



STANDARDS

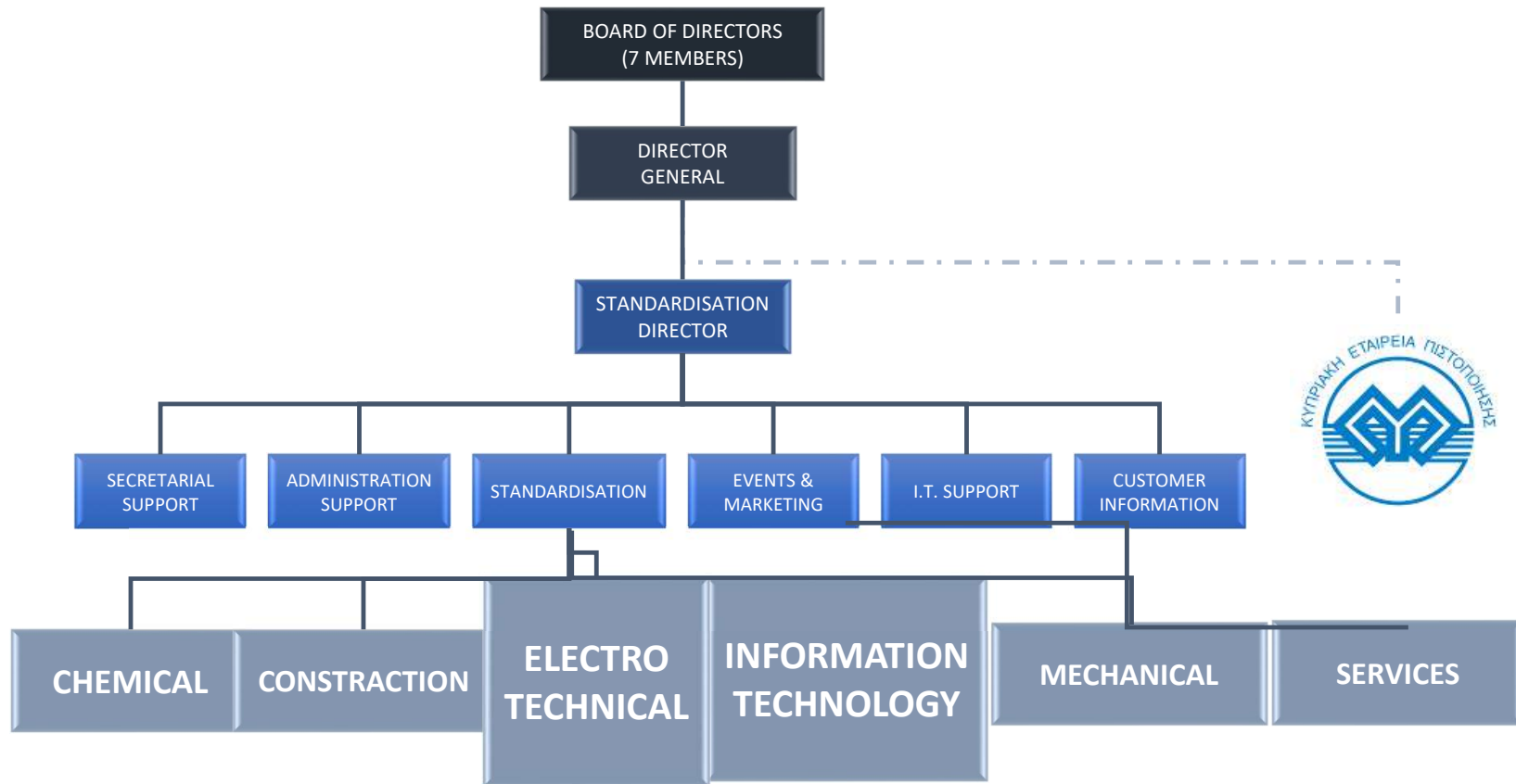
ICT Standardization CYS

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ORGANIZATIONAL CHART



European and International Standards Organizations



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)

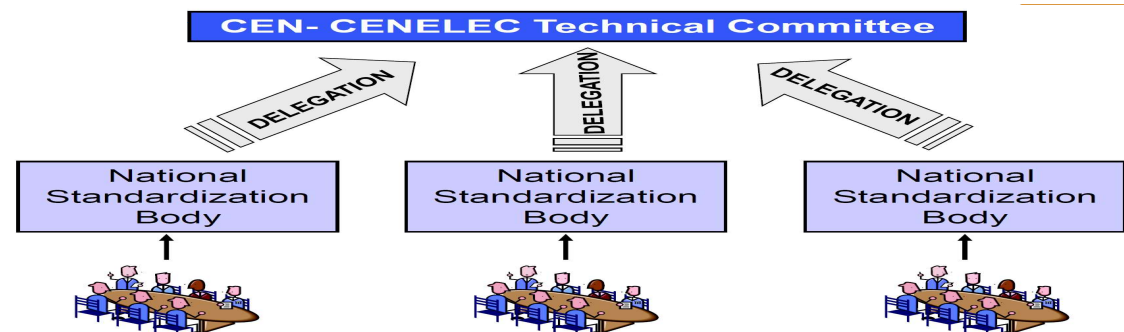
Managing the Standardization System....



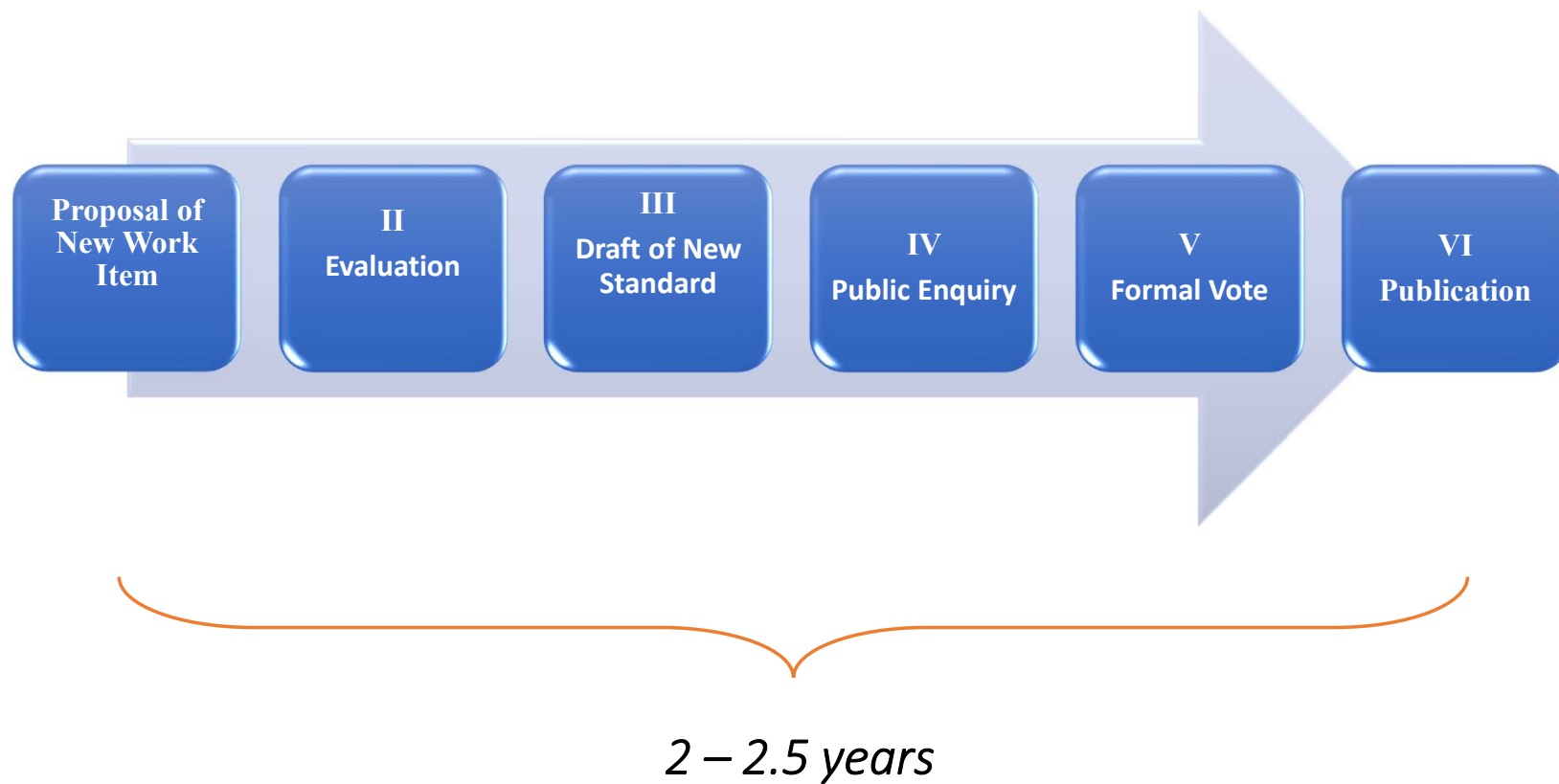
National Mirror Committees under CYS



- NSBs 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).



Standards Development Lifecycle



MIRROR COMMITTEES



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

- Telecommunications Technologies
- Blockchain and Distributed Ledger Technologies
- Intelligent Transport Systems
- Artificial Intelligence **"ISO/IEC SC 42 & CEN/CLC JTC 21"**
- Cybersecurity and Data Protection





Cyprus Engagement in International and European Standardization



Cyprus Engagement through local Technical Experts in the following Sub Committees JTC 1:

- Blockchain and Distributed Ledger Technologies – ISO TC 307
- IT Security techniques - ISO/IEC JTC 1/SC 27
- Cybersecurity and Data Protection - CEN/CLC/JTC 013
- Artificial Intelligence - ISO/IEC JTC 1 SC 42
- Artificial Intelligence – CEN/CLC JTC 21
- Coding of Audio, picture & Multimedia – ISO/IEC JTC 1 SC 29



"ARTIFICIAL INTELLIGENCE"



Objectives in AI European Standardization



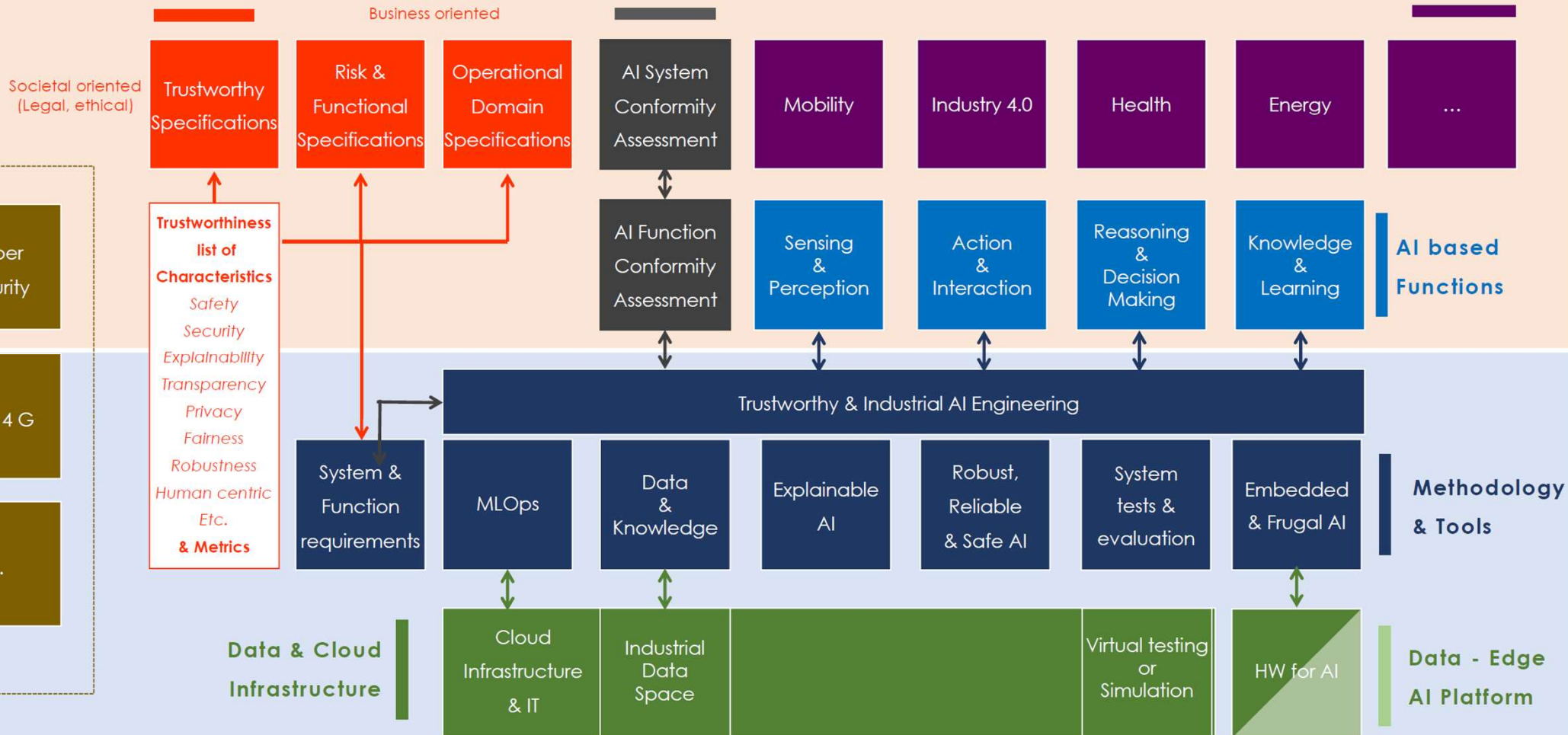
- ❑ **EU values and principles:** fundamental values and human rights recognized in Europe are set out in the Charter of Fundamental Rights of the European Union and explored in relation to AI and DigitalChange
- ❑ **EU ethics:** building on the framework and recommendations as set out in EU Higher Level Group on AI
- ❑ **EC requirements:** alignment with related regulation such as GDPR, and regulatory developments such as the revision of the General Product Safety Directive, Machinery Directive, NIS Directive and the Green New Deal regulatory package.
- ❑ **EU AI regulation timeframe up to 2024 / 2025**
- ❑ **EU Guides** such as the 'Blue Guide' on the implementation of EU products rules 2016 (Text with EEA relevance) C/2016/19589

* **EC Mandating Standardization Requests to European Standards Organization**

High Level AI System Specifications

Conformity Assessment Scheme

AI based Business applications & Services



Others digital building block & Enablers

Cyber security

5G / 4 G

...

Trustworthiness list of Characteristics & Metrics
Safety
Security
Explainability
Transparency
Privacy
Fairness
Robustness
Human centric
Etc.
& Metrics

Data & Cloud Infrastructure

Cloud Infrastructure & IT

Industrial Data Space

Trustworthy & Industrial AI Engineering

System & Function requirements

MLOps

Data & Knowledge

Explainable AI

Robust, Reliable & Safe AI

System tests & evaluation

Embedded & Frugal AI

Virtual testing or Simulation

HW for AI

Methodology & Tools

Data - Edge AI Platform

AI based Functions

Standardization

CEN/CENELEC JTC 21 - Artificial Intelligence



From a business perspective:

- tools and methodologies that support the design, test, validation, verification, and maintainability of AI-based functions systems
- Conformity assessment schemes that connect risk management, functional and trustworthiness requirements to industrial processes and AI Systems



European Committee for Standardization



**European Committee for Electrotechnical
Standardization**

AI will impact all Industry and Services

- CLC/SR - **SM Smart Manufacturing**
- CLC/SR - **Smart Energy**
- CLC/SRCOMM - **Communication Technologies and Architectures**
- CLC/TC 62 - **Electrical equipment in medical practice'**
 - CLC/TC 65X - **Industrial-process measurement, control, and automation**
- CEN/CLC JTC 1 - **Criteria for conformity assessment bodies**
- CEN/CLC/JTC 13 - **Cybersecurity and Data Protection**
- CEN/CLC/JTC 19 - **Blockchain and Distributed Ledger Technologies**
- CLC/TC 215 - **Electrotechnical aspects of telecommunication equipment**
- CEN/TC 225 - **AIDC technologies**
- CEN/CLC/JTC 13 - **Cybersecurity and Data Protection**
- CEN/CLC/JTC 5 - **Space**
- CEN/TC 251 - **Health informatics**
- CEN/TC 256 - **Railway applications**
- CEN/TC 278 - **Intelligent transport systems**
- CEN/TC 287 - **Geographic Information**
- CEN/TC 30 - **Road Vehicles**

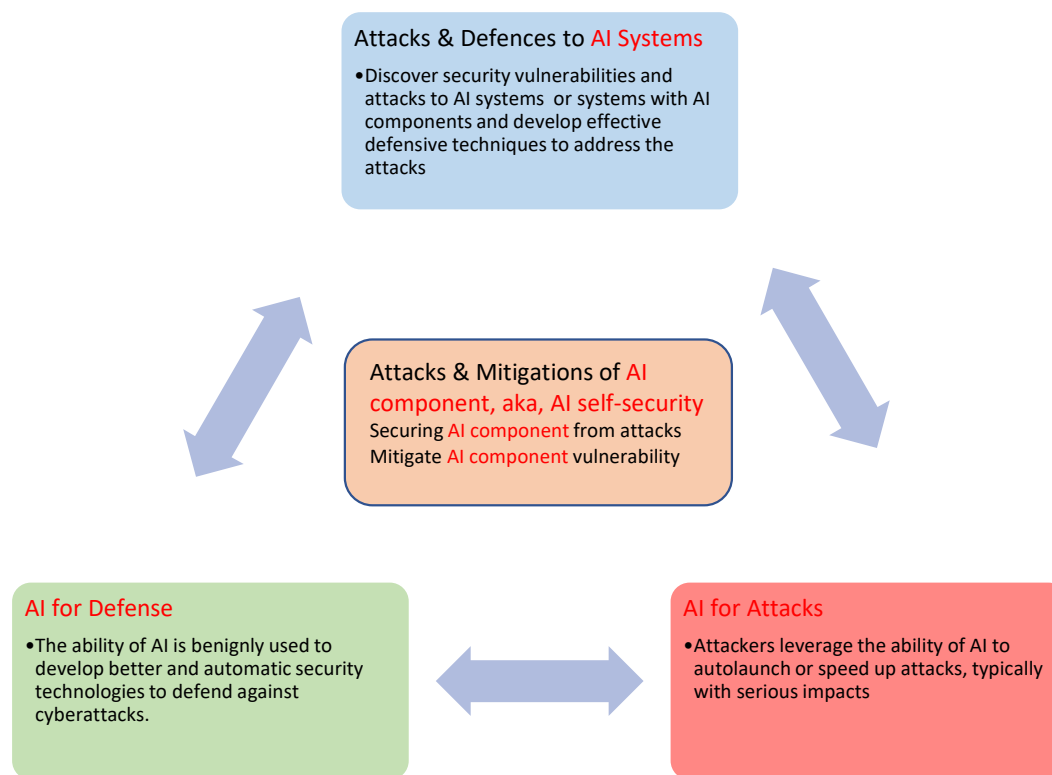


ETSI Industry Specification Group “Security of AI

The rationale for ISG SAI is that autonomous mechanical and computing entities may make decisions that act against the relying parties either by design or as a result of malicious intent. The conventional cycle of risk analysis and countermeasure deployment represented by the Identify-Protect-Detect-Respond cycle needs to be re-assessed when an autonomous machine is involved.

The intent of the ISG SAI is to address 3 aspects of AI in the standards domain:

1. Securing AI from attack e.g. where AI is a component in the system that needs defending.
2. Mitigating against AI e.g. where AI is the ‘problem’ (or used to improve and enhance other more conventional attack vectors)
3. Using AI to enhance security measures against attack from other things e.g. AI is part of the ‘solution’ (or used to improve and enhance more conventional countermeasures).



ISG SAI (Securing Artificial Intelligence) considers errors in, or misuses of, AI algorithms and how to minimize those.

TC Cyber (cybersecurity): working with SAI to respond to Standardisation Requests for AI.

ISG ENI (Experiential Networked Intelligence): AI techniques to optimize and adapt management of communication networks.

ISG PDL (Permissioned Distributed Ledger): synergies between AI algorithms and Blockchain technology.

ISG CIM (Context Information Management) Protocols for labelling of information to ensure quality for AI systems.

ISG ZSM (Zero-touch network and Service Management) Efficient management of networks.

TC MSG (Mobile Standards Group) AI impact on networks for 5G and beyond.



TC ERM/MSG - Standardisation Requests for public radio networks, AI for mission-critical infrastructures.

TC ATTM and **ISG Mwt** (millimeter wave transmission) - Point to point radio interfaces optimized with AI.

TC INT: Generic Autonomic Networking Architecture allowing interoperability of networks using autonomous optimization.

TC SmartM2M
AI for IoT data.

TC ITS (Intelligent Transport Systems). Car-to-X communications for AI-enabled autonomous vehicles and city traffic optimization.

TC eHealth (electronic health)
Interworking of health and personal health solutions using AI.

ISO/IEC JTC 1/SC 42 - Artificial Intelligence



SC 42 Artificial Intelligence

committee considers the following standardization areas:

- Foundational aspects,
- Computational methods,
- Trustworthiness,
- Societal concerns.

➤ “WORKING GROUPS”



- ISO/IEC JTC 1/SC 42/WG 1 Foundational standards
- ISO/IEC JTC 1/SC 42/WG 2 Data
- ISO/IEC JTC 1/SC 42/WG 3 Trustworthiness
- ISO/IEC JTC 1/SC 42/WG 4 Use cases and applications
- ISO/IEC JTC 1/SC 42/WG 5 Computational approaches and computational characteristics of AI systems

Artificial Intelligence in International Telecommunications Union



- ❑ ITU Focus Group on Machine Learning for Future Networks including 5G
- ❑ ITU-T Focus Group on "Artificial Intelligence (AI) and Internet of Things (IoT) for Digital Agriculture"
- ❑ ITU-T Focus Group on AI for Natural Disaster Management
- ❑ ITU-T Focus Group on Autonomous Networks
- ❑ ITU-T Focus Group on AI for autonomous and assisted driving





- ❑ ITU-T Focus Group on "Environmental Efficiency for Artificial Intelligence and other Emerging Technologies"
- ❑ ITU-T Focus Group on "Artificial Intelligence for Health"
- ❑ ITU-T Focus Group on "Vehicular Multimedia"

**AI repository
to identify AI-related projects**





AI Watch: AI Standardisation Landscape state of play and link to the EC proposal for an AI regulatory framework

- To provide a survey of the international standardisation initiatives and specifications dealing with AI, which are relevant to high-risk applications and systems
- To analyse their relation to the requirements of the proposed EU Artificial Intelligence Act;
- To assess their present suitability and operationalisation level to implement these requirements and recognize possible gaps.



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 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.**
- 3) Engaged in National Technical Committees**



Thank for your Attention!!!

