Excellence and trust in artificial intelligence

https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/excellence-and-trust-artificial-intelligence_en

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EU and AI

Artificial intelligence (AI) can help find solutions to many of society's problems. This can only be achieved if the technology is of high quality, and developed and used in ways that earns peoples' trust. Therefore, an EU strategic framework based on EU values will give citizens the confidence to accept AI-based solutions, while encouraging businesses to develop and deploy them.
This is why the European Commission has proposed a set of actions to boost excellence in AI, and rules to ensure that the technology is trustworthy.

The Regulation on a European Approach for Artificial Intelligence and the update of the Coordinated Plan on AI will guarantee the safety and fundamental rights of people and businesses, while strengthening investment and innovation across EU countries.

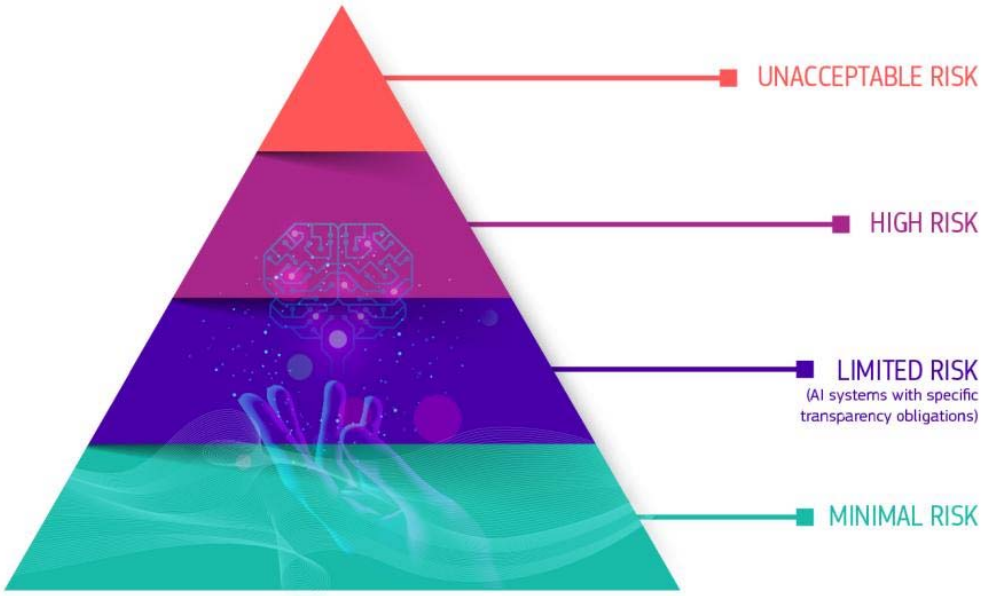
Building trust through the first-ever legal framework on AI

The Commission is proposing new rules to make sure that AI systems used in the EU are safe, transparent, ethical, unbiased and under human control. Therefore they are categorised by risk:

Unacceptable

Anything considered a clear threat to EU citizens will be banned: from social scoring by governments to toys using voice assistance that encourages dangerous behaviour of children.

High risk



- Critical infrastructures (e.g. transport), that could put the life and health of citizens at risk
- Educational or vocational training, that may determine the access to education and professional course of someone's life (e.g. scoring of exams)
- Safety components of products (e.g. AI application in robot-assisted surgery)
- Employment, workers management and access to self-employment (e.g. CV sorting software for recruitment procedures)
- Essential private and public services (e.g. credit scoring denying citizens opportunity to obtain a loan)
- Law enforcement that may interfere with people's fundamental rights (e.g. evaluation of the reliability of evidence)
- Migration, asylum and border control management (e.g. verification of authenticity of travel documents)
- Administration of justice and democratic processes (e.g. applying the law to a concrete set of facts)

They will all be carefully assessed before being put on the market and throughout their lifecycle.

Limited risk

AI systems such as chatbots are subject to minimal transparency obligations, intended to allow those interacting with the content to

make informed decisions. The user can then decide to continue or step back from using the application.

Minimal risk

Free use of applications such as AI-enabled video games or spam filters. The vast majority of AI systems falls into this category where the new rules do not intervene as these systems represent only minimal or no risk for citizen’s rights or safety.

New rules for providers of high-risk AI systems

- Step 1: A high-risk AI system is developed
- Step 2: It needs to undergo the conformity assessment and comply with AI requirements. For some systems a notified body is involved.
- Step 3: Registration of stand-alone AI systems in an EU database
- Step 4: A declaration of conformity needs to be signed and the AI system should bear the CE marking. The system can be placed on the market

If substantial changes happen in the AI system's lifecycle, go back to Step 2.

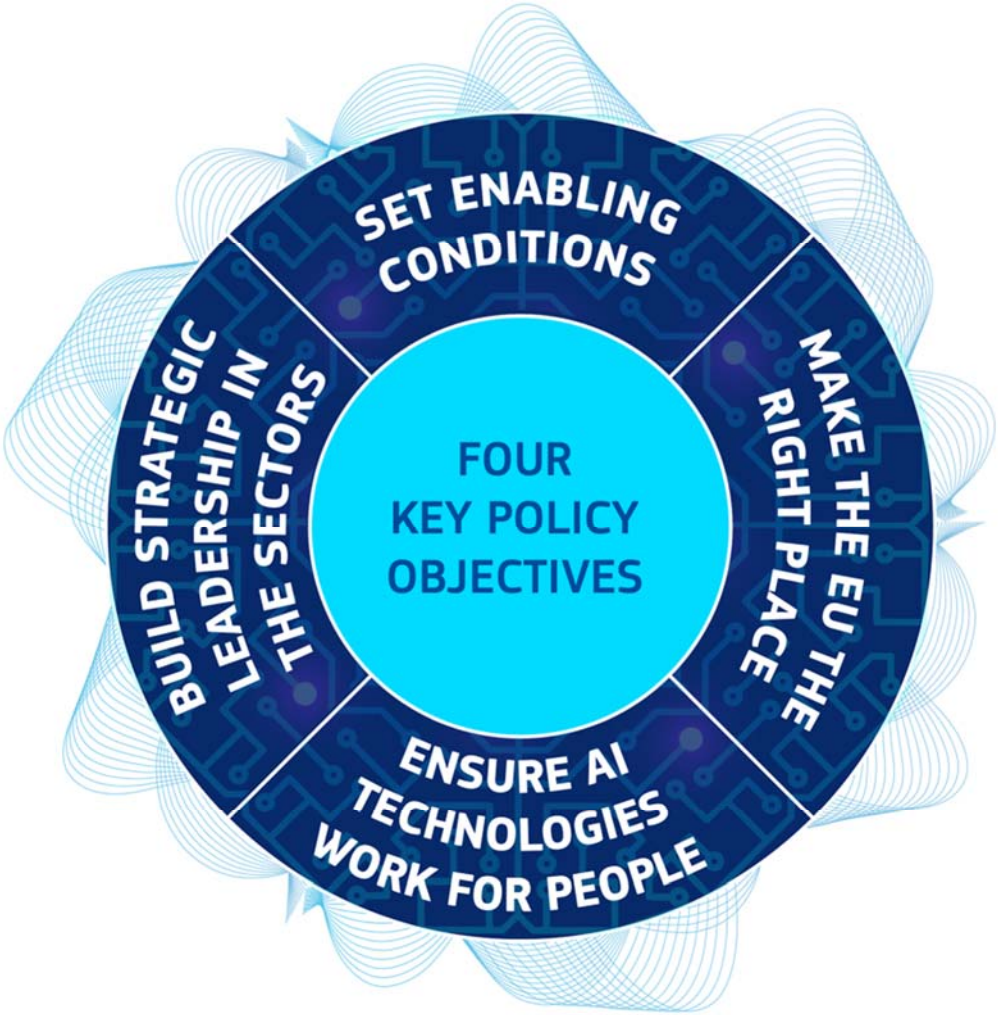
Once the AI system is on the market, authorities are in charge of the market surveillance, users ensure human oversight and monitoring, while providers have a post-market monitoring system in place. Providers and users will also report serious incidents and malfunctioning.

Boosting excellence in AI

In 2018, the Commission and EU Member States took the first step by joining forces through a Coordinated Plan on AI that helped lay the ground for national strategies and policy developments.

The 2021 update of the Coordinated Plan on AI brings strategy into action and is aligned with the Commission’s digital and green twin priorities, as well as Europe’s response to the coronavirus pandemic.

Fostering AI excellence from the lab to the market, the Coordinated Plan puts forward a vision to accelerate investments in AI, to act on AI strategies for their timely implementation and to align AI policies EU-wide.



Key policy objectives:

1. Set enabling conditions for AI's development and uptake
2. Build strategic leadership in high-impact sectors
3. Make the EU the right place for AI to thrive
4. Ensure AI technologies work for people

As part of these efforts, the Commission plans to set up:

- A Public-Private Partnership on Artificial Intelligence, Data and Robotics to define, implement and invest in a common strategic research innovation and deployment agenda for Europe
- Additional Networks of AI Excellence Centres to foster exchange of knowledge and expertise, develop collaboration with industry and foster diversity and inclusion
- Testing and Experimentation Facilities to experiment and test state-of-the-art technology in real-world environments

- Digital Innovation Hubs, one-stop shops to provide access to technical expertise and experimentation, so that companies can "test before invest"
- An AI-on-demand Platform as a central European toolbox of AI resources (e.g. expertise, algorithms, software frameworks, development tools) needed for industry and public sector uses

EU-funded projects in AI

The EU has already funded a variety of AI projects offering solutions in all areas of society, from agriculture to healthcare, manufacturing, or transport.

Three examples of areas where the use of AI technology has been particularly beneficial are health, environment and in the fight against disinformation.

1.- Neuro-rehabilitation assisting recovery of COVID-19 intensive care patients
The CDAC project, contributed to the development and clinical validation of innovative technologies that have already been used for the rehabilitation of over 3,000 stroke patients across Europe.

2.- Smart sensors to help feed growing world population
The ANTARES project is developing smart sensor and big data technologies that could help farmers produce more food in a way that is sustainable for society, farm incomes and the environment.

3.- Online tools for fact-checking and debunking
WeVerify provides verification systems such as plugin that can help fact-checkers, journalists, human rights activists and citizens to debunk and fact-check videos and images online.

Benefits of artificial intelligence

The EU has the potential to become the global leader in safe artificial intelligence. By developing a strong regulatory framework based on human rights and fundamental values, the EU can develop an AI system that benefit people, businesses and governments.

- Citizens: Better healthcare, safer and cleaner transport, and improved public services
- Businesses: Innovative products and services, for example in energy, security, healthcare; higher productivity and more efficient manufacturing

- Governments: Cheaper and more sustainable services such as transport, energy and waste management

AI and EU in figures

- €1 billion: The Commission plan to invest €1 billion per year in AI from its Digital Europe and Horizon Europe programmes.
- €20 billion: The aim is to attract more than €20 billion of total investment in AI per year in the EU over this decade. The Recovery and Resilience Facility will help speeding up investments and go beyond this aim.
- 25%: of all industrial and personal service robots are produced in Europe.