

ITUEvents

ITU regional economic dialogue on ICTs for Europe and CIS regions (RED-19)

**30-31 October 2019
Odessa, Ukraine**

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Organized within the framework of the ITU Regional Initiatives for Europe on broadband infrastructure, broadcasting and spectrum management and CIS on fostering innovative solutions and partnership for the implementation of IoT technologies and their interaction in telecommunication networks.

COSTING & PRICING STRATEGIES

ECONOMIC TOOLS

BUSINESS OPPORTUNITIES

BEST PRACTICES

INNOVATIVE BUSINESS MODELS



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OUTCOME REPORTS RED-19

REGIONAL ECONOMIC DIALOGUE 2019

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ACKNOWLEDGMENT

This report has been produced by International Telecommunication Union (ITU). ITU would like to express their appreciation to A.S. Popov Odessa National Academy of Telecommunications (ONAT) of the Ministry of Education and Science of Ukraine for hosting the 2-day regional dialogue in Odessa. ITU would also like to thank all speakers and participants for their presentations contributing to the dialogue, the moderators for coordinating the different sessions and Mr. Vadim Kaptur for his contribution on the preparation of this report.

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INTRODUCTION

BACKGROUND

The International Telecommunication Union (ITU) in cooperation with the A.S. Popov Odessa National Academy of Telecommunications of the Ministry of Education and Science of Ukraine organized the **ITU Regional Economic Dialogue on Information and Communication Technologies for Europe and CIS (RED-2019)** in Odessa, Ukraine on **October 30-31, 2019**.

ITU Regional Economic Dialogue on Information and Telecommunication Technologies (RED-2019) for Europe and CIS was organized within the framework of the ITU Regional Initiative for Europe on Broadband infrastructure, broadcasting and spectrum management and ITU Regional Initiative for CIS on Fostering innovative solutions and partnership for the implementation of IoT technologies and their interaction in telecommunication networks. These initiatives were adopted by the ITU World Telecommunication Development Conference 2017 (WTDC-17).

RED-2019 focused on, among other topics of interest, economic implications of future technologies and their applications to attain the Sustainable Development Goals (SDGs), and the advances of regulatory costing and pricing strategies and business models in the digital economy.

PARTICIPATION

The event was attended by over 50 delegates who represented 20 organizations from 12 Member-States, namely: Austria, Belarus, Belgium, Kazakhstan, the Kyrgyz Republic, Lithuania, Moldova, France, Ukraine, the United Kingdom, the United States of America, and Switzerland.



DOCUMENTATION

The Dialogue was held in Russian and English with simultaneous interpretation. **20 reports** were presented at the event by the experts of international organizations, government bodies, educational institutions and public and private organizations.

The RED was paperless. Relevant documentation, including the agenda, all presentations and background information are available on the event webpage: http://itu.int/go/EUR_RED-19

OPENING ADDRESS

During the opening of the Regional Economic Dialogue, welcoming speeches were made by: **Petro Vorobiyenko** (Rector of A.S. Popov ONAT), **Jaroslav Ponder** (Head of the ITU Office for Europe), **Vladimir Kolyadenko** (Vice-president of the Kiev Chamber of Commerce and Industry) and **Anatoly Vasiliev** (Head of the Department of interaction with the enterprises of the marine economy complex and communications of the Transport and Communications Infrastructure Department of the Odessa Regional State Administration).

In addition, greetings on behalf of the Head of the committee on digital transformation of the Verkhovna Rada of Ukraine **Mykhailo Kryachko**, and on behalf of the Deputy Minister of Digital Transformation of Ukraine **Oleksandr Bornyakov** were read out for the participants.



FINAL REPORT

During the first day of work (October 30, 2019), 13 reports were presented, within three sessions:

SESSION 1 «POLICY, REGULATORY AND ECONOMIC APPROACHES FOR DIGITAL ECOSYSTEM TOWARDS SDG»

Moderator – Vadym Kaptur

ICTs for a Sustainable World #ICT4SDG

Jaroslav Ponder, Head of Office for Europe on behalf of **Carmen Prado de Wagner**, Regulatory and Market Environment Division, **ITU**

The ITU roadmap toward SDGs is intended to give course to ITU actions related to the implementation of the 2030 Agenda and SDGs. It was emphasized that ICTs have enormous potential to fast forward progress on the SDGs and improve people's lives in fundamental ways. To achieve sustainable digital transformation, ICT policy and regulation should be more collaborative and be:

- **Cross-sectoral collaboration based** → common goals such as social-economic development.
- **Consultation and collaboration based** → include the expectations, ideas and expertise of all stakeholders, and relevant government agencies from different sectors.
- **Evidence-based** → use appropriate authoritative benchmarks and metrics.
- **Outcome-based** → the rationale for any regulatory response should be grounded on the impact on consumers, societies, market players and investment flows.
- **Incentive-based** → Regulators should keep a wide array of investment incentives at hand.
- **Adaptive, balanced and fit for purpose** → Regulation-making is about flexibility
- **Focus on building trust and engagement** → working towards regulatory objectives while increasing the engagement of industry.

It was concluded that regional and international cooperation in defining ICT regulatory rules on cross-border issues can ensure consistency, predictability and fluidity of digital markets. Regulatory expertise needs to be developed continuously to integrate new technologies, competencies and skills and allow for data and evidence-based decision-making.

ITU Study on the economic contribution of broadband, digital transformation and regulation of ICT - Econometric modelling for Europe and CIS

Raul Katz, President, Telecom Advisory Services, Columbia University, **USA**

ITU published the findings of a Global study on the economic contribution of broadband, digitization and ICT regulation in September 2018¹. Following this report, The Economic contribution of broadband, digitization and ICT regulation: Econometric modelling for Europe and CIS was prepared and presented. It is a set of econometric analyses that estimate the economic contribution of broadband and digitization, as well as the impact of ICT policy on the development of the digital economy in the both regions.

According to the mobile broadband model, an increase of 10 per cent in mobile broadband penetration in Europe would yield an increase in 2.10 per cent in GDP per capita. For CIS countries, an increase of 10 per cent in mobile broadband penetration would yield an increase in 1.25 per cent in GDP per capita; furthermore, an increase of 10 per cent in fixed broadband penetration in CIS would yield an increase in 0.63 per cent in GDP per capita.

ITU-T SG 3 Main achievements and on-going work

¹ Available at: <https://www.itu.int/pub/D-PREF-EF/en>

Dominique Wurges, Director of international relations / standardisation, Orange, **France**

Mr Wurges, as vice-chairman of the ITU-T Study Group 3, presented the main achievements and on-going work of the SG3, responsible for studying international telecommunication/ICT policy and economic issues and tariff and accounting matters. The work of SG3 aligns technical innovation and policy development. He recalled the history of this study group, explained the details of the current mandate and the questions under study, and highlighted its regional activities, as well as the collaborative work engaged with the BDT. With reference to the importance of the work carried by SG3 for regulators and policymakers, he presented some recent main achievements and recommendations adopted (OTTs, Unipricelist, MFS) or Technical Reports published (e.g. Spectrum valuation). Finally, in relation with one of the main session of the RED-19 on infrastructure sharing, he detailed the Determined draft new Recommendations ITU-T D.264 (D.SpectrumShare),^[1] currently under consultation.

Evolution of telecommunication regulation towards 5G

Christoph Legutko, Broadband Communication Policy Director (Europe), Intel, **USA**

The prerequisite for 5G are the optical fibre networks but the European policy makers and regulators are still catch in their complicated subsidies system for FTTB/H rollout and not ready for radical policy change to allow copper by fibre replacement by the private investors, fortunately the industrial pressure to do so is growing because they need the gigabit data streams transported from/to the clients via 4G/5G outdoor and WiFi indoor before 2025.

Therefore the reforms of European Electronic Communications Code (EECC) should continue and keep the EECC technology neutral and adaptive to the transforming and converging communication markets, best by making the accounting and business reporting of incumbent telcos transparent to the private investors to attract their investments in communication infrastructures and services.

^[1] "Shared use of spectrum and telecommunication infrastructure as possible methods for enhancing the efficiency of telecommunications"

SESSION 2: «INCENTIVES TO FOSTER INVESTMENT AND BUSINESS OPPORTUNITIES FOR DIGITAL SERVICES»

Moderator – Farid Nakhli

What kind of values should the IoT business model provide for successful implementation?

Yuri Kargapolov, member of the Coordination Council, Ukrainian Network Information Center, **Ukraine**

The potential economic impact of Internet of Things (IoT), including consumer surplus, will be of USD 3.9 trillion to USD 11.1 trillion for 2025. To quantify the economic impact of IoTs, it is important to understand that in the optimization processes to be applied using IoTs “new values” will be produced as a result of the different savings generated. To measure and quantify the direct effects of IoT on the economy, it is necessary to define a methodology to calculate these “new values”. In this sense, the transformation drivers to be considered in this new values methodology corresponds to the different transformation processes from the point of view of technology, maintenance, usage, development, project implementation and economic incidence.

It was concluded that in the definition of the regional and geographical drivers for these new values methodology, the main revenue drivers are cost savings (which represents 54% in enterprise IoT projects), safety increase (e.g. offering enhanced monitoring system with real-time alerts), potential value from IoT-related data, and business investments, which will account for more than 50% of the overall IoT investment cost in 2020.

Regulatory challenges to promoting the potential of emerging technologies

David Rogerson, Incyte consulting

Reforms to competition rules and regulation in the digital economy are important. Certainly it is important not to prevent innovation in the digital world, but how to deal with excessive market concentration? Should governments regulate digital services and digital players? The concentration of digital services by digital players can have benefits but also can cause significant harm, for instance, it can raise prices for consumers, reduce choice, or impact the quality of the services, loss of privacy, the value of each consumer personal data, etc. Most importantly, it can be harder for new companies to enter these markets and scale up. This can asphyxiate innovation as larger companies have less to fear from new small entrants and new entrants hesitate to enter these markets.

In conclusion, a differentiated approach to large digital players should be applied by imposing a code of conduct. Competition enforcement should be targeted at specific harms based on a thorough analysis of the market and less on market definition on a case by case analysis. Governments should reinforce the merger regime used so far, in order to address potential competition problems with large players, and encourage mechanisms for better control of personal data.

Incentives to foster investment for digital services

Daniel Gueorguiev, Public Policy Manager Europe, Russia and CIS, GSMA, **United Kingdom**

An analysis of mobile technology developments has forecasted that 4G connectivity will overtake 3G networks by 2025; encompassing a total penetration rate of 68% of all users. In this light, 5G connectivity within the CIS region will account for 13% of all 5G users globally by 2025.

Regarding the expansion of 5G networks within the CIS region, multiple policy challenges must be addressed from the bottom up, including the development of forward-looking policy and regulatory environment, spectrum policy, and deployment policies.

By examining future-forward policies, it is key to address the benefits of 5G development for states through both a social and economic lens. The spectrum policy directly addresses the multitude of factors involved in the building of 5G networks including supply and conditions, as well as the award and pricing for the establishment of next generation networks. At the top of the policy challenges pyramid, deployment of 5G networks will require an examination of EMF policy which can decrease network efficiency. Parallel to this, siting policy, due to its heavily bureaucratic nature, will require streamlining of processes in order to enhance deployment speeds.

SESSION 3 «ADVANCES OF REGULATORY COSTING AND PRICING STRATEGIES IN THE DIGITAL ECONOMY»

Moderator – Joaquin Restrepo

Advances in regulatory costing and pricing strategies in the digital economy

David Rogerson, Incyte consulting

Information and Communication Technologies (ICTs) are the backbone of the digital economy and a key enabler of the SDGs, specifically SDG9 – Industry, Innovation and Infrastructure. There is increasing awareness that regulation has a significant role to play in encouraging infrastructure investment and ensuring it is sufficiently widespread so as to make the benefits of the digital economy available to all citizens. Price regulation is particularly important as it sets the parameters for commercial investment decisions.

Traditional regulation has involved setting cost-based prices at the wholesale level and leaving market forces to determine retail prices based on these inputs. Wholesale prices, especially for call termination services, have normally been established through the construction of bottom-up long-run incremental cost models developed by the regulator for this specific purpose. However, in the digital economy broadband networks are increasingly based on fibre optic cables, 4G and 5G mobile and IP transmission, optimized for data rather than voice traffic. This means that regulators have to establish new costing and pricing approaches for the broadband era. In this new era cost models continue to be needed, that cannot economically be replicated. Just as importantly regulators have to make the transition but their application should be focused on specific economic bottlenecks – essential infrastructure from *ex-ante* to *ex-post* market intervention, so that investment and innovation can thrive.

Features of Tariffs Determination for Telecommunications Services on the Basis of the Simulation the Cost of Their Providing

Vladimir Granaturov, Head of Economic Theory and Project Management Department, A.S. Popov ONAT, Ukraine

In general, current costs and tariffs determination methodologies and approaches for telecommunication/ICT services do not take into account the nature and characteristics of the specific services and conditions of provision, as well as the reductions and efficiency of the service usage in practice. A proposed methodology for costs and tariffs determination for telecommunication services was presented. The core of this methodology is the service provision process (conceptual model) that takes into account only elements from the existing telecommunication network and services provided. A simulation module can be used to determine operational costs by modeling a scale hypothetical subsystem from the network operator/service provider using data from the current regulatory market situation.

This proposed methodology allows to take into account the nature and specific features of each specific service and its provision, in contrast to existing methodologies such as FDC and LRIC/LRAIC. With this methodology it is not necessary the application of a separate accounting system. In addition,

the elimination of historical costs determination and Long-Run Average Cost methodology can significantly reduce the complexity of the tariffs determination process.

In conditions when an operator provides a wide range of services, this methodology could facilitate the calculation of tariffs for new services. An additional advantage is the possibility to assess the feasibility of the implementation of technological solutions. Considering the cost structure of this methodology, it can also be used for the determination of cost and tariffs for products and services in other industries, especially in cases where indirect costs constitute a significant proportion in the cost structure.

SESSION 4 «DEVELOPMENT AND SHARING OF INFRASTRUCTURE – ECONOMIC AND REGULATORY IMPACT»

Moderator – Yauheni Salauyou:

The Orange national and international experience on infrastructure sharing practices

Dominique Wurges, Director of international relations / standardisation, **Orange, France**

The Orange national and international experience on infrastructure sharing practices was presented. In response to the coverage challenge, the advantages and the benefits of sharing the various technical possibilities and operating models were detailed. The French experience was described as a win-win agreement which proved to help rapid deployment of 4G in rural or uncovered areas. Based on various examples, the presenter noted the current trend in favour of infrastructure sharing going on in Europe, but also in developing countries. The presentation was concluded by addressing the lessons learned, and recalled in particular that competition is the first driver for deployment of infrastructure and ensure a good coverage, and that to resolve some specific situation (geographical difficulties, speed of deployment), public authorities (regulators, policymakers and the international community) can encourage deployment of infrastructure sharing in an agreed way.

^[1] “Shared use of spectrum and telecommunication infrastructure as possible methods for enhancing the efficiency of telecommunications”.

EU Regulatory approaches to network sharing

Philippe Gerard, Adviser for Capacity Building and Cooperation with Third Countries, European Commission, **Belgium**

In examining the deployment of high capacity networks, making use of infrastructure sharing can serve as a vital tool in bringing such deployment to fruition. The sharing of infrastructure itself, can be accomplished through both coercive as well as incentivized actions. Through obligatory regulation, infrastructure sharing can be brought to realization using means such as the broadband cost reduction directive as well as the European Electronic Communications Code, addressing issues including market failures, and infrastructure on rights of way. From the voluntary perspective, operators can be incentivized to produce co-investments through heavily monitored deregulation as well as policies that promote mobile infrastructure sharing between operators.

Infrastructure Sharing in Lithuania: Regulatory decisions and outcomes

Indre Jurgelioniene, Director of Network Regulation Department of RRT, Communications Regulatory Authority, **Lithuania**

In examining the regulation of infrastructure sharing in Lithuania, one can deduce multiple symmetric and asymmetric obligations that support in this regulation. Regarding symmetric obligations, the state has implemented multiple rules and laws including the Law on Electronic Communications, rules for building and sharing infrastructure, rules for the delivery and provision of access, as well as dispute

resolution mechanisms. From the asymmetric perspective, market analysis is key particularly as it can be used to identify the on-the-ground situation.

Infrastructure sharing within the Lithuanian context is being implemented in passive and active sharing. Through passive sharing, network operators share mobile network towers, fiber optic cables, and buildings. In active sharing, operators are sharing radio networks, roaming, and wholesale offers. Delving further, infrastructure sharing within fixed networks can be examined through symmetric and asymmetric regulations. Symmetrically, there is an obligation to negotiate between service providers if one provider requests, while asymmetric regulation encompasses significant market power (SMP) in fixed market.

Parallel to fixed network infrastructure sharing, mobile network infrastructure sharing also includes a multitude of activities to enhance productivity similar to fixed networks including symmetric and asymmetric regulations, with the addition of frequency allocations.

Spectrum for 5G International Frameworks

Joaquin Restrepo, Chief of Outreach and Publication Services Division (BR), ITU

In examining the spectrum allocation of 5G networks from a global perspective, Mr. Restrepo begins by presenting an overview of the evolution of international mobile telecommunications (IMT) from the advent of 1G up to beginning stages of 5G systems. Exploring the vision for 5G IMT by 2020, the spectrum of 5G IMT is treated as a natural resource, meaning that it is non-replicable, a set of naturally occurring phenomena, and scarce. Additionally, the vision for 5G IMT seeks to prevent and control interferences within the system; maximizing sharing while minimizing prejudice. Spectrum management and regulation should guarantee an efficient and rational use of spectrum, both at national and international levels.

Given the nature of 5G spectrum allocation, the spectrum cannot be limited to a given territory and thus requires efforts in international coordination. In this light, radio regulations (RR) through ITU have worked to allocate and standardize frequency management, as well as granting allocations to radiocommunications services and stations. Through international coordination, network bands have been designated for industrial, scientific, and medical applications as well as identifying high-altitude platform stations to be used by network bands. Through global collaborative efforts, there has been quasi-global harmonization of IMT and mobile broadband apart from certain administrations within Region 3 of the radio regulations' categorization of global regions.

Preparing for 5G: Evolution of RF-EMF Compliance Standards and Regulations for Mobile Devices

Thomas Barmueller, Director Europe, Middle East and Africa, Mobile and Wireless Forum, MWF, Austria

The presentation covered the status of the primary radio frequency electromagnetic field (RF-EMF) compliance standards and regulations for mobile devices. The speaker pointed out that 5G services are going to be offered using radio frequencies in the sub-6GHz range as well as in the mmWave frequency range. He presented the nature of the RF-EMF exposure limits recommended by the European Union (Council Recommendation 1999/519/EC), the scientific basis of these limits, how to explain them to the general public and touched upon the adverse practical and political effects of arbitrary RF-EMF exposure limits. Finally, the speaker provided the status of primary compliance standards for mobile devices and focused on the standards and regulations for mobile devices in the European Union context.

Closing of the Regional Economic Dialogue

During the closing ceremony, final remarks were made by: **Petro Vorobiyenko** (Rector of A.S. Popov ONAT) and **Jaroslav Ponder** (Head of the ITU Office for Europe). The participants of the Event were awarded with memorable certificates signed by the Rector of the A.S. Popov ONAT.



RECOMMENDATIONS

To conclude the event, a round table on "Open innovation & new business models» together with ITU-D & ITU-T Study Groups Experts' knowledge Exchange" (moderated by Jaroslav Ponder) took place, within the framework of which the conclusions and recommendations of the event were developed. Participants of RED-2019 noted:

- 1) relevance of the presented reports/material for the works of ITU-D Question 4/1 and ITU-T Study Group 3, international organizations, ministries and national regulatory authorities, academia, institutions of higher education, research organizations, equipment manufacturers, and telecommunications operators and service providers - the event's material can be used by participants in their professional activities; practical significance of the exchange of views and experiences held during the event;
- 2) need to develop new economic regulation approaches in the digital ecosystem aimed at achieving the UN Sustainable Development Goals 2030;
- 3) need to improve the process of creation of new incentives and additional values for creating a favorable investment climate for digital transformation;
- 4) importance of research aimed at improving existing and new effective tariff setting mechanisms in telecommunications/ICTs, including the development of new strategies in setting tariffs for innovative digital services;
- 5) need to improve regulatory frameworks governing the regulation of prices and tariffs in telecommunications/ICT;
- 6) importance of international coordination and cooperation for the exchange of experiences in the field of tariffs setting to foster fair, non-discriminatory and affordable tariffs while maintaining a healthy market competition;
- 7) need to develop innovative, modern models and methods for the co-deployment and sharing of telecommunication/ICT infrastructure, including with transport and energy infrastructure;



- 8) need to step up efforts to harmonize RF-EMF exposure limits based on international guidelines as recommendations from the World Health Organization (WHO), the International Telecommunications Union (ITU) and the International Commission on Non-Ionising Radiation Protection (ICNIRP);
- 9) policy makers, regulators and the international community should encourage the benefits of commercially based infrastructure and spectrum sharing, to achieve greater mobile Internet connectivity;
- 10) need to continue organizing ITU workshops, forums and conferences addressing topics on economic regulation, and tariff setting in telecommunications/ICTs.

The participants expressed their sincere gratitude to the moderators and speakers of the Event, to the management and staff from the International Telecommunication Union (ITU) and A.S. Popov Odessa National Academy of Telecommunications for the excellent content and organization of the Regional Economic Dialogue.

ADDITIONAL MATERIALS:

All the following material are available in the Europe webpage: http://itu.int/go/EUR_RED-19

1. [Presentations](#)
2. [Photos](#)
3. **Webcast archive**
 - i. [Day 1](#)
 - ii. [Day 2](#)