



# ITU-D Question 4/1 “Economic aspects of national telecommunications/ICTs”. Infrastructure sharing considerations

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РОССИЙСКИЙ НАУЧНО-ИССЛЕДОВАТЕЛЬСКИЙ ИНСТИТУТ РАДИО

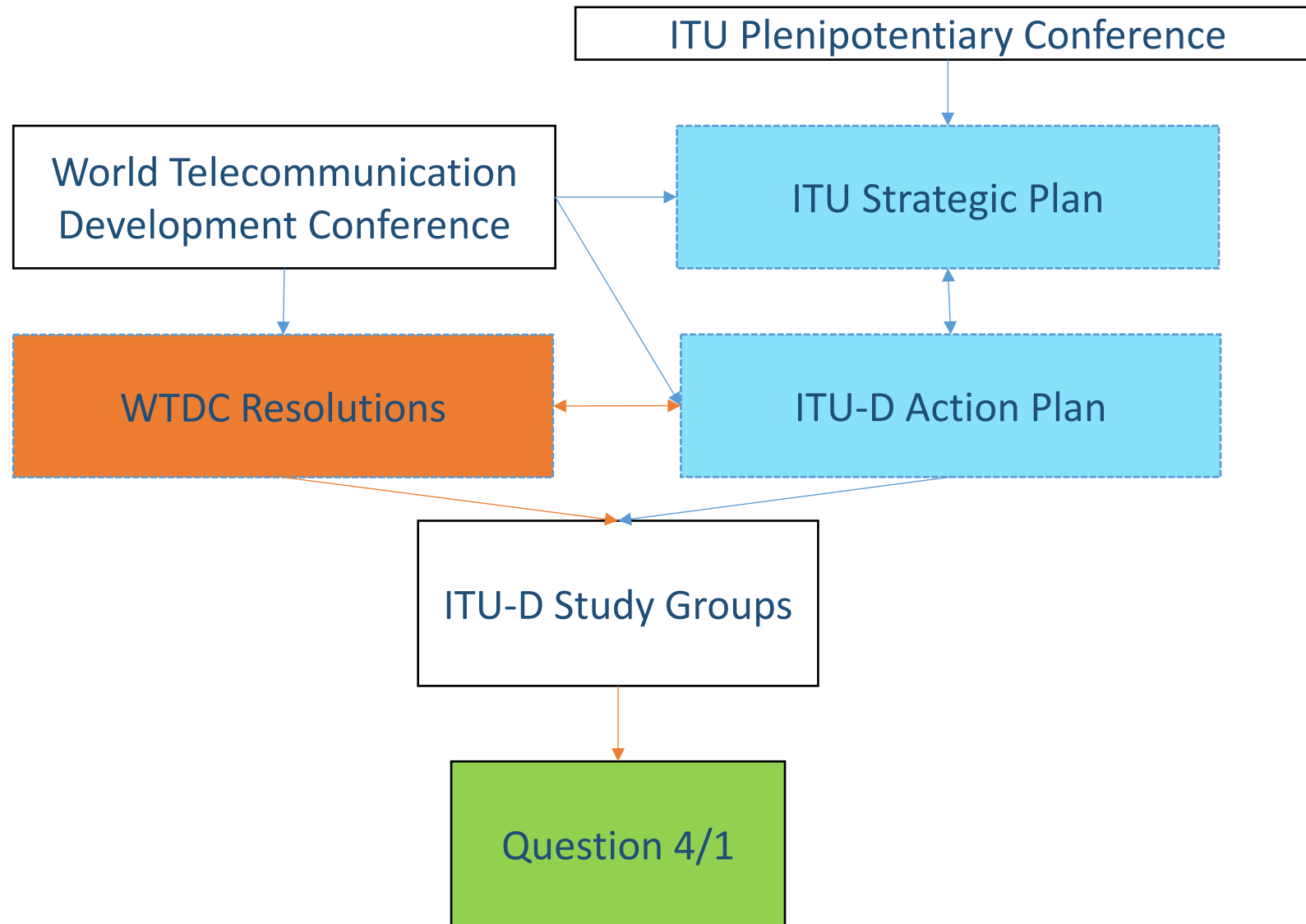


# Overview





## ○ ITU-D Structure of the work



Task

Execution



## ○ Connection with other ITU documentation

ITU-D Questions	PP Strategic Plan	PP Resolutions	WTDC Resolutions	ITU-D Recommendations
ITU-D Question 4/1	Thematic Priority “Enabling environment”	Resolution 71 “ITU strategic plan for 2024-2027”	Resolution 10 “Financial support for national spectrum-management programmes”	Recommendation D.15 (2002) “Models and methods to determine the cost of national telecommunication services”
	Target 1.2 “Broadband services to be affordable for all”	ITU-D Question 4/1	Resolution 23 “Internet access and availability for developing countries and charging principles for international Internet connection”	Recommendation D.16 (2002) “Tariff rebalancing and cost-oriented tariffs”



# ITU-D Study period 2018-2021





## ○ Question 4/1 Topics (2018-2022)

1) New charging methods (or models, if applicable) for services provided over NGN networks:

1.1) Methods for determining the costs of wholesale services.

**2) Different models for infrastructure sharing, including through commercially negotiated terms:**

**2.1) For what type of infrastructure (or facilities) the provider party is free to negotiate reasonable commercial terms and conditions with a requesting party.**

**2.2) The impact of infrastructure sharing on investment cost, local loop unbundling, provision of telecommunication/ICT services, competition and prices to consumers: case studies with quantitative analysis.**

3) Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues:

3.1) New and innovative business models for services deployed in an NGN environment, including methods encouraging the adoption and use of ICT services.

3.2) Trends in prices of telecommunication/ICT services, including international mobile roaming.

4) Trends in the development of virtual mobile operators and their regulatory framework.





## ○ Question 4/1 Topics (2018-2022)

	Description	Relationship
<b>T1</b>	<i>New charging methods (or models, if applicable) for services provided over NGN networks, including Methods for determining the costs of whole sale services</i>	in response to ITU-D Objective 2, WTDC Resolution 9
<b>T2</b>	<i>Different models for infrastructure sharing, including through commercially negotiated terms</i>	in response to ITU-D Objective 2, WTDC Resolution 20, WTDC Resolution 23
<b>T3</b>	Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues	in response to ITU-D Objective 2, WTDC Resolution 23
<b>T4</b>	Trends in the development of virtual mobile operators and their regulatory framework	in response to ITU-D Objective 2, WTDC Resolution 23



## ○ Question 4/1 Final Report Structure (2018-2022)

Chapter 1 “New charging methods (or models, if applicable) for services provided over NGN networks”

***Chapter 2 “Different models for infrastructure sharing, including through commercially negotiated terms”***

Chapter 3 “Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues”

Chapter 4 “Trends in the development of mobile virtual network operators (MVNO) and their regulatory framework”

Chapter 5 “Best practices guidelines”

Annexes







## ○ Question 4/1 Final Report Chapter 2 (2018-2022)

### Chapter 2 “Different models for infrastructure sharing, including through commercially negotiated terms”

2.1 Different types/models for infrastructure sharing (passive, active)

2.2 Regulatory frameworks for infrastructure sharing

2.3 Commercial terms and conditions for infrastructure sharing

2.4 Infrastructure sharing consideration related to transition for 5G

2.5 Spectrum sharing framework within infrastructure sharing

2.6 The impact of infrastructure sharing

***2.7 Country experience and case studies (Turkey, Brazil, Egypt)***





## ○ Question 4/1 Final Report Annexes (2018-2022)

**Annex 1** Regulation of interconnection charges in Paraguay

***Annex 2 Infrastructure Cost Sharing at Internet Exchange Points (IXPs)***

**Annex 3** Detailed statistics about methods used by NRAs for determining the cost of wholesale services

**Annex 4** Social tariffs design in Russian Federation

**Annex 5** Relevant definitions for the ICT price baskets

**Annex 6** Examples of use of IXPs to fulfil WSIS Action Lines

**Annex 7** ITU-D Study group events on the COVID-19 Pandemic related to Question 4/1





## ○ Question 4/1 Final Report Conclusions (2018-2022)

ITU-D Study period 2018-2021 expressed the continuous importance of economic aspects consideration in the national telecommunications/ICT. The appearance of new types of telecommunication businesses like MVNO and convergence of traditional ones led to necessity for regulators and operators to adopt their policies and strategies to this new digital reality.

Finding the suitable cost and governance models and using the relevant regulatory tools like infrastructure sharing should be the main goals of NRAs to help their national markets thrive, as shown in contributions received from both NRAs and operators and considered by Q 4/1 Rapporteur group for this study period. However, at the same time, further global forces pushing towards increased digitalization, national economic and global emergencies, like COVID-19 pandemic, leave many new issues that require additional study and investigation for the next ITU-D study period.



# ITU-D Study period 2022-2025





## ○ Question 4/1 Topics (2022-2025) (1/3)

In response to the outcomes of WTDC-22, Question 4/1 in 2022-2025 study period is continuing to study and update the following items from the 2018-2021 study period:

	Description	Relationship
T1	New charging methods (or models, if applicable) for services provided over NGN networks, including Methods for determining the costs of wholesale services	In response to ITU-D Thematic Priority 1, WTDC Resolution 9
T2	<b><i>The impact of infrastructure-sharing (local loop unbundling, tower companies, etc.) on investment cost, provision of telecommunication/ICT services, competition and prices to consumers: case studies with quantitative analysis*</i></b>	In response to ITU-D Objective 1, WTDC Resolution 20, WTDC Resolution 23, WTDC Resolution 37
T3	Consumer price evolution and impact on ICT service usage, innovation, investment and operator revenues	In response to ITU-D Objective 1, WTDC Resolution 23
T4	Trends in the development of virtual mobile operators and their regulatory framework	In response to ITU-D Objectives 1 and 3, WTDC Resolution 23, WTDC Resolution 37

\* Based on received contributions, meeting of ITU-D SG 1 Plenary decided to revise the Final Report on Q 4/1 for 2018-2021 study period in the part of Chapter 2 on infrastructure sharing



## ○ Question 4/1 Topics (2022-2025) (2/3)

In response to the outcomes of WTDC-22, Question 4/1 is to study the following new items in 2022-2025 study period:

	Description	Relationship
<b>T5</b>	Impact of new converging ICTs on cost-modelling strategies traditionally carried out by stakeholders constituting the ICT networked value chain (e.g. telecom operators, over-the-top, digital service providers, etc.)	In response to ITU-D Objectives 1 and 2, WTDC Resolution 37
<b>T6</b>	The role and impact on achieving the SDGs of new types and modes of investment in telecommunications/ICTs, e.g. blended investment and crowdfunding	In response to ITU-D Objective 1 and 3 WTDC Resolution 37
<b>T7</b>	Analysis of case studies on the economic contribution of digital telecommunication/ICT technologies and services to the national economy	In response to ITU-D Objectives 1 and 2, WTDC Resolution 37
<b>T8</b>	Framework for establishing the contribution of telecommunications/ICTs to a country's GDP	In response to ITU-D Objective 1, WTDC Resolution 37
<b>T9</b>	Economic incentives and mechanisms for bridging the digital divide	In response to ITU-D Objective 1, WTDC Resolution 37
<b>T10</b>	Analysis of the economic impact of the COVID-19 pandemic on telecommunication/ICT markets	In response to ITU-D Objective 1, WTDC Resolution 34, WTDC Resolution 37
<b>T11</b>	Analysis of the contribution of telecommunications/ICTs on the economic recovery from the COVID-19 pandemic	In response to ITU-D Objective 1, WTDC Resolution 34, WTDC Resolution 37
<b>T12</b>	Economic aspects/implications of digital transformation	In response to ITU-D Objectives 1 and 2, WTDC Resolution 37
<b>T13</b>	Impact on innovation and productivity and other national economic aspects of digital financial inclusion	In response to ITU-D Objectives 1 and 2, WTDC Resolution 37



## Question 4/1 Topics (2022-2025) (3/3)

In response to the outcomes of WTDC-22, Question 4/1 is to study the following new items in 2022-2025 study period in collaboration with other ITU-D Questions:

	Description	Relationship
<b>T14</b>	National experiences on the contribution to the national economy in bridging the digital divide to provide accessible and affordable connectivity (in possible collaboration with ITU-D Questions 1/1, 5/1 and 7/1)	in response to ITU-D Objectives 1 and 5, WTDC Resolution 37, WTDC Resolution 58
<b>T15</b>	Different models of infrastructure sharing, including on commercially negotiated terms (in possible collaboration with ITU-D Question 1/1)	in response to ITU-D Objective 1, WTDC Resolution 20, WTDC Resolution 23, WTDC Resolution 37
<b>T16</b>	The economic value of usage of personal data (in possible collaboration with ITU-D Questions 6/1 and 3/2)	in response to ITU-D Objective 1 and 5, WTDC Resolution 45





## ○ Expected outputs for Question 4/1 (2022-2025)

- a. Annual reports and deliverables to be presented for ITU-D Study Group 1 for information:
  - 2023: Annual Report on progress towards the Report on Question 4/1;
  - 2024: Annual Report on progress towards the Report on Question 4/1;
- b. Guidelines on the topics of Question 4/1 to be presented for ITU-D Study Group 1 for approval:
  - Revised Q 4/1 Guidelines on Cost Modelling;
  - New Guidelines on the topics of Question 4/1, if any;
- c. Final Reports on the topics of Question 4/1 to be presented for the last meeting of ITU-D Study Group 1 in 2022-2025 study period for approval:
  - Revised Report on 2018-2021 study period;
  - New Report/s on the topics of Question 4/1 on 2022-2025 study period;
- d. ITU-D Recommendations D series on the topics of Question 4/1 to be presented to WTDC-25 for approval:
  - Revised ITU-D Recommendations D.15 and D.16, as appropriate;
  - New ITU-D Recommendations D series, if any;
- e. Joint deliverables with other ITU-D Study Questions, if any, to be presented for ITU-D Study Group 1 for approval;
- f. Reports on participation in ITU events relevant to Q 4/1, particularly Regional Economic Dialogues (RED), if any, for information.







## ○ Useful Links

- Final Acts of the Plenipotentiary Conference 2022  
[https://www.itu.int/dms\\_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-e.pdf](https://www.itu.int/dms_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-e.pdf)
- Final Report of the World Telecommunication Development Conference 2022  
[https://www.itu.int/dms\\_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-e.pdf](https://www.itu.int/dms_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-e.pdf)
- ITU-D Study Groups website  
<https://www.itu.int/net4/ITU-D/CDS/sg/index.asp?lg=6&sp=2022&stg=>
- ITU-D Study Groups 2018-2021 Publications  
<https://www.itu.int/en/ITU-D/Study-Groups/2018-2021/Pages/Publications.aspx>
- Question 4/1 Mailing list  
[d22sg1q4@lists.itu.int](mailto:d22sg1q4@lists.itu.int)





# Many thanks for your attention!!

