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Independent Auditing of Algorithms and Autonomous Systems

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Idea flow - Episode 3

Up until recently, companies have mainly relied on an internal ethics board to grapple with the impact of A.I. on people's lives. However, these efforts have been fraught and governments are increasingly starting to take action. Increasingly, organizations are setting voluntary rules for the use of AI, and the EU's recently proposed Artificial Intelligence Act is another harbinger of a coming wave of government regulation. But how can adherence with these rules be assessed and verified?

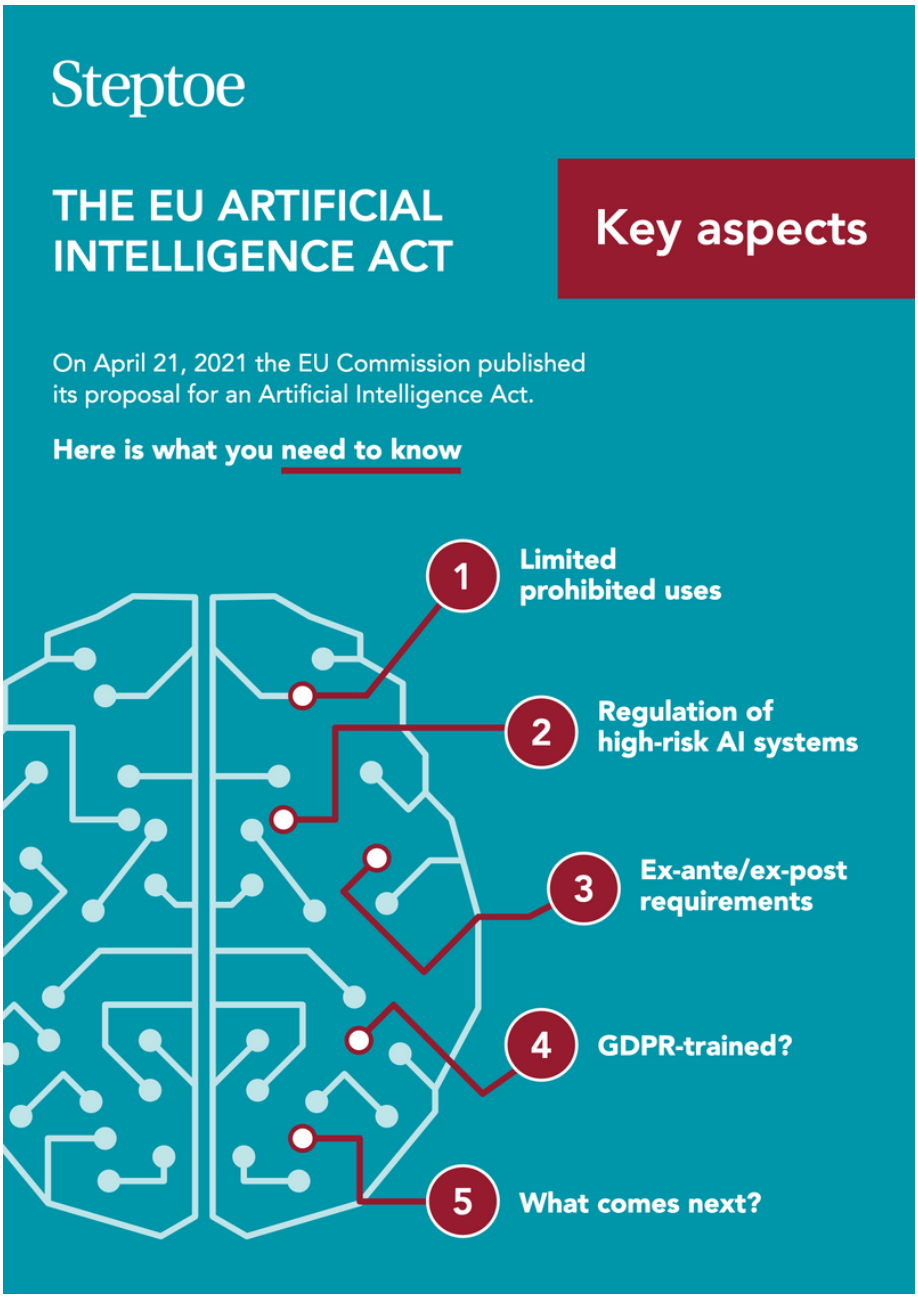
During this IdeaFlow session, we'll be discussing how independent algorithmic auditing can offer a beneficial approach to help mitigate the downside risks of the proliferation of A.I. and automation and talk about what features such a system should include.

Background Readings

- The MIT Computational Law Report published an example of this approach to independent auditing in the context of COVID-19 Contact Tracing Privacy Principles and you can glance the example audit framework accompanying this piece, here.

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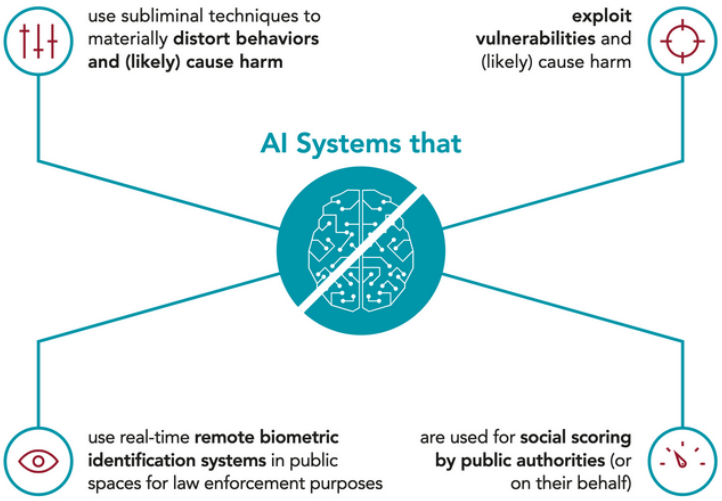
- The proposed EU Artificial Intelligence Act and the Steptoe infographic diagramming the basic rules and processes envisioned by the proposed law.


Steptoe
THE EU ARTIFICIAL INTELLIGENCE ACT
Key aspects
On April 21, 2021 the EU Commission published its proposal for an Artificial Intelligence Act.
Here is what you need to know
1
Limited prohibited uses
2
Regulation of high-risk AI systems
3
Ex-ante/ex-post requirements
4
GDPR-trained?
5
What comes next?

Steptoe THE EU ARTIFICIAL INTELLIGENCE ACT 1

PROHIBITED USES

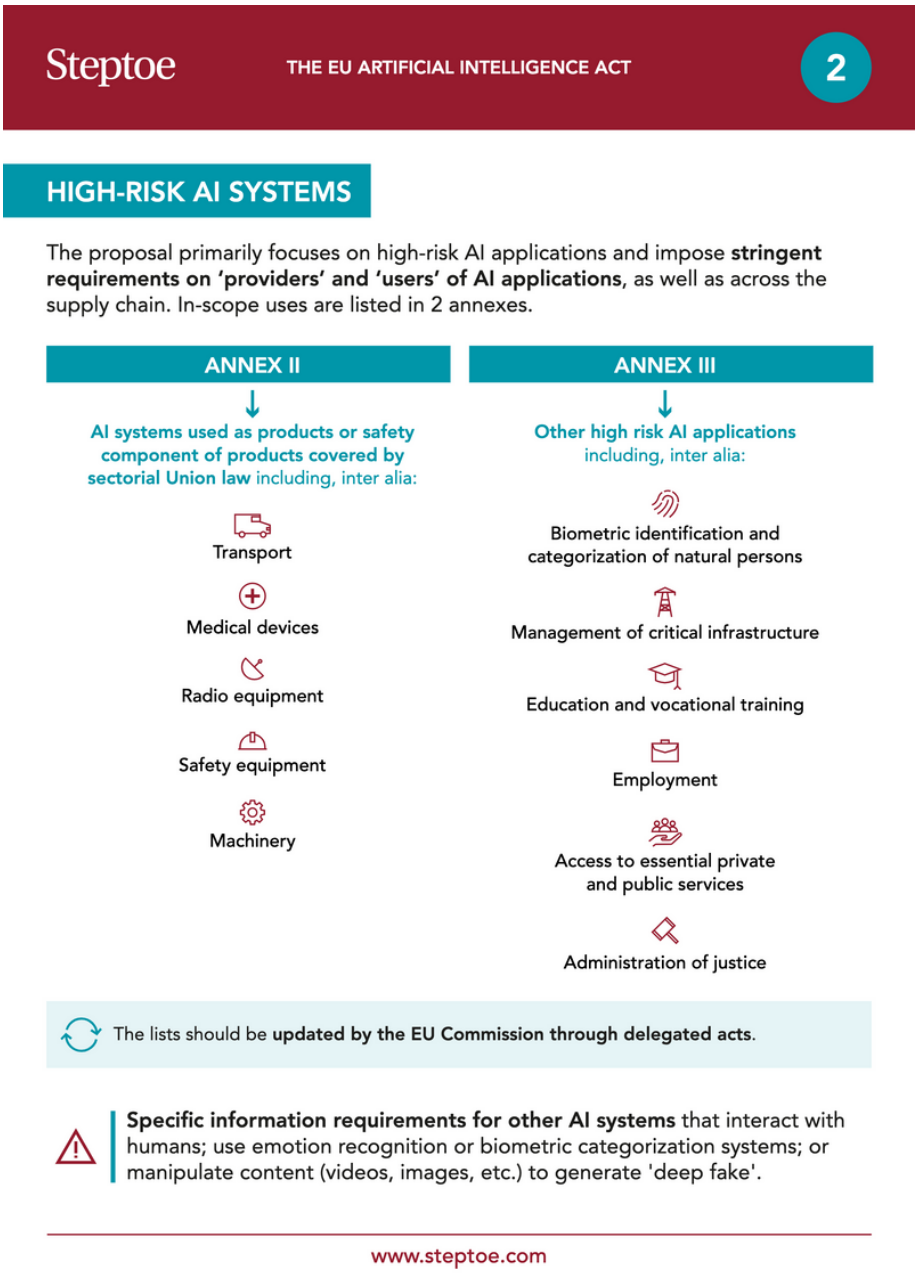
The Regulation identifies **a series of AI practices that are prohibited** because they go against the EU values or because they violate EU individuals' fundamental rights.



The use of "real-time" remote **biometric identification** systems (such as facial recognition) in public spaces for law enforcement purposes will however be authorized if strictly necessary for:

1. targeted search for victims
2. prevention of specific, substantial and imminent threats or terrorist attacks
3. detection, localization, identification or prosecution of a perpetrator or suspect of certain criminal offences

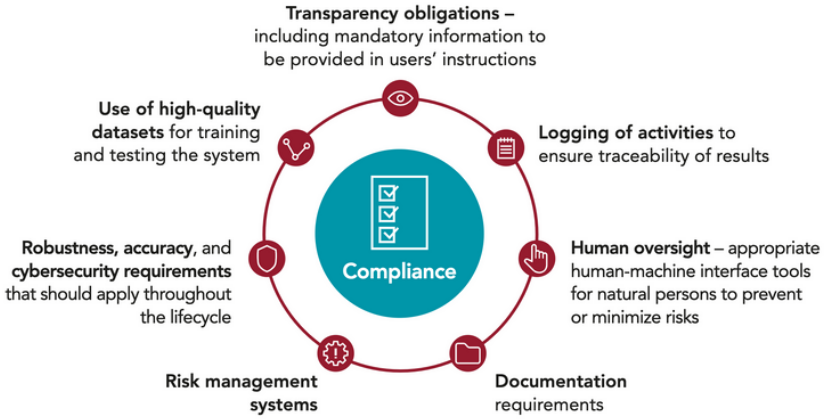
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HIGH-RISK AI SYSTEMS
The proposal primarily focuses on high-risk AI applications and impose stringent requirements on 'providers' and 'users' of AI applications, as well as across the supply chain. In-scope uses are listed in 2 annexes.
ANNEX II
AI systems used as products or safety component of products covered by sectorial Union law including, inter alia:
Transport
Medical devices
Radio equipment
Safety equipment
Machinery
ANNEX III
Other high risk AI applications including, inter alia:
Biometric identification and categorization of natural persons
Management of critical infrastructure
Education and vocational training
Employment
Access to essential private and public services
Administration of justice
The lists should be updated by the EU Commission through delegated acts.
Specific information requirements for other AI systems that interact with humans; use emotion recognition or biometric categorization systems; or manipulate content (videos, images, etc.) to generate 'deep fake'.
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Steptoe THE EU ARTIFICIAL INTELLIGENCE ACT 3

EX-ANTE REQUIREMENTS VETTED BY A CONFORMITY ASSESSMENT

Before the placement of AI systems on the market or their putting into service, high-risk **AI systems should undergo a conformity assessment** to ensure they are in line with the requirements of the Regulation.



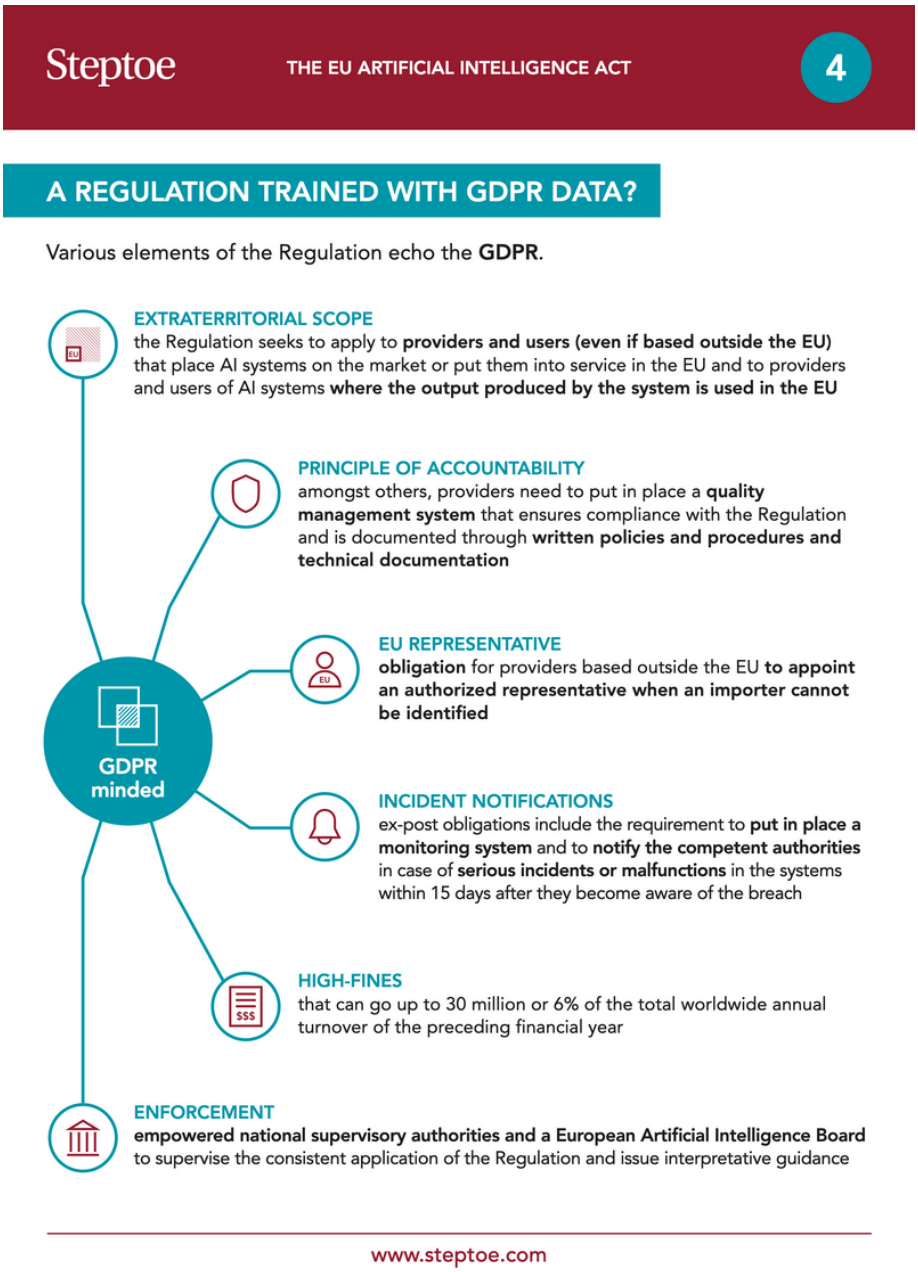
What's the process?



EX-POST REQUIREMENTS

Post-market requirements (monitoring system, reporting of serious incidents and malfunctioning) and surveillance.

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A REGULATION TRAINED WITH GDPR DATA?
Various elements of the Regulation echo the GDPR.
GDPR minded
EXTRATERRITORIAL SCOPE
the Regulation seeks to apply to providers and users (even if based outside the EU) that place AI systems on the market or put them into service in the EU and to providers and users of AI systems where the output produced by the system is used in the EU
PRINCIPLE OF ACCOUNTABILITY
amongst others, providers need to put in place a quality management system that ensures compliance with the Regulation and is documented through written policies and procedures and technical documentation
EU REPRESENTATIVE
obligation for providers based outside the EU to appoint an authorized representative when an importer cannot be identified
INCIDENT NOTIFICATIONS
ex-post obligations include the requirement to put in place a monitoring system and to notify the competent authorities in case of serious incidents or malfunctions in the systems within 15 days after they become aware of the breach
HIGH-FINES
that can go up to 30 million or 6% of the total worldwide annual turnover of the preceding financial year
ENFORCEMENT
empowered national supervisory authorities and a European Artificial Intelligence Board to supervise the consistent application of the Regulation and issue interpretative guidance
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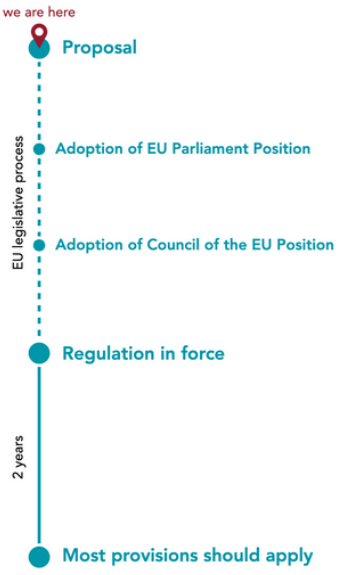
THE EU ARTIFICIAL INTELLIGENCE ACT

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WHAT COMES NEXT?

The proposal will have to undergo the **EU legislative process**, which might take quite some time and lead to significant changes.

In its current format, **most provisions should apply 2 years after the entry into force** of the Regulation.



Parallel international developments

OECD 2019
"Recommendation of the Council on AI"

NATO 2019
"Coherent Implementation Strategy on Emerging and Disruptive Technologies"

UNESCO 2020
"Comprehensive global standard-setting instrument to provide AI with a strong ethical basis" *(draft)*

COUNCIL OF EUROPE
"Legal framework on AI design, development and application based on Council of Europe standards" *(feasibility study)*

G7-led
Global Partnership on Artificial Intelligence

The **EU** is shaking the AI ecosystem and stepping in as a **key regulator**. This competes with other 'principles-based' regional approaches, such as the US one.

We will closely follow the developments of the Regulation to help understand how the "AI EU way" will play out.

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