

From driverless cars to virtual doctors, artificial intelligence (AI) is transforming the way we live, work, travel, and do business in the 21st century. PwC estimates that AI could add as much as \$15.7 trillion to the global economy by 2030. The expertise of British AI companies, some of the world's most innovative, will contribute greatly to this increase in global economic growth and productivity.

Over the past several years, they've worked alongside a slew of international partners to discover groundbreaking potential drug treatments, revolutionize online advertising, and reimagine the way governments approach complex policy decisions. You can experience some of these exceptional companies at this year's Consumer Electronics Show in Las Vegas.

Here are nine industries where UK companies are using AI to create a truly global impact.

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Autonomous vehicles have the potential to save time, limit energy consumption, and dramatically reduce the more than 1.25 million deaths that are attributed to road traffic accidents each year. Indeed, with a large proportion of serious crashes caused by human error, the UK's self-driving startups could save hundreds of thousands of lives each year.

[Oxbotica](https://www.oxbotica.ai/) (<https://www.oxbotica.ai/>) is the maker of Selenium, an AI-powered software system that once installed enables various vehicles, not just cars, to understand their immediate environment and navigate it safely. The firm is collaborating with a manufacturer to put self-driving cars on UK roads by the end of 2018, and its vision sensors have already been used in NASA's Mars rover.

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AI is taking bioscience to the next level by empowering researchers to conduct experiments more efficiently and helping them find patterns they never knew existed. With these tools at their disposal, scientists have a better chance of making breakthrough discoveries that can expand life expectancies, reduce human suffering, and create a better quality of life globally.

British-born [BenevolentAI](https://benevolent.ai/) (<https://benevolent.ai/>), which has a valuation of \$1.8 billion, is the largest private AI company in Europe. It uses data science to predict which chemical compounds will be able to cure a certain symptom or disease, accelerating the process by which life-altering drugs can be developed.

The company is currently running a major clinical trial in the US and the UK that aims to determine whether a molecule identified by BenevolentAI will be able to reduce the excess sleepiness that plagues Parkinson's disease patients.

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With every single online ad, artificial intelligence algorithms help brands learn a little bit more about what is actually relevant to their customers. This allows savvy marketers to stand out in a crowded advertising landscape.

Based in London, home to 42 of the [UK's leading 100](https://greatforcollaboration.com/technology/?utm_source=BusinessInsider&utm_medium=Article&utm_content=Article1Top&utm_campaign=BI_FromAtol) tech companies, [LoopMe](https://loopme.com/) helps brands like Microsoft and Disney run more effective mobile video advertising campaigns. The company's AI tools analyze customer data to determine which online users are most likely to purchase a company's products or visit one of its stores. Thanks to machine learning, LoopMe algorithms get smarter as they go, allowing the firm to optimize its clients' campaigns in real time.

"From creative execution to delivery, AI is, and has, changed the way the advertising industry operates," says LoopMe CEO and cofounder Stephen Upstone. "By consuming vast amounts of data, AI can see patterns and make decisions far beyond human comprehension."

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Most modern companies have access to large quantities of online data, but many of them lack the necessary tools to unlock the value this information can deliver. AI can help uncover data insights that allow them to manage their resources more efficiently and better serve their customers.

[DigitalGenius](https://www.digitalgenius.com/) (<https://www.digitalgenius.com/>) automates portions of the customer-service process by using neural networking to predict useful answers to customer queries. If DigitalGenius surfaces an acceptable response to a consumer's chat message, the customer service rep can answer the question in a single click. This technology helped the American test prep company Magoosh reduce its queue of customer requests by half.

"As knowledge and expertise in AI evolves," says DigitalGenius cofounder and president Mikhail Naumov, "we see this technology capturing more and more value by automating more repetitive parts of the agent workflow and enabling them to only focus on the human added-value elements of the business, such as personalization, humor, and complex queries."

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AI is also being used across the educational landscape to develop new tactics for helping people learn.

[Synap](https://synap.ac/) (<https://synap.ac/>) is an online platform that allows students to create and share multiple-choice quizzes to help each other study. The company fuses predictive algorithms with the latest neuroscience research to build personalized learning plans for each student. The result is a program capable of delivering the right question at the exact moment the student is most likely to remember it. It's no wonder that one in four UK medical students used the app in 2016.

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Financial institutions are using AI to make better recommendations to customers and more thoughtful decisions company-wide.

[Kami](https://kami.ai/) (<https://kami.ai/>), a chatbot company focused on banking and financial services firms, uses AI to mimic human logical reasoning skills. Its technology analyzes chat conversations to understand the unique circumstances and personal preferences of each customer, illuminating purchase mentality, bias, and other subtleties that lie beneath the surface. This allows financial firms to deliver personalized advice, as well as to discover useful insights about their customer base. For example, a bank could use such learnings to make sure its next marketing campaign reaches similar consumers.

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One of the biggest [strengths of the UK tech sector](https://greatforcollaboration.com/technology/?utm_source=BusinessInsider&utm_medium=Article&utm_content=ArticleMiddle&utm_campaign=BI_FromAtoI) (https://greatforcollaboration.com/technology/?utm_source=BusinessInsider&utm_medium=Article&utm_content=ArticleMiddle&utm_campaign=BI_FromAtoI) is its ability to use the tools of one industry to make major advancements in another. In the gaming world, AI is transforming what was once a recreational hobby into a valuable tool for employers, scientists, and high-level government figures.

[Improbable](https://improbable.io/) (<https://improbable.io/>) builds software that empowers users to create extremely complex simulations. When it comes to video games, this helps developers build massive online worlds for players to explore. Perhaps more important is that the software can also be used to simulate scientific experiments and real-world policy questions. For example, a government agency could use Improbable's technology to see how the introduction of autonomous cars would affect an entire city. These exciting applications are one of the reasons the firm has received more than \$500 million in venture capital funding.

[Arctic Shores](https://www.arcticshores.com/working-with-us/) (<https://www.arcticshores.com/working-with-us/>) is a Manchester-based startup that makes custom mobile games that companies can use to evaluate prospective employees. As a job applicant plays one of Arctic Shores' games, its software records more than 3,000 behavioral data points based on the user's choices. The firm then uses machine learning to deduce meaningful insights about the applicant's psychological profile. Arctic Shores' clients include Xerox, Citi, and BBC Worldwide.

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AI is revolutionizing healthcare by empowering doctors and hospitals to deliver better care, to more patients, and with greater speed.

[Babylon Health](https://www.babylonhealth.com/) (<https://www.babylonhealth.com/>) has developed an AI chat app - GP at hand - for the UK's National Health Service (NHS) that people can use as a first point of contact when they don't feel well. The app answers patients' questions about their symptoms 24/7, providing free, instant medical advice on what to do next. There is also the option to book a video consultation and speak with a physician if required. If the diagnosis calls only for over-the-counter medications, the app is able to save the patient from an unnecessary trip to the doctor.

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The Internet of Things is a network of internet-connected sensors that communicate with one another, allowing us to understand and optimize the physical world. This produces an incredible amount of data, AI is what allows us to leverage this information to actually create superior products and make the world a better place.

[Nquirminds](https://nquirminds.com/) (<https://nquirminds.com/>) is a “smart cities” startup that uses sensors and data science to make recommendations about how urban areas can operate more efficiently. As an example, an analysis of traffic data observed by an internet-connected lamppost could help cities reduce congestion and air pollution.

“AI helps cities make smarter decisions, and because AI learns, these decisions improve over time,” says Nick Allott, CEO and founder of Nquirminds. “Cities already hold massive datasets, and IoT will mean the speed and volume of this data will go through the roof.”

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