The Age of Artificial Intelligence

The past few months have seen a rise in artificial intelligence (AI) news and interest, positively impacting global markets. There are plenty of concerned voices for AI and, on the other side, plenty of those that see the incredible potential, and are more optimistic about the risks.

AI is steering in a new era of global innovation. From powering human ingenuity to counter the spread of infectious diseases, to building smart cities and revolutionizing analytics for all industries.

AI technology offers disruptive and highly transformational capabilities, with more organisations racing to understand how they can integrate AI into their business processes, such that they are not left behind.

So, what are the ethical impacts of AI on investments?

In this article we look at how many of our investment holding companies and managed investments are using AI to solve some of the complexities and sustainable pressures we are facing now and into the future. In most cases, this is about technologies – tools, skills, know-how – and technical solutions. AI is one of these tools.

1. **Energy Efficiency**: AI can optimize energy consumption and reduce waste in various sectors. Smart grids powered by AI algorithms can balance energy supply and demand, enabling efficient distribution and reducing overall energy consumption. AI can also optimize the energy usage of buildings, industrial processes, and transportation systems, leading to significant energy savings.

2. **Environmental Monitoring**: AI can enhance environmental monitoring and conservation efforts. By analysing satellite imagery, sensor data, and other sources, AI can track deforestation, monitor biodiversity, detect illegal activities like poaching, and identify areas at risk of natural disasters. This data-driven approach enables better decision-making for conservation and environmental protection.

3. **Precision Agriculture**: AI can optimize agricultural practices to reduce waste, increase productivity, and minimize environmental impact. By analysing data on soil conditions, weather patterns, and crop health, AI can provide farmers with insights on optimal planting times, fertilizer usage, irrigation, and pest management. This precision agriculture approach reduces resource usage and improves crop yields.

4. **Waste Management**: AI can improve waste management processes by optimizing recycling and waste sorting systems. AI-powered robots can identify and sort recyclable materials from waste streams more efficiently, reducing contamination and promoting recycling. AI can also analyze data to optimize waste collection routes, reducing fuel consumption and emissions.

Other examples include, companies using AI to predict infrastructure damage risks, to help minimise transportation accidents and combining AI with spatial data to track and control fish stocks and reduce methane emissions.

Within the healthcare sector- doctors and researchers use AI to comprehensively and efficiently analyse datasets to classify a myriad of diseases and reduce mistakes.

Within the financial services sector - with the ability to ingest tidal volumes of data and search instantly for anomalies, AI solutions can flag suspect behaviours and patterns and trigger specific actions.

Security analysts can use AI to scale their impact with full visibility into data centre traffic so that threats can be detected in real-time. Research suggests, information security spending is expected to reach $187 billion in 2023 as companies invest in AI-augmented security tools to counter evolving cyberattack techniques.

These are just a few examples of how AI can contribute to sustainability efforts. By leveraging its data analysis capabilities, predictive power, and optimization algorithms, AI has the potential to drive positive environmental impact and support sustainable practices across various sectors.

Unfortunately, AI also has its challenges and ethical concerns. We look at some of these challenges below:

1. **Data bias:** Bad data can come from various sources and contain racial, gender, or other biases. Developers and data scientists must take extra precautions to prevent biases in AI data.

2. **Privacy and Surveillance**: AI technologies often require access to vast amounts of personal data. This raises concerns about the protection of privacy and the potential for surveillance.

3. **Transparency and Explain ability**: Many AI models, such as deep neural networks, operate as black boxes, making it challenging to understand how they arrive at their decisions. Lack of transparency and explain ability can hinder accountability, limit trust, and prevent individuals from understanding and challenging AI-driven outcomes.

4. **Accountability and Liability**: Determining responsibility and accountability when AI systems make errors or cause harm is a complex issue.

5. **Impact on Social Dynamics**: AI can influence human behaviour and social dynamics through personalized recommendations, social media algorithms, and manipulation of information.

Addressing these ethical concerns requires interdisciplinary collaboration among technologists, policymakers, ethicists, and the broader society to ensure the responsible development, deployment, and regulation of AI technologies. There are many complexities and ethical implications of this technology. The impact of AI on sustainability will become clearer over time.