Artificial intelligence in Europe: do not miss the boat again

A recent survey of 3,000 managers finds that 57% of their companies are piloting or deploying artificial intelligence. Also, 59% claim to have an artificial intelligence (AI) strategy and 70% that they understand how AI can generate business value. But where do these AI technologies come from? The answers, as many would have guessed, are China and the US.

Chinese companies have close to 110,000 AI patents, whilst the US boasts of having over 60,000. Europe, in contrast, has just a little over 5,000 patents. Such a lag has prompted the European Commission recently to launch the plan *Shaping Europe's Digital Future: Strategies for Data and AI*, seeking to close the gap and to provide a potential future direction of AI development for the member states.

There are several factors holding Europe back. First up is talent. It is not just a matter of recruitment but also retention, with many European companies losing their most skilful AI talent to overseas competitors. Another reason is regulation, which poses a conundrum in the continent. Whilst some observers believe that it is critical for the field of AI to be properly regulated, others worry that heavy or strict regulations could seriously constrain developments.

One of the most important factors, however, is that Europe suffers from a lack of early-stage private capital. To fill the funding gaps, Pretiosum Ventures (where one of us works) is among the few ventures that have invested heavily in European AI start-ups. Indeed, despite the challenging climate due to Covid-19, the amount of AI investment in Europe is expected to increase further in 2021. Yet, private funding alone is insufficient. As Kim Jørgensen, the head of cabinet for the EU Digital Commission, argues, even though Europe has been able to form a strong base for AI development, more efforts for funding within the budget of the EU is vital to the continuous AI development across the continent.

Traditionally, Europe has been more focused on small and medium enterprises and manufacturing, so it's time for the development of AI to tap into this established structure. One may find it surprising to learn that there is no shortage of AI innovators in Europe, many with compelling use cases. In our view, the most promising AI start-ups (funded within 10 years, and with less than $50m of funds raised) with the potential to drive economic growth in Europe can be placed into five categories:

Robotics. Europe's advanced manufacturing lead can be extended using AI to assist with design, construction, and maintenance of robots and other intelligent machines. Promising innovators: *Blue Ocean Robotics, Twenty Billion Neurons, Another Brain, Nomagic, Furhat Robotics*.

Business intelligence and analytics. AI technology makes it possible to collate vast amounts of information and derive insights from where it would otherwise be impossible. Promising innovators: *Adverity, Kayrros, Synerise, Foxintelligence, Crystal*.

Fintech. While identity checks and everyday banking have been obvious beneficiaries of AI, it has also been widely adapted for the purpose of customer communications and complex services, such as risk analysis, investing, and insurance claim assessments. Promising innovators: *Yapily, DreamQuark, Coya, Candis, Quantumrock*.

Healthcare. AI in this field involves sophisticated algorithms and software, which are able to outperform human experts in the analysis and interpretation of medical and healthcare data. Promising innovators: *Aignostics, CardioLogs, Kitman Labs, StethoMe, MMG*.

Transportation/navigation. AI is also driving innovation in the transportation and navigation industry, playing a major role in directing autonomous vehicles, whilst also disrupting research and supply chain processes. Promising innovators: *Sensible4, Gideon Brothers, HUUB, Kleos Space, INTRANAV*.

Collective efforts are required

The current developments in AI are only the beginning. Despite the initial success, it can only be sustained if all parties work together. Regulators must create a supportive environment and provide the necessary funding (in spite of the massive government spending on the economies due to COVID-19). We will also have to find new ways to increase the talent supply. Just as important is making more risk capital, raised from both private and public sources, available. Europe failed to board the internet boat two decades ago, missing the opportunity to create world beating e-commerce champions. It simply cannot afford to miss the AI boat this time.

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Notes:

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Terence Tse is a professor at ESCP Business School and a co-founder and executive director of Nexus FrontierTech, an AI company. He has worked with more than thirty corporate clients and intergovernmental organisations in advisory and training capacities. In addition to being a sought-after global speaker., he has written over 110 published articles and three other books including The AI Republic: Building the Nexus Between Humans and Intelligent Automation.

Luca Cartechini is a VC investor at the London-based fund Pretiosum Ventures, where he focuses on AI, fintech and future of work/life. Previously, he worked at Jefferies as an equity research associate in the internet retail team, covering companies with a total market cap in excess of $100B. Prior to that, he worked at Bloomberg as a financial analyst and at Admiral as a business developer executive in the sharing economy team. Luca currently serves as a visiting professor at ESCP Business School. He has privately invested and advised several successful early stage tech ventures.

Mark Esposito holds appointments as professor of business and economics at Hult International Business School and at Thunderbird Global School of Management at Arizona State University. He is a faculty member at Harvard University since 2011. Mark is a socio-economic strategist researching the Fourth Industrial Revolution and global shifts. He works at the interface between business, technology and government and co-founded Nexus FrontierTech, an artificial intelligence company. He has authored/co-authored over 150 peer-reviewed publications and 11 books, among which Understanding How the Future Unfolds (2017) and The AI Republic (2019).