KEYNOTE INTERVIEW

The edge in AI investing is operational know-how

The rise of AI is driving an unprecedented build-out of data, compute and energy infrastructure. Private investors with deep operational expertise are uniquely positioned to generate long-term value from this mega-trend, says Brookfield's Stewart Upson

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Q Is the AI revolution overhyped, or are we just beginning to uncover the technology's full potential?

Artificial intelligence is poised to become the most impactful general-purpose technology in history, with AI-led automation adding as much as $10 trillion to global GDP over the next decade. This can only be accomplished if it's accompanied by a build-out of the necessary capital-intensive infrastructure to support AI adoption. And we estimate total spending on AI-related infrastructure will exceed $7 trillion in the next decade, across data centres, power and transmission, compute, and strategic adjacencies such as robotics.

We are focused on the picks and shovels end of the AI value chain – the power and data centres that facilitate all the exciting developments taking place today. It is almost impossible to build too much of that infrastructure, because the demand is so vast.

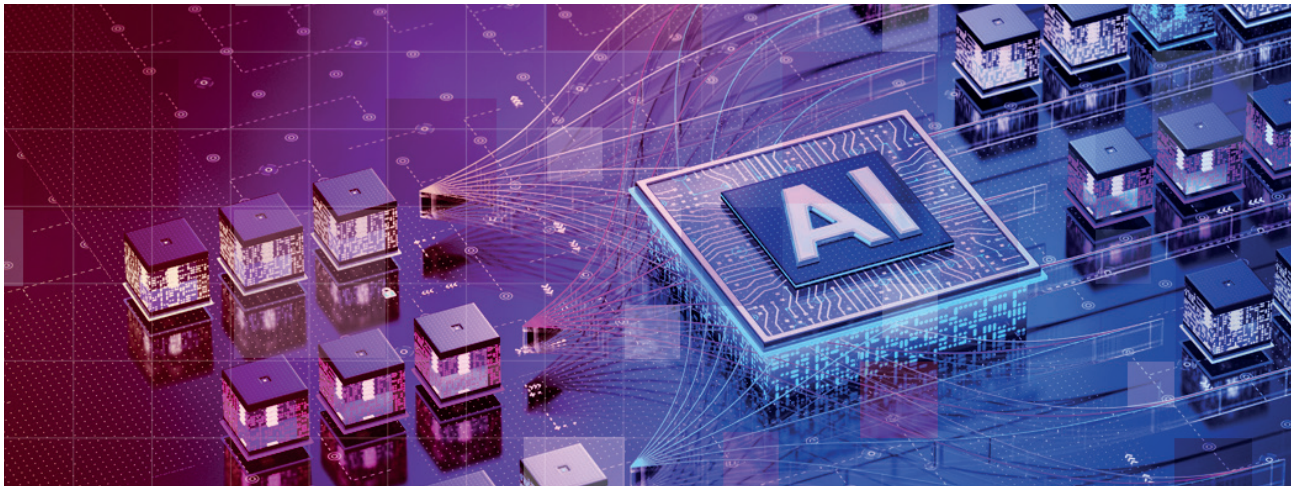
At the same time, at the product end of the AI spectrum, there will undoubtedly be new trillion-dollar companies created, and some will be overhyped. We see that with every new technology. So, I think both of those statements can simultaneously be true – the demand is real and huge, but bubbles are inevitable.

Q Where do you see the most compelling AI investment opportunities emerging over the next five to 10 years?

AI requires three things – power, data centres and compute. Each will provide compelling investment opportunities. For us, the key is ensuring we have long-term contracts in place with high-quality counterparties. That is where we feel we can generate the best risk-adjusted returns.

Q Where will the biggest AI bottlenecks occur in the next five to 10 years, and how can they be overcome?

Power is undoubtedly the biggest bottleneck in terms of both generation and transmission. Decarbonisation was already a multi-decade, multi-trillion-dollar investment theme. That's not gone away. Layering on the compute required by AI, together with the broader electrification of the economy and the onshoring of manufacturing, means that electricity demands in developed countries are increasing for the first time in decades. This is making the original task of reaching net zero by 2050 that much harder.



Providers that can both build the AI assets and deliver clean energy to them – in essence a one-stop shop – will have a competitive advantage. In just the past two years, Brookfield has agreed to deliver 10.5GW of renewable energy to Microsoft and 3GW of hydroelectric power to Google.

As a result, there is a growing recognition that, in addition to building a lot more renewable generation, we also will need more natural gas for firming, as well as more nuclear for baseload power in countries that support that technology. Where possible, that will be built behind the meter. Small modular reactor nuclear plants, for example, can be built co-located with data centres.

However, a 1GW data centre, which is the gold standard target of the big AI companies, would take the entire land mass of Central Park. If you were to also build a co-located renewable plant plus batteries to power that 1GW data centre, it would take up all of Manhattan.

That is clearly not going to happen, and so this is where transmission comes in. We will need to build power generation assets in locations that have the space and the right natural resources and then build transmission networks to get that power to where it needs to be.

Q How important are strategic partnerships between investors, companies and governments in gaining a competitive edge in the AI arms race?

Partnerships are important in this space, simply because it is moving so fast. Companies and countries want to get their AI infrastructure in place as quickly as possible, so partnerships are a great way forward.

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We have forged partnerships with some of the largest tech companies in the world, and we also have arrangements with several governments based on the concept of sovereign AI. That enables governments to get AI compute for their countries without having to wait for the big hyper-scalers to deliver it.

Q What regional trends are you observing in AI development and investment?

AI is at or near the top of the priority list for every government in the developed world. They recognise the strategic importance of AI, together with the value and efficiency it will bring to their economies. So, it is imperative that they establish domestic AI compute as soon as possible. We are having those conversations with governments around the world, although we are most progressed in parts of Europe.

Q Given the scale and duration of AI infrastructure investment, how do you approach exit risk and liquidity?

Exits are essential in private equity. You need to generate a return on capital for your investors. The issue with AI infrastructure is that it's being rolled out at a scale and speed never seen before. Fast forward 10 years, and that means there will be a huge number of assets that need to find a new home.

As a result, Brookfield is creating stabilised portfolios of assets – primarily data centres – and then selling a

proportion of those portfolios to clients looking for the kinds of stable, long-term cash flows that those assets generate. We continue to manage those assets on their behalf. As an industry, we will need to see more of that type of activity, although ultimately, we will also need capital markets to play an ownership role, much as we have seen in real estate.

Q How are you approaching or implementing AI in your portfolio companies more broadly?

AI is evolving at a remarkable speed. With that in mind, we aim to be proactive without being experimental. In other words, we prefer to be buyers rather than builders of AI products.

As a firm, we have established an AI value creation office, made up of representatives from each of our business groups – private equity, real estate, renewables and infrastructure – and people from our corporate and IT departments. More than 800 use cases have already come through that office. And these ideas allow us to share lessons learned across our portfolio companies to implement AI-based operational improvements.

Q What tangible benefits have you seen as a result?

We are implementing AI at the portfolio-company level to automate aspects of reporting as well as numerous HR and finance processes. In call centres, voice large language models are creating huge efficiencies as well.

"The next horizon will be what we call embodied AI, or AI-powered robotics"

Our industrial companies, in particular, offer enormous opportunities to tap into our operational know-how to implement AI solutions that enhance productivity and profitability. A great example is Clarios, the global leader in manufacturing low-voltage batteries. Clarios is developing a platform with sensor and data communication hubs installed on its clients' trucks and batteries. The platform is already helping these operators reduce idling time, fuel consumption and vehicle wear and tear, with the potential to monitor battery health remotely in the future.

Along with the robotics, automated manufacturing and deglobalisation trends, AI is contributing to the global reindustrialisation – what some are calling the 'fourth industrial revolution'. Integrating AI into these companies' workflows requires more than a plug-and-play exercise, and it fits well with our owner-operator approach.

Q What are some of the challenges that portfolio companies face when implementing AI solutions and how can these best be overcome?

AI is a technology tool like any other, and we approach implementation like any IT project. However, IT projects can sometimes go wrong. Therefore, the key is to make sure companies are only pursuing AI solutions that make sense from a business perspective, rather than developing cutting-edge tools for the sake of it.

We work with management teams, conducting top-to-bottom reviews of their operations to help them discern what is and isn't prudent and productive. It's critical for us to collaborate with CEOs and their department heads to drive transformation.

Q What impact will rapidly developing technologies such as AI robotics have on your portfolio companies and the wider economy?

Robotics is the next stage of the AI revolution. First, we had LLM AI. Now we have agentic AI, which is the software automation stage of AI. The next horizon will be what we call embodied AI, or AI-powered robotics.

Robotics has existed in high-quality manufacturing for a long time, but that has been based around automation rather than artificial intelligence. Now, we are in the early stages of making AI-powered robotics a reality.

We recently invested in a company called Figure AI, which we believe has all the requisite building blocks in place to bring embodied AI into existence. The biggest gap that Figure AI faces at the moment is a lack of data, and that is what Brookfield is bringing to the partnership. We are helping the company collect the data it needs at Brookfield-owned properties to make this happen.

It isn't yet clear how long it will take, but I believe that at some point embodied AI will replicate some aspects of manual labour. That will have numerous benefits, including fulfilling jobs that fall into the three Ds of robotics – dull, dirty and dangerous. Turnover is high in some of our industrial portfolio companies because these jobs fall into at least one of those categories. Embodied AI will be highly valuable in that context.

Embodied AI will play an important role in bringing manufacturing back onshore in developed markets. At some point, the advent of embodied AI will make it much more cost effective to reshore manufacturing. At the same time, many developed nations now have a shrinking workforce. Having this additional robotic worker available will be critical to supporting economies of the future.

Finally, for Brookfield, we see this as a massive investment opportunity. Embodied AI will require yet more power, data centres and compute, as well as factories to build the robots themselves, meaning there will be an even greater role for infrastructure and real estate managers. ■

Stewart Upson is a managing partner and co-president of Brookfield's infrastructure group