



The Standards People

AI and Data related work in ETSI

Presented by: Dr Issam TOUFIK

CTO of ETSI

Head of 3GPP MCC

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Agenda

- Introduction to ETSI, activities and membership
- AI standardisation
- TC Data

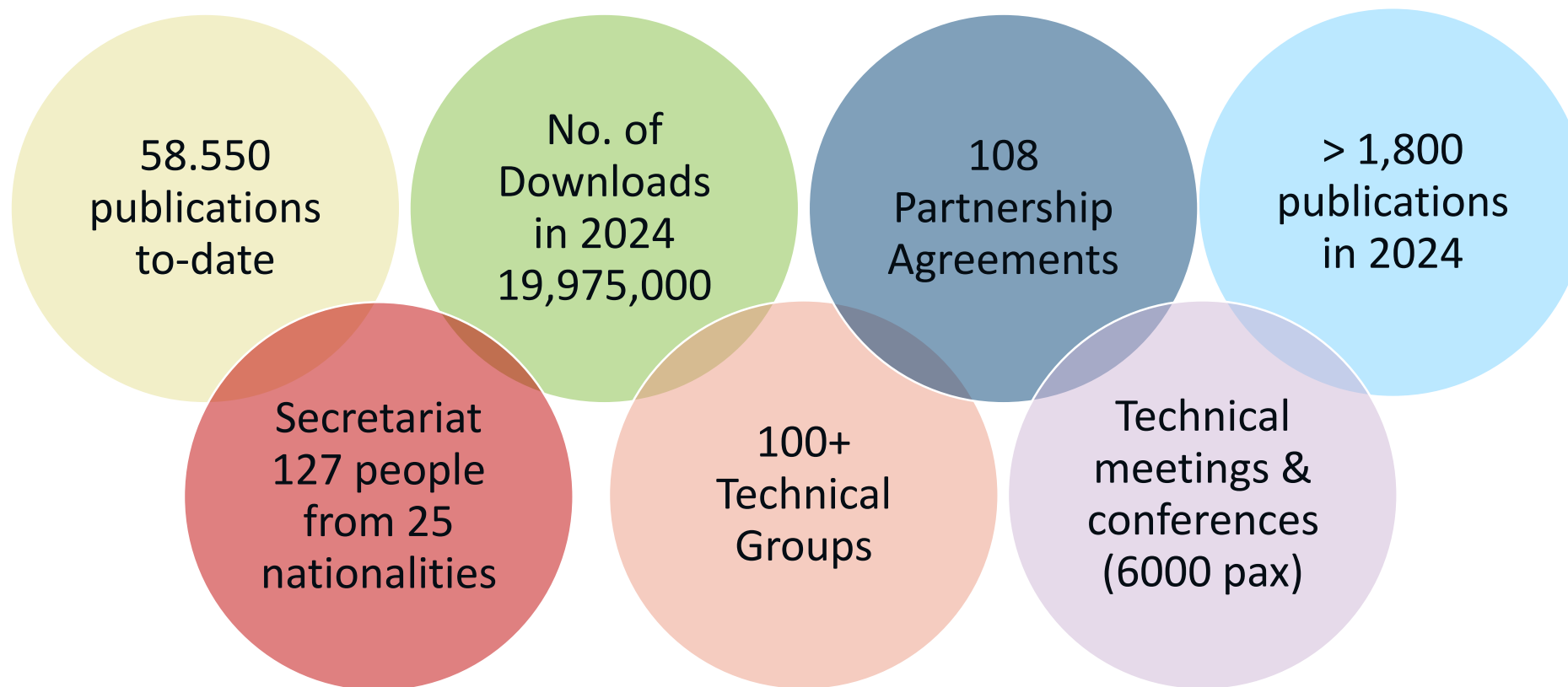


ETSI – a quick overview

- **ETSI (European Telecommunications Standards Institute)** is an independent, non-profit organization responsible for developing globally applicable standards for information and communications technologies (ICT), including fixed, mobile, radio, converged, broadcast, and internet technologies.
- ETSI has more than **900 member organizations** from over **60 countries** across five continents, include a diverse range of stakeholders such as private companies, research entities, academia, government, and public organizations.
- One of the three recognised European Standards Organisations, together with **CEN and CENELEC**.
- ETSI is also responsible for the day-to-day operations of partnership projects such as 3GPP and oneM2M.



Some numbers





Role of Standardization in the AI/ML Ecosystem

Role of Standardization in the AI/ML



Interoperability

Standardization enables AI systems and tools to interoperate smoothly, ensuring seamless integration of diverse AI technologies and applications.

Compliance & Regulation

Standards help AI systems meet regulatory requirements, ensuring easier market entry and wider acceptance.

Security and Privacy

Standardized protocols and data models enable AI systems to enhance data protection and privacy, which is crucial for building user trust.

Quality & Reliability

Standards define performance, safety, and reliability benchmarks, ensuring AI systems adhere to predefined criteria and perform consistently.

Innovation

Standardization promotes innovation by establishing a shared framework for developing new technologies. It also minimizes redundant efforts and speeds up the adoption of advancements.

Why AI standards are necessary

They move us from uncertainty and towards certainty

They move us from irrationality and towards rationality

They focus open and shared debate, and consensus

They bring expert minds together to work on problems

ETSI activities on Artificial Intelligence



TC Securing Artificial Intelligence (SAI)

TC SAI aims to develop technical specifications that mitigate threats stemming from AI deployment, as well as risks to AI systems from both other AIs and conventional sources.

TC Core Network and Interoperability Testing (INT)

ETSI TC INT has established the Generic Autonomic Network Architecture (GANA) as an architectural reference model for autonomic networking, cognitive networking, and self-management.

TC eHealth

ETSI TC eHealth recognizes the vital role of AI in the future of healthcare and is developing an ETSI Guide on “The Role of AI in eHealth.”

TC Methods for Testing and Specification (MTS)

ETSI TC MTS offers technologies, tools, and guidelines for conformance and interoperability testing, as well as certification of protocols and systems, including AI and IoT.

ETSI activities on Artificial Intelligence



ISG cross-cutting
Context Information
Management (CIM)

ETSI ISG CIM defines a Context Information Management API that enables users to provide, consume, and subscribe to context information across various scenarios and stakeholders.

ISG Experiential
Networked
Intelligence (ENI)

ETSI ISG ENI introduces an experiential architecture that leverages Artificial Intelligence (AI) and other mechanisms to enhance environmental awareness and improve the operator experience.

ISG Permission
Distributed Ledgers
(PDL)

ETSI ISG PDL addresses non-repudiation challenges in Permissioned Distributed Ledgers (PDLs), exploring relevant strategies, technologies, and their feasibility within PDLs.

ISG Zero-touch
network and Service
Management (ZSM)

ETSI ISG ZSM establishes the required end-to-end architecture and solutions for network automation, focused on closed-loop automation and optimized for machine learning and Artificial Intelligence algorithms driven by data.

Operational Co-ordination Group on Artificial Intelligence (OCG AI)



ETSI OCG AI tasks include:

- Facilitating the exchange of views and information on AI activities across Technical Bodies (TBs) and Industry Specification Groups (ISGs) to identify synergies, best practices, and common requirements.
- Coordinating the provision of AI-related information by TBs and ISGs that is relevant to ETSI.

ETSI OCG AI represents ETSI at regular EC/ESO meetings, where the European Commission, ETSI, and CEN/CENELEC exchange updates on the latest developments related to the European AI Act and AI in general.

ETSI OCG AI is open to all ETSI members, who are invited to join and gain a comprehensive view of ETSI's activities in the field of AI.

Data: The lifeblood for AI

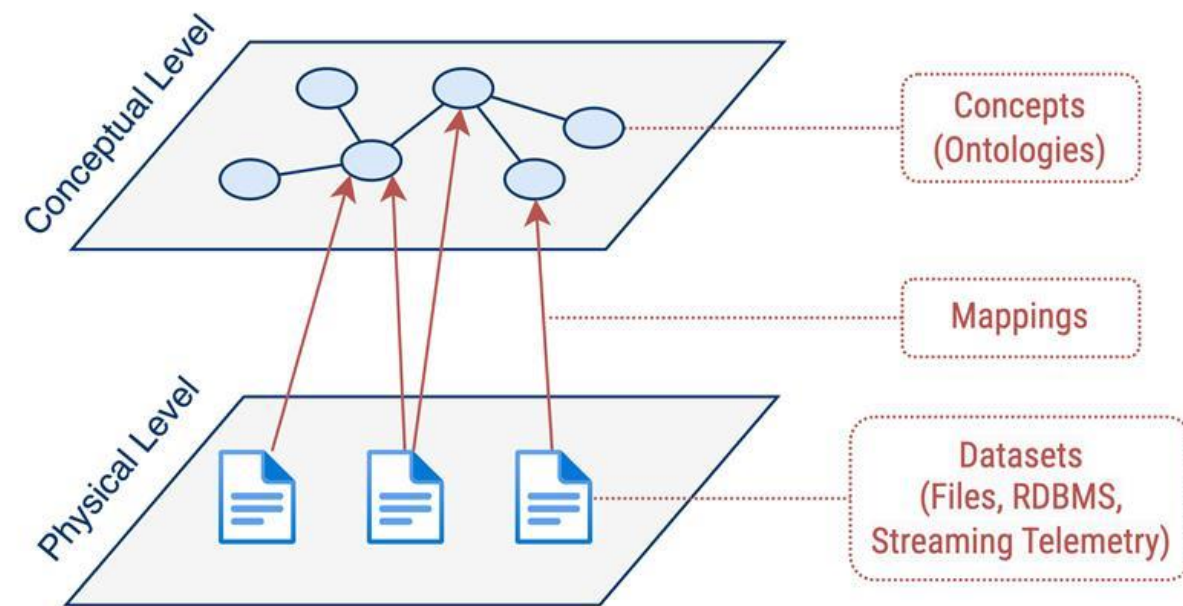
Data, Where We Stand

- Data exchange is the essential functionality of any *data* network
- The requirements for such data exchanges evolve rapidly as their applications evolve
- Today, we are witnessing an exponential acceleration of the consolidation of agent applications, due in part, but not only to the development of AI tools.
- Agent applications are;
 - Acting autonomously according to intents
 - being able to collaborate and select appropriate data
- Nowadays, we often use the term **AI** to refer to them
- The concepts of **DATA** and **AI** are intrinsically linked:
 - Data “feeds” AI
 - AI “needs” (a lot of reliable / trusted) Data



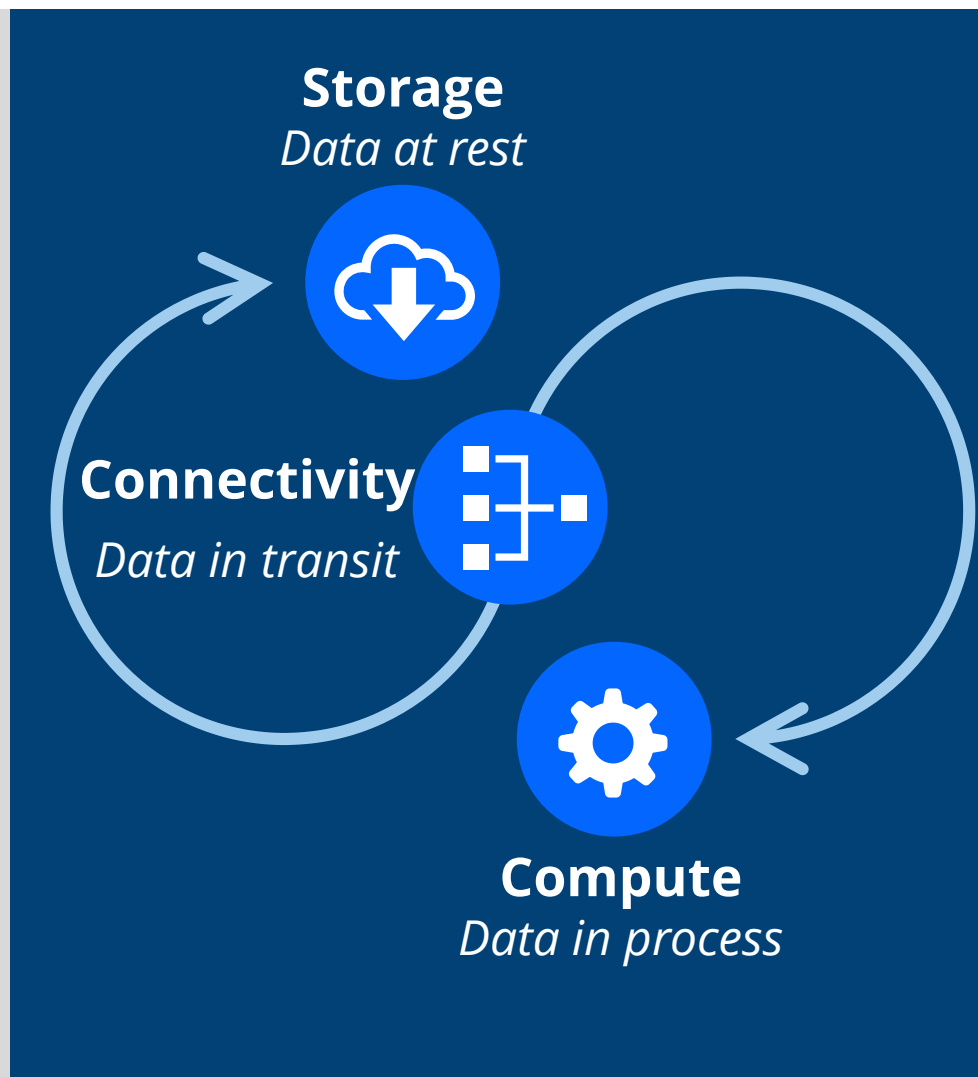
The Goal of a Data Infrastructure

- Support the autonomous use of data by agent applications
 - And by any other data-driven technology
- Aligned with **FAIR** principles
 - **F**indable
 - **A**ccessible
 - **I**nteroperable
 - **R**eusable
- According to an appropriate **data governance**
 - Data access control
 - Data consistency
 - Data privacy preservation
- Include the associated **data policies**



With a Holistic Prospect

- A data infrastructure implies three independent dimensions
- **Connectivity:** data transported through space
 - Data in transit
- **Storage:** data transported through time
 - Data at rest
- **Compute:** data acted upon
 - Data in process
- Current applications require focus on data flows in all three dimensions
 - Whatever the stakeholder:
e.g. Telcos, cloud providers, application developers, other...



ETSI TC DATA Scope and ToRs



TC DATA develops deliverables to support the deployment and operation of distributed solutions (data infrastructures, data products, data access services, and application interfaces (APIs) in the ICT domain, to be used by machines and human beings, and their virtual representations.) for data collection, integration, sharing and management, including security and testing aspects.

TC DATA is committed to addressing European policy and regulatory requirements, including standardisation needs in the area of data interoperability, semantic interoperability, ontologies, and data governance. TC DATA also engages with other regulatory bodies to ensure that the output supports relevant global, regional, and national requirements.

TC DATA is responsible for providing input on technical aspects of the ETSI responses to EU Standardization Requests and other government requests regarding data solutions. TC DATA also provides relevant technical content for ETSI deliverables related to the European Data Act and to the data related aspects of the European AI Act.

TC DATA cooperates with open-source initiatives relevant for the data domain standardization, including (but not limited to) relevant existing and future ETSI SDGs providing relevant reference implementations and interoperability testing specifications.

Thank you for your attention

Contact:

Issam.Toufik@etsi.org

