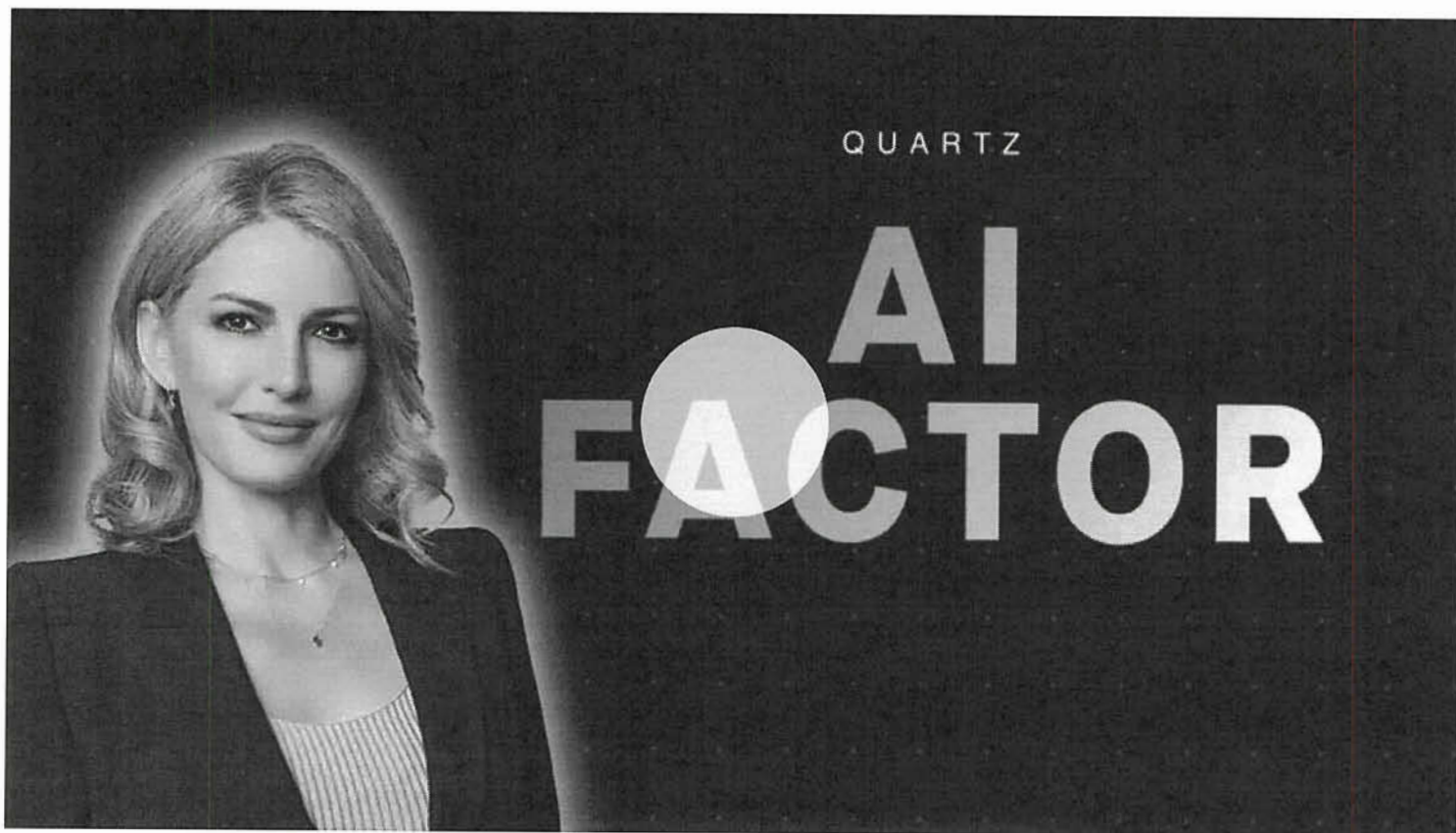


GENERATION A.I.

AI is pushing data centers toward a nuclear-powered future

Amazon, Microsoft, and Google have announced partnerships with energy companies to set up small nuclear reactors



By Rocio Fabbro Published November 5, 2024



The artificial intelligence boom is putting the spotlight on power-hungry data centers, which are turning to alternative energy sources to fuel their ambitious AI projects.

German high-performance computing solutions firm Northern Data Group is joining the growing list of companies looking to nuclear energy for the AI future, Rosanne Kincaid-Smith, chief operating officer of Northern Data, told Quartz.

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“At Northern Data, we have tended to favor hydro electricity because of its sustainability aspect, but I definitely see that we are now edging into a future that is going to be powered by nuclear,” she said in the newest episode of Quartz AI Factor, a video interview series filmed on location at the Nasdaq MarketSite (NDAQ). “Nuclear of course being an extremely sustainable energy source, but provided of course that it is set up and deployed in the right way.”

The “right way” includes ensuring that nuclear power is safe, secure, and housed in the right type of facilities, Kincaid-Smith said.

Over the last several months, major companies including Amazon, Microsoft, and Google have announced partnerships with energy companies to set up and construct what are known as “small modular reactors,” or SMRs — smaller and less potent nuclear reactors with advanced safety features. They can also be put online faster because construction takes less time.

These reactors “could power data centers at a very, very high rate of usage for very, very long periods of time,” Kincaid-Smith said.

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Server racks in a data center. Photo: Tetra Images (Getty Images)

Northern Data, in particular, has a vested interest in sustainably powering AI — both for itself and for clients. High-performance computing is the use of several computers, including supercomputers, to quickly carry out heavy and complex data processing — an increasingly power-hungry operation.

In addition to owning its own data centers, the firm also works with third party co-location providers to house GPU-based infrastructure.

“But we are continually looking for access to land and to power, and we are currently evaluating up to 3.2 gigawatts of power and data center provision at any one time in our portfolio,” she said.

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The infrastructure used for model training is “very, very power hungry,” she said.
“So efficiency in data centers is very, very key.”

Watch the latest episode of Quartz AI Factor above.

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