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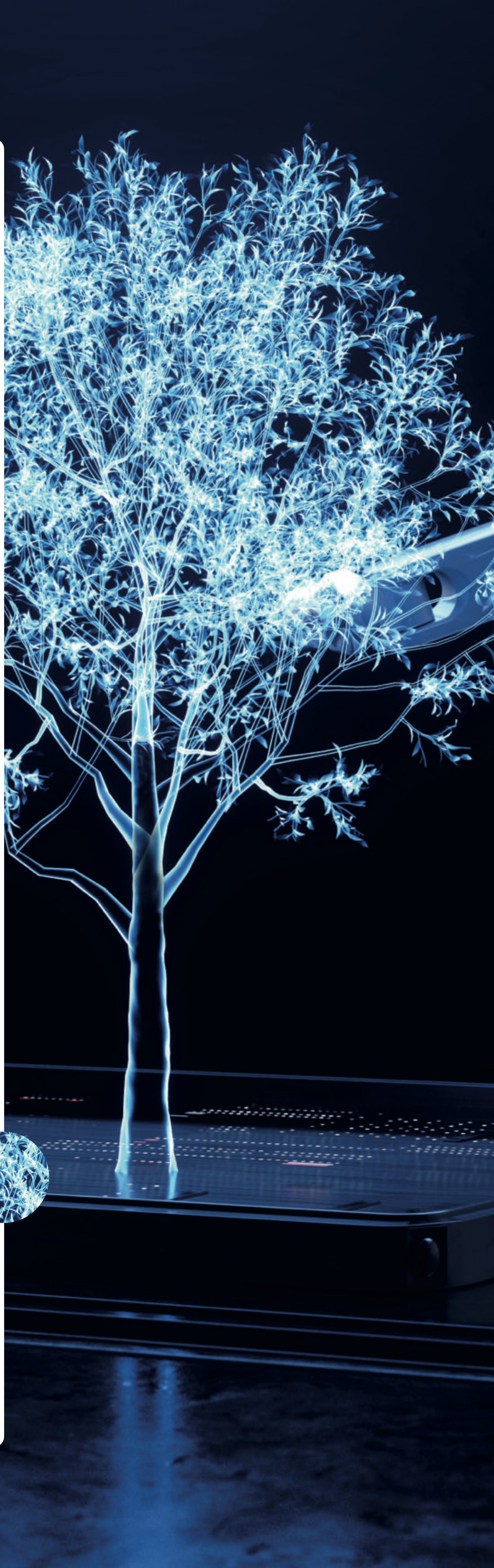
Robotics: no longer sci-fi

60 seconds with the fund manager



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Marketing communication

60 SECONDS WITH THE FUND MANAGER

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Johan Van Der Biest, Senior Fund Manager, and Felix Demaeght, CFA, Co-Fund Manager, explain that thematic investing skills combined with solid financial analysis can be used to identify cutting-edge technologies at reasonable prices.

Many people are fascinated by robots, but why invest in them?

Robots have already revolutionised manu- facturing processes and now they are set to change the way we live. Unprecedented computing power harnessed to Artificial Intelligence (AI) will enable robots to act autonomously, giving them the ability to learn, reason and recognise emotions, pictures, languages and maps.

Robots will soon be serving your meals, doing your shopping and even taking care of grandma. And when we need surgery, it will mostly be performed by robot- assisted procedures. The use of robotics in healthcare is accelerating and the number of robot-assisted procedures has more than doubled over the past five years.

So-called service robots are only starting to be deployed, but could in time become as prevalent as industrial robots.

Robots are part of a new industrial revolution, a technology revolution which, like earlier industrial revolutions, will generate substantial wealth for far-sighted investors.

That all sounds very futuristic. Can investors make money from robotics right now?

Yes. The underlying technology that enables advanced robotics is only in its formative stages and will drive a wave of innovation. To quote Professor Takeo Kanade, a leading expert in robotics and a member of the Candriam Advisory Board Innovative Technologies from September 2016 to September 2018: "We are only at 20% to 30% into what will be possible in robotics." But considerable value has already been created in robotics and adjacent technologies. This value has sometimes been generated by large, multi-national, multi-product companies – such as Google, Amazon and IBM - in which case it might be harder to obtain pure robotics exposure from an investor perspective.

But, increasingly, value resides in smaller, innovative companies. Nvidia, for instance, a US semiconductor company, has used AI to teach an autonomous car to drive and Tesla, Mercedes, Audi, Volvo and BMW have already adopted Nvidia technology. Another example is Yaskawa a robot producer, whose industrial robots are themselves manufactured by robots.

Opportunities also exist in known brands, which have reinvented themselves to benefit from this automation trend. These include Delphi, which was a unit of General Motors and is now a prominent independent player in autonomous and electrical vehicles. Or John Deere, the largest producer of agricultural equipment, which is reinventing its legacy products. It has built autonomous tractors, which are equipped with sophisticated software that measures nutrient application, works out the most efficient planting patterns and optimises fuel consumption.

These and other innovative technology companies have significantly outperformed over the past five years[1].

How do you identify investible companies?

Not all companies which make robots or develop innovative technologies are investible.

We perform sophisticated screenings on thousands of companies worldwide and assess which companies derive meaningful revenues from robotics and/or innovative technologies.

Valuable additional resource is provided by an advisory board of leading academics (Candriam Advisory Board Innovative Technologies & Robotics), who share high-level insights on robotics and other innovative technology, give guidance on research issues and help to generate ideas.

We conduct an extra-financial analysis to better understand risks and opportunities in terms of ESG (Environmental, Social & Governance) criteria[2]. We assess the exposure of companies' activities to major sustainability themes as well as their stakeholder management. We exclude companies that do not adhere to the 10 Principles of the United Nations Global Compact, as well as those whose activities are controversial such as arms, tobacco, thermal coal and other activities we consider to be unsustainable.

We add an innovation filter. Companies are rated on their innovation capacity using multiple factors. For instance, companies that are not open to innovation as a fundamental value are excluded from the portfolio. The portfolio's composition results from a selection of securities based on five fundamental criteria combining financial and extra-financial analyses: management quality, growth potential, competitive positioning, high level of profitability and low level of debt. Stock picking and portfolio construction benefit from exchanges between the managers and other Candriam equity management teams as well as the risk management

and trading departments. In addition, there is also the two managers' average of 16 years' experience and Candriam's expertise in managing thematic strategies.

Could you share any examples of innovative technology?

Artificial Intelligence, Virtual Reality, OLED technology and quantum computing to name just a few. In the case of quantum computing, which is millions of times more powerful than current digital computing systems, there are three listed companies active in this domain. It is a technology that we are monitoring closely and we will invest in it as soon as we observe a meaningful revenue contribution.

Technology companies excite investors, how do you make sure you are not over-paying?

The trend towards advanced automation is only just beginning and it is hard to imagine that well-selected companies will not deliver strong top and bottom line growth over the longer term. The industry, we think, is entering a sweet spot where a number of disruptive technologies are moving from design to full implementation – autonomous vehicles, personal service machines and robots operating alongside humans in the workplace.

Naturally, as in any investment, you need to have a strong buy-and-sell discipline. Decisions about whether to buy or sell shares in this sector should be based on a rigorous fundamental analysis, rather than on emotion.

We think it is important to minimise timing decisions and to invest according to durable trends. It is helpful having a mix of technology and financial skills to do this, as well as experience of combining larger companies and smaller, niche companies within the same portfolio. The ability to do this leads to portfolios which have lower turnover.

(1) Source: Performance of the Robo Global© Robotics and Automation index from 31/12/2016 to 31/12/2021.
(2) The ESG analysis described above for companies is applied to at least 90% of the strategy's investments excluding deposits, cash and index derivatives.

Which types of investors might be attracted to robotics?

Gaining exposure to the secular growth theme of robotics and automation is not a bet on the far future. Value and wealth in the sector has been created for years and this is likely to accelerate as the "fourth industrial revolution" becomes a significant driver of the global economy.

Although the strategy is a satellite rather than a core exposure for most investors, perceptions about its role in the portfolio may change as robots come to operate in the majority of households and the sector becomes mainstream.

Like many exciting, emerging sectors, this one is exposed to short-term volatility, but the ongoing development of revolutionary products that positively alter the future should ensure longer-term outperformance.

The main risks of the strategy are:

- **Risk of capital loss**
- **ESG Investment Risk**
- **Sustainability Risk**
- **Equity risk**
- **Currency risk**
- **Liquidity risk**
- **Concentration risk**
- **Derivative risk**
- **Counterparty Risk**
- **Emerging market risk**
- **External factors risk**

ESG Investment Risk: The non-financial objectives presented in this document are based upon the realization of assumptions made by Candriam. These assumptions are made according to Candriam's ESG rating models, the implementation of which necessitates access to various quantitative as well as qualitative data, depending on the sector and the exact activities of a given company. The availability, the quality and the reliability of these data can vary, and therefore can affect Candriam's ESG ratings. For more information on ESG investment risk, please refer to the Transparency Codes, or the prospectus if a fund.

Find out more about our funds and their risk profiles:

www.candriam.com