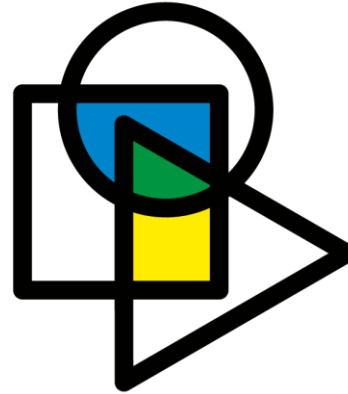


WORLD TELECOMMUNICATION  
STANDARDIZATION ASSEMBLY



# ITU WTSA-20

GENEVA2022

1- 9 March 2022  
Geneva, Switzerland

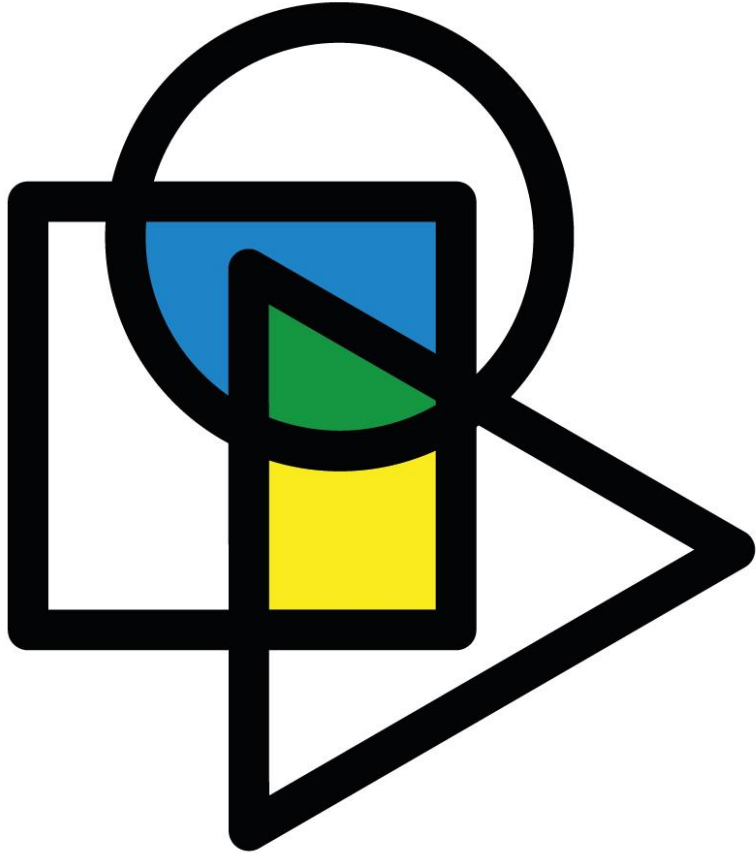
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## ITU-T Study Group 12 highlights SP2017-2020

Kwame BAAH-ACHEAMFUOR  
SG12 Chairman

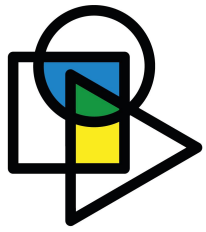
March 2022





# AGENDA

- Study period in numbers
- Selected achievements:
  - Service quality best practices
  - Digital financial services
  - Internet performance
  - Video quality assessment
  - Speech and listening quality
  - In-car communications



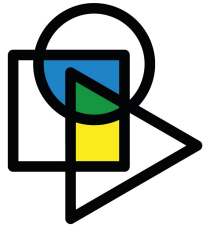
# STUDY PERIOD IN NUMBERS (1)

## Activities:

- 11 SG12 plenaries
- 5 SG12 RG-AFR meetings
- 30 workshops/webinars
- 200+ interim activities

## Participation:

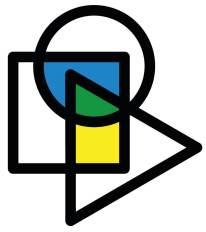
- 12 new SG12 Associates joined (more than doubled)
- 45 countries per SG12 meeting (average)
- 94 countries in SG12 meetings (total)
- 1050+ participants in SG12 meetings (total)



# STUDY PERIOD IN NUMBERS (2)

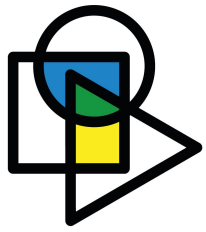
## Outputs:

- 101 approved Recommendations
  - 48 new Recommendations (2 by TAP)
- 23 non-normative texts agreed
  - 12 new Supplements



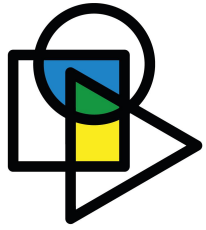
# SERVICE QUALITY BEST PRACTICES

- Responding to WTSA-16 Res. 95, SG12 adopted new Recs. **guiding service quality regulation**:
  - ITU-T E.805 “Strategies to establish quality regulatory frameworks”
  - ITU-T E.806 “Measurement campaigns, monitoring systems, and sampling methodologies to monitor the quality of service in mobile networks”
- **SG12 outputs widely referenced** in ITU Academy courses, ITU Regulation Handbook, ITU QoS Regulation Manual, QoS guidelines of regional organizations and national quality regulatory frameworks.



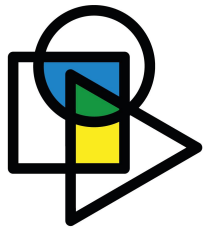
# DIGITAL FINANCIAL SERVICES

- Responding to WTSA-16 Res. 89, SG12 adopted new Recs:
  - **ITU-T G.1033** “QoS and QoE aspects of digital financial services”
  - **ITU-T P.1502** “Methodology for QoE testing of digital financial services”
- **New Question 20/12** (established during the SP) continues work on DFS quality assessments



# INTERNET PERFORMANCE

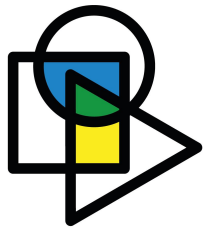
- Major **overhaul of capacity parameters and UDP-based method of measurement** (ITU-T Y.1540), reflecting the realities of the Internet:
  - based on ground truth and harmonized with efforts in IETF, Broadband Forum and ETSI TC STQ
  - **open-source implementation** available
- **Leading measurement and test vendors joined SG12** as Associates:
  - combined experience of billions of “Internet speed tests”



# VIDEO QUALITY ASSESSMENT

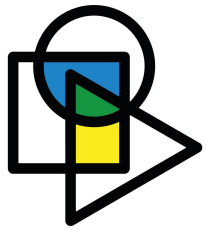
- Adopted **world's first international standards** to:
  - calculate **quality of H.264, H.265 and VP9 videos** in 4K/UHD resolution and **HTTP adaptive streaming** sessions e.g., Netflix (ITU-T P.1203 and P.1204 series)
  - predict **video gaming quality** for cloud gaming services (ITU-T G.1072)
- Provided guidance on testing and QoE aspects of **video gaming** (ITU-T P.809, G.1032) and **immersive technologies** (ITU-T G.1035, P.919)
- **Open-source implementations available** for many of these models





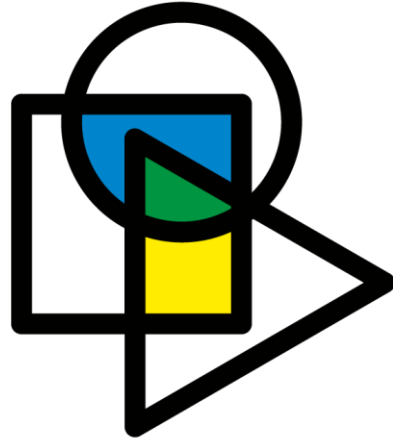
# SPEECH AND LISTENING QUALITY

- Adopted new Recs assessing speech quality by applying:
  - **machine learning** techniques (ITU-T P.565 and P.565.1), and
  - the **crowdsourcing approach** (ITU-T P.808)
- Concluded updates to:
  - **ITU-T P.863** “Perceptual objective listening quality prediction”
  - **ITU-T P.381, P.382, and P.383** (new) – specify technical requirements and test methods for headsets and headphones



# IN-CAR COMMUNICATIONS

- New in-car communication specification (ITU-T P.1150) **describes acoustics inside a vehicle to help everyone hear each other** – drivers can keep their eyes on the road
- **UN Regulation references SG12 work on accident emergency call systems** (ITU-T P.1140)
- **2 leading automotive suppliers** join as Associates and **1 leading car manufacturer** as Sector Member to participate in SG12



**ITU WTSA-20**  
GENEVA2022

*Setting the standard*

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