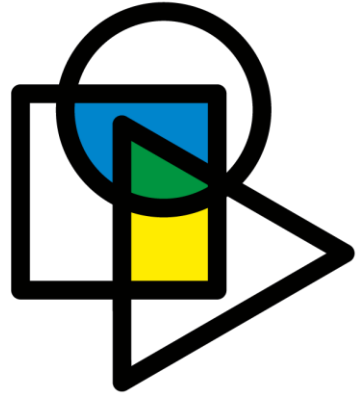


WORLD TELECOMMUNICATION  
STANDARDIZATION ASSEMBLY



# ITU WTSA-20

GENEVA2022

1- 9 March 2022  
Geneva, Switzerland

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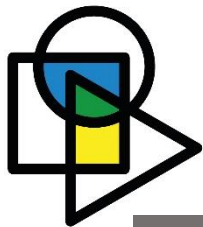
## ITU-T STUDY GROUP 16

### Multimedia

Highlights and future directions

Noah Luo, Chairman ITU-T SG16



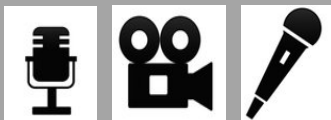


# ITU-T SG16 Multimedia



Advanced multimedia communication

Speech-to-speech translation, Intelligent Visual system and services, AI-enabled multimedia



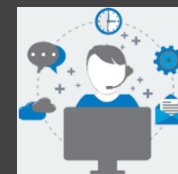
Multimedia systems and services

Digital Culture DLT services IPTV, Digital Signage, Intelligent Transportation Systems, E-health, Accessibility,



Media Coding

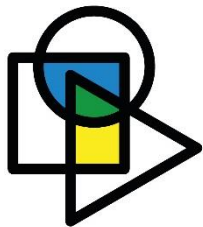
Audio, video and data compression Immersive life experience AI-enabled multimedia



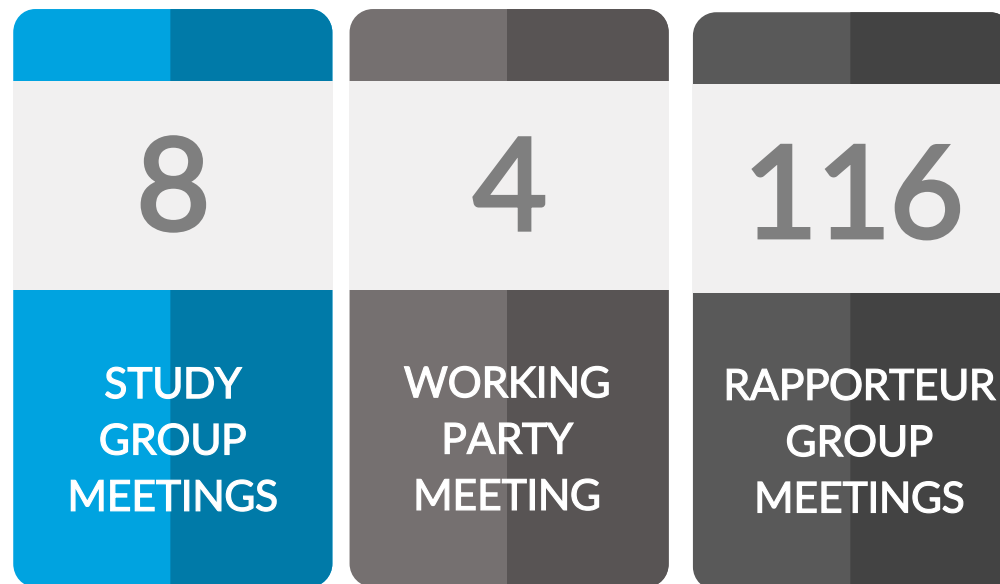
Legacy systems

Videoconferencing/telepresence, Media gateways, Network signal processing, Echo cancellation, Noise reduction, Voiceband data (*modems, fax, text telephony*)





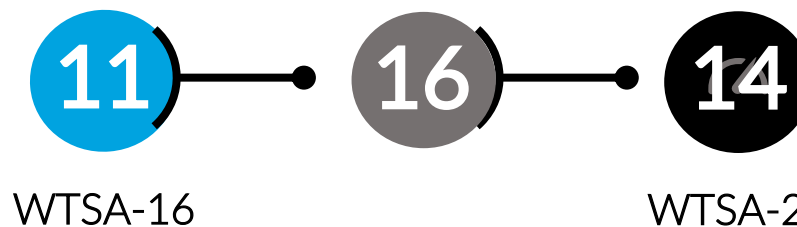
# Results

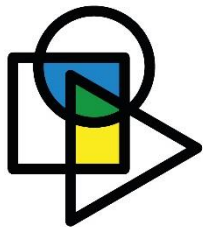


Significant collaborative work with:

- ISO/IEC
- IEEE
- IETF
- 3GPP

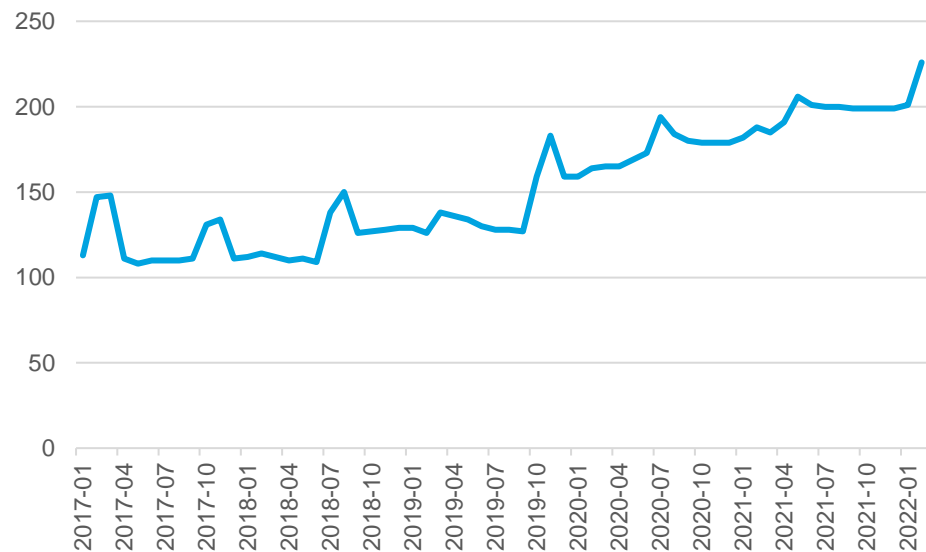
Questions: slimer, stronger, focused and consolidated



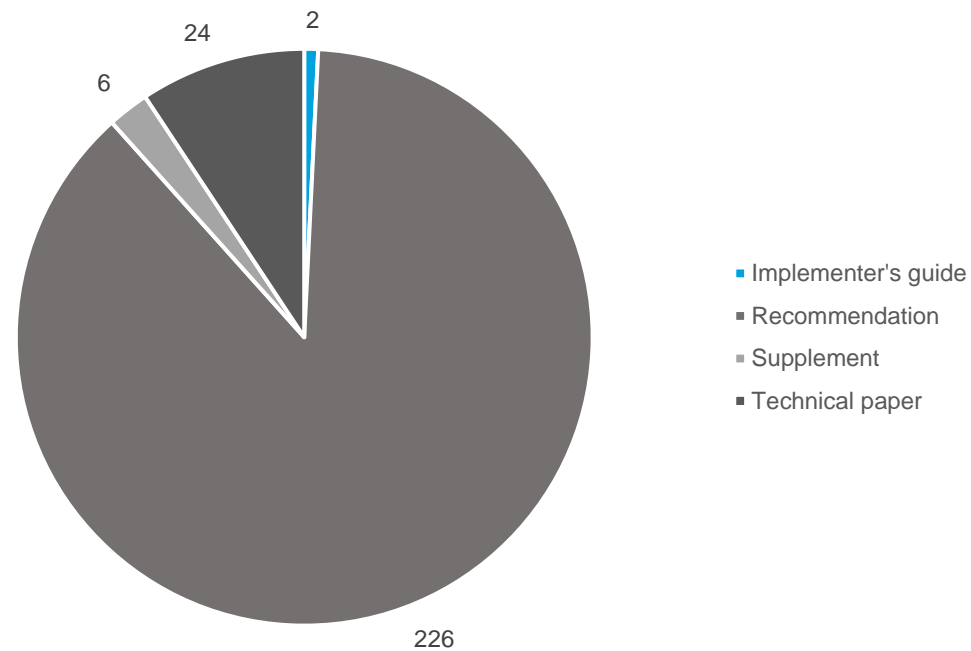


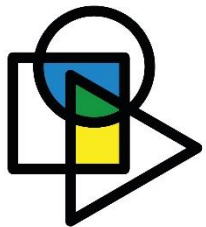
# Results

## Work items under study



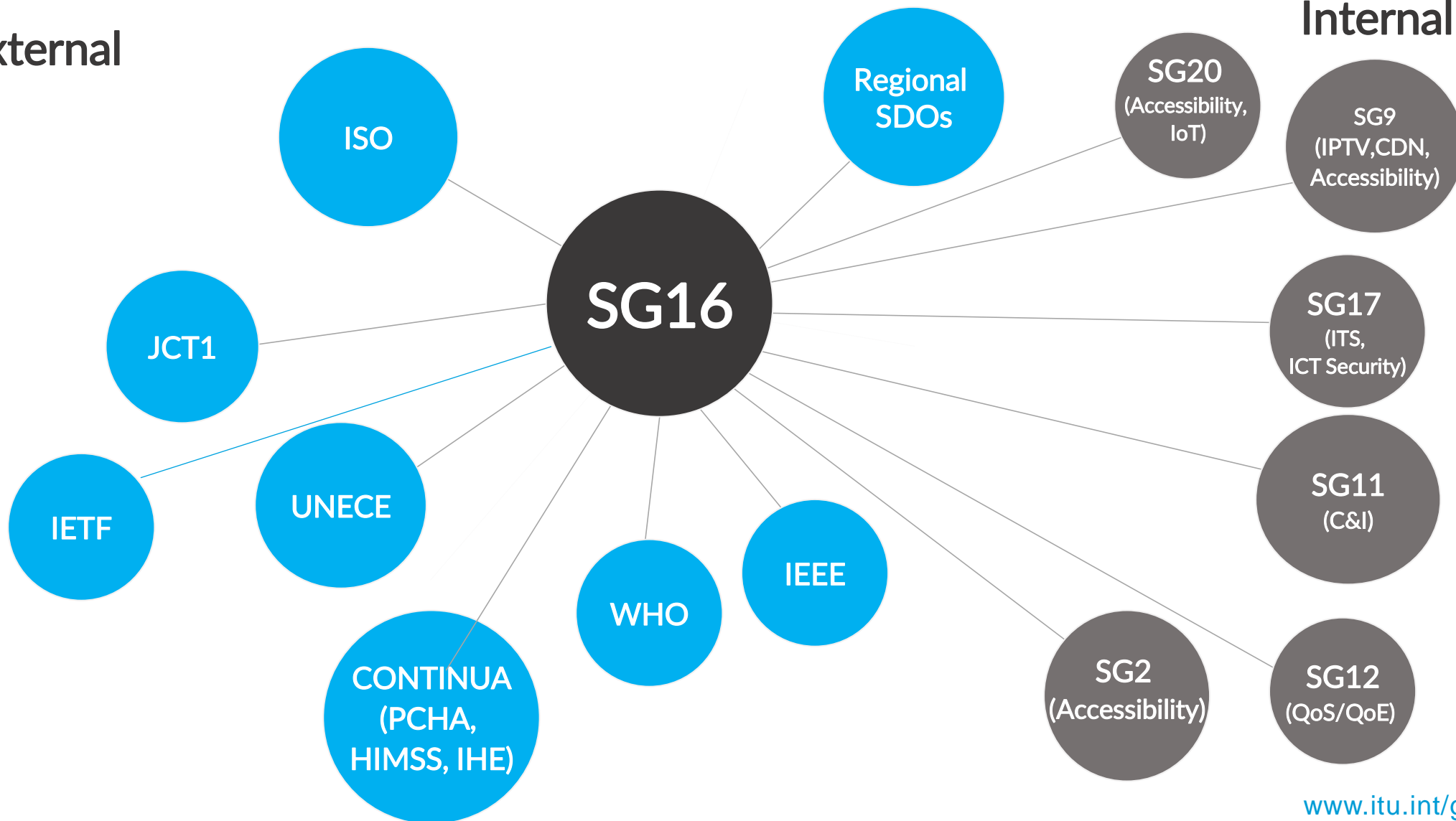
## Texts approved



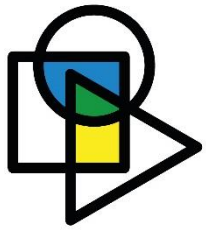


# Collaboration

External



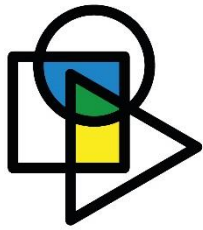
Internal



## Trends

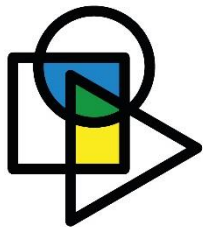
**Maturity in  
classical  
areas abreast  
with AI and  
other enabling  
technologies**

**Growth in  
digital services  
and video-  
centric services**

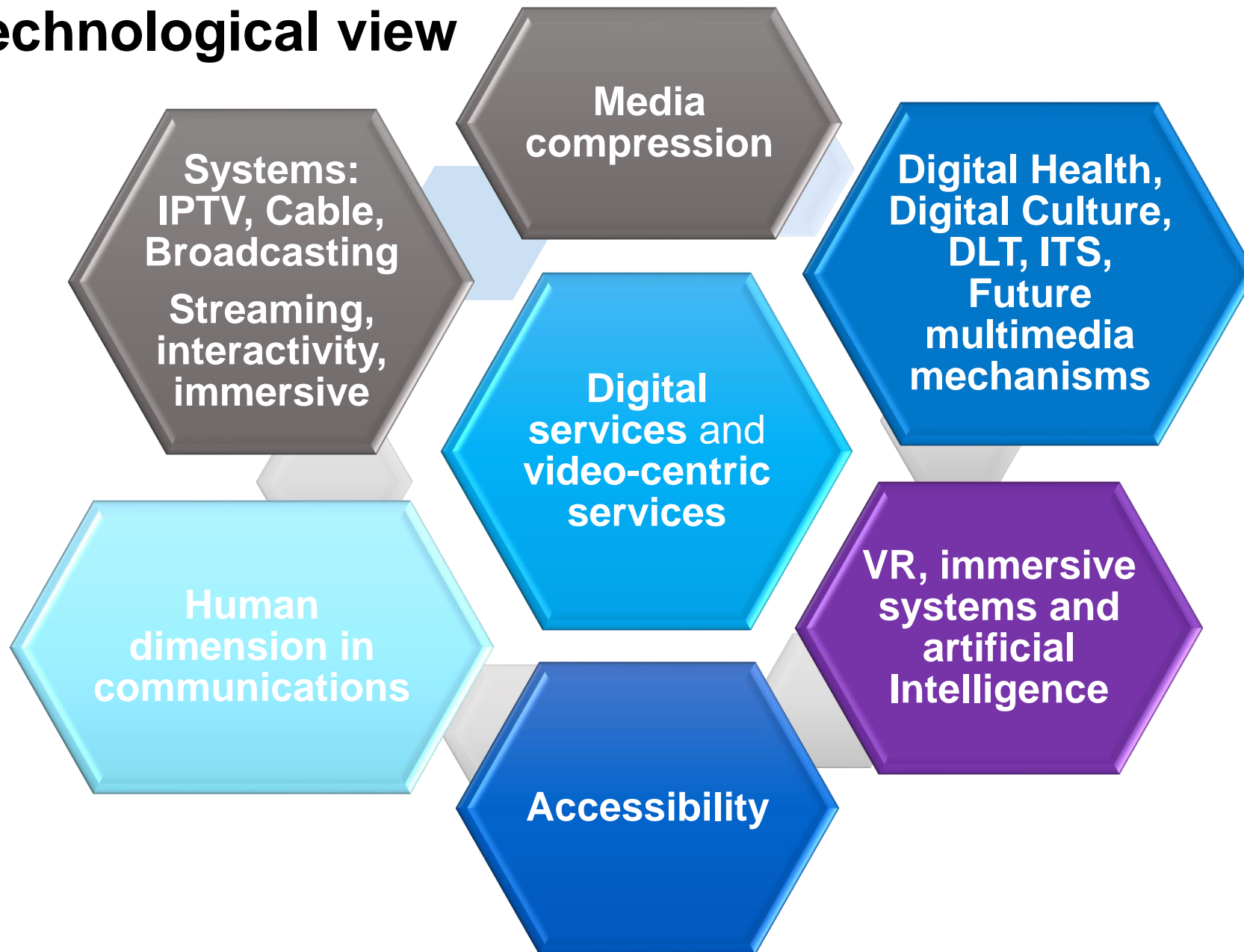


## Three aspects moving forward

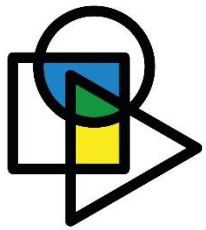
- Traditional multimedia services, application and systems: continuation of existing lines of work for “conventional ICTs”
- Vertical-industry oriented services: ICTs application focused on needs of specific sectors
  - Finance and banking sector
  - Health sector
  - Culture sector
  - Entertainment sector
  - Transport sector
  - ...
- Enabling technologies: producing high-quality, reusable building blocks



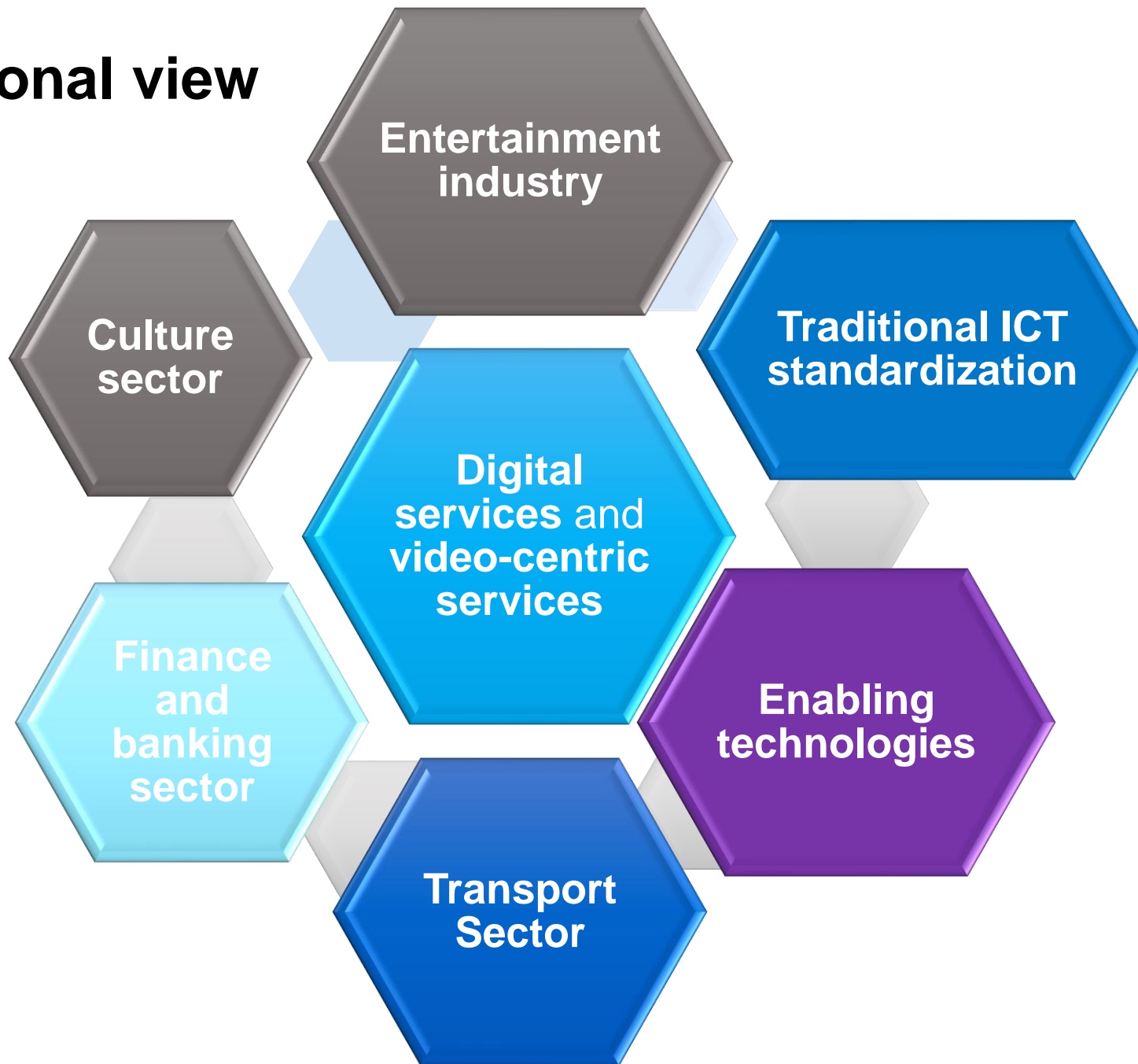
## Technological view







## Functional view





# Digital Services

Combined use of ICTs for service delivery:



Healthcare



Education



Commerce



Entertainment



Culture

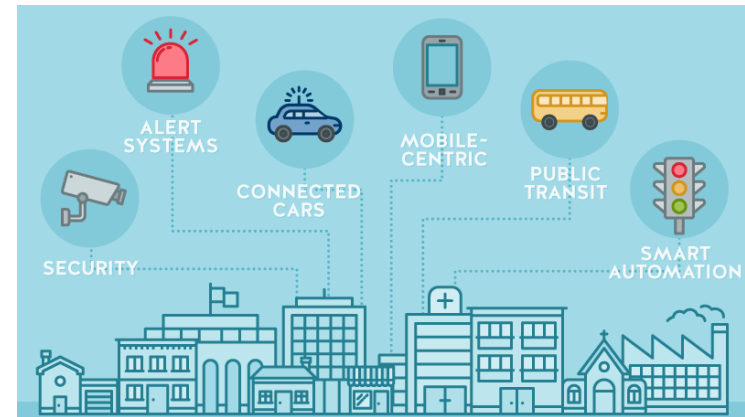


Transportation

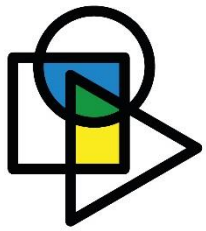
Distribution and delivery of e-services:

# CHANNEL AGNOSTIC

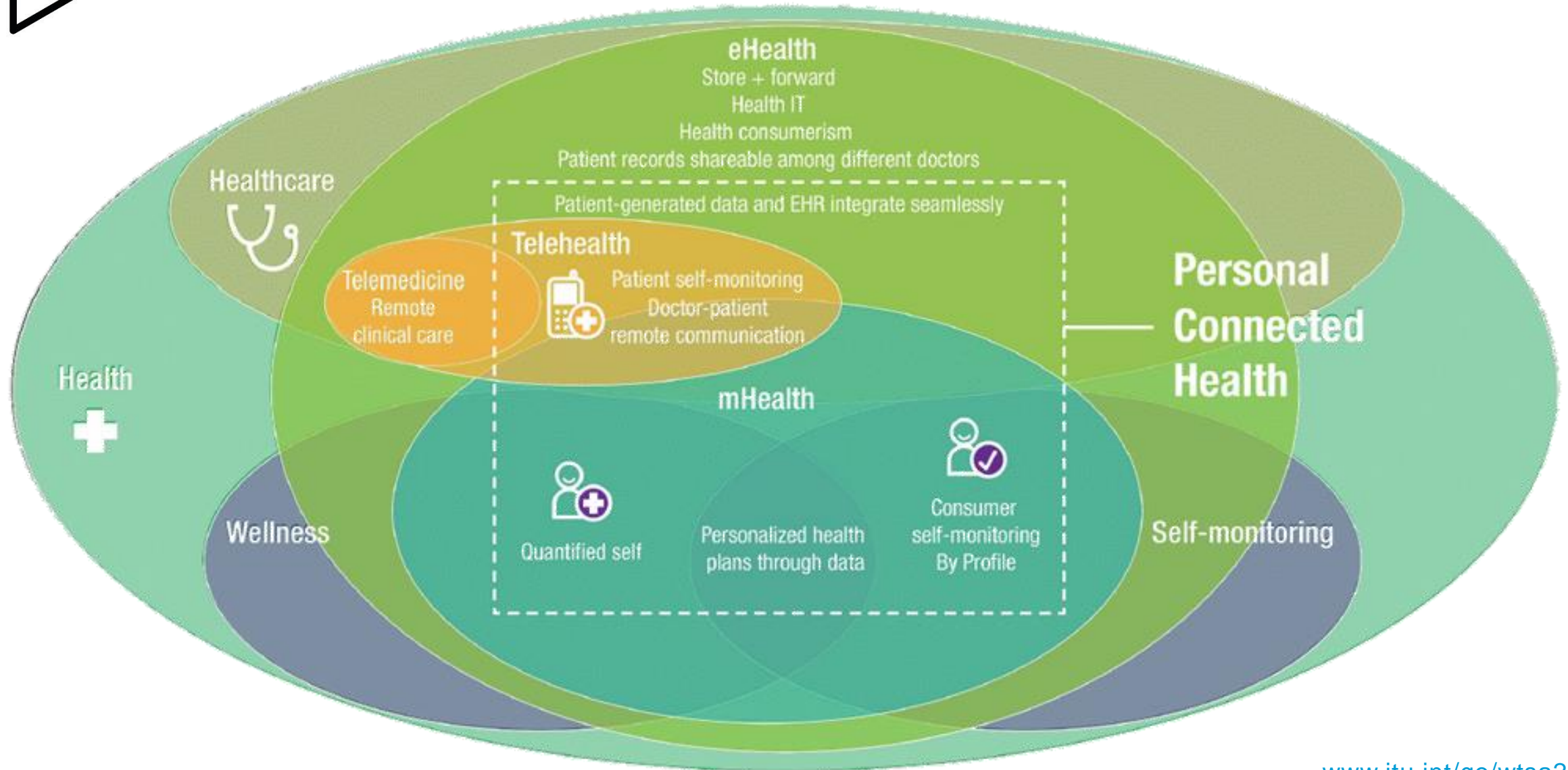
The **building blocks and delivery platforms** developed by SG16 are used to enable applications in specific areas

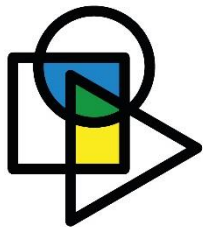


*Example: Smart cities and communities by SG20*

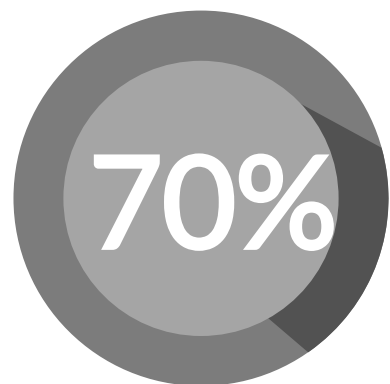


# Digital Health





## Video contents – a strategic area



of Internet Traffic  
was video in 2015



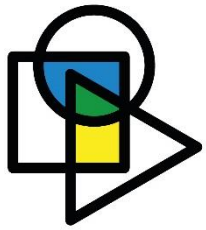
Forecast  
for 2022

Opportunities for revenue generation

Video compression: new H.266 approved

Higher demand → more efficient compression mechanisms

New IP-based digital TV systems



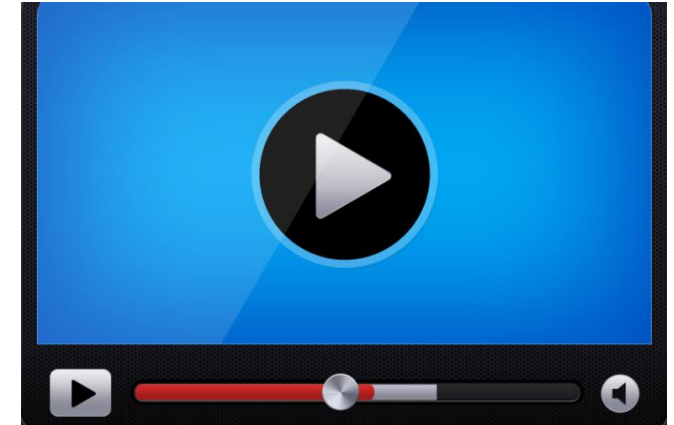
# Use of digital video



Consumer electronic video equipment



Digital TV broadcast & cable;  
Digital TV sets



Internet video  
Over-the-top (OTT)

Artificial Intelligence

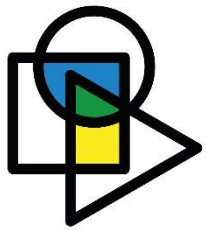
IPTV  
Digital Signage



Over-the-top (OTT) applications



Mobile: 4G / 5G

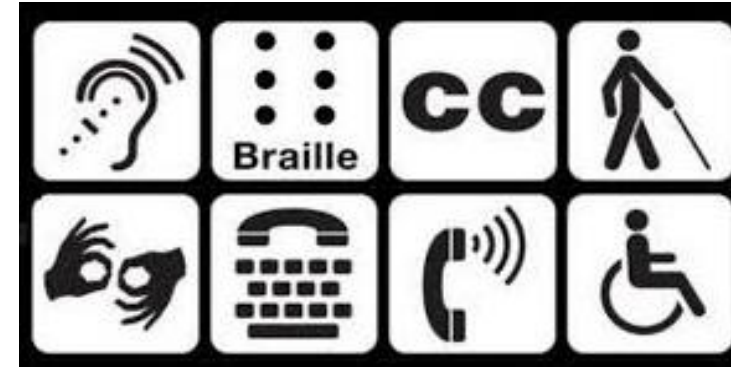


# Future areas for video

Besides going after the "best and newest" video codec... it matters what you do with video



Future IP-based broadcasting



Accessibility



Artificial Intelligence

**REAL TIME  
STREAMING**



Delivery of high volume  
of video content

# CONCLUSION



SG16 "Multimedia" continued to be very productive during the study period



Work growth in digital services and video-centric services and components, empowering various industry verticals in their Digital transformation



Growth of video consumption drives newer codecs, systems and applications

