AI standards and guidelines for European organisations

OECD. Al
Policy Observatory

AI Governance and Standards Summit



Dr Sebastian Hallensleben

Chair, CEN-CENELEC JTC21 Chief Trust Officer, Resaro Co-Chair AI Risk & Accountability, OECD ONE.AI Programme Chair, Digital Trust Convention Principal Advisor Digital Trust, KI Park







2025-09-15

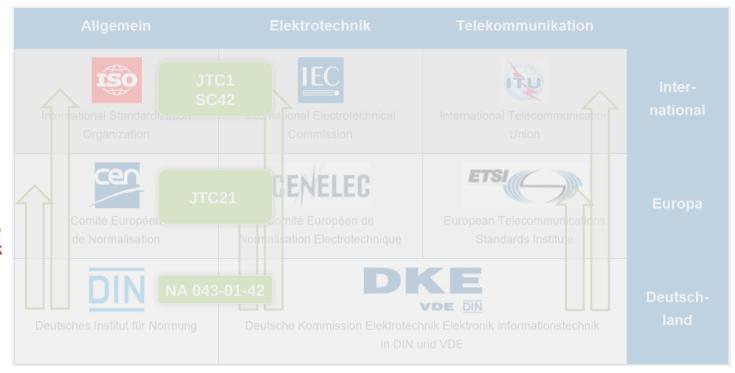
Global three-tier standardisation landscape





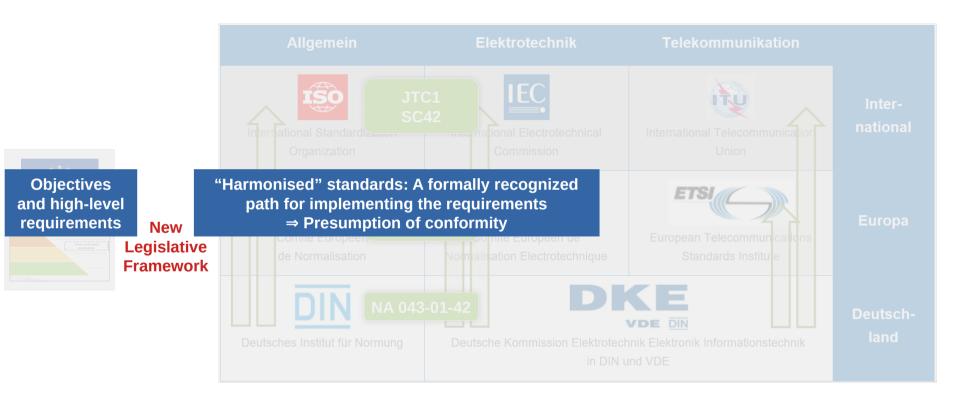
New Legislative Framework

Synergy of regulation and standardisation





Synergy of regulation and standardisation



General reduct is can be found to make service of some of the information in this status dischlorated for anymore not climitary immedied in JTCI? In or the final reduction and all for more explanations of standard continuous and all formations are standard continuous and and standard continuous and s						project editors there are of interest to JTC21.	The EU has issued a formal standardisation request (SE) as a mandate for CEV- CENEUE. to develop the harmonised standards for the Af-Ac. 2: consists of 90 points bytch "happering standards" added for inclinical seasons), Most work items contribute to fulfilling one or more points in this request since this is the top principly of property of the pr														
Comments country, or CEN-CEN	and contribe through one table nor the	e of the Armes 3 org. ITC21 management	of deliverab	WG	TUC, SBS), Pre	e A matter committee in your sales do not address them to as them is the committee	Relationship with work in 1042 or other applicable committee	dards concents	technical content that has already been produced, and the degree of consensus that has already been achieved. Hence, the formal stage seems of the production of the productio	R R C C C C C C C C C C C C C C C C C C	Interest of the second of the						right of All system				
▼	₹	-	. P.	F	~	▼	~	way executed u afters	~	₩u	-	₹		₹	F	₹	Ŧ	₩	₹ [7 -	₩
Samulanday	(T021004, (T021031 Amendmen	EN 150/EC 229892023	EN	WG4		Information technology - Artificial intelligence - Artificial intelligence concepts and terminology (SG/EC 2366-2622)	Adaption of 22989	Published	tN published	60	Standard published in 2022. Editor: Wei Wei (IBM, Germany)	*									
Servicelegy	JT021091	EN 150/EC 22989/prA1	EN	WG4		hformation technology-Artificial intelligence - Artificial intelligence concepts and terminology (50/20 2269 Amendment 1)	Parallel dev. ISO lead	Under Drafting		60		*									
Servicelegy Servicelegy	JT021005 JT021032	EN ISO/EC 23053-2023 EN ISO/EC 23053/psA1	EN EN	WG4		Pamework for Artificial Intel Igence (AI) Systems Using Machine learning (AII) (ISO/IEC 23653-2022) Pamework for Artificial Intel Igence (AI) Systems Using Machine Jearning (AII) (ISO/IEC 23655 Amendment II)	Adoption of 23053	Published Under Drafting	tN published	60	Standard published in 2022. Editor: Milan Patel (Microsoft, UK)	*						-	-	+	
Securiosings Securiosis	JT021011	prov Screc		WG3 WG2	Marta	Terminology and concepts for domain engineering of AI systems information technology - Artificial intelligence - Management	Adoption of 42001	Under Ballot	informal preparatory discussions underway. Still to be discussed in WGT Adoption to be concluded by NBs in simplified procedure not requiring BT approval. Standard will not be harmonia at by the EC but is referen ced in	60	Under discussion in jFC21/WG3 and 5C42/WG1 Standard published	×		H		=	=		+		
And oh	JT021039	pren xxx	EN	WGZ	Janczaniki Adam Leon Smith	system AC - quality man agement system for regulatory purpos m	Complements, and builds on, several SO/EC standards, including 42001	Under Salot (Internal)	neveral to-be-harmonised standards. Enquiry phase expected QS/2025											*	
Sand out	JT021006	pr8N B-0/E-0 28894	EN	WG2		information technology - Artificial intelligence - Guidance on risk management - 5:0/182, 238-4	nd uding 42001 Adoption of 23894	Published	IN published	60	Standard published		×								
Annal mb	JT021024	prtN XXX	EN	WGZ	Redent Countyau d	Al Risk Management		Under Salist (Internal)	Enquiry phase expected Q5/2025. Supersedes earlier work item JT021009.				×								
Trustamethiness.	JT021021	prtN SO/EC 24970	EN		30150	All system logging	Parallel dev. ISO lead	Comment Resolution	Internal ballot concluded 2025-05-14; comment resolution in progress	30.2					×					\perp	
Terminalogy	JT021022	prtN &C/EC 12792	EN	WG4	Ranta Wazir	than parency taxonomy of All systems	Parallel dev. 150 lead	Publish	MEX discussion points in earth parallel development for characters.	40	Editor: Rania Wazir (leiwand.ai, Austria)			\square		×	\rightarrow		_	_	
Trustamethiness.		ISOMEC 24029-3	EN	WG3	Armault busisies	Artificial intelligence (Al) - A seasoment of the robustness of neural nation(ks - Part 3 Methodology for the use of statistical methods Artificial Intelligence (MI) - Assessment of robustness of neural	Parallel dev1		WG3 discussion points to wards parallel development (or alternatively adoption although this takes longer overall)	20	NWIP approved and under development			\Box		\rightarrow		×		_	
Transporthiness	JT021018	TR 24029-1 ISO/IEC 23282	TR EN	WGS	Rania Wazir	naterorics - part 1: over slew Systems to methods for accurate natural language processing	Adoption of 24029-1	Published	available, though, since this is the frontier of research.	60	TR published bit to: Sarais What r [letwandas, Asatti a). Parall eldev approved, allocated to [WCS; in progress			\vdash		\rightarrow	_			+	
Transport Contract	Jroznosz		_		_	gaterns Artificial Intelligence - Overview of All basis and functionalities	Parallel dev. ISO lead	Drafting		_	Parall el dev approved, allocated to JWG5; in progress			Н		\rightarrow		*	+	+-	
Transporthiness	JT021002	ISO/IEC 23281	TR	WG3	Aufrant I	related to natural language processing	Parallel dev. ISO lead	Under Drafting			tdi tor : Lauriane Aufrant (BRIA, France). Parall el dev approved, allocated to JWC5; in progress	×				\rightarrow	_	×	_	\bot	
Transpare thineses	no WI needed	ISO/IEC TS 4215	TS			Accuracy of classification systems Accuracy of All systems for regression, recommendation and	Reference to 4213	n/a	Condusion in WG4 Adopts on probably not required; 154213 can be referenced from Trus tworthiness work item.		Published in 2022						_	×		+	
Trustam thiness.	no WI næded	BO/EC TS 4213 (update) prEN XXX	TS EN			dustering Artificial Intelligence trus twor thiness framework	Reference to 4213 ed.2	n/a Comment	tition meeted in ICC1 Comment resolution from earlier internal ballot in progress. Enquiry phase for most or all dissesses pected Q3/2/25	20	Update in progress	-					_	×		_	
Transmitters.	JT021025	pren xxx	EN	WG3	Piercos ma Bisc onti Nicolas Cubaud	Systems at Intelligence trus two transess framework. Systems transport with systems		Resolution	br most orall diamesespected Q3/2/Q5			-			×	*	*				
Transport frames	JT021044	pren xxx	EN	WG3	Nicolas .	Taxonomy of Al tasks in computer vision		Under Drafting						Н			_	-	+	+-	
		RenCENVOLC BIOVERO/TS 12791			Adam Leon	Information technology - Artificial intelligence - Treatment of unwanted blass in classification and repression machine learning		Drafting								-			_	+	
Transacritimes.	Jidzibis		15	mus.	Smith Michael van		PARTIE OF LIST HAS	Under				-				\rightarrow	_	*	_	+-	1
Studies of times.	JT0211086	preN XXX	EN	WG3	Hartskamp	and regularized for managing data since systems		Under Drafting				-		*		\rightarrow	-+	2 2	+	+-	_
Data governance	JT021020	preN SO/EC	EN	WGS	Natale	Information technology - Antificial intelligence - Data life cycle famework		Published		60	Published in 2023			*							
Data grossvanos		50/EC 529 part 1-4	EN	WG3	Adam Leon Smith	Deta quality for analytics and machine learning (MU) -Part 1: Overview, terminology, and examples -Part 2: Data qualitymeasures -Part 3: Data qualitymeasures -Part 3: Data qualitymeasures -Part 4: Data qualitymeasures -Part 4: Data qualitymeasures -Part 4: Data qualitymeasures		Published		60	Published in 2024			*							
Date governance	JT021037	pren xxx	EN	WG3	Michael van Hartskamp	Artificial Intelligence – Quality and governance of datasets in AI		Under drafting						*							
Data governance	JT021007	CEN/CLC/TR 18115	TR	WG3	Domenico Natale	Data Governance and quality for AI in the European context		Published	Approval with comments, now to be considered in WG3 for any future at it on					×							
Testingard Carls mity		ISO/02C 42006	EN	WG2		Requirements on bodies performing audit and certification of Al- management systems	(Modified?) adoption of 5:0/EC 4206	l	Next steps under discussion in WG2.	40	42006 at DIS stage, editor Susanne Kuch (DAkks, Germany)										*
Testingeral Cardomity		ISO/IEC 29119-11	TS	WG2		Testing of AI systems	Adoption of 29119-117		Next steps under discussion in WG2.	7	29119-11 has been a TR first and is now continuing as TS. Can also draw on ETSI sork, ESI work. European specificities. Tod which SRs are impacted							×			×
Testingard Cardomity	јтогнова	preN XXX	EN	WG2	Imilia Tantas	Al conformity a seasment framework		Under Drafting													*
Cyloromorphy	JT021030	ISO/IEC 27090		WG5	Henrich Pohls	Gui dance for addressing security threats to artificial intelligence	Contribution to 270907	Preliminary	PWI for Contribution to 27090, adoption as TR suggested	30.60	Project editor in SC27 WG4: Milan Patel (Microsoft, UK)			\Box					×		
Cyloreansurity	no WI næded		EN	WG5		Artificial Intelligence — Privacy protection		n/a	No harmonized standards required, covered e.g. by 27761 for GDPR, 29100, 29151, 29155 for protection of personal data, impact assessment etc. Data extraction from AI will be covered in WGS.										*		
Cylineransurity	JT021029	pren xxx	EN	WG5	Wel Wel	Artificial Intelligence - Cybersecurity specifications for AI Systems	References to standards in SIO/EC SC 27 and CEN- CENELEC (TC 13	Comment Resolution	Internal ballot conduded 2025-05-07; comment resolution in progress, expected to be completed 2025-07-31.		for requested appropriate level of cybersecurity in Art. 15: consentional measures from ISO_IBC 27 series and in a lateratep to Standards for CRA (our rently not available)								*		
Cylorensority			EN	WG2/5		Conformity assessment in relation to the technical solutions to address A3-specific sulmerabilities (cf. liven above)			bid with WGD for alignment with AT conformity as sessment, tibd with JTC13 and EC for alignment with overall cybernecurity regs and CRA.		15408, 27006/27007/27008								×		×
Items beyond the scope of supporting the standardisation request (currently lower priority)																					
	T021846	prEN SO/EC 2029	EN	WG4	Enrico Panali	Al-enhanded nudging	Parallel dev. ISO lead	Under Drafting	Builds on and supersedes JT021006 originally started in Europe.		Parallel development approved and formally suggested to JTC21										
	TO21616	CEN/CLC/TR 18145/2025	TR	WG4	Valeria Drina	Information Technology - Artificial Intelligence - Green and Suntainable Al		Published	Content expected to be picked up by future Green All work in 5042. PWI activated in the May 2025 plenary. The work is well advanced.												
	T021035	prCEN/TS	TS	WG4	Juli ette Propi er	Sastainable A' - Guidelin as and metrics for the environmental impact of All systems and services",		Under Drafting	PWI activated in the May 2025 plenary. The work is well advanced.			_							\perp	\bot	
	T021001	prCEN/CLC/TR 17894	TR	WG2	Imilia Tantar			Published													
	T021019	prEN XXX	EN	WG4	Alessio Tartaro	Competence Requirements for professional AE ethicists		Comment Resolution	Internal ballot concluded 2024-12-20; comment resolution in progress												
	T021033	prCBN/TS	TS	WG4	Pablo Penarubia	Guidelines for upskilling on Allethics and social concerns in organisations		Preliminary	PWI activation deferred due to prioritisation of SR-related work												
	T021017	GN/GLC IS GIRL GYRL SAID 730 28	TR			orgen hittions Information technology - Artificial intelligence (AI) - Blas in AI spitems and AI aided decision making		Published													
	T021014, T021027	prev BO/EC 2009	EN	WGS	Adam Leon Smith	Software engineering - Systems and software Quality Requirements and Evaluation (SQuaRE) - Quality model for AT	Adaption of 25059	Published													
,	T021026	prCEN/CLC/TR XXX	TR	WG4	Natalia Gorgi	Impact Assessment in the contest of fundamental rights		Preliminary	PWI in progress. Considering e.g. relations hip to 42001 and other issues. Not clearyst whether TR or EN.												
	-	prCBN/TS	TS	WG4	Pablo Penarubia	Guidelines on tools for handling ethical issues in the All systems lifecycle		Preliminary													
	T021045	ISO/IEC 42102	EN	WG3	Taras Holoyed	Taxonomy of All system methods and capabilities	Parallel dev. ISO lead	Under Drafting													
			TR	WG4	Hakima Shiralizade	Guidance on application of Risk Management in Critical Digital Infrastructure		Preliminary	PWI approved 2025-04-15			_									



Standardisation has <u>two</u> deliverables

- Visible:
 - a set of interconnected and consistent **technical standards documents**
- Invisible:

consensus of "all relevant stakeholders" (=> legitimacy)

Includes many fundamental divergences, e.g. -

- safety and security communities
- EU and non-EU companies
- Al providers and Al deployers
- Large and small companies
- Industry and civil society

Challenges and Risks	Mitigation
 Standardising at the frontier of research Complex interplays between standards (e.g. safety vs. security "worlds") 	 Al standards work in CEN-CENELEC already since 2019 Dedicated Technical Coherence Group in JTC21
 Different interpretations of the AI Act and of what is required for a standard to be harmonisable Attempts to re-negotiate the AI Act through standards 	 Intensive participation and input of Al Office in JTC21 JRC papers as guidance for controversial topics Direct harmonisation assessment (no consultants)
 Time pressure due to - Unusually broad range of interests and priorities perfect – lightweight – consistent – timely – detailed – Some stakeholders put their own interests above the need to compromise and to reach a timely consensus 	 Adaptations of CEN-CENELEC processes, procedural exceptions Prioritisation of resources in CEN-CENELEC MC Extra secretarial bandwidth from national bodies ⇒ more time for consensus building
Complex relationship with international standardisation (content and timelines)	 Use of direct or modified adoption wherever possible Judicious use of "parallel development"

Timeline

- CEN-CENELEC: AI Focus Group since 2019 | JTC21 since 2021
- AI Act **final:** August 2024
- Stocktaking review by COM / AI Office Feb 2025
 => shared understanding of remaining gaps
- Public consultation for drafts of harmonised standards ("Enquiry Vote") mostly starting Nov 2025 to Feb 2026 (QMS already underway)
- Integration of feedback ("Comment Resolution")
 mostly in Q2/ 2026 => mature content
- Implementation deadline high-risk requirements Aug 2026 (?)
- Formal processes in CEN-CENELEC and COM / AI Office for finalisation, harmonisation and OJEU publication

- Identify AI applications across the organisation
- Map to risk categories, esp. high-risk
- Scope the implementation project(s) for AI Act compliance; plan/allocate resources
- Execute the implementation project(s)
- => Al Act compliance via harmonised standards

JTC21 standards are currently distinct from the Code of Practice

	JTC21 harmonised standards	Code of Practice
Providing implementation steps for	Requirements on AI systems in high-risk applications – Articles 8 to 15 • All types of AI • Late stage of value chain	Requirements on General Purpose Models – Articles 53, 55 Generative AI only Early stage of value chain
Development context and process	 Broadly applicable complex set of CEN-CENELEC regulations Decision making power with standardisation bodies at national level who also provide secretarial support (~25 countries) Input from ETSI (under Mode 4) Input from ISO/IEC (under Vienna/Frankfurt agreements) Ongoing feedback/guidance from EC at working level 	 Custom process and structure created for CoP development purposes Process directed by AI Office with outsourced facilitation support Decision making power is with the AI Office

Harmonised standards and CoP are both voluntary, but have a special status as the path to AI Act compliance with legal certainty

Beyond AI governance frameworks: Mission-specific, performance-focused metrics for AI quality

 Initiated by Resaro and others, developed in an open source approach (www.resaro.ai/asqi), as a first step towards standards



- Purpose: A shared language for business, governance and technical teams to answer questions such as -
 - When is an AI solution **"good enough"** to go live?
 - Which one of several AI solutions is **"better"** in a given scenario?

