

# Summary of the Strategy of the President of UKE 2017-2021

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In 2017, a document titled “Strategic lines of actions of the President of UKE for 2017-2021” was adopted.

The regulator has identified four main areas of its activity:

1.

Protection of consumer interests

2.

Development of infrastructure and services

3.

Competition through optimal regulation

4.

UKE 3.0 = Honesty, Creativity, Efficiency

#### Mission of the President of UKE

Providing citizens with access to modern telecommunications and postal services in a developing market and dynamic international environment.

#### Vision of the President of UKE

Impartial, professional and credible moderator of market developments, working with understanding of societal needs and rules of the business sector functioning.

The aim of this document is to summarise the implementation of “Strategic lines of actions of the President of UKE for 2017-2021”. Due to the fact that the term of office of the President of UKE was shortened, the activities are presented as of May 2020.

# Protection of consumer interests



## MATCHING TELECOMMUNICATIONS SERVICES TO CONSUMER NEEDS

### Identification of user preferences

17 surveys were carried out to identify trends in the Polish telecommunications market and to determine the level of availability of services.

- linking the form of contract conclusion with the means of communication with the user (positive effect on the digitisation of information flow),
- obligation to publish price lists and service regulations on the provider's website.

### Pro-consumer approach to the approval of price lists

The remaining retail markets (for fixed-line telephony access) have been deregulated.

No SMP operators required to submit price lists.

### Maintaining balance between prices for services charged domestically and abroad

Roaming prices (Regulation 531/2012) have been equated with domestic prices for services (RLAH):

- the level of roaming surcharges has been verified,
- the fair use policy was monitored.

### Simplifying of and going digital in communication with users

UKE co-authored the amendment to the "Paperless" Act of 10 May 2018. Solutions for simplifying of and going digital in communication with users:

- addition of a document form of concluding contracts,

Requests for authorizing roaming surcharges were analysed:

- 9 decisions giving consent,
- 2 refusals.

## IMPROVING THE QUALITY OF TELECOMMUNICATIONS SERVICES

### Monitoring implementation of the EU and national regulations

Three reports have been published on the application of the Open Internet Regulation in Poland (2015/2120).

The information provided by 11 ISPs on their data download and upload transmission speeds and contractual documents was reviewed, and appropriate follow-up recommendations issued.

The Internet quality monitoring mechanism has been implemented and an application for desktop computers (Windows) certified – PRO Speed Test for 24 months.

Poland among 5 leaders in the implementation of certified quality measurement mechanisms.

Nearly 46 000 certified Windows measurements were carried out.

### Security of services

UKE participated in BEREC's work on 5G cybersecurity issues; and on a draft regulation for minimum set of measures to prevent risks to the security and integrity of the network.

### Definition of the terms of measuring the quality of Internet access

Net Neutrality Regulatory Assessment Methodology was developed together with tender documentation, including the specification for a tool measuring service quality and compliance with net neutrality criteria.

UKE participated in the drafting of BEREC guidelines on the implementation of the Open Internet Regulation 2015/2120.

Description	Number of measurements
Windows certified measurements	45 881
Windows uncertified measurements	97 918
Web application uncertified measurements	15 506
Android uncertified measurements	418 246
iOS uncertified measurements	62 103
<b>In total nearly 640 000 of measurements</b>	

**46 000** certified measurements

## EFFECTIVE INTERNET ACCESS IN PUBLIC PLACES

### Monitoring the provision of free internet access by local government units in public places

The UKE search engine has been modernised and updated, including hotspot location data.

5 500

local hotspots at  
the end of 2019

### Change in approach to providing free internet access by local government units

Proposals were developed to the Broadband Act revised in 2018:

- administrative procedures were simplified (no decision of the President of UKE, notification of hotspots by local government units to UKE),
- minimum data transmission speed of 30 Mbps (previously up to 1 Mbps),
- activity was limited to public space

## ACCESSIBLE AND USER-ORIENTED SERVICES

### Securing the needs of people with disabilities

190 people were trained as part of the pilot project on new market qualifications in terms of accessibility co-organised with the Visible Foundation.

At UKE's initiative, the accessibility declaration has been extended to include architectural accessibility.

### Improving the quality of handling services for people with special needs

88 Customer Service Offices<sup>1</sup> were inspected for architectural accessibility and the scope and quality of the facilities provided.

356 examinations were carried out on the accessibility of websites and 15 mobile applications of telecommunications and postal entrepreneurs were reviewed.

<sup>1</sup> Report on Customer Service Offices for 2018 and 2019.

356 examinations on web accessibility



190

trained people as part  
of the pilot project on new  
market qualifications  
in terms of accessibility

## USER-FRIENDLY POSTAL MARKET

### Recognising the needs of society

A report was issued on the survey of the demand for postal services. The catalogue of universal services and accessibility was considered sufficient.

### New approach to quality monitoring

UKE cooperated with Poczta Polska (PP) on changes to the methodology for measuring the actual level of quality of services. A new quality measurement system was being developed to be applied after the introduction of e-delivery regulations.



### Increasing the availability of universal service

A working dialogue was held with PP on universal service availability plans.

The process of selecting an auditor for the audit of PP's regulatory accounting report for the period 2019-2020 has been completed.

## CALCULATION OF THE SUBSIDY FOR UNIVERSAL SERVICE

### Ensuring payment of authorized subsidies

All decisions on authorizing subsidies for the period from 2006 to 2010 due to the judgments of the courts.

The total amount of UKE subsidy granted to the Orange Polska (OPL) amounted to PLN 330.8 million.

After the first round of authorisations, the following decisions were issued for the period 2006-2011:

**6** decisions determining the undertakings obliged to cover the subsidy and the percentage of their share in the payment

**632** individual decisions with calculated amounts of contribution to the payment

Following the second round of authorisations the following actions were taken in respect of 2006-2010:

- 5 administrative procedures on the determination of telecommunications undertakings obliged to cover the subsidy and the percentage of their share in these payments.

**500** individual decisions for 2006-2010

## EASIER PURSUIT OF CONSUMER CLAIMS

### Promoting of out-of-court dispute resolution procedures

The President of UKE is a notified ADR authority for the telecommunications and postal sector and one of the first Polish entities entered into the ADR database of the European Commission. The average duration of the ADR procedure in 2019 was 24 days (25% less than in 2017). 51% of the proceedings were completed in favour of consumers. In total, over PLN 1.3 million was recovered for them.

An inefficient arbitration court was abolished.

# PLN 1.3 million

recovered under the ADR

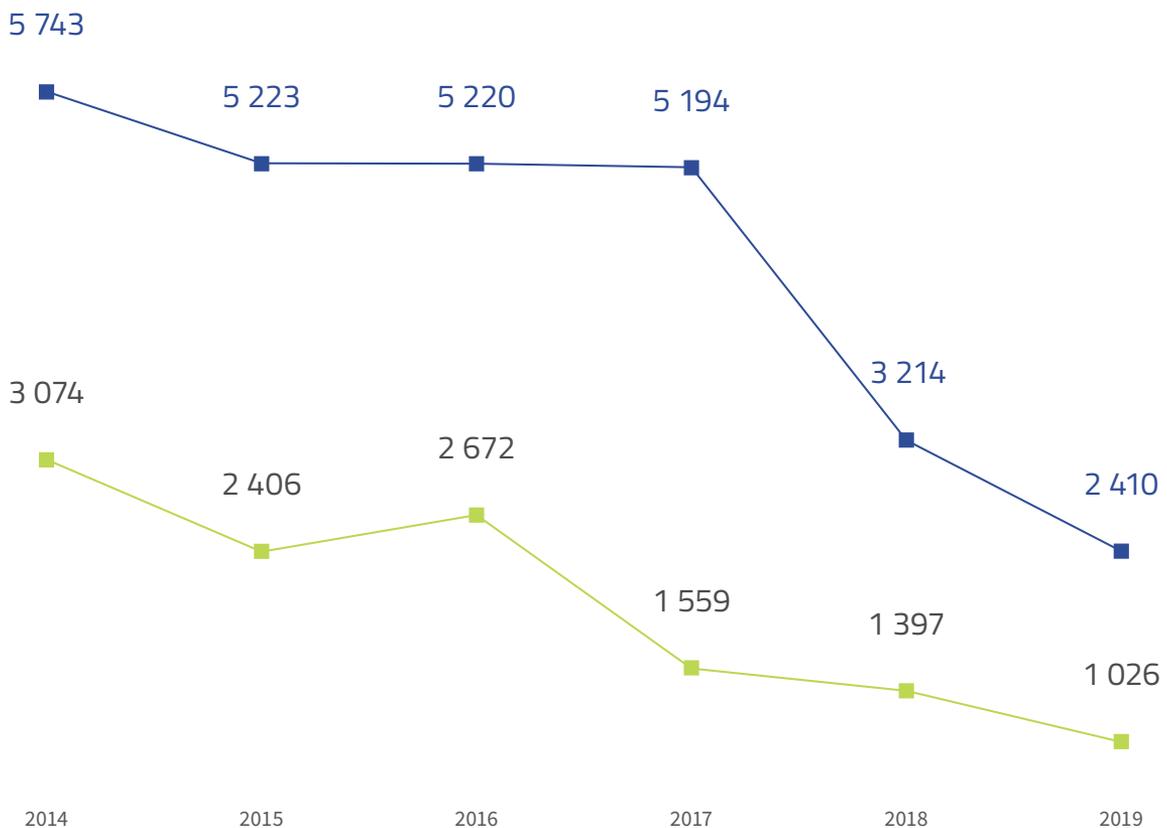
Decrease in the number of ADR interventions and requests due to the actions of the President of UKE related to the elimination of unfair practices of entities in the fixed-line telephony market. Between 2017 and 2019, decline in:

- interventions by 53%,
- ADR requests by 34%.

Pro-consumer amendments to the Telecommunications Act concerning the provision of premium services have been proposed.

### ADR interventions and requests

■ interventions ■ ADR



## UKE ACTIONS FOR CONSUMERS

### ADR

4 203  
requests

50%

considered in favour

### Interventions

11 526  
requests

70%

considered in favour

### Queries

58 455  
telephone consultations

6 941  
pieces of  
advice

Amount recovered:

PLN 3.7 million

## CONSCIOUS CONSUMER

### Information and education

UKE published:

- 160 educational articles,
- 13 consumer guides,
- more than 130 pieces of consumer advice as part of its weekend publications on FB called “UKE radzi” and “#uwagaphishing”,

- approx. 50 educational materials in the Polish Sign Language, on YouTube/FB,
- 12 meetings with Consumer Ombudsman – “Together for the Consumer” – were organized
- 7 meetings with parents (approx. 700 participants) as part of the #keepCTRL project.

### Information and education campaigns



#### I click sensibly

158 000  
children\*



6 000 lessons\*\*



#### Code with UKE

11 000  
children\*



1500 as part of  
CodeWeek 2018  
and 2019\*

#### 600 workshops

(60 as part of CodeWeek 2018 and 2019)\*\*



2018 – establishment of the Guinness record during lessons on new technologies



## I know what I'm signing

More than  
**30 000**  
consumers\*



**10 000\***  
annually

over **400 events\*\***



## Meetings in Polish with translation into the Polish Sign Language

**800 participants\***

**55 meetings\*\***



## #keepCTRL – new project since December 2019

\* Number of participants

\*\* Number of meetings

Monitoring campaigns

**2461** models of equipment inspected  
as part of the product market

## NEW APPROACH TO UNIVERSAL SERVICE

### Analysis of service availability

UKE Report on the state and assessment of the availability, quality and affordability of services which form part of universal service has been issued.

The market mechanism ensures sufficient demand for universal service.

### Implementation of the new approach

The concept of new universal service based on the EECC:

- the inclusion of broadband services,
- removal of outdated services such as public payphones, telephone directories and directory enquiry services.



# Development of infrastructure and services

## BUILDING OPTIMAL ENVIRONMENT FOR INVESTMENT

Encouraging SMP operators to invest

**LLU market (wholesale local access provided at a fixed location) – 51 municipal areas considered to be competitive were deregulated.**

**BSA market (wholesale central access at a fixed location) – 151 municipal areas considered to be competitive were deregulated.**

Promoting co-investments

A position on co-investments has been prepared, taking into account the BEREC guidelines and the implementation of the EECC to the Polish law. The “Guide for Telecommunications Undertakings” on access to buildings in relation to changes resulting from the amendment to the Broadband Act has been updated.

Guidelines for forest district managers on the provision of real estate for telecommunications have been published.

Supporting network roll-out and infrastructure sharing

A model for passive infrastructure sharing has been implemented:

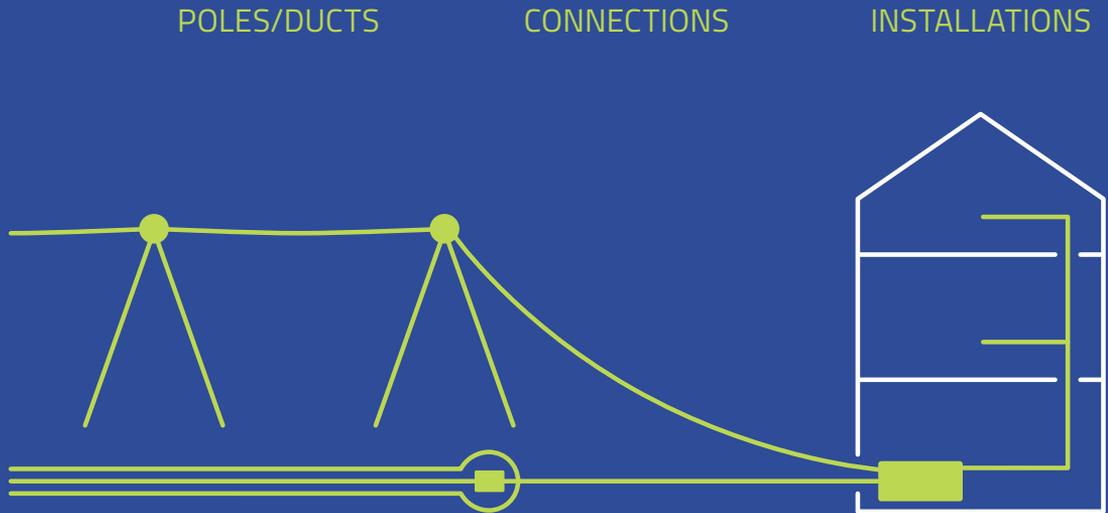
- conditions for access to cable ducts and telecommunications installations in buildings have been established for 7 largest operators,
- conditions for access to telecommunication cables in multi-family buildings have been established for 7 largest operators.

More than **150** framework agreements for access to cable ducts

**24** framework agreements for access to the telecommunications installations in buildings

Work has begun to determine the conditions for access to electricity poles for 5 largest electricity distributors.

# Infrastructure sharing model



# Access proceedings



More than 700 decisions were issued to resolve disputes between building owners/managers and telecommunications undertakings, the average duration of proceedings in 2019 was 8 months (38% shorter than in 2017).

The Information Point on Telecommunications (PIT) was adjusted to the current version of the draft regulation – providing entrepreneurs with a system facilitating the planning of investments in broadband networks.

## 700 decisions resolving disputes

### AVAILABILITY OF THE 700 MHz FREQUENCY BAND FOR BROADBAND SYSTEMS

#### Supporting legal measures improving the efficiency of radio spectrum management

Support has been provided in the area of:

- updating the National Frequency Allocation Table (KTPCz) in terms of changes made at WRC-15 and for the 26 GHz band,
- amendments in 2019 to the Telecommunications Act and certain other acts aiming to comprehensively improve the management of frequency resources (refarming, strengthening of the selection process, decisions on inability to apply for frequency licences for the next period),
- regulation on selection procedures,
- introducing provisions which allow changes to the existing frequency licences in the 700 MHz band (change of TV channels from 470-790 MHz to the 470-694 MHz band),
- regulation on technical and operational requirements for digital receivers.

#### Changes in frequency use

##### 700 MHz band:

- international arrangements have been carried out with 11 countries to exempt the band in accordance with the Decision of the European Parliament and of the Council (EU),

- agreements with EU Member States to make the band available on the basis of the provisions of the Decision of the European Parliament and of the Council. With non-EU countries, i.e. Belarus, Ukraine, Russia, plans have been agreed to allow DTT to migrate below the 700 MHz band,
- the frequency management plan for the 470-790 MHz band and the frequency licences have been amended (so-called minor change) – it was possible to reorganise the DTT and launch 5G systems in Denmark, on the island of Bornholm,
- the above-mentioned plan has been amended, (so-called major change) to allow releasing of the 700 MHz band by DTT in Poland and taking into account the change of technology from DVB-T/ MPEG4 to DVB-T2/HEVC until 30 June 2022.
- decisions were issued to change licences – DTT was migrated below the 700 MHz band, which allowed:
  - implementation of the National Action Plan for re-allocation of the 700 MHz band in Poland,
  - fulfilment of the requirements of the Decision of the European Parliament and of the Council of the European Union,
  - implementation of Poland's obligations towards EU countries,
  - preparation of the 700 MHz band for distribution for 5G.

## IMPLEMENTATION OF 5G IN POLAND

### Increasing effectiveness of frequency use

456 decisions were issued allowing 5G tests in the 2100 MHz, 3.5 GHz, 26 GHz and 28 GHz bands.

**456** decisions

More than 1700 permits were issued to use radio equipment in 5G, 1800 MHz, 2.1 GHz and 2.6 GHz bands.

#### 2.6 GHz band

As a result of an agreement concluded between the Minister of National Defence and the President of UKE, the current governmental use of the 26.5-27.5 GHz range was changed to three sub-ranges, i.e.:

- a. 26.5-26.9 GHz – civil use,
- a. 26.9-27.3 GHz – civil-governmental use,
- a. 27.3-27.5 GHz – governmental use.

The change made it possible to distribute the resources (400 MHz) for the provision of telecommunications services in the range of 26.5-26.9 GHz throughout the country.

#### 3.6 GHz band

Activities were pursued to release frequencies from the 3400-3800 MHz range, i.e. the 3.6 GHz band, in order to prepare for distribution. Administrative proceedings were conducted in connection with the withdrawal and confirmation of the expiry of the of frequency licences:

- 114 licences have been withdrawn,
- 14 decisions have been issued stating that the licence has expired,
- for 15 licences the area has been reduced.

In the 3.6-3.8 GHz range, frequencies were released in an area of more than 1000 municipalities. 48 proceedings were carried out for the finding that a licence could not be made for the next period in the 3.6 GHz band.

An auction for frequency licences in the 3.6 GHz band was announced, which was a chance to distribute 320 MHz for 5G in 2020.

**Frequencies released  
in the area of more than**

**1000** municipalities



### 450 MHz band

Consultations were held on the distribution of frequency resources from the 452.5-457.5 MHz bands and 462.5-467.5 MHz across the country for the provision of telecommunications services in mobile or fixed radiocommunication service. A frequency licence in the 452.5-457.5 MHz and 462.5-467.5 MHz range was granted to PGE Systems S.A. to perform tasks in the field of voice communications and data transmission in the entire country area.

### Impact on international regulation in radio spectrum management

UKE participated in the work of ITU, CEPT and European Union groups (RSC, RSPG, COCOM), and Working Party H5.

## INNOVATIONS = COMPETITIVE ECONOMY

### Supporting Polish innovations

Polish ICT companies (SMEs, start-ups) and universities were supported in promoting innovative solutions and R & D projects internationally through:

- support during major international events, including: GSMA Mobile World Congress, ITU Telecom World, WSIS Forum,
- UKE consultation point, mapping of individual possibilities of cooperation between Polish entities and international organisations, including: World Bank, ITU, UNDP,
- organisation of training courses and webinars on cooperation between international organisations and national actors.

## MAXIMISING THE EFFECTIVENESS OF THE USE OF EU FUNDS

### Improving the efficiency of RSS

A positive opinion was given to the draft renotification of the EC decision for the Eastern Poland Broadband Network. The performance of duties by regional broadband networks (RSS) was checked, no irregularities were found. Fees

for services similar to those provided by RSS have been updated, making it easier for infrastructure operators to create a competitive wholesale offer. The use of RSS was promoted in workshops organised with the CPPC prior to subsequent calls for proposals under the POPC.

## Support for the implementation of POPC

Thanks to UKE activities



**163**  
implemented  
projects



**2**  
million  
households



**13 000**  
public units



**111 000**  
km of networks



**1.6 billion euro**  
in allocation to I POPC Axis

On-site activities to check whether the co-financed network enables the provision of services with adopted parameters (e.g. speed of 100 Mbps)



**250**  
inspections



**2826**  
locations



**1770**  
public units



**350**  
irregularities found

To meet the objectives of POPC



**378**  
areas



**4.5**  
million  
address points



**6**  
workshops



**150 000**  
dark points

Approval of

Households



**12**  
wholesale  
offers

**9**

modifications  
to wholesale  
offers

Educational facilities



**14**  
price lists

**3**

modifications  
to price lists

# Competition through optimal regulation



## EFFECTIVE REGULATION = RAPID DEVELOPMENT

### Analysis of markets using local approach

Procedures for approval/change of the SMP operator's reference offer for infrastructure markets have been conducted.

Decisions for BSA (151 municipal areas were considered competitive) and LLU markets (51 municipalities were considered competitive) were issued.

### Supporting convergence and migration to IP networks

An analysis of convergence and migration to IP networks has been carried out, taking into account substitution, competitive and price pressure. Decisions for markets 3a and 3b address the issue of migration to ALL IP networks by limiting the time-limit for the obligation to maintain pre-established access.

### Effective cooperation between operators

4 decisions were issued approving the modification of the reference offer and 4 decisions requiring the preparation of an amendment to the OPL's reference offer. The reference offer of Emitel S.A. was approved – a breakthrough in regulation of the broadcasting transmission market through the introduction of simple and transparent rules of access to the resources of the regulated operator. In order to identify and combat infringements of telecommunications regulations, the following activities have been carried out:

**273** inspections in the field of telecommunications

More than **4700** administrative proceedings

### Development of regulatory models

At the initiative of UKE, the possibility of collecting data from OTTs was introduced in the EECC.

## Supporting development of e-commerce in the postal sector

EU Regulation 2018/644 on cross-border parcel delivery of services has been implemented:

- implementation of a database on prices and volumes of cross-border parcels,

- completion of the first data collection from postal operators, analysis, processing and making the data available for 2019,
- elaboration and implementation of changes to national legislation.

## GOOD LAW = BETTER REGULATION

### Participation in creation of national law

UKE co-authored two amendments of to the Telecommunications Act, i.e.:

- “paperless” (Law of 10 May 2018) – Improving the functioning of the telecommunications market and the situation of end-users, including for:
  - premium rate services,
  - quality of services provided in public hotspots,
  - e-reporting by market players,
  - inspections conducted by the President of UKE and making penalties more flexible.
- “radio spectrum” (Law of 15 March 2019) to enhance the effectiveness of frequency management by:
  - better spectrum distribution,
  - provision of spectrum for the 5G network.

Amendments to the Broadband Act have been developed, facilitating investment in telecommunications networks:

- simplified procedures for access to real estate,
- the requirement to agree with the President of URE (energy regulator) or UTK (railway regulator) of access decisions (on financial matters) in the field of technical infrastructure was abolished.

The courts ruled on 478 cases of appeals and complaints against decisions and resolutions of the President of UKE. 428 ended with a successful result for UKE, which means 90% of cases won.



### Participation in creation of international law

Detailed opinions related to the discussions in the Council of the EU were prepared during work on the EECC and support was sought for good solutions.

Work was carried out on 11 BEREC guidelines to the EECC (the first Guidelines for intra-EU communications prepared by a group supervised by the President of UKE).

## INTERNATIONAL ACTIVITY

### Professional cooperation with international organisations

Participation:

- in the work of the United Nations Broadband Commission for Sustainable Development and its working groups. Reports „Connecting Africa Through Broadband: A strategy for doubling connectivity by 2021 and reaching universal access by 2030 and „Child Online Safety: Minimising the Risk of Violence, Abuse and Exploitation Online,
- in preparations for the World Telecommunications Standardisation Assembly (WTSA-20) of ITU.

Poland was re-elected to the ITU Council for a four-year term. UKE expert was elected Vice-Chairman of the CEPT Com-ITU Working Group.

President of UKE:

- BEREC Vice-Chair 2019 responsible for roaming, regulatory framework and evolution of wireless networks,
- Chair of the Eastern Partnership electronic communications regulators network EaPeReg in 2020,
- Vice-Chair of the European Regulators Group for Postal Services (ERGP) in 2020

UKE experts:

- the World Bank liaison officer for relations with the private sector,
- co-chair of the BEREC Working Group on Remedies,
- Chair of the Group on Capacity Building Initiatives (GCBI) at ITU,
- nomination for the function of Vice-Chair of the Council Working Group on WSIS and SDGs.

UKE was a junior partner in the twinning project supporting the regulator from Georgia.

UKE joined the Network of Regulators of the Organisation for Economic Cooperation and Development (OECD NER).

### BEREC

As part of the work in the groups, the following documents were prepared:

- Guidelines on common criteria for undertakings other than ECN/ECS to manage numbering resources,
- Guidelines on general authorisation notifications transmitted to competent authorities,
- new BEREC Rules of Procedure,
- Opinion on the functioning of the roaming market for the EC,
- Guidelines on intra-EU communications,
- Report on transparency and comparability of roaming tariffs.

President of UKE represented BEREC in 8 international events.

### ERGP

A draft 2021 ERGP Work Programme has been prepared. The work of the working groups: Access, Regulatory Framework and Stakeholders Task Force was monitored.

### EaPeReg

Workshop on broadband infrastructure mapping was conducted. The EaPeReg-ITU MoU was signed. Work on the Regional Roaming Agreement has been carried out.

A common methodology for assessing the independence of regulators has been adopted in the EaPeReg IRB EWG. The EaPeReg website was updated with content.



# UKE 3.0 = Honesty, Creativity, Efficiency

## ON-LINE OFFICE

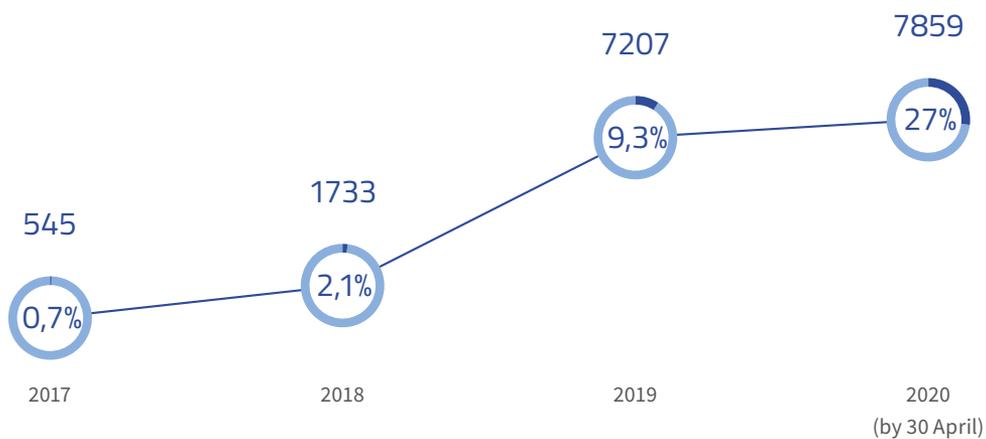
Going digital in customer relations

More than **40** e-services  
on the UKE Electronic Services  
Platform (PUE) made available

Over **80** forms  
for handling matters online

## Use of PUE

■ Number of letters and % of letters received through PUE



Almost **10 000** users have used UKE e-services

It was possible to search for 166 million numbers in the fixed and mobile networks used by 750 telecommunications undertakings and over 130 000 active premium rate services in the UKE search engine.

The possibility to identify the current service provider for a given telephone number through a search engine was provided.

A service has been introduced to enable ship owners from all over the world to verify the authenticity of certificates issued in maritime and inland waterway services.

**Number of outgoing letters to confirm certificates has fallen to zero**

## Use of UKE services in 2019:

Service name	Number of visits	Number of page views
Electronic Services Platform pue.uke.gov.pl	27 787	116 647
UKE website www.uke.gov.pl	92 668	421 395
Public Information Bulletin bip.uke.gov.pl	98 439	436 321
Consumer Information Centre cik.uke.gov.pl	21 737	102 320
Information Point on Telecommunications pit.uke.gov.pl	9 347	49 064
Amateur Call Signs Service amator.uke.gov.pl	24 749	77 143
Numbering Information Service numeracja.uke.gov.pl	16 521	43 511
Broadband Atlas mapbook.uke.gov.pl	5 706	9 227
Certificate confirmation service confirmation.uke.gov.pl	2 631	8 069

A “one” card system has been introduced to enable:

- access control to UKE facilities and premises,
- access to key depositors,
- access to multifunctional devices,
- electronic signature of documents.

Workers were granted remote access to UKE IT systems.

A single login window for all systems has been implemented.

The infrastructure and server room were modernized, and electronic monitoring of systems introduced.

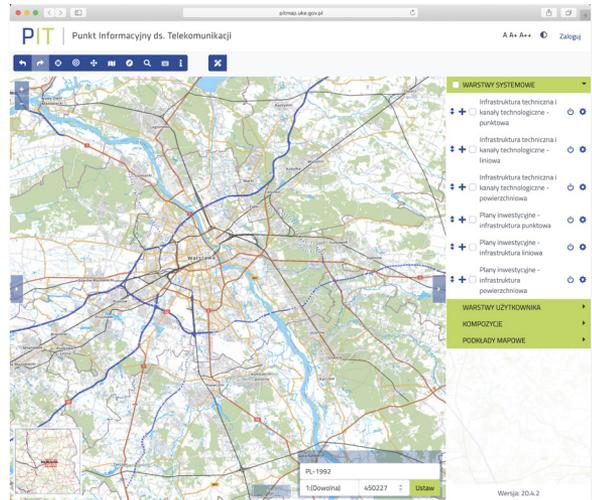
Through the Localisation and Information Platform (PLI CBD):

- 83 964 090 pieces of information on the location of the calling subscriber were made available to the statutory emergency services,
- 7 902 584 numbers were ported (6 195 877 in mobile networks and 1 706 707 in fixed networks).

### Providing access to information for people with special needs

UKE website from 2018 with very good rating in the Accessibility Report of the Visible Foundation. First place in the contest Website Without Barriers. UKE as Accessibility Leader.

**7.9 million**  
of numbers ported



### Culture in analytics

A single ICT sector data platform – Information Point on Telecommunications (PIT) has been implemented. Network operators gained access to:

- more than 11 000 records with existing point, linear and surface infrastructure,
- more than 36 000 records with planned point, linear and surface infrastructure,
- almost 3 500 records with decisions on occupation of the road lane.

All stakeholders and the public have access to public information on the rates for the occupation of the road lane and the conditions of access to the property in the form of:

- more than 1 000 records with rates for the occupation of the road lane,
- more than 800 records with website addresses where conditions for access to the property were published.

Over 400 training courses for employees in the field of statistical and analytical tools, GIS and Business Intelligence were carried out in order to perform advanced and modern analyses.

## EXPERTS IN SERVICE TO SOCIETY AND BUSINESS

### Creation of a friendly and accessible Office

The UKE Accessibility Policy for people with specific accessibility needs has been implemented in the following dimensions:

- digital
- architectural
- information and communication.

The document sets out, inter alia:

- rules on customer service using an online sign language translator,
- accessibility requirements for websites,
- rules for the creation of messages,
- architectural accessibility of UKE.

UKE vacancy notices were published at 28 universities and on websites.

There were presentations about UKE for higher education students.

### UKE as a moderator of market developments

There was an exchange of knowledge and information:

- more than 400 meetings with representatives of local government units and market players,
- more than 160 meetings with market players and telecommunications chambers on the subject of combating fraud, regulation of passive infrastructure and services provided in mobile networks,
- more than 70 meetings devoted to work in the teams of courier operators and the designated operator,
- UKE team workshops with infrastructure providers – 4 meetings and 2 knowledge transfers,

- 5 workshops for representatives of operators with representatives of the European telecommunications industry (GSMA, Cullen International, SAMENA).

Investments and market developments were supported:

- over 100 meetings with companies interested in investing and developing services in Poland,
- more than 100 speeches in the course of national and international industry events presenting the Polish market and activities of the regulator.

Innovations developed by universities, SMEs, including start-ups, have been supported by:

- facilitating free participation and presentation for companies and universities during international conferences and fairs organised by: ITU (WSIS Forum 2017, 2018, 2019, Young ICT Leaders 2018, ITU Telecom World 2019), BEREC (plenary meeting in 2018),
- information and educational activities aimed at increasing the participation of Polish companies in international tenders (4 seminars with ITU experts, participation of UKE expert in seminars and webinars organised by the Ministry of Foreign Affairs, UKE consultancy point and seminar for SMEs at the Humanitarian Aid Fair, economic mission to ITU),
- individual meetings and consultations for SMEs during international events (GSMA Mobile World Congress 2018 and 2019, ITU Telecom World 2019) and at UKE to identify possible cooperation and development paths in Poland and abroad.

[www.uke.gov.pl](http://www.uke.gov.pl)