# ITU Regional Development Forum for Europe (RDF-EUR)

*Information and Communication Technologies for Attaining Sustainable Development Goals*

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**TITLE:** Choosing the most promising (from economic and technical point of view) solutions for building broadband access networks in human settlements in Europe using the Broadbandcalculator.online tool

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**Europe Regional Initiative:**  EUR1: Broadband infrastructure, broadcasting and spectrum management

**Year(s) of implementation: 2019**

**Background**

The implementation of national programs to reduce the digital discontinuity and the construction of high-speed broadband networks makes a direct impact on the development of the national economy.

Despite the tremendous efforts of governments around the world, the broadband access coverage of many countries remains low, many settlements remain unconnected. There is a large number of options to build modern access networks that are formed as by technologies, and by scenarios, as well as by architectural and topological solutions. The correct choice of a particular technology not only makes it possible to use more effectively the funds for the construction of networks, but also to ensure an appropriate level of quality of user service.

The ideological basic for automated selection of appropriate technology was the methodology of choosing the technological solutions for construction of multiservice networks of the next generations, developed by the A.S. Popov ONAT (Ukraine), and Recommendations on the selection of the technological basis for building broadband access networks, prepared by the Telecommunication Development Bureau of the International Telecommunication Union.

At the ITU Regional Development Forum for the CIS and Georgia (Republic of Moldova, March 31 - April 1, 2015) the regional initiative "Development of broadband access and implementation of broadband in the CIS" has been approved. Within the framework of realizations of this regional initiative the automated system Broadbandcalculator.online was developed by the ITU Telecommunication Development Bureau with the support of the A.S. Popov ONAT (Ukraine) to choose the most promising (from economic and technical point of view) solutions for building broadband access networks.

Also at the WTDC 2017 the regional initiative "Broadband infrastructure, broadcasting and spectrum management" has been approved. The expected results are: sharing of best practices and case studies

in digital broadcasting, 5G experience, early-use cases and trends in next generation access network roll-out.

**Proposal**

The goal is to share best practices in digital broadcasting, 5G experience and trends in next generation access network roll-out through choosing the most promising (from economic and technical point of view) solutions for building broadband access networks in human settlements in Europe using the Broadbandcalculator.online tool which operates on the basis of simulation modeling of the process of construction and operation of networks of settlements. Key advantages of this approach are the high level of objectivity and possibility of taking into account economic feasibility.

For every considered human settlement the project proposes to:

− enter the information about the structure of an existing or new network;

− define the independent segments which would be upgraded or built;

− specify network requirements at all levels;

− assess the conformity of promising sets of technologies to the requirements for the network being designed;

− estimate the cost and duration of the reorganization and / or construction of the network during the transition of each segment from the existing set of technologies to each of the promising technologies;

− choose the most promising set of technologies at each level of the network with a view to minimize the cost and time of reorganization.

Activities:

1. Sending the results to the Telecommunication Administrations of the region (on an individual basis).

2. Detailed examination of the obtained results in the framework of Question 1/1 of Study Group 1 of the ITU Development Sector.

3. Introduction of the system into educational process of telecommunication universities of the region

4. Organization of workshops and presentations of the project execution results at various events of the region, as well as at the meetings of the Development Sector study groups.

5. Involvement of equipment manufacturers as information providers.