

# Tata Consulting Engineers launches NVIDIA-powered cognitive digital twin and industrial AI platform

*Platform enables engineering-grade digital twins and Industrial AI across manufacturing, energy and infrastructure sectors*

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Tata Consulting Engineers (TCE), India's top private engineering consultant, launched a Cognitive Digital Twin and Industrial AI platform using NVIDIA Accelerated Computing and Omniverse. This technology integrates AI into manufacturing, energy, and infrastructure, enabling, simulating, and optimizing industrial asset lifecycles through data-driven decisions.

TCE's Cognitive Twin framework powers the platform, using NVIDIA libraries and open models to create high-fidelity, real-time AI twins that simulate and optimize physical systems. Acting as living digital replicas, these twins integrate engineering data with operational intelligence to boost performance and reliability.

The platform strengthens TCE's position as an engineering-led execution partner for Industrial AI by combining NVIDIA Omniverse libraries, NVIDIA NIM microservices, part of NVIDIA AI Enterprise, as well as open NVIDIA Cosmos and NVIDIA Nemotron models, with deep expertise in engineering design, project delivery and full asset lifecycle management.

By embedding cognitive digital twins at the concept and FEED stages, operational requirements such as safety, reliability, maintainability and energy efficiency are addressed early in the design process. This enables informed capital investment decisions and improves long-term operational performance once assets are in operation.

The platform enables industries to move beyond isolated AI experiments and embed AI directly into factories, power systems and critical infrastructure. The focus is on outcomes that matter on the ground, including safety, quality, reliability, precision, sustainability and energy efficiency, with Cognitive Digital Twins supporting both engineering decisions and operational performance.

As an engineering design and consulting organisation, TCE embeds Cognitive Digital Twins and Industrial AI into assets from inception rather than applying AI after systems are built. This lifecycle-first approach ensures that Industrial AI becomes intrinsic to how assets are conceived, delivered and operated.

The platform addresses high-impact Industrial AI use cases across safety monitoring, quality inspection, reliability and predictive maintenance, energy optimisation and digital twin-driven operations. It aligns with global priorities around manufacturing competitiveness, infrastructure modernisation, the energy transition, and operational resilience, and with NVIDIA's vision for AI factories, physical AI, and real-world industrial digital twins.

Commenting on the launch, Amit Sharma, Managing Director and Chief Executive Officer of TCE said, "Industrial AI must be engineered into assets, not added later. As an engineering organisation, we have the unique ability to embed Cognitive Digital Twins at the design stage and carry them through construction, commissioning and operations. Built on NVIDIA technology, this platform brings Industrial AI into the heart of factories, power systems and infrastructure, delivering outcomes that matter in the real world."

"The industrial landscape is undergoing a fundamental transformation as AI moves decisively from the digital realm into the physical world. Leveraging NVIDIA accelerated AI infrastructure, NVIDIA Omniverse libraries, and open NVIDIA Cosmos and NVIDIA Nemotron models, TCE is a leader in advancing the safety, efficiency, and sustainability of critical industrial infrastructure," said VishalDhupar, Managing Director, Asia South, NVIDIA.