

# Al and Policymaking Workshop

### 9th April 2024



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### **ARISA – Artificial Intelligence Skills Alliance**

- ARISA delivers a strategic approach to sectoral cooperation on the development of into account privacy, bias, and trust.
- project has 18 partners and 28 associated partners.



Needs Analysis and a European Strategy for AI skills development

AI skills curricula & learning programmes, certification methods & framework

ARISA fast-tracks the upskilling and reskilling of employees, job seekers, business leaders, and policymakers into AI-related professions to open Europe to new business opportunities.



Artificial Intelligence (AI) skills in Europe. The project provides AI knowledge and skills helping people understand and use AI technology in business and policy contexts, taking

• ARISA is a four-year transnational project funded under the Erasmus+ programme. The





Learning programmes & courses piloting and further uptake of the ARISA results





### **Today's speakers**



Julien Chasserieau Associate Director for AI and Data Policy, DIGITALEUROPE

Julien analyses AI and data economy policies at EU level and leads advocacy campaigns for the tech industry. He has worked on AI policy since 2019.

He works with a wide range of industry stakeholders as well as institutional and academia partners, including the 110 companies and 40 national trade associations members of DIGITALEUROPE.



Joris Krijger AI & Ethics Officer, de Volksbank

Joris is an Ethics & AI Officer at de Volksbank while also holding a PhD at the Erasmus University in Rotterdam, focusing on AI ethics.

He presently works on bridging the gap between ethical principles and AI by studying the operationalisation of ethics in data science contexts. He is part of the editorial board of Springer Nature's AI and Ethics Journal. For his contributions to the field of responsible AI he received a Graduate School Award for PhD Excellence.





Cornelia Kutterer Managing Director, Considerati & Senior Research Fellow at the Multidisciplinary Institute in Artificial Intelligence (Chair of Al Regulation), University of Grenoble-Alpes

Cornelia leads Considerati in Belgium, provides legal and AI governance services, and researches AI regulation as a Senior Research Fellow at the University of Grenoble. She is a tech law expert, IAPP board member, and part of the OECD AI network. She advises Safer.AI and was a lead at Microsoft Europe in tech policy. Her background includes roles in European consumer law and early experience in legal institutions. She holds law degrees from Hamburg and Strathclyde Universities.





### Agenda

13:30 – 13:35	Welcome & Introduction Jose Martinez-Usero, Projects Director & DIGITALEUROPE
13:35 – 14:35	<b>European AI policies and their impact or</b> Julien Chasserieau, Associate Director for
14:35 – 14:45	Coffee break
14:45 – 15:45	Al Governance: Ensuring Responsible De Joris Krijger, Al & Ethics Officer, de Volks
15:45 – 16:00	Coffee break
16:00 – 17:00	Charting the Future – Exploring complia Cornelia Kutterer, Managing Director, Co



Niels Selling, Senior Research & Innovation Manager,

### on AI Use and Innovation

or AI and Data Policy, DIGITALEUROPE

### eployment

bank

### ance readiness, safety innovation and open legal questions *onsiderati*





# European Al policies: impact on Al use and innovation

Brussels, 9 April / Julien Chasserieau, DIGITALEUROPE



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### • Al initiatives at a glance

### **European initiatives**



### AI Act



**Product Liability Directive /** AI Liability Directive



New Legislative Framework Product safety laws

EU AI innovation strategy



### **Global initiatives**



Council of Europe Framework on Al, Human Rights, Democracy and the Rule of Law



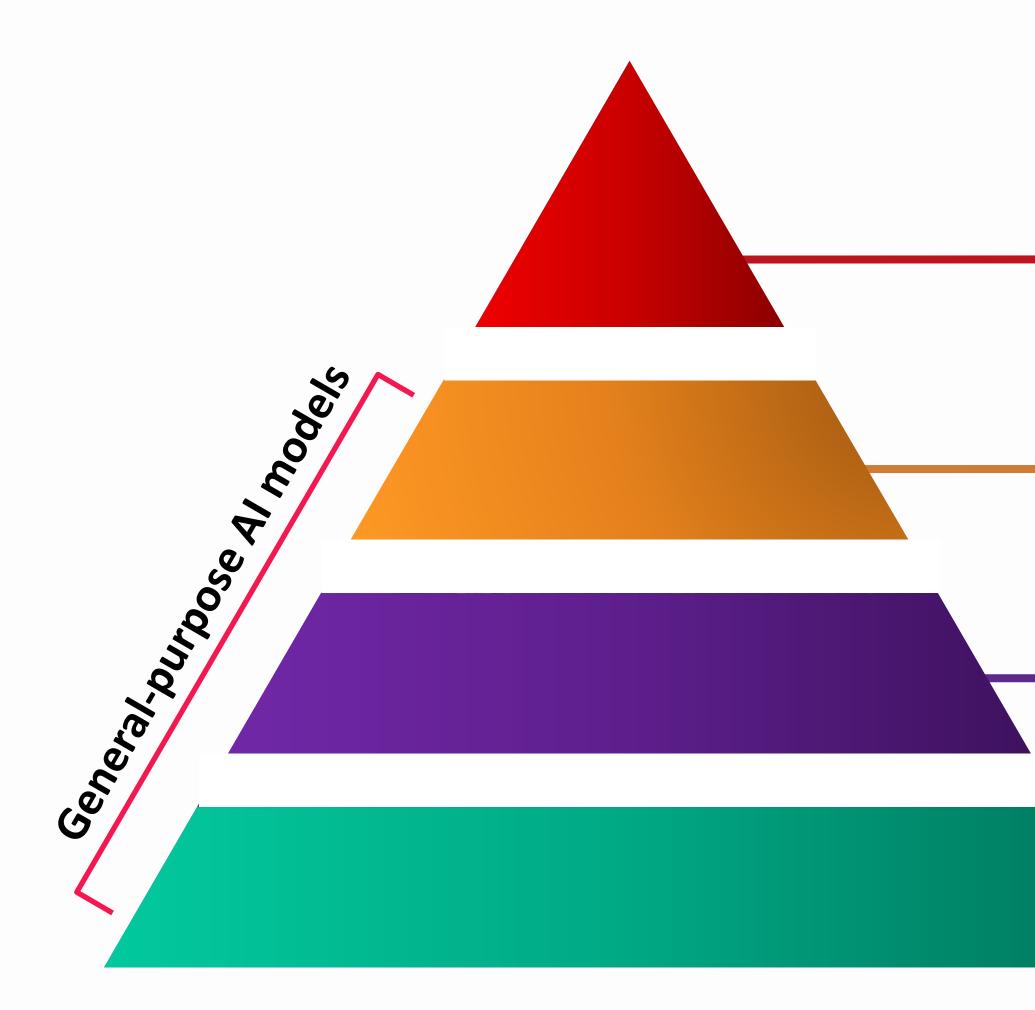
**G7 Hiroshima process** (for GPAI models)



UN AI Advisory Body Report



### • The Al Act risk-based approach





### **Unacceptable Risk**

**Banned in the EU** 

### **High Risk**

Subject to

specific rules

### **Limited Risk**

Subject to

transparency rules

### **Minimal Risk**

**Status quo** *Codes of conduct possible* 

- Social scoring
- Mass surveillance
- etc.

- Recruitment
- Access to credit, insurance
  - etc.
- Generative AI
- Emotion recognition
- etc.



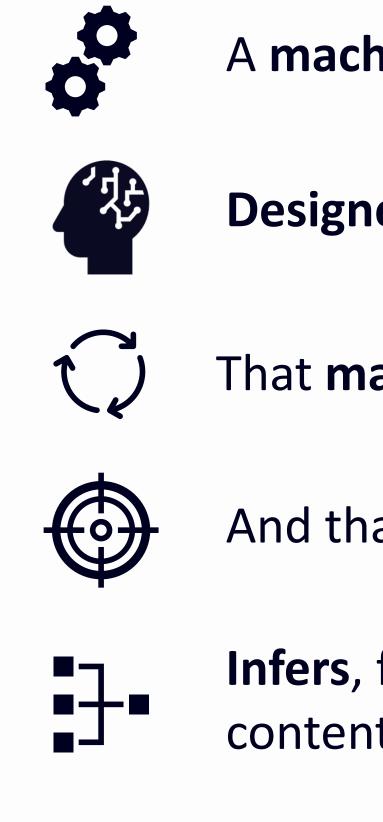




### • Al definition

## What makes a software an *AI system*?







A machine-based system

Designed to operate with varying levels of autonomy,

That may exhibit adaptiveness after deployment

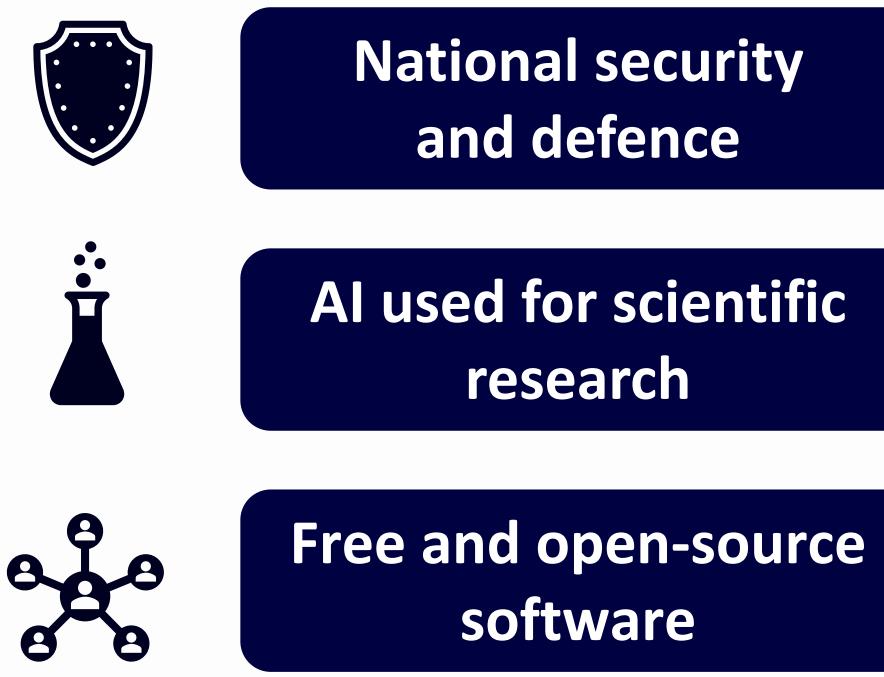
And that, for explicit or implicit objectives,

**Infers**, from input, how to generate outputs – predictions, content, recommendations or decisions

That can influence physical or virtual environments.



### • Key exemptions from scope





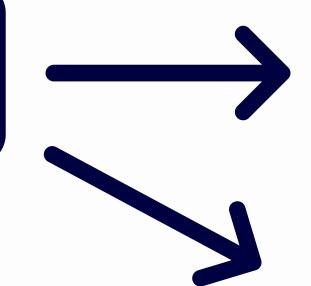
### Member States can keep and create laws more favourable to workers.



Unless placed or put into service as forbidden or highrisk Al system.



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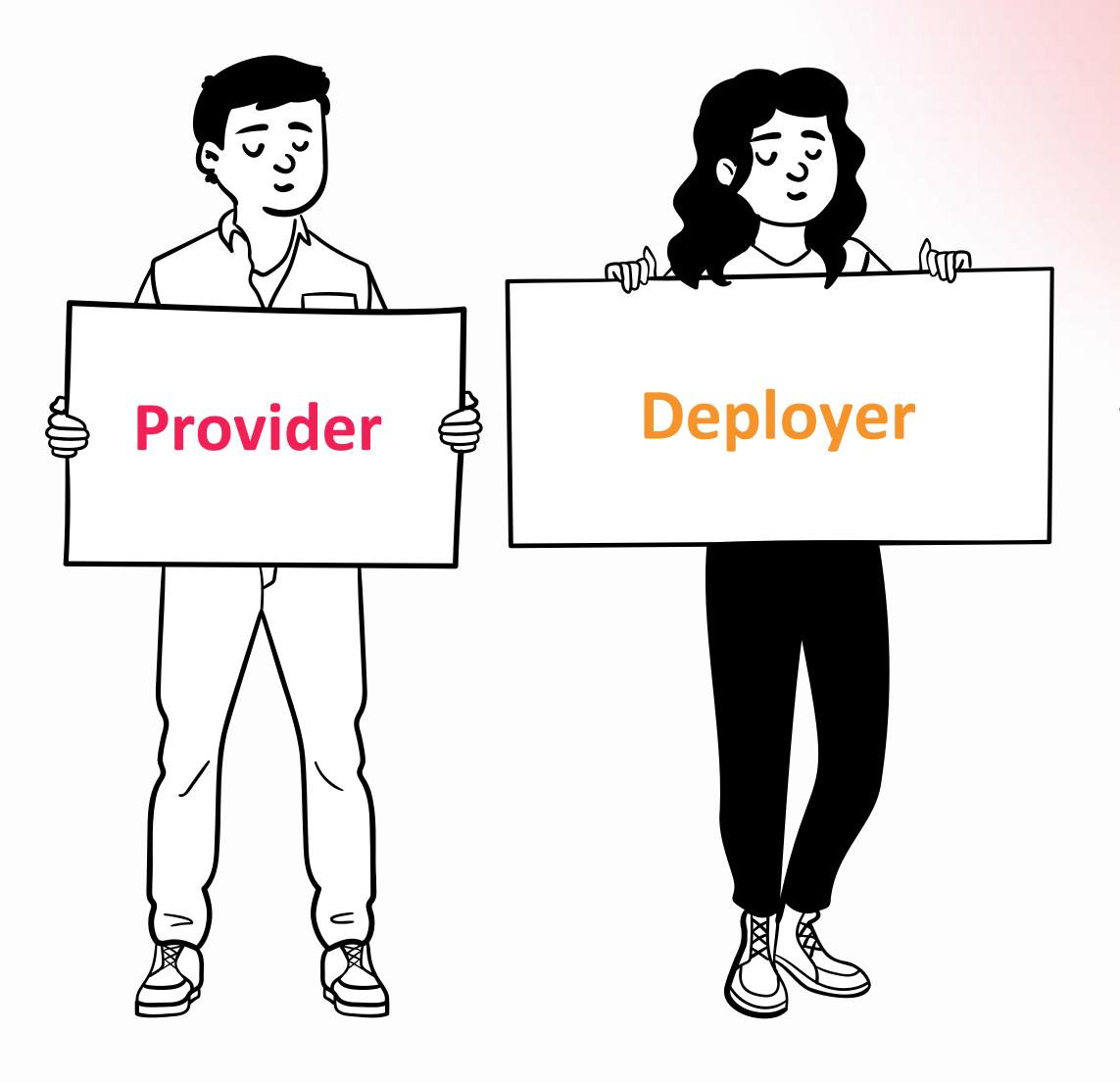
### Providers vs deployers

A person, company or organisation...

That **develops** an Al system or GPAI model

Or has them developed and **places them on the market** 

Or puts the AI system into service under its own name or trademark.





A person, company or organisation...

### That uses an Al system under its authority.





### Requirements for high-risk AI





**Risk Management System Data Governance Technical Documentation Record Keeping** Transparency Human Oversight

**Robustness, Accuracy &** Cybersecurity

Depending on risk level, **GPAI models have different** additional requirements

**Additional transparency rules** for AI that directly interacts with people or artificially manipulate/generate content







### Obligations for providers & deployers of high-risk AI systems

**Conformity** assessments

Share necessary info and provide technical access to deployers

**Develop a quality management system** 

**Develop post-market monitoring systems** 



### Inform & cooperate with competent authorities





### **Report serious incidents & malfunctioning**

### Feed relevant input, monitor operations & keep logs







### • Obligations for deployers of high-risk AI systems who are public authorities

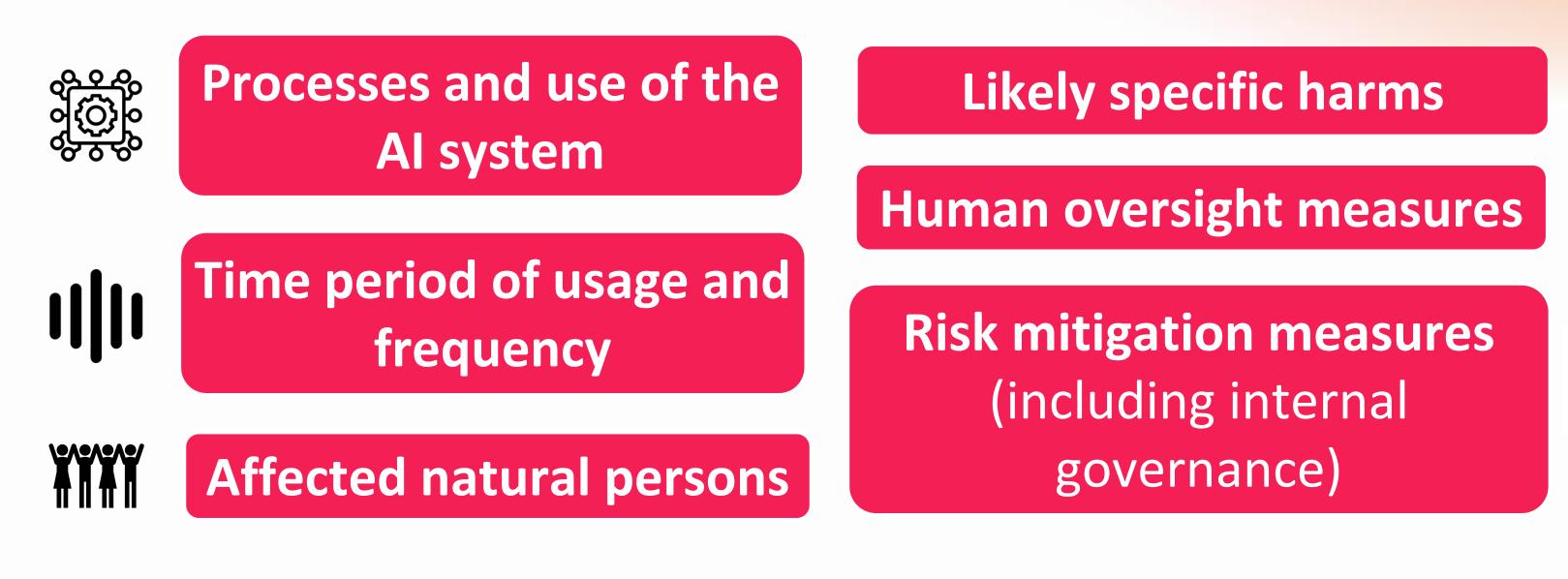


Public authorities, EU institutions, and those acting on their behalf, must <u>register</u> themselves and the use of the AI system in an EU database.



Before deployment, public authorities and entities providing public services (banks, insurance), must conduct a <u>Fundamental Rights Impact assessment</u>, including a description of:

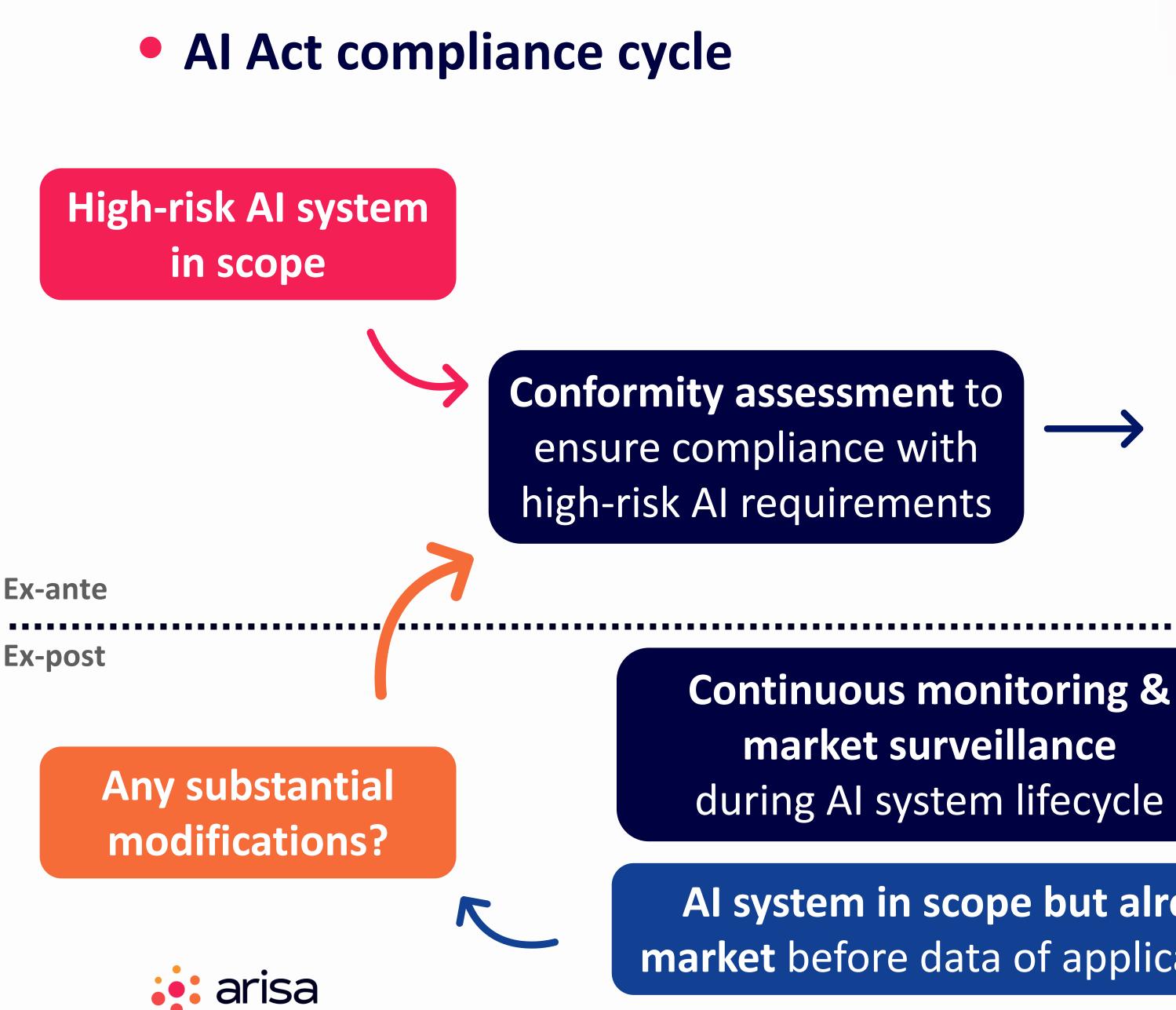
Then notify the market surveillance authorities of results via template, provided by AI Office.











### **Compliance & paperwork** Declaration of conformity, CE marking, EU database registration, etc.



Placing on the market of the AI system

Al system in scope but already on the market before data of application of AI Act



### • Al Act standardisation



Using **standards = presumption of conformity** with AI Act requirements. This means **easier compliance for organisations**.



**European Commission sent standardisation request to CEN-CENELEC. Within CEN-CENELEC JTC 21, bottom-up process**, led by experts within national standardisation bodies.



Using international standards but complementing with home-grown ones for value-based norms.

**Deadline for deliverables**: 30 April 2025 (likely delayed).





### Measures to support innovation



### Al regulatory sandboxes

- To facilitate development and testing of AI under regulatory oversight.
- + to share best practices and make regulato learning.
- Operational 24 months after entry into force
- Provides written proof of activities undertaken and exit report which can be us to demonstrate compliance (≠ presumption of conformity).

Sandboxes are mandatory but can be established jointly with other Member States.



	Support to small providers & users
l	<ul> <li>Priority access to sandboxes.</li> <li>Fee reduction for 3rd-party conformity</li> </ul>
ce.	<ul> <li>assessments.</li> <li>Potential dedicated contact channels to answer questions on implementation.</li> </ul>
sed	







### Sandboxes in practice

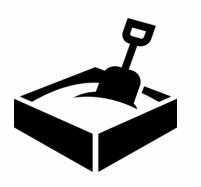


### **Spain introduces first AI Regulatory Sandbox**

- Cooperation between AI systems providers and deployers
- Test against requirements of the AI Act

### Budget of €4.3 million over three years

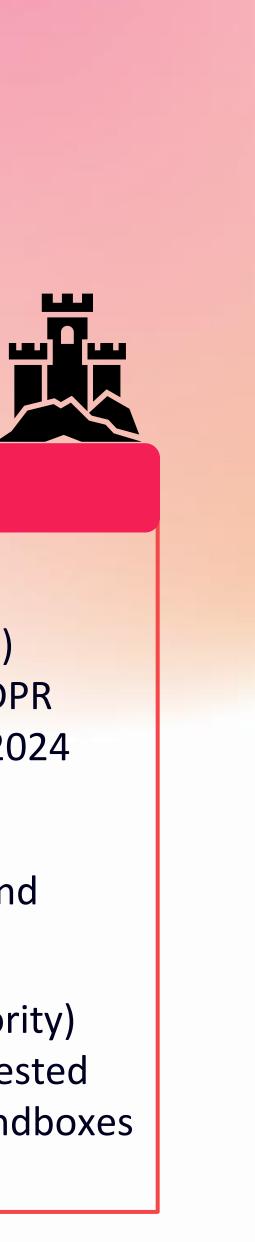
- Funding from EU Recovery and Resilience Funds
- Linkin with Spanish National AI Strategy



### Leading role in promoting innovation in AI

- Reporting of best practices, etc.
- Guidelines for European Commission
- Al advisory committee





### **Countries to watch**

### **Denmark – <u>Regulatory Sandbox</u>**

- Budget of €2.2 million (2024-2027)
- Judicial Counseling for AI Act & GDPR
- Deadline for application: 21 May 2024

### Belgium – <u>Sandbox Vlaanderen</u>

 Not exclusive to AI – allows tests and experimentations

**France – <u>CNIL</u>** (data protection authority)

- Pilot AI sandbox: 8 projects to be tested
- Follows EdTech & digital health sandboxes



### • National implementation for high-risk AI systems

### Member states must designate as national competent authorities at least one:



**Notifying authority** to select conformity assessment bodies to test compliance with the rules *before the AI is used*.



Market surveillance authority to test compliance during the AI lifecycle. If several authorities, one single point of contact must be chosen.

Need to be independent and have adequate technical, financial & human resources.









### • Other implementation activities



Build **regulatory sandboxes** 



Coordinate with other horizontal & sectoral authorities



Monitor and report status of implementation to Commission



Appoint representatives to AI Board and Commission expert group





### Getting involved

- Support standardisation process via national bodies
- • Provide input on upcoming guidelines developed with AI Office
  - Codes of practice
  - Codes of conduct
  - Implementing / Delegated Acts
- ••• Provide education & training internally and externally
- ••• Promoting Research & Development of trustworthy Al
- •••• Document and classify internal use of AI





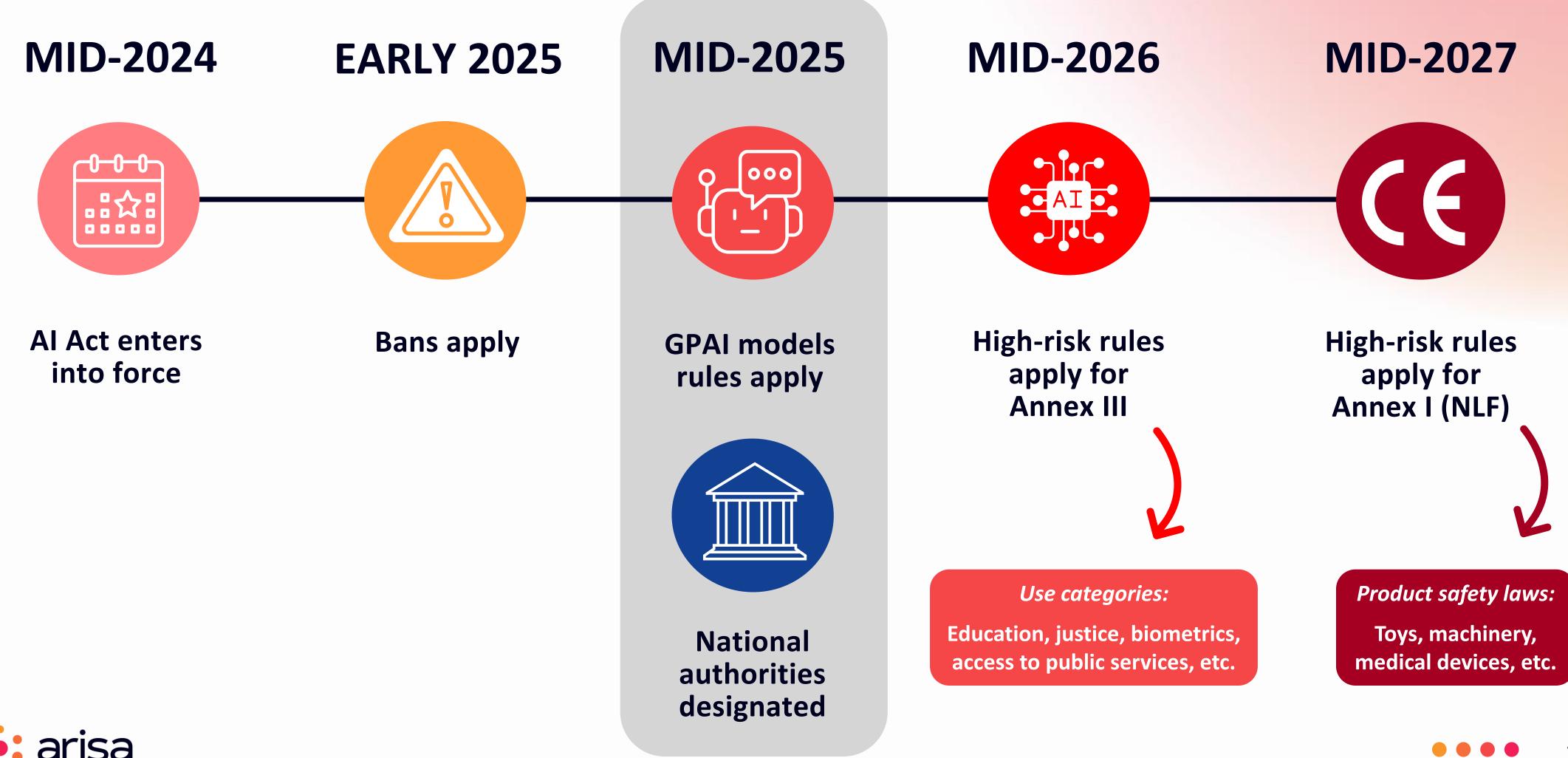




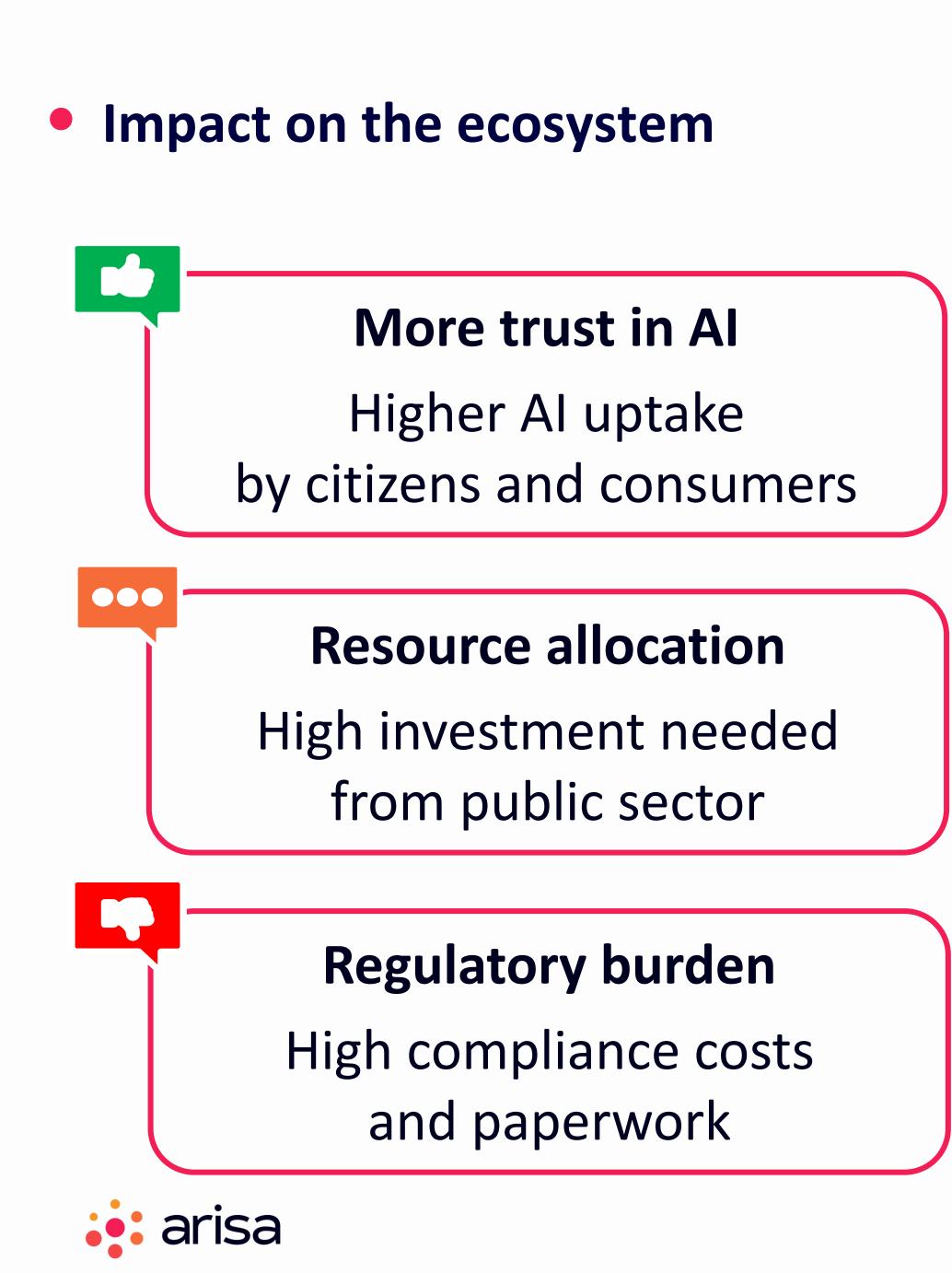




### Al Act provisional timeline









Al Act can act as trust "label" to stand out from competitors



Member States will need to invest resources in skills, training staff and capability building



Compliance could cost €1.5 billion to the EU economy in 2025\*

\*supporting study to the AI Act impact assessment (2021, Commission)





# Compliance with the AI Act could cost around

## for an SME selling an AI system in the EU

Based on 2021 estimate from the Commission-supported study for the AI Act impact assessment, for a 50-employee SME, during the first year of compliance.





# 

## Liability framework for AI

### Product Liability Directive updated, to apply from end 2026.



caused by defective products.



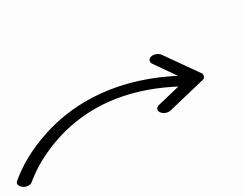
including AI.





Ongoing discussions on need for additional **AI Liability Directive**, specifically for AI systems, with link to AI Act.

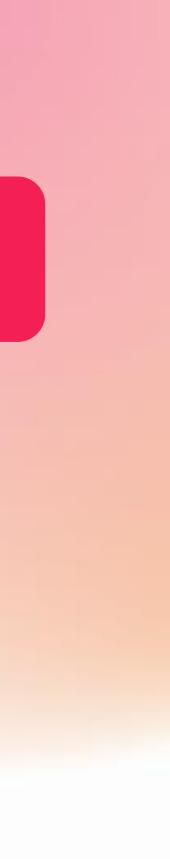




### **Directives need be transposed by** Member States into national law.

- Directive sets EU-harmonised producer liability for damage
- Scope includes digital manufacturing files and software,
- Compensation covers material and non-material losses.





### • 2024 EU strategy to boost AI startups and innovation

## **€3 billion public funding** to harness potential of LLMs and genAl

to stimulate genAl uptake

**Support to European LLMs** 

with high-quality data in all EU languages

"Al factories": computing for Al model development



## **Financial instruments** for

**European Al startups** 

## Support genAl talent pool

with financial tools

### Launch GenAI4EU strategy

### **AI & robotics strategy** expected in 2025









## Feel free to take the floor!

Please use the "raise hand" feature



# Q&A Session

### 





# **Responsible Al in Practice**

### Joris Krijger Ethics & Al Officer | De Volksbank PhD Ethics & Al | Erasmus University Rotterdam



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### **1. Understanding Responsible Al**

### 2. Challenges for Current Frameworks

### **3. AI Ethics as Organizational Challenge**







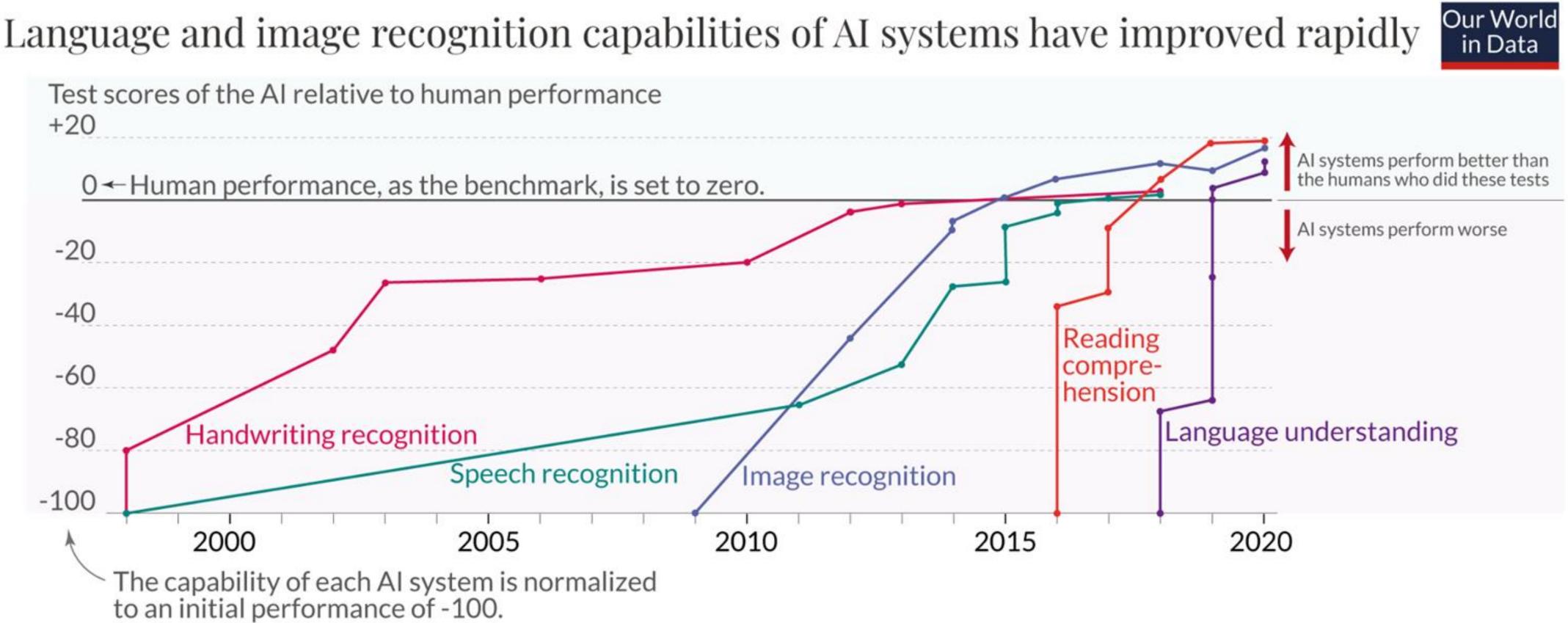


# **Understanding Responsible Al**



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### **Al Impact**

In advanced economies 60% of jobs will be affected by AI.

Roughly 30% will be complimentary, enhancing productivity. The other 30% will be automation, ultimately replacing jobs humans are currently doing.



### Al's impact on jobs

High exposure, high complementarity

Low exposure

Most jobs are exposed to AI in advanced economies, with smaller shares in emerging markets and low-income countries.

High exposure, low complementarity

### 100% 80% 60% 40% 20% 0% World Advanced Emerging Low-income countries

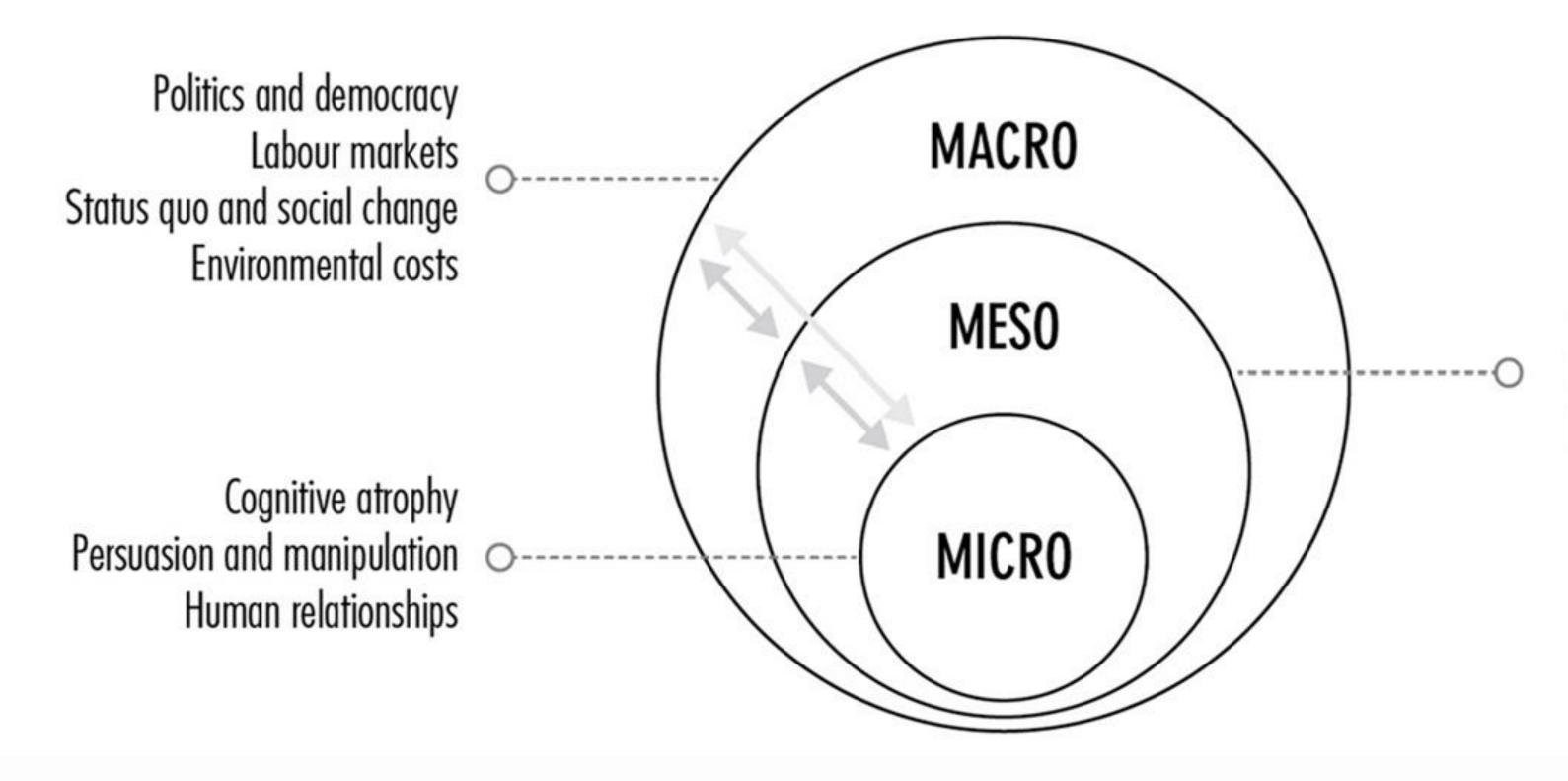
### **Employment shares by AI exposure and complementarity**

Source: International Labour Organization (ILO) and IMF staff calculations Note: Share of employment within each country group is calculated as the working-agepopulation-weighted average.





### • Ethics



Henrik Skaug Sætr, 2023



Changed power relations Extraction and exploitation Bias and discrimination



### • Ethics

### AI Ethics

### Environmental

Al uses tremendous amounts of energy and water. Training ChatGPT-3 required 1,287 megawat hours of electricity and 552 tons of CO2 (around 123 fuel cars per year)

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The autonomy of AI challenges responsibility notions and can undermine human autonomy.

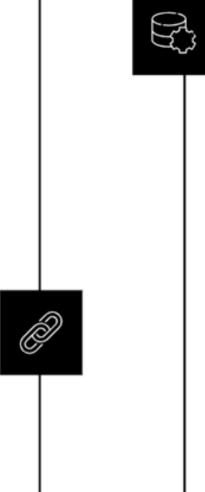




### Fairness

Existing disparities risk being exacerbated by AI trained on historical data.





### Explainability

Al systems can become black boxes making their reasoning and functioning unexplainable to humans.



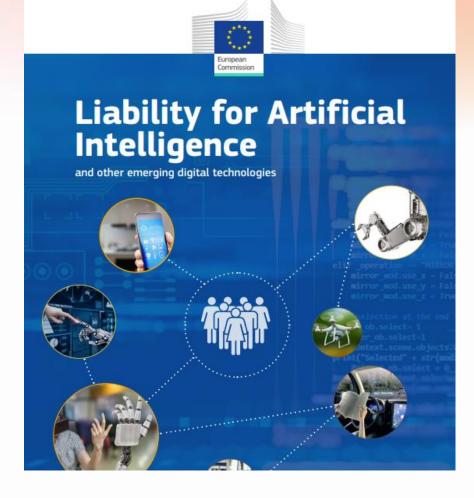






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### • VSD

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### 74%

Not reducing unintended bias

68% \_

Not tracking performance variations and model drift

### 61%

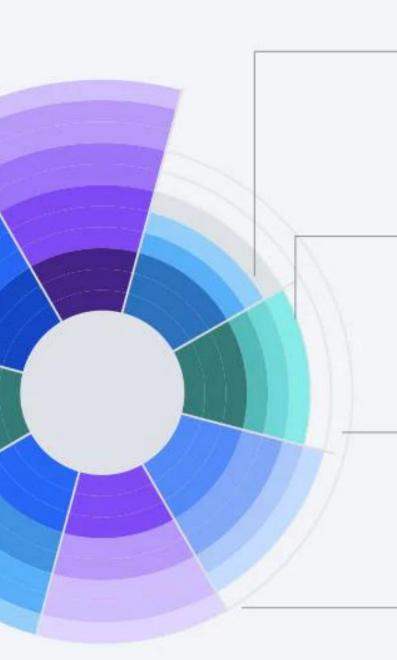
Not making sure they can explain AI-powered decisions

### 60%

Not developing ethical AI policies



IBM AI Adoption Index 2022



### 52%

Not safeguarding data privacy through the entire lifecycle

### 55%

Not monitoring AI across cloud and AI environments

### 59%

Not guarding against adversarial threats and potential incursions to keep systems healthy

### 60%

Not tracking data provenance, changes in data and model versions



## RAI

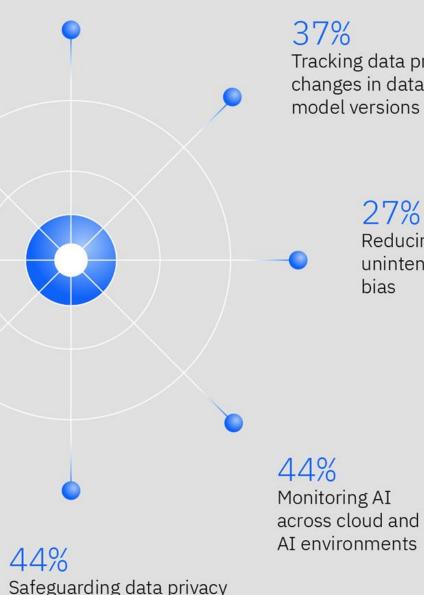
## Enterprises are taking steps to build trustworthy AI, but more progress is needed



IBM AI Adoption Index 20223



44% Developing ethical AI policies



Safeguarding data privacy through the entire lifecycle Tracking data provenance, changes in data and model versions

#### 27% Reducing unintended bias

# Challenges for Current Frameworks



## • AI Ethics Challenges

- Limited empirical success (McNamara, Smith and Murphy-Hill, 2018)
- Lack of accountability mechanisms, common practices and clear definitions (Mittelstadt, 2019)
- Malleable to actor agenda (Rudschies et al. 2021)
- Depoliticized and reductive by focussing on specific cases that are often underpinned by grander societal dilemmas
- Value conflicts



- Principles are unresponsive to context
- VSD is hard to consistently implement
- Delegation of responsibility to the individual level instead of questioning governance and power structures.
- Exaggerating the role and influence of ethics?

"[Guidelines] incorrectly portray the reasons why unethical technologies are found used in the wild today, making them appear like bone fide oversights that ethicists might be able to highlight rather than intrinsic parts of business models which disregard their effects on societies and environments." (Veale, 2020)

## • Value Conflict

# Machine Bias

by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica

"We think ProPublica's report was based on **faulty** statistics and data analysis, and that the report failed to show that the COMPAS itself is racially biased, let alone that other risk instruments are biased. -- Flores et al. (2016)



There's software used across the country to predict future criminals. And it's biased against blacks.

May 23, 2016



## • Value Conflict

# Machine Bias

by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica May 23, 2016

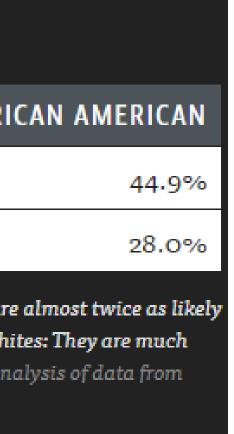
### Prediction Fails Differently for Black Defendants

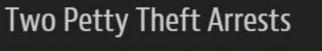
	WHITE	AFRI
Labeled Higher Risk, But Didn't Re-Offend	23.5%	
Labeled Lower Risk, Yet Did Re-Offend	47.7%	

Overall, Northpointe's assessment tool correctly predicts recidivism 61 percent of the time. But blacks are almost twice as likely as whites to be labeled a higher risk but not actually re-offend. It makes the opposite mistake among whites: They are much more likely than blacks to be labeled lower risk but go on to commit other crimes. (Source: ProPublica analysis of data from Broward County, Fla.)



There's software used across the country to predict future criminals. And it's biased against blacks.



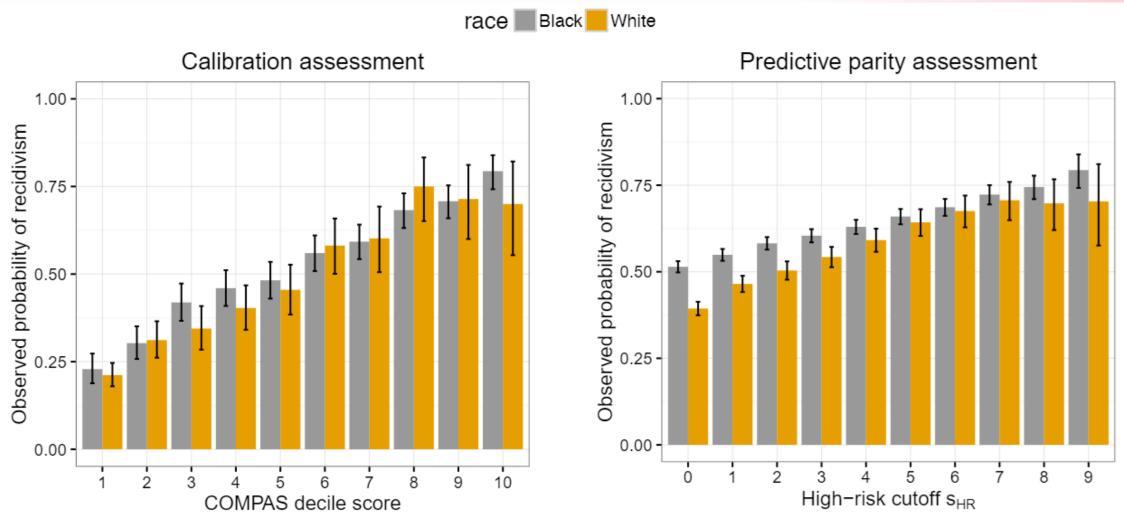




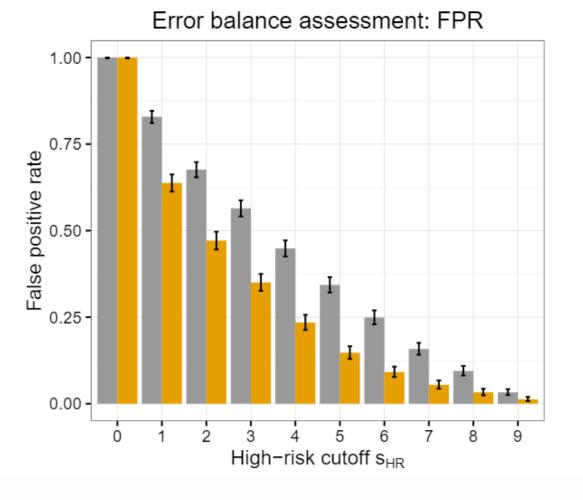
Borden was rated high risk for future crime after she and a friend took a kid's bike and scooter that were sitting outside. She did not reoffend.



## Compas



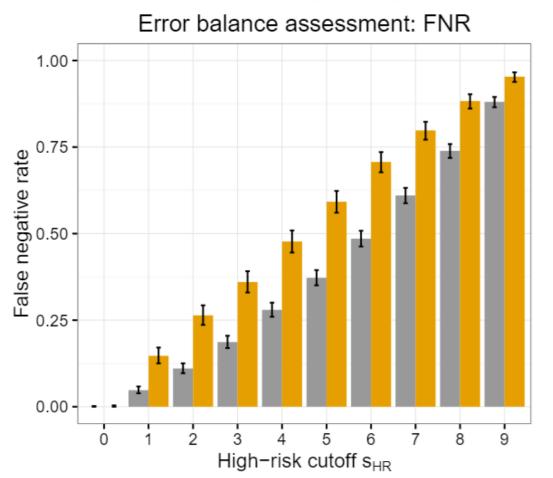
(a) Bars represent empirical estimates of the expressions in (2.1):  $\mathbb{P}(Y = 1 \mid S = s, R = r)$  for decile scores  $s \in \{1, \ldots, 10\}$ .







(b) Bars represent empirical estimates of the expressions in (2.2):  $\mathbb{P}(Y = 1 \mid S > s_{\text{HR}}, R = r)$  for values of the high-risk cutoff  $s_{\text{HR}} \in \{0, \dots, 9\}$ 







## Value Conflicts I: Operationalization



belong to the positive class



#### Fairness through Unawareness

No sensitive attributes are explicitly used

#### Equalized Odds

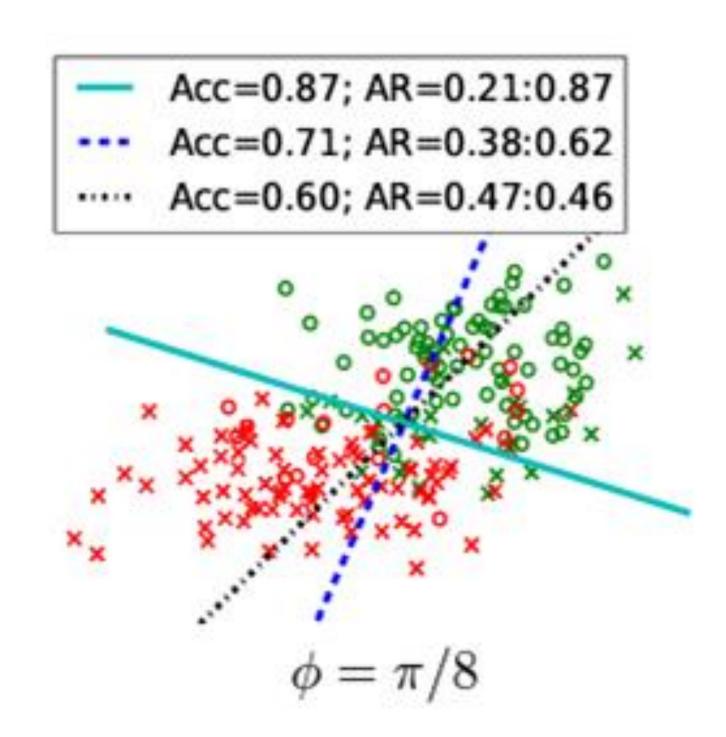
Equal true positive and false positive rates

#### Calibration

Equal probability to truly belong to the positive class, for any score



## Value Conflict II: Interactions





#### III. INTERACTIONS BETWEEN ASPECTS

We describe and discuss the following interactions, based on support available in the literature:

(a) Accuracy vs. Robustness

- (b) Accuracy vs. Fairness
- (c) Accuracy vs. Privacy
- (d) Accuracy vs. Explainability
- (e) Fairness vs. Robustness
- (f) Fairness vs. Privacy
- (g) Fairness vs. Transparency
- (h) Privacy vs. Robustness
- (i) Transparency vs. Explainability
- (j) Transparency vs. Privacy and Robustness







## The major challenges in responsible Al will not be technical but ethical in nature, requiring an ethical institutional infrastructure.

## arisa

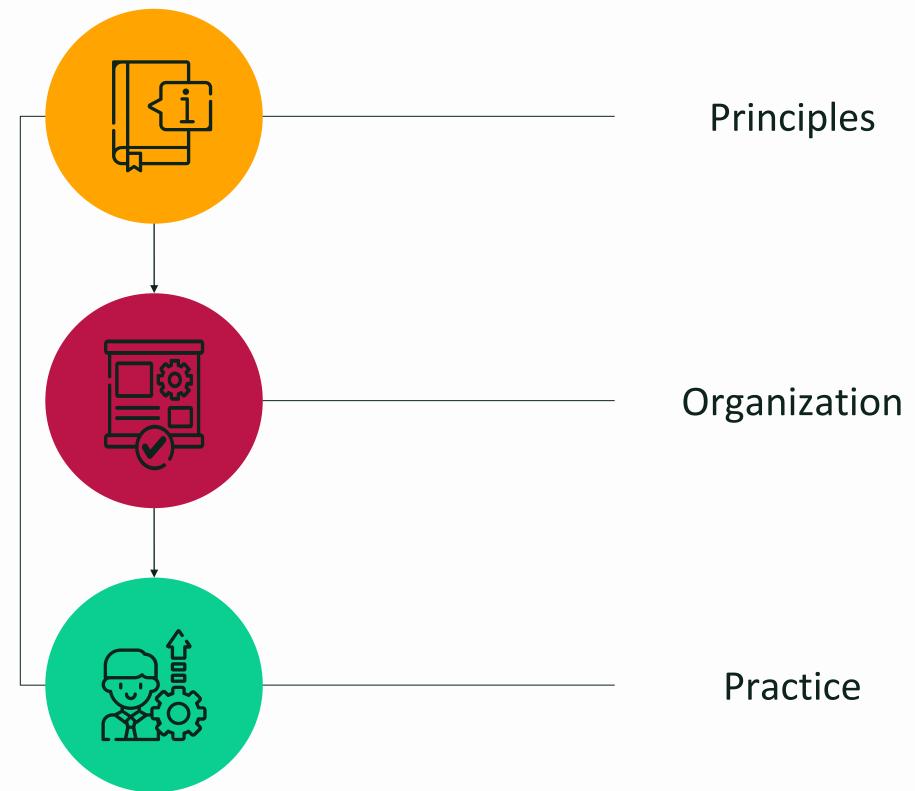
Joris Krijger



## Al Ethics as Organizational Challenge



## Principles to Practice?





High level principles

Organizational structures, culture and processes

Value sensitive design of specific AI applications

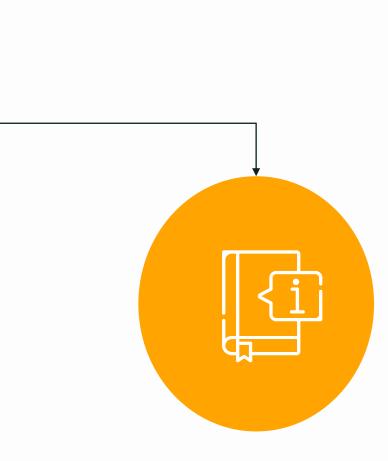


## Three Pillars of Value Operationalization

### **Ethical Codes**

Punitive or aspirational ethical codes that set principles.

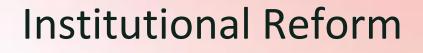
Describes the conduct to be avoided and prescribes sanctions for those who do not take heed



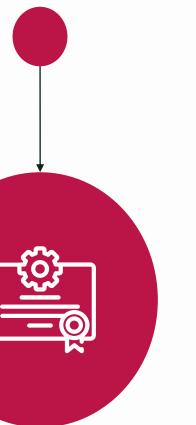




### Regulation



Building ethics into the operations and decision making of the institution through its organizational design.







## Technical vs. Organizational

## Technical

Methods to instill human values in technical design.

Development of methodologies and assessments for the integration and auditing of values in design combined with efforts to provide normative frameworks for data scientists.



## Organizational

Methods to embed ethics in organizational design: designing organizations capable of identifying, managing and mitigating ethical risks.

Development of practices on how to implement ethics in structures and processes that align with existing procedures and interests. Governance and ethical decision making of residual risks.







## De Volksbank

Be in control of the ethical aspects of data science applications developed, deployed and used within De Volksbank.

New governance structure:

- Ethics Office documents ethical aspects and decision-making for Al applications
- 2. Ethical Advisory Board: provides hand-on evaluation and approves the Ethical Review
- 3. Ethics Committee assists with normative judgements on specific ethical issues.

Alignment:

Ethics office is aligned with Model Governance (focused on model risk) and Privacy Office (data use)



## Why EDSA?



'What' to 'How'?

Still a large gap between principles and practice in AI ethics.

Little actionable research that relates AI ethics to organizational praxis.







### Organizational



#### **Holistic Approach**

Ethical principles cannot be realized separately or sequentially; AI Ethics in organizations is often multi-dimensional.





#### Use context

The context of a use case is central in the discussion given the contextual nature of AI ethics.



#### Stakeholders

Bring together various groups of stakeholders (researchers, users, intermediaries, policy makers) from different sectors to learn about AI ethics challenges and solutions.

## **MUTUAL LEARNING**

IN.

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#### Small-scale

Exploring themes and issues in small scale sessions so that everyone's expertise and experience can contribute.

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#### **Interactive Learning**

Facilitate an interactive learning process through mutual exposure of views and experiences, expectations and concerns.

> Ethical Data Science Association



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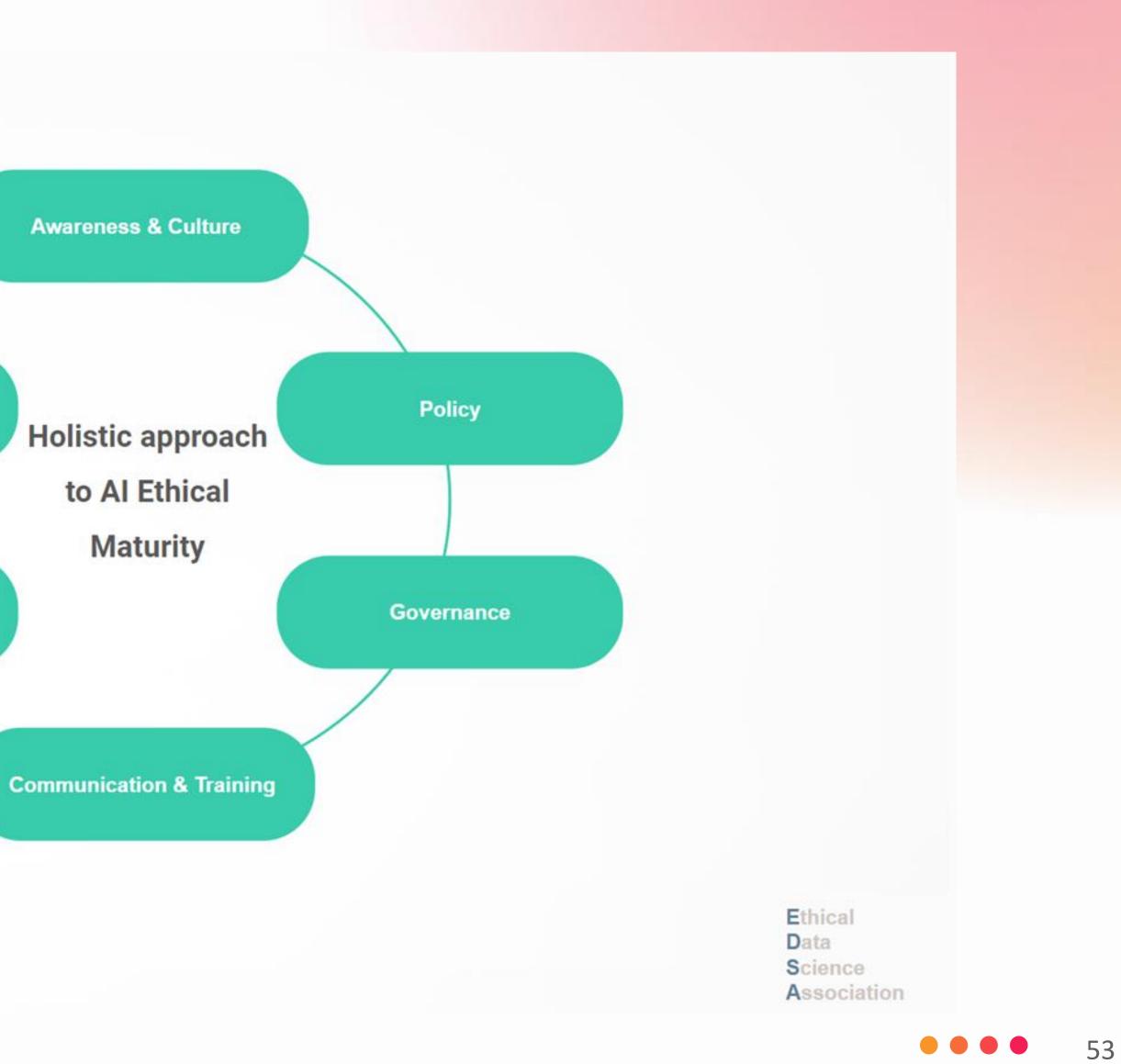
AI Ethics Maturity

## Six organizational dimensions



Tooling

**Development processes** 





#### **AI Ethical Maturity - Level Overview**

Level 1

No initiatives

#### Dimension

Awareness & Culture

Policy

Governance

Communication & Training

Development Processes

Tooling



Level 2 First informal initiatives

Level 3 Informal to formal initiatives Level 4 Structural formal initiatives



Ethical Data Science Association



## • Al Impact

## Develop a roadmap of activities and steps





#### **Steps To Take**



Ethical Data Science Association

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#### Awareness & Culture

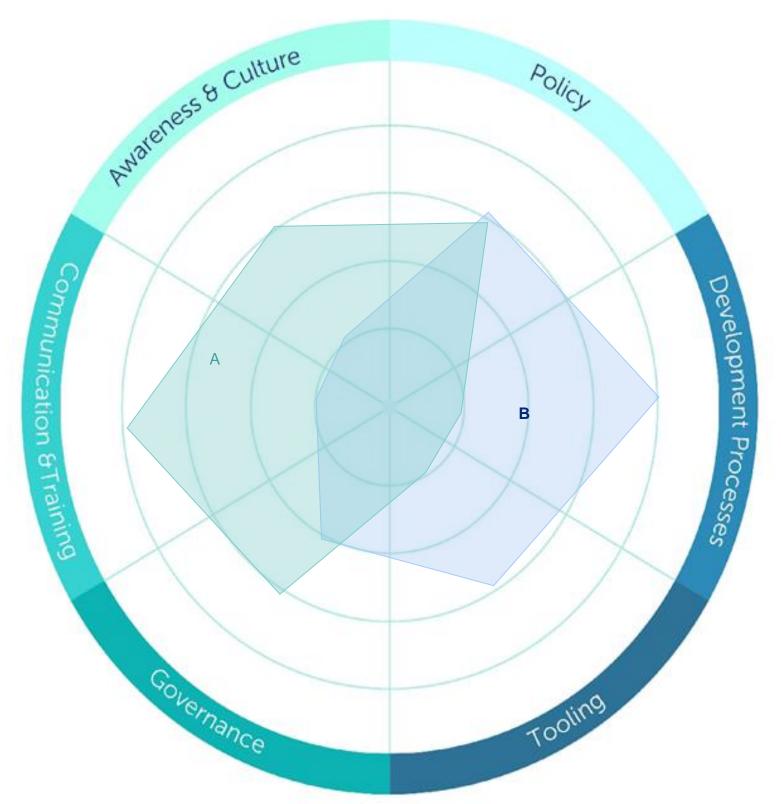
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#### **Communication & Training**

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#### Governance

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#### Policy

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#### **Development Processes**

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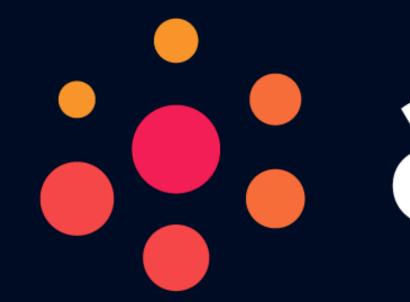
#### Tooling

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## Thanks!

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## **Charting the Future – Exploring** compliance readiness, safety innovation and open legal questions

Cornelia Kutterer, Managing Director, Considerati



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## About CONSIDERATI

## Legal and public affairs consultancy

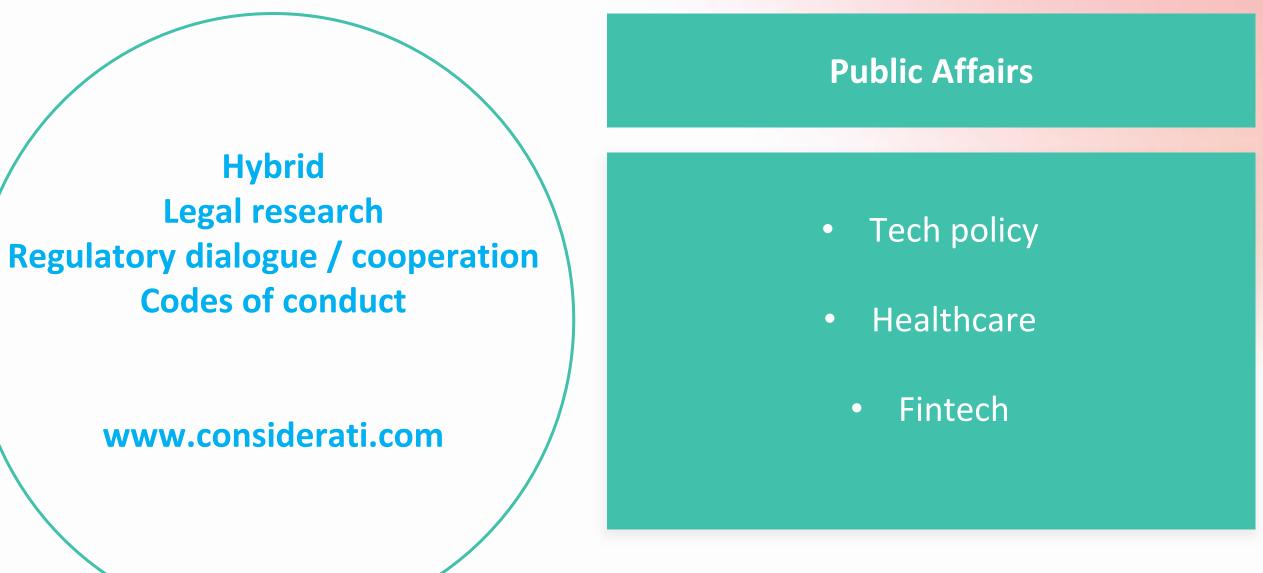
Legal services: Data & Al compliance

• Privacy, security and data-related ccompliance (DPOaaS, DPIAs, operational support for privacy compliance operations)

• Al Governance services (Risk assessment, HRIAs) in collaboration with MLOps tooling

• Training







- **Overview**
- From Responsible AI Governance Frameworks to Compliance with the AIA
- Navigating the AI Act
- Tools (& procedures): MLOps for compliance
- DPIAs, FRIAs, due diligence & corporate responsibility

RAI as part of corporate responsibility





## From Responsible AI Governance to Compliance with the AIA

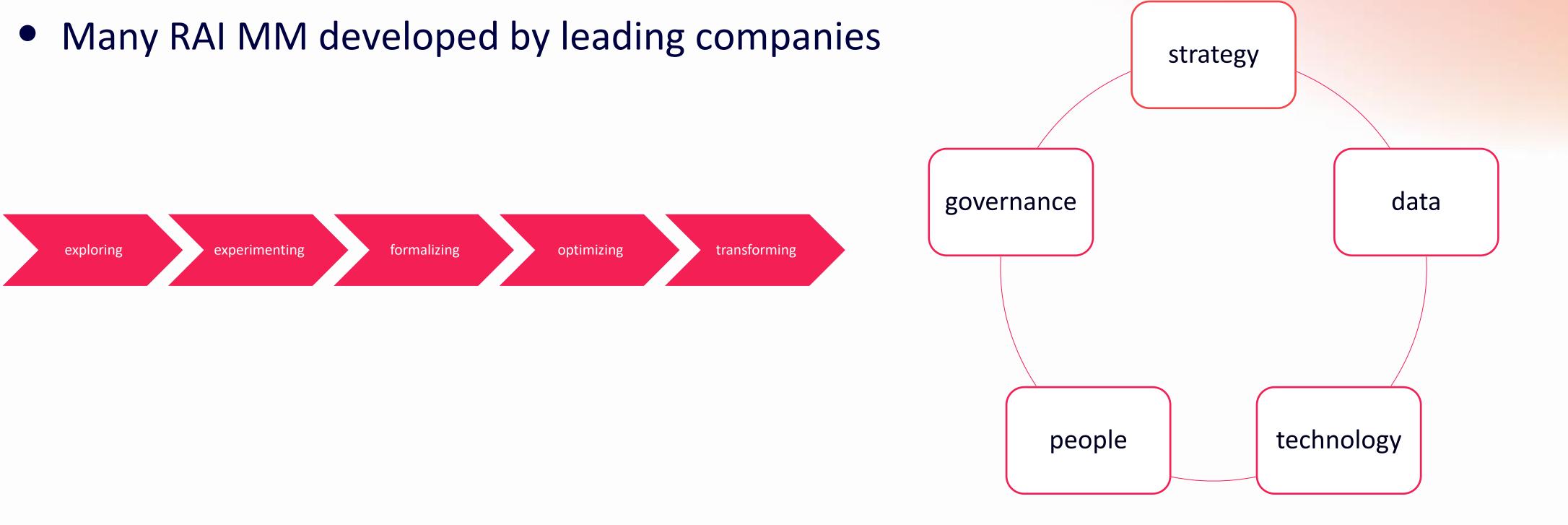
- What business leaders are concerned about
  - Risks to reputation with customers, compliance with growing list of regulations, making incorrect decisions based on AI, lengthy risk management processes, concerns re AI security vulnerabilities, inconsistent approaches managing AI risks across organizations
  - What is the AI maturity of an organization (degree to which organizations have mastered AI-related capabilities in the right combination to achieve high performance for customers, shareholders and employees)?
  - How do companies conceptualize the threats that their use of AI pose for individuals, groups and the broader society?
  - What substantive benchmarks, management processes and technological solutions do they use towards this end?





## From Responsible AI Governance to Compliance with the AIA

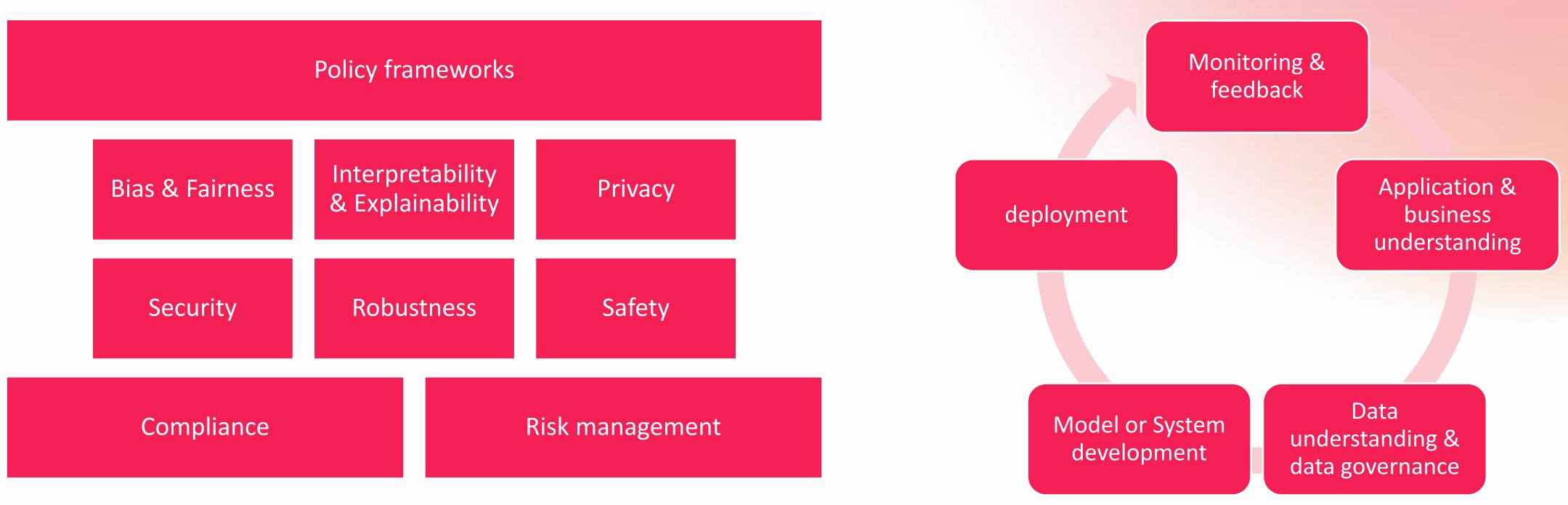
- Al Maturity
  - Responsible AI Maturity Model (RAI MM) are frameworks to help organizations identify their current and desired levels of RAI maturity.





## From Responsible AI Governance to Compliance with the AIA

Responsible AI Governance frameworks, tools and processes



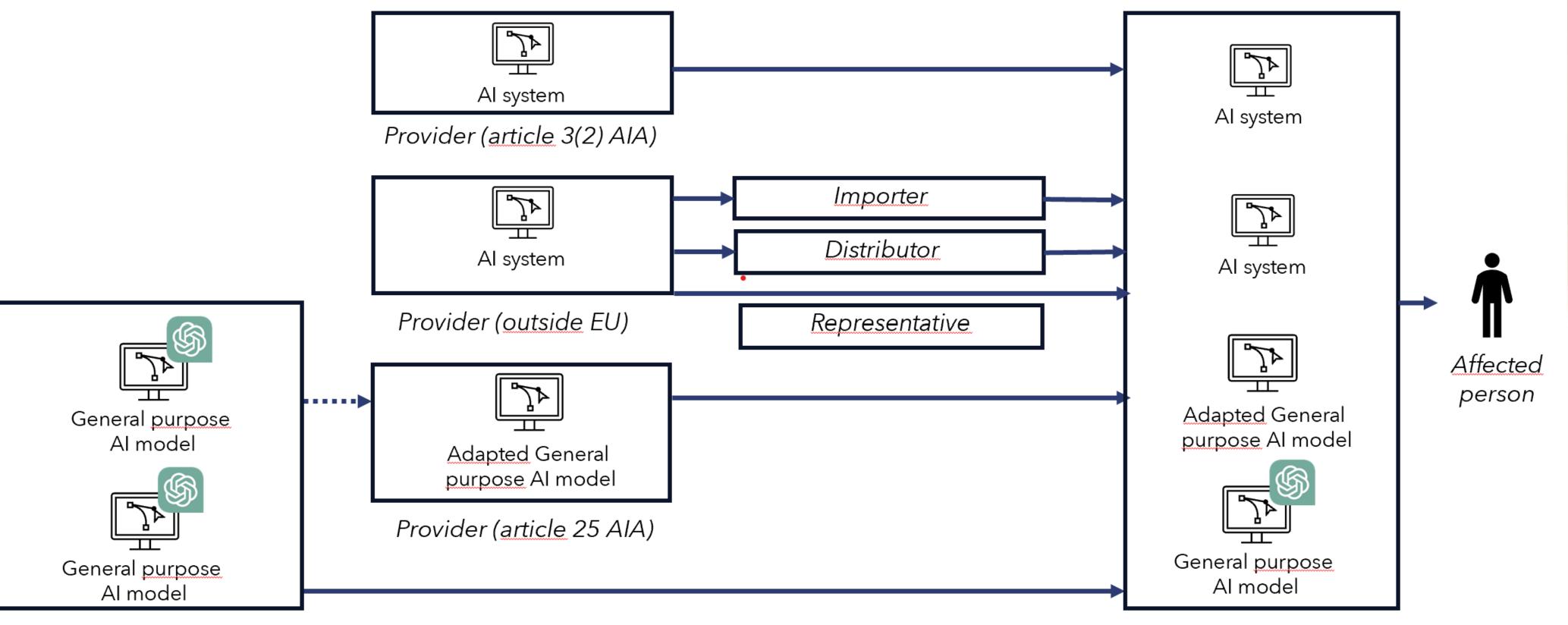
## The dawn of a **new practice:** cross-disciplinary approach, starting with leadership





## • Navigating the AI Act

## • Overview of regulated actors



Provider (article 3(2) AIA)



Deployer (article 3(3) AIA)



## • Navigating the Al Act

• timeline

**Entry into force** (Possibly before summer 2024)

**36 Months After** Obligations for AI intended to be used as a safety component or the AI is itself a product



By The End of 2030 Al systems that are components of the largescale IT systems such as Schengen information system

#### **6 Months After**

Prohibitions on unacceptable risk AI.

#### **12 Months After**

GPAI rules go into effect. MS competent authorities. Annual review / amendments prohibited AI

#### **24 Month After** Obligations listed in Annex III, MS rules on penalties Regulatory sandbox, 1/MS. List of high-risk AI systems.

**18 Months After** Commission implementing act on post-market monitoring.



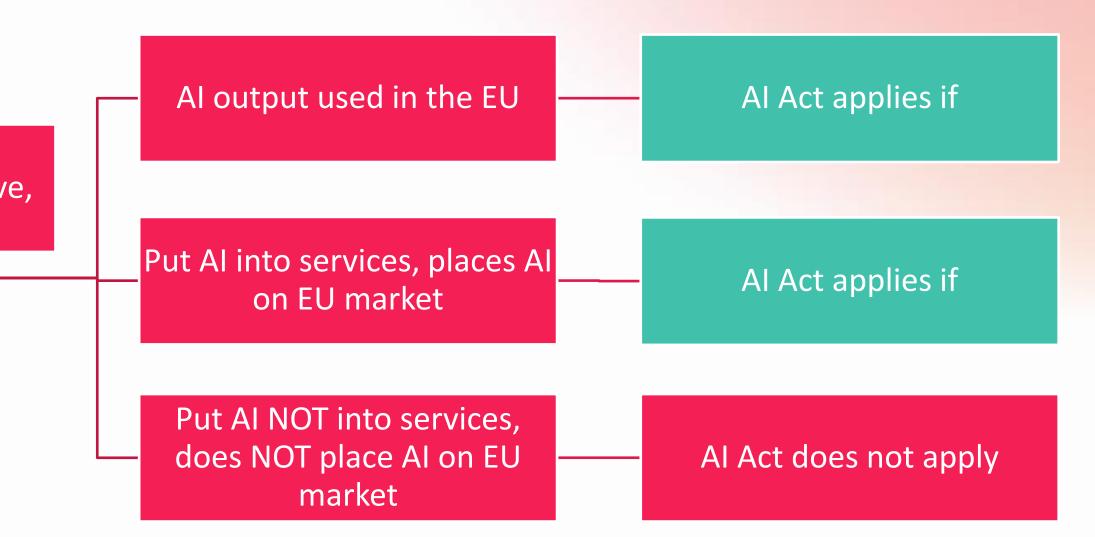
## Navigating the Al Act

## • Al System provider

Al system provider

Importer, distributor, authorised representative, manufactorer

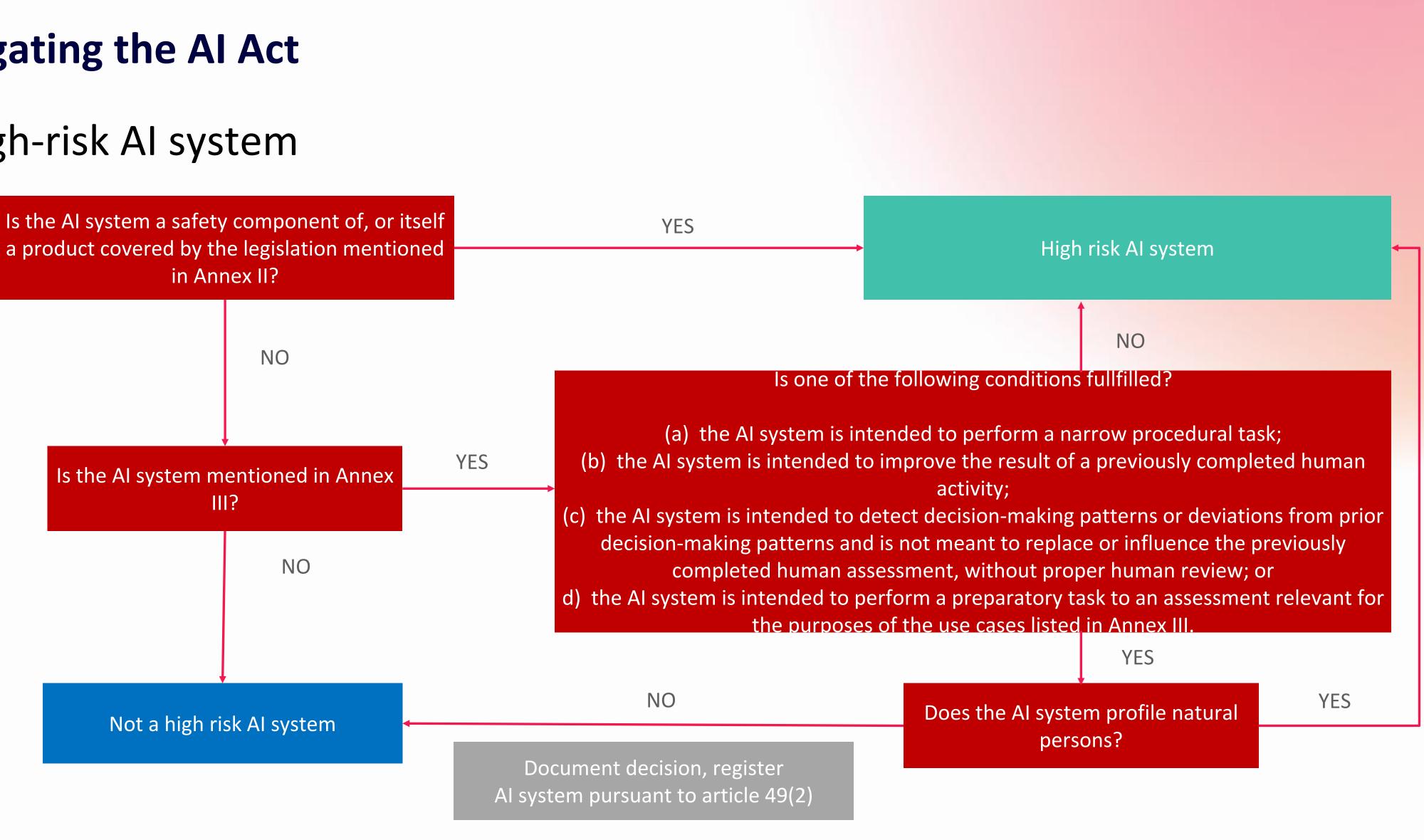






## Navigating the AI Act

## • High-risk Al system





## Navigating the AI Act

## Obligations of AI system providers

#### Article 9 to 15

- Risk management system
- Data and data givernance
- Technical documentation
- Record keeping (logs)
- Transparency and instructions for deployers
- Human oversight
- Accuracy, robustness, cybersecurity

- Indicate name, contact address
- Quality management
- Conformity assessment
- Conformity declaration
- Affix CE marking
- Registration
- Corrective action / duty of information
- Regulatory cooperation
- Accessibility requirements

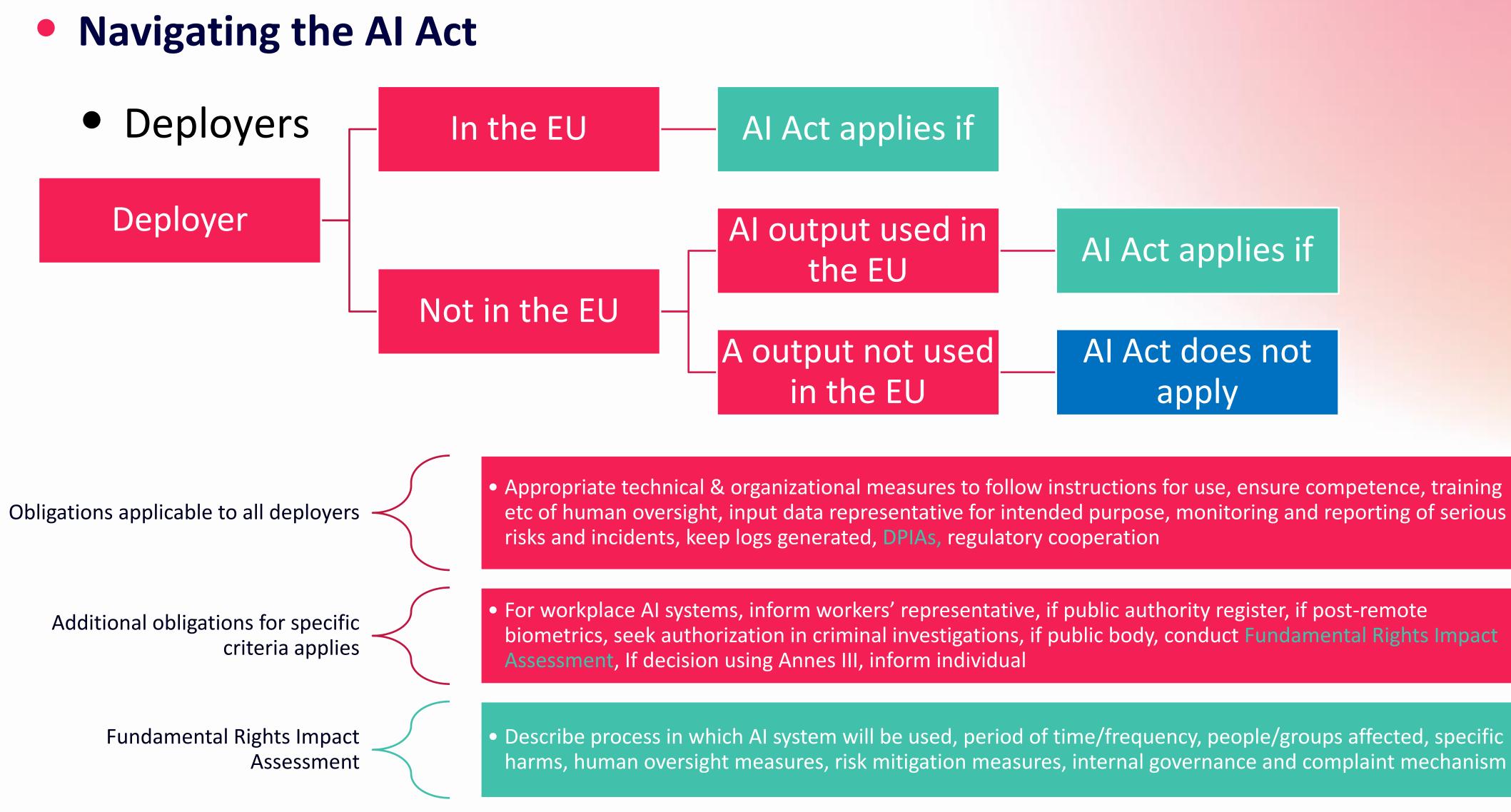


#### Article 16

#### Article 17

- Strategy for regulatory compliance
- Design, design control and verification measures
- Examination, test and validation measures
- Technical specification
- Data management system and procedures
- Risk management system
- Post market monitoring system
- Serious incident reporting procedures
- Communication with national authorities
- Resource management
- Accountability framework staff responsibility



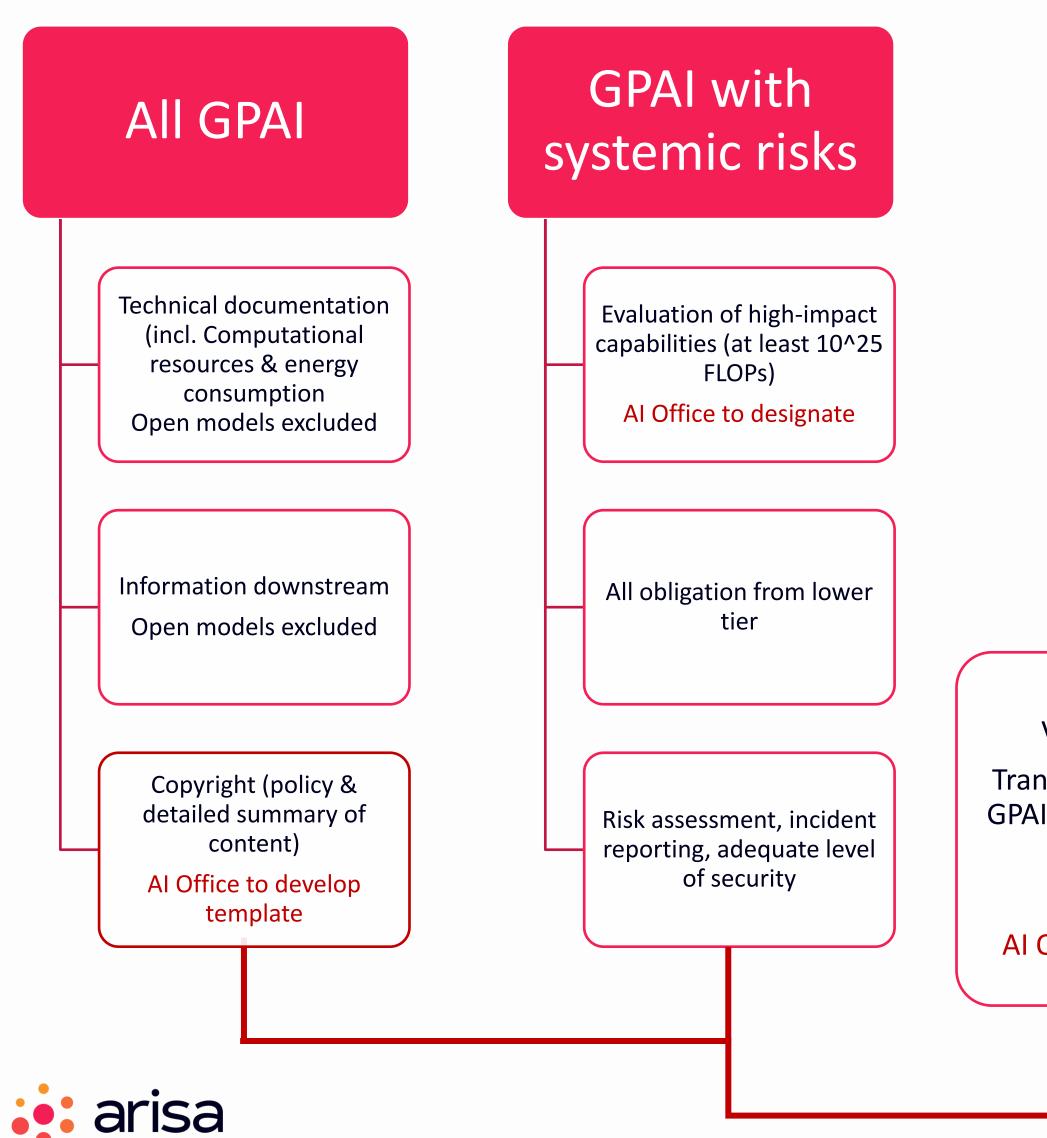








## • Navigating the Al Act



SaaS product with integrated generative Al system

> Low risk use: transparency obligations

Value chain responsibilities

Transparency information (low tier GPAI + capabilities, technical access and other assistance

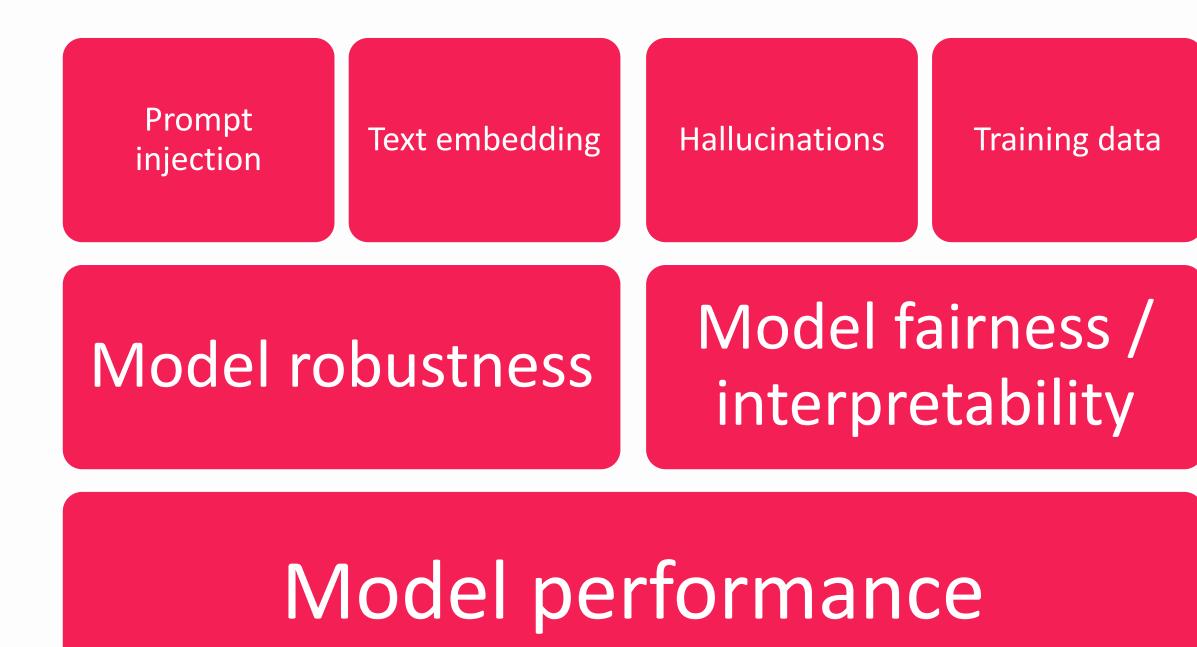
AI Office to develop model terms

High risk use: article 16 compliance + value chain responsibility integration

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## • Navigating the Al Act

## • Challenges with GPAI integration





#### Related to state of the art

models that are resilient to adversaries, unusual situations, Black Swan events Detection of malicious use, discover unexpected model functionality Models that safely optimize for hard-to-spcify human values

Related to AI Act safeguards: GPAI rules exclude narrow AI Models that are not designated as highly capable not under the same obligations towards value chain despite potential use in sensitive or high-risk use cases

> Other legal concerns Copyright infringement Data leaks Disinformation





## Tools (& procedures) MLOps for compliance

- areas that require changes or enhancements to meet compliance standards.
- and ensuring the accuracy of the information it processes is still crucial. Clearly communicate on how the AI functions and the nature of data it handles.
- help build a compliance-focused culture within the organisation.
- effectively. They can provide insights into best practices and help you stay ahead of regulatory changes.
- records of AI decision-making processes and outcomes.
- parts of your compliance processes, making them more efficient and less prone to errors.



**1.** Conduct a comprehensive AI audit : Assess your current AI systems and processes to determine how they align with the EU AI Act. Identify

2. Develop a risk management strategy: For high-risk AI applications, establish a robust risk management framework. Include mechanisms for monitoring, reporting, and mitigating risks associated with AI systems. For low-risk applications, maintaining transparency in their operations

**3.** Invest in training and awareness: Ensure your staff is well-informed about the EU AI Act and its implications. Regular training sessions can

4. Engage with AI ethics and compliance experts: Consult AI ethics and compliance experts to navigate the complex regulatory environment

5. Foster transparency and accountability: Develop clear policies and procedures for AI transparency and accountability. Maintain detailed

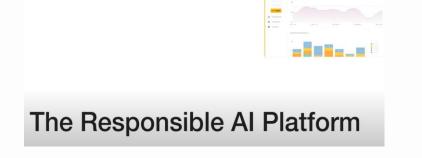
**6.** Leverage technology for compliance: Use general and AI-specific compliance management software and tools to streamline and automate

7. Stay informed and agile: Keep abreast of regulatory updates and be prepared to adapt your AI strategies as the regulatory landscape evolves.



## Tools (& standards) MLOps for compliance

- Platforms have developed MLOps tools to help with implementing and scaling responsible Al governance (some opensourced)
- Many companies that provide these services emerge still nascent market
- Deeploy, BreezeML, Lumenova, and many others
- Reponsum, OneTrust

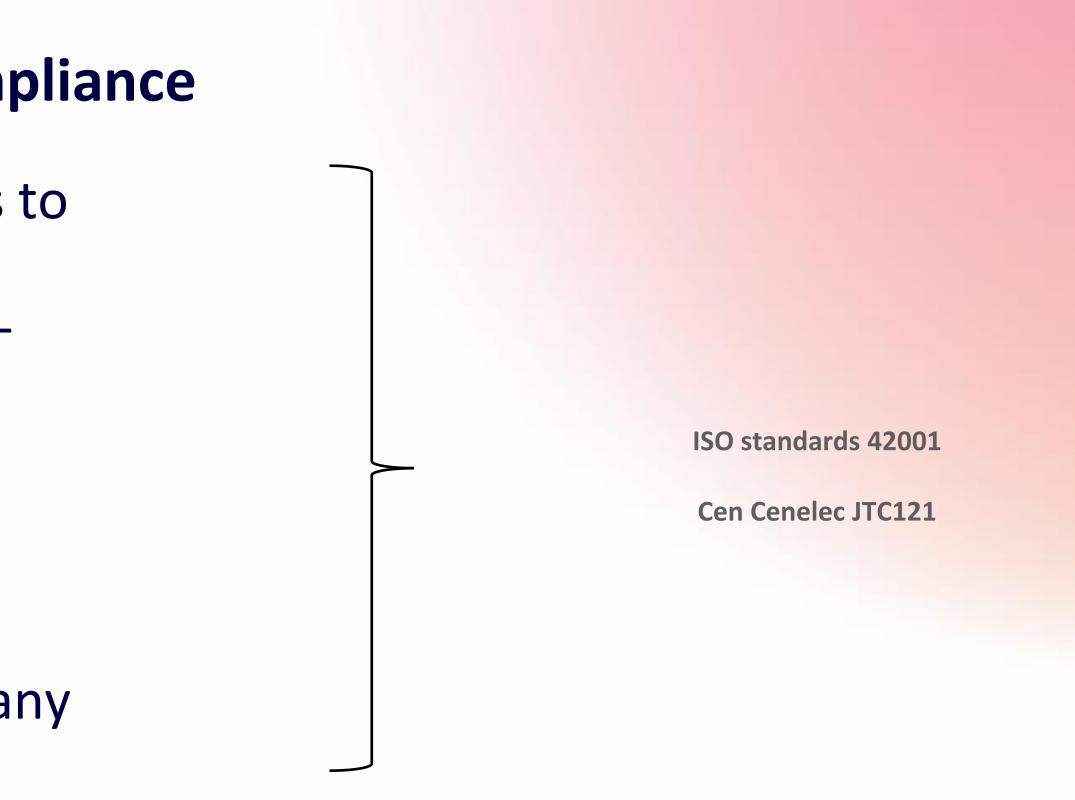


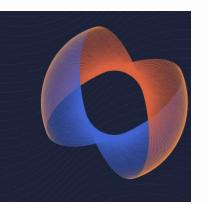


Lead your organization to Responsible Al

Lumenova AI supports enterprises in every stage of their Responsible AI journey, by teaming with our business partners to provide strategy and implementation consulting.



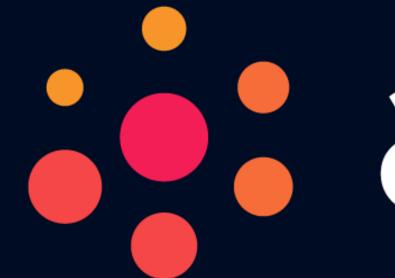














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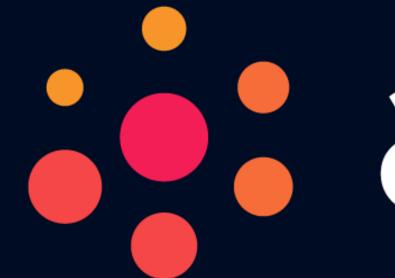


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