



# NVIDIA and Emerald AI Join Leading Energy Companies to Pioneer Flexible AI Factories as Grid Assets

## Collaboration Combines AI Factory Design, Energy Resources and Flexibility to Speed Time to Power and Support Grid Reliability

**CERAWEEK 2026**--NVIDIA and Emerald AI today announced that they are working with AES, Constellation, Invenergy, NextEra Energy, Nscale Energy & Power and Vistra to power and advance a new class of AI factories that connect to the grid faster, generate valuable AI tokens and intelligence, and operate as flexible energy assets that can support the grid.

By bringing together technology, energy and infrastructure leaders, the collaboration demonstrates how companies across industries can convene to support AI innovation in the United States, while building a more reliable power system for Americans.

These next-generation AI factories will harness the new [NVIDIA Vera Rubin DSX AI Factory reference design](#), which includes the DSX Flex software library for connecting AI factories to power-grid services.

For accelerated deployment, the factories can use co-located energy generation and storage as bridge power for hybrid AI factories, then later harness these resources to flexibly supply the grid, accelerate AI factory interconnection and support the broader power system. This approach helps bring AI capacity online faster while creating broader value for customers and communities.

The DSX reference architecture can also support flexible AI factories without co-located energy resources to achieve larger and faster power grid connections.

Emerald AI's Conductor platform will orchestrate computational flexibility alongside onsite generation, batteries and other behind-the-meter resources to deliver precise, grid-responsive power flexibility while ensuring quality of service for AI compute tenants. This coordination helps operators meet power targets, protect priority workloads, shorten time on bridge power, and support larger and faster interconnections. It can also help reduce the need for infrastructure to be sized around peaks, easing pressure on future system costs.

"AI factories are the engines of the intelligence era, and like any great engine, every system must be designed together -- energy, compute, networking and cooling as one architecture," said Jensen Huang, founder and CEO of NVIDIA. "NVIDIA and Emerald AI are working together to enable a future for AI where performance, efficiency and grid responsiveness can be tapped into immediately."

"AI factories are too valuable to be treated as either passive loads or permanent islands," said Varun Sivaram, founder and CEO of Emerald AI. "They produce tremendously valuable AI tokens and knowledge, and with DSX Flex, they can also provide measurable relief back to the grid. Emerald Conductor orchestrates compute flexibility alongside onsite energy resources to support the grid, so projects can connect sooner, preserve quality of service for AI tenants and ultimately strengthen the power system around them."

### Building AI Factories That Strengthen the Grid

Today's electric systems are built to serve peak demand but are underutilized during most hours of the day. Power-flexible AI factories can help unlock up to [100 gigawatts of capacity](#) across the U.S. power system by combining optimized infrastructure design with efficient use of existing assets and, where needed, new-build generation, while flexing during limited periods of grid stress to reduce the need for broader grid expansion to support reliability.

AI factories convert electricity into AI tokens, models and intelligence -- among the highest-value outputs modern infrastructure can produce. Meeting that opportunity will require innovation in computing as well as in how companies plan, build and operate energy infrastructure.

Many gigawatt-scale AI projects are turning to co-located generation and storage because conventional interconnection timelines can be too slow for the pace of AI investment. However, permanently isolating generation and storage from the grid has drawbacks. It can leave assets underutilized, raise long-term cost per AI token and prevent energy resources from supporting grid reliability.

AES, Constellation, Invenergy, NextEra Energy, Nscale Energy & Power and Vistra are committed to building the energy generation capabilities necessary to ensure supply meets surging demand.

The companies will collaborate to evaluate optimized generation applications designed to power the AI factories built with the architecture developed by NVIDIA and Emerald AI, including through hybrid projects that use co-located power, to speed

time to power and create value for the broader grid. By pairing large AI loads with flexible operations, new energy generation capabilities and intelligent controls, this approach can help boost grid reliability.

The companies can also support flexible AI factories that are grid-connected from the outset, using co-located energy resources if available.

"Grid flexibility will be key to addressing AI's unprecedented demand while supporting system reliability," said Andrés Gluski, CEO of AES. "At AES, we are enabling next-generation AI infrastructure to accelerate our clients' time to power. DSX Flex embeds flexibility from the outset, allowing AI infrastructure to operate as a grid asset that supports faster, more efficient growth."

"As the largest producer of clean energy in the U.S., we know data centers have enormous potential to unlock energy infrastructure investment, job creation and benefits for our communities," said Joe Dominguez, president and CEO of Constellation. "They can also address the need for additional capacity through demand response. We don't have a supply problem -- we have a peak problem. By effectively using what we already have, including power-flexible AI factories that also enable AI-powered demand response, we can accommodate new load growth more efficiently."

"AI is changing how we're thinking about energy, and our customers need power fast, with the ability to scale over time," said Michael Polsky, founder and CEO of Invenergy. "Combining near-term generation solutions with a path to full grid connection and flexible operations is an innovative and efficient way to help our customers meet their energy needs faster while keeping the system reliable."

"To meet unprecedented new electricity demand while maintaining a reliable and resilient grid, now more than ever, we need to add generation resources," said John Ketchum, chairman, president and CEO of NextEra Energy. "We also need technologies that allow new demand and related generation to integrate into the grid quickly and at the lowest possible cost. NextEra looks forward to working with NVIDIA and Emerald AI to help design efficient energy campuses and flexible AI factories that economically support rising demand while further strengthening America's energy infrastructure."

"We are committed to stabilizing the grid and helping West Virginia families and businesses have ready access to the power they need," said Daniel Shapiro, chief power and energy officer of Nscale Energy & Power. "When we're interconnected, we'll be there on the grid's highest-demand days to supply electricity back -- that's what 2 gigawatts scaling to 8 gigawatts of onsite generation means. Nscale's Monarch campus is a power asset for West Virginia, not a load on it."

"U.S. grids are designed to handle the highest-peak demand scenarios, which make up very few hours during the year," said Jim Burke, president and CEO of Vistra. "AI factories that have the flexibility to adjust their power use with grid conditions are a faster solution, especially with co-located generation, for better utilization of the current grid infrastructure. This helps boost speed while we continue to build out more infrastructure for the long term."

Over the last year, Emerald AI and NVIDIA trialed AI power flexibility demonstrations at five commercial data centers around the world. DSX Flex is expected to be deployed at commercial scale later this year at the NVIDIA AI Factory Research Center in Virginia, planned as one of the world's first power-flexible AI factories with NVIDIA Vera Rubin infrastructure.

The companies intend to identify and advance project opportunities built using the Vera Rubin DSX reference design with DSX Flex to accelerate large-scale AI infrastructure deployment, support larger and faster grid interconnections, unlock technology pathways for new generation builds, expand the economic benefits of AI and energy investment for local communities, strengthen U.S. energy leadership and enable broader AI deployment over time.

### **About Emerald AI**

[Emerald AI](#) is the pioneer in AI-driven data center flexibility management, transforming energy-intensive data centers into intelligent grid assets.

### **About NVIDIA**

[NVIDIA](#) (NASDAQ: NVDA) is the world leader in AI and accelerated computing.

### **NVIDIA Forward-Looking Statements**

Certain statements in this press release including, but not limited to, statements as to: NVIDIA and Emerald AI working together to enable a future for AI where performance, efficiency and grid responsiveness can be tapped into immediately; the benefits, impact, performance, and availability of NVIDIA's products, services, and technologies; expectations with respect to NVIDIA's third party arrangements, including with its collaborators and partners; expectations with respect to technology developments; expectations with respect to AI and related industries; and other statements that are not historical facts are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created by those sections based on management's beliefs and assumptions and on information currently available to management and are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic and political conditions; NVIDIA's reliance on third parties to manufacture, assemble, package and test NVIDIA's products; the impact of technological development and competition;

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