Entogo: Power Equipment, Not Compute, Now Sets the AI Data Center Timeline

With DOE data putting transformer lead times near four years, a new Entogo analysis examines why sourcing, not silicon, now sets when a data center energizes.

PRIMARY-entogo-transformer-substation-factory-north-america

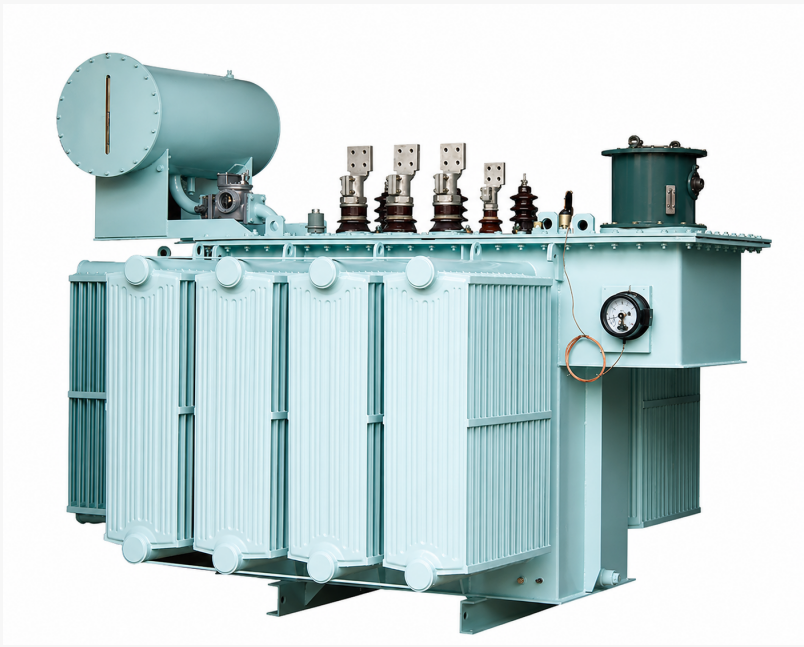
TORONTO, ON, CANADA, June 1, 2026 /EINPresswire.com/ -- The constraint on building an AI data center in North America is no longer the compute. It is the power equipment, and the calendar it imposes. The U.S. Department of Energy's July 2024 Large Power Transformer Resilience Report puts current lead times for large power transformers at 80 to 210 weeks — roughly one and a half to four years — and substation packages stretch further still. In a new analysis published this week, Canada-based power-equipment manufacturer Entogo examines why equipment procurement, rather than silicon, has become the line that sets a project's schedule.

> The compute side of an AI campus moves at NVIDIA's pace. The power side is now the longest pole — and lead time is a sourcing decision, not a law of nature."
>
> *Yang Zheng, Entogo*

The analysis traces the bottleneck to three compounding forces. Grain-oriented electrical steel (GOES), the core material in every power transformer and roughly a quarter of large-transformer cost by the DOE's accounting, is produced by only a handful of mills worldwide. Demand has surged at the same time: Lawrence Berkeley National Laboratory's December 2024 study for the DOE estimates U.S. data centers consumed about 4.4% of national electricity in 2023 and will reach between 6.7% and 12% by 2028, with EPRI projecting a similar trajectory. And an aging installed fleet has entered a replacement wave that competes for the same manufacturing capacity as all the new load.

That reshapes how a campus is engineered. The analysis documents rack densities stepping from the 10 to 15 kW that defined enterprise IT for two decades to roughly 120 kW for current

NVIDIA Blackwell racks, with Open Compute Project reference designs reaching 1 MW. Those loads are harmonic-rich and run near full load around the clock, so the transformers feeding them must be specified with a K-factor under ANSI/IEEE C57.110 and engineered for partial-load efficiency rather than peak rating. Across a 100-megawatt campus, the 33 to 35 kV "campus collector" layer is where most of the equipment specification — and most of the lead-time risk — now sits.



Finished Entogo transformers staged for North American delivery.

The full piece on power equipment for AI data centers and a companion analysis of transformer lead times in North America set out the engineering detail: the voltage hierarchy from utility tie to rack, switchgear fault-level design for behind-the-meter generation, and where battery storage complements rather than replaces the UPS layer.

The reports' central argument is that the multi-year figures describe the merchant market — the queue a buyer joins when ordering from a broker or a manufacturer already running at capacity — not the physics of building a transformer. A manufacturer operating its own factory with a vertically integrated supply chain sets its delivery clock by its own capacity instead of that backlog.

That is the position Entogo describes for its own equipment. The company manufactures transformers, prefabricated substations, and medium- and low-voltage switchgear in its own source factory, shipping European-standard (IEC/CE) catalogue equipment in an average of 12 weeks and guaranteeing delivery within 36 weeks even when a product requires new UL or other North American certification — against an industry baseline of one to four years.

Entogo Inc. is a Canada-based clean-energy and electrical-power equipment manufacturer headquartered in Toronto, Ontario. Established in 2022 and backed by a founding and technical team with more than 15 years of industry experience, the company manufactures transformers, prefabricated substations, switchgear, power-distribution equipment, battery energy storage, EV charging infrastructure and integrated photovoltaic-storage-charging systems, serving utilities, data center and infrastructure operators, renewable developers and EPC contractors across North America and global markets. Its analyses are published at entogo.ca/insights.

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