ISO FORM 4

NEW WORK ITEM PROPOSAL (NP)

DATE OF CIRCULATION:
Click here to enter a date.

CLOSING DATE FOR VOTING:
Click here to enter a date.

REFERENCE NUMBER:
Click or tap here to enter text.

PROPOSER:

☐ ISO member body:
Click or tap here to enter text.

☐ Committee, liaison or other:
Click or tap here to enter text.

☐ **WITHIN EXISTING COMMITTEE**
Document Number: Click or tap here to enter text.
Committee Secretariat: Click or tap here to enter text.

☐ **PROPOSAL FOR A NEW PC**

PROPOSAL

English title

Terminology and concepts for domain engineering of AI systems

French title

Terminologie et concepts pour l'ingénierie des domaines des systèmes d'IA

SCOPE

This document provides terminology and concepts of domain engineering of AI systems.

This document is intended for use by organizations developing, providing or using AI systems, regardless of the organisations' size, type or sector.

PURPOSE AND JUSTIFICATION

The project will provide terminology and concepts supporting domain engineering. Terms and concepts defined in this document can be extended and further refined and complemented to fit sectorial needs.

The term "domain" is used in many standards and in many different forms ("context", "environment" …) leading to a risk of confusion. Examples of such terms are:

- Intended use,
- intended domain of use,

- data domain,
- operational domain,
- validation domain,
- context of use,
- operating conditions,
- design envelope,
- …

Providing terminology for "domain" would be valuable for organizations wishing to establish an AI system's design envelope in the context of relevant characteristics (e.g., robustness) or approaches (e.g., system safety engineering, impact assessment) and be able to clearly communicate this to other interested parties.

Some terms in some SC 42 documents are used without clear definitions, or with not necessarily the same meaning across different documents (e.g., domain), or that different terms can be used with the same meaning (e.g., intended use, intended domain of use, context of use…). Clarification and disambiguation of terms and concepts are, therefore, needed.

In addition, horizontal relevance of new terms coming from verticals can be considered.

Clarification and disambiguation of terms related to domain can support regulatory needs on robustness, data governance, accuracy, human oversight, transparency, risk management and can support the development of product-oriented conformity assessment standards.

PROPOSED PROJECT LEADER

Arnault Ioualalen (Afnor)

PROPOSER (including contact information of the proposer's representative)

Heather Benko (SC 42 secretariat – heather.benko@ansi.org)

☒ **The proposer confirms that this proposal has been drafted in compliance with ISO/IEC Directives, Part 1, Annex C**

PROJECT MANAGEMENT

Preferred document
☐ International Standard
☒ Technical Specification
☐ Publicly Available Specification*

* While a formal NP ballot is not required (no eForm04), the NP form may provide useful information for the committee P-members to consider when deciding to initiate a Publicly Available Specification.

Proposed Standard Development Track (SDT – to be discussed by the proposer with the committee manager or ISO/CS)

☐ 18 months ☒ 24 months ☐ 36 months

Proposed date for first meeting: 2024-12-01

Proposed TARGET dates for key milestones

- Circulation of 1st Working Draft (if any) to experts: 2025-09-01
- Committee Draft consultation (if any): 2025-12-01
- DTS submission*: 2026-07-01
- Publication*: 2026-12-01

* Target Dates for DIS submission and Publication should be set a few weeks ahead of the limit dates automatically determined when selecting the SDT.

It is proposed that this DOCUMENT will be developed by:

☒ An existing Working Group, add title SC42 WG3 (Trustworthiness)

☐ A new Working Group Click or tap here to enter text.
(Note that the establishment of a new Working Group requires approval by the parent committee by a resolution)

☐ The TC/SC directly

☐ To be determined

☐ This proposal relates to a new ISO document

☐ This proposal relates to the adoption, as an active project, of an item currently registered as a Preliminary Work Item

☐ This proposal relates to the re-establishment of a cancelled project as an active project

☐ Other:

Additional guidance on project management is available here.

PREPARATORY WORK

☐ A draft is attached

☐ An existing document serving as the initial basis is attached

☒ An outline is attached
Note: at minimum an outline of the proposed document is required

The proposer is prepared to undertake the preparatory work required:

☒ Yes ☐ No

If a draft is attached to this proposal:

Please select from one of the following options:

☐ The draft document can be registered at Preparatory stage (WD – stage 20.00)

☐ The draft document can be registered at Committee stage (CD – stage 30.00)

☐ The draft document can be registered at enquiry stage (DIS – stage 40.00)

☐ If the attached document is copyrighted or includes copyrighted content, the proposer confirms that copyright permission has been granted for ISO to use this content in compliance with clause 2.13 of ISO/IEC Directives, Part 1 (see also the Declaration on copyright).

RELATION OF THE PROPOSAL TO EXISTING INTERNATIONAL STANDARDS AND ON-GOING STANDARDIZATION WORK

To the best of your knowledge, has this or a similar proposal been submitted to another standards development organization or to another ISO committee?

☐ Yes ☒ No

If Yes, please specify which one(s) Click or tap here to enter text.

☒ The proposer has checked whether the proposed scope of this new project overlaps with the scope of any existing ISO project

☐ If an overlap or the potential for overlap is identified, the proposer and the leaders of the existing project have discussed on:
i. modification/restriction of the scope of the proposal to avoid overlapping,
ii. potential modification/restriction of the scope of the existing project to avoid overlapping.

☐ If agreement with parties responsible for existing project(s) has not been reached, please explain why the proposal should be approved
Click or tap here to enter text.

☐ Has a proposal on this subject already been submitted within an existing committee and rejected? If so, what were the reasons for rejection?
Click or tap here to enter text.

This project may require possible joint/parallel work with
☐ IEC (please specify the committee)
☒ CEN (please specify the committee) CEN-CENELEC/JTC 21
☐ Other (please specify) Click or tap here to enter text.

Please select any UN Sustainable Development Goals (SDGs) that this proposed project would support (information about SDGs, is available at www.iso.org/SDGs)

☐ GOAL 1: No Poverty
☐ GOAL 2: Zero Hunger
☒ GOAL 3: Good Health and Well-being
☒ GOAL 4: Quality Education
☐ GOAL 5: Gender Equality
☒ GOAL 6: Clean Water and Sanitation
☒ GOAL 7: Affordable and Clean Energy
☒ GOAL 8: Decent Work and Economic Growth
☒ GOAL 9: Industry, Innovation and Infrastructure
☐ GOAL 10: Reduced Inequality
☒ GOAL 11: Sustainable Cities and Communities
☒ GOAL 12: Responsible Consumption and Production
☒ GOAL 13: Climate Action
☒ GOAL 14: Life Below Water
☒ GOAL 15: Life on Land
☒ GOAL 16: Peace, Justice and strong institutions
N/A GOAL 17: Partnerships for the goals

Identification and description of relevant affected stakeholder categories

	Benefits/Impacts/Examples
Industry and commerce – large industry	Provide clarity and disambiguation of terminology and concepts.
Industry and commerce – SMEs	Provide clarity and disambiguation of terminology and concepts.
Government	Support the development of product-oriented conformity assessment standards
Consumers	Identify domain-specific risks of AI systems
Labour	Identify domain-specific risks of AI systems
Academic and research bodies	Stimulate research activities related to the various aspects of domains of AI systems
Standards application businesses	
Non-governmental organizations	Identify domain-specific risks of AI systems
Other (please specify)	

Listing of countries where the subject of the proposal is important for their national commercial interests (Please see ISO/IEC Directives, Part 1, Annex C, Clause C.4.8)

This item is especially relevant for countries of the European Union because of the European Commission standardization request in support of the EU regulation on AI. Similarly, this should support emerging regulation in other regions (e.g., Canada AIDA).

Listing of external international organizations or internal parties (other ISO and/or IEC committees) to be engaged in this work (Please see ISO/IEC Directives, part 1, Annex C, Clause C.4.9)

SAE, EUROCAE, CEN-CENELEC/JTC 21, IEC/TC 65, IEC/SC 65A, ISO/TC 22/SC 32, ISO/TC22/SC33, ISO/TC 204, JTC 1/AG 19, TC 20/SC 16 (UAS), ISO/TC 215, SC 40, SC 7…

Listing of relevant documents (such as standards and regulations) at international, regional and national level (Please see ISO/IEC Directives, Part 1, Annex C, Clause C.4.6)

ISO/IEC 22989:2022 Artificial intelligence concepts and terminology

ISO/IEC DIS 42005 AI system impact assessment

ISO/IEC/IEEE 24765:2017 Systems and software engineering — Vocabulary

ISO/IEC/IEEE 42010:2022 Software, systems and enterprise — Architecture description

ISO/IEC/IEEE 15288:2023 Systems and software engineering — System life cycle processes

SO/IEC/IEEE 29148:2018 Systems and software engineering — Life cycle processes — Requirements engineering

ISO/IEC 25063:2014 Systems and software engineering — Systems and software product Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for usability: Context of use description

ISO/IEC 2382:2015 Information technology — Vocabulary

ISO/IEC 15408-1:2022(en) Information security, cybersecurity and privacy protection — Evaluation criteria for IT security — Part 1: Introduction and general model

ISO/IEC 29197:2015 Evaluation methodology for environmental influence in biometric system performance

ISO/IEC TS 20540:2018 Security techniques — Testing cryptographic modules in their operational environment

ISO 16290:2013 Space systems — Definition of the Technology Readiness Levels (TRLs) and their criteria of assessment

ISO/IEC TR 24028:2020 Overview of trustworthiness in artificial intelligence

ISO/IEC Guide 51:2014 Safety aspects — Guidelines for their inclusion in standards

ISO/IEC Guide 51:2014 Safety aspects — Guidelines for their inclusion in standards

ISO 10209:2022 Technical product documentation — Vocabulary — Terms relating to technical drawings, product definition and related documentation

ADDITIONAL INFORMATION

Maintenance Agencies (MAs) and Registration Authorities (RAs)

☐ This proposal requires the designation of a maintenance agency.
If so, please identify the potential candidate:
Click or tap here to enter text.

☐ This proposal requires the designation of a registration authority.
If so, please identify the potential candidate
Click or tap here to enter text.

NOTE: Selection and appointment of the MA or RA are subject to the procedure outlined in ISO/IEC Directives, Part 1, Annex G and Annex H.

Known patented Items (Please see ISO/IEC Directives, Part 1, Clause 2.14)

☐ Yes ☒ No

If Yes, provide full information as an annex

Is this proposal for an ISO management System Standard (MSS)?

☐ Yes ☒ No

Note: If yes, this proposal must have an accompanying justification study. Please see the Consolidated Supplement to the ISO/IEC Directives, Part 1, Annex SL or Annex JG

Terminology and concepts for domain engineering of AI systems

Outline