AI for Telecommunication

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AI, a matter of focus

- Difficult to define –many efforts into it
- “Distributed” approach in ETSI
- At the heart in many groups in ETSI – a tool?

AI in ETSI
“enhanced machine-enabled decision making”

- Building blocks and tools
- More flexible, accessible, dynamic, ubiquitous, performant… networks
  - E.g. autonomous networks: self-configuration, self-healing, self-optimization, self-protection… plus self-awareness and self-knowledge
- Augment human decision-making and action processes

AI in some ETSI Technical Groups

TC INT (Core Network and Interop Testing)

- Generic Autonomic Network Architecture (GANA)

ISG ENI (Experiential Networked Intelligence)

- uses AI and other mechanisms to improve its understanding of the environment

ISG ZSM (Zero-touch network and Service Management)

- defines the required end-to-end architecture and solutions for network automation

ISG F5G (5th Generation Fixed Network)

- fostering the evolution to a “fibre to everywhere and everything” ecosystem, including automation and autonomy of the fibre networks

3GPP

- A major evolution of the 5G system with the use of AI

TC SmartM2M/oneM2M

- build platforms through which IoT devices and services can be connected, regardless of the underlying technology used

ISG CIM (cross-cutting Context Information Management)

- allows users to provide, consume and subscribe to context information in multiple scenarios

ISG PDL (Permission Distributed Ledgers)

- covers the non-repudiation challenges in Permissioned Distributed Ledgers (PDLs), the non-repudiation strategies/technologies, and their viability

Bearing in mind the societal challenges of AI

- Ensure fundamental rights of persons
- Ensure health of persons
- Ensure safety of persons

… and supporting governments' initiatives

Key requirements

- Data and governance
- Technical documentation
- Record keeping
- Transparency and information to users
- Human oversight
- Accuracy robustness and cybersecurity
- Risk and Quality Management Systems

Many Technical Groups in ETSI are addressing all these requirements (see WP#52, ETSI Activities in the field of AI)

Security, at the core

Undertaken by all Technical Groups

ETSI's ISG SAI (Securing Artificial Intelligence):

- Securing AI from attack
- Mitigating against AI, i.e where AI is the 'problem'
- Using AI to enhance security measures against attack from other things

Need to test compliance

To provide technologies, tools, and guidelines on conformance and interoperability testing and certification of protocols and other systems (TC MTS)

And an AI Model Life Cycle Management Process (TC INT)

Conclusions

- AI: inevitable component of our future networks
- People should be taken care of
- Security need to be at the core of all
- Testing will be fundamental to ensure compliance
- Cooperation and coordination, paramount

Thank you for your attention

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