# INNOVATION IN INVESTMENT

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# **About this report**

Innovation in Investment, written by The EIU and sponsored by Standard Chartered Private Bank, is the first report in a series called "Better Life Breakthroughs". The aim of the series is to analyse innovations that have the capacity to extend and enrich life, create new experiences and potentially improve society in general. For those with the means to incorporate cutting-edge technology into their lives – thereby experiencing the future before it becomes mainstream—the impact may prove more revolutionary than anyone can imagine. From advances in computing, financial technology, medicine and healthcare through to commercial space travel and artificial intelligence, these developments will likely be driven in their early stages by globally and intellectually curious consumers.

In this first report, we examine how innovation and advances in technology are opening up new avenues of investment opportunities for high net worth investors, and how they may develop in future. The report draws on detailed desk research and in-depth interviews with the following senior executives and specialists (listed alphabetically by last name):

- Amit Bhatia, CEO, Impact Investors Council
- Philippe El-Asmar, CEO and co-founder, Amareos
- Zennon Kapron, founder, Kapronasia
- Rehan Noor Pathan, head of Middle East and Malaysia, Arabesque
- Jake Reynolds, executive director, sustainable economy, Cambridge Institute for Sustainability Leadership
- Art Tabuenca, founder and partner, EarthFolio
- Anson Zeall, CEO, CoinPip, and chair of the Association of Cryptocurrency Enterprises and Startups Singapore (ACCESS)

We would like to thank all interviewees for their time and insight. None of the experts interviewed for this report received financial compensation for participating in the interview programme. Gareth Nicholson was the editor of this report.

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# **Executive summary**

In a global investment landscape that at times appears rife with uncertainty and beset by bubbles and busts, two main areas stand out both as pockets of opportunity and as major forces for change: sustainable, responsible and impact (SRI) investing—that is, investment that considers environmental, social and governance criteria as well as returns—and financial technology, or fintech, which is revolutionising how financial services are delivered. Both of these sectors have attracted massive investor interest in recent times and are poised to transform the way people invest and transact in the years ahead. More importantly, both are creating possibilities, particularly for individual investors, which were all but unimaginable even a decade ago.

Based on extensive research and interviews with industry participants and experts, this paper explores the ways in which SRI and fintech are transforming investment for the better. Among its main conclusions are:

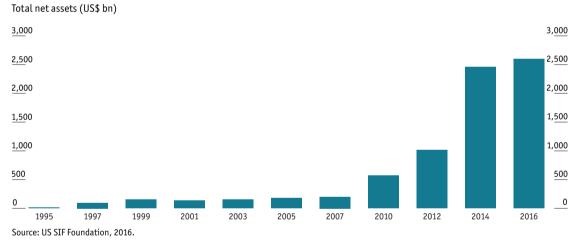
- **SRI** is on the cusp of a revolution. Previously the domain of large institutional investors, SRI is poised for a period of growth among a wider base of investors, beginning with high net worth individuals (HNWIs), as a more idealistic, socially engaged generation comes to the fore and takes advantage of a growing range of SRI products and options.
- Sustainability will become more standardised. Investor demand and the emergence of codes like the UN-backed Principles for Responsible Investment will drive the creation of more objective frameworks and measurements for key sustainability indicators, taking some of the "guesswork" out of sustainable investing.
- Emerging markets will catch up with—and at times surpass—developed markets, both as destinations and sources for SRI investment, and in the development and adoption of fintech solutions for a wider base of investors.
- "Green" will go mainstream. With more jurisdictions mandating sustainability reporting and more investors embedding sustainability principles in their mission statements, data on sustainability approaches and performance will be as important (and scrutinised) as financials in presentations by companies and funds.
- **Technology will "democratise" investment.** The gaps between large institutional investors and HNW investors in terms of access to information and investment opportunities will narrow as solutions emerge that harness and analyse data on behalf of the individual user. Automated and mobile platforms, meanwhile, will provide individual investors with a wider range of asset management solutions at lower overall cost.
- Expect an SRI-fintech feedback loop. By automating elements of SRI asset management, fintech will make it easier for investors to achieve their impact goals and has significant potential to contribute to the sector's growth. The refinement of SRI-related fintech solutions, meanwhile, is likely to result in advances that can be applied in other areas.



# Sustainable and impact investment—greater good, better returns?

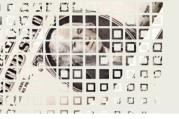
RI has seen astonishing growth in recent years, despite patches of deep economic and market uncertainty. According to the Forum for Sustainable and Responsible Investment, the number of US funds using environmental, social and governance criteria has surged from 55 in 1995 to more than 1,000 today. The growth in SRI assets under management (AUM) is not solely a US phenomenon; Global Sustainable Investment Association (GSIA) data show such assets rose from \$13.3trn in 2012 to \$21.4trn in 2014, and now represent almost 30% of professionally-managed assets worldwide.

### Chart 1: SRI Investing in the US, 1995-2016



There are a number of factors behind this shift, including the rise of mandatory or quasi-mandatory sustainability reporting for listed companies—both the Hong Kong and Singapore exchanges, for example, now require companies to provide investors with environmental, social and corporate governance (ESG) information on a "comply or explain basis"—as well as greater adoption of sustainable investment principles by major funds and corporates. To date almost 1,500 organisations from 50 countries have signed on to the United Nations-supported Principles for Responsible Investment (PRI), including investment management giants like BlackRock, PIMCO and Vanguard.

Retail investors are also getting involved; according to the GSIA, they accounted for just over 13% of sustainable AUM in 2014, up from 10.7% two years prior. However, industry participants note it is HNWIs driving this shift and that SRI uptake among mass affluent investors remains relatively limited. In Belgium, for example, retail sustainable and responsible investment has already overtaken the institutional variety, "mainly due to the launch of new products by asset managers and [a] growing



"The vast majority of [SRI] assets have come from institutional clients, co-founder endowments, pension plans—and high net-worth investors over \$10 million"

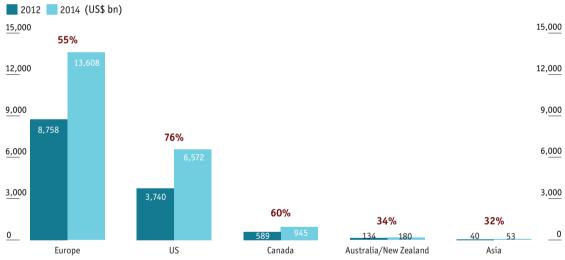
Art Tabuenca, EarthFolio

trend to focus on private clients, like HNWIs, in the last two years," according to a 2016 study by the European Sustainable Investment Forum (Eurosif).<sup>1</sup>

"The vast majority of [SRI] assets have come from institutional clients, co-founder endowments, pension plans—and high net-worth investors over \$10 million," says Art Tabuenca, founder and partner of EarthFolio, which describes itself as the world's first automated investment solution (or 'robo-advisor') focused on sustainable funds. "If you look at the percentage of the pie chart that's coming from standard retail investors—someone who's saying: 'I want to roll over my \$250,000 retirement plan from my former employer'—that number is relatively small."

There are several factors behind this. One is that many SRI investments have inherent barriers to entry; sustainable funds may require massive minimum investments, or are designed exclusively for institutional consumption. Another is simple lack of awareness; the sustainability focus is, after all, relatively new.

#### Chart 2: Growth of SRI assets by region 2012-2014



Source: Global Sustainable Investment Review 2014.

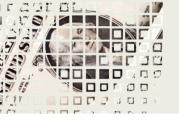
### Measuring sustainability

Regardless, there are signs that SRI is set for a surge in broader investor participation. Studies show the emerging generation of investors—i.e. millennials—are significantly more concerned with sustainability and impact than their predecessors. A 2015 report by Morgan Stanley found 84% of individual millennial investors were interested in sustainable investing (versus 71% of the overall individual investor population), and that millennials were nearly twice as likely to invest in companies or funds targeting specific social or environmental outcomes. In addition, women—who in some developed markets are now securing more tertiary degrees, and taking up more managerial and professional roles, than men—are more likely to be driven by sustainability considerations.<sup>2</sup>

Research indicates wealthy millennials share this focus on sustainability. In a study of ultra-high net worth (UNHW) millennials by US-based Oppenheimer Funds, nearly 91% ranked sustainability as an

<sup>&</sup>lt;sup>1</sup> http://www.eurosif. org/wp-content/ uploads/2016/11/SRIstudy-2016-HR.pdf

<sup>&</sup>lt;sup>2</sup> https://www. morganstanley.com/ sustainableinvesting/pdf/ Sustainable\_Signals.pdf



important or very important investment criterion, and named human rights, education, water and the environment among their main areas of concern.<sup>3</sup>

"We have a lot of women investors who have been really disenfranchised from the traditional investment advice industry; we also see a lot of endowments, larger accounts [and] higher net worth investors that have been looking for a way of expressing their values and aligning in a way that goes beyond the financial metrics," says EarthFolio's Mr Tabuenca.

Perhaps the biggest potential obstacle confronting the would-be sustainable investor is deciding where to begin. Definitions of "sustainability" vary widely, as do environmental, social and impact reporting criteria.

Like many other forms of data, sustainability and impact indicators are difficult to verify and relatively easy to manipulate (as investors in controversial vegan food company Hampton Creek recently found out). The proliferation of investment products labelled with the "sustainability" tag has fuelled concerns about their quality and given rise to the phenomena of "greenwashing". In the words of Professor Jake Reynolds of the Cambridge Institute for Sustainability Leadership (CISL), the typical ethical investor is left "almost blind" when trying to understand the effect their decisions have on the wider world.

This is why so much effort has focused on developing standardised, more transparent measurements or benchmarks for sustainable investment products—an effort that is likely to prove critical to the sector's future growth.

CISL and the Investment Leaders Group (ILG)—a body of 11 leading investment firms, including Standard Life Investments and Allianz Global Investors—are behind one of the leading initiatives in this sphere.

CISL and ILG started with the UN Sustainable Development Goals because, Mr Reynolds says, with public buy-in from 200 governments "you could look on the SDGs as the closest thing the world has to a strategy." CISL reduced the 17 SDGs to six—three covering social measures and three environmental—and began constructing

Chart 3: Impact themes and their relationship to the sustainable development goals



Source: Cambridge Institute for Sustainability Leadership, *In Search of Impact*, 2016.

a framework to measure how a company's actions affect each one. At this stage the framework has created measurement mechanisms for one social goal ("decent work") and one environmental goal ("climate stability"). The other four are works in progress.

"(The SDGs) offer the whole world a new performance benchmark, an absolute benchmark," Mr Reynolds explains. "This is not about best in class. This is about setting some big, crunchy targets and understanding whether [funds] are finding ways or not finding ways to get behind them. And that's

<sup>&</sup>lt;sup>3</sup> https://www. oppenheimerfunds. com/private-clientgroups/article/whatultra-high-net-worthmillennials-value-most/ uhnw-millennials-ageneration-driven-byvalues

<sup>&</sup>lt;sup>4</sup> https://www.bloomberg. com/features/2016hampton-creek-just-mayo/



"All investment has an impact. The tools we're talking about here are to apply to the whole portfolio"

Jake Reynolds, Cambridge Institute for Sustainability Leadership the question, we think, that someone in the street who's given half a second to think about it would probably want to know the answer to."

To take the "decent work" example (which the SDGs define as everyone of working age who wants to work having a job), the framework sets out questions such as: what is the relationship between the company and employment in its markets and areas of operation? Is it jobs-rich or jobs-poor? Is automation hollowing out its workforce? Is it aware of the unemployment statistics in its local area? Is it stimulating employment through its services?

By allocating a score to each area, each company can be ranked fairly objectively. And although the current picture is one "of limited, very inconsistent, non-standardised impact data", Reynolds is optimistic that the leadership role shown by the ILG will produce the beginnings of a workable system. Indeed, he says, some major index providers like MSCI and Morningstar are beginning to work on products that can calculate impact—though there is a long way to go.

"I think the big evolution, almost revolution, will be when fund managers and of course their big institutional clients like pension funds, insurance companies and sovereign wealth funds, stop isolating responsible investment in individual funds with interesting labels like sustainable-this and responsible-that, and start thinking about sustainability across all of their asset base," Mr Reynolds says. "All investment has an impact. The tools we're talking about here are to apply to the whole portfolio."

### **Putting money to work**

Other asset managers have developed proprietary systems, such as London-based, sustainability-focused Arabesque, which combines SRI and Islamic finance principles to select the companies in its funds. Rehan Noor Pathan, Arabesque's Head of the Middle East and Malaysia, says there is a significant overlap between ESG investing and the obligations of Sharia law, whose ultimate objective, he explains, "is to protect the well-being of people": for example, both use negative screening and industry exclusion to eliminate companies that do not fit their requirements. Each brings elements that the other lacks.

"If you combine them you have a very powerful tool not only to assess a company's nature of business—how highly leveraged it is, whether it has active corporate social responsibility programs that donate money to the poor—but also whether from the ESG side it has positive non-financial factors (such as) proxy voting," he says.

Regardless of other impacts, investments are ultimately gauged on their ability to produce returns—and there are some indications this may also be holding SRI back in the individual investor sphere.

Morgan Stanley's research, for example, showed over half (54%) of individual investors felt there was a "trade-off" between sustainability and financial gains.

A healthy body of evidence, however, points to the opposite. Recent research by Morningstar, for example, suggests there is no "performance penalty" for investing in sustainable versus conventional funds. 5 Mr Pathan of Arabesque says the firm's funds are in the top 5% of performers globally in their peer group. "As an asset manager one of our roles is to make investors understand that making these choices does not mean that you're going to get less return," he says. "Ample evidence suggests very

<sup>&</sup>lt;sup>5</sup> http://news.morningstar. com/articlenet/article. aspx?id=779758



clearly that if you pick companies which have strong ESG factors built into their DNA, they will in the long term outperform regular companies."

SRI investment will increasingly become the norm, rather than a dedicated strategy, as more HNW and individual investors join the fray, standards take shape and concerns about the performance of sustainable assets diminish. In fact there is a clear sustainability theme in many of the sectors that are set to grow in response to environmental, resource and population pressures in the years ahead, including renewable energy, water infrastructure, pollution control and waste management.<sup>6</sup>

# HNW investors need SRI education in emerging markets

By 2022, the UN predicts India will overtake China to become the world's most populous nation. The South Asian giant faces no shortage of resource, pollution and poverty challenges, making it an apt target for SRI funds. Data from the Impact Investors Council (IIC), an organisation of local impact investors, show the country lured over US\$500m in dedicated impact investment in 2015 (versus under US\$100m in 2007) and is home to over 700 social enterprises focused on everything from financial inclusion to education. Importantly, these investments are also producing results—according to the IIC, exits on impact investments in 2015 realised average returns of 13%.

IIC CEO Amit Bhatia says the country has some way to go to realise the IIC's vision of a US\$1trn "social economy" in India in 2035. The impact investment landscape is fragile in many respects. Over half of investments go into financial inclusion-focused firms (unsurprising given companies in this sector, such as Ujjivan, have launched high-profile public offerings). The sector is also highly dependent on overseas investment, due to domestic perceptions of "a binary world of wealth maximisation and philanthropy", Mr Bhatia says.

"High net-worth individuals [in India] don't believe that impact investing is seen as 'doing good' as much as philanthropy is," he says. "The education has to be that it's not giving away the money; you keep that money working year after year to put into social challenges. But that is not the mental setup yet. It will change, but it will be a slow process."

Mr Bhatia says the Indian government has also missed opportunities to develop the sector by, for example, removing a provision in the draft Companies Act that would have helped channel funds to social businesses. He wants the government to consider several measures to boost the sector, such as recognising social enterprises and social impact investors as formal classifications—"since what gets measured, grows"—and helping facilitate new instruments, such as social and development impact bonds.

Such changes should drive more investment into high-potential growth areas, including climate change infrastructure (led by renewable energy), agri-business (such as irrigation) and affordable healthcare. Eventually—perhaps a decade or two down the track—he envisions the development of a social trading exchange where individual investors could use technology to buy social stocks. "If technology could allow retail participation, and people believe in buying the particular stock that ... is social in nature and does good, that could create the utopian world we all hope to have some day."

<sup>&</sup>lt;sup>6</sup> http://www.mercer. com.au/our-thinking/ sustainable-investmentopportunities.html



# Fintech: harnessing the potential of information

The other major force reshaping the investment landscape is fintech. To get a sense of the possibilities it has created, one need only consider what will likely be the defining political event of 2016—Donald Trump's victory in the US presidential election. With much of the media predicting victory for Democrat Hillary Clinton, the news that Donald Trump was to be president-elect stunned virtually everyone and the markets.

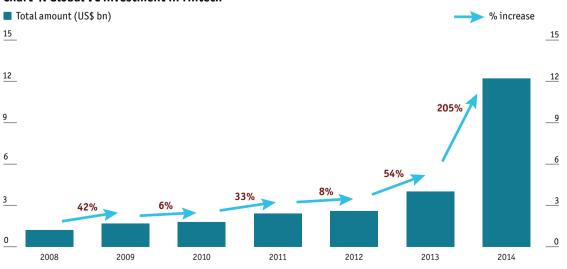
But for some users of an investment tool created half a world away in Hong Kong, the result may have been no surprise. Vast amounts of news and social media data crunched by fintech startup Amareos, which turns these data into indexes that can be accessed by its investor user base, showed a spike in anti-government sentiment just ahead of polling day, pointing to the likely downfall of the 'establishment' candidate.

"The U.S. government anger sentiment indicator was a useful lead indicator of the opinion polls, pre-empting what we dubbed the Clinton comeback and the subsequent reversal that saw Trump prevail," says Amareos co-founder and CEO Philippe El-Asmar.

Amareos's systems are a triumph of quant computing, processing two million articles, tweets, chats and blog posts daily. The output charts a range of the basic human emotions that drive investor behaviour: greed, fear, anger, distrust and joy. Combining these readings with data like economic growth and inflation forecasts allows clients "to make sense out of all this information that is circulating and in particular generate additional revenues or mitigate the risk", Mr El-Asmar says.

Amareos is just one of many innovative startups making inroads into the fintech space. The amount of venture capital flowing to startups with fintech propositions has climbed to more than \$12bn in 2014, most of that in the US, according to McKinsey, a consultancy.

Chart 4: Global VC investment in fintech



Source: McKinsey Panorama, 2016.



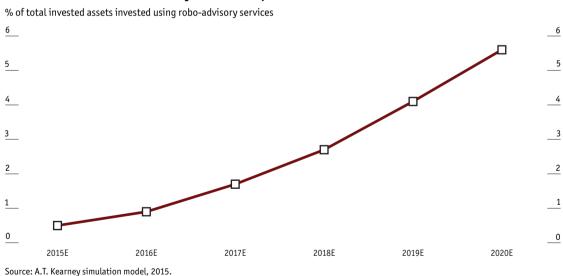
A decade ago, big data-driven solutions of the sort provided by Amareos would have been expensive and technically difficult to secure, making them exclusively the purview of hedge funds and banks. Today they are within the grasp of a wider base of affluent investors.

Behind these solutions are web-crawling technologies similar to those used by giants like Google, such as natural language processing and "machine learning", "where you teach the machines to take a random structured text like an article and tag it", Mr El-Asmar explains. "First of all: is the journalist talking about a specific country, specific commodity, a specific single stock; is he or she talking about the earnings forecast, the dividends—there are 200 [possible] outputs." Through repetition—"like teaching a child to learn"—the process improves so that the computer can eventually extract sentiments from data, providing investors with information to supplement their decision-making.

### **Automated advice**

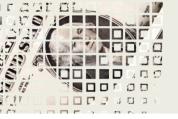
This kind of data-parsing is being combined with mobile platforms and robo-advice—automated, lower-cost investment advisory services typically accessed through the Internet or smartphones—to equip individual investors with knowledge and decision-making capabilities that are virtually unprecedented. Management consulting firm A.T. Kearney predicts robo-advisory AUM in the US alone will reach \$2.2trn by 2020, or 5.6% of invested assets, having a "profound" impact on traditional asset management products and their delivery.

#### Chart 5: Forecast of robo-advisory services adoption rate



"Before, you would have to call your broker to place an order; now you can pretty much execute transactions via your mobile phone or on your laptop," Mr El-Asmar says. "Pretty much every brokerage firm and even banks are automating the transactions of financial instruments."

One of the biggest consequences of this shift is lower transaction costs. Typical annual fees charged by robo-advisors are in the 0.15 to 0.35% range, versus the 1+% charged by their human counterparts. Robo-advisors also typically have lower investment thresholds.



"Within the next five to 10 years I don't expect to see a machine capable of trading the markets better than the best human beings"

Philippe El-Asmar, Amareos

While this may seem to hold more promise for mass-market investors, the rise of robo-advisory will also have significant benefits for HNWIs in terms of improving access to "on demand" advice and a wider range of products, particularly in emerging markets where human advisors (and investment options) tend to be in shorter supply.

A recent poll of the members of the CFA Institute, for example, found three-quarters of those in Asia Pacific (versus 53% in the Americas) felt automated financial advice tools would have a positive impact on access to advice, and 72% a positive impact on product choice (versus 45% in the Americas). Not surprisingly, the robo-model has gained particular traction in China (see boxout).

Industry insiders point out human judgement will always have a role to play, and will continue to come at a premium. "Within the next five to 10 years I don't expect to see a machine capable of trading the markets better than the best human beings," Mr El-Asmar says. Yet in the longer term this may change as more "machine learning" takes hold, and automated investment solutions grow increasingly sophisticated.

The other emerging fintech solution that may present opportunities for investors is blockchain technology, best known as the public ledger of transactions at the heart of cryptocurrencies such as Bitcoin. Anson Zeall, chair of the Association of Cryptocurrency Enterprises and Startups Singapore (ACCESS) and CEO of blockchain-based funds transfer service CoinPip, says that as well as a means to move money, blockchain has other applications, such as providing a secure, low-cost means to store or share identification or other sensitive data.

Applied to wealth management, blockchain could reduce payment, settlement and custody costs, or even—as Accenture recently noted—be used to build a "universal", validated client profile with relevant demographic and behavioural data (such as risk preferences) that can move seamlessly among providers, facilitating transactions and investment decisions.<sup>8</sup>

However, much of this—and the development of fintech investment solutions generally—depends on the will of regulators, some of whom are more receptive than others. Singapore is generally proactive, Mr Zeall says, while China is "blockchain-crazy".

Many governments (and segments of the banking industry) regard fintech with a degree of unease, not least because it may provide platforms for the delivery of services from foreign exchange trading to fund management well outside traditional models or regulatory scrutiny. The increasing prevalence of technology in the investment landscape has also given rise to questions about privacy and security, and possible negative impacts on investor behaviour. Mr El-Asmar, for example, says giving individual investors the ability to execute trades more rapidly could be risky "if people have a tendency to go with the flow and try to buy what is popular".

"That's usually the wrong time [to buy]," he says. "Maybe the ability to access the information gives the illusion that you are in the know about something, when maybe in reality others have much more information than you do."

<sup>&</sup>lt;sup>7</sup> https://www.cfainstitute. org/Survey/fintech\_survey. PDF

<sup>8</sup> http://fsblog.accenture. com/capital-markets/ blockchain-is-changingthe-face-of-wealthmanagement-already/



## China's mobile investment explosion

China is a fascinating and somewhat unique test case for fintech advances, says Zennon Kapron, founder of Kapronasia, a research company focusing on China's fintech and financial services sectors. For a start, where fintech in the West is generally about disrupting existing services, in China it is about filling service gaps.

The defining moment in fintech in China was the 2004 launch of Alipay, the third-party online payment platform developed by Alibaba. At the time, e-commerce in China was largely cash-based, and fraud was widespread. Alipay was developed as an escrow solution that withheld payment from the merchant until buyers accepted shipments. People started leaving cash in those accounts, so in 2013 Alibaba came up with Yu'E Bao—essentially a money market fund created by Tianhong Asset Management for which Alipay became the distribution channel. By March 2016, Yu'e Bao had assets under management of well over \$100bn.9

### Chart 6: AUM at Alibaba's Yu'e Bao money market fund



"The products and services that are being integrated onto [messaging app] WeChat and the Alipay wallet are very much based off this initial foray into digital payments," Mr Kapron says.

Mr Kapron says digital platforms have changed the distribution of asset management products to a wider base of investors. A decade ago, to get product stocked at a bank, a firm would often need to persuade officials at each provincial office and branch. Now, with 70% of the population owning a smartphone, "the platform of choice for the new generation", funds can be placed on a network like Alipay and enjoy essentially unlimited reach.

"These digital platforms have democratised wealth management, both in terms of the providers of the product as well as the consumers," he says. "You no longer have to be with a particular bank or have a particular income to get access to products."

However, Mr Kapron adds, investing is still largely viewed as a form of gambling, with limited knowledge of portfolio management or diversification. The advent of robo-advisors could change that. Largely mobile-based, user-friendly (and lightly regulated), the new generation of investment platforms are "perfectly placed" to give advice, he says. "It's still early days, but the platforms already have the functionality."

"Now we're getting the point of situational finance, where people on their digital device will have the finance they want, through the channel they want, how, when and where they want it," Mr Kapron says. "It will be built into the platforms they're using every day. Artificial intelligence is going to be critical as well. How that and machine learning play into finance—I think we're only at the beginning of what's possible."

<sup>&</sup>lt;sup>9</sup> https://www. bloomberg.com/gadfly/ articles/2016-06-28/drinkup-quick-alibaba-the-pbocwants-your-punch-bowl



"We see our process as giving money eyes"

Rehan Noor Pathan, Arabesaue

### When two forces combine

While SRI and fintech each provide a wealth of opportunities in their own right, what may prove most revolutionary for HNW investors is the areas in which they intersect—which are multiplying. Technology is being applied to the SRI space to remove some of the uncertainties involved in picking out sustainable assets, and to broaden the range of SRI opportunities accessible to individual investors.

Arabesque's fund construction, for example, is a hugely data-intensive undertaking. Its clients—most of whom are still institutional—benefit from a bespoke screening process driven by the quant system Arabesque inherited as part of its 2013 management buyout from Barclays.

The process—"think of it as a pyramid with five stages," says Mr Pathan—starts with every listed company in the world, some 78,000, which are then assessed through 200 risk-mitigation filters for liquidity, forensic accounting, adherence to UN Global Compact principles, Arabesque's ESG criteria and, finally, its business refinement—a total of 100bn data points.

"We see our process as giving money eyes," Mr Pathan says. "By the time it comes through all the different filters, we have about 1,000 companies on the other side, which are the most liquid, the best managed and the most sustainable companies around." That process has seen Arabesque eliminate, for example, VW, SunEdison and Tesco. "And what's the result? The investor won," Mr Pathan says.

EarthFolio, meanwhile, has built on the standard robo-style approach of seeking funds with low expenses, good track records and consistent investment objectives to seek out those that "are as active and positive as possible" in engaging with the companies they are invested in through shareholder advocacy," Mr Tabuenca says.

A robo-advisor that offers individual investors specific advice about competitive funds with SRI track records, and that allows them to make apples-to-apples performance comparisons with other investments "is a breakthrough; that's bringing something that wasn't available ever before", Mr Tabuenca adds.



### **Conclusion**

become available to a wider base of affluent investors. Developments in information processing and the possibility of more useful impact measurement systems, such as the framework developed by CISL's Mr Reynolds, mean investors who want to know whether their invested assets are a net benefit to the planet should be in a better a position to find out.

It is also reasonable to assume that the spread of SRI investments will extend to more emerging markets as disposable incomes rise and fintech advances make engaging with investment products simpler and cheaper. This should in turn drive greater interest in and refinement of data-driven investment solutions, with ease of use and increasingly diverse functionalities that appeal to a digitally native generation of investors.

Mr El-Asmar of Amareos believes developments in artificial intelligence (AI) could bring even more profound changes to the world of finance (robo-advisory as it exists currently, he points out, has little to do with AI, being more about automating existing processes). "Right now most AI is not necessarily applied to finance—it might be to smart cars or smart cities or cyber-attacks or cyber-security—but if it ever is, there might be some major differences in the way markets are trading."

AI funds—distinguished from the typical computer-driven 'quant' variety by their ability to mimic the human capacity for learning—are already beginning to appear and performance has been attractive in some early cases, according to Bloomberg. While the potential for automated tools capable of offering near-instant, highly tailored advice is immense, like most emerging technologies, AI will remain relatively scarce and expensive—at least in the near-term.

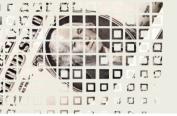
This is likely to confine adoption to the UNHW market, where individuals are more inclined to embrace cutting-edge investment solutions than their mass-market counterparts. However, UNHW-driven demand is likely to create a 'trickle-down' effect as it spurs more investment managers to adopt AI and other technological solutions, eventually pushing down costs and bringing them within the reach of more investors.

Elsewhere, CoinPip's Mr Zeall sees the wider adoption of blockchain technology by banks for security and authentication purposes in the next decade. In time, he says, this technology will come to be regarded in the same way as the Internet and electricity: most people do not know how they work, just that they do work. Blockchain could also ease some of the "know your client (KYC)" and other compliance-related procedures that currently hamper the quick execution of investment decisions, and interactions between investment providers and their clients.

Away from their application to the world of investments, some fintech advances could prove useful in other areas. Take Amareos's technology, which could be used to generate predictions about social unrest or political crises. "It could be applied to any topic," says Mr El-Asmar. "It's simply a smarter way of digesting the world's social media."

<sup>10</sup> https://www. bloomberg.com/news/ articles/2016-08-21/ hedge-fund-robotoutsmarts-human-masteras-ai-passes-brexit-test

### Innovation in investment



Regardless of what happens over the next decade, the main promises offered by these emerging trends—greater access to intelligence, a wider range of investment options, the ability to channel money into a good cause and watch it grow, and all at lower cost—have already started to be delivered to a wider base of individual investors.

While every effort has been taken to verify the accuracy of this information, The Economist Intelligence Unit Ltd. cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report.

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