

Future Trends Equity Fund

Q4 2023 Commentary

Fund Manager



Alex Gunz

Investment Objective

The Fund aims to deliver consistent and sustainable long-term returns by investing in a concentrated portfolio of global equities.

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Opinions expressed whether in general or in both on the performance of individual investments and in a wider economic context represent the views of the contributor at the time of preparation.

The Heptagon Future Trends Fund enjoyed a strong fourth quarter, gaining 12.1%, ahead of its MSCI World Index benchmark. Despite these returns, the Fund lagged its benchmark over 2023, although we believe the reasons for this – not having exposure to the ‘Magnificent Seven’ mega-cap tech stocks – are clear. We see this underperformance as representing an investment opportunity. There has been no change in our approach to how we invest in the future. The structural case for investing in a clearly differentiated equity strategy with strong sustainability credentials remains compelling.

Introduction: a year of three parts

2023 panned out very differently to how most investors expected at the start of the year. A recession didn’t happen, inflation came under control and equities correspondingly came close to making all-time highs. At the same time, artificial intelligence dominated many headlines, with interest in its impact (and beneficiaries) reminiscent of the hype around the emergence of the Internet in the late 1990s.

Investing for the long-term means that we tend to take a step back from the macro, although it is impossible to ignore fully. From a Future Trends perspective, the year was characterised by three parts –

- **Q1 saw Future Trends record a gain of 9.1%, 170 basis points ahead of the MSCI World Index.** This constituted the Fund’s third consecutive quarter of outperformance, having also beaten the benchmark in the final two quarters of 2022.
- **The Fund then witnessed a period of underperformance from the start of April through to the end of October.** Q2 saw the Fund lose 1.3%, followed by a loss of 7.3% in Q3, lagging the MSCI World by 810 basis points and 380 basis points respectively. The Fund’s lowest NAV of 2023 was recorded on 27 October 2023.
- **From the Fund’s NAV low through to the last trading day of the year, Future Trends gained 22.0% versus a 16.2% return for the MSCI World.** The Fund gained 11.2% in November and 7.8% in December (190 and 290 basis points,

respectively, ahead of the benchmark). Such returns allowed Future Trends also to beat its benchmark in Q4, by 70 basis points.

17 of the 22 businesses that Future Trends owned at the end of 2023 recorded positive returns with 9 of these generating gains of over 20%. Just five of our businesses closed the year down in absolute terms. Chegg was the Fund's only outlier, closing the year down 55.0%. We have discussed this business in detail in prior [quarterly reports](#) and investors should note that it ended 2023 as the Fund's smallest position, at a 2.5% weighting.

While Chegg certainly had an impact on the performance of the Fund over 2023, **by far the most significant reason why the Fund lagged the MSCI World was simply a function of not having exposure to the 'Magnificent Seven' US mega-cap tech stocks.** It is also notable that the decoupling between these businesses and the broader market accelerated at the start of Q2 – the same time that the Fund began to underperform. Although our benchmark does clearly *include* these seven businesses, were the contribution of the Mag-7 stripped out of the MSCI World Index, then Future Trends would have beaten its benchmark. We estimate that this septet of stocks was responsible for c70% of the MSCI World's gains in 2023.

I Stick with it: no change in our process

Although there were parts of 2023 that were challenging from a Future Trends performance perspective, **there was no change to our process over the course of the year.** We believe that it is important to recognise that we have a clear investment philosophy and intend to stick to it. We have always pursued **a concentrated, pan-thematic approach**, which combines top-down thematic work with bottom-up fundamental analysis.

Perhaps the best way of demonstrating our process at work is to consider a summary of the work we undertook over the past year. During 2023, we –



















- Made three new investments in the Fund (GXO, Quanta Services and TeamViewer) and also exited from three businesses (IBM, Kerry Group and PayPal). GXO and Quanta both made major positive contributions to the Fund over the period we were invested, while all three of the businesses from which we exited underperformed the MSCI World in 2023.
- Published four new thematic white papers. In addition to our [annual outlook piece](#), we released dedicated notes on [artificial intelligence](#), [circular economy](#), [offshore wind](#) and [quantum computing](#).
- Took part in 81 company meetings, 68% of which occurred in-person. Beyond London, we travelled to Germany, Ireland, the Netherlands and the US.
- Learned about the future in multiple ways. These included visiting the largest solar plant in the western hemisphere (in Ohio), taking a boat to see an offshore wind farm (in Brighton, England) and touring one of the largest food innovation centres in the world (in Ireland).
- Added 48 posts to the [Future Trends Blog](#), which has now been running since the start of 2019. Many of the new experiences outlined above were profiled in the Blog.
- Hosted our [inaugural webinar](#) with the Director of Investor Relations at ASML, which allowed investors to gain insights into one of our long-standing investments. We plan more of these in 2024.
- Conducted 92 meetings with investors across 13 different countries.

I Why we are excited about the future

In one sentence: **all the top-down and bottom-up work we continue to do suggests that the runway ahead for the businesses we own is significant.** This is best demonstrated by the two charts below. The first highlights that the trends to which the Fund has exposure remain in a very early innings. The latter shows that the financial characteristics of the Fund – particularly the free cashflow generating abilities of our businesses – continue to look attractive relative to the MSCI World Index.

Past performance is no guide to future performance, and the value of investments and income from them can fall as well as rise

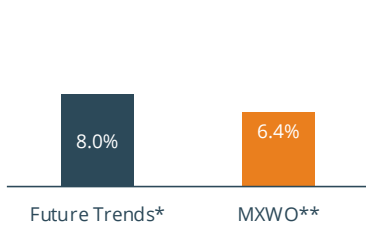
Long Runway Ahead For Selected Future Trends Themes

Factor	Global Penetration	Future Trends Exposure
 Smartphones	~50%	
 Digital payment volumes	~25%	
 Corporate workloads in the cloud	~20%	
 Retail purchases made online	~20%	
 Renewables share of energy industry	~15%	
 Electrical vehicles share of auto market	<10%	
 Education spend online	<5%	
 Non-meat-based global protein consumption	<5%	
 Human genomes sequenced	<1%	

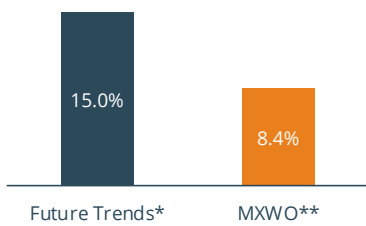
The illustrations above highlight certain key businesses that may be represented in the strategy and are not intended to depict the entire investment universe.

Key Financial Metrics

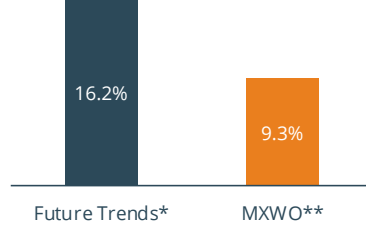
Revenue Growth (3Y CAGR) 2023-2026E



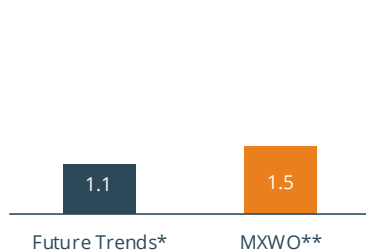
Earnings Growth (3Y CAGR) 2023-2026E



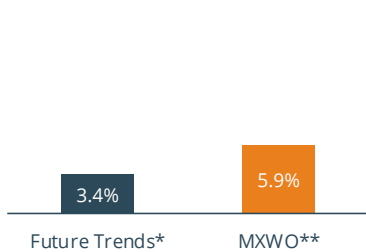
FCF Growth (3Y CAGR) 2023-2026E



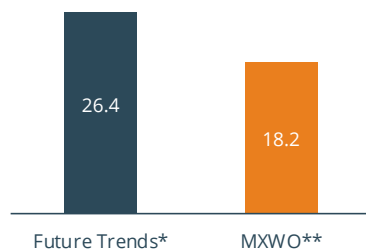
Net debt/EBITDA (x) 2023E



1Y forward FCF yield (%) 2024E



1Y forward P/E (x) 2024E



Sources: MSCI, Bloomberg, Heptagon Capital. *Weighted average for the Fund. **MSCI World NR USD. Data is as of 31/12/23

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I The top-down view

We continue to observe that **the pace and reach of technological development is increasing**. This is important since how we allocate scarce resource efficiently in the face of a growing population and increasing geopolitical tensions is the most significant problem that the world faces. Even if *technology is a means to an end* (rather than an end in itself), it is transformative.

Time and again, new technologies improve capabilities and decrease costs. Think of them not as replacements for old applications, rather as mechanisms for expanding market size. Innovation is all about creating new demand. **Digitalisation, decentralisation and decarbonisation** continue to drive almost every development currently, with **the rise of artificial intelligence being arguably the biggest game-changer**. As we have argued previously, as trends overlap, they should become mutually reinforcing.

In 2023, **it was hard not to have escaped the whole AI bubble**. Think of the comment from Bill Gates that AI is “as important as the PC, as important as the Internet” or from Jensen Huang, CEO of the poster child for the industry. NVIDIA’s chief believes that a **“new computing era has begun.”** With 100m users in its first two months since launching (faster than the adoption of TikTok by a factor of almost five – per UBS), think of Chat-GPT as the first killer app of the AI era, useful for consumers and enterprises. For those who have yet to use it, the service allows for out-of-the-box experimentation, prompt engineering and custom modelling.

At a practical level and *irrespective* of how AI evolves over the longer-term, the technology is being practically adopted today. The reason is simple: over 50% of US firms, more than 75% of Eurozone businesses and greater than 90% of Japanese firms currently report a shortage of skilled workers (per KKR) – **AI can mitigate if not resolve the worker shortage dynamic**. A recent study from McKinsey suggested that a third of the businesses it surveyed globally say their organisations are using generative AI in at least one business function currently. Another study (from the Boston Consulting Group) suggests that using AI can make people complete tasks 25% faster and increase their quality by 40%. Correspondingly, more than 40% say they expect to increase their investments in AI owing to recent improvement in its capabilities. A KPMG report highlights that 85% of businesses expect to be using more AI in the coming years.

It is perhaps not surprising then that **spending on generative AI software is expected to reach \$18bn in 2027**. With less than \$1bn spent in 2022, this is equivalent to a compound annual growth rate of more than 190% (per TD Cowen). A recent study from Stanford University shows that workers can become at least 15% more productive when given generative AI tools vs those who did not, with least-skilled workers benefiting the most. Least-skilled workers can apparently get their work done 35% faster, per the study. Against this background, Goldman Sachs is forecasting **a ~\$7tr increase to global GDP from generative AI over the next decade**, primarily from the automation of tasks associated with numerous jobs.

Nonetheless, **progress won’t be linear**. For context, although the internet began to be used by some companies in the early 1990s, it was not until the late 2000s that two-thirds of American businesses had a website (per a study conducted by The Economist). **The biggest reason cited for not adopting AI currently is cost**. More than half of all AI decision-makers in top companies say that they are facing cost barriers to deploying the latest AI tools (according to S&P Global). Correspondingly, around 70 firms within the S&P 500 Index still show no interest in AI. Likewise, one-third of small business in the US and Canada say they have no plans to try generative AI tools in the next year. For early movers, this could prove to be advantageous. Scale matters. Consider that JP Morgan employs some 600 dedicated machine learning engineers while Eli Lilly has over 100 projects on the go involving AI.

At the heart of any AI development lies data. This was the point that we made in [our very first theme piece](#) over a decade ago. **Data have no value unless stored, secured and analysed**. In the world of AI, perhaps the best analogy for data is less as oil – a valuable commodity over which countries may go to war – and more as sand; it is *only* valuable when aggregated into the billions. **Digital transformation continues to change the world**. It is growing at eight times the pace of the broader economy and will create a \$100tr economic opportunity over the next decade (per IDC and the World Economic Forum respectively). No surprise then that the semiconductor market is expected to double over

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this period. Admittedly this forecast is courtesy of ASML, the business that is market leader in the manufacturing of the machines that make semiconductors, but as Peter Wennink, its CEO notes, “we have consistently continued to underestimate demand.”

If AI can be thought of as the age of wonder, then consider its **potential for accelerated scientific discovery**. Drugs can take a decade to emerge, cost billions of Dollars and succeed only 10% of the time. Even a small improvement in speed and efficiency would be hugely valuable. Machine learning makes it possible to sift through piles of information, from clinical patient data and genome sequences to images of body scans. Unlike a human researcher, it can also do this 24 hours a day, every day of the year. Much of the current buzz in healthcare therefore revolves around AI trained on biological data that could improve the hit-and-miss process of drug discovery. Forecasts from Gartner suggest that **over 30% of innovative pharmaceuticals, materials and synthetic marketing content will be created by generative AI by 2030**.

Such a development would be highly welcome given the huge cost burden to all developed economies of healthcare, a trend that will only be exacerbated as populations age. Consider that **90% of all US healthcare costs are accounted for by treating preventable, chronic conditions**. The biggest of these is obesity. Nearly 70% of American adults are overweight and over a third are obese. Almost half of Americans will be obese by 2030, research by Harvard University has found. About 18% of healthcare spending by this data would be required to treat it and other related conditions.

The *relative* good news is that there are treatments on hand already. Wegovy, an anti-obesity drug developed by Novo Nordisk, did not garner quite as many headlines as AI in 2023, but its success has been almost as revolutionary. The drug (and those being developed by competitors) have been de facto clinically proven to **reduce body weight by 15% or more in some people**. They work by decreasing appetite and in turn can **decrease calorie intake by 20-30% daily**. Some estimates (for example, from Jefferies, an investment bank) suggest that the market for such drugs could be worth over \$150bn by 2031. For context, the market size of all drugs to create cancer was worth \$185bn in 2021.

Treating obesity matters, but is however, just the tip of the iceberg. Alzheimer’s is currently the most expensive disease in the US (per a study from Harvard University), given related palliative care costs. **More than 55m people live with a dementia disorder worldwide, and by 2050 that number is expected almost to triple**. The global cost of treating dementia disorders is estimated to be \$1.3tr and will more than double over the next decade. As important as drug development is, lifestyle decisions do also matter, whether it be increasing exercise or making better dietary choices.

Nonetheless, whether it be obesity, cancer, Alzheimer’s or any other disease, **the logic for data-driven drug discovery is high**. A recent KPMG study highlighted that 82% of healthcare and life sciences executives are currently seeking a more aggressive adoption of these technologies. Venture capital funding for healthcare AI solutions is set to reach over \$10bn this year (per CB Insights).

Healthcare will be far from the only industry transformed over the coming decades. Our [annual theme piece](#) also contains sections highlighting the attractions of the alternative energy, automotive, food, payment and water industries among others. The good news is that all the themes we follow and invest in are supported by **strong secular tailwinds** and are still **in an early innings of their development**.

I The bottom-up view –

Exposure to a theme is a *necessary but not sufficient* condition for a business to be included within the Future Trends Fund. We have a **strict set of investment criteria which have remained unchanged since the inception of the Fund in 2016**. All the businesses we own have to offer pure-play exposure to the theme to which they are exposed (we set a threshold of a minimum of 75% of a company’s revenues derived from the trend), be market leaders in the field where they operate and have a proven culture of out-innovation (as measured by research and development spend).

In addition, **we also look for businesses with superior financial characteristics**. We are regularly asked to quantify this statement. Over 25 years of experience in financial markets has taught us *not* to invest in businesses that are loss-

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making and have negative free cashflow. Put another way, **all the holdings within the Future Trends Fund are free cashflow positive**. Unsurprisingly, our businesses are growing faster than the rate of global GDP, but crucially, they are also converting this growth into free cashflow generation. As the earlier chart showed, our businesses (taking the weighted average of our own bottom-up forecasts) are forecast to grow their revenues at a rate 25% faster than that of the MSCI World over the next three years on a compound annual basis, while also generating over 70% more free cashflow over the same period.

We believe that such a growth outlook, especially when combined with the **balance sheet health of our businesses** – average estimated net debt to EBITDA at the end of 2023 for the Fund of 1.1x compares to a figure of 1.5x for the MSCI World – justifies the premium that investors are paying for the Fund. The Future Trends Fund commands a multiple of 26.4x 2024E earnings, higher than the comparable figure a year ago (24.0x), but down markedly from the 28.6x figure at the end of 2021. With the MSCI World trading on a comparable multiple of 18.2x for 2024E (per Bloomberg), this is equivalent to an 8.2 percentage-point premium, down from last year's premium of 8.9 points and 2021's of 9.8 points. It is also worth considering that **the average business within the Future Trends Fund is 28.9% undervalued on a discounted free cashflow basis** (taking a weighted average). This figure compares an average of 29.5% since the Fund's inception.

One other bottom-up consideration we are keen to emphasise is our **strong commitment to sustainable investing**. As we highlighted above, ongoing interaction with management is integral to our investment process. We would also urge interested parties to read our [Q4 2023 sustainability report](#), shortly available via our website.

Conclusion

It is hard not to be optimistic about prospects for the Future Trends Fund, particularly given the fact that its end 2023 NAV stands ~15% below its all-time high (recorded in September 2021).

Most importantly, we believe it is crucial to stay the course and make **no change to our investment approach**. We have stayed **focused on fundamentals** and believe our approach offers investors genuinely differentiated pan-thematic exposure. All the **top-down and bottom-up work** we continue to do suggests that **the runway ahead for the businesses we own is significant**.

When asked the question, what makes the Future Trends Fund different, we believe the answer is clear:

- **Pan-thematic and concentrated:** exposure to 14 different themes via a 22-stock portfolio.
- **Diversification:** No mega-cap tech ("Magnificent Seven") exposure.
- **High conviction:** 90%+ active share; 50%+ in top-10.
- **Discipline:** No loss-making businesses.
- **Proprietary research approach:** database of 80+ thematic white papers dating to 2011 complemented by strict bottom-up stock selection.
- **Sustainability:** Article 8, AA rating from MSCI, quarterly sustainability reports available.

We also think it important to highlight that **active risk management is embedded within the strategy:**

- 100% long-only equity strategy with no use of derivatives, hedging or options.
- Exclusion of controversial sectors.
- Position sizing determined by conviction and market capitalisation of businesses.
- Low turnover of ~25% per annum and long holding periods.
- Regular intra-portfolio rebalancing (with a typical approach to add on share price weakness).
- Concentrated portfolio allows for constant monitoring.
- Highly liquid portfolio: 100% of the Fund could be liquidated in less than one trading day.

Thank you for your ongoing interest in and support for the Future Trends Fund.

Alex Gunz, Fund Manager
January 2024

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I Appendix 1: Q4 leaders and laggards –

There was a greater than 50 percentage-point spread between the best and worst performing business in the Future Trends Fund during Q4. Given the pan-thematic nature of the Fund, such dispersion is quite common. During the full 12-month period of 2023, the gap was equivalent to over 100 points.

Given how 2023 was a year of three parts for the Fund (as discussed previously), we were also not surprised to see that our two best-performing businesses in Q4 were also companies that underperformed the MSCI World Index over the year.

Vestas was the Fund's top-performer in Q4, gaining 41.4%. The Danish wind turbine manufacturer surprised the investment community positively when it released results at the start of November, highlighting "commercial discipline" and "strong order intake" within its power business, combined with "high activity levels" in its service unit. Revenue guidance was tightened upwards and, more significantly, the business guided to positive profit margins in 2023 versus a prior negative assumption. Strong disclosed orders in December bode well for the business. The share price gain over the quarter allowed Vestas to close the year up 6.0%, although still behind the MSCI World Index.

It was a similar story for **Chegg**, which recorded a 27.4% gain in Q4, its second consecutive quarter of outperformance relative to the MSCI World. Some of this may simply be mean reversion owing to the major drawdowns witnessed in Q1 and Q2 (-35.5% and -45.4% respectively). Nonetheless, our ongoing interaction with management of this US edtech business provide us with confidence that the company is continuing to execute. Recent results demonstrate encouraging trends in respect of retention and the growing size of purchased bundles. We also believe that Chegg's announcement of a \$150m accelerated share buyback in November speaks to the confidence of management in prospects.

As noted earlier in the report, **Chegg was our only major negative outlier in performance terms over 2023**, closing the year down 55.0%. We were disappointed to see four other businesses (Thermo Fisher, Aptiv, SIG Combibloc and Keysight Technologies) close the year in negative territory but remain confident in prospects for all of them. We met with management of the first three in Q4 and will be meeting with Keysight again in March.

At the opposite end of the spectrum, **Airbnb was the Fund's best performer in 2023**, closing the year up 59.2%. The company benefited from a full year in which there were no lockdown restrictions on travel, allowing for strong visibility on bookings and hence financial results. **Novo Nordisk** – a business we have owned since inception – gained 48.8%, helped by the strong uptake for its obesity treatment drugs.

For the fourth quarter, the Fund's two laggards were TeamViewer and SIG Combibloc, closing down 11.9% and 14.5% respectively. Both companies reported solid results over the period. However, the share price of TeamViewer was impacted by a share placing from Permira (one of its original investors, pre-stock market flotation), although this clearly had no impact on the fundamental investment case. For SIG, we sense it was a case of profit-taking and sector rotation (away from a relatively defensive area such as packaging) over the period. We attended the company's November Capital Markets Day and came away impressed over long-term strategy.

I Appendix 2: The Best Is Yet To Come

Below follows a reproduction of the introductory essay from our annual theme compendium, which was released in November last year. It provides a helpful overview of how we believe the world is changing from a big picture perspective. These dynamics help inform our thematic thinking.

Frank Sinatra was probably not thinking of technology when he sang these famous words at his last public appearance in February 1995 (for the music specialists, the tune was originally written for and introduced by Tony Bennett in 1959). However, **technology, by definition, reinvents the future**. Owing to constant new product cycles, **the history of technology is a history of disruption**.

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Thought of another way, **almost every development is underpinned by some form of technological change**. We have long argued that technology should be thought of as an *enabler*, a means to an end. Consider how the long-term decline in child mortality and improvements in life expectancy have been driven by medical innovation. Likewise, access to energy, sanitation and clean water have transformed the lives of billions. If climate change is one of the largest challenges facing humanity currently, then consider that global green government spending has grown by nearly 40% over the last decade (per the International Energy Agency).

The biggest change witnessed by your author (who admittedly grew up in the 1980s in a north London suburb) has been one of **abundance**. Sure, 'the Internet', were you to consider it, is a vast physical infrastructure of fibre, towers, data centres and servers. It operates using protocols (such as HTML) and more code than anyone could practically conceive of. Nonetheless, its magic lies in the fact that **almost everything and everyone is networked**. It is estimated that the average internet user sees 490,000 words per day, more than occur in Tolstoy's "War and Peace" (according to Wired Magazine). In a typical online minute, there are almost 6m Google searches, while close on \$300,000 is spent on Amazon (according to Visual Capitalist). We now take **ubiquitous connectivity** for granted.

This wasn't always the case. Remember how difficult it was a generation ago to conduct banking transactions, book a holiday, find someone to perform a certain job or simply *access information*? Your author recalls proudly purchasing his first mobile handset (a Nokia 3110) in 1997. However, it was only when the iPhone was released a decade later that the mobile Internet became a reality. For context, at this time (2007), well fewer than 50% of US households had broadband in their homes. The speeds at which the Internet could be accessed were markedly slower than today. It took until 2013 for mobile broadband penetration in the US to reach 50%, but it was only last year that half of the American population with handsets could use them at 5G speeds (all data, per Statista).

Where do we go from here? Well even if 5.3bn people globally now use browsers to access the Internet, **a third of the Earth's population have yet to come online** including 7% of US adults. 75% of sub-Saharan Africa still does not have access to or use the internet (per the International Telecoms Union). This remains a non-trivial challenge, which will take time and investment. Thinking more broadly, we need to consider **how to use enhanced connectivity and potentially infinite online content most effectively to solve the world's much larger problems**. Beyond social and economic shifts – rising population, higher medical costs, deglobalisation and technological sovereignty, to name some of the most prominent – there is also the matter of climate change and resource scarcity. These dynamics imply rising energy use, accelerating climate change and correspondingly more fragile food chains and growing material shortages.

There is no silver bullet, but we do believe that *the best is yet to come*. **The combination of artificial intelligence and quantum computing could be a very potent one**. Think of it as perhaps being the most monumental technology shift since the Internet, which could revolutionise the ways in which humans and computers work together. Compute-power continues to improve exponentially. As of the end of last year, supercomputers could perform 1100 quadrillion floating rate operations per second versus 176 quadrillion in a decade prior (per Our World In Data). Data and analytics, when used optimally, can drive better outcomes, potentially allowing for rapid scaling with fewer assets. This is the power embedded within artificial intelligence, a step-change in productivity. Next, consider quantum. It offers the potential to take on any problem at a vastly accelerated speed. Effective systems would have the ability to perform tasks with a high degree of accuracy, considering multitudes of possible answers simultaneously.

Even today, it is hard not to be impressed by the potentially transformative potential of AI (quantum solutions are still in more of a trial phase currently). When applied appropriately, AI could allow for **many processes can be automated with higher levels of productivity**. Data from Stanford University show that workers can become at least 15% more productive when given generative AI tools, versus those who did not, with least-skilled workers benefiting the most (least-skilled workers were able to get their work done 35% faster, in this study). At the same time, AI could also be **inherently democratising**, if it were to help to lower dramatically the costs of expensive services in fields such as legal help or healthcare, to provide just two examples. AI might also allow for enhanced creativity and accelerated innovation, which could benefit fields as diverse as marketing, communications and even policy.

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If forecasts are to be believed, then **AI could add at least \$7tr increase to global GDP over the next decade**, primarily from the automation of tasks associated with numerous jobs. Additionally, more than 30% of innovative pharmaceuticals, materials and synthetic marketing content will be created by generative AI by 2030, based on some estimates (data from Goldman Sachs and Gartner respectively). Thought of another way, were investment in corporate AI to grow at the same pace as software did in the 1990s, then AI could account for 1% of US GDP by 2030 (per Goldman Sachs, again).

At the same time, it is important to be aware of **the limitations of technology**. This is particularly pertinent in the context of informational content having become essentially infinite. Against this background, **the business of discovery and curation is increasingly valuable**. Furthermore, there exists the paradox that as the world has grown more connected through communications, technology, trade and the movement of people, it is hard to deny the impact that very connectivity has played in dividing and fragmenting both people and countries. Think about the potential **reinforcement of misinformation and biases**, not to mention the threat of constant monitoring in some geographies.

It may then be legitimate to wonder **who gets to run the future?** Put another way, **the key question is not just 'can' and 'how' might technology help solve any given problem, but 'should' it even attempt to?** Both governments and corporates have a role to play in this respect. The digital sphere will become a crucial future background for all players, with the coming decades likely to see increasing competition for the core elements of technological supremacy. China is perhaps the only country with the intent, capital and capabilities to challenge the US and become the next technological, economic and military superpower. The extent to which these countries (and others) collaborate to answer the above questions will be crucial to monitor.

Investors should also pause to consider **the potential disconnect between hype and reality**. As money pours into any given space (the AI ecosystem currently), it can be easy to lose objectivity, particularly when the phrase "it's different this time" dominates commentaries. In the rush to catch up, or avoid perceived FOMO, hyperbole can easily begin. Our worry is that **the more our understanding of new technologies becomes distorted by hype, the less thoughtfully it may be applied** (at least in the near-term), and the more likely that it may cause harm.

Additionally, do not forget that there are many paths to failure and a narrow aperture to success. Some **70% of technology companies will lose 70% of their value in their lifetimes** (per Grant's Observer). During the bust that followed the TMT boom, many businesses fared even worse. Just because the money is there, doesn't mean the results will be. To get another example of creative destruction at work, the survival rate for companies within the S&P 500 Index has dropped to just 12 years. According to KKR, 50 years ago, the average business remained an index member for more than 60 years.

How best to chart a compromise? We draw optimism from three areas. First, the maxim popularised by Bill Gates that while **the potential from most new technologies is overestimated in the near-term, it is typically underestimated over the longer-term**. Next, **there remain significant shared global challenges that need to be addressed and solved**. Climate change and resource scarcity amidst a still-growing population would feature at the top of the list. Common, mutually beneficial, interests should trump siloed behaviour. Finally, remember Kurzweil's Law of Accelerating Returns (named after Ray Kurzweil, a computer scientist, who has spent much of his career at Google). It posits that **technology advances exponentially, not impacted at all by wars, economic recessions or depressions**. The best is yet to come.

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