



# AI MARKET **Business Evolution** **Trends**

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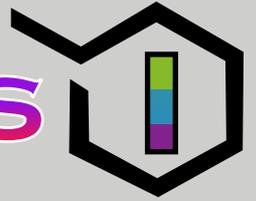
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## AI MARKET:

### BUSINESS EVOLUTION TRENDS

AI will re-shape value chains, enabling fresh business models and acceleration of cycles of creative destruction, with deep consequences for businesses and societies. AI presents hazards for work shifts, greater inequality, and erosion of confidence, while it provides societies with countless advantages.

Its benefits can be abstracted to: innovation (new products and services), efficacy (perform tasks more effectively), velocity (complete tasks more quickly); and scalability (free activity from the constraints of human capacity). These benefits will have profound implications for consumers, companies, and societies. AI will decrease cost, boost scalability of services, and broaden worldwide market involvement, including healthcare and transport by automating capacities previously provided by human experts<sup>1</sup>.



Fig 1. AI 100 Start-ups. CBInsights. (2019). The Top 100 AI Startups Of 2019: Where Are They Now?

IN THE US, VENTURE  
CAPITAL FUNDING FOR AI  
**grew 72%**

YEAR OVER YEAR TO A  
WHOPPING USD 9.3  
BILLION IN 2018.



**Fig 2.** *The future of AI technology. Kaushik Bhaumik. (2019). A Look at the Future of AI Technology. Field Engineer.*

In multiple sectors including insurance, legal services, and transport, AI will change where, and the extent to which, profits are available within the value chain. New commercial success factors, including ownership of large, private data-sets, and the ability to attract data scientists, will determine a company's success in the age of AI. The UK tech sector is perfectly poised to ride the crest of this wave. In 2017, London raised more than double the amount of money to fund digital companies than any other city in Europe.

Given that the UK is home to eight of the top 20 European universities and 40% of Europe's tech unicorns already reside here, this is of little surprise. In the US, venture capital funding for AI grew 72% year over year to a whopping USD 9.3 billion in 2018. Dataminr, a New York based AI and machine learning company that makes sense of news and information in real time, raised USD 392 million in 2018, for example. Silicon Valley, AI powered, computer security and management companies CrowdStrike, Team Tanium, Cylance, Inc. each raised over USD 100 million last year. Pony.ai raised USD 102 million to develop its latest self-driving systems. SenseTime, that focuses on innovative computer vision and deep learning, raised not one but two tranches of USD 600 million in 2018. It, now, claims to be the world's most valuable AI startup.

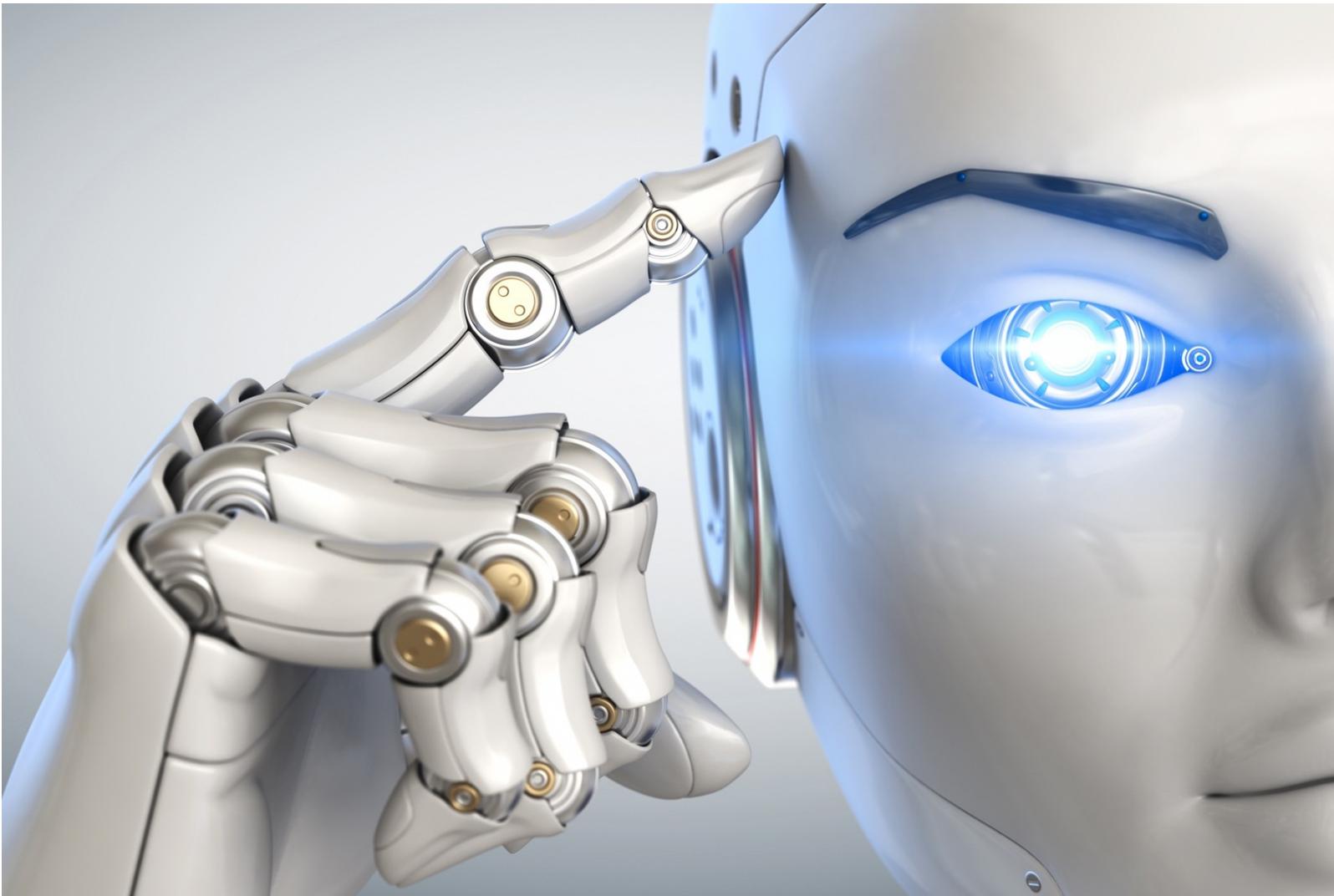


## ARTIFICIAL INTELLIGENCE AND BUSINESS TODAY

Artificial Intelligence is not usually regarded as a substitute for human intelligence and ingenuity. Although it is hard for artificial intelligence now to complete commonly-used functions in the real world, it is much quicker than a human brain to process and analyze the database. The synthesized action classes may then return to artificial intelligence software and be presented to the human user. In this manner, human beings can use artificial intelligence to be assisted for exploring possible effects of every action<sup>2</sup>.

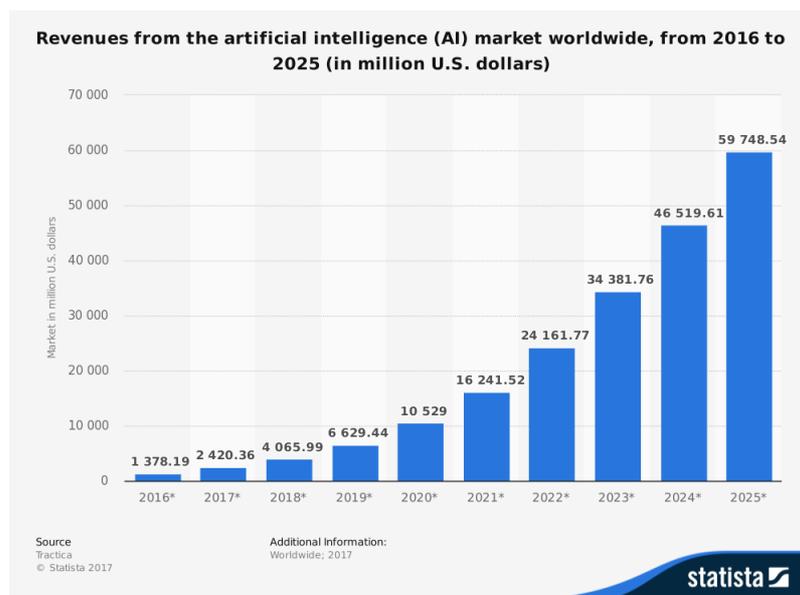
A report from The Institute for Public Policy Research (IPPR) says that AI can help save up to 10% of the total annual operating costs of the NHS in the UK. For those who like hard numbers, that's about GBP 12.5 billion, or USD 16.3 billion, every year. The effect of this statement in the real world is extraordinary. Doctors may spend less time in medical records and other documentation and treat patients instead. Patient info could be obtained and provided more quickly by nurses and paramedics. The administrative burden is one of the greatest expenses facing the healthcare industry<sup>3</sup>. Going by a Consumer Union report<sup>5</sup>, Americans spend an average of USD 9,700 on healthcare annually. An estimated USD 720 of that amount goes towards administration costs like paperwork and billing errors. To augment this finding, take a look at a February 2018 JAMA study saying that processing billing for an average primary care visit takes 13 minutes, incurring a USD 20 cost to the healthcare system. And, this cost shoots up when it comes to the billing and paperwork required for an inpatient surgical procedure, taking 100 minutes and costing USD 210.

This progression is, by no means, unique to AI. Instead, it happens so frequently, that the research firm Gartner has developed a trajectory that charts the rise, fall, and, then, slow ascent of emerging technologies. The Hype Cycle typically begins with a trigger point, after which the technology shoots upwards to reach the peak of inflated expectations, before crashing downwards on the weight of such heady projections. Finally, provided the technology is durable, it slowly climbs the plateau of productivity to reach mainstream adoption. AI's various subcategories fall at different points on the latest iteration of the Gartner Hype Cycle. Machine learning and deep learning are at the peak of inflated expectations, for example, while general artificial intelligence has yet to reach the hype apex. Despite AI's improved capabilities, barriers to adoption remain in place, which helps explain why the technology as a category, by Gartner's estimation, still gives a sense of disappointment<sup>4</sup>.



In latest years, AI technology has matured, with more businesses starting to use predictive algorithms and other automatic methods across multiple fields. In the fourth quarter, Zymergen Inc., a synthetic biology start-up, raised USD 400 million accounting for the biggest AI agreement in the United States. Zymergen uses AI- powered robots to genetically engineer microbes to create new materials like flexible glass and improve existing ones like paint that resists radar detection.

The largest deal in AI in the US, for all of 2018, was self-driving car startup Zoox Inc.'s USD 500 million funding round. And even that was dwarfed overseas by the USD 600 million investors plowed into Beijing-based SenseTime Group Ltd<sup>6</sup>. SenseTime sells software that recognizes people and objects, and with a USD 4.5 billion valuation, is the world's most valuable AI startup.



**Fig 3.** Revenues from the artificial intelligence (AI) market worldwide. Statista. (2019). Revenues from the artificial intelligence software market worldwide from 2018 to 2025, by region.

Smarter technologies in our factories and workplaces and connected machines that will interact, visualize the entire production chain, and make decisions autonomously, is just a couple of the ways that the Industrial Revolution will cause advancements in business<sup>3</sup>. In addition, startups selling business AI apps have a distinctive position to enable mid-sized businesses to create their own AI solutions. Large businesses invest mainly for their own purposes in major AI projects. However, these projects often involve significant fixed investments. This makes it difficult for small and medium-sized enterprises to make similar investments and in any event, they often lack IT skills. AI startups can satisfy these enterprises' requirements. The development expenses of the startup are finally effectively shared by all its clients.

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