QUINTET
LUXEMBOURG
PRIVATE BANK

ARTIFICIAL INTELLIGENCE

INVEST IN THE TECHNOLOGICAL REVOLUTION
TO UNLOCK THE FUTURE

THEMATIC INVESTING

WHO ARE QUINTET

Quintet is a private bank licensed to provide financial services in Luxembourg and Europe. We are part of Quintet Private Bank (Europe), a group of private banks and wealth managers operating in over 30 cities across Europe.

Our values

Integrity, commitment and excellence. Our values are the foundation of our mission as a private bank. They inspire our employees every day to shape their actions and strive for long-term performance.

Integrity

A requirement for everyone to put the client first, while fully respecting the principles of transparency and confidentiality.

Commitment

The fundamental quality of our employees, who keep their promises, take responsibility and work as a team.

Excellence

Our constant ambition is to exceed your expectations by making the implementation of effective solutions our priority.

> To become a Quintet client, a minimum combined investment of €1 million is required. Reserved for eligible investors.

INTRODUCTION

Artificial Intelligence (AI) is no longer a futuristic concept—it is a transformative force reshaping industries, economies, and societies. From streamlining operations to enabling entirely new business models, AI is driving a wave of innovation and efficiency that is redefining competitive advantage. At the heart of this revolution lie foundational technologies such as semiconductors, cloud computing, data centres, and AI software platforms. These components form a tightly interconnected ecosystem, where progress in one area accelerates advancements in others, creating a powerful feedback loop of innovation and adoption.

Industries including technology, healthcare, and automotive are already experiencing the tangible benefits of AI integration. As adoption deepens, AI is becoming not just a tool for optimisation, but a strategic imperative for long-term growth.

What is AI?

AI refers to systems and software capable of performing tasks that typically require human intelligence. These include learning from data, recognising patterns, understanding language, interpreting images, and making decisions. Unlike traditional software, AI systems improve over time through exposure to new data, enabling them to adapt to changing environments and deliver increasingly accurate outputs.

AI can process both structured data (e.g., financial statements) and unstructured data (e.g., social media sentiment, images, and natural language). This versatility allows it to be applied across a wide range of use cases—from fraud detection and medical diagnostics to autonomous vehicles and personalised recommendations.

The Growth Outlook

The global AI market is projected to reach close to $3 trillion by 2034, growing at a compound annual growth rate (CAGR) of 19.1% from 2024. This growth is underpinned by rising demand for intelligent automation, data-driven decision-making, and scalable digital infrastructure. As AI becomes more embedded in core business functions, the number of companies benefiting from AI is expanding, driven by a growing base of technology enablers and a widening array of commercial applications.

Investment opportunities span the entire AI value chain, from chipmakers like Nvidia and AMD to software platforms such as TensorFlow and PyTorch. For investors, AI represents not just a technological trend, but a structural shift with the potential to deliver long-term, compounding returns.
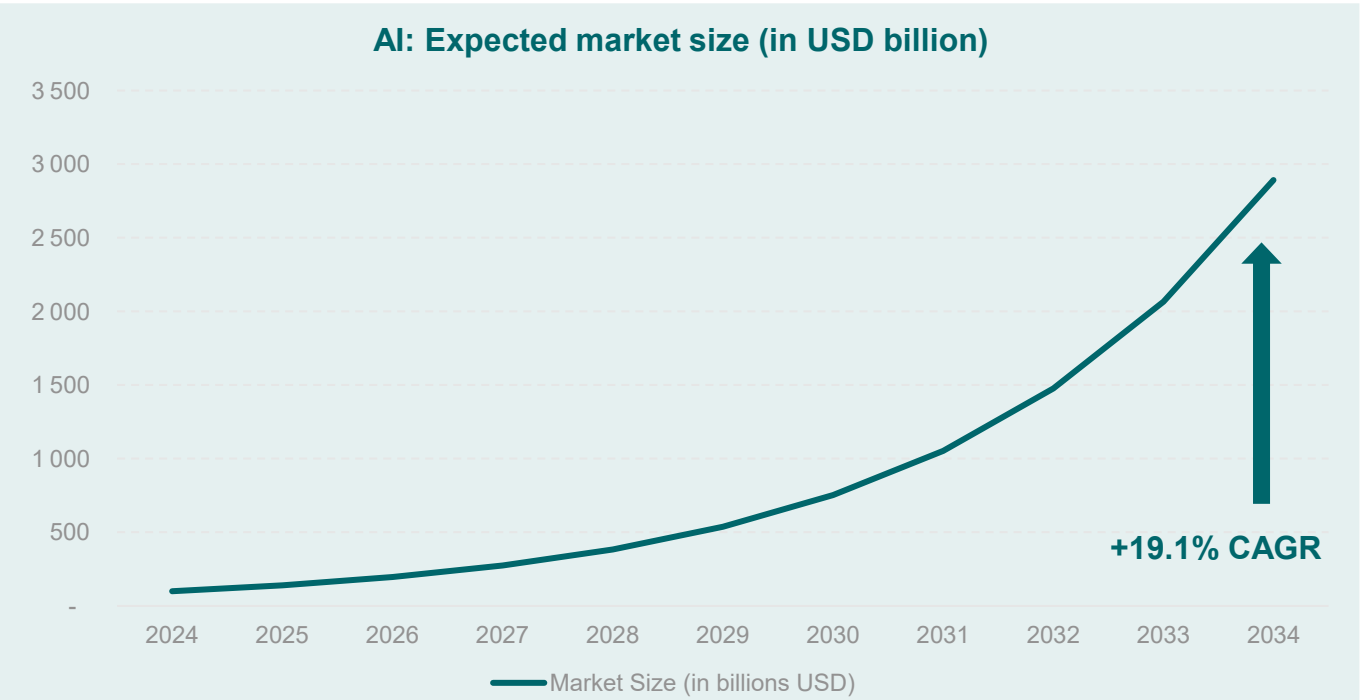

AI: Expected market size (in USD billion)

+19.1% CAGR

Market Size (in billions USD)

Figure 1: Expected market size until 2034 | Source: https://www.precedenceresearch.com; CAGR = Compound Annual Growth Rate

ENABLERS: THE FOUNDATION OF THE AI ECOSYSTEM

The AI revolution is powered by a complex infrastructure of enabling technologies. These enablers form the backbone of AI development and deployment, providing the computational power, storage capacity, and software frameworks required to train and operate advanced models.

- **Semiconductors:** High-performance chips are essential for training and running AI models. Companies like Nvidia and AMD are at the forefront of this space, as their chips are increasingly specialised for AI workloads, enabling faster processing and lower energy consumption.

- **Cloud Computing:** Cloud platforms such as AWS, Microsoft Azure, and Google Cloud provide the scalable infrastructure needed to support AI applications. We believe the demand for flexible, on-demand computing power could help drive growth in the cloud computing market.

- **Data Centres:** Hyperscale data centres are expanding rapidly to meet AI's growing data and processing needs. Companies like Equinix and Digital Realty are building the physical infrastructure, while Intel and Micron supply critical components such as processors and memory. Supporting systems—like those from Vertiv and Schneider Electric—ensure operational efficiency and cooling.

- **Cybersecurity:** As AI systems become more integral to business operations, securing them is paramount. Firms like Palo Alto Networks, CrowdStrike, and Fortinet are developing AI-enhanced security solutions to protect data and infrastructure.

- **AI Software Platforms:** Frameworks like TensorFlow (Google) and PyTorch (Meta) are essential tools for building and deploying AI models. These platforms are widely adopted across industries, enabling rapid experimentation and innovation.

> **"AI is one of the most important things that humanity is working on."**
>
> Sundar Pichai, Alphabet CEO
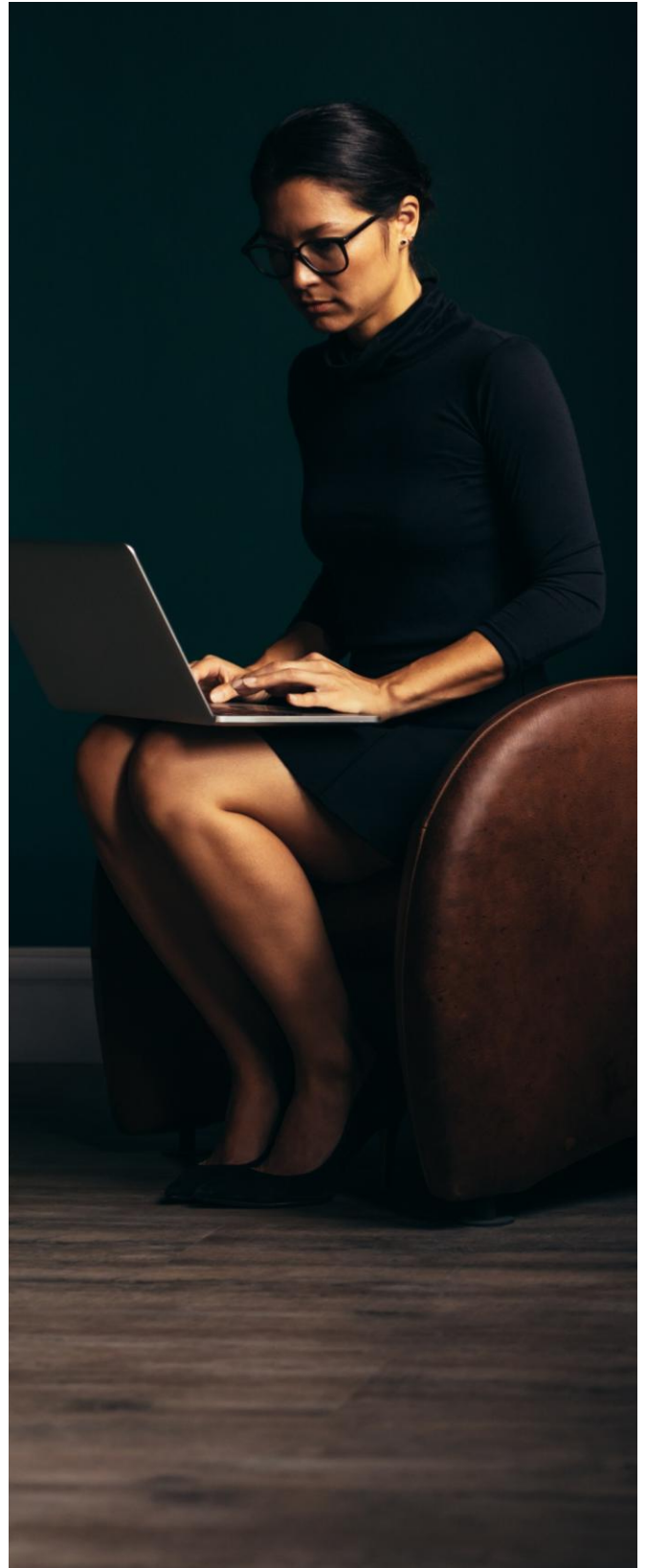
AI BENEFICIARIES: TRANSFORMING INDUSTRY DYNAMICS

While enablers build the infrastructure, beneficiaries are the companies and sectors that apply AI to enhance their products, services, and operations. These firms are leveraging AI to unlock new revenue streams, improve customer experiences, and gain strategic advantages.

- **Technology & Software:** Tech giants like Google, Microsoft, Amazon, and Apple are embedding AI into everything from search engines and cloud services to voice assistants and productivity tools.

- **Healthcare & Biotech:** AI is revolutionising diagnostics, drug discovery, and personalised medicine. Companies such as IBM Watson Health, Siemens Healthineers, and Philips are leading the charge.

- **Automotive & Transport:** AI enables autonomous driving, real-time navigation, and predictive maintenance, with Tesla, Waymo, and General Motors all integrating AI into vehicle systems.

- **Finance & Banking:** From fraud detection to algorithmic trading, AI is reshaping financial services. Institutions like JPMorgan Chase and Goldman Sachs are deploying AI to enhance decision-making and customer engagement.

- **Retail & E-Commerce:** AI powers personalised recommendations, dynamic pricing, and inventory optimisation. Amazon, Walmart, and Alibaba are leveraging AI to improve efficiency and customer satisfaction.

- **Manufacturing:** AI-driven automation and predictive analytics are improving productivity and reducing downtime. Siemens, GE, and Bosch are integrating AI into smart factories.

- **Energy & Utilities:** AI is optimising energy consumption, grid management, and renewable integration. Companies like NextEra Energy and Enel are leading this transformation.

- **Media & Entertainment:** AI is transforming content creation, recommendation engines, and audience analytics. Netflix, Disney, and Sony are using AI to personalise experiences and streamline production.

Companies that fail to adopt AI effectively will likely experience slower growth rates and may struggle to remain competitive. For instance, the technology and software sector is expected to grow at a CAGR of 18.4% with AI, compared to only 15% without AI. Similarly, the healthcare sector could see a growth rate of 21.3% with AI, versus 12.0% without it. Industries such as automotive, finance, retail, manufacturing, energy, and media show similar trends.

There's little doubt that the AI market should grow rapidly. Forecasts vary but PwC research shows global GDP could be up to 14% higher in 2030 as a result of AI – the equivalent of an additional $15.7 trillion – making it the biggest commercial opportunity in today's fast changing economy. This shows AI's huge potential to transform many sectors and create substantial economic value.

AMAZON'S AI-DRIVEN PERSONALISATION

One of the most compelling examples of AI's commercial impact is Amazon's recommendation engine. By analysing customer behaviour, purchase history, and browsing patterns, Amazon's AI system delivers highly personalised product suggestions. This not only enhances user experience but also drives significant revenue growth.

According to McKinsey, AI-driven personalisation can increase revenue by 10–30%, making it a critical differentiator in the competitive e-commerce landscape. Amazon's success illustrates how AI can be embedded into core business functions to deliver measurable performance gains.

AI AND THE ECONOMIC BACKDROP

The macroeconomic environment plays a pivotal role in shaping the trajectory of AI investment and adoption. At the same time, AI itself is becoming a structural force influencing economic dynamics.

- **Economic Growth:** Robust economic growth supports corporate profitability and capital expenditure, creating fertile ground for AI investment. The ongoing AI investment cycle is not only a beneficiary of growth but also a contributor to it, as AI-driven productivity gains feed back into broader economic performance.

- **Inflation and Interest Rates:** Historically low interest rates have facilitated investment in AI infrastructure and R&D. While early AI development phases may have had inflationary effects due to high demand for compute and talent, increased competition and technological maturity are now contributing to a deflationary trend in AI deployment costs.

- **Government Policy:** Public policy is a key enabler of AI innovation. Tax incentives for R&D, direct investment in AI infrastructure, and national AI strategies are accelerating development. Countries that prioritise AI in their industrial policy are likely to gain a competitive edge in the global digital economy.

- **Global Trade and Supply Chains:** AI's reliance on semiconductors and advanced hardware makes it sensitive to global trade dynamics. Export controls, tariffs, and geopolitical tensions, particularly between the US and China, can disrupt supply chains and increase costs, underscoring the strategic importance of domestic capabilities.

- **Labour Market Dynamics:** AI is reshaping the labour market by automating routine tasks while creating demand for new roles in data science, machine learning, and AI ethics. This shift presents both opportunities and challenges, requiring reskilling initiatives and thoughtful regulation to ensure inclusive growth.
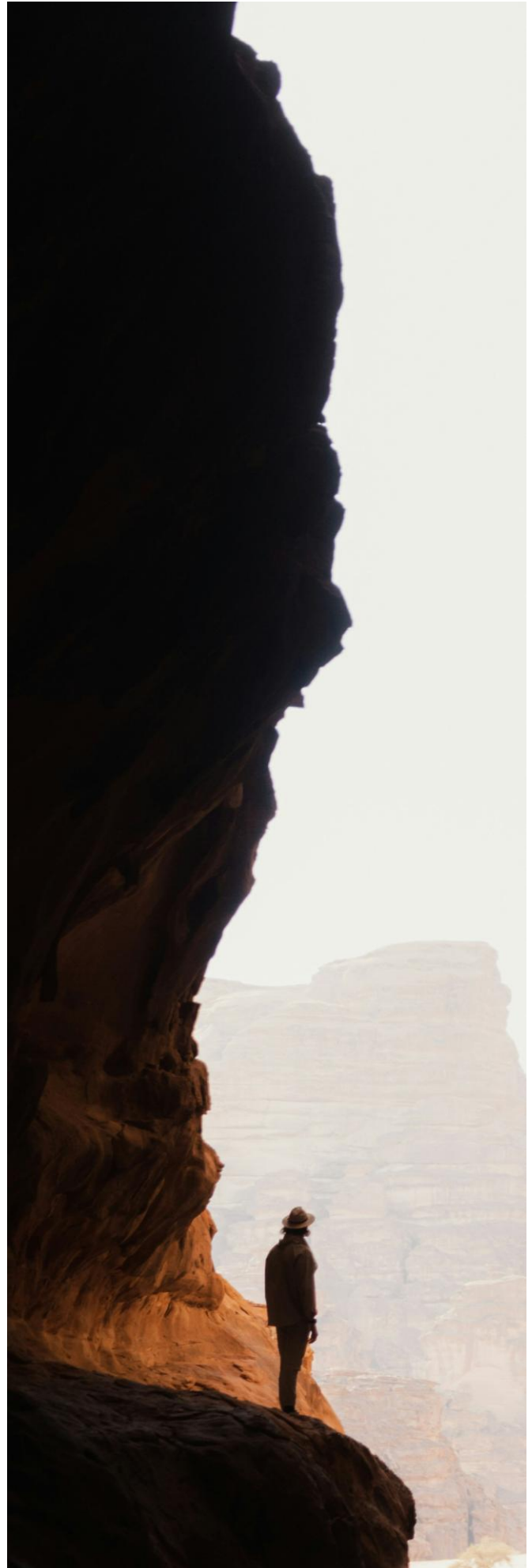
THE CHALLENGES TO AI ADOPTION

Despite its transformative potential, AI faces a number of critical challenges that must be addressed to ensure responsible and sustainable deployment:

- **Data Privacy and Security:** As AI systems process vast amounts of sensitive data, ensuring robust privacy protections and cybersecurity is essential. Breaches or misuse can erode public trust and invite regulatory scrutiny.

- **Bias and Fairness:** AI models can inadvertently learn and perpetuate biases present in their training data, leading to unfair or discriminatory outcomes. Addressing these issues requires diverse datasets, transparent methodologies, and ongoing monitoring.

- **Transparency and Explainability:** Many AI systems operate as "black boxes," making it difficult to understand how decisions are made. Improving explainability is crucial for accountability, especially in high-stakes domains like healthcare, finance, and criminal justice.

- **Ethical and Societal Impacts:** Concerns around job displacement, surveillance, and the concentration of power in AI development raise important ethical questions. Policymakers, businesses, and civil society must collaborate to ensure AI serves the broader public interest.

- **Regulatory and Legal Complexity:** The regulatory landscape for AI is still evolving. Companies must navigate a patchwork of national and international rules, which can create uncertainty and compliance burdens.

- **Integration with Legacy Systems:** Many organisations face technical and operational challenges when integrating AI into existing IT infrastructure. Legacy systems may lack the flexibility or data architecture needed to support AI effectively.

- **Talent Shortages:** The demand for AI expertise continues to outpace supply. A shortage of skilled professionals in areas such as machine learning, data engineering, and AI ethics is a bottleneck for many firms.

Despite these challenges, the long-term potential of AI remains compelling. Addressing these barriers will be essential to unlocking its full economic and societal value.
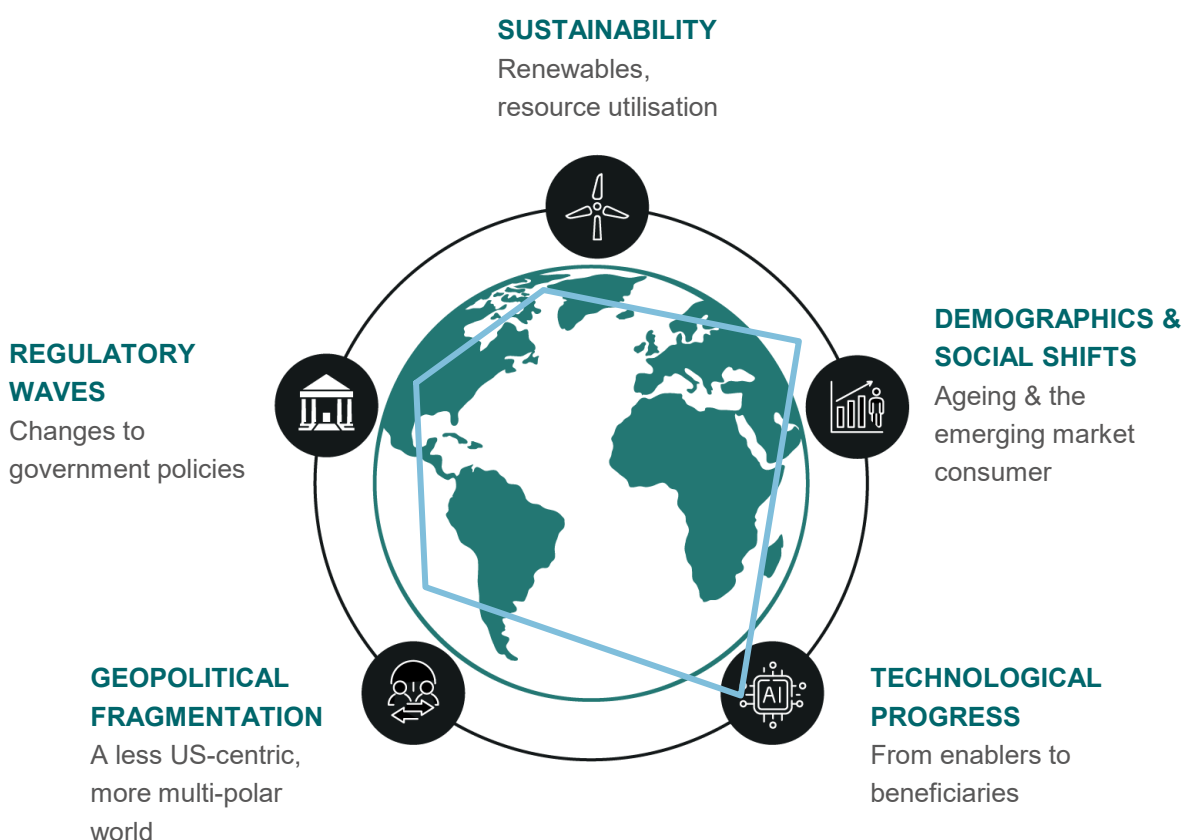
WHY IS AI IN OUR THEMATIC MODEL PORTFOLIO?

AI is a powerful driver of several secular trends shaping the future of investing. Its influence spans technology, geopolitics, society, regulation, and sustainability, making it a core pillar of thematic portfolios.

- **Technological Progress:** AI is accelerating innovation across various sectors, including automation and robotics, cloud computing, and IoT ("Internet of Things"). Falling costs and growing data availability are enabling real-time decision-making and driving demand for new chip and server technologies.

- **Geopolitical Fragmentation:** The global AI race, especially between the US and China, is reshaping trade policy, national security, and investment flows. AI's strategic importance is prompting governments to invest in domestic capabilities and tighten export controls.

- **Demographic & Social Shifts:** AI is transforming the labour market by automating tasks and creating demand for new skills. It's expected to support over 100 million jobs by 2025, while also reshaping how people work, learn, and interact.

- **Regulatory Waves:** As AI adoption grows, so does the need for governance. Emerging regulations, such as the EU AI Act, are establishing new standards for transparency, safety, and ethical use, thereby influencing how companies innovate and compete.

- **Sustainability:** AI is helping companies reduce emissions, optimise energy use, and support climate modelling. Its role in enabling smarter, greener operations is becoming increasingly important in ESG-focused investment strategies.

Relationship of AI to long-term trends

SUSTAINABILITY
Renewables, resource utilisation

DEMOGRAPHICS & SOCIAL SHIFTS
Ageing & the emerging market consumer

TECHNOLOGICAL PROGRESS
From enablers to beneficiaries

GEOPOLITICAL FRAGMENTATION
A less US-centric, more multi-polar world

REGULATORY WAVES
Changes to government policies

UNLOCKING THE FUTURE: INVEST IN THE AI REVOLUTION

AI is the engine of the Fourth Industrial Revolution: a convergence of digital, physical, and biological systems that is reshaping the global economy. Its influence extends far beyond the tech sector, touching every industry and redefining how businesses operate and compete.

Studies suggest that generative AI alone could add 1.5 percentage points to annual productivity growth and contribute up to 7% to global GDP. Companies that embrace AI are already seeing gains in efficiency, innovation, and market share.

However, the opportunity is not limited to technology firms. Non-tech sectors, from healthcare and manufacturing to energy and finance, are increasingly leveraging AI to enhance existing offerings and create new value propositions. Investors often underestimate the scale of these opportunities.

Conversely, companies that fail to adapt risk obsolescence. The story of Kodak, which missed the digital photography wave, serves as a cautionary tale. In today's context, ignoring AI could lead to similar outcomes.

FIRST INDUSTRIAL REVOLUTION	SECOND INDUSTRIAL REVOLUTION	THIRD INDUSTRIAL REVOLUTION	FOURTH INDUSTRIAL REVOLUTION
Waterpower, textiles, mechanical production equipment, steam power, rail, steel, etc.	Vehicles & airplanes, electricity, radio, telephone, division of labour, mass production, semiconductors, etc.	Internet, IT, electronics, software, e-commerce, automated production, globalisation, digitalisation, etc.	AI, robotics, health tech, E.V., clean energy, blockchain, space tech, consumer experience, etc.
1780	1870	1969	NOW

Figure 2: Sectoral shifts through the Industrial Revolutions | Source: World Economic Forum
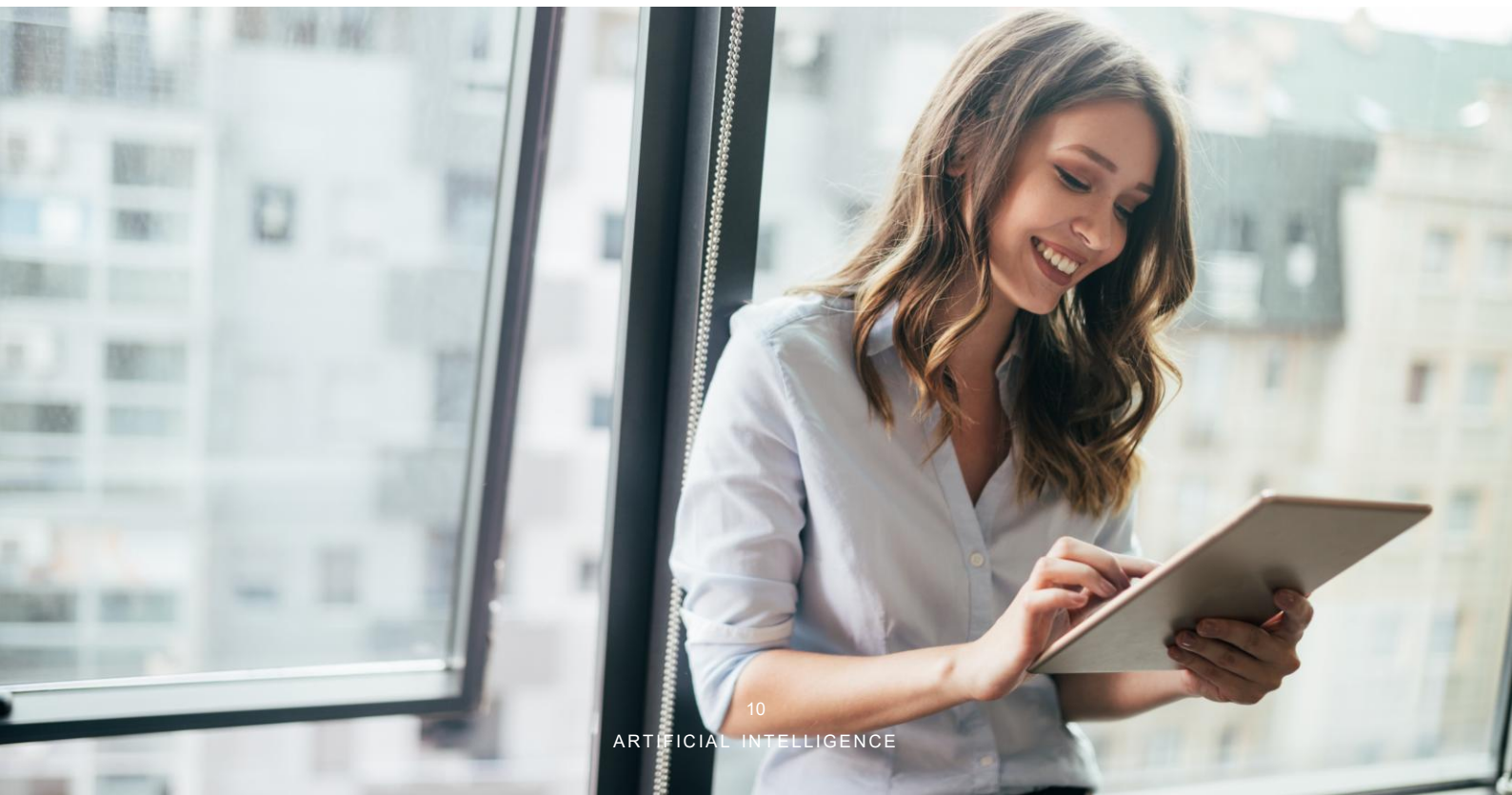
HOW TO INVEST IN THE AI THEME?

We've selected several specialised investment solutions designed to harness the potential of AI. These solutions provide investors with exposure to companies that are at the forefront of AI and robotics innovation.

These investment solutions are designed to provide investors with diversified exposure to the AI sector, allowing them to capitalise on the transformative potential of AI technologies. By leveraging these funds and ETFs, We aim to offer investors opportunities to achieve significant returns while participating in the growth of AI-driven innovations. Ask your local advisor to learn about those solutions.

CONCLUSION: POSITIONING FOR THE AI-DRIVEN FUTURE

Artificial Intelligence is not just a technological trend; it is a structural force reshaping the global economy. Its ability to drive productivity, unlock innovation, and transform industries positions it as a cornerstone of long-term investment strategies.

While challenges such as data privacy, bias, and regulatory complexity remain, the pace of AI advancement and adoption continues to accelerate. Companies that embrace AI are already gaining a competitive edge, while those that lag risk being left behind.

For investors, the opportunity lies in capturing value across the AI ecosystem, from foundational enablers to sector-specific beneficiaries. By diversifying across these layers, investors can participate in the growth of AI while managing associated risks.

We leverage dedicated thematic investment solutions to capitalise on the growth of AI at every step of this technological revolution. We believe these solutions can enhance the performance of your portfolio, allowing you to benefit from the AI revolution.
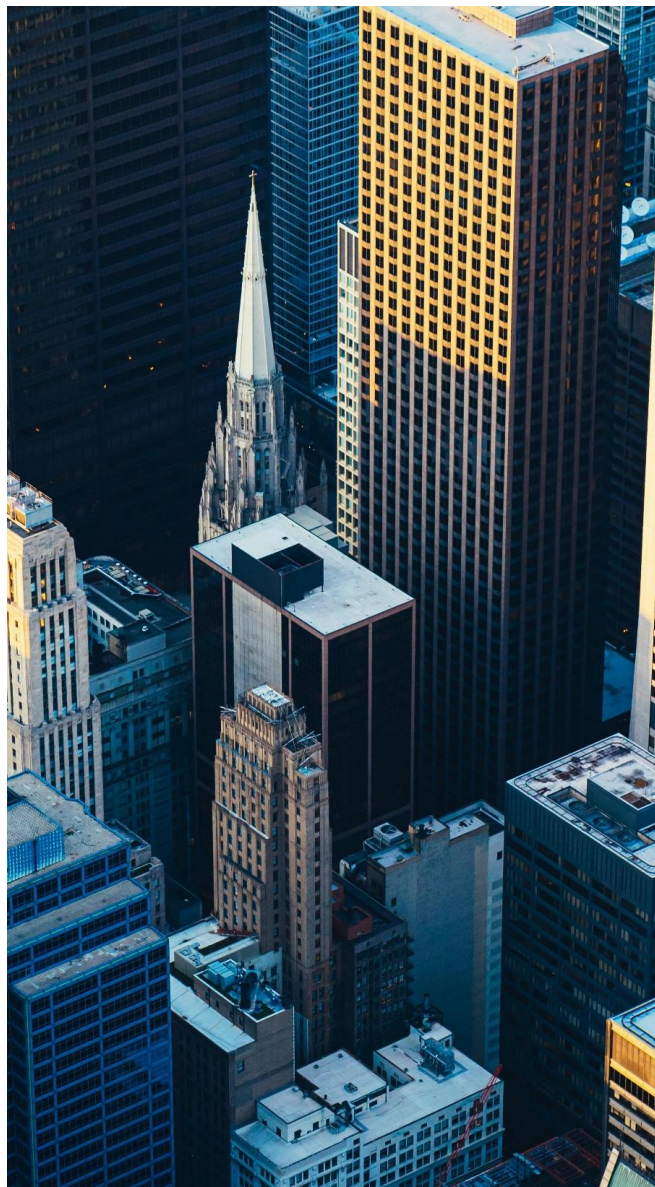
CONTRIBUTORS

ALEXANDRA SPASOV

FUNDS SOLUTION ANALYST & THEMATIC RESEARCH

NICOLAS SOPEL

HEAD OF MACRO RESEARCH

Methodology

The thematic investment process offers a comprehensive and dynamic approach by combining both strategic and tactical elements to capture long-term and short-term opportunities.

Firstly, quantitative analysis is conducted to identify which themes have historically added the most alpha beyond systematic drivers of return. This is followed by qualitative analysis, where forward-looking views for each theme are created, supported by BlackRock group of thematic research.

Next, a strategic portfolio is built through optimization. To ensure the portfolio remains relevant, short-term signals such as momentum, sentiment, analyst revisions, and valuations are constantly monitored, allowing for tactical tilts.

Finally, the portfolio is dynamically rebalanced to exploit tactical opportunities while capturing the long-term equity premium from strategic positions.

This process ensures a more comprehensive and dynamic investment approach, balancing strategic and tactical considerations.
If you need any further information, feel free to reach out to your local advisor.

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