

# Robot Revolution: A new global investment mega-trend

**ASX: RBTZ**

## **Betashares Global Robotics and Artificial Intelligence ETF**

### **How to gain exposure to the rapidly growing global Robotics and Artificial Intelligence sectors**

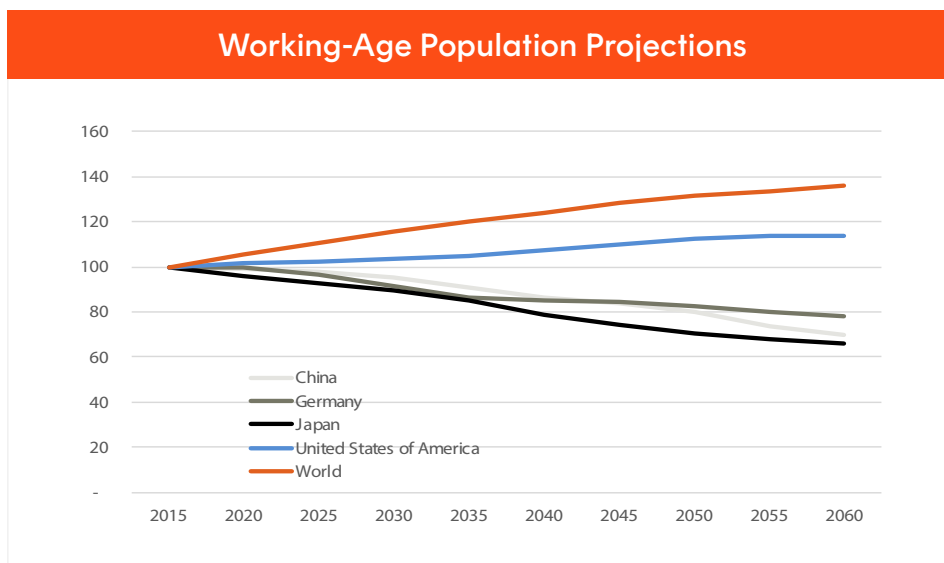
As the saying goes, necessity is the mother of invention. And there's no greater necessity facing the global economy these days than dealing with a shrinking and more expensive pool of workers brought about by population ageing and rising labour costs.

Thankfully, technology is stepping in, with an emerging and fast-growing trend toward the use of robots and artificial intelligence (A.I.) to perform many production tasks once considered only possible by human hands. As a result, the growing use of these new technologies is considered to be a major investment trend that potentially offers significant opportunities for investors.



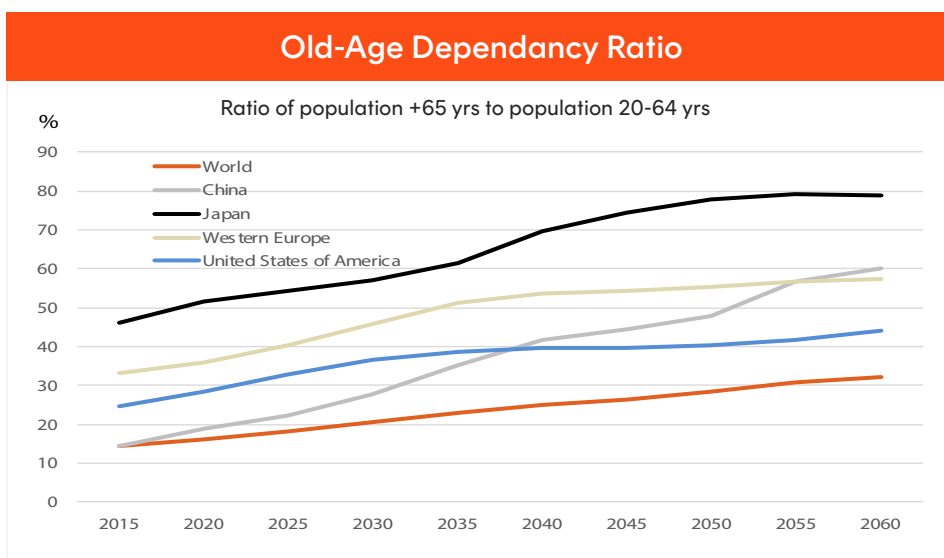
## The looming worker shortage

The global economy faces a worker shortfall in coming decades. According to United Nations projections, the working-age labour force will shrink in several major countries and regions such as Japan, China and Europe over the next decade – and will barely move higher even in the United States.



Source: UN Population Projections, 2017

At the same time, those that are in the workforce will have to help support a growing number of elderly citizens that have retired from active work. Indeed, the UN projections suggest the ratio of older citizens to those of working age will broadly double in many advanced economies – along with China – over the next few decades.



Source: UN Population Projections, 2017

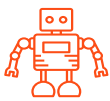
Apart from demographics, living standards among developing economies are also improving, meaning they're less likely to be a source of "cheap labour" for global production strategies going forward.

Without new ways of producing the good and services we'll need, this demographic challenge presents a major risk to the living standards we've come to enjoy.

## Rise of the Robots and Artificial Intelligence

Robots and A.I. are no longer just the preserve of science fiction – development of and demand for these technologies is booming around the world, and in an ever-widening array of industries.

According to Tractica Research, the global robotics industry had sales revenue around US\$52 billion in 2017, and is expected to reach \$US500 billion by 2025, implying compound annual growth of 32% p.a. Additionally, Tractica forecasts revenue from A.I. software will grow from US\$0.6 billion in 2016 to US\$36.8 billion by 2025, implying compound annual growth over this 9-year period of 56.8%.



Robots are emerging in industries as diverse as manufacturing, health care, defence, agriculture and transportation. A.I. is best seen as a complement to robotic technology, as it will allow robots to effectively learn to modify their operations so as to complete required tasks in the face of changing circumstances without added human intervention (such as explicit re-programming).

In the manufacturing sector, companies such as Japan's FANUC Corp. are producing robots capable of undertaking large-scale assembly work, often without workers and in factories that don't require the expenses associated with light or air-conditioning. According to The Boston Consulting Group, one quarter of US manufacturing operations will be automated by 2025, compared with only around one tenth in 2015.

But manufacturing is only the start of the Robotics and A.I. revolution. In the defence industry, companies such as AeroVironment are developing drones and wheeled robots that can undertake various reconnaissance missions without risk to human life. The US Army estimates the use of robots could allow around a 25% reduction in the required size of combat teams by 2030.

And thanks to companies such as Intuitive Surgical, robotic devices are allowing surgeons to undertake once difficult operations - in areas such as heart and brain surgery - with greater precision and less patient risk than ever before. Robots have also proven capable of diagnosing many diseases with much greater accuracy than human doctors.

Meanwhile, A.I. facilitated self-driving cars promise to revolutionise the transport industry, with some estimates suggesting they could account for 15% of car sales worldwide by 2030. Robotic planting and harvesting machines are also anticipated to transform the agricultural sector. And robots are even starting to make inroads into personal services – such as aged care – through providing patients the medicines and care they require on a 24-hour basis.

As should be evident, specialist companies such as those described above have the potential to benefit greatly from the growing trend toward robotic technology, which in turn offers opportunities for investors.





## How can investors tap into the Robotics and A.I. mega-trend?

Thanks to the advent of exchange traded funds (ETFs) on the ASX, it's never been easier for investors to gain exposure to the world's leading Robotics and A.I. companies. The **Betashares Global Robotics and Artificial Intelligence ETF (ASX: RBTZ)** aims to track the performance of an index that provides exposure to leading companies involved in the production or use of robotics and automation products and services.

Given the relatively low exposure of Australia's share market to technology companies, moreover, RBTZ provides a handy source of diversification and growth potential for Australian investors' portfolios.

**Consider adding some robots to your portfolio today!**

There are risks associated with an investment in the Fund, including concentration risk, robotics & artificial intelligence companies risk, smaller companies risk and currency risk. For more information on risks and other features of the Fund please see the Product Disclosure Statement.

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