

After a breakout year for artificial intelligence (AI), which helped fuel the outperformance of the so-called ‘Magnificent Seven’ US technology names, what does the future hold for the sector?

Ben Rogoff and Nick Evans, co-heads of the Polar Capital Global Technology team, join Xuesong Zhao, lead manager of the Polar Capital Artificial Intelligence Fund, to discuss how they see the trajectory for the global economic backdrop emerging, offer their views on the case for the technology sector and explain why they believe a wave of AI enabled innovation and subsequent productivity gains are likely to reshape the investment landscape.

**Q: What are your expectations for US interest rates and your subsequent view on any recessionary risk?**

**A: Ben Rogoff:** In our view, the worst headwinds are behind us with the Federal Reserve (Fed) appearing to have engineered a soft landing for now. We believe the market is probably overstating the risk of recession; Goldman Sachs currently gives a 15% chance of recession next year<sup>1</sup> and, while that is at the low end, the consensus position above 40%<sup>2</sup> feels too high given the progress we seem to have made so far. US core personal consumption expenditure (PCE) is down from 5.2% last year to 3.7% in September and we expect further disinflation over the coming months as the labour market continues to rebalance. US growth has also been stronger than expected, which shows the Fed has managed to improve the inflation trend without tipping the economy into recession.

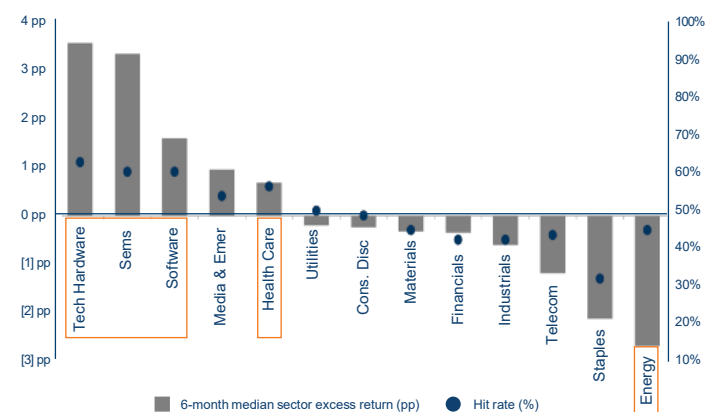
**Q: What would that environment mean for technology stocks?**

**A: Nick Evans:** Our base case is for moderate US growth, recession fears to subside, corporate IT budget growth to be solid and AI spending to remain robust. We don’t have a strong view as to when the Fed will cut rates, but with inflation trending down, we are hopeful that peak rates are behind us.

1. [Goldman Sachs cuts chances of US recession in next one year to 15% | Reuters](#)  
 2. [Bank Economists Soft Landing Odds Have Improved But Recession Risks Remain | American Bankers Association \(aba.com\)](#)  
 3. [Gartner Survey of Over 2,400 CIOs Reveals That 45% of CIOs are Driving a Shift to Co-Ownership of Digital Leadership](#)

This view is allowing investors to become more constructive on the medium-term outlook for growth stocks. However, what makes us particularly optimistic is that AI infrastructure demand and subsequent productivity gains remain in their infancy but that is likely to change dramatically in 2024. 70% of CIOs currently see generative AI as “game-changing technology”<sup>3</sup>, 55% are planning to deploy it and yet only 9% are actually deploying it today.

**Sector performance; periods of stable rates and growth**



Source: FactSet, Goldman Sachs Global Investment Research, November 2023.

Some information contained herein has been obtained from third party sources and has not been independently verified by Polar Capital. Neither Polar Capital nor any other party involved makes any express or implied warranties or representations. All opinions and estimates constitute the best judgment of Polar Capital as of the date hereof, but are subject to change without notice, and do not necessarily represent the views of Polar Capital. Forecasts are based upon subjective estimates and assumptions about circumstances and events that may not yet have taken place and may never do so.

**Nick Evans**  
Partner

Nick joined Polar Capital in September 2007. He was appointed lead manager of the Global Technology Fund on 1 January 2008, and is also a Fund Manager of the Polar Capital Technology Trust and the Polar Capital Artificial Intelligence Fund.

**Ben Rogoff**  
Partner

Ben joined Polar Capital in May 2003. He is lead manager of Polar Capital Technology Trust plc and is a Fund Manager of the Polar Capital Global Technology Fund and Polar Capital Artificial Intelligence Fund.

**Xuesong Zhao, CFA**  
Partner

Xuesong joined Polar Capital in May 2012. He is lead manager of the Polar Capital Artificial Intelligence Fund and is a Fund Manager on the Polar Capital Technology Trust and Polar Capital Global Technology Fund.

**Awards and Ratings**

Analyst-Driven **100%**  
Data Coverage **100%**

©2023 Morningstar, Inc. All Rights Reserved. Rating representative of the I USD Dist Share Class, as at 31 October 2023. The information contained herein: (1) is proprietary to Morningstar; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Past performance is no guarantee of future results. For more detailed information about Morningstar’s Medalist Rating, including its methodology, please go to: <https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx>. For disclosure and detailed information about this fund please request the full Morningstar Managed Investment Report from [investor-relations@polarcapitalfunds.com](mailto:investor-relations@polarcapitalfunds.com).

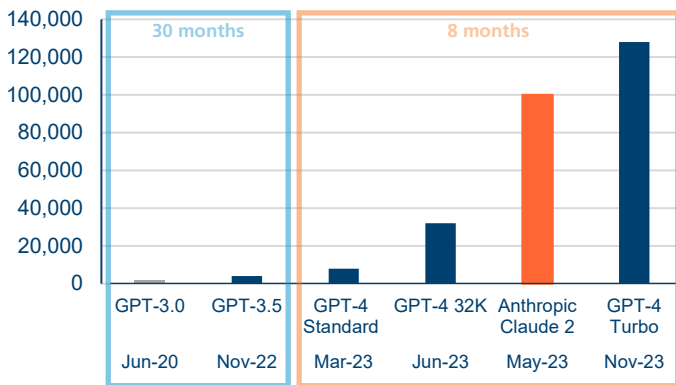
**Q: Is the breakthrough in AI fuelled by hype or longer-term assessments of added value?**

**A: Ben Rogoff:** While there may have been a rush of excitement around AI this year, the Global Technology team here at Polar Capital has long recognised the potential of AI, launching a fund dedicated to the theme six years ago. The belief then was that AI would always become mainstream; the question was ‘When?’, and it would appear the answer is ‘Now’.

For us, generative AI represents one of the most exciting technological breakthroughs we’ve seen and could well be more important than the advent of the internet or cloud computing. However, we have not yet experienced the same overexuberance as seen in previous hype-driven cycles. Instead, valuations of key AI stocks have generally been backed up by robust earnings growth, while investors have been relatively selective rather than boosting the share prices of all firms riding on the sector’s popularity. We expect the market to broaden in 2024 which should play to our strengths with one of the largest and most experienced technology investment teams globally.

Moreover, there is a difference between so-called hype and genuinely backing a transformative technology. Just as the Bessemer process in the nineteenth century created an inexpensive way to mass produce steel, leading to the creation of myriad new industries, there is no telling what AI will facilitate from here. However, we are confident that the opportunity is vast given that AI is able to automate c25% of human tasks today with the potential to impact as many as 300m jobs globally.

**Generative AI models memory/token growth**

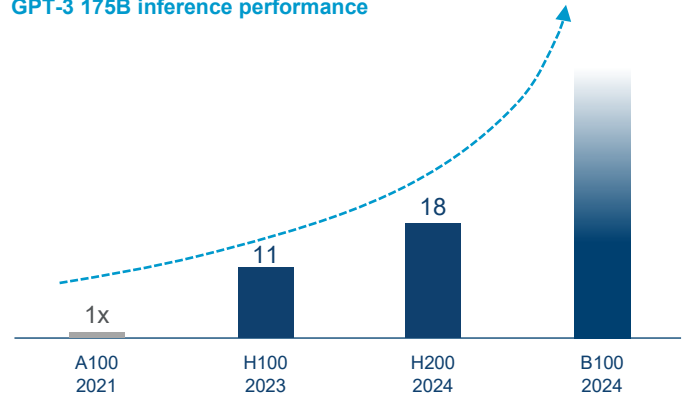


**Source:** <https://platform.openai.com/docs/models>; <https://platform.openai.com/docs/models>; <https://help.openai.com/en/articles/7127966-what-is-the-difference-between-the-gpt-4-models>; <https://help.openai.com/en/articles/7127966-what-is-the-difference-between-the-gpt-4-models>; <https://www.anthropic.com/index/100k-context-windows>; <https://help.openai.com/en/articles/8555510-gpt-4-turbo>.

**A: Nick Evans:** Once it became clear that AI capability had begun to inflect, we introduced what we call an “AI lens” to our investment process. This means we now consider how AI impacts every business in each portfolio and whether stocks are enablers or beneficiaries of AI. This raises the bar for investment ideas that do not fit into that framework, because of our conviction that AI is the next big trend in technology. However, not all AI was born equal; there is obviously older machine learning (ML) for instance, meanwhile many companies will claim to be evaluating or deploying generative AI, but understanding where it can be utilised most effectively will be important. It is our job to sift through all of that and identify the real opportunities. Based on our definition of AI, 80% of the Global Technology Fund is now invested in companies that we believe are beneficiaries from or enablers of AI. While our remaining positions have exposure to other exciting (non-AI) technology themes, we are hopeful that none are losers from AI, or we would have exited them.

**Perpetual innovation, perpetual performance leaps**

**GPT-3 175B inference performance**



**Source:** NVIDIA, October 2023.

Some information contained herein has been obtained from third party sources and has not been independently verified by Polar Capital. Neither Polar Capital nor any other party involved makes any express or implied warranties or representations. All opinions and estimates constitute the best judgment of Polar Capital as of the date hereof, but are subject to change without notice, and do not necessarily represent the views of Polar Capital. Forecasts are based upon subjective estimates and assumptions about circumstances and events that may not yet have taken place and may never do so.

**Q: Have investors missed the boat on AI given the rise we have seen year to date?**

**A: Xuesong Zhao:** I would paraphrase the old adage and say, “The best time to invest in AI was many years ago, the second best time may very well be today.” Very simply, we do not think investors have missed the AI boat. While there have been strong returns in some of the highest profile AI enablers this year, we think these moves have largely been supported by fundamentals, with many stocks still reasonably valued. In addition, we expect a broadening of the AI halo effect, as investors see robust demand benefitting a wide range of infrastructure stocks (the “enablers”). As we get further into 2024 and into 2025 we also expect to see a growing impact of AI led productivity gains and transformative change beyond the technology sector (the “beneficiaries”).

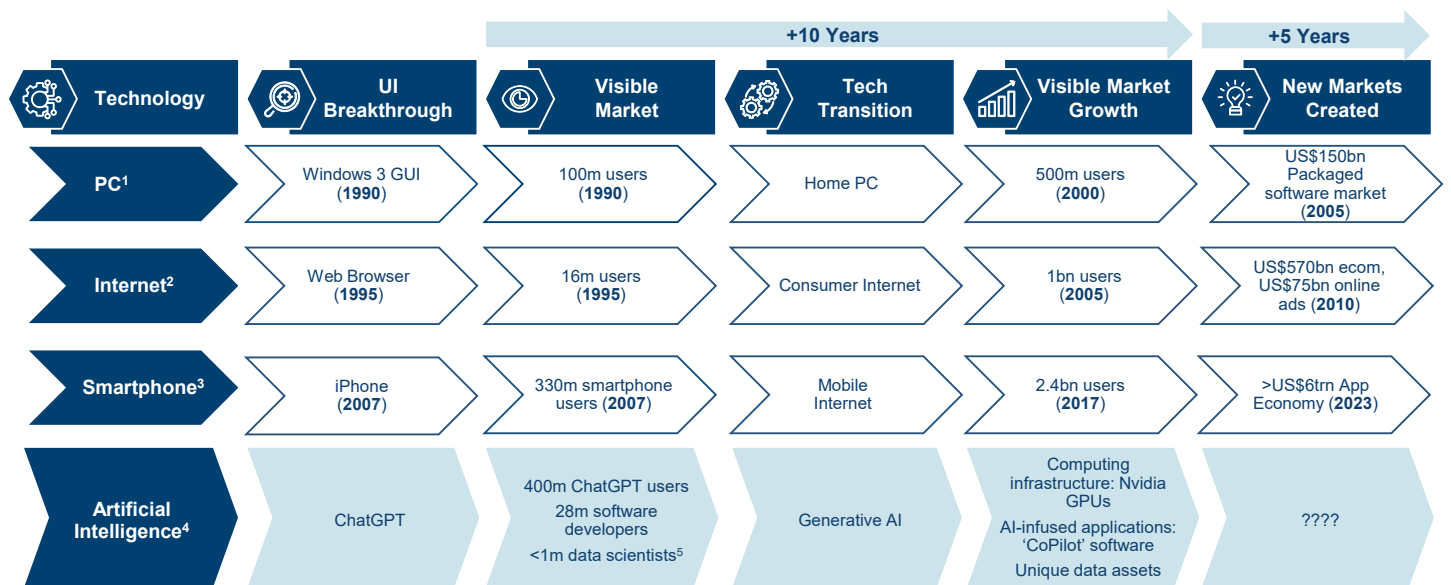
We are not saying the path is going to be smooth, there will of course be periods of volatility along the way, but the pace of innovation is such that we expect to see a bright future for AI as well as the opportunity for second-order themes in due course. One of the big benefits of AI is that it offers significant productivity gains, which could support a period of sustained non-inflationary growth leading to a stronger economic outlook than many believe is possible today. Importantly, we also expect to new commercial opportunities enabled by AI – just as the advent of the iPhone led to the huge global app economy today, something that few foresaw at the time.

**Q: If the Polar Capital Global Technology Fund has a high exposure to AI, why is there a separate fund geared specifically towards the AI theme?**

**A: Nick Evans:** From our perspective as a core technology fund, in time we expect many non-technology industries to come into our investible universe, in the same way Amazon is a retailer but is available to us as an investment given its online, streaming and cloud segments. However, there will still be many companies beyond our investible universe for whom AI will play a meaningful role. In this sense, leveraging the technology team’s knowledge and experience gives a unique perspective on working out which companies and industries have the potential to be disrupted, as opposed to having a focus purely on providers of technology. In essence, this gives the Polar Capital Global Technology Fund the opportunity to focus mainly on the technology enablers (and beneficiaries within technology, media and telecoms), with the Polar Capital Artificial Intelligence Fund able to focus on the beneficiaries of AI, often outside the technology sector entirely, as well as the enablers.

**A: Xuesong Zhao:** Ultimately, in the Polar Capital Artificial Intelligence Fund, we are building a portfolio of companies that will capture the opportunity as whole industries are rearchitected and reimaged around AI. We invest in not just the AI enabling companies, but the applications and beneficiaries of AI across all sectors. It is this approach that sets us apart from other AI funds that concentrate more on the technology companies and the AI functionality itself. We see the opportunity for great value creation beyond the technology sector, as AI is rapidly adopted across broad swathes of the economy. The ability to invest in the disruptive AI winners as well as avoiding the many companies that will be negatively impacted will be key.

## AI: Technology transitions drive huge new markets



Source: 1. Datahub, <https://datahub.itu.int/>, 2023. 2. Internet World Stats, <https://www.internetworldstats.com/emarketing.htm>, August 2023. 3. 42 Matters, <https://42matters.com/blog/?p=the-state-of-the-app-economy-and-app-market>, 30 September 2022. 4. Statista, <https://www.statista.com/statistics/627312/worldwide-developer-population/>, August 2023. 5. US Bureau of Labor Statistics, <https://www.bls.gov/oes/current/oes152051.htm>, May 2022.

Some information contained herein has been obtained from third party sources and has not been independently verified by Polar Capital. Neither Polar Capital nor any other party involved makes any express or implied warranties or representations. All opinions and estimates constitute the best judgment of Polar Capital as of the date hereof, but are subject to change without notice, and do not necessarily represent the views of Polar Capital. Forecasts are based upon subjective estimates and assumptions about circumstances and events that may not yet have taken place and may never do so.

**Q: Can the US technology mega-cap companies continue their strong run?**

**A:** Nick Evans: This has been a highly unusual multi year period where large cap stocks have dominated returns and growth investors have faced significant headwinds due to higher rates. Going forwards, we expect returns to be more evenly spread within the technology sector, supported by accelerating AI innovation and the benefits being more broadly felt.

It is certainly true that a significant difference has opened up between the so-called 'Magnificent Seven' large caps (Microsoft, Nvidia, Amazon, Google, Apple, Tesla and Meta) and equal-weighted technology or smaller-cap technology indices. Returns for this group have been very strong particularly year to date, but from a very depressed starting point given the poor performance of this group (down close to 40%) in 2022. Beyond that, much of their relative outperformance versus the market can be accounted for by their relative earnings strength (as per recent research from Goldman Sachs) and some multiple expansion explainable due to their superior growth. It is possible that we get a period of mean reversion but in our view, we are more likely to see some of the unloved stocks bounce back rather than material weakness emerge among the mega-caps.

Finally, many of these stocks, particularly Nvidia and Microsoft, are perceived enablers and/or beneficiaries of Generative AI which explains why we continue to own most of them in our top 10 holdings. We still expect solid absolute returns from this group in aggregate because of reasonable/achievable expectations for next year (with potential upside from stronger AI demand) superior growth potential and a supportive macro backdrop as discussed earlier. That said, we expect a broadening of stocks seen to be AI enablers or beneficiaries in 2024, a trend we would welcome because it should play to our strengths given our well-resourced team and growth-centric investment approach.

**Q: What is your outlook on the technology sector as a whole?**

**A: Ben Rogoff:** With the market and rates appearing more benign, we expect the pace of AI adoption to prove a key determinant of sector fortunes during 2024. While there could be setbacks or disappointments along the way, we are AI maximalists believing the technology could become the next general purpose technology (GPT). Nick and I have experienced a few of these instances during our careers – this one feels more important than the smartphone, and every bit as important as the Internet, a technology that saw myriad industries reimaged. Similarly, we expect AI to deliver significant productivity with recent improvement in this metric an auspicious indicator of potential gains in the years ahead.

**Polar Capital Global Technology Team****1 December 2023**

Some information contained herein has been obtained from third party sources and has not been independently verified by Polar Capital. Neither Polar Capital nor any other party involved makes any express or implied warranties or representations. All opinions and estimates constitute the best judgment of Polar Capital as of the date hereof, but are subject to change without notice, and do not necessarily represent the views of Polar Capital. Forecasts are based upon subjective estimates and assumptions about circumstances and events that may not yet have taken place and may never do so. It should not be assumed that recommendations made in future will be profitable or will equal performance of the securities in this document. A list of all recommendations made within the immediately preceding 12 months is available upon request.

## Fund Highlights

**SFDR Classification**  
Article 8

### Global, multi-cap portfolio

60-85 stocks, with a growth-centric investment style

### Exceptional long-term track record

Annualised return of 10.8% since launch<sup>1</sup>

### Highly experienced, specialist team

10 dedicated investment professionals, one of the largest technology investment teams in Europe

### Theme-driven investment framework

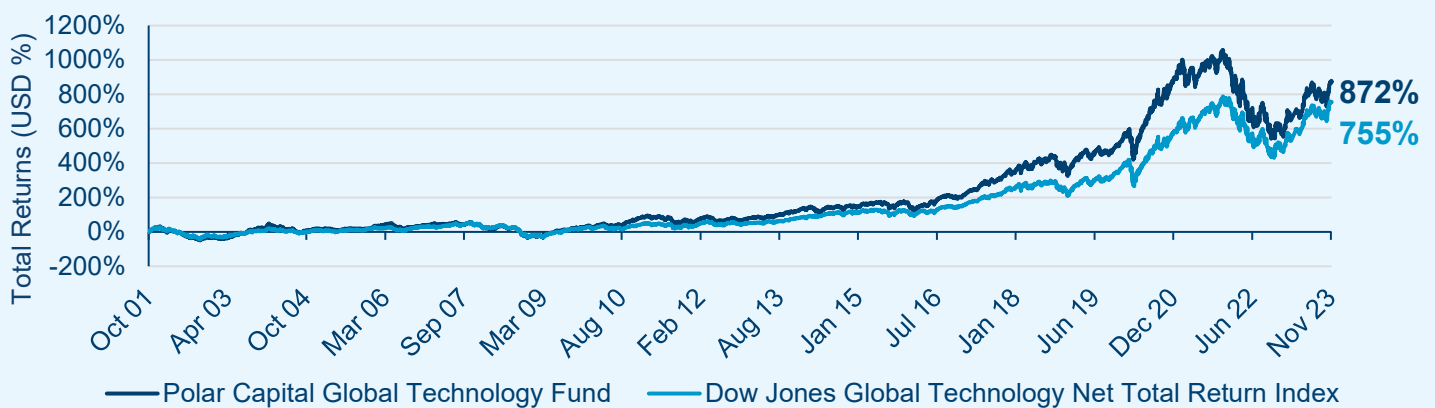
Active, bottom-up approach to portfolio construction

### Stock-picking through an AI lens

Investing in the **enablers** and **beneficiaries** of artificial intelligence



## Performance Fund vs Benchmark (%)



Past performance is not indicative or a guarantee of future results.

**Source:** Polar Capital, 30 November 2023. Northern Trust International Fund Administration Services (Ireland) Ltd, monthly percentage growth, 1 USD. Performance is representative of the Institutional USD share class which launched on 4 September 2009. Prior to this the performance figures are representative of the USD share class which launched on 19 October 2001. The index performance figures are sourced from Bloomberg and are in US\$ terms. <sup>1</sup> Lipper, as at 30 November 2023. Figures quoted as representatives of the USD share class net of fees. Lipper sector: Equity Information Technology. Performance data takes account of fees paid by the fund but does not take account of any commissions or costs you may pay to third parties when subscribing for or redeeming shares or any taxes or securities account charges that you may pay on your investment in the fund. Such charges will reduce the performance of your investment. A 5% subscription fee can be charged at the Investment Managers discretion.

All opinions and estimates constitute the best judgment of Polar Capital as of the date hereof, but are subject to change without notice, and do not necessarily represent the views of Polar Capital.

## Risks

- **Capital is at risk and there is no guarantee the Fund will achieve its objective. Investors should make sure their attitude towards risk is aligned with the risk profile of the Fund before investing.**
- **Past performance is not a reliable guide to future performance. The value of investments may go down as well as up and you might get back less than you originally invested as there is no guarantee in place.**
- The value of a fund's assets may be affected by uncertainties such as international political developments, market sentiment, economic conditions, changes in government policies, restrictions on foreign investment and currency repatriation, currency fluctuations and other developments in the laws and regulations of countries in which investment may be made. Please see the Fund's Prospectus for details of all risks.
- The Fund invests in the shares of companies, and share prices can rise or fall due to several factors affecting global stock markets.
- The Fund uses derivatives which carry the risk of reduced liquidity, substantial loss and increased volatility in adverse market conditions, such as failure amongst market participants.
- The Fund invests in assets denominated in currencies other than the Fund's base currency. Changes in exchange rates may have a negative impact on the Fund's investments. If the share class currency is different from the currency of the country in which you reside, exchange rate fluctuations may affect your returns when converted into your local currency. Hedged share classes may have associated costs which may impact the performance of your investment.
- The Fund invests in a relatively concentrated number of companies and industries based in one sector. This focused strategy can produce high gains but can also lead to significant losses. The Fund may be less diversified than other investment funds.
- The Fund invests in emerging markets where there is a greater risk of volatility due to political and economic uncertainties, restrictions on foreign investment, currency repatriation and currency fluctuations. Developing markets are typically less liquid which may result in large price movements to the Fund.

## Important Information

This is a marketing communication and does not constitute a solicitation or offer to any person to buy or sell any related securities or financial instruments. Any opinions expressed may change. This document does not contain information material to the investment objectives or financial needs of the recipient. This document is not advice on legal, taxation or investment matters. Tax treatment depends on personal circumstances. Investors must rely on their own examination of the Fund or seek advice. Investment may be restricted in other countries and as such, any individual who receives this document must make themselves aware of their respective jurisdiction and observe any restrictions.

A decision may be taken at any time to terminate the marketing of the Fund in any EEA Member State in which it is currently marketed. Shareholders in the affected EEA Member State will be given notification of any decision and provided the opportunity to redeem their interests in the Fund, free of any charges or deductions, for at least 30 working days from the date of the notification.

Investment in the Fund is an investment in the shares of the Fund and not in the underlying investments of the Fund. Further information about fund characteristics and any associated risks can be found in the Fund's Key Investor Document or Key Investor Information Document ("KID" or "KIID"), the Prospectus (and relevant Fund Supplement), the Articles of Association and the Annual and Semi-Annual Reports. Please refer to these documents before making any final investment decisions. These documents are available free of charge at Polar Capital Funds plc, Georges Court, 54-62 Townsend Street, Dublin 2, Ireland, via email by contacting [Investor-Relations@polarcapitalfunds.com](mailto:Investor-Relations@polarcapitalfunds.com) or at [www.polarcapital.co.uk](http://www.polarcapital.co.uk). The KID is available in the languages of all EEA member states in which the Fund is registered for sale; the Prospectus, Annual and Semi-Annual Reports and KIID are available in English.

The Fund promotes, among other characteristics, environmental or social characteristics and is classified as an Article 8 fund under the EU's Sustainable Finance Disclosure Regulation (SFDR). For more information, please see the Prospectus and relevant Fund Supplement.

ESG and sustainability characteristics are further detailed on the investment manager's website: (<https://www.polarcapital.co.uk/#/professional/ESG-and-Sustainability/Responsible-Investing/>)

A summary of investor rights associated with investment in the Fund is available online at the above website, or by contacting the above email address. This document is provided and approved by both Polar Capital LLP and Polar Capital (Europe) SAS.

Polar Capital LLP is authorised and regulated by the Financial Conduct Authority ("FCA") in the United Kingdom, and the Securities and Exchanges Commission ("SEC") in the United States. Polar Capital LLP's registered address is 16 Palace Street, London, SW1E 5JD, United Kingdom.

Polar Capital (Europe) SAS is authorised and regulated by the Autorité des marchés financiers (AMF) in France. Polar Capital (Europe) SAS's registered address is 18 Rue de Londres, Paris 75009, France.

Polar Capital LLP is a registered Investment Advisor with the SEC. Polar Capital LLP is the investment manager and promoter of Polar Capital Funds plc – an open-ended investment company with variable capital and with segregated liability between its sub-funds – incorporated in Ireland, authorised by the Central Bank of Ireland and recognised by the FCA. Bridge Fund Management Limited acts as management company and is regulated by the Central Bank of Ireland. Registered Address: Percy Exchange, 8/34 Percy Place, Dublin 4, Ireland.

## Benchmark

The Fund is actively managed and uses the Dow Jones Global Technology Net Total Return Index as a performance target and to calculate the performance fee. The benchmark has been chosen as it is generally considered to be representative of the investment universe in which the Fund invests. The performance of the Fund is likely to differ from the performance of the benchmark as the holdings, weightings and asset allocation will be different. Investors should carefully consider these differences when making comparisons. Further information about the benchmark can be found <http://www.djindexes.com>. The benchmark is provided by an administrator on the European Securities and Markets Authority (ESMA) register of benchmarks which includes details of all authorised, registered, recognised and endorsed EU and third country benchmark administrators together with their national competent authorities.

## Third-party Data

Some information contained herein has been obtained from third party sources and has not been independently verified by Polar Capital. Neither Polar Capital nor any other party involved in or related to compiling, computing or creating the data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any data contained herein.

## Country Specific Disclaimers

**Country Specific Disclaimers** When considering an investment into the Fund, you should make yourself aware of the relevant financial, legal and tax implications. Neither Polar Capital LLP nor Polar Capital Funds plc shall be liable for, and accept no liability for, the use or misuse of this document.

**The Netherlands:** This document is for professional client use only in the Netherlands and it is intended that the Fund will only be marketed to professional clients in the Netherlands. Polar Capital Funds plc is authorized to offer shares in the Fund to investors in the Netherlands on a cross border basis and is registered as such in the register kept by the Dutch Authority for the Financial Markets ("AFM") [www.afm.nl](http://www.afm.nl).

**Spain:** The Fund is registered in Spain with the Comisión Nacional del Mercado de Valores ("CNMV") under registration number 771.

**Switzerland** The principal Fund documents (the Prospectus, Fund Supplement, KIDs, Memorandum and Articles of Association, Annual Report and Semi-Annual Report) of the Fund may be obtained free of charge from the Swiss Representative. The Fund is domiciled in Ireland. The Swiss representative and paying agent is BNP Paribas Securities Services, Paris, succursale de Zurich, Selnaustrasse 16, CH-8002 Zurich, Switzerland.

**Austria/Belgium/Denmark (professional only)/Finland/France/Germany/Gibraltar/Ireland/Italy/Luxembourg/Netherlands/Norway/Portugal/Spain/Sweden/Switzerland and the United Kingdom:** The Fund is registered for sale to investors in these countries. Investors should make themselves aware of the relevant financial, legal and tax implications if they choose to invest. Please be aware that not every share class of the Fund is available in all jurisdictions.

## Morningstar

Medalist Rating<sup>TM</sup> is the summary expression of Morningstar's forward-looking analysis of investment strategies as offered via specific vehicles using a rating scale of Gold, Silver, Bronze, Neutral, and Negative. The Medalist Ratings indicate which investments Morningstar believes are likely to outperform a relevant index or peer group average on a risk-adjusted basis over time. Investment products are evaluated on three key pillars (People, Parent, and Process) which, when coupled with a fee assessment, forms the basis for Morningstar's conviction in those products' investment merits and determines the Medalist Rating they're assigned. Pillar ratings take the form of Low, Below Average, Average, Above Average, and High. Pillars may be evaluated via an analyst's qualitative assessment (either directly to a vehicle the analyst covers or indirectly when the pillar ratings of a covered vehicle are mapped to a related uncovered vehicle) or using algorithmic techniques. Vehicles are sorted by their expected performance into rating groups defined by their Morningstar Category and their active or passive status. When analysts directly cover a vehicle, they assign the three pillar ratings based on their qualitative assessment, subject to the oversight of the Analyst Rating Committee, and monitor and reevaluate them at least every 14 months. When the vehicles are covered either indirectly by analysts or by algorithm, the ratings are assigned monthly. For more detailed information about these ratings, including their methodology, please go to [global.morningstar.com/managerdisclosures/](http://global.morningstar.com/managerdisclosures/).

The Morningstar Medalist Ratings are not statements of fact, nor are they credit or risk ratings. The Morningstar Medalist Rating (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause expectations not to occur or to differ significantly from what was expected, (iii) are not guaranteed to be based on complete or accurate assumptions or models when determined algorithmically, (iv) involve the risk that the return target will not be met due to such things as unforeseen changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, tax rates, exchange rate changes, and/or changes in political and social conditions, and (v) should not be considered an offer or solicitation to buy or sell the investment product. A change in the fundamental factors underlying the Morningstar Medalist Rating can mean that the rating is subsequently no longer accurate.