

Road Map on Artificial Intelligence

The different inputs

- European Commission strategy on AI (COM(2018) 237)
 - White Paper on Artificial Intelligence (10 COM (2020) 65)
 - European strategy for data (COM (2020) 66)
 - Rolling Plan on ICT standardization
 - High-Level Expert Group on Artificial Intelligence (AI HLEG)
 - Assessment List for Trustworthy Artificial Intelligence (ALTAI)
- > CEN-CENELEC Focus Group on Artificial Intelligence

The CEN – CLC vision

- Ensure that AI is beneficial for citizens and society through standards that:
 1. Respect fundamental values and human rights recognised in Europe
 2. Ensure appropriate governance of AI throughout the system lifecycle
 3. Ensure trustworthy (robust, safe, secure, etc.) AI
 4. Strengthen European competitiveness and benefits for society from AI

Overview of standardisation

- Topics
 - AI usage (ISO/IEC, ETSI, ITU-T, IEEE)
 - Trustworthiness (ISO/IEC, IEEE)
 - Transparency (IEEE)
 - Ethics (ISO/IEC, IEEE)
 - Foundational standards (ISO/IEC, IEEE)
 - Security (ISO/IEC, ETSI)

	IEEE	ETSI	ISO/IEC	ITU-T	CEN-CENELEC
Standardization	14	1	6	-	-
Pre-standardization	1	2	8	2	1
Total	15	3	14	2	1

CEN-CLC proposed activities

- **CEN/CLC/JTC 21 “Artificial Intelligence”**
 - development and adoption of standards for AI and related data, as well as provide guidance to other Technical Committees concerned with AI.
 - Identification and possible adoption of documents already published or under development by ISO/IEC JTC 1 and other SDOs and international bodies
 - the development of CEN/CENELEC AI and data publications for dealing with AI and data such as conceptual frameworks, management systems, techniques, guidelines, and products and services, including those in support of the EU Digital Single Market.

Standardisation activities - Accountability

- Demonstrate that products or services they offer or provide are trustworthy, accurate, reliable, resilient, objective, secure, explainable, safe and ensures accountability.
- Demonstrate that they have trustworthy means of updating the system as appropriate.
- Employ good risk management strategies by providing guidance on processes and responsibilities to address accountability within the organisation.

Standardisation activities - Quality

- Specific quality standards are need both for processes, products, and services
- Audit definition
- Process for conformity assessment in regard to the development, provisioning or use of AI based products or services

Standardisation activities - Data for AI

- Define the scope (data for training, data for test, data for operation)
- Define a framework to manage data spaces, algorithm, computing environment, protection)
- Privacy of data
- Accessibility
- Interoperability
- Protection

Standardisation activities - Security and privacy

- To protect from wrong or forbidden use
- To protect from modification
- To protect from abuse

Standardisation activities - Ethics

- Definition of ethical characteristics which depends on the field of application. A standardized datasheet of the ethical characteristics (as energy efficiency rating)
- Description of ethical risks

Standardisation activities - Engineering of AI systems

- Need to reconsider the engineering process and in particular
 - Verification such as algorithm and learned model
 - Validation
 - Certification

Standardisation activities - Safety

- Safety requirements for AI systems
- Safety requirements for industrial applications and consumer applications in the AI area
- Safety requirements for embedded AI (hardware, software, cloud)
- Specification of physical impact and long- term psychological impact
- Safety relevant requirements for quality of Data preparation and training

Standardisation activities - Other

- AI architecture
- Interoperability
- Portability
- Usability, inclusiveness, accessibility

Conclusions

- Standardisation request on artificial intelligence has been sent
- 10 standards are to be developed

1.	European standard(s) and/or European standardisation deliverable(s) on risk management systems for AI systems
2.	European standard(s) and/or European standardisation deliverable(s) on governance and quality of datasets used to build AI systems
3.	European standard(s) and/or European standardisation deliverable(s) on record keeping through logging capabilities by AI systems
4.	European standard(s) and/or European standardisation deliverable(s) on transparency and information provisions for users of AI systems
5.	European standard(s) and/or European standardisation deliverable(s) on human oversight of AI systems
6.	European standard(s) and/or European standardisation deliverable(s) on accuracy specifications for AI systems
7.	European standard(s) and/or European standardisation deliverable(s) on robustness specifications for AI systems
8.	European standard(s) and/or European standardisation deliverable(s) on cybersecurity specifications for AI systems
9.	European standard(s) and/or European standardisation deliverable(s) on quality management systems for providers of AI systems, including post-market monitoring processes
10.	European standard(s) and/or European standardisation deliverable(s) on conformity assessment for AI systems

Thank you for your attention



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