# EXCELLENCE AND TRUST IN ARTIFICIAL INTELLIGENCE
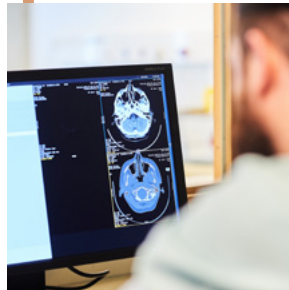
## SHAPING EUROPE'S DIGITAL FUTURE

February 2020
#DigitalEU

The EU's approach to Artificial Intelligence (AI), based on trust and excellence, will give citizens the confidence to embrace these technologies while encouraging businesses to develop them.



### 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.

## How to achieve EXCELLENCE:

- ❯ Set-up a new public-private partnership in AI and robotics;
- ❯ Strengthen and connect AI research excellence centres;
- ❯ Have at least one digital innovation hub per Member State specialised in AI;
- ❯ Provide more equity financing for development and use of AI, with the help of the European Investment Fund;
- ❯ Use AI to make public procurement processes more efficient;
- ❯ Support the procurement of AI systems by public bodies.

## And TRUST:

- ❯ New legislation on AI should be adapted to the risks, it should be effective but not limit innovation;
- ❯ Require high-risk AI systems to be transparent, traceable and under human control;
- ❯ Authorities must be able to check AI systems, just as they check cosmetics, cars or toys;
- ❯ Ensure unbiased data sets;
- ❯ Launch an EU-wide debate on the use of remote biometric identification (e.g. facial recognition).

## What are the consequences of biased datasets?

Datasets where certain groups of the population are under-represented can lead to discrimination. Embedded in artificial intelligence systems, such biases can have significant negative effects that can discriminate against many people. For example:

- ▸ Datasets from clinical trials often include much more data from men than from women. If such bias is not corrected, it can lead to wrong conclusions and to negative consequences for the treatment of women;
- ▸ Studies have shown biases against job applicants who have a migration background. Such biases must be eliminated so every candidate has a fair chance.

## What is a high-risk AI application?

◆ When it concerns a critical use in a critical sector

**CRITICAL SECTORS**

- healthcare
- transport
- police
- legal system

**CRITICAL USE**

- legal effects
- risks of death
- damage or injury

◆ For example: medical equipment, automated driving, decisions on social security payments;

◆ Some uses are critical in all sectors, for example use of AI in recruitment processes.

## How to enforce trustworthy AI in practice?

◆ High-risk AI will be subject to strict rules (compliance tests, controls, sanctions);

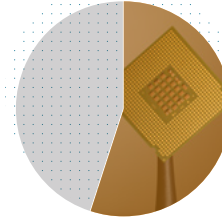◆ Other AI applications can use voluntary labelling.
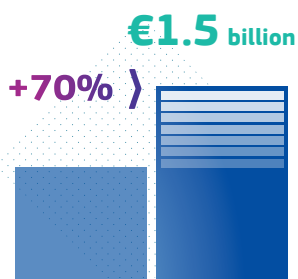
## AI & EU

**Europe's excellent researchers** publish the most scientific articles on AI globally.
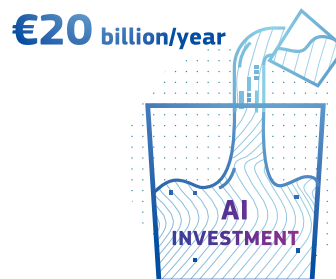
Europe produces **over 25%** of industrial and professional service robots.

Over **50%** of top European manufacturers use AI.

**€1.5 billion**

**+70%** ❯

Over the past 3 years, EU funding for AI research and innovation has risen to **€1.5 billion, a 70% increase** on the previous period.

**€20 billion/year**

AI INVESTMENT

But it is not enough: the aim is to attract more than **€20 billion** of investment per year (EU, national, business) over the next decade, against €3.2 billion in 2016.