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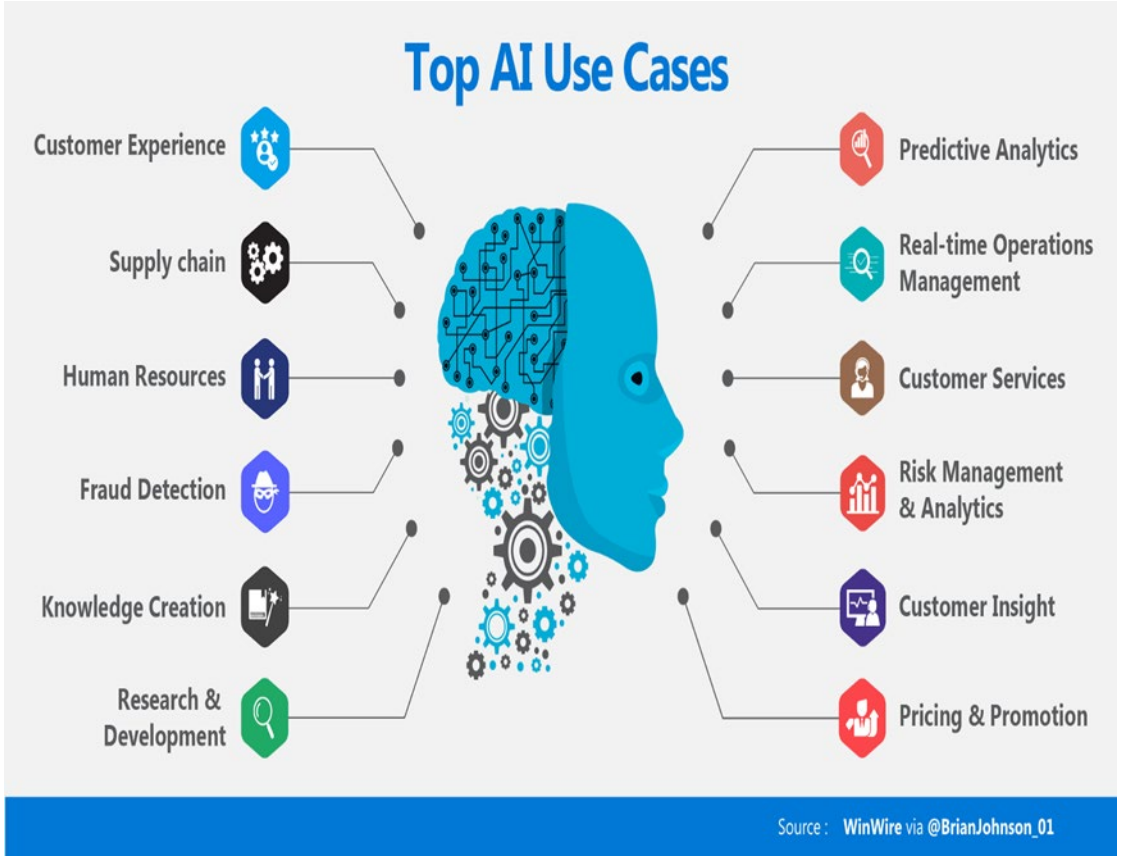
THE EUROPEAN WAY TO AI

Which scenarios for the EU in the global race

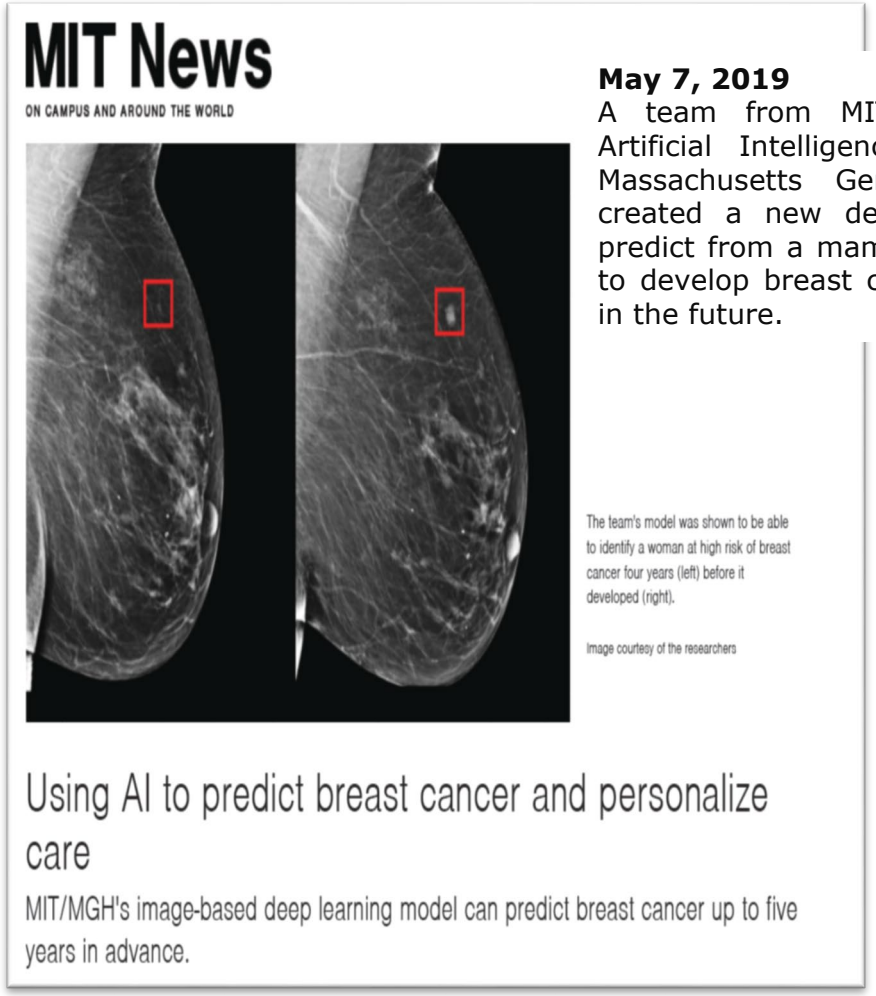
Examples of artificial intelligence and use cases

Products and technologies	Use and potentialities	Relevant areas
Augmented reality	Cross-Channel Insights, Language Translation, 3-D Maps, Virtual Shopping	Tourism and Travel; Retail
Chatbots and intelligent agents	Customer service and Customer Experience, Custom products, Knowledge Management	Consumer electronics; Travel; Retail; B2B sales; Legal services
Self-driving cars and drones	Transport, Delivery, Quality Assurance, Safety	Transportation and logistics; oil and gas; Manufacturing; Safety
Artificial vision (Imaging)	Virtual diagnostic, Trademark management, quality assurance	Medicine; Health management; Manufacturing; Architecture and Urban Planning; Retail; Food and drink; Safety
Machine Learning	Predictive analysis, knowledge management, software development	City planning; Financial and legal services; Travel; Retail; Consumer Electronics; Health; Safety; Public transport
Speech recognition and processing of natural language	Translation of languages, reading and interpretation of texts, transcription of texts	Digital Marketing; Customer Experience; Healthcare; Tourism and travel; Risk Management; Legal services
Robotics	Automation of manual processes	Safety; Manufacturing; Smart Home; Transportation; Healthcare
Virtual reality	Teleconference, gaming, entertainment, virtual experiences	Retail; Games; Media and Entertainment; Healthcare; Manufacturing

Source: I-Com elaboration



The potential of artificial intelligence



MIT News

ON CAMPUS AND AROUND THE WORLD

The team's model was shown to be able to identify a woman at high risk of breast cancer four years (left) before it developed (right).

Image courtesy of the researchers

Using AI to predict breast cancer and personalize care

MIT/MGH's image-based deep learning model can predict breast cancer up to five years in advance.

May 7, 2019

A team from MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL) and Massachusetts General Hospital (MGH) has created a new deep-learning model that can predict from a mammogram if a patient is likely to develop breast cancer as much as five years in the future.

AI implementation and development are spreading quickly in all economic sectors, thanks to the increased availability of processing power, improvements in algorithms and the exponential growth in the volume and variety of digital data and, as well, increased funding.

AI can help to reduce carbon footprint and manage environmental issues

Artificial intelligence-powered applications could help policy-makers and industry leaders manage greenhouse gas emissions and support sustainability initiatives

Cliff Saran

Managing Editor

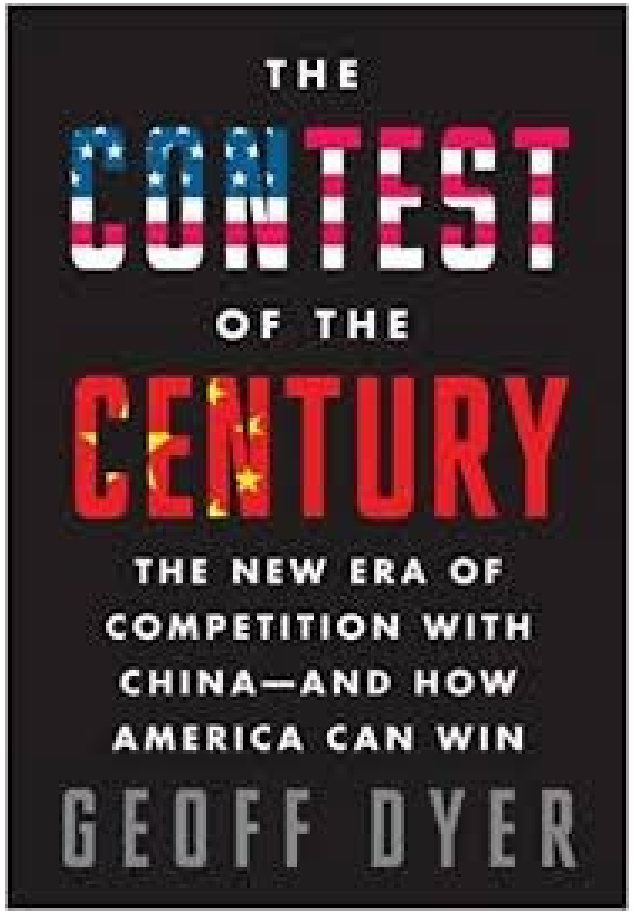
16 Apr 2019 15:36

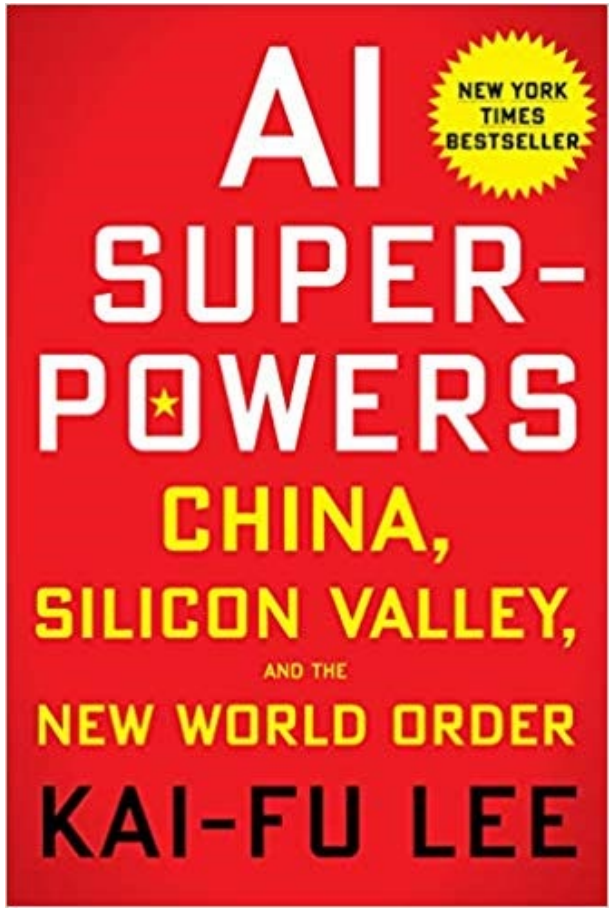
April 16, 2019

A report from PwC and Microsoft has concluded that artificial intelligence (AI) could be deployed to manage environmental impacts and climate change. Using AI could reduce worldwide greenhouse gas (GHG) emissions by 4% in 2030, an amount equivalent to 2.4 gigatonne equivalent (GTCO2e) of carbon dioxide emissions – equivalent to the 2030 annual emissions of Australia, Canada and Japan combined.

Source: https://www.computerweekly.com/news/252461751/AI-can-help-to-reduce-carbon-footprint-and-manage-environmental-issues

Is Europe too late to enter the race?

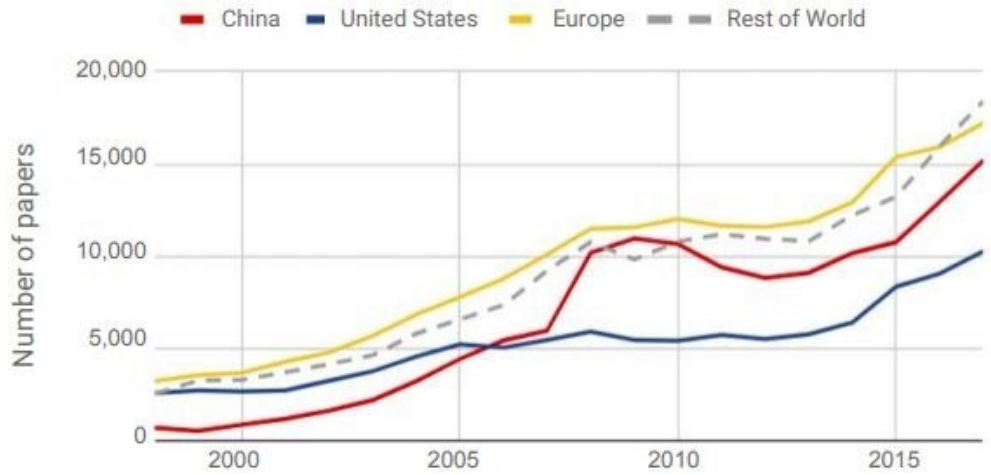




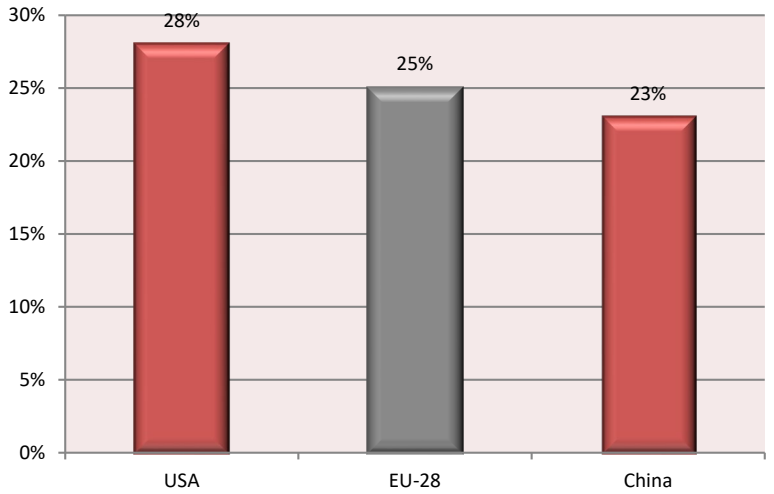
Artificial intelligence in Europe /A vibrant ecosystem

THE GOOD NEWS…

Annually published AI papers on Scopus by region (1998–2017)
Source: Elsevier



AI Players (% of world total; 2009-2018)



Source: EU Commission, ARTIFICIAL INTELLIGENCE. A EUROPEAN PERSPECTIVE

Artificial intelligence in Europe / An unfulfilled potential?

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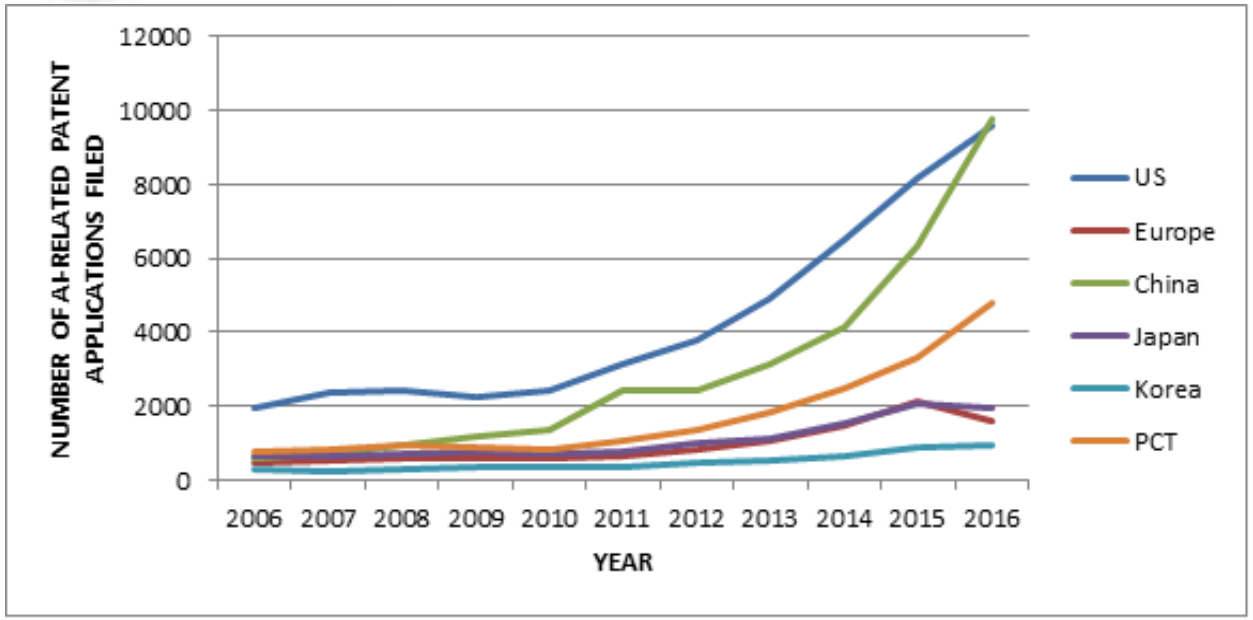
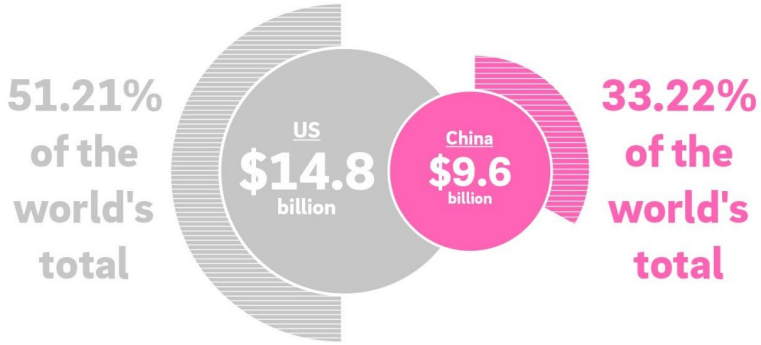
THE BAD NEWS…

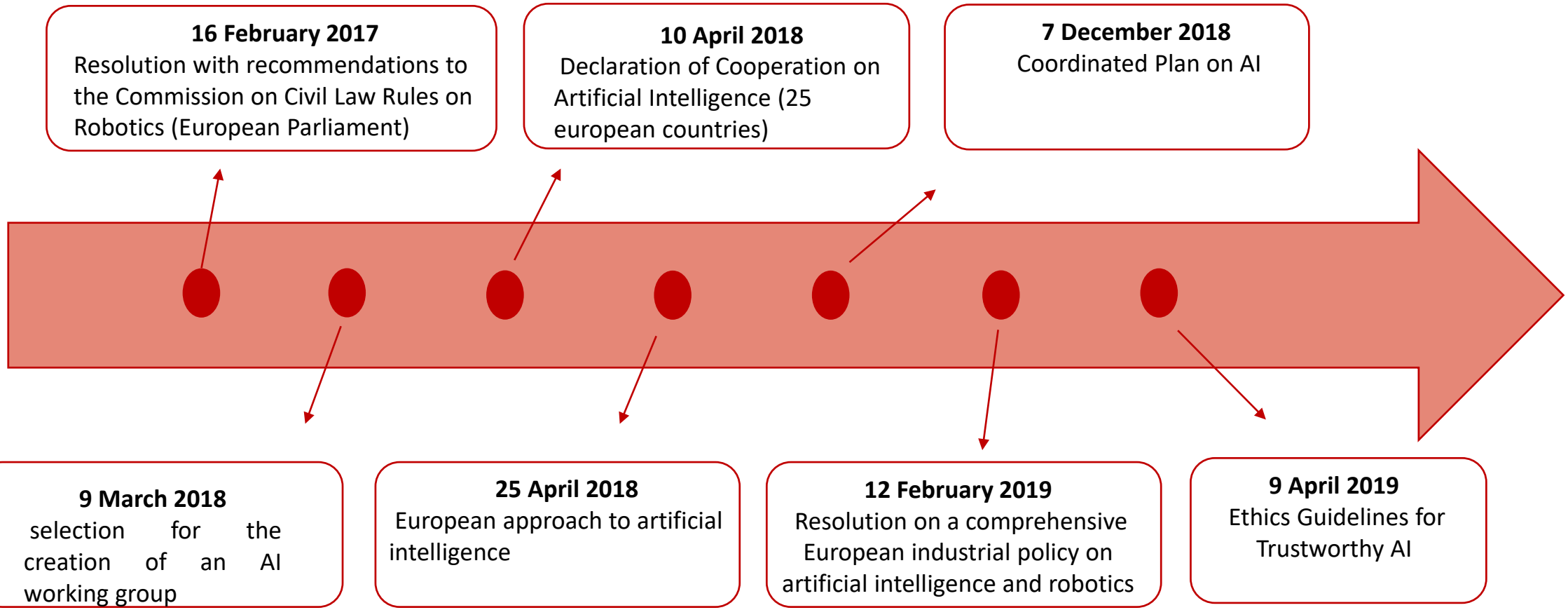


VENTURE CAPITAL INVESTMENT INTO AI

The difference between China and the US in AI investment is big. The US has already invested heavily, while China is now catching up. Since the first US investment into AI in 1999, AI development has accelerated globally. In 18 years, total venture capital invested into AI has reached $28.9 billion.



EU initiatives



Ethics Guidelines for Trustworthy AI (9 April 2019)

The document sets out a **framework for achieving trustworthy AI** aiming to offer guidance to all stakeholders identifying a list of **ethical principles**, by providing guidance on how such principles can be operationalized in socio-technical systems.

It underlines that trustworthy AI is made up of three main elements, to be:

- ✓ **lawful**, complying with all applicable laws and regulations;
- ✓ **ethical**, ensuring adherence to ethical principles and values;
- ✓ **robust**, both from a technical and social perspective, since, even with good intentions, AI systems can cause unintentional harm.

Three chapters:

a) Foundations of Trustworthy AI
b) Realizing Trustworthy AI
c) Assessing Trustworthy AI

A big question looms behind: is the EU ethical approach to AI a factor of competitiveness or a limit to the AI growth in Europe?