



Business Plan for JTC 21

Technical Committee: CEN-CENELEC JTC 21	Secretariat: Danish Standards	Date and version: 16 March 2022, version 1.0
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JTC title: Artificial intelligence

A Background

New advanced technologies have emerged and are increasingly being deployed in a wide variety of sectors over recent years. To foster widespread adoption by users and facilitate their development by industry and innovation stakeholders and ensure that they meet relevant market and societal needs, standardization is necessary. Artificial Intelligence (AI) is one of the sectors where standardization needs have been identified. In this context, CEN and CENELEC support the activities of ISO/IEC JTC 1 SC 42 and IEC SEG 10 by the establishment of CEN-CENELEC JTC 21 for Artificial intelligence (JTC 21)

JTC 21 shall produce and adopt standardization deliverables to address European market and societal needs and to underpin primarily EU legislation, policies, principles, and values. JTC 21 has already engaged in a constructive dialogue with the European Commission to identify and produce standards to underpin the anticipated European legislation on AI as proposed by the Commission on 21 April 2021¹.

JTC 21 will also have an advisory role towards other CEN and CENELEC committees whose sector or activity is impacted by AI.

B Business Environment

B.1 General

From a business perspective, a comprehensive industrial and trustworthy AI framework that clusters the priority areas for AI research, innovation and deployment is strongly needed. It shall cover tools and methodologies that support the design, test, validation, verification, and maintainability of AI-based functions and systems and addresses the development of AI-based processes and systems to demonstrate its integration into new products and services.

Conformity assessment schemes, balancing innovation, business and European perspectives, shall connect risk management, functional and trustworthiness requirements to industrial processes. In this framework, adequate standards supporting industrial AI and trustworthiness will play a central role.

A wide range of (interdisciplinary) activities needs to be fostered to develop a complete standardisation and technical framework.

This framework that combines national efforts with European existing frameworks and roadmaps is meant to be very instrumental in fostering the development and speeding up the adoption of Industrial and Trustworthy AI in Europe, strongly contributing to the current efforts and ambitions of initiatives, such as microelectronics, of creating a solid Data and AI ecosystem in Europe.

¹<https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:52021PC0206&from=EN>

B.2 Market demand

As a horizontal issue, AI creates many relevant market needs:

- Consumer protection and safety
- Protection of citizens` and workers` fundamental rights and safety Innovation and digitalisation
- Support to:
 - o Public policy
 - o European legislation/regulation
- Market access/barriers to trade, i.e. enhancing the free movement of:
 - o Services
 - o Goods
 - o Data
- Interoperability
- Sustainability as defined by the 2030 Agenda for Sustainable Development ([*UN Resolution adopted by the General Assembly on 25 September 2015 \(A / 70 / L.1\)*](#)) as well as the *EU Green Deal* <https://www.europarl.europa.eu/committees/en/the-role-of-ai-in-the-european-green-dea/product-details/20210607CAN61223> Climate change adaptation and mitigation
- Health and safety
- Privacy and security
- Terminology

B.3 Trends in technology and society

AI technology is developing across the globe at a rapid pace and Europe is developing and strengthening its own position and role within this environment.

AI products and services, such as virtual assistants and facial recognition tools, are already changing consumer markets and our societies. After significant growth in research and development, the last ten years have seen AI Systems (AIS) being applied in real-world settings in industry, health, military, public services, transport, consumer markets and many more. There have been many positive applications and breakthroughs. However, given that the technology is designed to reduce the need for human decision making and intervention, potential risks are high.

There is currently not agreement on how to conceptualise the activities and capabilities of AI systems. Regardless of this, AIS will have and are already having significant impacts on individuals, the economy and society, yet are developing at a pace now without clear governance or regulation, without strong agreement on best practices. Against this backdrop, the work of the JTC will need to address how it can be possible for European standardization to address the impacts of AIS to deliver innovative and trusted AI that is safe and fair for society.

The work of the JTC will address how European standardization can deal with the impacts of AIS to deliver innovative and trusted AI that is safe and fair for society. European standardization has previously led to a transformation in digital markets, such as mobile communications (via 3GPP standardization) and digital TV (via DVB standardization). Also, the 2021 Coordinated Plan on Artificial Intelligence (AI)² is focusing on creating economic growth through EU global leadership in trustworthy AI. It builds on the strong collaboration between the Commission and the Member States established during the 2018 Coordinated Plan³.

² <https://digital-strategy.ec.europa.eu/en/library/coordinated-plan-artificial-intelligence-2021-review>

B.4 Market trends and initiatives

B 4.1 General

Europe has instruments to support economic growth through AI and to ensure societal needs are met:

- Policy and regulation ensure that AI in Europe is serving European values and vision. This takes a risk-based approach.
- Research and technology development, funded by the EU research and innovation framework programme: Horizon Europe for 2021-2027, with a research budget above 100 billion euro

B 4.2. Results of the AI High-Level Expert Group (AI HLEG)⁴

The European Commission appointed a high-level expert group (AI HLEG) to provide advice on its artificial intelligence strategy and market needs. The group has now concluded its work by publishing the following four deliverables:

Deliverable 1: Ethics Guidelines for Trustworthy AI

The document puts forward a human-centric approach to AI and lists 7 key requirements that AI systems should meet to be trustworthy.

Deliverable 2: Policy and Investment Recommendations for Trustworthy AI

Building on its first deliverable, the HLEG put forward 33 recommendations to guide trustworthy AI towards sustainability, growth, competitiveness, and inclusion. At the same time, the recommendations will empower, benefit, and protect European citizens.

Deliverable 3: Assessment List for Trustworthy AI (ALTAI)⁵

A practical tool that translates the Ethics Guidelines into an accessible and dynamic self-assessment checklist. The checklist can be used by developers and deployers of AI who want to implement the key requirements. This list is available as a prototype web-based tool and in PDF format.

Deliverable 4: Sectoral Considerations on the Policy and Investment Recommendations

The document explores the possible implementation of the HLEG recommendations, previously published, in three specific areas of application: Public Sector, Healthcare and Manufacturing & Internet of Things.

B.5 Regulation and standards

In the foreseeable future, certain aspects and use of Artificial Intelligence will be regulated at EU level taking into account the legislative proposal from the European Commission on Artificial Intelligence (COM 2021/206). The application of the AI Act will heavily depend on the development and implementation of harmonised standards. CEN-CENELEC JTC 21 are thus already in close dialogue with the European Commission about possible future needs in this regard. The Commission legislative proposal includes a risk-based approach as illustrated below.

⁴ <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>

⁵ <https://digital-strategy.ec.europa.eu/en/library/assessment-list-trustworthy-artificial-intelligence-altai-self-assessment>

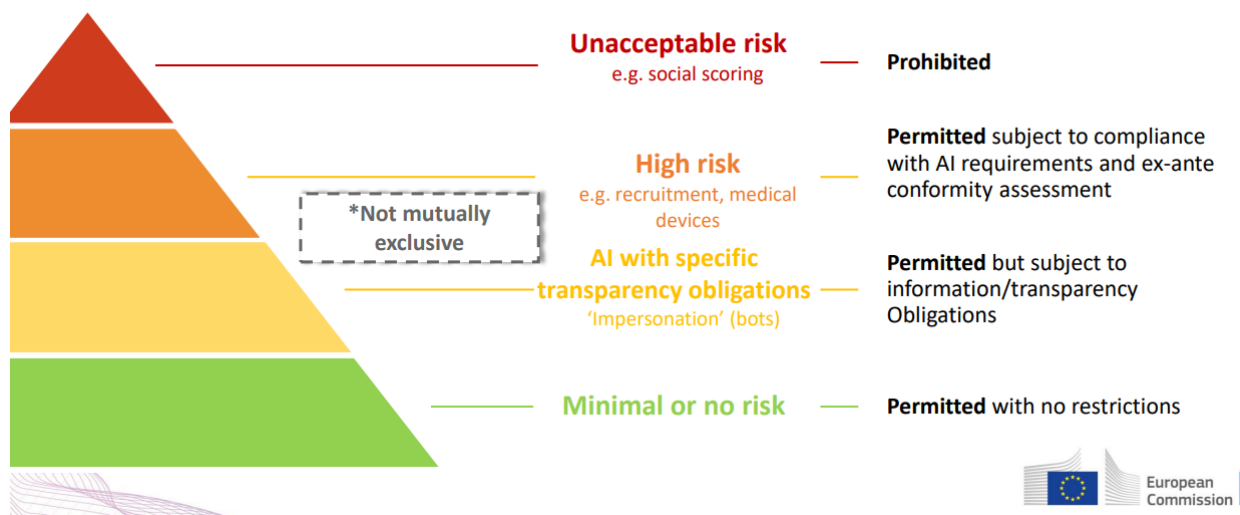


Figure 1: Risk-based approach to regulation developed by the European Commission

European standards are market-driven and facilitate the smooth implementation of European policies and legislation. The European Commission may ask European Standardization Organizations (ESOs) to produce harmonised standards. These standards, which can be harmonised (providing a presumption of conformity with legal requirements), make up around a quarter of all European standards. CEN and CENELEC have a close and well-established dialogue with the European Commission on these strategic issues.

Having one single standard, created with the consensus of all interested parties, and adopted across the European market, instead of 34 conflicting national standards, helps significantly to ensure common levels of safety, security, and sustainability.

More than 24.000 existing European standards play a fundamental role in making the EU Single Market more efficient. By providing this support, standardization makes it easier to sell products and services across the EU and beyond, therefore improving safety, protecting consumers, reducing red tape and fostering innovation.

B.6 Involvement of societal stakeholders

Relevant stakeholders (non-exhaustive list due to the high number of stakeholders):

- Industry and commerce, including SMEs
- Governments
- Consumers/citizens (including those organizations representing interests of specific societal groups, e.g., people with disabilities or those needing other particular considerations)
- Commercial and industry associations and trade union organizations
- Academic and research bodies
- Non-governmental organisations (NGO)
- Standards application business (e.g., testing laboratories, certification bodies)

JTC 21 will systematically outreach to relevant stakeholders to establish liaisons and other types of cooperation.

B.7 Involvement of SMEs

Standardization brings many benefits to European small and medium-sized enterprises (SMEs). The use of standards can help them reduce costs, improve their innovation capacity, and enhance their competitiveness. JTC 21 aims to encourage SME participation in the standardization process and aims to raise awareness about how SMEs can benefit and get involved.

Still, SMEs have raised concerns about AI regulation and standardization hindering innovation and being not actionable. JTC 21 should make sure that EN standards are accessible and actionable, especially by the stakeholders that don't have the resources to navigate the standardization products.

Criteria on standardization actionability/operationability by SMEs shall be developed.

B.8 Diversity

The importance of inclusiveness, openness and diversity in standardization is at the heart of CEN-CENELEC system and makes the uniqueness of the European System, as reflected in the CEN-CENELEC Strategy 2030.

JTC 21 will encourage and facilitate the participation of all relevant stakeholders in the CEN and CENELEC activities.

One specific initiative is the CEN-CENELEC Gender Action Plan⁶, which was kick-offed in April 2020. Also, the UNECE's Declaration on Gender Responsive Standards and Standards Development should be taken into account. Identified action points are, but are not limited to:

- Foster the participation of women in the development of standards: promotion of the role and benefits of standardization and how to get involved
- Training and awareness-raising at national technical level (TC Chairs + Secretaries); Organization of round tables/seminars to raise awareness on gender-responsive standards
- Participation in projects/initiatives for inclusive standards
- Use of gender-responsive vocabulary

Development of guidelines/checking-tool to be used in standards drafting and reviewing processes, in collaboration with the European and international levels

C System approach aspects

Artificial Intelligence is context-bound and domain-specific, which is already reflected in the Draft AI Regulation taking a use case-based approach. To meet these requirements CEN-CLC JTC 21 shall provide guidance to other JTCs as well as CEN and CEN ELEC TCs developing Artificial Intelligence applications. Those would include amongst others:

- CLC/SR AAL Active Assisted Living
- CLC/SR SM Smart Manufacturing
- CLC/SR Smart Energy
- CLC/SR COMM 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/TC 428 ICT Professionalism and Digital Competences
- 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 304 Information and communications technologies - European localization requirements
- CEN/TC 30 Road Vehicles

It is recommended to establish a resource-based plan on how to accomplish and nurture these liaisons.

D Objectives and strategies

JTC 21 shall produce standardization deliverables in the field of Artificial Intelligence (AI) and related data, as well as provide guidance to other technical committees concerned with Artificial Intelligence. The JTC

⁶ https://boss.cen.eu/media/5q3nsl5p/ir1_e.pdf

21 shall also consider the adoption of relevant international standards and standards from other organisations, like ISO/IEC JTC 1 and its subcommittees, such as SC 42 Artificial intelligence.

Some standardization requirements will be developed by ESOs due to European specificities. A non-exhaustive selection of these is listed below. These are accompanied by suggestions for established areas of activity that could also help the development of criteria:

- **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 Digital Change in the Presidency conclusions of the Council of Europe 11481/20, 2020⁷ and the work of the Ad hoc Committee on Artificial Intelligence⁸.

- **EU AI regulation:** the EU AI regulatory proposal is based on EU values and fundamental rights and aims to develop human-centric, trustworthy AI that addresses accountability, transparency, robustness, accessibility and disability inclusiveness, fairness, privacy, and ethical use.

- **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**

- **EU Guides** such as the 'Blue Guide' on the implementation of EU products rules 2016 (Text with EEA relevance) C/2016/1958⁹

In addition, EU leadership ambition in the AI domain may justify in some cases to adopt a very pro-active standardization agenda.

Some EU standards may come from different origins (Standardization Organizations, Technical Committees...). Given that not all organizations rely on the same foundational AI terminology and concepts, discrepancies between documents from different origins may occur. A JTC 21 process to align standards and to make sure that EU standards fulfil their requirements are aligned and actionable will be developed.

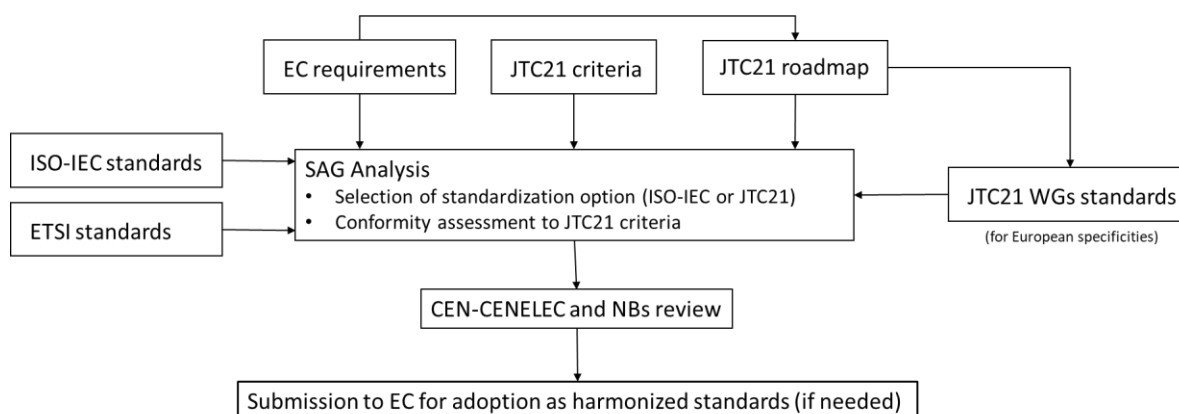


Figure 2: Potential process for EU standardization development and adoption

JTC 21 shall produce standardization deliverables to address European market and societal needs and to underpin EU legislation, policies, principles, and values. It has to be noted that the provisional EU AI Act timeframe implies having harmonised and supporting standards ready by the end of 2024. This constraint will drive JTC 21 decisions on the ways to adopt or develop relevant standards, including fast track options (Interim Standards, CEN-CENELEC Workshop....).

JTC 21 has developed a strategic framework as a structuring method that details how the committee will reach objectives defined in the scope and highlighted in the Roadmap Report developed by the CEN-CENELEC Focus Group on AI. The framework defines the main building blocks that new Working Groups

⁷ <https://www.consilium.europa.eu/media/46496/st11481-en20.pdf>

⁸ <https://www.coe.int/en/web/artificial-intelligence/cahai>

⁹ https://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=uriserv:OJ.C_.2016.272.01.0001.01.ENG

(WGs) and New Work Item Proposals (NWIP) should be based upon. The framework does not specify titles or scopes of future WGs.

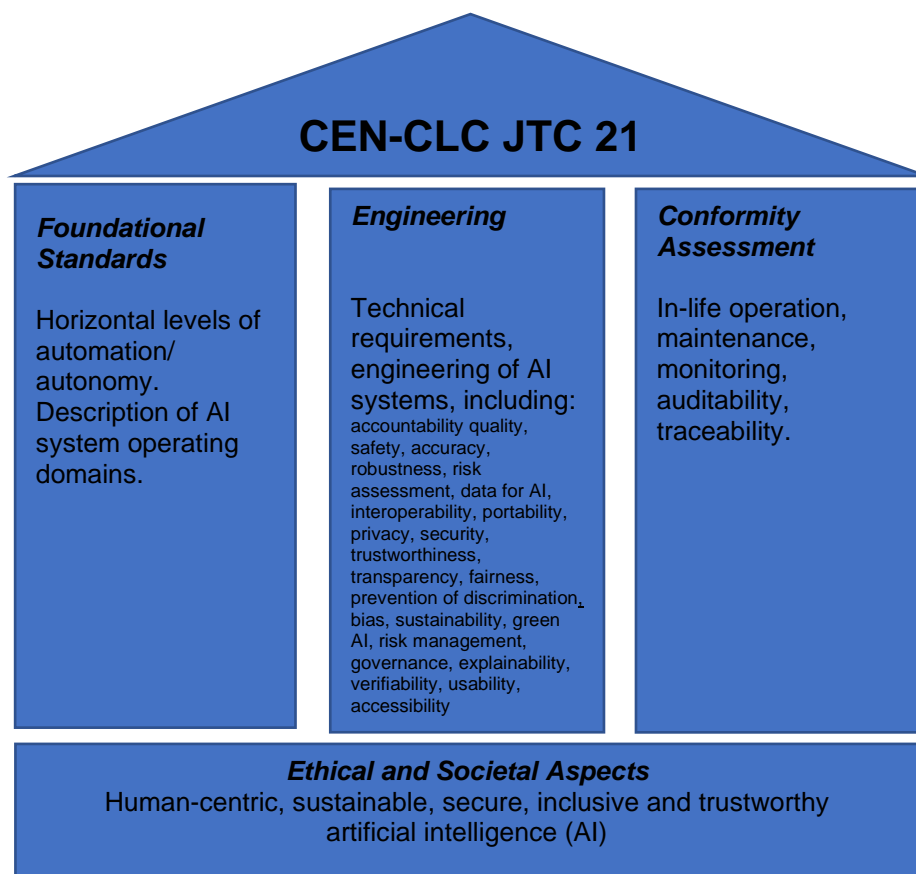


Figure 3: Overview of JTC 21 framework

During 2021/22 JTC 21 will establish the first WGs and define standardisation deliverables based on the JTC 21 scope, the illustrated framework and the Roadmap Report developed by the CEN-CENELEC Focus Group. Also, possibilities for establishing Workshop Agreements will be explored. Workshop Agreements can be developed in 12-18 months and could satisfy the need for fast-track standardisation deliveries. A European EN standard takes approximately 3-5 years to develop.

This JTC should take into account, and whenever meaningfully possible mirror and avoid duplication, the work of other SDOs (mainly ISO/IEC), and thereby facilitate the ongoing technical cooperation. The JTC will provide a framework for the optimal use of European resources and expertise available for standardization work, and a mechanism for information exchange between international and European Standardization Organisations (ESOs) to increase the transparency of ongoing work at international and European levels.

E Action plan

A detailed standardization work programme is under development and will be continuously updated and maintained by the JTC 21 management.

The work programme will specify:

- Title
- Scope
- Type of deliverable: (EN - with the initiation of standstill), CEN/TR or CEN/TS.
- Way of production: e.g., submission of an available reference (e.g. ISO standard) to Enquiry and Formal Vote; transfer of the work to ISO within the framework of the Vienna Agreement; development of a draft in a Working Group of the TC.
- Target dates

- Allocation of the work: number and title of the responsible working group.
- Mandate(s) or standardization request(s) if applicable
- Directive(s) (if applicable)

The initial work programme will include identification and possible adoption of documents already published or under development by ISO/IEC JTC 1 and other SDOs and international bodies such as ISO, IEC, ITU-T, and industrial or other fora/consortia. Where not being developed by other SDOs, the work programme will include the development of CEN-CENELEC homegrown publications that address specific European needs and requirements, including those in support of the EU Digital Single Market.

F Useful links to CEN and CENELEC website

General information on CEN-CENELEC Focus Group on AI (including a link to AI Roadmap Report):

<https://www.cencenelec.eu/standards/topics/artificialintelligence/pages/default.aspx>

LinkedIn Group with periodical information on the latest development of AI-related topics:

<https://www.linkedin.com/groups/8793224/>

The JTC 21 home page is under development. This page will give access to information about membership, JTC Officers, scope, publications, and work programme.

On behalf of the members of JTC 21,

Kim Skou Hilding

Secretary,
Danish Standards
JTC21@ds.dk