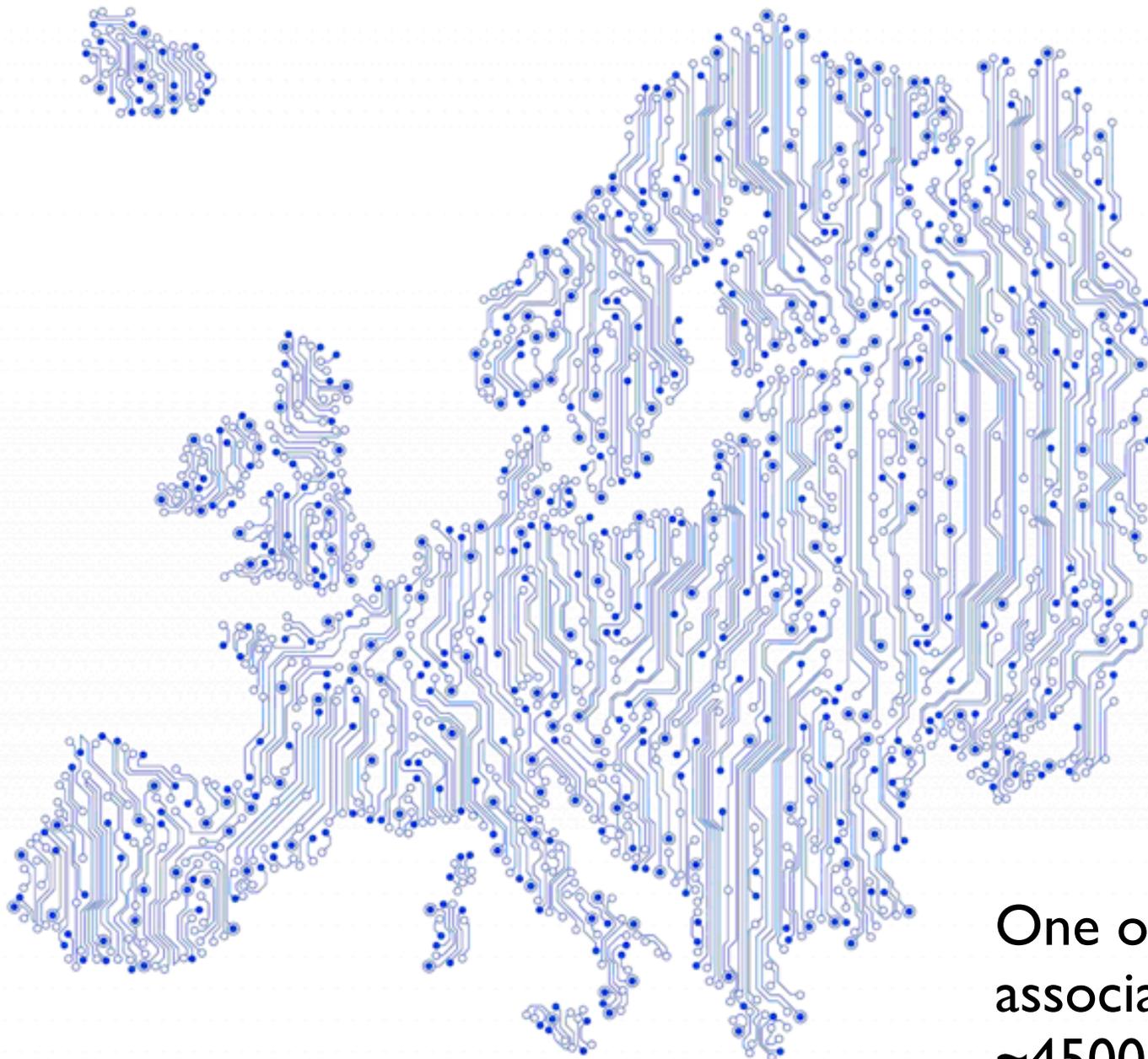




On the European AI Strategy

Barry O'Sullivan

European Artificial Intelligence Association &
Department of Computer Science, University College Cork



EurAi

One of the largest AI
associations in the world:
~4500 individual members
~30 countries

 Search

[European Commission](#) > [Strategy](#) > [Digital Single Market](#) > [News](#) >

Digital Single Market

DIGIBYTE | 14 June 2018

Commission appoints expert group on AI and launches the European AI Alliance

The Commission has appointed 52 experts to the new High Level Group on Artificial Intelligence. The Group, consisting of representatives of academia, business, and civil society, will support the implementation of the EU Communication on Artificial Intelligence published in April 2018.



About Boosting European digital Industry

[Policies](#)

[Blog posts](#)

[News](#) [+](#)

[Events](#)

[Projects](#)

[Funding](#)

[Consultations](#)

The European AI Alliance

You can now officially join the European AI Alliance - a forum engaged in a broad and open discussion of all aspects of Artificial Intelligence development and its impacts.



Why join the AI Alliance?

Members of the European AI Alliance can interact with the experts of the [High Level Group on Artificial Intelligence](#) (AI HLG), established by the European Commission, in a forum-style setting. By signing up

About Artificial intelligence

[Policies](#) +

[Blog posts](#)

[News](#)

[Events](#)

[Projects](#)

[Funding](#)

[Reports and studies](#)

[Laws](#)



<https://ec.europa.eu/futurium/en/eu-ai-alliance>

European Commission > Futurium



European AI Alliance



Please log in

You need to be logged in to access this page.

Best regards,
The European AI Alliance team.

[+ Login/Register with EU Login](#)

----- Or -----

Login with your existing Futurium account.

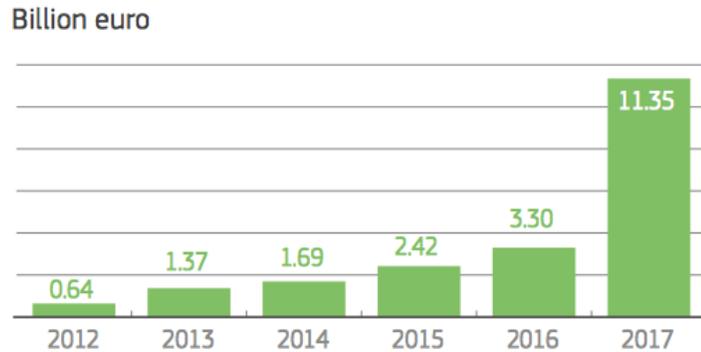
Futurium Username *

Enter your FUTURIUM username.

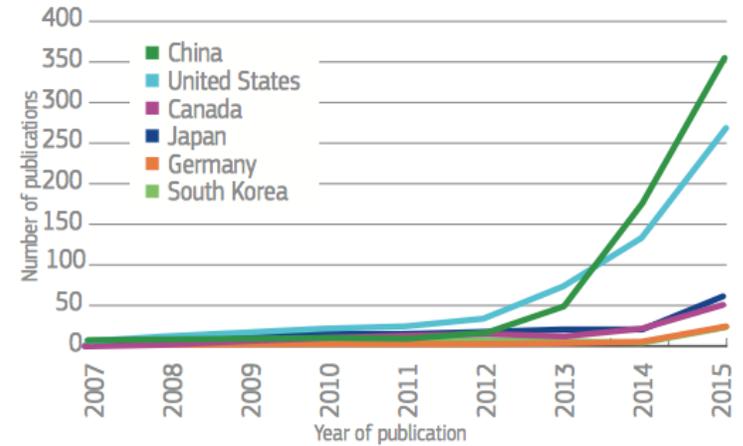
Futurium Password *

Enter the password that accompanies your username.

What does the AI business world look like?



Source: Venture Scanner, Artificial Intelligence Startup Highlights, Q4 2017



Source: White House, National Artificial Intelligence Research and Development Strategic Plan

- Internal corporate investments
- External investments (venture capital, private equity and mergers & acquisitions)

North America
12.2-18.8 billion euro



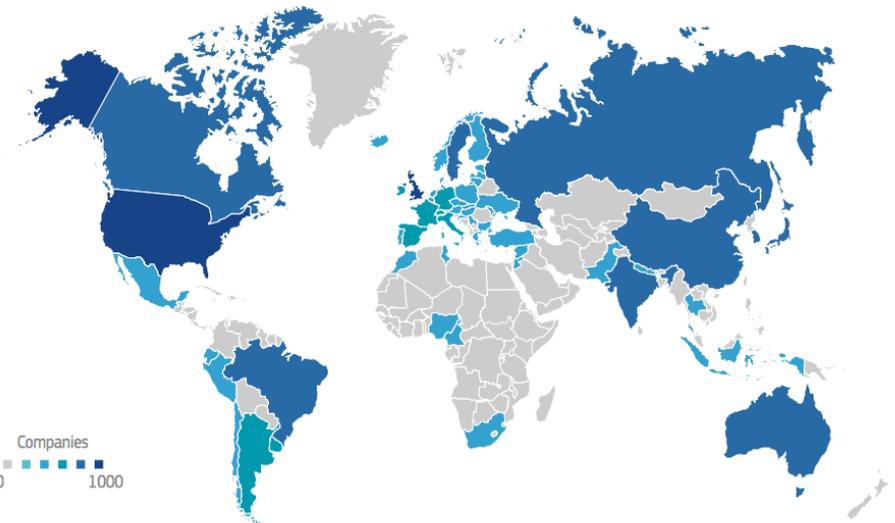
Asia
6.5-9.8 billion euro



Europe
2.5-3.3 billion euro



Source: McKinsey, 2017



White House, National Artificial Intelligence Research and Development Strategic Plan

The European Artificial Intelligence landscape

Europe has a leading edge in artificial intelligence (AI) and robotics. This workshop report describes activities being carried out in the field of AI in different Member States and in some of the countries associated to Horizon 2020. Learn about the academic, industrial and funding ecosystems, and find out more about the various governmental initiatives and strategies related to AI.

In January 2018, the Commission in cooperation with the European Association for Artificial Intelligence ([EurAI](#)) organised a workshop to take stock of the current state of the field of artificial intelligence (AI) in Europe, and to identify opportunities for pan-European collaboration, capitalising on European strengths in AI.





EPSC

European Political Strategy Centre

[European Commission](#) > [EPSC](#) > [Publications](#) > [Strategic notes](#) > [The Age of Artificial Intelligence](#)

[Home](#)

[About Us](#)

[Publications](#)

[Events](#)

[Team](#)

Search



The Age of Artificial Intelligence

Towards a European Strategy for Human-Centric Machines

Issue 29 | 27 March 2018

Strategic Notes

Digital

Deployed wisely, AI holds the promise of addressing some of the world's most intractable challenges. But the significance of its positive impact is mirrored by its likely destabilising effects on some aspects of economic and social life. Our paper explores the opportunities and ethical challenges that come with AI and focuses on how Europe can sharpen its competitive edge vis-à-vis other leading economies, such as the United States and China.

[Download PDF \(0.8 MB\)](#)



#DSM

Digital Single Market

ARTIFICIAL INTELLIGENCE FOR EUROPE



AI-RELATED AREAS

Around **€2.6 billion** over the duration of Horizon 2020 on AI-related areas (robotics, big data, health, transport, future and emerging technologies).



ROBOTICS

€700 million under Horizon 2020 + **€2.1 billion** from private investment in one of the biggest civilian research programmes in smart robots in the world.



SKILLS

€27 billion through European Structural and Investment Funds, on Skills development out of which European Social Fund invests, **€2.3 billion** specifically in digital skills.

The expert group on artificial intelligence will help with the implementation of the Communication on "Artificial Intelligence for Europe", support the set-up of a community of stakeholders - the AI Alliance - and draft AI ethics guidelines.

The European Artificial Intelligence landscape

Europe has a leading edge in artificial intelligence (AI) and robotics. This workshop report describes activities being carried out in the field of AI in different Member States and in some of the countries associated to Horizon 2020. Learn about the academic, industrial and funding ecosystems, and find out more about the various governmental initiatives and strategies related to AI.

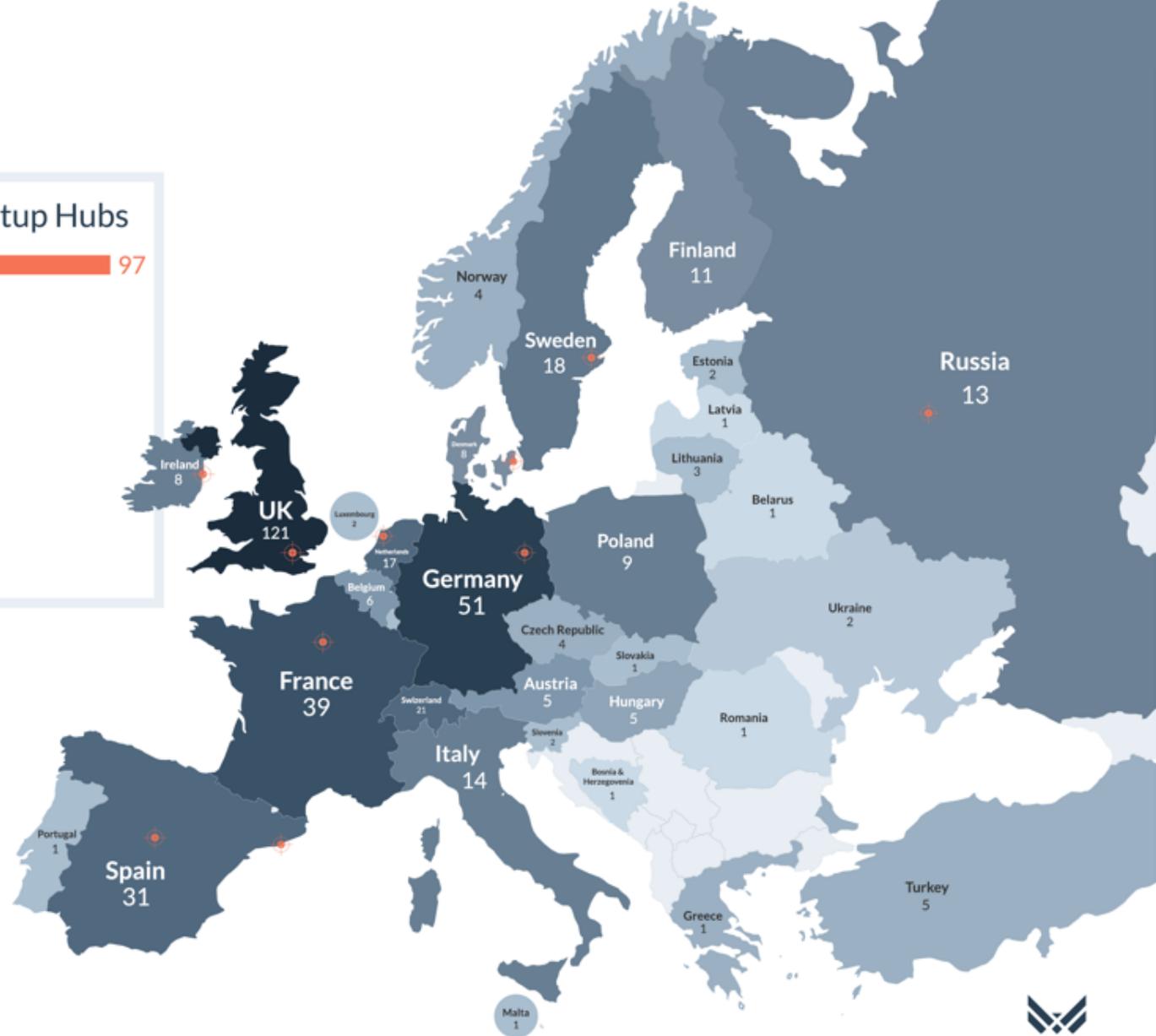
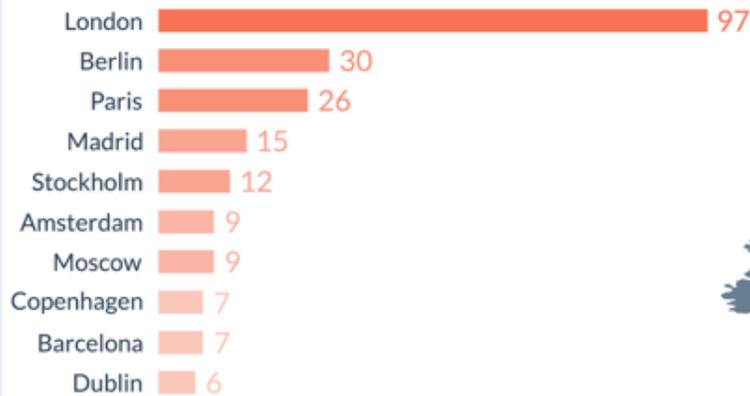
In January 2018, the Commission in cooperation with the European Association for Artificial Intelligence ([EurAI](#)) organised a workshop to take stock of the current state of the field of artificial intelligence (AI) in Europe, and to identify opportunities for pan-European collaboration, capitalising on European strengths in AI.



NATIONAL AI LANDSCAPES.....	4
<i>Austria</i>	4
<i>Belgium</i>	4
<i>Czech Republic</i>	6
<i>Denmark</i>	7
<i>Estonia</i>	8
<i>Finland</i>	8
<i>France</i>	10
<i>Germany</i>	11
<i>Ireland</i>	12
<i>Israel</i>	14
<i>Italy</i>	15
<i>Luxembourg</i>	16
<i>Netherlands</i>	17
<i>Norway</i>	18
<i>Portugal</i>	20
<i>Romania</i>	21
<i>Spain</i>	22
<i>Sweden</i>	23
<i>Switzerland</i>	25
<i>United Kingdom</i>	27

The European Artificial Intelligence Landscape

Top 10 Artificial Intelligence Startup Hubs

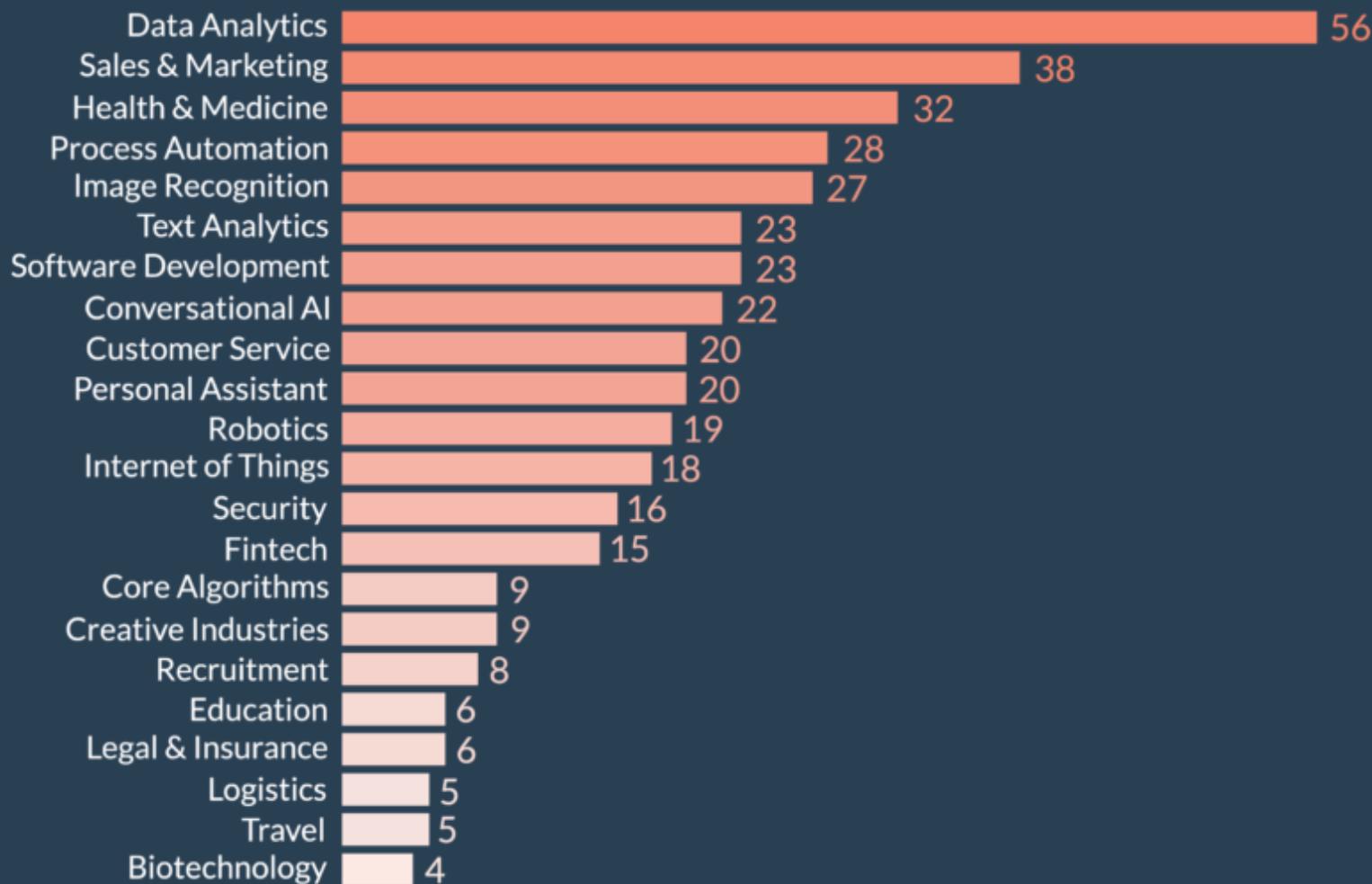


Leading European Artificial Intelligence Nations

By Population



European Artificial Intelligence Industries



Best Funded European Artificial Intelligence Companies

1. BenevolentAI - London, UK - €85.8M

benevolent.ai

Health & Medicine | Application of AI to scientific innovation

2. Blippar - London, UK - €84.9M



Image Recognition | App to scan and learn about physical objects

3. CARMAT - Velizy-Villacoublay, France - €50.9M

CARMAT

Health & Medicine | Development of auto-regulated artificial hearts

4. Arago - Frankfurt, Germany - €47.2M



Process Automation | General problem-solving AI

5. DiffBlue - Oxford, UK - €18.6M



Software Development | Automation of traditional coding tasks

6. SwiftKey - London, UK - €18.5M



Software Development | A faster way of typing on a smartphone

7. Snips - Paris, France - €18.3M

snips

Conversational AI | AI powered voice assistant companies can add to products

8. Starcounter - Stockholm, Sweden - €17.6M



Software Development | Development of business applications using AI

9. KONUX - Munich, Germany - \$18.5M



IoT | Monitors infrastructure and improves operations

10. Your.MD - London, UK - \$17.3M



Health & Medicine | Provides health information based on symptoms and queries

Take-away Messages

- ✦ All participating countries emphasised the **importance of a unified EU-wide AI approach** in order to remain globally competitive.
- ✦ The majority of countries mentioned **distributed but cooperative AI clusters across Europe as a suitable next step**. Smaller initiatives are already laying the groundwork (Nordic AI Artificial Intelligence Institute, Benelux Association for AI, ROBOTNET, etc.).
- ✦ There are considerable differences between EU countries in terms of **governmental initiatives and funding**. Most of the investment in AI technology seems to come from industry and private funds.

Take-away Messages

- Several countries mentioned a **need to discuss realistic future scenarios**, and found debates surrounding dystopian applications of AI, e.g. killer robots, to be hindering beneficial AI development.
- There are **vast differences in public acceptance, usage, and uptake of ICT technologies across European countries.**
- Overall, Europe has a very **strong academic landscape** concerning AI and AI-related research.
- **Academia across Europe actively counteracts fragmentation** between different AI-related disciplines and uses opportunities to cross-pollinate with industry and government.

Take-away Messages

- ✦ **The migration of academics and students to the US and China is a concern in most EU Member States.** Almost all new initiatives surrounding AI involve activities related to talent creation, talent attraction, and talent retention at educational, training, and university level.
- ✦ Most countries view **limited access to open data as a hurdle** to AI development and several countries are working on suitable solutions.

Take-away Messages

- One country specifically mentioned AI as a technology for defence applications, but there are **significant concerns within the AI community regarding the development of lethal autonomous weapons systems** with a view that these should be banned from development.
- One country directly addressed our **duty to future generations** to develop AI in a beneficial and sustainable manner.
- One country acknowledged the possibility of AI as an existential risk but found this consideration less relevant for imminent developments in AI.

Proposed next steps

- Establishment of a **European hackathon and/or innovation forum encouraging entrepreneurship.**
- **Consideration of the establishment of a European research centre for AI modelled on institutions such as CERN.**
- **Incentivising stronger inter-governmental collaboration** to combat fragmentation across Europe.
- **Investment and creation of a pan-European data infrastructure** that makes high quality data sets available to European researchers and companies, beyond the existing Open Data Portals.

Proposed next steps

- Support to **facilitate and incentivise collaboration using European computational infrastructure** and pooling existing resources and capabilities.
- Increased **support for working groups/focus sessions and summer schools to train and educate technical researchers** (including on ethical concerns surrounding AI and the development of responsible AI).
- Designing **mechanisms to re-skill and up-skill the wider population** in the use of AI tools and methods.

Proposed next steps

- An **increase in Europe-wide and national research funding** for current and potential future AI systems, their novel properties and large-scale/wide-reaching impacts, such as safety.
- Support for **explicit studies concerning the integration of AI into society** that address and propose novel approaches to increase the societal benefit derived from technical advances.
- Developing **incentives and forums to promote stronger interactions between European industry, SMEs and the general public** to host large EU AI and robotics conferences (e.g. IJCAI) and showcase European talent and successful projects.



On the European AI Strategy

Barry O'Sullivan

European Artificial Intelligence Association &
Department of Computer Science, University College Cork