

**The  
Alan Turing  
Institute**

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**Developments in AI regulation:  
UK policy and the EU AI Act**

**Dr Florian Ostmann**

**Director of AI Governance and Regulatory Innovation**

# Agenda

# 1

## AI policy in the UK

- ▶ The AI regulation white paper
- ▶ AI Safety Summit / AI Safety Institute (Frontier AI Safety)
- ▶ Developments under the new government

# 2

## The EU AI Act

- ▶ Overall structure
- ▶ Requirements for high-risk systems and the standardisation request

# 3

## More on AI standards

- ▶ AI standards landscape
- ▶ AI standards and assurance
- ▶ Strategic questions for AI standardisation
- ▶ The AI Standards Hub

# AI regulation does not take place in a vacuum

**Existing laws and regulations** have wide-ranging implications for AI.

Focus in what follows: initiatives that are **AI-specific** and driven by **central government**.

**Important aspects of law and regulation that the presentation will not cover:**



Laws and regulation with implications for AI without explicitly referring to it



Laws and regulation that directly touch on AI without being focused on it



AI-focused work driven by individual regulatory agencies based on their existing powers

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# AI policy in the UK

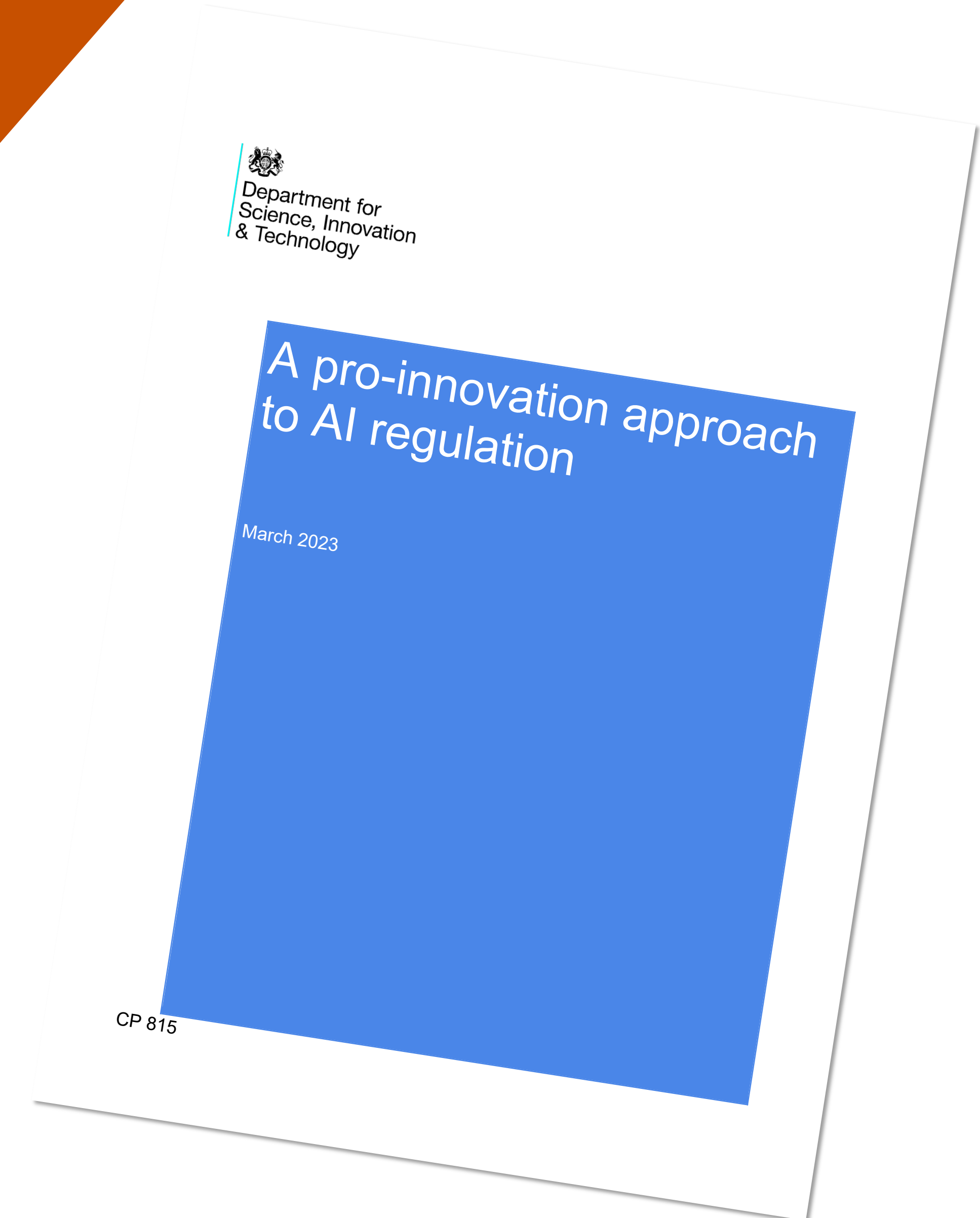


# The evolution of UK government policy on AI



# The AI Regulation white paper

- ▶ **Risk-based and context-specific** regulatory approach
- ▶ **Five general principles** for the development and use of AI systems
- ▶ **Existing regulators** tasked with **implementing principles**
- ▶ **Central coordinating function** to support coherence and coordination across regulators
- ▶ Emphasis on the use of **standards and other tools**



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Safety, security  
and robustness

Appropriate transparency  
and explainability

Fairness

Governance and  
accountability

Contestability and  
redress

# The AI Regulation white paper

1

## Safety, security and robustness

"AI systems should function in a robust, secure and safe way throughout the AI life cycle, and risks should be continually identified, assessed and managed".

2

## Appropriate transparency and explainability

"Transparency refers to the communication of appropriate information about an AI system [...]. Explainability refers to the extent to which it is possible for relevant parties to [...] understand the decision-making processes of an AI system."

3

## Fairness

"AI systems should not undermine the legal rights of individuals or organisations, discriminate unfairly against individuals or create unfair market outcomes."

4

## Governance and accountability

"Governance measures should be in place to ensure effective oversight of the supply and use of AI systems, with clear lines of accountability established across the AI life cycle."

5

## Contestability and redress

"Where appropriate, users, impacted third parties and actors in the AI life cycle should be able to contest an AI decision or outcome that is harmful or creates material risk of harm."

- ▶ Existing regulators to **interpret** the principles and produce **guidance** for their respective remits.
- ▶ Emphasis on **standards** to support this approach.



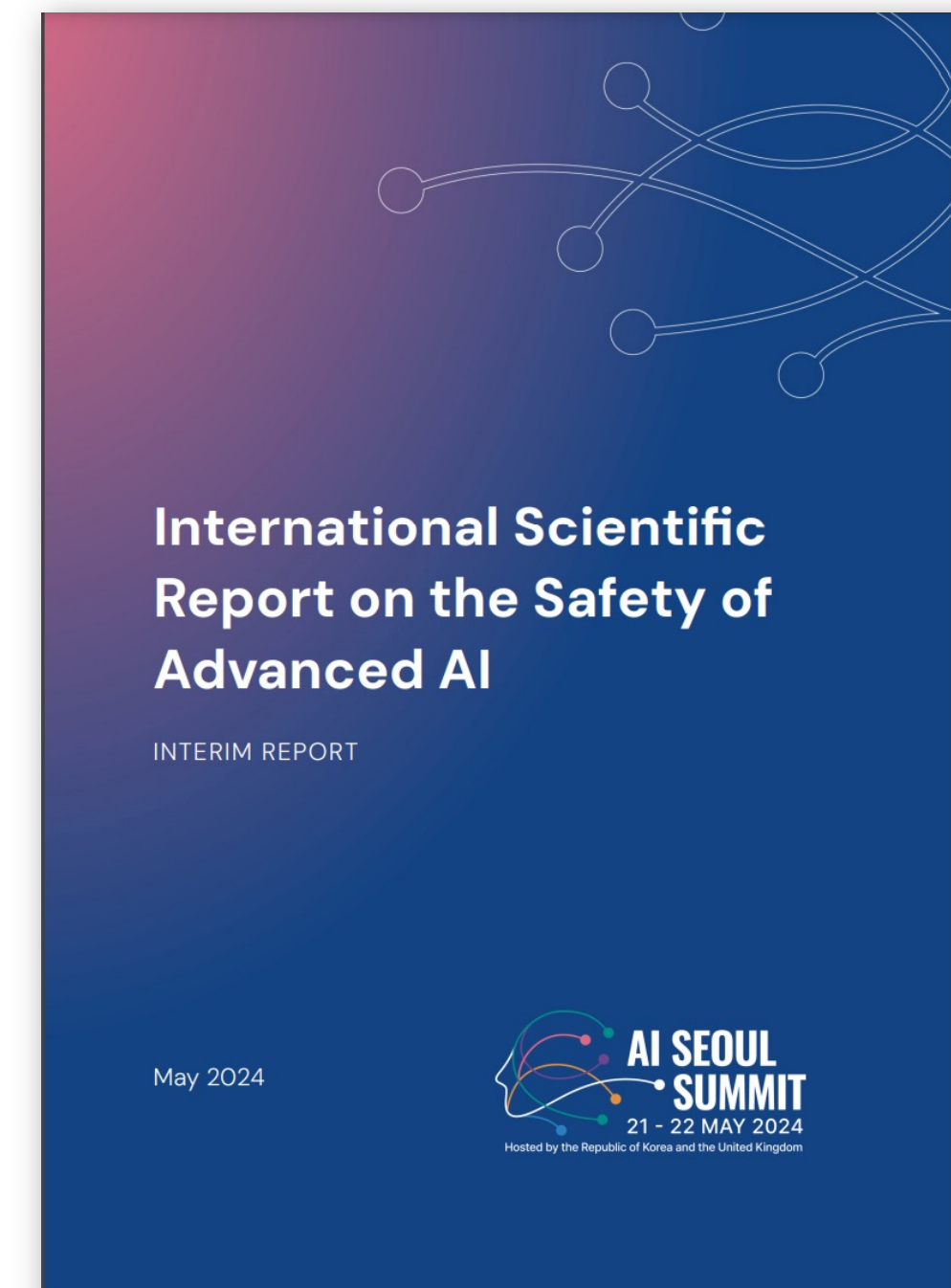
# AI Safety Institute objectives

## Focus on frontier AI (most advanced AI models)

### Non-regulatory function:

- **Advancing AI safety science** through testing, evaluation, validation, and verification
- **Informing policymakers** about risks of advanced AI capabilities
- **Fostering collaboration** between companies, governments, and the wider research community
- **Developing, and disseminating AI safety practices**, promoting AI safety guidelines and evaluations globally.

**AISI** AI SAFETY  
INSTITUTE



# Direction of travel under the new government

## Continuity and accelerated pursuit of legislation for frontier AI

- Pursuit of **'narrow' AI bill focused on frontier AI** with binding regulation for companies developing the most powerful AI models
- Continued development of **domain-specific approach to AI regulation for non-frontier AI** as set out in previous white paper

## Supporting regulatory innovation

- Establishment of **Regulatory Innovation Office**

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# The EU AI Act

# The EU AI Act

World's first attempt at **regulating AI** in a **comprehensive** (horizontal/cross-sectoral) manner.

## Why is it important?

Broad and stringent scope of the legislation

Size and significance of the EU market

↳ **Expected global impact on practices for the development and use of AI systems (“Brussels Effect”)**



EUROPEAN COMMISSION

Brussels, 21.4.2021  
COM(2021) 206 final  
2021/0106(COD)

Proposal for a

**REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**LAYING DOWN HARMONISED RULES ON ARTIFICIAL INTELLIGENCE (ARTIFICIAL INTELLIGENCE ACT) AND AMENDING CERTAIN UNION LEGISLATIVE ACTS**

{SEC(2021) 167 final} - {SWD(2021) 84 final} - {SWD(2021) 85 final}

### EXPLANATORY MEMORANDUM

#### 1. CONTEXT OF THE PROPOSAL

##### 1.1. Reasons for and objectives of the proposal

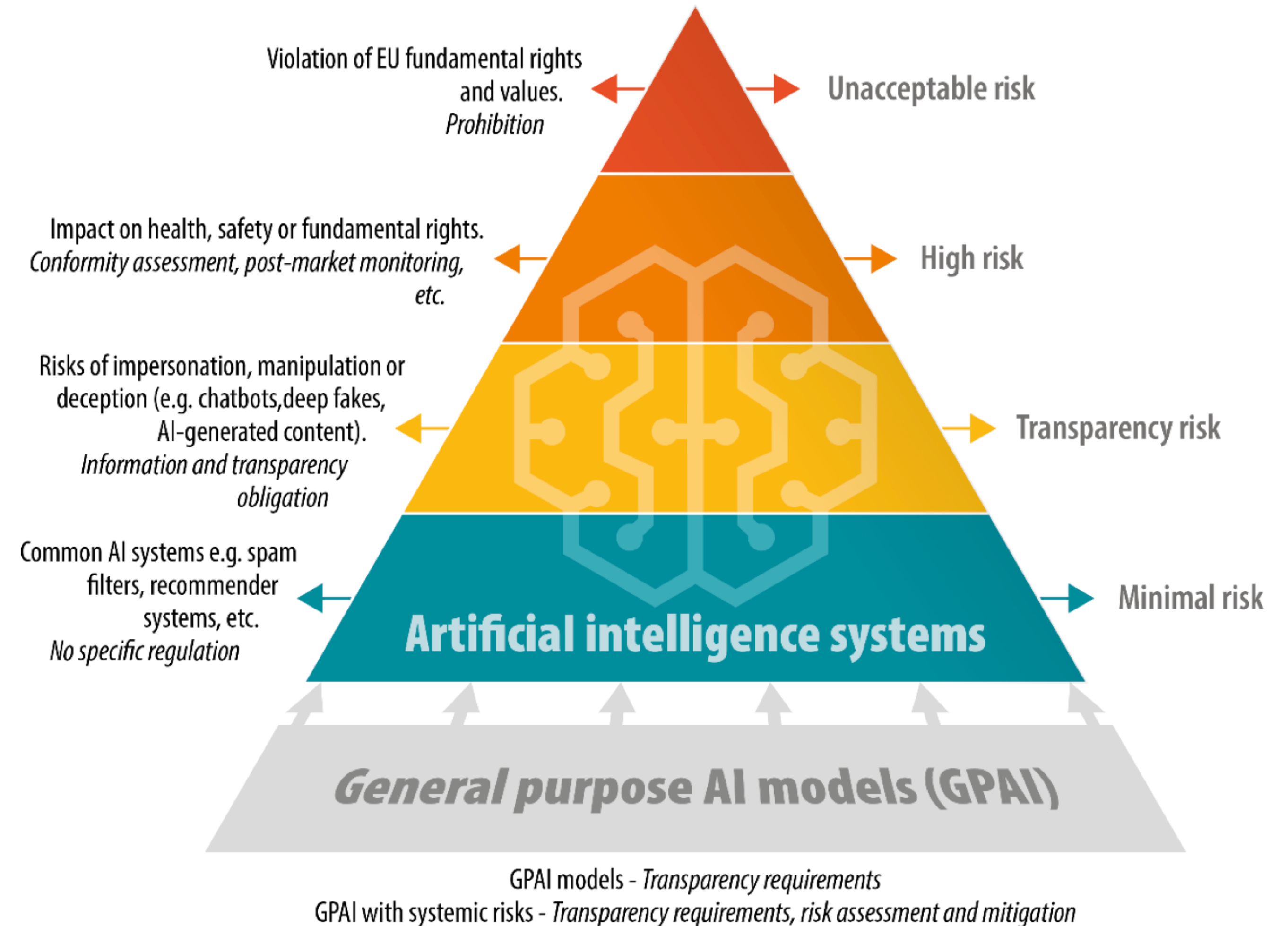
This explanatory memorandum accompanies the proposal for a Regulation laying down harmonised rules on artificial intelligence (Artificial Intelligence Act). Artificial Intelligence (AI) is a fast evolving family of technologies that can bring a wide array of economic and societal benefits across the entire spectrum of industries and social activities. By improving prediction, optimising operations and resource allocation, and personalising service delivery, the use of artificial intelligence can support socially and environmentally beneficial outcomes and provide key competitive



# EU AI Act overview

## Risk-based approach

- Requirements that apply to AI systems depend on **use case**.
- Some uses of AI are **prohibited**.
- AI systems that are considered ‘**high risk**’ must conform to ‘**essential requirements**’.
- Separate provisions for ‘**general purpose AI**’, depending on compute used for training.

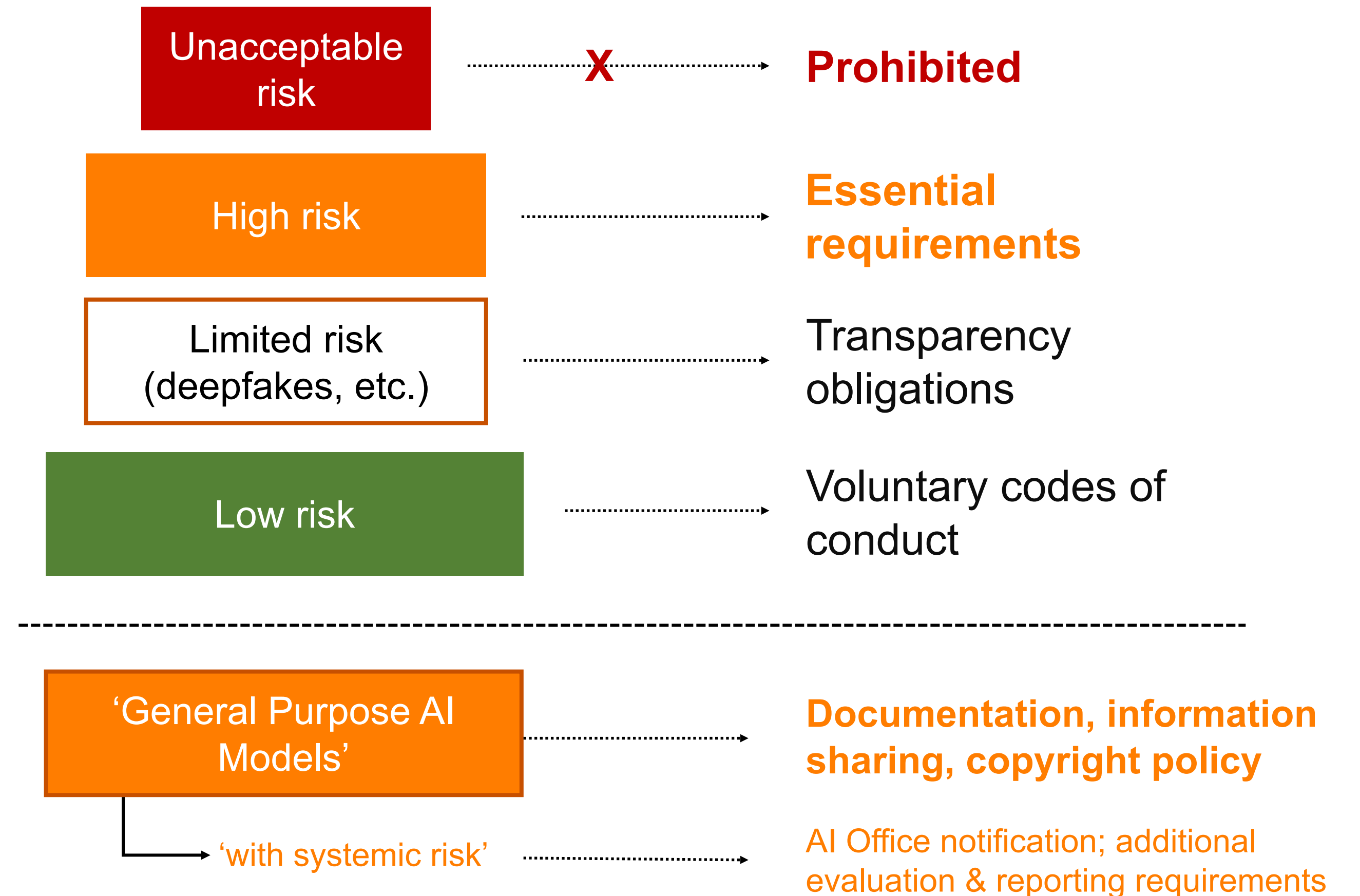




# AI Act overview

## Risk-based approach

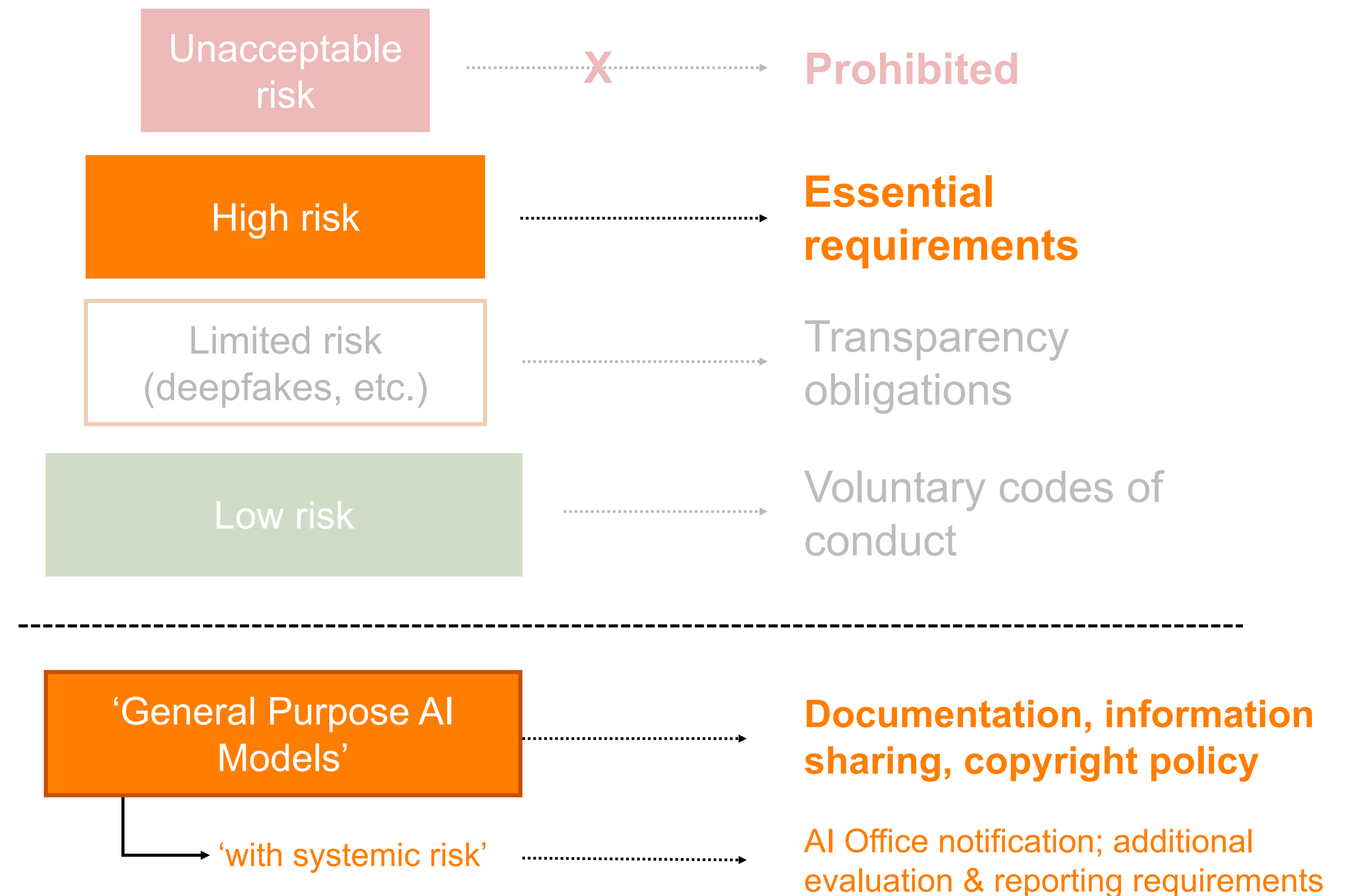
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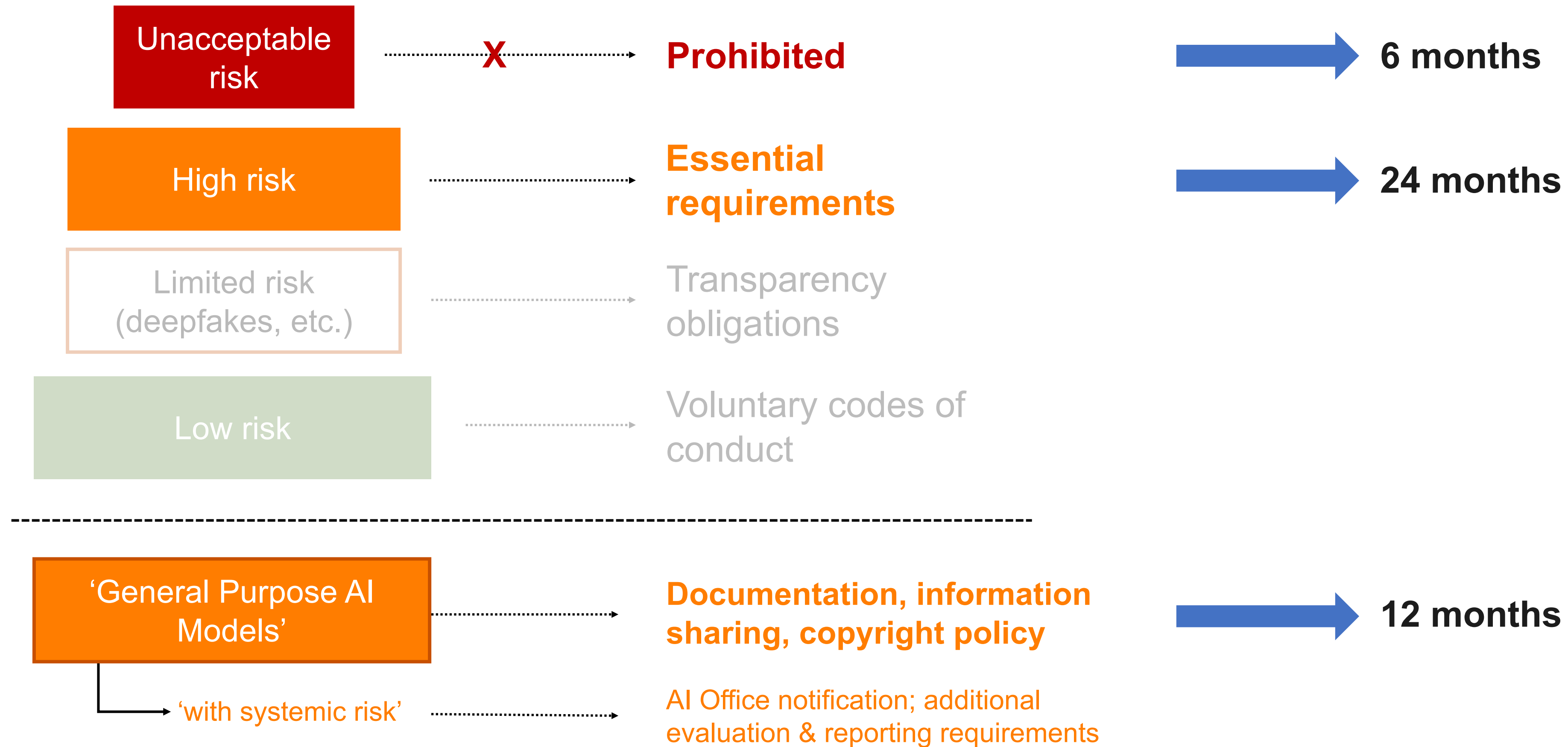
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# AI Act implementation timeline



# High-risk uses of AI (Annex III)

- 1 (Non-banned) biometrics
- 2 Critical infrastructure
- 3 Education and vocational training
- 4 Employment, workers management, and access to self-employment
- 5 Access to and enjoyment of essential private services and essential public services & benefits
- 6 Law enforcement
- 7 Migration, asylum, and border control management
- 8 Administration of justice and democratic processes

# The European Commission's draft standardisation request

## Seven essential requirements



## 10 standardisation deliverables



Data and data governance

Technical documentation

Record keeping

Transparency and info provision

Human oversight

Accuracy, robustness, cybersecurity

Risk management system



### ANNEX I

List of new European Standards and/or European standardisation deliverables to be drafted

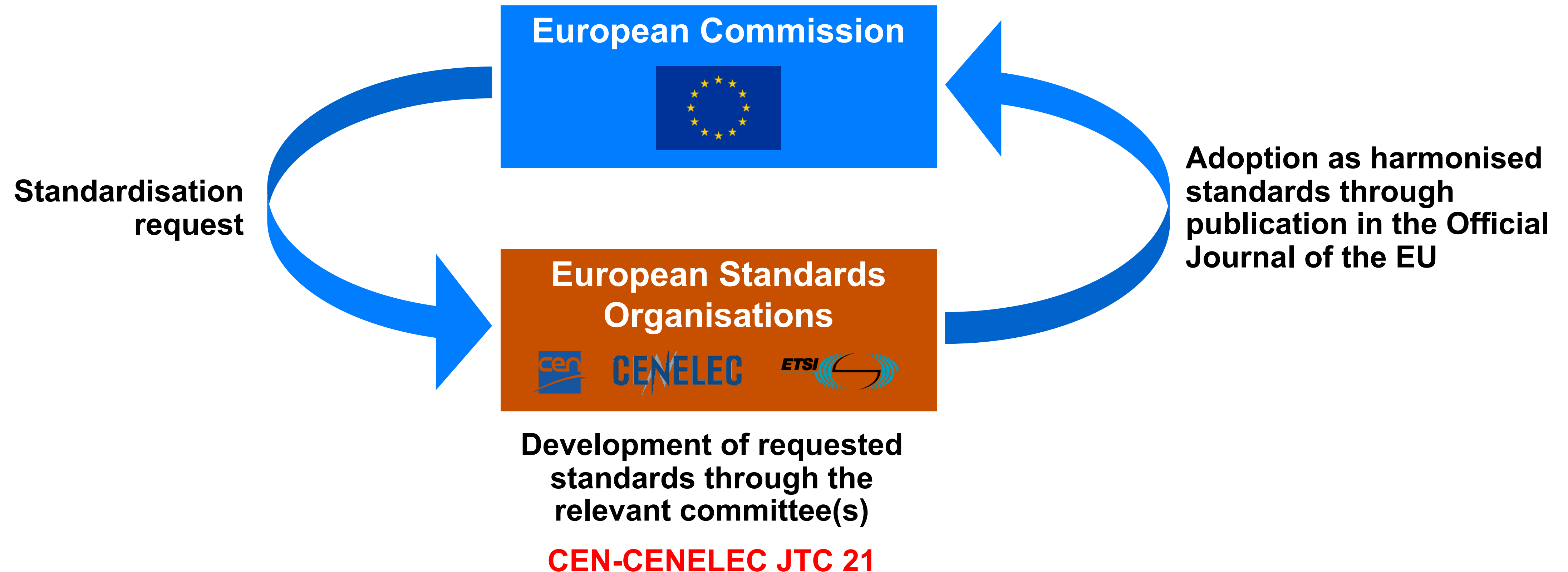
Table 1: List of European standards and/or European standardisation deliverables to be drafted and deadlines for their adoption

Reference information		Deadline for the adoption by CEN and CENELEC
1.	European standard(s) and/or European standardisation deliverable(s) on risk management system for AI systems	31/01/2025
2.	European standard(s) and/or European standardisation deliverable(s) on governance and quality of datasets used to build AI systems	31/01/2025
3.	European standard(s) and/or European standardisation deliverable(s) on record keeping through logging capabilities by AI systems	31/01/2025
4.	European standard(s) and/or European standardisation deliverable(s) on transparency and information provisions to the users of AI systems	31/01/2025
5.	European standard(s) and/or European standardisation deliverable(s) on human oversight of AI systems	31/01/2025
6.	European standard(s) and/or European standardisation deliverable(s) on accuracy specifications for AI systems	31/01/2025
7.	European standard(s) and/or European standardisation deliverable(s) on accuracy specifications for AI systems	31/01/2025



# The role of standards in the EU's New Legislative Framework

Harmonised standards developed by **European Standards Organisations** as a policy tool



# The role of standards in the EU's New Legislative Framework

Compliance with the essential requirements in the AI Act can be demonstrated in two ways:

1. **Use of harmonised standard(s)**, which provides a **legal presumption of conformity**
2. **Provide proof** that requirements are met in a different way



Strong incentive to use harmonised standards to achieve and demonstrate compliance



# The European Commission's standardisation request

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## 10 standardisation deliverables



- Data and data governance
- Technical documentation
- Record keeping
- Transparency and info provision
- Human oversight
- Accuracy, robustness, cybersecurity
- Risk management system



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# The European Commission's standardisation request

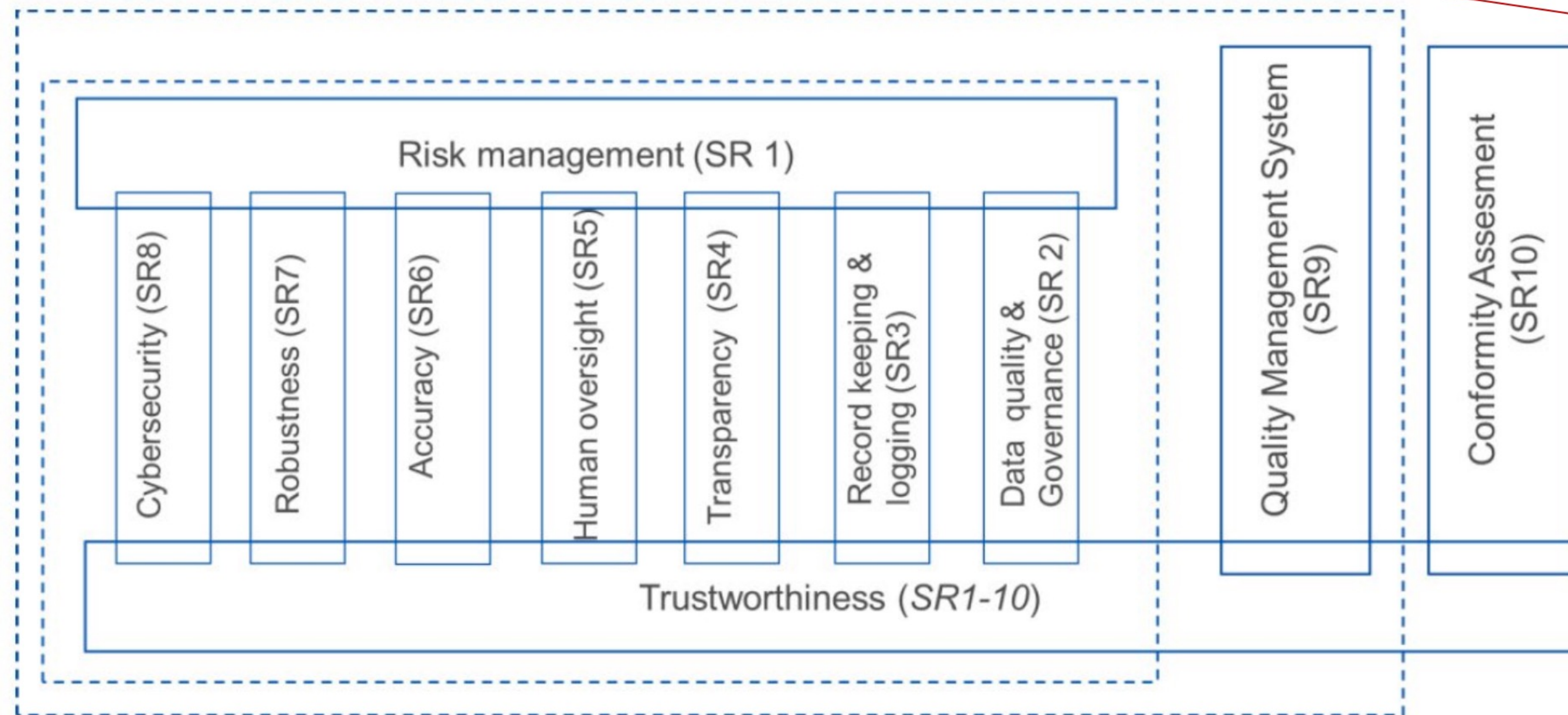


JTC 21  
Artificial  
Intelligence



## Architecture of standards in response to the EU standardization request

> 130 experts  
> 24 countries



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# The role of standards



# AI standards landscape snapshot



## Horizontal



117

## Vertical



88

## Published

149

## Draft

21

## Pre-draft

35

Foundational and terminology

46

Process, management and governance

115

Measurement and test methods

41

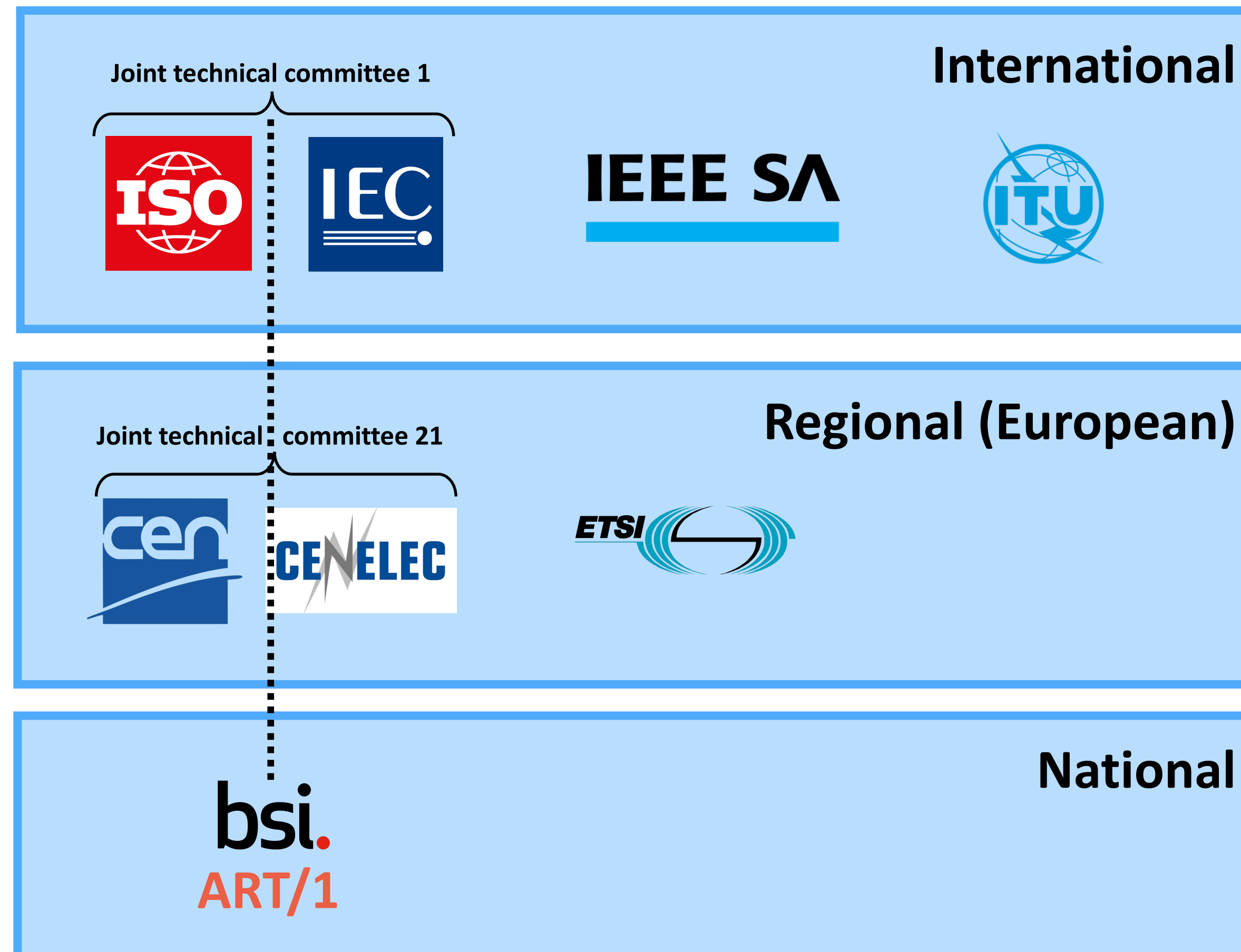
Product and performance requirements

24

Interface and architecture

51

# International and regional SDOs with prominent AI activity



Standards development processes governed by principles of **openness**, **transparency**, and **coherence** that are:

- **stakeholder-driven**
- **consensus-oriented**

**Relevant examples in many areas of life:**

- Paper sizes
- Safety of electrical equipment
- Digital file formats
- Wireless communication

➤ See the '[Standards at a Glance](https://aistandardshub.org)' section at [aistandardshub.org](https://aistandardshub.org) for more information.

# AI assurance and the role of standards

## Actionable guidance drawing on wide range of expertise

- Translating principles into practice, in widely agreed forms
- Established processes, incl. **coordination** and regular **updating**

## Foundation for third-party assurance and certification

## Significance in the context of regulatory strategies

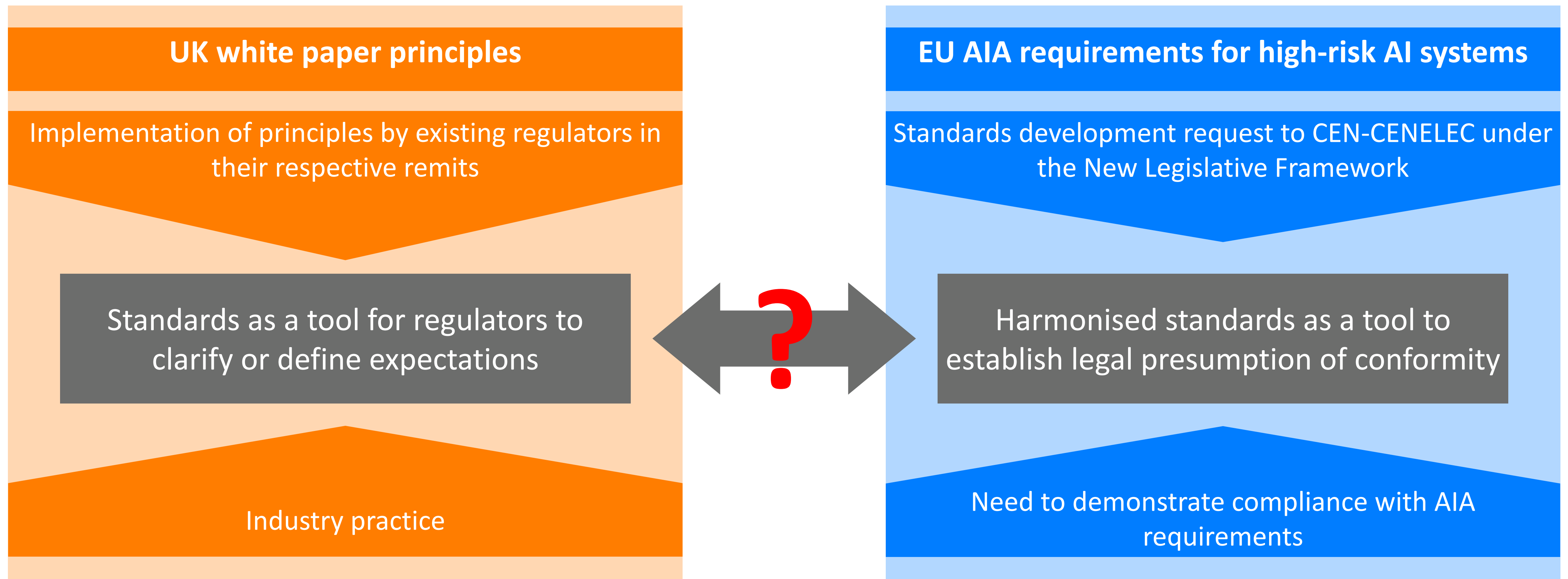
- Operationalising **regulatory requirements**
- Commonly agreed **best practice for areas that lack regulation**

## International interoperability of regulation and governance

- Shared references that enable **alignment and coherence across jurisdictions**



# Standards in the UK's and the EU's approach to AI





# Key questions for AI standardisation

## International alignment

- Global vs. European standards
- Alignment as core promise of standardisation (interoperability, market access, etc.)
- Need to address jurisdiction-specific considerations (esp. in the EU)
- Potential tension between broad agreement and meeting substantive expectations
- Adoption vs. development of new standards at the European level





# Key questions for AI standardisation

## Horizontal vs. vertical standards

- Need to address considerations specific to certain sectors/use cases
- Value of horizontal frameworks (coherence, efficiency)
  - Organisation may develop or use AI across a variety of use cases
- Horizontal legislative efforts such as the EU AI Act
  - Context-specificity of high-risk use cases in the AI Act

The image shows two side-by-side screenshots of standard documents. The left screenshot is for ISO/IEC 23894, titled 'Information technology – Artificial intelligence – Risk management'. It lists the domain as 'Horizontal', the scope as 'AI-specific', and topics as 'Accountability', 'Bias and discrimination', and 'Explainability and transparency'. The right screenshot is for IEEE 2801, titled 'IEEE Recommended Practice for the Quality Management of Datasets for Medical Artificial Intelligence'. It lists the domain as 'Healthcare and medicine - Health informatics', the scope as 'AI-specific', and topics as 'Data collection', 'Data management', and 'Data quality'. Both screenshots include a 'See more details' link and engagement metrics like replies, reviews, and followers.

ISO/IEC 23894

Information technology – Artificial intelligence – Risk management

This document provides guidance on how organizations that develop, produce, deploy or use products, systems and services that utilize artificial intelligence (AI) can manage risk specifically related to AI. The guidance also aims to assist organizations to integrate risk management...

Domain: Horizontal

Scope: AI-specific

Topic: Accountability Bias and discrimination Explainability and transparency

See more

See more details

0 replies 0 reviews 7 followers

IEEE 2801

IEEE Recommended Practice for the Quality Management of Datasets for Medical Artificial Intelligence

Promoted in this recommended practice are quality management act for artificial intelligence medical devices (AIMD). The document highl for organizations responsible for datasets. The document describes c the lifecycle of datasets, including...

Domain: Healthcare and medicine - Health informatics

Scope: AI-specific

Topic: Data collection Data management Data quality

See more

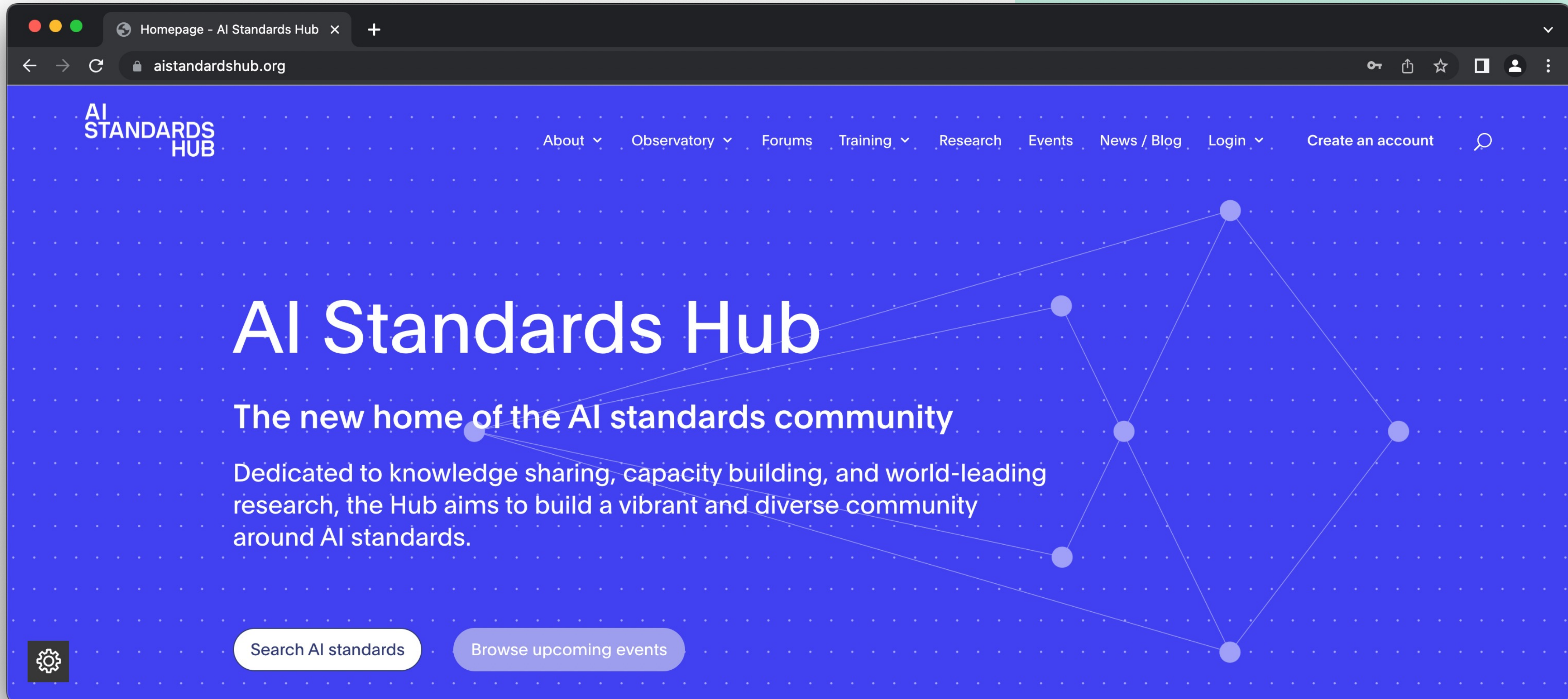
See more details

Last updated: 11 May 2023

0 replies 0 reviews 0 followers



# The AI Standards Hub







# The partners behind the Hub

- **Bringing together strengths and networks of three key UK institutions:**
  - National Institute for Data Science and AI
  - National Standards Body
  - National Metrology (measurement) Institute
- **Support from and close collaboration with the UK Government**

**The  
Alan Turing  
Institute**

**bsi.**

**NPL** 



Department for  
Science, Innovation,  
& Technology

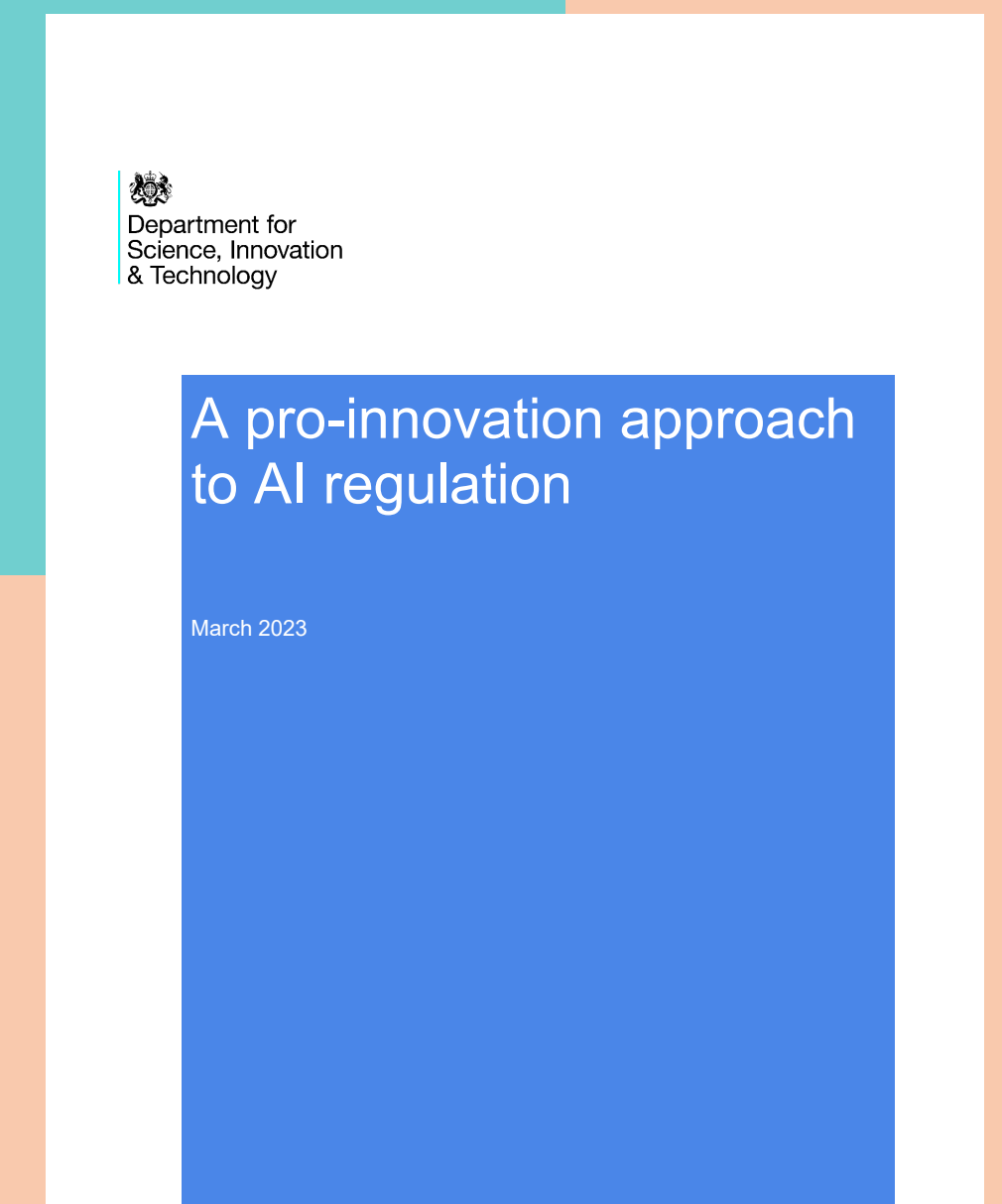
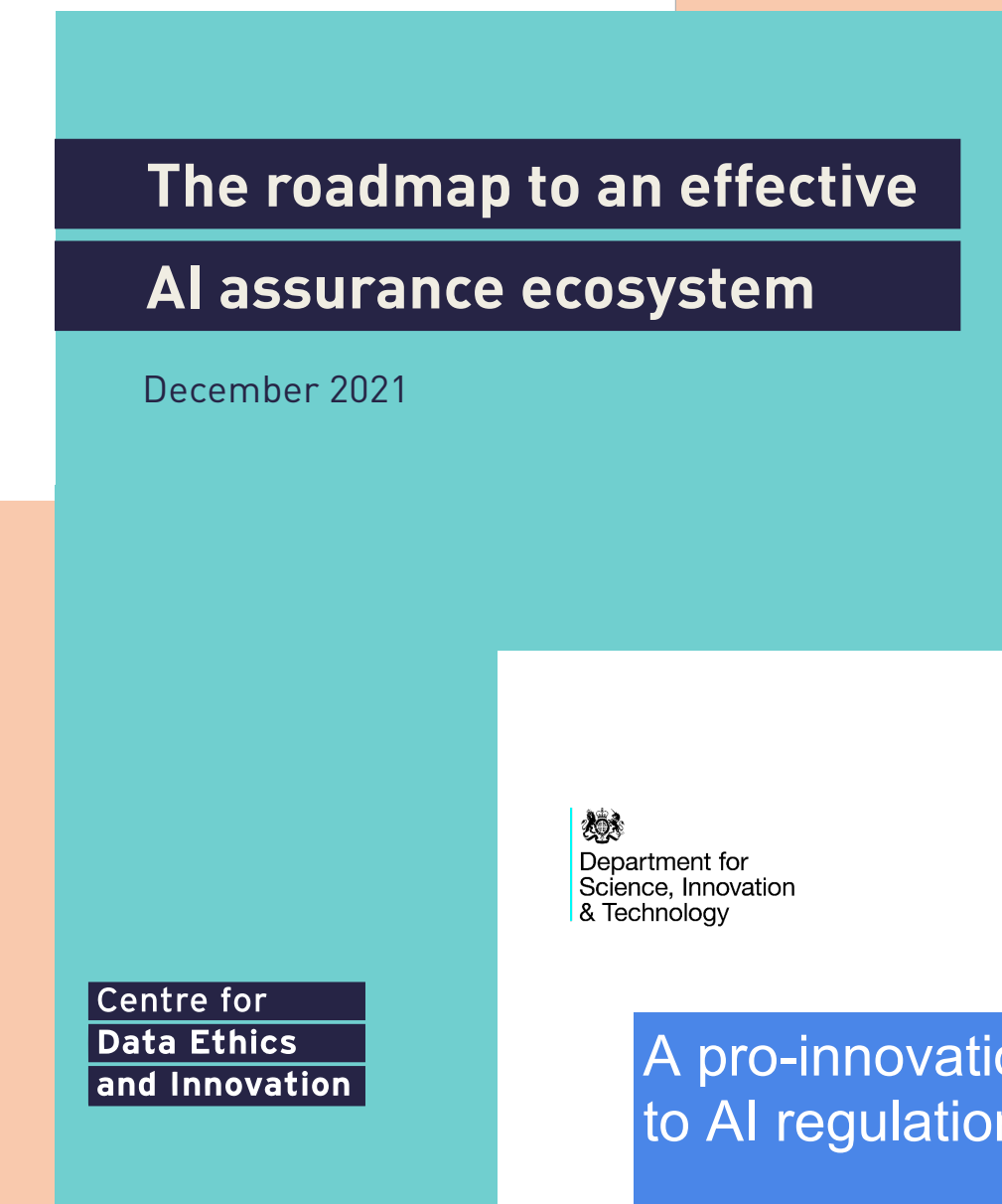
# Why standardisation for AI?

## – Importance of international standards for the evolution of the AI ecosystem

- Quality and safety assurance
- Ethical development and use
- Knowledge and technology transfer
- Interoperability
- Market access

## – Links to other governance mechanisms

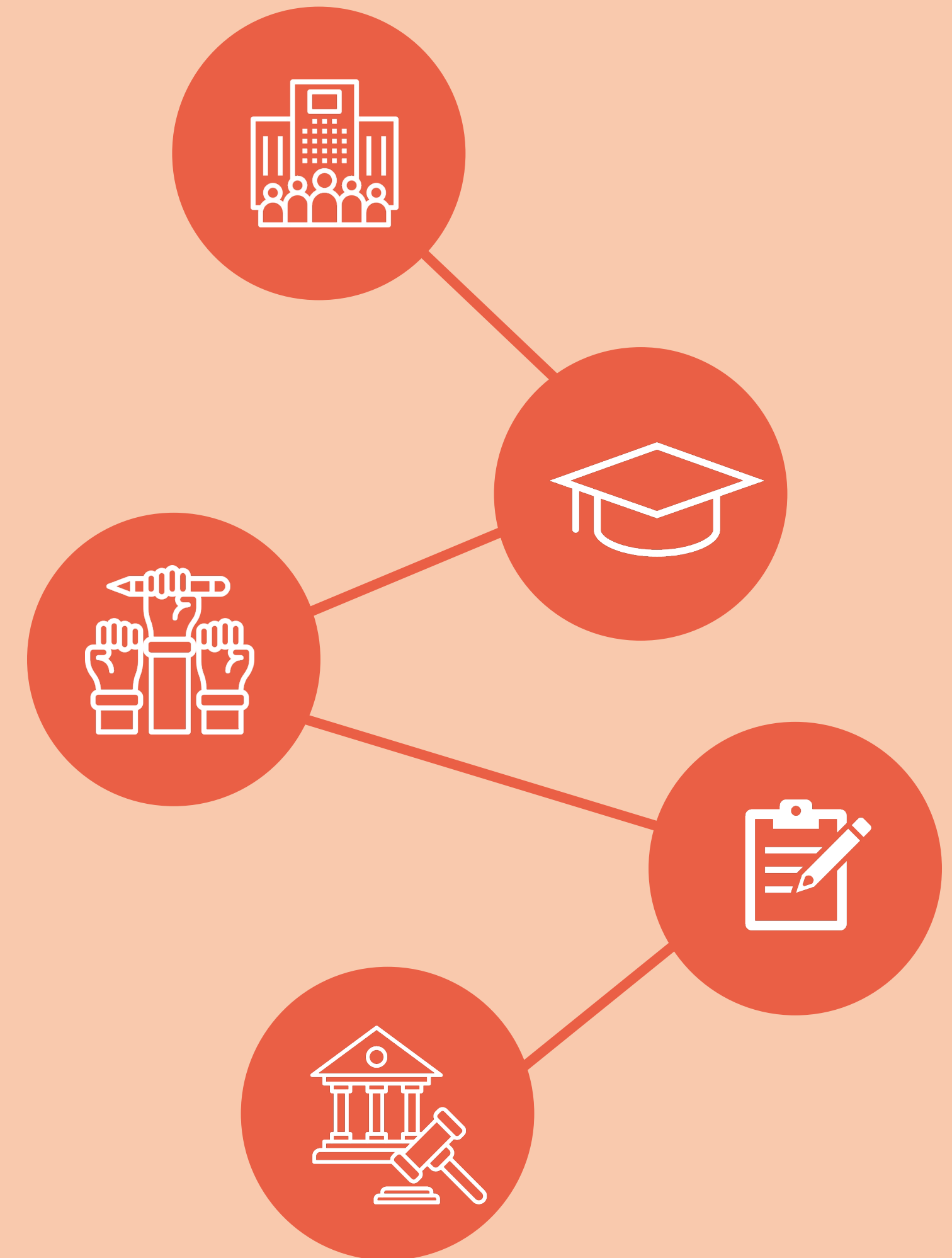
- Third-party certification
- Designated/harmonised standards
- UKCA/CE marking





# The role of stakeholder diversity

- **AI standardisation touches on the interests of many stakeholder groups**
  - AI developers
  - Procurers of AI
  - Users of AI
  - Civil society / consumers
  - Regulators & policymakers
  - Academic researchers
- **Importance of inclusion and participation**
- **Increasing complexity and rapidly evolving landscape**
  - Challenges for stakeholders in navigating AI standardisation





# Four pillars of activity

## 1. Observatory

- Interactive databases for AI standards and AI policy with update & notification features

## 2. Community & collaboration

- Connection, exchange of ideas, and problem-solving online and through live events

## 3. Knowledge & training

- E-learning and in-person training focused on skills for engaging with AI standardisation

## 4. Research & analysis

- Strategic insights to inform the direction of international AI standardisation efforts



# Engaging with the Hub

- Explore the Hub's online platform
- Register for a free user account
- Sign up for our email newsletter
- Watch out for upcoming events
- Get in touch to collaborate  
[aistandardshub@turing.ac.uk](mailto:aistandardshub@turing.ac.uk)

[www.aistandardshub.org](http://www.aistandardshub.org)



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