



Introduction to ITU-T SG16 activities

- Multimedia coding, systems and applications -

March 2017

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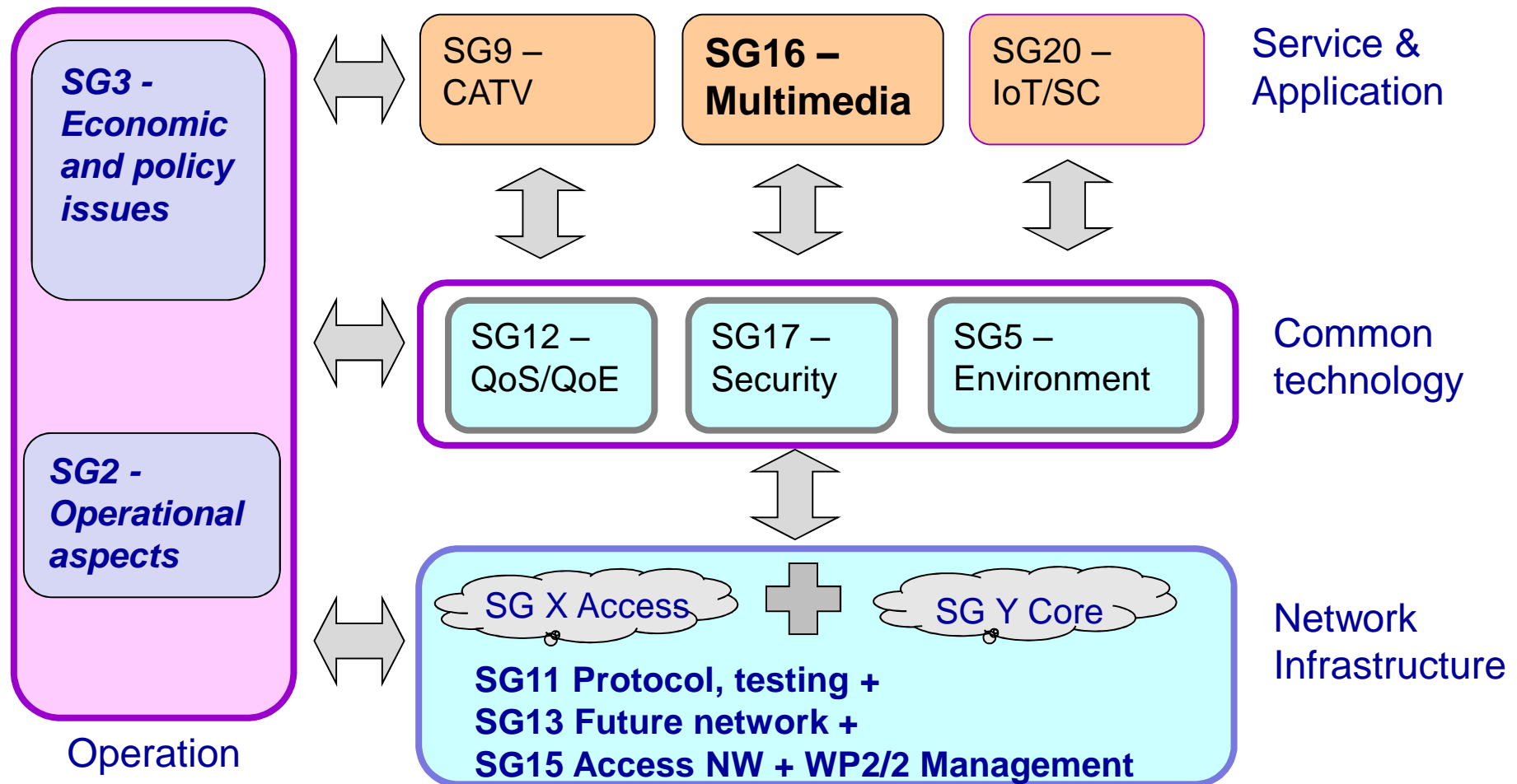
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 - Rapporteur group meeting
 - 2nd SG16 meeting in Macao, 16-27 October 2017



ITU-T Study Group Structure

- SG16 is located in service and application category.



SG16 lead study group



■ Lead SG on:

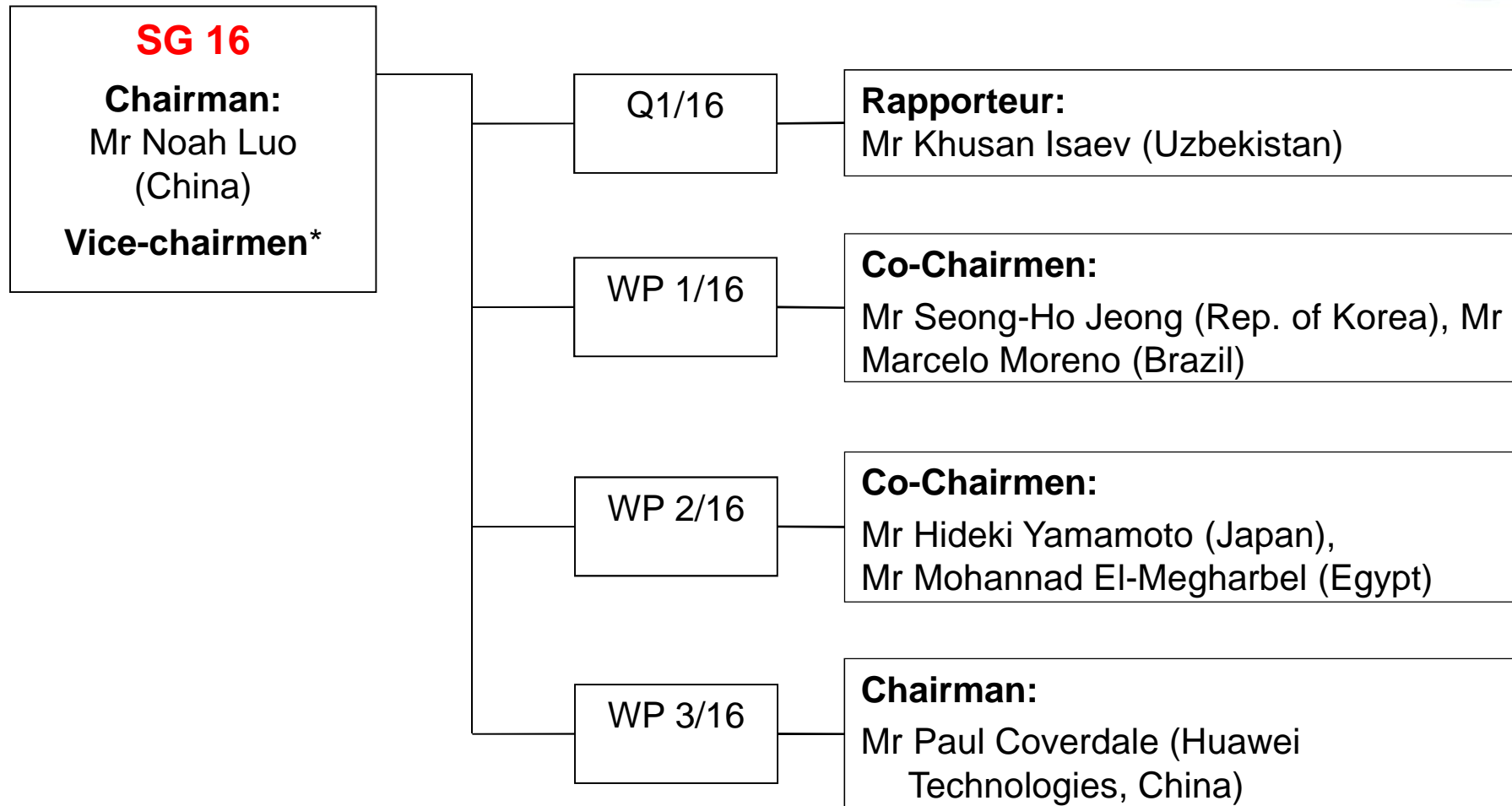
- Multimedia coding, systems and applications
- Ubiquitous multimedia applications
- Telecom/ICT Accessibility for PwD and human factors
- Intelligent transportation systems (ITS)
- IPTV and Digital Signage
- Multimedia e-services

■ Organization

- Q1/16: Multimedia coordination
- WP1/16: Multimedia content delivery
- WP2/16: Multimedia e-services
- WP3/16: Media coding and immersive environments



SG16 top level structure



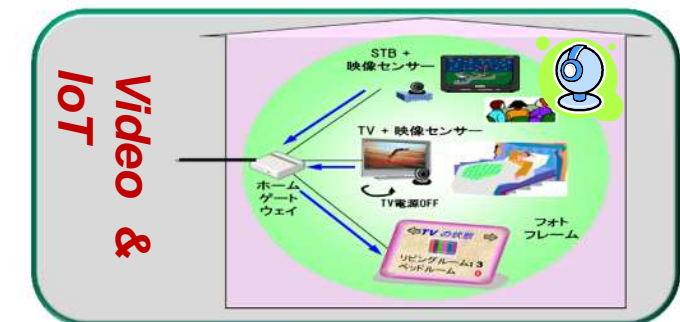
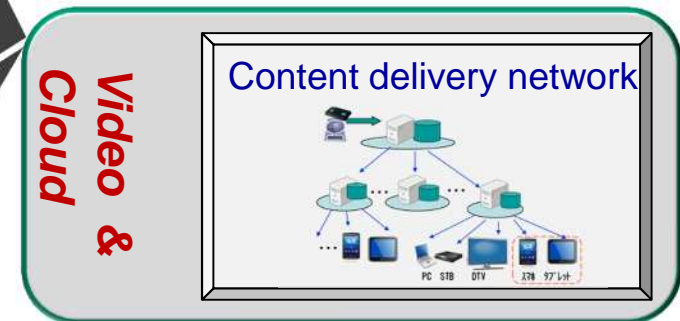
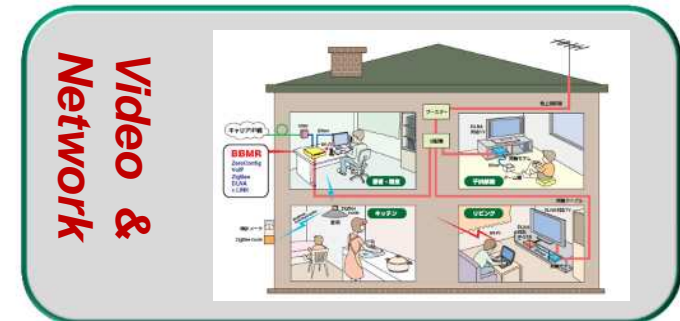
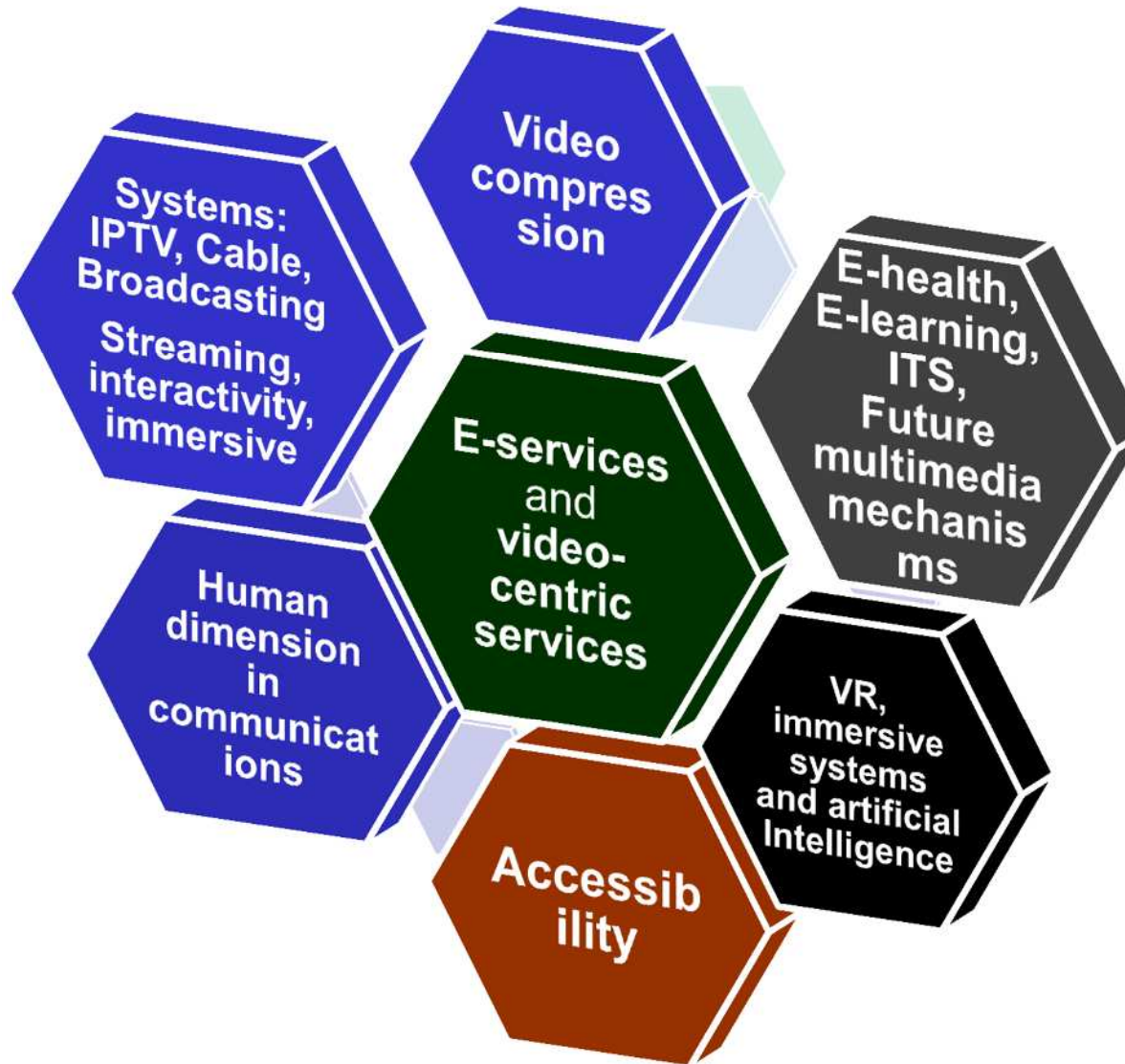
*Charles Zoé BANGA (Central African Rep.); Mohannad EL-MEGHARBEL (Egypt); Mohsen GHOMMAM MALEK (Tunisia); Khusan ISAEV (Uzbekistan); Heber MARTINEZ (Argentina); Marcelo MORENO (Brazil); Hideki YAMAMOTO (Japan)

Questions and Working Party in SG16

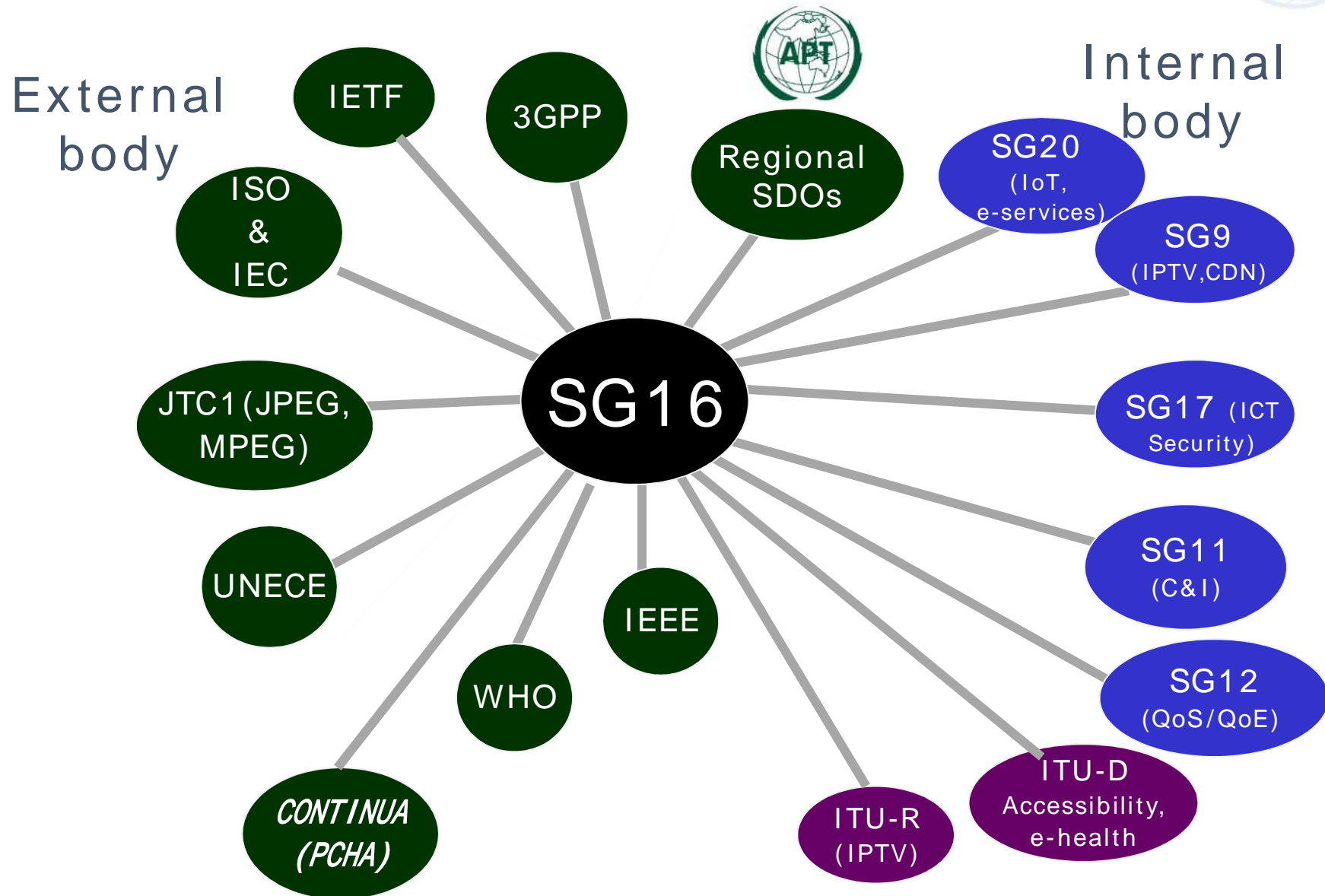


WP	Question	Title
	Q1/16	Multimedia coordination
WP1	Multimedia applications and content delivery	
	Q11/16	Multimedia systems, terminals, gateways and data conferencing
	Q13/16	Multimedia application platforms and end systems for IPTV
	Q14/16	Digital signage systems and services
	Q21/16	Multimedia framework, applications and services
WP2	Multimedia e-services	
	Q24/16	Human factors related issues for improvement of the quality of life through international telecommunications
	Q26/16	Accessibility to multimedia systems and services
	Q27/16	Vehicle gateway platform for telecommunication/ITS services and applications
	Q28/16	Multimedia framework for e-health applications
WP3	Media coding and immersive environments	
	Q6/16	Visual coding
	Q7/16	Speech/audio coding, voiceband modems, facsimile terminals and network-based signal processing
	Q8/16	Immersive live experience systems and services

SG16 application domain



Collaborations





Major accomplishments 1

- **Structure in the new study period:** Study Group 16 agreed to its management-at-large and structure for the 2017-2020 study period, with three working parties to organize the work of the 12
- At this meeting, SG16 established a **JCA on multimedia aspects of e-services** (JCA-MMeS), chaired by SG16 vice-chairman Mr Mohannad El-Megharbel (Egypt). The terms of reference are created, in line with the SG16 mandate assigned by WTSA-16.

WP	Question	Question title
WP1/16	Q13/16	Multimedia application platforms and end systems for IPTV
	Q14/16	Digital signage systems and services
WP2/16	Q26/16	Accessibility to multimedia systems and services
	Q28/16	Multimedia framework for e-health applications
WP3/16	Q8/16	Immersive live experience systems and services



Major accomplishments 1

- **IPTV services:** One new Recommendation was completed: H.763.2 (ex H.IPTV-MAFR.10) "Scalable vector graphics for IPTV services"; approval is expected by March 2017.
- Concerning accessibility profiles for IPTV systems, a corrigendum was Consented for ITU-T H.702 that adds corrections and clarifications; and new Technical Paper HSTP.CONF-H702 was approved, which contains the conformance testing specification for ITU-T H.702. Both documents were refined at the **conformance testing** of a related product that took place during the SG16 meeting.
- In order to facilitate such future activities, SG16 agreed to establish an **IPTV Testing Team** composed of interested SG16 experts.



Major accomplishments 2

- **E-health:** Work was completed on updates were Consented to the personal connected health specifications in the H.810-H.850 series:
 - Experts completed the work on 2 new and 39 revised conformance testing specifications for the third edition of the Continua Design Guidelines (CGD) in the ITU-T H.810 series.
 - A revision was completed of the Technical Paper HSTP.H810-XCHF that explain fundamentals of data exchange within ITU-T H.810 Continua Design Guideline architecture.
 - Experts agreed to start two new work items for developing a framework for telemedicine systems using ultra-high definition imaging, and for developing an issues list for enhancing availability of e-health services and applications in developing countries.
 - Approval of the set of 39 conformance testing specifications is expected for June 2017.
- **Safe listening:** the collaboration with WHO has continued for the development of technical standards for safe listening music players.



Major accomplishments 3

- **Accessibility:** In addition to the updates on accessibility profiles for IPTV systems (see IPTV services above), a new Recommendation ITU-T F.921 (ex H.ACC-ANPV) was consented that specifies key elements of audio-based network navigation systems for persons with vision impairments. Work started to revise ITU-T F.791 with accessibility terms and definitions.
- **Digital multimedia transport:** Common text ITU-T H.222.0 | ISO/IEC 13818-1 is used in most terrestrial and satellite system for transport of audiovisual content.
 - It had two corrigenda and two amendments Consented.
 - They include virtual segmentation (Amd.7) and signalling Wide Colour Gamut (WCG) and High Dynamic Range (HDR) video content in MPEG-2 systems (Amd.8).
 - Corrigendum 2 clarifies STD buffer sizes for HEVC and also addresses miscellaneous editorial issues. Corrigendum 1 to Amd.3 contains a syntax correction for the green extension descriptor.



Major accomplishments 4

- **ILE:** Work progressed for immersive live environments, in addition to a mini-workshop and three new work items (planned completion in 2018):
 - H.ILE-SS "*ILE service scenarios*"
 - H.ILE-Reqs "*ILE requirements*"
 - H.ILE-FW "*ILE architectural framework*"
- **ITS:** Experts completed the work on new Recommendation ITU-T F.749.2 (ex F.VGP-REQ) that defines functional requirements for a vehicle gateway platform, including communication requirements, service requirements and a description of various use cases and scenarios. Additionally, they agreed to prepare a new technical paper with a gap analysis of vehicle gateways defined by SDOs, for completion later this year.



Major accomplishments 5

- **Video coding:** Version 12 of the Emmy Award winning ITU-T H.264 [V12, [TD 81/Plen](#)] was completed at this meeting. Work was also completed on new Supplement 15 to the H-series Recommendations with a report on conversion and coding practices for HDR/WCG Y'CbCr 4:2:0 video with PQ transfer characteristics. The discussions towards a new generation video compression standard continued within the informal Joint Video Exploration Team (JVET) with MPEG, as well as within the formal Joint Collaborative Team (JCT) on Video Compression. At this meeting, it was agreed by SG16 and MPEG to launch a Preliminary Joint Call for Evidence on Video Compression with Capability beyond HEVC, and to issue a document clarifying the requirements for Future Video Coding (H.FVC) [[TD 64R1/Plen](#) Annexes Q6.A and Q6.B]

Major accomplishments 6



- **Visual surveillance:** One new Recommendation was completed in this field, ITU-T H.627.1 (ex H.VSMprot) on protocol specifications enabling interoperable mobile visual surveillance [[TD 86/Plen](#)]. Started new work for architecture for cloud computing in visual surveillance [[TD 53/WP1](#)] and on requirements for big data application in visual surveillance system [ITU-T F.VSBD in [TD 52/WP1](#)]
- **Speech to speech translation services:** an updated version of ITU-T H.625 that defines the architecture for network-based speech-to-speech translation services was consented [[TD 92/Plen](#)].



Major accomplishments 7

- **Comic and animation format:** work was completed for T.621 (ex F.MAFFReqs) that specify file structure for interactive mobile comic and animation content [[TD 75R1/Plen](#)]. This specification defines an interactive mobile comic and animation file structure used in the organization and storage of mobile animation contents and can be used as a guideline for creation, processing, transmission and play of mobile animation contents.
- **Civilian unmanned aerial vehicles:** A new work item was started to specify requirements for civilian unmanned aerial vehicle communication services (ITU-T F.CUAV [TD 50/WP1](#)), expected to be completed in 2019.



Major accomplishments 8

- **Blockchains:** SG16 agreed with the proposal to start new works towards a Recommendation specifying requirements for distributed ledger services (ITU-T F.DLS; initial draft in [TD 51/WP1](#)), expected to be completed in 2019.
- Three additional Recommendations were completed for multimedia framework, applications and services:
 - **Content delivery:** ITU-T F.743.4 (ex F.VCDN-Req) "*Functional requirements for virtual content delivery networks*" [[TD 91/Plen](#)]
 - **Information-centric networks:** ITU-T F.746.4 (ex F.DICNReq) "*Requirements for deployment of information centric networks*" [[TD 89/Plen](#)]
 - **Energy management:** ITU-T F.747.9 (ex F.EMSarch) "*Requirements and architecture for energy management services*" [[TD 90/Plen](#)]



Next meeting

Meeting name	Date	Venue
Q8/16, Q13/16, Q14/16, Q26/16, and Q28/16 collocated rapporteur group meeting, and JCA on Multimedia aspects of e-services	8 – 12 May	ITU head office, Geneva
Q21/16 rapporteur group meeting	June	China
Q27/16 rapporteur group meeting	13 March	Mitsubishi Electric / Rennes, France
Q27/16, Q6/17 joint rapporteur group meeting	27 March	ITU head office, Geneva
Q27/16 rapporteur group meeting	June - July	-
Q6/16 & JCT-VC & JVET	31 March - 7 April	ISO/IEC JTC 1/SC 29/ WG 11/ Hobart, AU
Q6/16 & JCT-VC & JVET	14–21 July	ISO/IEC JTC 1/SC 29/ WG 11/ Turin, Italy
SG16	16-27 October	Macao, China,



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