Superior returns from intelligent machines

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As technological advances and new business models drive strong growth in robotics, artificial intelligence and industrial automation, these sectors are becoming increasingly attractive to investors

Since its early days in the 1960s, robotics has marched steadily into the mainstream, and is now launching disruptive innovations which are permeating the business world and people's daily lives. The development of artificial intelligence (AI), in particular, is moving robots on from replacing tasks previously carried out by humans into cognition that involves interaction with them.

With impressive prospects for growth over the next few years, robotics is also becoming increasingly attractive to investors. One conservative estimate made by the Boston Consulting Group two years ago is that growth will average 10 per cent a year. A more recent forecast from Tractica, a market intelligence firm that focuses on human interaction with technology, anticipates 36 per cent annual growth over five years.

Experts have different definitions of what robotics and artificial intelligence are about, but even the lower of these two growth assumptions means a rate of three to four times expectations of growth in the global economy. At Pictet Asset Management, we believe that a 10 per cent annual growth rate underestimates the potential because it is hard to envision the new products and services that will be brought to market.

There are several megatrends that will drive this growth, spurring innovation by a wide range of companies. One is demographic change, with birth-rates falling and populations ageing. As a result, the proportion of the population which is working is declining, so boosting productivity will be essential to stimulate currently anaemic economic growth rates. Innovation in robotics and AI can play an essential role through automation, as well as helping to meet demands for more care for the elderly.

Another megatrend is the change in business models from mass production to mass customisation. Consumers are demanding more individualised products and services which can only be produced profitably by automated plants. Nike already personalises sports shoes in terms of colour, different types of laces and even putting the consumer's name on them.

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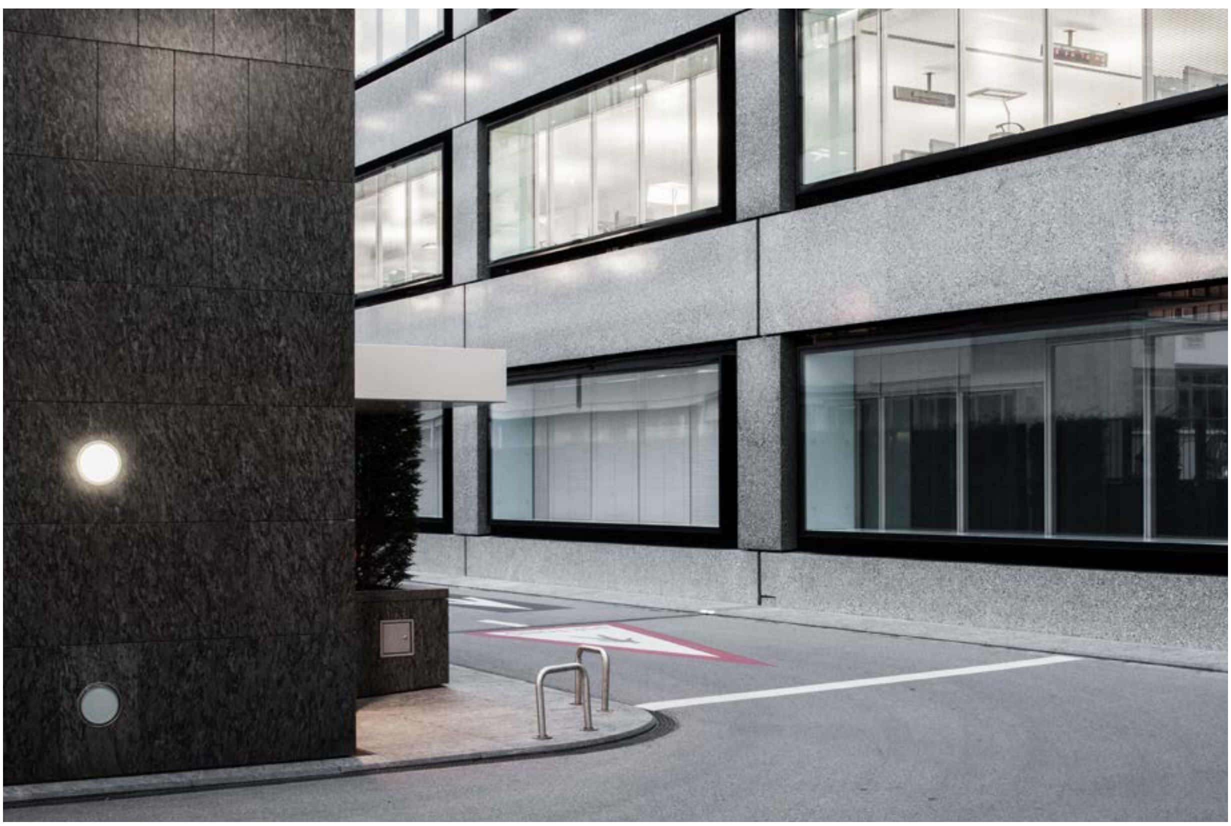

In addition, automation can support the search for greater sustainability as resources become scarcer and carbon footprints need to be reduced. Making cheaper, smaller, smarter, safer and more energy-efficient robots, and reshoring production closer to consumers have a role to play in this megatrend.

Pictet first started monitoring robotics, AI and automation in 2012 to see what scope there was for a themed fund covering them. At the time, there was not the variety of companies needed to create a diversified portfolio, and the technologies and costs had yet to reach the tipping point where they would be attractive investments.

By 2015, however, there were many more public companies in the investable universe following a surge in listings. And there had been tremendous progress in the technological developments needed to make smart robots at affordable costs. So the Pictet Robotics fund was launched in October 2015.

The fund invests only in listed companies involved in robotics, AI and automation. In line with Pictet's policy, we exclude companies producing military applications, using external consultants to screen potential investments where necessary. Sectors we regard as particularly promising include information technology, industrial automation and healthcare applications such as robotic surgery and intelligent diagnosis.

The fund's other selection criterion is the purity of the company – the degree to which its revenues come from robotics, AI and automation. Buying stock in a company which derives 100 per cent of its revenues from such sources gives the fund full exposure to the drivers of the theme. With large diversified companies such as ABB whose exposure to automation robotics is 42 per cent of its revenues, we apply a discount to its weighting in the portfolio. The minimum exposure we require is 20 per cent, and the overall exposure of the fund to the theme is over 70 per cent.

The fund aims to invest in 40–60 stocks, ranging from large diversified companies such as ABB and Siemens which provide stability and strong cashflow, to small- and mid-caps which are developing technologies or services in robotics and AI. Many of the portfolio companies are in the US, which leads in developing the new generation of robots, and in Japan with its industrial automation expertise.

The fund is actively managed, which is essential when exposed to such a rapidly evolving theme – new developments can quickly disrupt technologies previously seen as promising. And while we do not invest in non-listed companies, we keep an eye on them in case they look likely to come to market. But we have not seen as many IPOs as we expected: promising companies are often snapped up by larger groups without ever coming to the stock market; others attract funding from venture capital and private equity at rich valuations, avoiding the need to list.

One sector that is hard for the fund to invest in is autonomous vehicles and commercial drones, because our purity requirements rule out large component manufacturers such as Delphi in the US and Denso in Japan. But one pure company is Mobileye, a leading Israeli developer of algorithms for camera-based self-driving systems and real-time mapping of the environment.

And despite great media interest in personal robots, there are few investment opportunities so far because commercial applications are not yet available. But advances in natural language understanding and generation will change the way that humans interact with computers and smartphones in sectors like healthcare – and also in personal assistants such as Apple's Siri. We expect their capabilities to improve greatly over the next three years.

Despite these gaps in the portfolio, private investors and institutional funds have invested USD1.75 billion in the fund's first 12 months. Net of fees, it has returned 9.2 per cent in euros over that period, compared with the MSCI World reference index of 2.14 per cent. Given the growth potential of robotics, AI and automation, we believe that the returns will continue to prove attractive to investors into the future. ●

Karen Kharmandarian has been Senior Investment Manager, Thematic Equities at Pictet Asset Management since 2007. He has managed the Pictet Robotics fund since its launch in October 2015, having previously managed high income strategy for sectors relevant to his current role. Before joining Pictet in 2004, he worked for Société Générale, Aurel-Leven and Ixis Asset Management. Karen holds a Master's in Banking and Finance from Paris-Sorbonne University and is a graduate of Science-Po Paris.