

The unseen players in the AI revolution

Gerhard Janse van Vuuren, Flagship Asset Management investment analyst

The AI trade is up and running again, with the latest bout of interest spurred by Micron's upbeat sales and profit estimates stealing the spotlight from Nvidia. Micron plays a vital role in the AI industry because it provides the high-bandwidth memory that helps train AI systems.

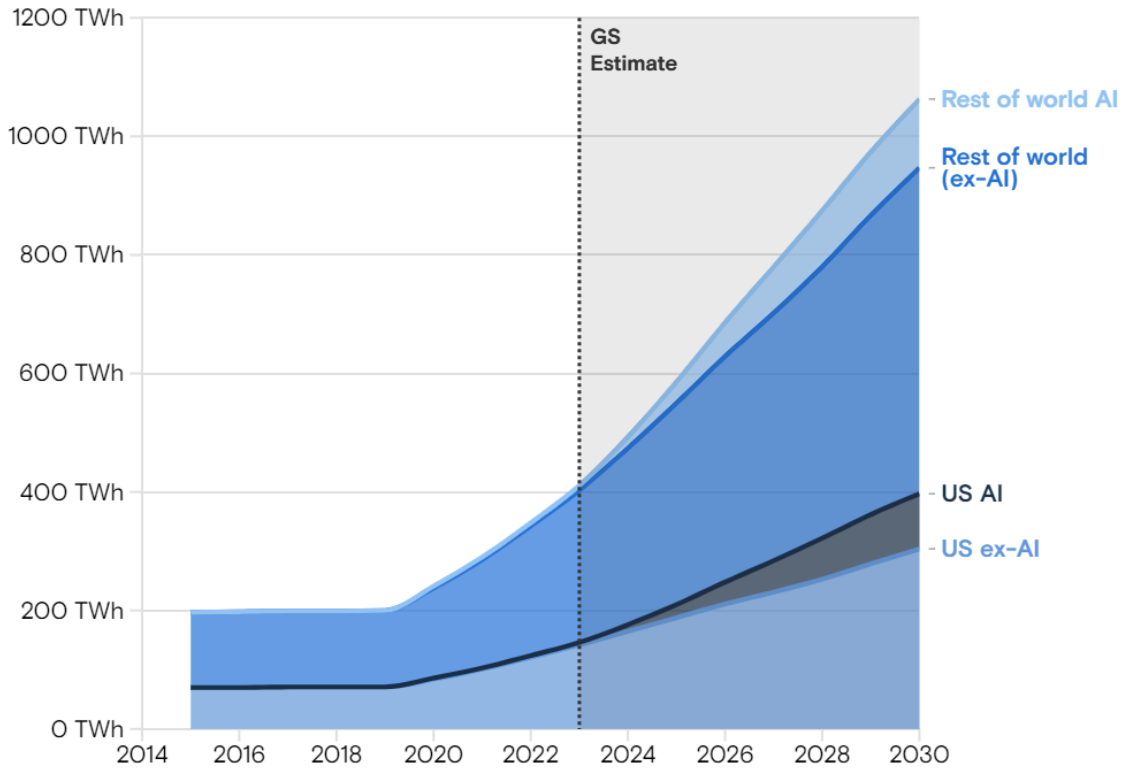
This year's AI trade has had all the elements of a gold rush. A FactSet search for earnings calls that mentioned "AI" found that 199 of the 500 companies in the S&P500 mentioned it in their most recent results. Of these, 12 companies, including Meta, Nvidia and Microsoft, mentioned it at least 50 times. Technology companies are leading the pack, with 91% mentioning AI.

As with any gold rush, confidence about whether the immense amounts invested are justified has waxed and waned. However, there have been other, less obvious, beneficiaries of AI, which are evident in the logistics, healthcare, and cybersecurity industries. These companies, which have been using more basic versions of AI for years, have chosen to sell the metaphorical shovels needed to build the AI industry.

Amid the world's transition to renewables, data centres used to train AI models are turning small towns, where they are often located, into power-hungry beasts. An example of companies that stand to benefit indirectly from the AI craze are the ones providing power to these centres, the data centre owners themselves, and the providers of data storage solutions.

It is estimated that humans have created 9x more data in the last two years than in the entire history before that. It is estimated that 30 trillion gigabytes of data will be created between 2024 and 2025. Only 2 trillion gigabytes of storage capacity will be manufactured during that time. According to Goldman Sachs, the demand for data centre power will grow by 160% by 2030. Data centres consume 1-2% of global power, but this percentage will likely double to 3-4% by the end of the decade.

Data center power demand



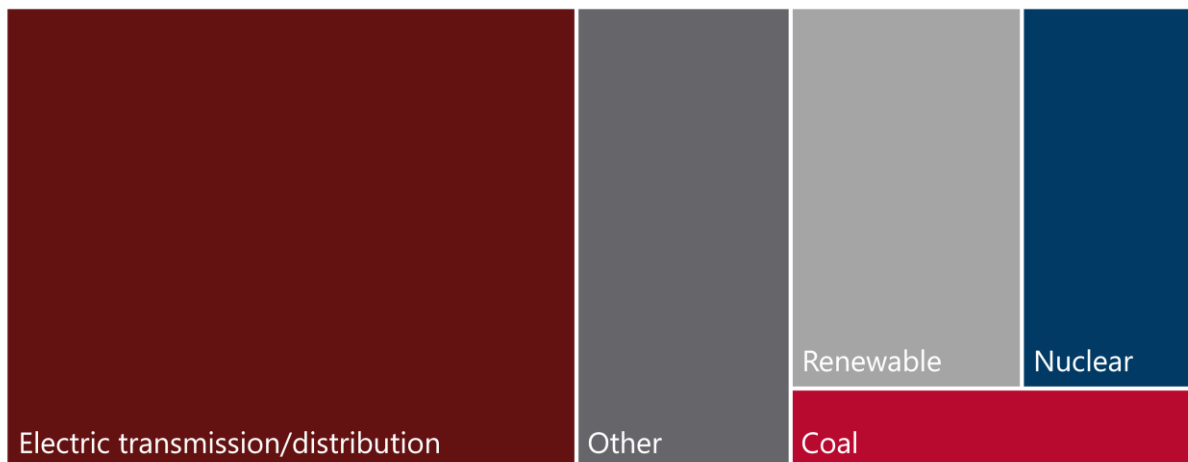
Source: Masanet et al. (2020), Cisco, IEA, Goldman Sachs Research



Power generation

Dominion Energy is one example of a company well-placed to benefit from AI and the effect of increased computing demand on power grids in general. Dominion utilises a wide range of energy sources to produce power, with renewables making up a bigger portion than coal and others.

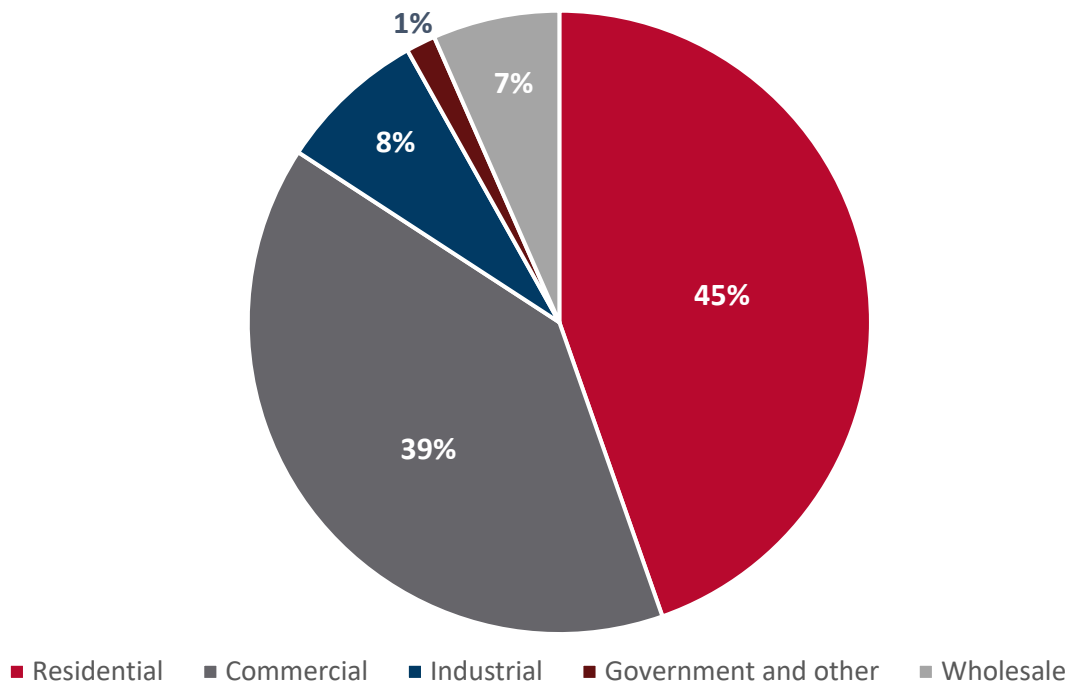
Dominion's energy sources, 2023



Source: Dominion Energy Financials, Flagship Asset Management

While it is set to benefit from increased power consumption, it should also be a bit more insulated if the AI merry-go-round slows down, given that it services five distinct groups of customers, including more than 3 million households. It also has operations conveniently located near Ashburn, Virginia, an area dubbed as "Data Center Alley." The company is also starting to tilt increasingly towards renewable energy sources, which helps to future-proof the business model. Their asset portfolio includes 25 000+ megawatts of electricity, 9 700km of transmission lines and 87 000 km of distribution lines. Of this impressive asset base, data centres make up 18.7% of the group's net income.

Dominion's Revenue split by end market, 2023



Source: Dominion Energy Financials, Flagship Asset Management

Data storage

With the massive amount of data generated, storage will play a significant role in transitioning to this information-hungry world. Regarding storage, there are three main factors to consider: 1) cost, 2) power usage and 3) storage capacity.

Data centre storage capacity is expected to grow at 18.5% p.a. over the next five years. This is driven by a new need for data related to AI and the pace of "on-premises" data shifting to the "cloud."

It is vital to have a basic grasp of the different types of storage to identify potential beneficiaries of this trend. Almost all (90%) of the data centre industry uses HDD (hard disk drives) over SSD (solid-state drives), with the latter being faster and more power efficient. The drawback of SSDs is that their Total Cost of Ownership (TCO) is currently 6x that of HDDs, which you will find in modern PCs. Over the next decade, HDD capacity is expected to offset any decline in SSD costs. The result is that the TCO of an HDD will still be around 1/6th that of an SSD drive. This is mainly a function of the high cost of producing an SSD.

Seagate Technology will be a beneficiary of this outlook. The company manufactures storage products across multiple categories, such as personal, gaming, video, and cloud storage. Seagate addresses all three of the previously mentioned factors simultaneously. Its products are in multiple price categories, its products are optimized in terms of power usage, and it is continually improving how much data it can fit into the same product size as before.

Pharmaceutical industry

The pharmaceutical industry will be another beneficiary of the progress being made in AI. These companies will be able to use AI in several ways, including drug discovery, predicting the properties of a drug and the efficacy and toxicity. Eli Lilly and Novo Nordisk have both recently announced their intentions to use AI for these purposes. In June, Eli Lilly announced a partnership with OpenAI to leverage their expertise to develop novel antimicrobials that can help treat drug-resistant pathogens. The company also revealed that it will partner with RNA specialist Genetic Leap to further its AI-enabled drug discovery ambitions in a deal worth up to \$409 million in upfront and objective-based payments.

In May this year, Novo Nordisk announced it would be investing \$200 million in quantum computing startups. Novo Nordisk has also revealed the results of its partnership with Microsoft in assessing cardiovascular disease risks (such as a heart attack), leading to an 8% increased accuracy compared to the best clinical standards. Scientists believe one of the biggest advantages of AI will be to help increase the speed with which cures can be found and developed. In some cases, an AI model might be able to develop its hypothesis, test it, analyse the results, and then run an improved experiment.

As AI continues to reshape the world, its impact extends far beyond the tech sector. Industries once considered peripheral to the AI conversation are now reaping significant benefits. By embracing the innovative capabilities of AI, these industries are transforming their processes, enhancing productivity, and unlocking new avenues for growth. The AI revolution is just as much about the unseen players as it is about the tech giants, making it a pivotal force across the globe.