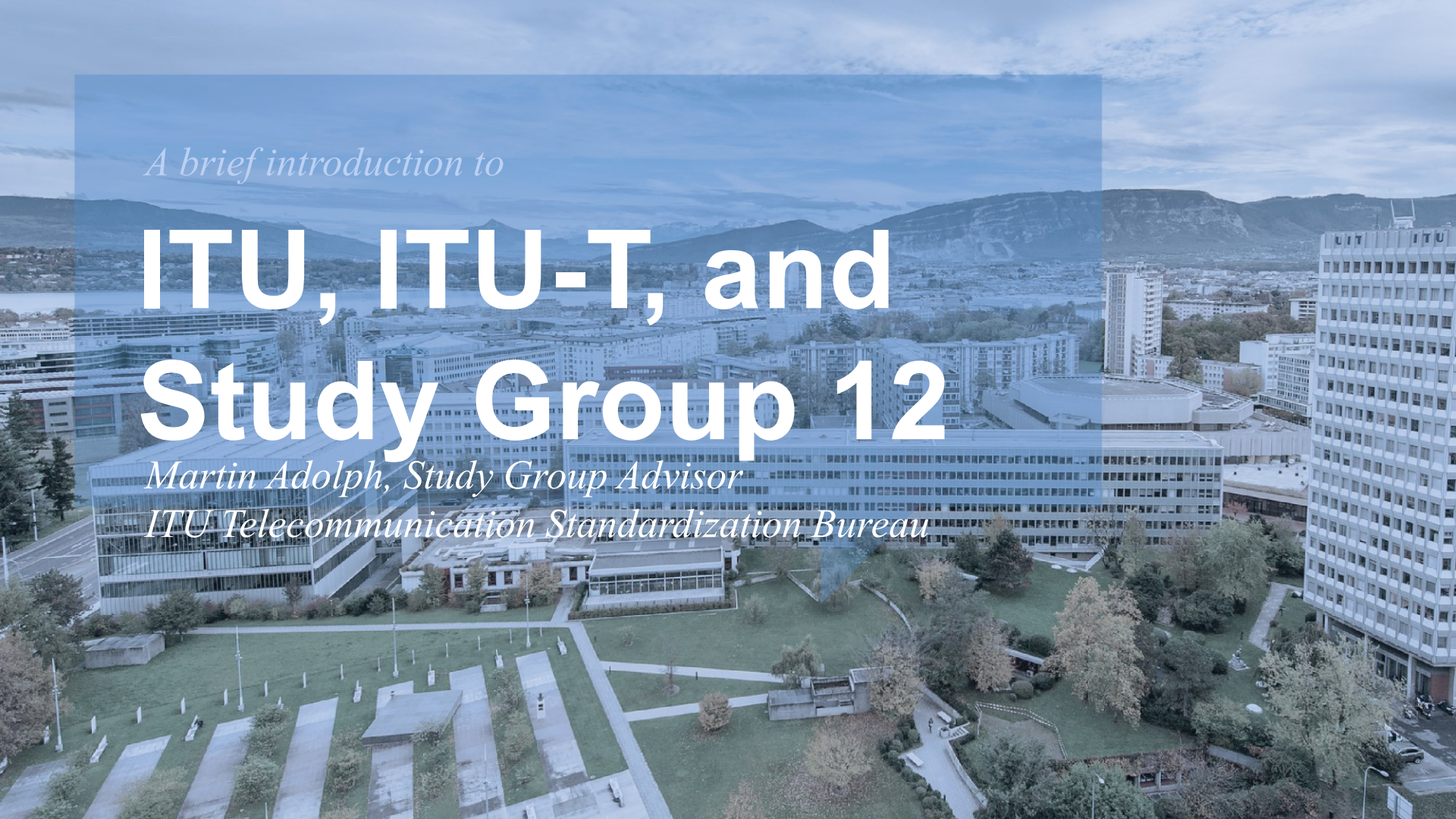
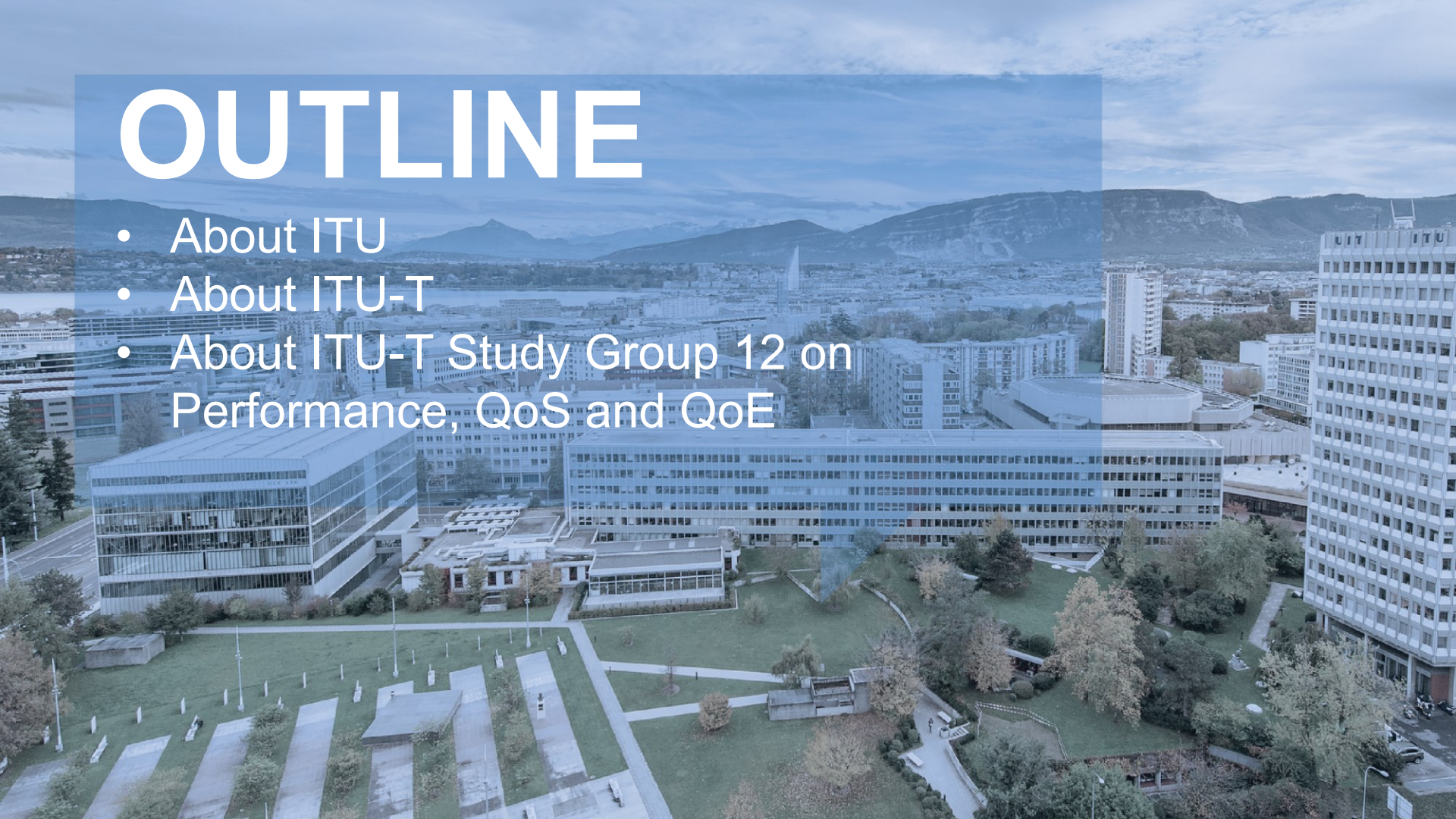


A brief introduction to

ITU, ITU-T, and Study Group 12

Martin Adolph, Study Group Advisor
ITU Telecommunication Standardization Bureau



OUTLINE

- About ITU
- About ITU-T
- About ITU-T Study Group 12 on Performance, QoS and QoE


| Who are we?
ABOUT US

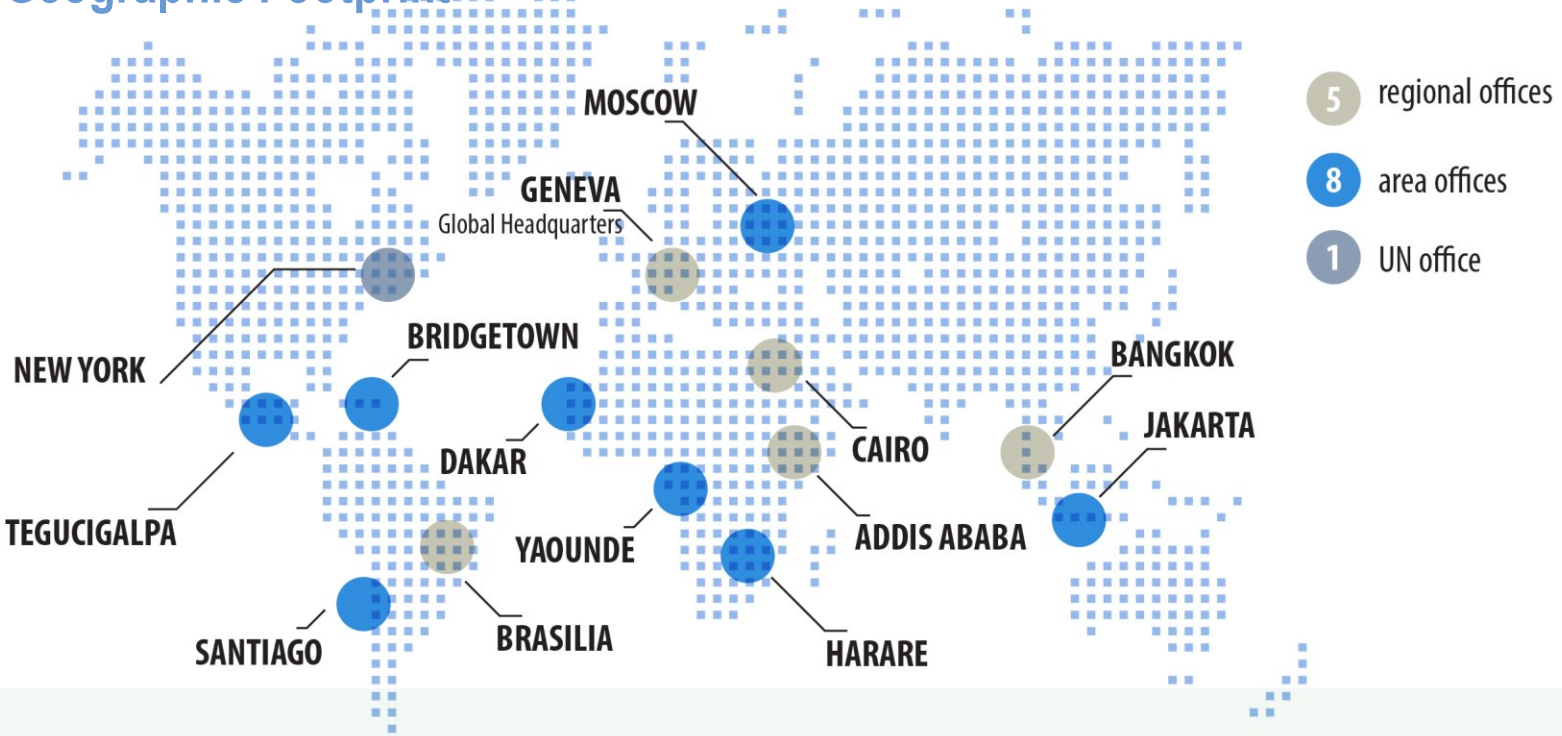
Who are we?

UN Agency for ICTs

The International Telecommunication Union (ITU) is the United Nations specialized agency for **information and communication technologies** (ICTs)

Promoting international collaboration for a **connected world**

Geographic Footprint



760 staff, from 80 countries


Our members
MEMBERSHIP

Our members

In Numbers

193
MEMBER STATES

+800
PRIVATE SECTOR ORGANIZATIONS

142
ACADEMIA

Meet the sectors

WHAT WE DO

Three Sectors

'Committed to Connecting the World'

ITU Radiocommunication

Coordinating radio-frequency spectrum and **assigning** orbital slots for satellites

ITU Standardization

Establishing international standards

ITU Development

Bridging the digital divide

Meet the sectors

ITU-R

KEY ROLE

Global management of **radio-frequency spectrum and satellite orbits**

Ensures equitable and **efficient use of radio-frequency spectrum** to accommodate huge growth in demand for spectrum

ITU-R **coordination of orbital slots** prevents radio interference and malfunctioning of satellite services

Meet the sectors

ITU-R

MAJOR ACHIEVEMENTS

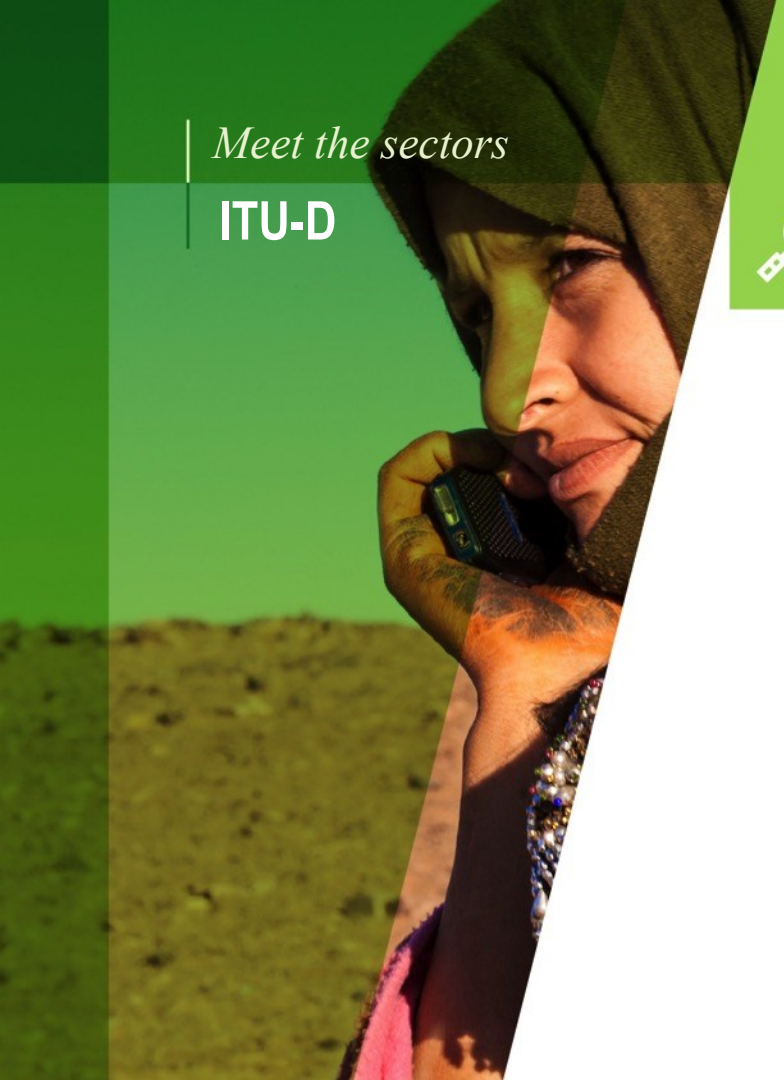
IMT-2000 and **IMT-Advanced** technical frameworks underpin mobile 3G and 4G networks, focus on **IMT-2020 '5G'**

Recommendations on **3DTV, Ultra High Definition TV (UHDTV) standards**

Excellent track record in maintaining harmonious **satellite coordination**

Meet the sectors

ITU-D



KEY ROLE

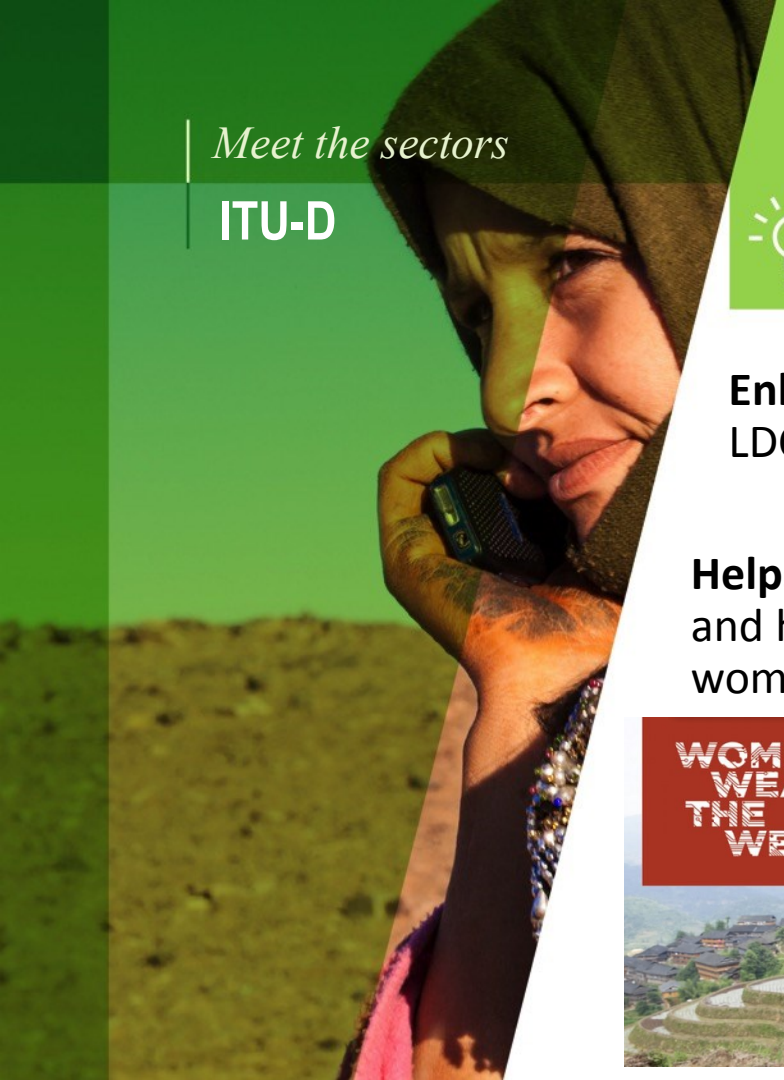
Spread equitable and affordable **access to telecommunications** to help stimulate social and economic development

Build capacity in the application of advanced ICTs within enabling policy and regulatory frameworks

Help to ensure that people everywhere are empowered **to reap the benefits that connectivity delivers**

Meet the sectors

ITU-D



MAJOR ACHIEVEMENTS

Enhancing cybersecurity in LDCs – CIRT programme

Helps bridge the gender divide and has equipped over **1m** women with digital literacy skills

Meet the sectors

ITU-T

KEY ROLE

We develop international standards (ITU Recommendations) that enable the interconnection and interoperability of ICT networks and devices

200 - 300 new **international standards** approved every year, with over **4,000** in use today

STANDARDS enable global communications by ensuring ICT networks and devices **speak the same language globally.**

Meet the sectors

ITU-T

MAJOR ACHIEVEMENTS

PKI

Public-key infrastructure, central to e-commerce

G.fast

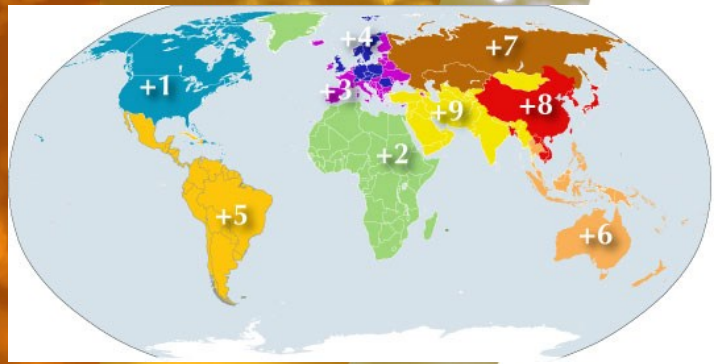
New broadband standard designed to deliver access speeds of up to 1Gbit/s over existing telephone wires

ADSL & VDSL

H.264/MPEG-4

The primetime **Emmy award** winning **video codec** and its successor, H.265

Country codes



Meet the sectors

ITU-T

STRUCTURE

Study Group	Title
SG2	Operational aspects
SG3	Economic and policy issues
SG5	Environment and circular economy
SG9	Broadband cable and TV*
SG11	Protocols and test specifications
SG12	**Performance, QoS and QoE**
SG13	Future networks (& cloud)
SG15	Transport, Access and Home*
SG16	Multimedia*
SG17	Security
SG20	IoT, smart cities & communities

* No regional group in Africa

Meet the sectors

ITU-T

STRUCTURE

Focus Group	Title
FG DLT	Application of Distributed Ledger Technology
FG DFC	Digital Currency including Digital Fiat Currency
FG DPM	Data Processing and Management to support IoT and Smart Cities & Communities

Open to non-members!

Meet the sectors

ITU-T

STUDY GROUP 12

Performance, QoS and QoE

- Full spectrum of terminals, networks and services ranging from speech over fixed circuit-based networks to multimedia applications over networks that are mobile and packet based

- Operational aspects of performance, QoS and QoE end-to-end quality aspects of interoperability development of multimedia quality assessment methodologies, both subjective and objective

Lead study group on

- Quality of service and quality of experience
- Driver distraction and voice aspects of car communications
- Quality assessment of video communications and applications

Meet the sectors

ITU-T

STUDY GROUP 12 STRUCTURE

Acronym	Title
PLEN	Plenary
WP1/12	Terminals and multimedia subjective assessment
WP2/12	Objective models and tools for multimedia quality
WP3/12	Multimedia QoS and QoE
SG12RG-AFR	ITU-T SG12 Regional Group on QoS for the Africa Region
QSDG	Quality of Service Development Group
IRG-AVQA	ITU Intersector Rapporteur Group Audiovisual Quality Assessment

Meet the sectors

ITU-T

STUDY GROUP 12 LEADERSHIP

Name	Organization, Country
Kwame BAAH-ACHEAMFUOR	**National Communications Authority, Ghana**
Zeid ALKADI	Telecommunication Regulatory Commission, Jordan
Seyni Malan FATY	Regulatory Authority for Telecommunications and Post, Senegal
Seong-Ho JEONG	Hankuk University of Foreign Studies, Korea (Rep. of)
Hassan MOHAMED	National Telecommunication Corporation, Sudan (Republic of the)
Al MORTON	AT&T Labs, United States
Edoyemi OGOH	Nigerian Communications Commission, Nigeria
Mehmet ÖZDEM	Türk Telekom, Turkey
Alfredo Raúl PARODI	National Entity for Communications, Argentina
Tiago Sousa PRADO	National Telecommunications Agency, Brazil
Aymen SALAH	Instance Nationale des Télécommunications, Tunisia
Yvonne UMUTONI	Rwanda Utilities Regulatory Authority, Rwanda
Gaoxiong YI	China Academy of Information and Communications Technology, China

Meet the sectors

ITU-T

STUDY GROUP 12 RECENT RESULTS

Establishing QoS frameworks

- E.802: Framework and methodologies for the determination and application of QoS parameters
- E.804: QoS aspects for popular services in mobile networks

Measuring QoS and performance in IP networks

- Y.1540: IP packet transfer and availability performance parameters
- Y.1545: Roadmap for the QoS of interconnected IP based networks
- Y.1545.1: Framework for monitoring the QoS of IP network services

Multimedia QoS and QoE

- G.1028: End-to-end QoS for voice over 4G mobile networks (VoLTE)
- G.1071: Opinion model for network planning of video and audio streaming applications
- G.1080: QoE requirements for IPTV services

New work items to respond to WTSA-16 Resolution 95 include:

- Strategies to establish quality measurement frameworks (E.RQUAL)
- Voice and data QoS KPI thresholds for mobile networks (E.RQST)

All ITU-T Recommendations can be downloaded free of charge at https://itu.int/ITU-T/recommendations/index_sg.aspx?sg=12

Conclusions

- Study Group 12 is the key international venue to develop standards and discuss technical, operational, policy aspects of performance, QoS and QoE
- The work is undertaken jointly by operators, vendors, service providers, academia, and representatives from ITU's 193 Member States
- Initiatives are underway to raise awareness on best practices and policies related to service quality
- ***Join Study Group 12 at its next meeting in Geneva, 19-28 September 2017!***

SG12 web page: https://itu.int/go/tsg12


ITU
www.itu.int