

AI Act and Standardization



- International level -

ISO/IEC JTC 1/SC 42 – Artificial intelligence

Standards

39

Projects

49

Scope

Standardization in the area of Artificial Intelligence

- Provide guidance to JTC 1, IEC, and ISO committees developing Artificial Intelligence applications
- Serve as the focus and proponent for JTC 1's standardization program on Artificial Intelligence

12 Working groups

WG 1 Foundational standards

WG 2 Data

WG 3 Trustworthiness

WG 4 Use cases and applications

WG 5 Computational approaches and computational characteristics of AI systems

JAG Joint Advisory Group on AI and sustainability with ISO/IEC JTC1/SC 39 and JTC1/SC 42

JWG 2 Joint Working Group ISO/IEC JTC1/SC 42 - ISO/IEC JTC1/SC 7

JWG 3 Joint Working Group ISO/IEC JTC1/SC42 - ISO/TC 215 WG : AI enabled health informatics

JWG 4 Joint Working Group ISO/IEC JTC1/SC42 - IEC TC65/SC65A: Functional safety and AI systems

JWG 5 Joint Working Group ISO/IEC JTC1/SC42 - ISO/TC 37 WG: Natural language processing

JWG 6 Joint Working Group ISO/IEC JTC1/SC42 - ISO/CASCO: Conformity assessment schemes for AI systems

JWG 7 Joint Working Group ISO/IEC JTC1/SC 42 - ISO/TC 68: Artificial intelligence

Main “ISO/IEC JTC 1/SC 42” Standards and projects related to the AI Act

Foundational standards

- **ISO/IEC 22989:2022**: Information technology — Artificial intelligence — Artificial intelligence concepts and terminology
- **ISO/IEC 22989:2022/DAmD 1**: Artificial intelligence concepts and terminology — Amendment 1: Generative AI
- **ISO/IEC 23053:2022**: Framework for Artificial Intelligence (AI) Systems Using Machine Learning (ML)
- **ISO/IEC 23053:2022/DAmD 1**: Framework for Artificial Intelligence (AI) Systems Using Machine Learning (ML) — Amendment 1: Generative AI

Data and data governance

- **ISO/IEC 8183:2023**: Artificial intelligence — Data life cycle framework
- **ISO/IEC 5259** series: Artificial intelligence — Data quality for analytics and machine learning (ML)
- **ISO/IEC 25590**: Guidance for output data quality of generative AI applications

Trustworthiness

- **ISO/IEC TS 12791:2024**: Treatment of unwanted bias in classification and regression machine learning tasks
- **ISO/IEC 24029** series: Assessment of the robustness of neural networks
- **ISO/IEC 23282**: Evaluation methods for accurate natural language processing systems
- **ISO/IEC 12792**: Transparency taxonomy of AI systems
- **ISO/IEC 4213**: Performance measurement for AI classification, regression, clustering and recommendation tasks
- **ISO/IEC TS 22440** series: Functional safety and AI systems
- **ISO/IEC 42105**: Guidance for human oversight of AI systems
- **ISO/IEC 24970**: AI system logging
- **ISO/IEC 25029**: AI-enhanced nudging

Conformity assessment

- **ISO/IEC 42007**: High-level framework and guidance for the development of conformity assessment schemes for AI systems

- European level -

CEN/CLC JTC 21 – Artificial Intelligence

Standards

15

Projects

27

Scope

The JTC shall produce standardization deliverables in the field of Artificial Intelligence (AI) and related use of data, as well as provide guidance to other technical committees concerned with Artificial Intelligence. The JTC shall also consider the adoption of relevant international standards and standards from other relevant organisations, like ISO/IEC JTC 1 and its subcommittees, such as SC 42 Artificial intelligence. The JTC shall produce standardization deliverables to address European market and societal needs and to underpin primarily EU legislation, policies, principles, and values.

5 Working groups

WG 1 Strategic advisory group (SAG)
WG 2 Operational aspects
WG 3 Engineering aspects

WG 4 Foundational and societal aspects
WG 5 Joint standardization on cybersecurity for AI systems

Main “CEN/CLC JTC 21” Standards and projects related to the AI Act

Risk management

- **prEN 18228**: AI Risk Management

Data and data governance

- **CEN/CLC/TR 18115:2024**: Data governance and quality for AI within the European context
- **prEN 18284**: Artificial Intelligence - Quality and governance of datasets in AI
- **prEN 18283**: Artificial Intelligence - Concepts, measures and requirements for managing bias in AI systems

Trustworthiness

- **prEN 18229-1**: AI trustworthiness framework – Part 1: Logging, transparency and human oversight
- **prEN 18229-2**: AI trustworthiness framework – Part 2: Accuracy and robustness
- **prCEN/TS**: Guidelines on tools for handling ethical issues in AI system life cycle
- **prCEN/CLC/TR**: Impact assessment in the context of the EU Fundamental Rights
- **prEN 18281**: Artificial Intelligence – Evaluation methods for accurate computer vision systems

Cybersecurity

- **prEN 18282**: Artificial intelligence – Cybersecurity specifications for AI Systems

Quality management system

- **prEN 18286**: Quality management system for EU AI Act regulatory purposes

Conformity assessment

- **CEN/CLC/TR 17894:2024**: Artificial Intelligence Conformity Assessment
- **prEN 18285**: AI Conformity assessment framework

- National level -

ILNAS/NSC 04 – Artificial Intelligence

National delegates

23

Abstract

The national commission offers Luxembourgish market players a unique platform to follow and participate in standardization work in the field of artificial intelligence (AI). The members have the opportunity to contribute to the global development of standards for AI with the privileged access to both European (CEN/CLC JTC 21) and international (ISO/IEC JTC 1/SC 42) standardization activities in the field.