the internet service.
- Increased traffic was observed as a result of the increased use of streaming platforms offering a wide range of educational and entertainment content.
- In 2021, ISPs increased the quality parameters of their services, thus fulfilling the needs of end-users related to changing the use of internet resources.
- Practices violating the principles of access to the open internet in terms of the use of traffic management measures have not been discovered.

[1] Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union.

- ISPs indicate that they continuously monitor the network and take measures to ensure the highest quality of service.

2. List of legal acts and abbreviations

- The certified mechanism – a measurement system designed to measure, among others things, the speed of data transmission in both directions for the internet access service provided via fixed-line public telecommunications networks. The system comprises, among other things, a website and a measurement application, e.g., for desktop computers and laptops, this system has been established on the basis of Article 4(4) of the Regulation;
- Telecommunications Act – Act of 16 July 2004 – Telecommunications Law (consolidated text: Journal of Laws of 2021, item 576);
- Regulation – Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 in the part on 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;
- Act of 19 November 2009 on Gambling Games (Journal of Laws of 2020, item 2094, as amended.);
- BEREC Guidelines – BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules, document number: BoR (16) 127 BoR (16) 127;
- APN (*Access Point Name*) – name or address of a gateway between an operator's mobile network and another computer network, enabling, among other things, routing packets between these networks;
- BEREC – Body of European Regulators in Electronic Communications;
- CSSR (*Call Setup Success Rate*) – indicator of the effectiveness of calls measured as the fraction of call attempts that result in a connection to the dialled number;
- DCR (*Dropped Call Rate)* – indicator of disconnected calls measured as the fraction of the telephone calls which, due to technical reasons, were cut off before the speaking parties had finished their conversation and before one of them had hung up;
- DVB-C (*Digital Video Broadcasting – Cable*) – standard for the broadcast transmission of digital television intended for use in cable operator networks;
- IAS – internet access service;
- IGMP (*Internet Group Management Protocol*) – an TCP/IP protocol, used to manage multicast groups over Internet Protocol (IP) networks;
- IPTV (*Internet Protocol Television*) – delivery of television signal over Internet Protocol (IP) broadband networks;
- ISP – internet service provider;

- MPLS (*Multi-Protocol Label Switching*) – a layer 2.5 technique of the ISO-OSI model, used by routers, in which packet routing has been replaced by so called label switching, used for marking various types of traffic in the network and enabling implementation of QoS mechanisms in IP networks.
- MRTG (*Multi Router Traffic Grapher*) – software which uses the Simple Network Management Protocol (SNMP) for monitoring and measuring the traffic load on network links. It allows the user to see traffic load on a network over time in graphical form;
- NAT (*Network Address Translation*) – technique for transmitting network traffic through a router that involves remapping of source or destination IP addresses;
- NB-IoT (*Narrowband Internet of Things)* – radio technology standard developed to enable the implementation in a low-power and low data rate wide-area network of, e.g., M2M services (Machine to Machine);
- LTE or 4G (*Long Term Evolution*) – standard developed by the 3GPP consortium for wireless data transmission, successor of 3G systems;
- PSTN – Public Switched Telephone Network;
- President of UKE – President of the Office of Electronic Communications;
- QoS – Quality of Service;
- SNMP (*Simple Network Management Protocol*) – family of network protocols for managing devices such as routers, switches, computers or telephone exchanges over IP networks;
- TCP – Transmission Control Protocol;
- VOD (*Video on Demand*) – service allowing users to access video or sound recordings at any time, without the constraints of a typical broadcasting schedule;
- VoIP (*Voice over Internet Protocol*) – technology enabling voice processing over Internet Protocol (IP) networks;
- VoLTE – voice transmission over LTE technology;
- VoWiFi (*Voice over WiFi*) – technology that allows users to make audio calls over wireless local networks;
- VPBX (*Virtual Private Branch Exchange*) – a virtual PBX, providing voice calls over IP networks, as a cloud-based solution.
- VLAN (*Virtual Local Area Network*) – a network technology of the data link layer (layer 2 of the ISO-OSI model), described in the IEEE 802.1Q standard, which allows within one physical local network to create multiple logical networks (virtual networks) by separating traffic between groups of ports on switches.

3. Introduction

Article 5(1)(2) of the Regulation obliges the national regulatory authority competent for the telecommunications services market, i.e. the President of UKE, to publish annual reports on the monitoring of the market situation with regard to open internet access and actions taken in this

respect, as well as to submit these reports to the European Commission and BEREC. The present, fifth report, covers the period from 1 May 2020 to 30 April 2021 and includes information on:

- traffic management monitoring,
- monitoring and evaluation of conditions for the provision of specialised services and their impact on the general quality of IAS,
- complaints by end-users with regard to the rights and obligations as set out in Articles 3 and 4(1) of the Regulation,
- the IAS quality monitoring mechanism,
- data concerning the quality of IAS.

4. Monitoring of the Regulation

In 2021, in order to get a picture of the market situation with regard to open internet, the President of UKE used a questionnaire containing questions on:

- traffic management measures applied;
- evaluation of conditions for the provision of specialised services and their impact on the general quality of internet access services;
- ISP transparency requirements;
- procedures for processing end-users' complaints with regard to the rights and obligations set out in Articles 3 and 4(1) of the Regulation.

In 2021, the questionnaire was sent to the 23 largest ISPs in terms of number of users offering fixed-line internet access in 2019 (due to the availability of 2019 data on the day the questionnaires were sent) and to the three entities with the highest number of total internet users, such as: P4 sp. z o.o. (number of internet users in 2019 – 14 171 173), Polkomtel sp. z o.o. (number of internet users in 2019 – 7 897 702) and T-Mobile Polska S.A. (number of internet users in 2019 – 7 809 620).

The requests were addressed to: Chopin Telewizja Kablowa sp. z o.o., SAT-FILM sp. z o.o. i Wspólnicy Spółka Komandytowa, Netia S.A., Gawex Media sp. z o.o., Vectra S.A., Skyware sp. z o.o., Orange Polska S.A., JMDI sp. z o.o., UPC Polska sp. z o.o., TEL-KAB sp. z o.o. sp. komandytowa, Leon Telekom sp. z o.o. spółka komandytowa, Zicom Next sp. z o.o, Fiberlink sp. z o.o., Spółdzielnia Telekomunikacyjna OST, ASTA-NET S.A., Inea S.A., Toya sp. z o.o., Przedsiębiorstwo PROMAX Spółka Jawna Zofia Fórmanek-Okrój, Wiesław Okrój, Servcom sp. z o.o., KOBA sp. z o.o., Oxylion S.A.,Beskid Media sp. z o.o., Jerzy Krempa conducting business activity under the firm Przedsiębiorstwo Produkcyjno Montażowe Urządzeń Elektronicznych TELPOL Jerzy Krempa, P4 sp. z o.o., Polkomtel sp. z o.o., T-Mobile Polska S.A.

The ISPs analysed provide services to approximately 95% of the users on the internet access services market.

4.1. Traffic management measures

As part of monitoring and ensuring compliance of the practices and services provided with the provisions of Articles 3 and 4 of the Regulation, an evaluation of the traffic management measures applied by ISP was carried out.

The study conducted based on a questionnaire prepared by UKE shows that in the period covered by the report ISPs applied traffic management measures allowed under the exceptions set out in Articles 3(3)(a)–3(3)(c) of the Regulation.
These practices include:

- blocking traffic due to obligations under Article 15f(5) of the Act of 19 November 2009 on Gambling Games[2] (point a);
- managing traffic in accordance with the legislation in order to preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users (points a and b);
- managing traffic in order to prevent network congestion (points c and b).

The four largest mobile network operators, i.e. Orange Polska S.A., T-Mobile Polska S.A, P4 sp. z o.o. and Polkomtel S.A. stated that they were performing their obligations under the agreement of 23 March 2020 on cooperation with the Minister of Digital Affairs and the President of UKE, under which they were obliged to prevent access to websites using domain names published on the warning list maintained by the Scientific and Academic Computer Network, a national research institute (NASK – PIB), which are used to defraud end-users' data and funds, by removing them from their ICT systems used for converting Internet domain names into IP addresses.

[2] Article 15f(5) of the Act on Gambling Games – A telecommunications undertaking providing services related to access to the internet shall be bound to: 1) prevent access, on a free of charge basis, to websites using names of internet domains entered in the Register through their removal from the ICT systems of telecommunications undertakings, intended to change internet domain names to IP addresses, within 48 hours following the entry in the Register, at the latest; 2) re-route, on a free of charge basis, connections referring to names of internet domains entered in the Register to the website maintained by the minister competent for public finance, containing a message addressed to recipients of the internet access service, comprising, in particular, information on location of the Register, entering a searched internet domain in this Register, a list of entities legally offering gambling games in the territory of the Republic of Poland as well as notify of potential penal and fiscal liability of a participant of games arranged contrary to the provisions of the law; 3) enable access, on a free of charge basis, to websites using names of domains deleted from the Register, within 48 hours following deleting the name of the internet domain from the Register.

In the period covered by the report, ISPs did not use traffic management measures consisting of: blocking, slowing down, changing, limiting, degrading or prioritising traffic to prevent imminent network congestion or to mitigate the effects of exceptional or temporary network congestion caused by increased levels of internet traffic due to an ongoing outbreak.

ISPs explained that they continuously monitor the network and take measures to ensure the highest quality of service. The main actions undertaken in this period include:

- increasing the network capacity (depending on the needs, network capacity was increased at the access, distribution and backbone layer),
- expansion of links to external operators,
- expansion of congested network nodes,
- expansion of links to CDN (Content Delivery Network),
- purchase of additional bandwidth for traffic exchange nodes,
- increasing the number of base stations (in the case of mobile networks),
- renegotiation of interconnection agreements, change of interconnection interfaces.

Eight ISPs reported that they block TCP/UDP ports. For user security reasons, the destination ports for traffic coming from the internet to end-user devices were blocked by default, i.e.: 21 FTP (TCP), 22 SSH (TCP), 23 TELNET (TCP), 25 SMTP (TCP), 53 DNS (TCP, UDP), 80 http (TCP), 110 POP3 (TCP), 123 NTP (UDP), 137 NETBIOS-NS (UDP), 138 NETBIOS-DGM (UDP), 139 NETBIOS-SS (UDP), 443 HTTPS (TCP), 445 SMB (TCP), 587 SUBMISSION (TCP), 8080 http- ALTERNATIVE (TCP), 135-139 (TCP, UDP), 161 SNMP (TCP, UDP), 162 SNMPTRAP (TCP, UDP).

An information analysis shows that two of the ISPs mentioned above block all ports for incoming traffic. One ISP explained that ports open to certified services which facilitate secure communication between ISP's terminal equipment are an exception. Another ISP indicated that they offer services with no such restrictions.

Port 25 (TCP) is blocked for outgoing traffic to the internet, four ISPs indicated this practice. This port is blocked due to unsolicited information (SPAM) being sent by end-users. One ISP reported that it is possible to unblock the said port after the end-user submits an appropriate request. ISP's explanations indicate that the availability of TCP/UDP ports open within an active session may be affected by the use of NAT. NAT mechanism is used in the networks of 23 ISPs (out of 26 ISPs participating in the study).

Two ISPs use DPI technology, for the purpose of classifying traffic for billing purposes and for the provision of the services offered by these providers. This practice involves monitoring the IP packet header.

ISPs also explained that the security mechanisms implemented in their networks could potentially affect the availability of certain content, applications or services. Undesirable actions are minimised by responding to end-user complaints.

In the period covered by the report, UKE did not register any complaints from end-users as regards blocking ports, blocking or restricting access to content, applications or services.

In the period covered by the report, no practices were found that violated the principles of access to the open internet, as defined in Article 3(3) of the Regulation.

4.2. Specialised services

Monitoring by the President of UKE of compliance of the practices applied and services provided with the provisions of Articles 3 and 4 of the Regulation covers the evaluation of the conditions for the provision of services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality, namely services referred to in BEREC Guidelines as 'specialised services'.

The aim of the study covering the last reporting period performed based on UKE's questionnaire was to establish whether:

1) the specialised services indicated by ISPs meet the requirements regarding the freedom to offer such services in accordance with the first subparagraph of Article 3(5) of the Regulation, in particular whether:
   - they are services other than IAS,
   - they are optimised for specific content, applications or services, or a combination thereof,
   - optimisation is objectively necessary in order to meet the requirements for a given level of quality;
2) the conditions for establishing and providing specialised services by an ISP are compatible with the second subparagraph of Article 3(5) of the Regulation, that is whether:
   - the network capacity is sufficient to provide a specialised service in addition to any internet access services provided,
   - specialised services are not used or offered as a replacement for internet access services,
   - specialised services are not to the detriment of the availability or general quality of internet access services for end-users;
3) a specialised service is not used by an ISP to circumvent the rules concerning traffic management measures applicable to the internet access service.

The survey, which included twenty-six ISPs, found that:

1) Fourteen ISPs provide specialised services in their network:
   - VoIP (8 ISPs), IPTV (10 ISPs), data transmission (4 ISPs), VPN (3 ISPs), VoLTE (2 ISPs), telemetering (2 ISPs), MMS (1 ISP), VoWiFi (1 ISP), private APN (2 ISPs), NB-IoT (1 ISP), VPBX (1 ISP), VOD (2 ISPs);

2) Eight ISPs stated that they act as intermediaries in offering the following specialised services in the name and on behalf of another entity:
    - IPTV (8 ISPs), VoIP (2 ISPs), other audiovisual services (1 ISP);
3) Eleven ISPs stated that they do not provide or act as intermediaries in providing specialised services in the name and on behalf of other entities.

The most frequently indicated specialised services by ISPs were IPTV, VoIP telephony, VPN and data services. Compared to previous years, ISPs did not indicate any new specialised services in the questionnaire prepared by UKE, but the share of ISPs covered by the study in the provision of services other than IAS increased. In the study conducted, more than half of the providers provided specialised services in their network, and almost one in three intermediated in the provision of such services for other providers.

IPTV and VoLTE are considered to be specialised services in BEREC Guidelines (par. 113) provided that they meet the requirements of the Regulation, in particular of the first subparagraph of Article 3(5). BEREC Guidelines do not mention VoIP in this context. ISPs indicating VoIP as a specialised service argued that this service cannot be provided as part of IAS due to, among other things, lack of possibility to ensure quality comparable to the quality within PSTN, due to excessive delays, jitter or packet loss. In order to ensure appropriate optimisation for specialised services, ISPs use solutions such as:

- traffic separation at the physical layer of the network (e.g. dedicated ports for a specialised service on the customer's terminal equipment),
- traffic separation at the level of the network data link layer (e.g. by separating VLANs, enabling the creation of a separate logical network, used for services such as VoIP or IPTV),
- use of the MPLS protocol 'at the interface' between the data link layer and the network layer (e.g. for the VPN service),
- use of equipment dedicated to a specific specialist service (e.g. a Set-Top-Box for IPTV services),
- setting up private APNs (e.g. for telemetry service),
- reservation of bandwidth for specialised services.

Most ISPs (ten out of fourteen) stated that they do not use a specialised service to provide IAS. Four ISPs indicated that the specialised service includes IAS or there is a possibility to provide this service. Therefore, the President of UKE will examine offers of these ISPs for compliance with Article 3(1)–(5) of the Regulation and BEREC guidelines in this respect.

Evaluation of the impact of the provision of a specialised service on IAS by ISPs is carried out by:

- examining the level of saturation of a band using the monitoring of the network devices and their ports using statistics for MRTG,
- controlling the capacity of connections and analysing access quality,

- analysing the load on the network in the backbone, distribution and access segments,
- defining the saturation ceiling of a band within the network intended for the provision of specialised services,
- monitoring packet/frame loss on network interfaces,
- monitoring service quality indicators within a mobile network, namely the CSSR and the DCR,
- carrying out a technical survey during which technical possibilities for the provision of a specialised service are defined respecting the Fair Usage Policy.

Three ISPs stated that they do not assess the impact of specialised services on IAS due to the negligible use of their network resources by specialised services. The analysis of the responses of ISPs contained in the questionnaire prepared by UKE shows that in most cases specialised services occupy less than 10% of the bandwidth available in the network, while this occupancy depends on the network segment and the number of customers using these services at a given time. Three ISPs indicated a maximum occupation of the available bandwidth in their network by specialised services ranging from 10% to 23%. Compared to the previous reported period, there was not much change in this respect.

Among the actions aimed at ensuring an adequate quality of IAS and specialised services, ISPs mentioned:

- constructing a backbone network with excess capacity enabling demand for bandwidth to be met,
- expanding the infrastructure aimed at increasing network capacity while exceeding certain bandwidth occupation levels by specialised services,
- dividing the area into smaller areas to lower the usage of access links,
- rerouting traffic to another network path if a certain level of bandwidth is exceeded in a given area,
- increasing the number of base stations in the case of mobile networks.

4.3. Presenting in contractual documents the information required by Article 4(1)(d) (first part) of the Regulation

In 2019, audit investigations were carried out during which the market practices of the 10 largest ISPs were examined: Multimedia Polska S.A., Vectra S.A., Orange Polska S.A., Polkomtel sp. z o.o., T-Mobile Polska S.A., P4 sp. z o.o., Netia S.A., UPC Polska sp. z o.o., Toya sp. z o.o., Inea S.A. in Poland. ISPs were found to provide information on the speed of internet access services in various manners, they are included in different contractual documents, using different units. ISPs also interpret the concepts of speed differently, provide information in a non-transparent way, which makes it difficult to compare offers from the same provider as well as to analyse offers from other providers. The audit found no uniform market practice in this area. As a result,

appropriate audit recommendations were made to standardise market practice and increase the availability and understanding of the required information for end-users. The audited ISPs have implemented the required changes in accordance with the audit recommendations.

In 2021, audits of 16 smaller, local ISPs are planned in the same scope as the audit indicated above. The results of this audit will be presented in next year's report.

4.4. Publication of information

ISPs comply with their obligation to publish information as set out in Article 4(1) of the Regulation by posting appropriate templates of contracts, in particular rules and regulations and price lists on the relevant pages of their websites, notably in "Documents" or "To download" tabs or on pages dedicated to the different offers. Access to the templates published, depending on the supplier, requires between two and five links (clicks) of a site.

Some ISPs additionally also publish information going beyond contract templates.

Entrepreneurs include information and explanations relevant from the point of view of the end-user also in the following tabs: "Help", "FAQ", "Instructions", "News" and "Net neutrality".

4.5. Quality of internet access service

The President of UKE keeps in mind the development of the market of modern technologies ensuring the availability to citizens of the highest level of internet access services, which reflects the continuous development of technologies and services of modern society. The level of quality of internet access services offered to end-users should allow and possibly guarantee the use of content, applications and modern services available on the internet.

In this chapter, the President of UKE analysed and presents data on IAS quality, which were collected on the basis of measurements made with measurement applications available in Poland and offered by the research entity, V-SPEED sp. z o.o. The data presented in the report depicts the quality of internet access services based on measurements carried out in April 2021, and in order to observe the trend of changes over the years, it was related to data from previous years, i.e. measurements carried out in April 2020, 2019, 2018, 2017 and 2016.

To evaluate the market situation and assess the quality of services, data collected from consumer tests was carried out using:

- an application accessible via a web browser available at https://pro.speedtest.pl
  The results pertain to all technologies available in fixed-line and mobile networks;
- Internet Speed Test application available for mobile devices.

The results pertain to all technologies available in mobile networks. The data analysed were obtained from a very large number of measurements made by users[3], which allows for a general evaluation of the quality of services offered by Polish ISPs. As indicated above, the measurements were carried out by the end-users themselves, i.e. internet users. The obtained measurement results were affected by individual conditions in which users use the given services, such as terminal equipment technology, limitations of tariff plans, use of Wi-Fi technology in home networks, number of simultaneously active devices, conditions of radio wave propagation, etc.

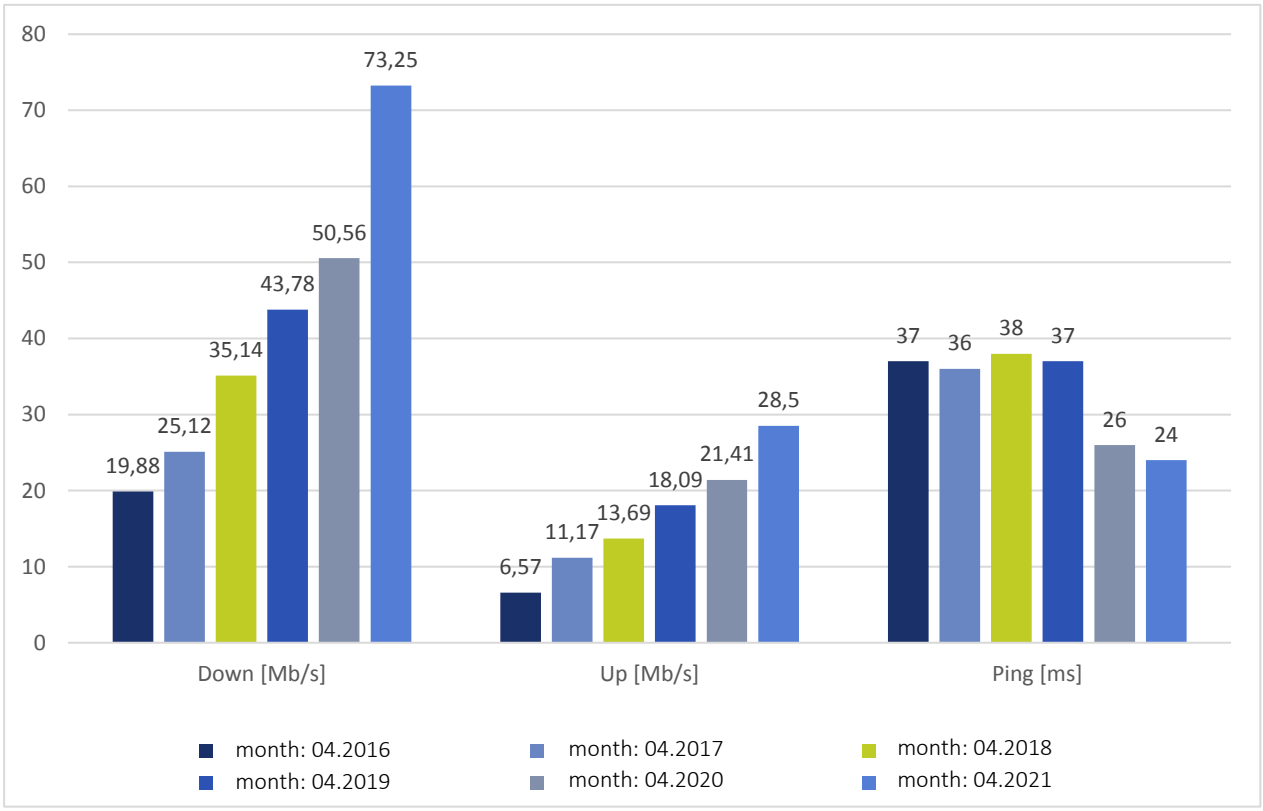
The method of measurement adopted in this way makes it possible to assess the experience of service quality as perceived by users, i.e., it allows to learn about the perceived quality of the service used by users. A quality study carried out in this way focuses on the perceived quality and to a lesser extent indicates the technical capacity of the ISP to deliver services.

It should be noted that similarly to last year, deviations from the usual observed behaviour/use of internet services were also observed in 2021. The difference in the use of online resources is due to the ongoing epidemic of the SARS-CoV-2 virus. As in the previous year, also in 2021 many users were working remotely from their homes. For this purpose, they used domestic volumes of internet access services, very often in mobile network technologies. The education system was also based on e-learning solutions, which placed a significant strain on the resources of the internet network. Increased traffic was still observed as a result of increased use of streaming platforms offering a wide range of educational and, above all, entertainment content. However, it should be pointed out that – in contrast to the previous year – it is clearly visible that ISPs have increased the quality parameters of their services, thus meeting the needs of users related to changing the use of the internet resources.

[3] Browser testing: in April 2017 approximately 1.8 million tests were performed, in April 2018 approximately 1.7 million tests were performed, in April 2019 approximately 2.0 million tests were performed, in April 2020 approximately 3.8 million tests were performed, in April 2021 approximately 3.0 million tests were performed. Mobile device testing: in April 2017 approximately 111,000 tests were performed, in April 2018 approximately 250,000 tests were performed, in April 2019 approximately 530,000 tests were performed, in April 2020 approximately 822,000 tests were performed, in April 2021 approximately 833,000 tests were performed.

Figure 1

Average download and upload speed and ping from the browser application
Browser application – all providers

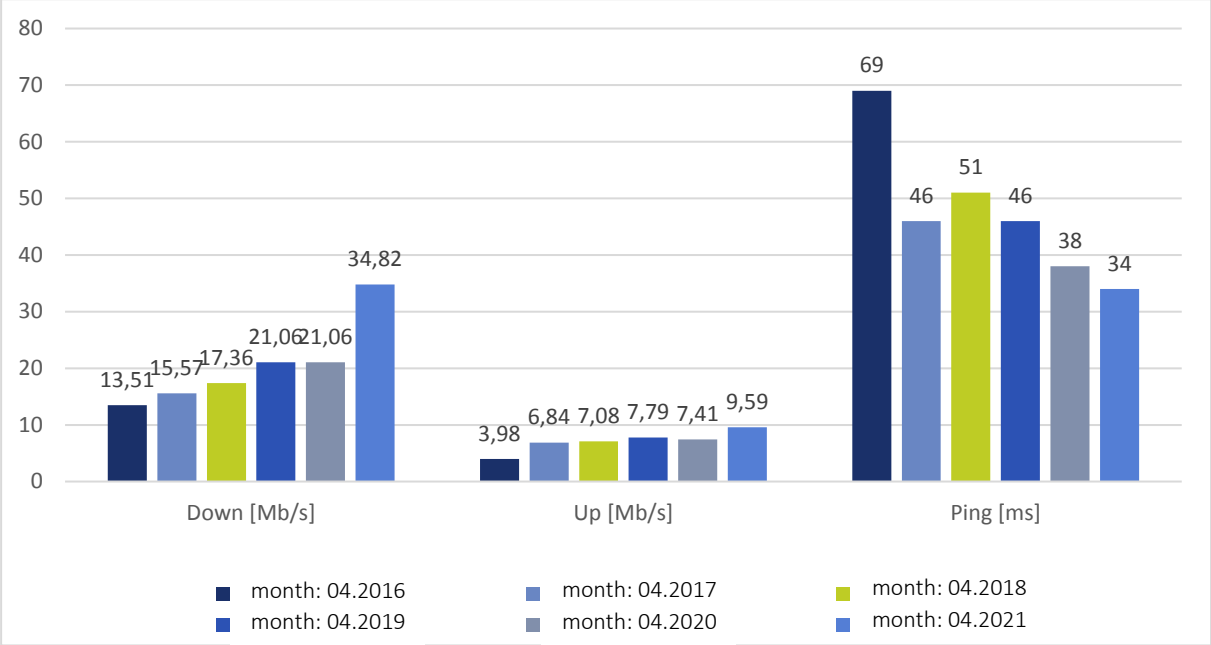


Source: UKE

The figure above clearly indicates that a clear upward trend can be seen in the area of data transmission speeds over the years analysed.
As in 2020, there is also a steady reduction in the delay of transmitted packets in 2021, which also demonstrates a steady increase in the quality of the services.

Figure 2

Average download and upload speed and ping from the mobile application
Browser application – all mobile providers



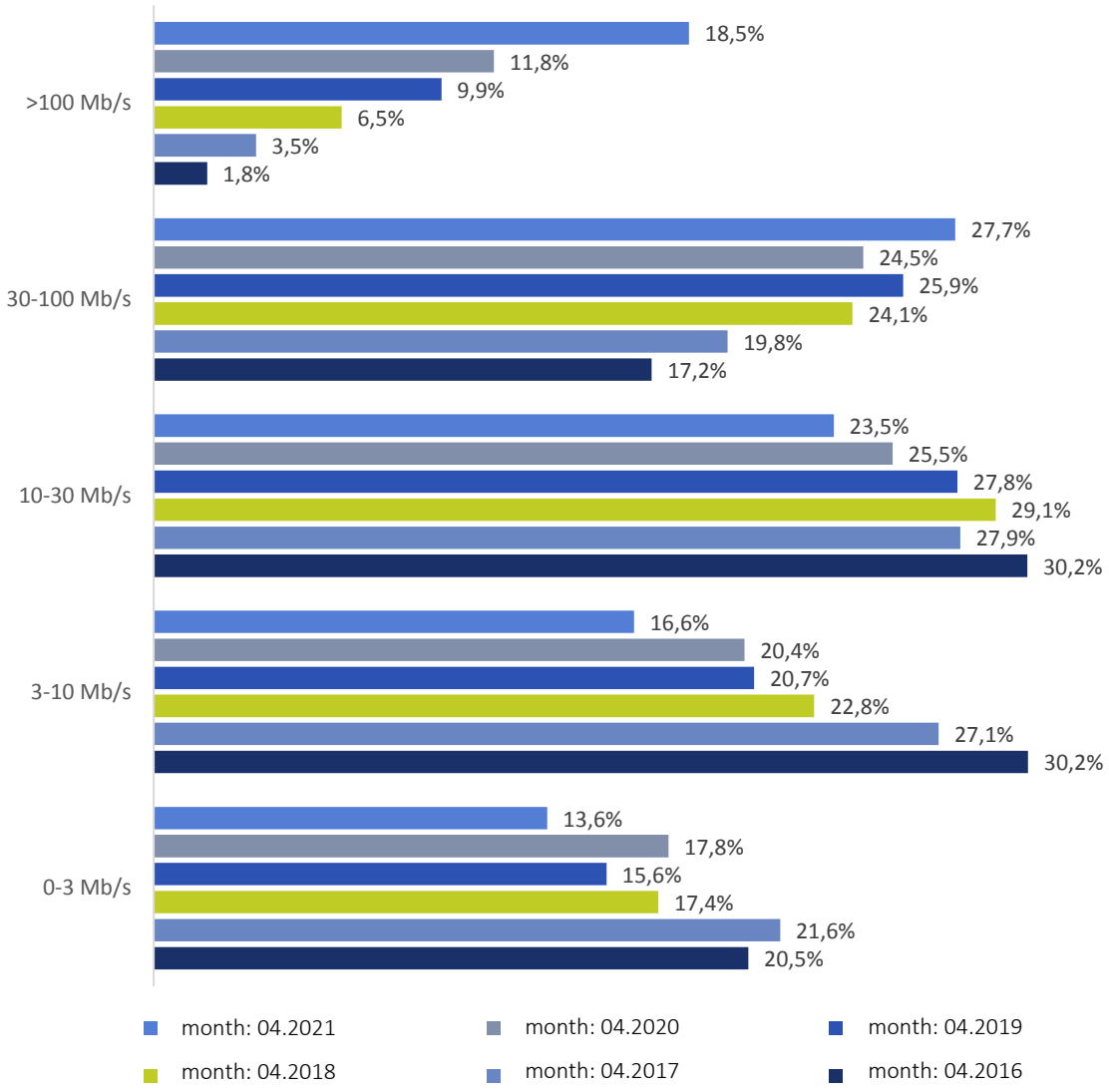
Source: UKE

Most IAS providers have witnessed an upward trend in average data stream speeds in both directions in mobile networks. In 2020 we observed some slowing of this trend due to the epidemic, while in 2021 we can see a clear increase in the offered bit rates.

A clear improvement in the quality of service is also evident, reflected in a reduction in the delay times of packet transmission.

Figure 3

Distribution of the number of download speed measurements in ranges
Browser application – all providers (%)

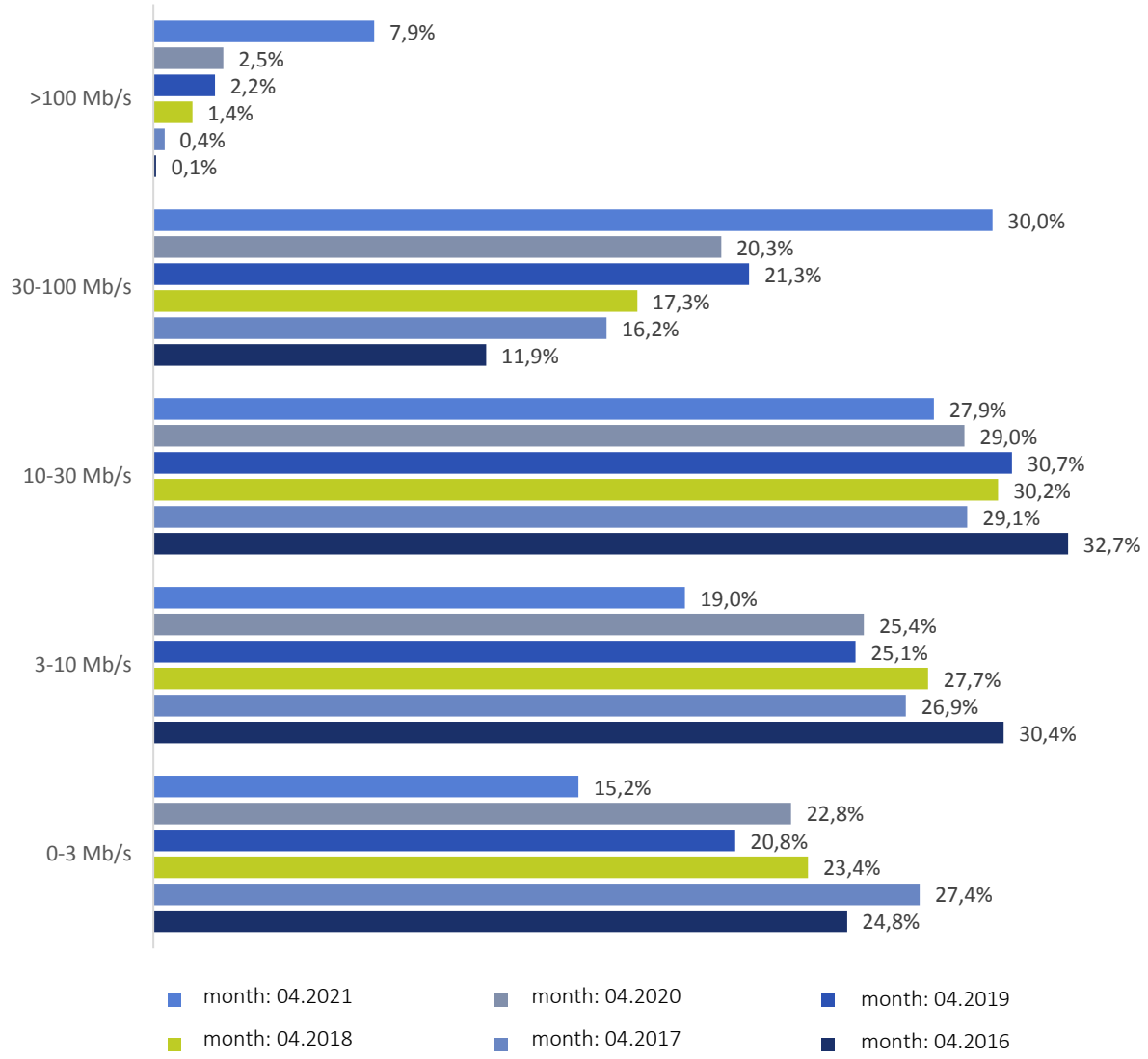


Source: UKE

In the case of measurements performed with the use of a browser in the user direction, the results obtained prove that over the analysed years there has been an increase in the share of speed in the user direction (download) for services with the highest bit rates, i.e., from the range of 30–100 Mb/s and from the range above 100 Mb/s. This direction of developments is in line with the increase in the use of optical fibre technology in fixed networks and undoubtedly indicates the continued development of the potential of the services offered.

Figure 4

Distribution of the number of download speed measurements in ranges
Browser application – all mobile providers (%)

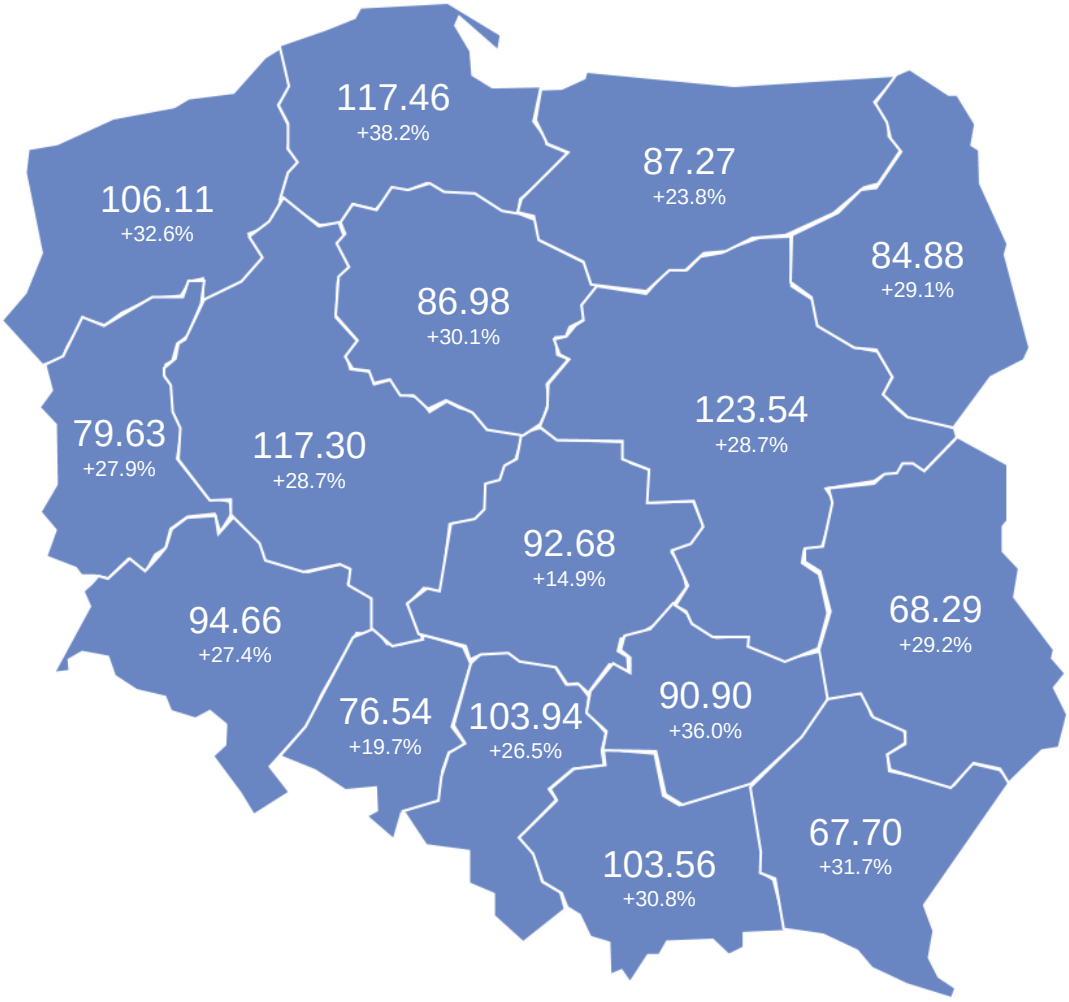


Source: UKE

Similar clear growth trends can be seen for measurements performed using an application in mobile networks. Also, in the case of measurements performed with the use of a browser in mobile networks in the user direction, the results obtained prove a clear development of the services offered, characterised by an increase in the share of speeds in the range of 30–100 Mb/s and in the range above 100 Mb/s.
This is evidence of the growing share of LTE technology in mobile networks.
In addition, it should be borne in mind that the pandemic has led to an increase in mobile data traffic.

Map 1

Average download speed [Mb/s] and year-on-year change [%] from browser application for all fixed providers

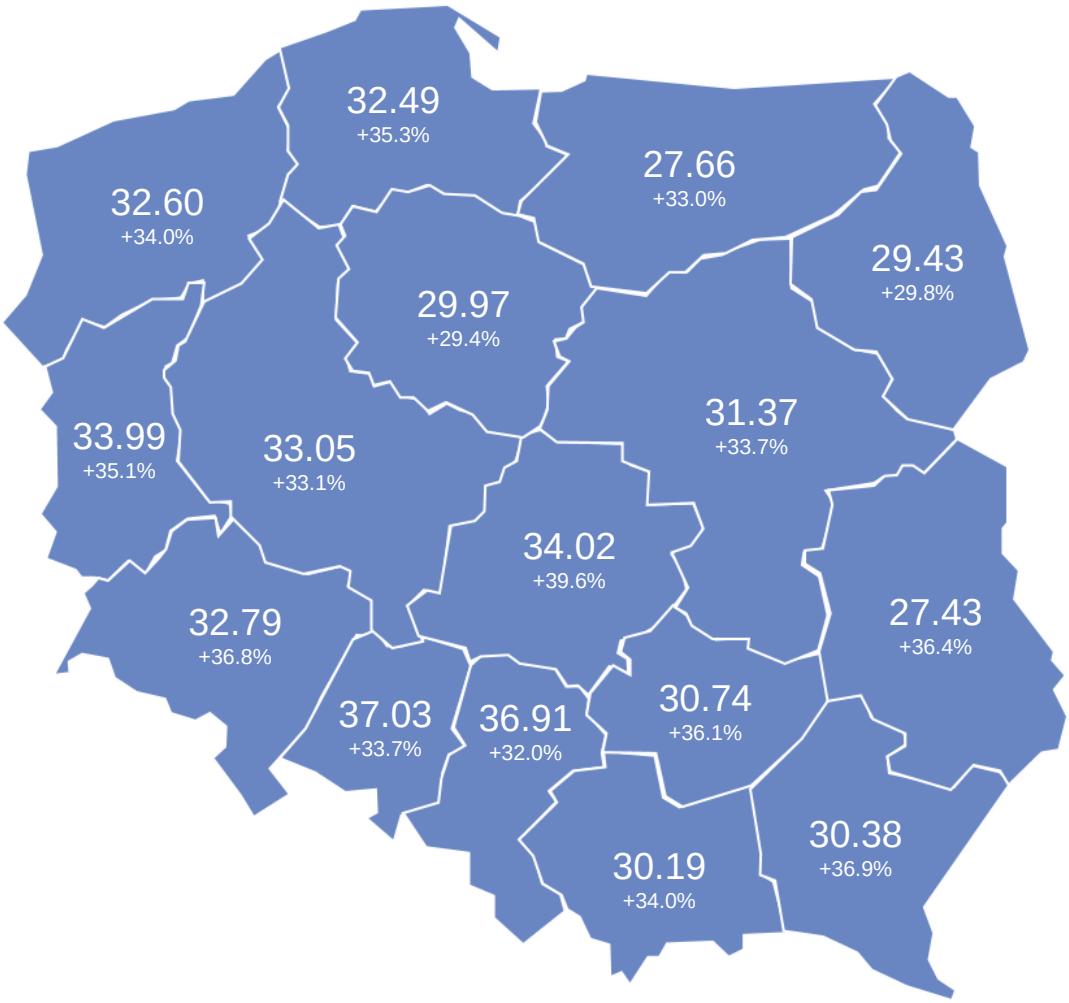


Source: UKE

Average download speeds in fixed networks across the country are similar. In April this year, compared to the same period of the previous year, a definite increase in the average download speed was recorded in all voivodeships.

Map 2

Average download speed [Mb/s] and year-on-year change [%] from mobile application, all technologies, for mobile providers



Source: UKE

Average download speeds in mobile networks across the country do not differ significantly from each other. It should be very clearly indicated that, after the decrease in values observed in the previous year due to the pandemic, a significant increase in the average speed offered in mobile networks can now be seen. This situation indicates that entrepreneurs are trying to respond to user demand associated with more intensive use of mobile network technologies.

5. Other activities of the President of UKE

5.1. Complaints of end-users

The complaints with respect to the right to an open internet access addressed to the President of UKE in the period from 1 May 2020 to 30 April 2021 concerned primarily the quality of internet access services provided.

End-users complained that they were not achieving the minimum/declared/usually available speeds indicated in their contracts with ISPs. Users also reported dropped connections, coverage problems, low data transfer on the data service.

Of the complaints received during this period, the largest number, 44%, concerned the quality of services provided in mobile networks, 30% were related to the quality of services in fixed networks, while the remaining 26% concerned other issues related to net-neutrality.

5.2. Certified IAS quality monitoring mechanism

The President of UKE, acting under Article 4(4) of the Regulation, with a view to supporting the rights of end-users, as well as creating market conditions supporting the activities of ISPs in improving the quality of telecommunications services, took steps to further provide end-users with a tool to measure the quality of IAS (certified IAS quality monitoring mechanism).

In this regard, in June 2020, in connection with the approaching end of the certification period of the existing mechanism for monitoring the quality of internet access service, the President of UKE announced a competition for the provider of the mechanism for the next 24 months, starting from 1 December 2020. As a result of the competition, V-Speed sp. z o.o. was selected as the provider of the mechanism for monitoring the quality of internet access in 2020–2022. This entity, under the supervision of the President of UKE, developed and created an improved measuring tool for end-users.

The new version of the mechanism has been amended to enable consumers to use this tool even more conveniently. The key improvements are:

- increasing the maximum measured speed from 1 Gb/s to 2.5 Gb/s;
- increasing the availability of applications for different operating systems (macOS application);
- introducing an automatic sequential measurement option;
- excluding the obligation to register for measurements of a purely informative nature;
- introducing an English language version of the application and the website.

The implementation of the new version of the mechanism was preceded by verification by an independent expert and public testing by internet access providers and users.

The pro.speedtest.pl website is fully compliant with WCAG 2.1, AA, which has been confirmed by the Widzialni Foundation with the Barrier-free Website Certificate. The certificate provides a guarantee that the website is accessible to people with disabilities.

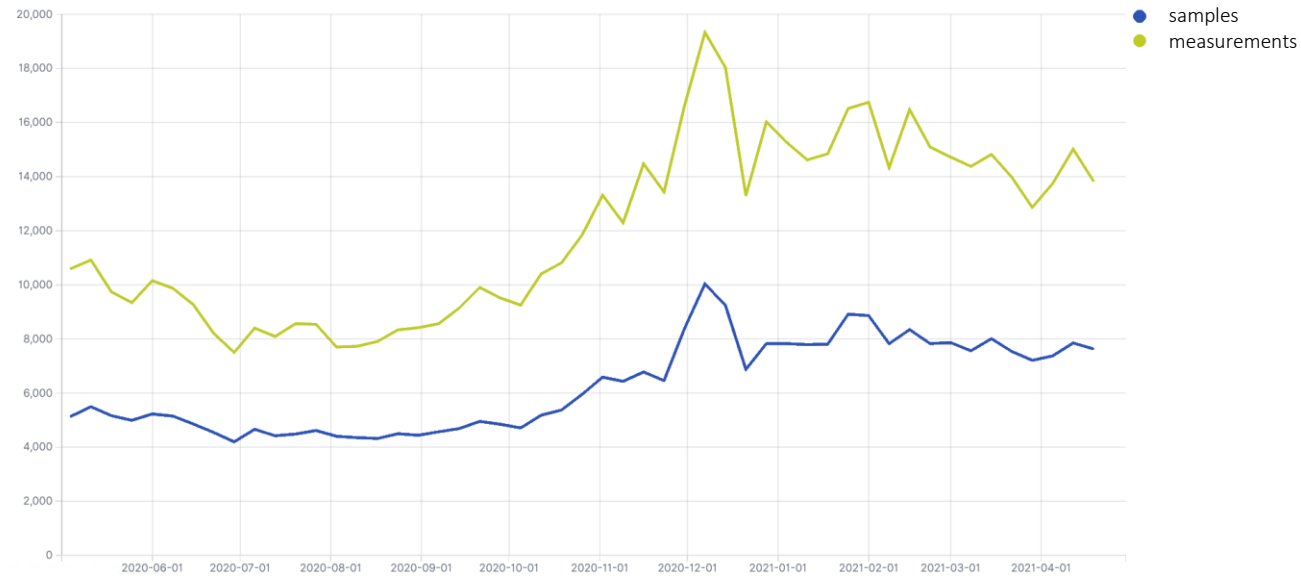
The new version of the mechanism after certification for 24 months was made available on 1 December 2020.

The aim of the mechanism is to contribute to increasing the protection of users and providing information on the parameters of the services provided to them, as well as increasing competition between suppliers based on the quality of the services provided.

Users can use the mechanism to measure fixed-line and mobile internet speeds, but according to the Regulation, only measurements of fixed-line internet quality, taken in accordance with the instructions, are certified and can be used as evidence in potential disputes between consumers and service providers.

Figure 5

Distribution of the number of measurements performed with the certified monitoring mechanism in the period covered by the report



Between 1 May 2020 and 30 April 2021, users using the previous and current version of the mechanism performed the following numbers of measurements:

- certified – application for Windows – 39,539;
- non-certified – application for Windows – 116,603;

- certified – application for macOS – 341;
- non-certified – application for macOS – 1,833;
- non-certified – Web application – 29,369;
- non-certified – application for Android – 378,484;
- non-certified – application for iOS – 58,158.

On 6 July 2020, the President of UKE, on the basis of measurements from a certified monitoring mechanism, published a report on the quality of internet access services in Poland[4], including data on the impact of the COVID-19 pandemic on the quality of services.

[4] https://www.uke.gov.pl/akt/jakosc-sieci-w-polsce-pomiary-z-certyfikowanego-mechanizmu-monitorowania-internetu-grudzien-2019maj-2020,332.html

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