

STANDARDS

**“STANDARDS FOR INFORMATION
COMMUNICATION TECHNOLOGIES”**

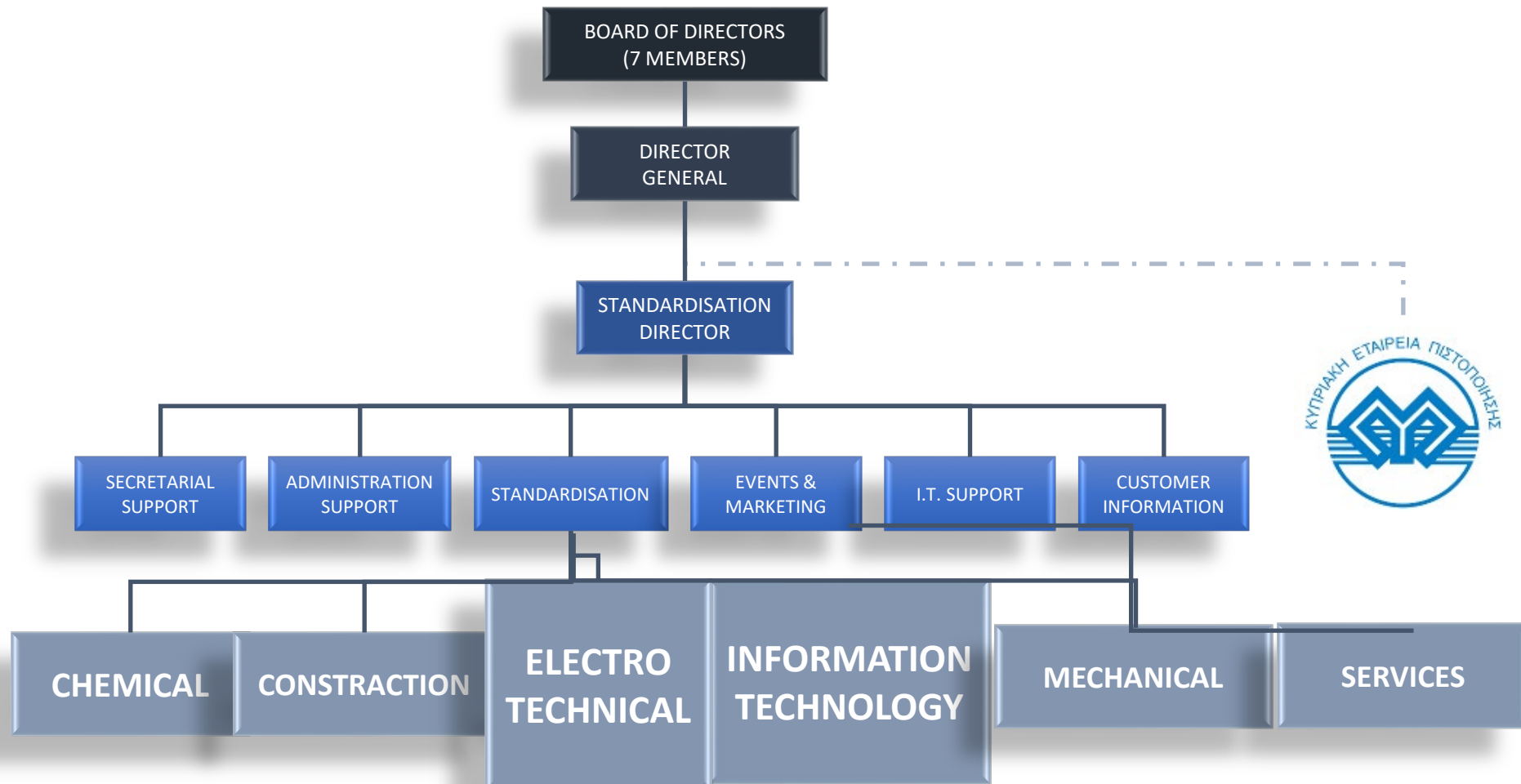
National Standardization Organizations

34 full members



<p>Austria</p> 	<p>Estonia</p> 	<p>Hungary</p> 	<p>Malta</p> 	<p>Slovakia</p> 
<p>Belgium</p> 	<p>Finland</p> 	<p>Iceland</p> 	<p>Netherlands</p> 	<p>Slovenia</p> 
<p>Bulgaria</p> 	<p>France</p> 	<p>Ireland</p> 	<p>Norway</p> 	<p>Spain</p> 
<p>Croatia</p> 	<p>FYROM</p> 	<p>Italy</p> 	<p>Poland</p> 	<p>Sweden</p> 
<p>Cyprus</p> 	<p>Germany</p> 	<p>Latvia</p> 	<p>Portugal</p> 	<p>Switzerland</p> 
<p>Czech Republic</p> 	<p>Greece</p> 	<p>Lithuania</p> 	<p>Romania</p> 	<p>Turkey</p> 
<p>Denmark</p> 	<p>Luxembourg</p> 	<p>Serbia</p> 	<p>United Kingdom</p> 	

ORGANIZATIONAL CHART



CYS MEMBERSHIP STATUS



European Committee for Standardization



International Standards Organization



European Committee for Electrotechnical Standardization



International Electrotechnical Committee



European Telecommunication Standards Institute



International Telecommunications Union



Main Activities of CYS

Managing the Standardisation System in Cyprus

Informative lectures & seminars

Training seminars/courses

Visits/meetings with the industry

Publications

Articles (Mass Media)

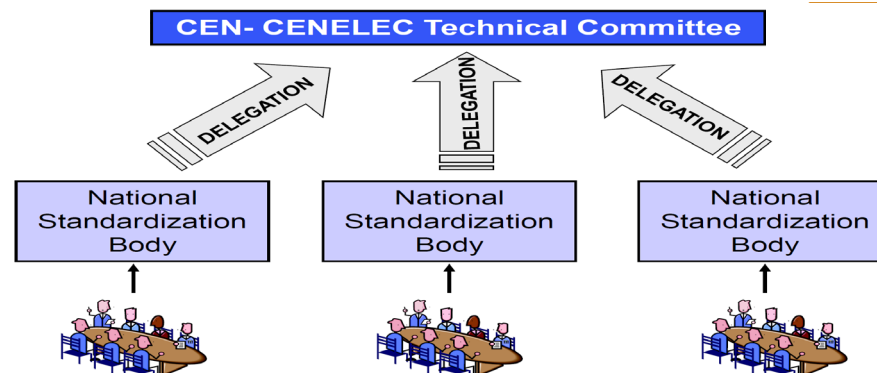
Managing the Standardization System



National Mirror Committees



- National Standardization Bodies set up Mirror Committees that monitor the work of European and International Technical Committees.
- The National experts inside 'mirror committees' in CYS represent and develop the National position on European and International DRAFT Standards. (Professional associations, Telecom Companies, Departments of Electronic Communications, Ministries, Individual Experts).



Examples of National Mirror Committees



14.3	Sustainable and Resilience Cities
6.03	Waste Management
8.01	Telecommunication Equipment
8.02	Telecommunication Technologies
8.03	Blockchain and Distribute Ledger Technology (DLT)
8.04	Artificial Intelligence
8.05	On-line Gambling
8.06	Cybersecurity and Data Protection
8.08	Space
13.09	Financial Services
15.04	Intelligent Transport Systems

MIRROR COMMITTEES



National Mirror Committees in ICT observe the International and European Draft Standards for:

- Telecommunications Technologies
- Blockchain and Distributed Ledger Technologies
- Intelligent Transport Systems
- Artificial Intelligence
- Cybersecurity and Data Protection





CEN-CENELEC ICT Standardization activities

Who we are & Where do we fit in



International
Standards
Bodies



Vienna, 1991
(>30%)



Frankfurt, 2017
(>75%)



European



National

National
committees

National standards
bodies

Industry, SMEs, federations, researchers, academia,
Regulators, other stakeholders...

More than **200 000** experts are connected

- ❖ **800** European industry federations and societal stakeholder organizations
- ❖ **30 000** experts in CEN and CENELEC
- ❖ **55 000** experts in ISO and IEC
- ❖ **160 000** participants in national mirror committees

CEN & CENELEC Standardization : Sectors and Topics

CEN

Bio-based products
Chemicals
Construction
Food
Heating, Ventilation and Air
Conditioning (HVAC)
Materials
Nanotechnologies
Pressure equipment
Services

CEN & CENELEC

Air and Space
Consumer products
Electric Vehicles
Energy and utilities
Health and safety
Healthcare
ICT
Machinery safety
Measurement
Medical equipment
Railways
Security and Defence
Smart Grids / Smart Meters
Transport and Packaging

CENELEC

Electrical engineering
Electromagnetic Compatibility
(EMC)
Fibre-optic communications
Fuel Cells
Household Electrical Appliances
Solar (photovoltaic) electricity
systems

Cross-sectoral issues

Accessibility | Environmental Protection | Energy-efficiency (Eco-Design)

ICT- CEN related standardization Committees

Cyber Security (CEN-CLC/JTC 13)	Quantum Technologies CEN/CLC JTC 22	Smart Meters (CLC/TC 11, CLC/TC 205, CEN/TC 294)	E-Signatures (CEN/TC 224)
ICT competences (CEN/TC 428)	Blockchain (CEN/CLC JTC 19)	Broadband infrastructure (CEN/TC 209, CLC/TC 215)	Advanced Manufacturing (CEN/TC 310, CEN/TC 438)
Construction BIM (CEN/TC 442)	eHealth (CEN/TC 251)	RFID (CEN/TC 225)	eProcurement (CEN/TC 440)
Intelligent Transport Systems (CEN/TC 278)	ICT environmental impact (CLC/TC 215, CLC/TC 205)	eAccessibility (CEN-CLC-ETSI JWG)	Smart Grids (CLC/TC 57, 85X, 59X...)
eInvoicing (CEN/TC 434)	Digitalization of Insurance Industry CEN TC 445	Smart Cities (CEN-CLC-ETSI Sector Forum)	Artificial Intelligence (CEN/CLC JTC 21)



The Standards People

European Telecommunications
Standards Institute

ETSI at a **Glance:**

ICT Standards
Organization



We are at the Heart of Digital & Driving Innovation



• At ETSI, Members:

- Are at the forefront of emerging technologies
- Benefit from close relationships with research bodies
- Gain a competitive advantage through early adoption of the latest standards in the R&D road map
- Collaborate with open source projects
- Advance and promote new concepts within the community
- Bring fresh innovation and industry insights to ETSI's working methods

ETSI Members shape:

- ✓ 5G
- ✓ Internet of Things
- ✓ Cybersecurity
- ✓ Network Virtualization
- ✓ Artificial Intelligence
- ✓ Multi-access Edge Computing
- ✓ Blockchain
- ✓ Quantum Safe Cryptography
- ✓ Radio
- ✓ ...and many others



We are Global

- Direct member participation and contribution from all over the world in an open & inclusive environment, facilitating that ETSI standards are accepted globally
- More than 100 strategic partnership agreements, driving global standardization
 - With numerous fora and consortia
 - With international and regional Standards Development Organizations (SDOs)
- 3GPP
 - Over 780 members from worldwide telecommunications SDOs
 - Provides system specifications for cellular telecommunications network technologies up to 5G
- oneM2M
 - More than 200 players from worldwide telecommunications SDOs
 - Provides a horizontal layer of functions to support applications and services for the Internet of Things



ETSI Technical Committees and Projects on ICT

ATTM Access, Terminals, Transmission and Multiplexing	BRAN Broadband Radio Access Networks	ESI Electronic Signatures and Infrastructures	HF Human Factors	RT Railway telecommunications	SAFETY Safety
BROADCAST EBU/CENELEC/ETSI on Broadcasting	CABLE Integrated broadband cable telecommunication networks	INT Core Network and Interoperability Testing	ITS Intelligent Transport Systems	SCP Smart Card Platform	SES Satellite Earth Stations & Systems
CYBER Cyber Security	DECT Digital Enhanced Cordless Telecommunications (DECT)	LI Lawful Interception	MSG Mobile Standards Group	SmartBAN Smart Body Area Network	SmartM2M Smart M2M
EE Environmental Engineering	eHEALTH eHEALTH	MTS Methods for Testing & Specification	NTECH Network Technologies	STQ Speech and multimedia Transmission Quality	TCCE TETRA and Critical Communications Evolution
EMTEL Emergency Communications	ERM EMC and Radio Spectrum Matters	OSM OpenSource MAND	RRS Reconfigurable Radio Systems	USER User Group	



Standards for Information Communication Technologies



ISO/IEC JTC 1



ISO IEC/ JTC 1 Standards for Information Communication Technologies



JTC 1 is committed to developing, maintaining, promoting and facilitating information technology (IT) standards required by global markets meeting business and user requirements. The standards apply to the following areas:

- Design and development of IT systems and tools
- Performance and quality of IT products and systems
 - Security of IT systems and information
 - Portability of application programs
- Interoperability of IT products and systems
 - Unified tools and environments
 - Harmonized IT vocabulary
- User friendly and ergonomically designed user interfaces

ISO/IEC Technical Committees on ICT



SCs	Title
JTC 1/WG 6	Corporate Governance of IT
JTC 1/WG 7	Sensor networks
JTC 1/SC 2	Coded character sets
JTC 1/SC 6	Telecommunications and information exchange between systems
JTC 1/SC 7	Software and systems engineering
JTC 1/SC 17	Cards and personal identification
JTC 1/SC 22	Programming languages, their environments and system software interfaces
JTC 1/SC 23	Digitally Recorded Media for Information Interchange and Storage
JTC 1/SC 24	Computer graphics, image processing and environmental data representation
JTC 1/SC 25	Interconnection of information technology equipment
JTC 1/SC 27	IT Security techniques
JTC 1/SC 28	Office equipment
JTC 1/SC 29	Coding of audio, picture, multimedia and hypermedia information
JTC 1/SC 31	Automatic identification and data capture techniques
JTC 1/SC 32	Data management and interchange
JTC 1/SC 34	Document description and processing languages
JTC 1/SC 35	User interfaces
JTC 1/SC 36	Information technology for learning, education and training
JTC 1/SC 37	Biometrics
JTC 1/SC 38	Cloud Computing Distributed application platforms and services (DAPS)

ISO/IEC Technical Committees/SCs/WGs on ICT

SCs	Title
ISO/IEC JTC 1 SC 39	Sustainability of IT and Data Centres
ISO/IEC JTC 1 SC 40	IT Service Management and IT Governance
ISO/IEC JTC 1 SC 41	Internet of things and Digital Twins
ISO /IEC JTC SC 42	Artificial Intelligence
ISO /IEC JTC SC 41	Brain Computer Interfaces
ISO TC 307	Blockchain and Distributed Ledger Technologies
ISO/IEC JTC 1/WG 11	Smart Cities
ISO/IEC JTC 1/WG 12	3D Printing and scanning
ISO/IEC JTC 1/WG 13	Trustworthiness
ISO/IEC JTC 1/WG 14	Quantum information technology





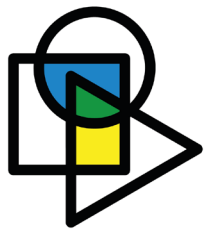
INTERNATIONAL
TELECOMMUNICATIONS UNION



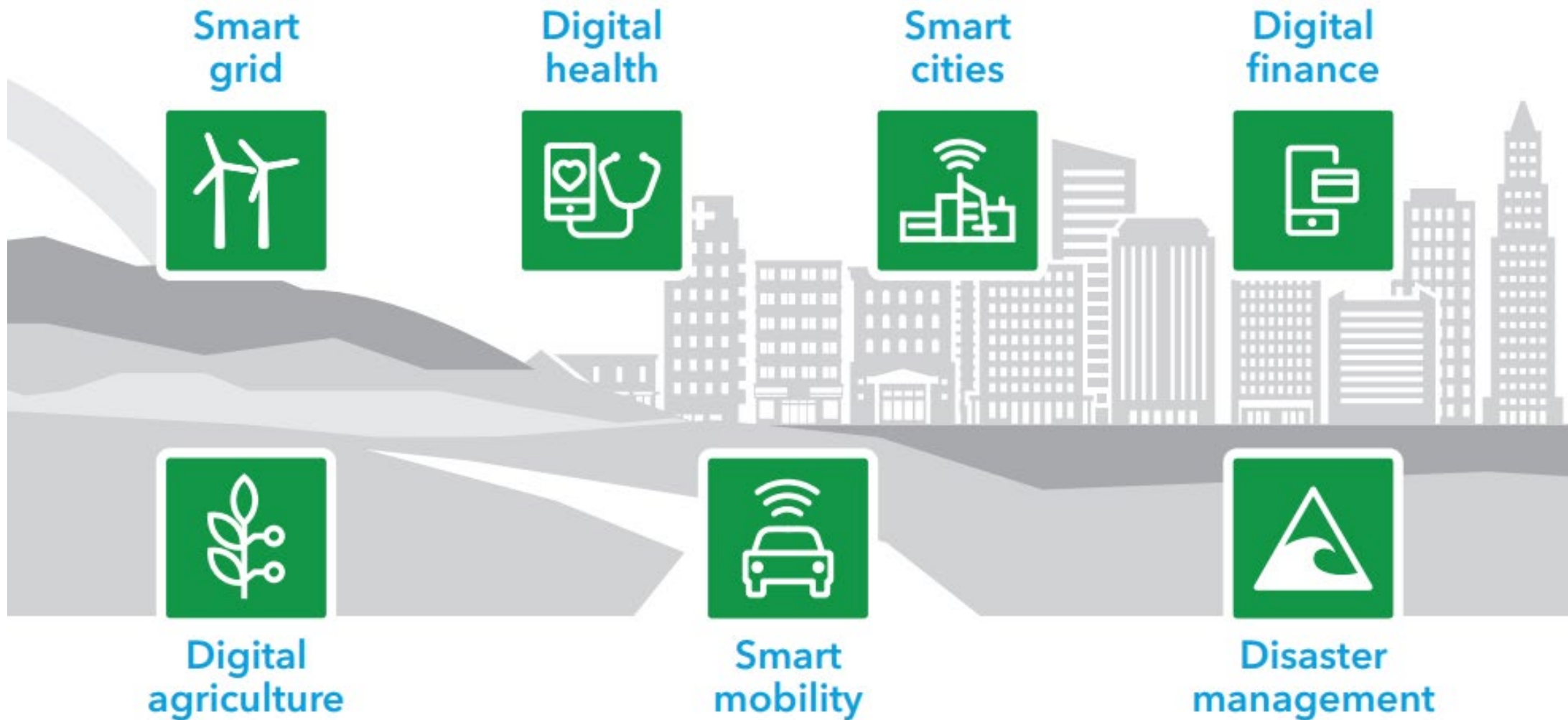
Setting the standard

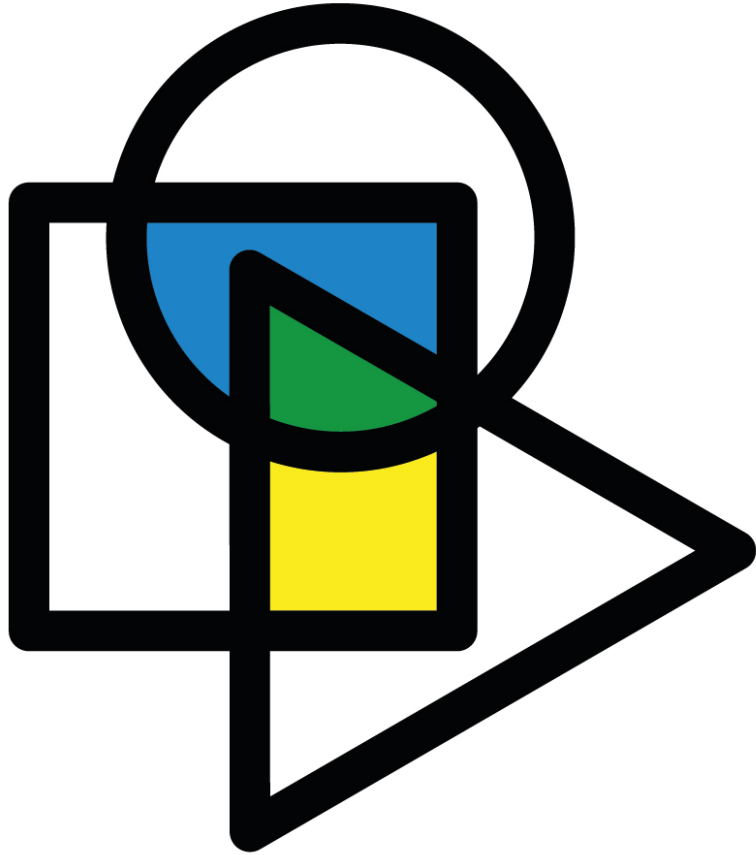
Building trust by consensus





DIGITAL TRANSFORMATION





ITU Study Groups (SG)



SG2 ACHIEVEMENTS

- Enhanced **responses to misuse** reports
- Updated **guidance for international calling party number** delivery across national boundaries
- International identification plan updates for private networks, trials and ROIOs
- **Smart/REST-based** network management
- Supplements on **number portability**, criteria for E.164/E.212 assignments for **M2M/IoT**, and **disaster relief systems**



SG3 ACHIEVEMENTS

- **Collaborative framework** for OTTs
- Enabling environment for **voluntary commercial arrangements** between telecom network operators and OTT providers
- **Customer redress** and **consumer protection** mechanisms for OTTs



SG5 ACHIEVEMENTS

- Protection and reliability, EMF and EMC
- Power feeding and energy storage
- **Sustainable** data centres and **smart** energy solutions
- Sustainable cities and buildings
- **Circular economy, supply chain** and **e-waste**
- Assessment and climate actions towards **net zero**



SG9 ACHIEVEMENTS

- Transmission systems for interactive cable TV services – **IP cable modems** (4th generation and 5th generation DOCSIS)
- Embedded **common interface** for exchangeable CA/DRM solutions
- Framework for **AI-assisted premium** cable network platforms
- Cable TV **hybrid set-top** box compatible with terrestrial and satellite TV transport
- Open access and signal quality for TV content distribution platforms
- Supplement on installing a digital TV service for cable networks





SG16 ACHIEVEMENTS



H.265



H.264



JPEG

- **H.266** Versatile Video Coding
- Personal **connected health** devices
- Safe listening of portable audio devices
- Application of **distributed ledger technology**
- **Multimedia accessibility**
- Growing work on **digital services** and **video-centric services** and components for **vertical markets**



SG17 ACHIEVEMENTS

- **Quantum-based** security and **distributed ID**
- **Identity** management
- Cybersecurity
- Cloud computing security
- Security aspects of **distributed ledger technology**
- New **incubation mechanism** (emerging technologies)



SG20 ACHIEVEMENTS

- **Requirements** and use cases
- Infrastructure and architecture
- **Interoperability**
- **Data processing** and **management**
- **Evaluation** and **assessment**
- Identification and security

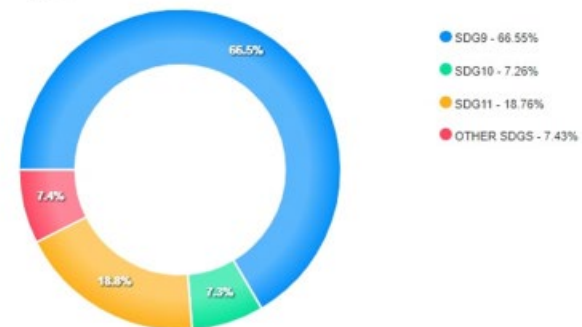


MAPPING TO SDGs

Activity title
ITU-T IMT 2020 (2017): ITU-T Focus Group IMT-2020 Deliverables

Source document

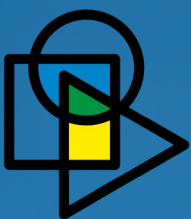
Mapped SDGs: (by AI)

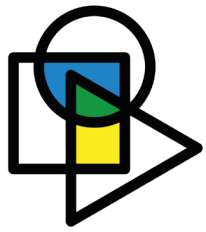




Setting the standard

Focus groups & initiatives



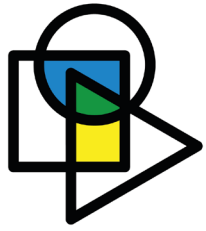


CONCLUDED FOCUS GROUPS

- **Quantum** information tech for networks
- **Machine learning** for future networks including 5G
- Technologies for **network 2030**
- Application of **distributed ledger technology**
- **Digital currency** including digital fiat currency
- **Data processing and management** to support IoT and smart cities and communities



**Concluded
focus groups**



ACTIVE FOCUS GROUPS

- **Testbeds federations** for IMT-2020 and beyond
- AI and IoT for **digital agriculture**
- AI for **natural disaster management**
- **Autonomous networks**
- AI for **assisted and autonomous driving**
- **Environmental efficiency** for AI and other emerging tech
- **AI for health**
- **Vehicular multimedia**



Active focus groups



Ways of Engagement in Standardization !!!!



- 1) Through the Cyprus Organization for Standardization (CYS), we automatically register you on the electronic platforms of the related committees and you can monitor the standardization work online.**
- 2) Face to Face participation or Virtually at the Plenary meetings or Working Groups of the International and European Technical Committees with responsibilities that vary according to which Organization you will decide to participate.**

Communication / Contact with CYS



Joseph Karis

✉: j.karis@cys.org.cy

Stefanos Gurov

✉: s.gurov@cys.org.cy



CYPRUS ORGANISATION FOR STANDARDISATION

☎ 22.411.411

✉ : cystandards@cys.org.cy

💻 www.cys.org.cy

30 Kosta Anaxagora Street
3rd Floor, CY 2014 Nicosia
P.O. Box 16197, CY-2086

Thank you

www.cys.org.cy

