AXA Investment Managers

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Robotics sector continues to enjoy strong growth

After close to two years wrestling with the consequences of a global pandemic, it is clear that some industries have been hit while others have sought to rapidly adapt to new business realities.

For certain sectors though, these unconventional conditions have actually gathered momentum behind their strategic models – it hasn't been all plain sailing, but we believe robotics is in just such a position.

The pandemic dramatically changed the behaviour of consumers and businesses, and as a result, there has been a marked increase in demand for robotics and automation equipment in several important end markets. One such area is warehouse automation, as individuals have become ever more demanding, insisting on rapid and reliable delivery – something which can only be done with significant technological support.

Robots supporting such logistics had been on the rise pre-pandemic and the pace has accelerated further because of COVID-19 – as more people shop online. Companies which had previously been slow to embrace e-commerce are now having to step up their investments in automated warehouses to support this demand, something which we believe will result in strong growth for the industry for a long time to come.

We have long invested in this sector, through companies such as Kion and Daifuku (material handling solutions), Cognex and Keyence (vision systems) and Ocado (automated grocery). In 2021 we added two new names to the portfolio also exposed to this trend - GXO Logistics (a warehouse operator specialising in automation) and Autostore (a manufacturer of automated storage and retrieval solutions for warehouses). [1]

Tom Riley
AXA IM Robotech strategy portfolio manager

[1] References to companies are for illustrative purposes only and should not be viewed as investment recommendations.

Inflation and other expanding opportunities

Notably, rising inflation continues to be a major source of debate and the current backdrop of rapid wage inflation being witnessed in parts of the global economy is presenting large labour challenges - an issue currently very prevalent in the warehousing and logistics space. Fundamentally when labour cannot be appropriately sourced, or when the cost of labour is increasing, it can make investments in automation more attractive. As the economics of adopting automation become more compelling, coupled with technology improvements which broaden the range of what can be automated, we see demand for automation equipment sustaining.

But labour shortages and wage increases are impacting many other parts of the economy outside of warehousing. According to the US Job Openings and Labor Turnover Survey, there are around 11 million jobs currently being advertised in the US compared to the six-to-seven million average in the pre-pandemic years.[2] This high level of job openings indicates that companies are trying to source employees but are struggling to find them. In many industries, labour scarcity presents an opportunity for automation to help ease these pressures, particularly in areas like manufacturing - and we see this being a key driver of automation demand while these issues persist.

In addition, the pandemic put national healthcare systems worldwide under a lot of stress and governments have recognised that healthcare infrastructure has seen under-investment for a long time. We believe that as governments review healthcare provision post COVID-19 there will be a large focus on technology and efficiency – and two areas poised to benefit are digital health and robotic surgery.

The market for robotic surgery is already considerable – and it boasts a wealth of innovative firms such as market leader Intuitive Surgical whose robots performed more than 1.2 million surgical procedures in 2020 - expected to grow 27-30% in 2021[3], or smaller companies such as Globus Medical, which focuses on musculoskeletal implants that provide spine care solutions for patients.

Long-term structural trends remain intact

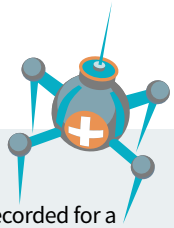
Notwithstanding the challenges of the global pandemic, the robotics sector is a disruptor, still in its infancy, suggesting a potential abundance of growth yet to come. For example, the global annual supply of industrial robotics increased on average by 5% per annum between 1993 and 2008 – but between 2010 and 2024, it is estimated this yearly increase will rise to an 11% average.[4]

We believe industrial activity and strong order books for industrial robotics companies bode well for a continued recovery into 2022.

[2] Source: Bloomberg as of 31/10/21
[3] Intuitive Surgical / AXA IM
[4] AXA IM / IFR World Robotics 2021

While recent growth has been led by China, which recovered earlier than other markets from the impact of the pandemic, we are seeing more signs of this strength broadening into Europe and Japan.

We also see elements of pent-up demand coming through following the US-China trade war of 2019/2020. We were starting to see signs of this recovery at the end of 2019 and in early 2020, before COVID-19 put companies' investment plans on hold. If this demand does start to materialise, it could signal a more prolonged period of higher industrial activity and capital expenditure, supportive for a range of automation companies.



Asia driving growth

According to the latest annual report from industry trade body, the International Federation of Robotics (IFR), there are now a **record three million industrial robots operating in factories around the world – an annual rise of 10%.** Despite the impact of COVID-19, some 384,000 units were shipped globally in 2020. In addition, last year saw the market for professional service robots (e.g. robots helping with surgery, cleaning or firefighting) hit a turnover of US$6.7bn, a 12% rise.[5]

Asia remains the world's number one market for industrial robots. Almost three-quarters, at 71%, of all newly deployed robots last year were installed there. IFR data shows that China grew by **20% with 168,400 units shipped** – the highest level ever recorded for a single country. **The operational stock reached 943,223 units, a 21% rise**, and it is anticipated the one-million-unit mark will be broken in 2021. Overall, the IFR forecasts that global robot installations will increase by 13% to 435,000 units in 2021 – surpassing the record achieved in 2018.

From a regional perspective, installations in North America are anticipated to rise by 17% to almost 43,000 units while in Europe they are predicted to grow by 8% to nearly 73,000 units. In Asia, robot installations are expected to surpass 300,000 units and add 15% to the previous year's result. In addition, almost all Southeast Asian markets are expected to grow by double-digit rates this year, according to the IFR.[6]

Diverse investment opportunities

There are two primary reasons why we believe the robotics sector's high growth rate can endure – shifting demographics and evolving technology. Ageing populations and falling numbers of working-age people are driving the need for robotics.

This is well documented in Japan, and also in China where manufacturing labour costs have risen 12% per annum over the past 21 years – so it is becoming increasingly important to introduce technology to bring down costs.[7] Essentially labour costs are rising - particularly for low value, repetitive tasks which younger generations do not want to do. At the same time, robots are becoming cheaper and more flexible; as working populations contract, it provides huge potential for further robotics adoption.

In terms of technological advancement, we are still witnessing improvements in software and the introduction of vision systems, meaning the range of tasks that can be automated is rapidly expanding. This in turn is opening vast new parts of the economy to automation in a way that was not previously possible; new technologies have significant growth potential in markets such as food processing, electronic products and general manufacturing.

In addition, the development of advanced sensors and microprocessors over the last decade has also allowed the introduction of collaborative robots, which can work alongside people. Meanwhile the rollout of 5G will connect industrial machines and factories in a way that we haven't seen before. We expect the potential applications of 5G to become increasingly apparent over the next three to five years, which we believe represents a significant opportunity.

Another area enjoying the potential for long-term growth is the electric vehicles (EV) sector. EVs are starting to get more interest from consumers as the costs of the vehicles come down, battery technology improves, and individuals focus on environmental trends. Simultaneously, a key feature of post-COVID-19 economic stimulus programmes is investment in environmental technologies, which is also supporting the EV industry.

Huge investment is required to manufacture cars and batteries, and companies are spending money today for cars that will be produced in 12 to 24 months' time. In our view the prospects for companies supplying equipment such as industrial robots, lasers and vison systems is markedly improving.

[5] World Robotics 2021 – Service Robots report released - International Federation of Robotics (ifr.org)
[6] IFR presents World Robotics 2021 reports - International Federation of Robotics
[7] BofA Merrill Lynch Thematic Investing, Robot Revolution - Global Robot & AI Primer (November 2015), Oxford Economics. Berenberg research, United Nations World Population Prospects (2015)

2022 and beyond

The robotics sector is hugely diverse and continues to expand, feeding into several key areas including surgery, machine vision, warehouse automation, autonomous vehicles and many more. Looking ahead, we continue to believe that we are in the early stages of the robotics industry's evolution, and a significant variety of drivers underpin its growth prospects.

And as we enter 2022, we continue to believe that inflationary pressures and supply chain challenges will carry on having an impact on company operations as well as labour shortages in certain parts of the economy, contributing to rising wage pressure, which should further bolster demand for robotics.

Ultimately robots and autonomous systems have the potential to bring about significant economic effects; one analysis estimates that boosting robot installations 30% could add an extra $4.9trn per year to the worldwide global economy by 2030.[8]

Given the huge range of companies involved in robotics, from manufacturing components to end users, it remains a vast universe with many different opportunities, all of which are fortified by numerous long-term structural trends.

[8] The economic impact of robotics and autonomous systems across UK sectors (publishing.service.gov.uk)

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