ECONOMY & POLICY

Tata Consulting Engineers Launches Cognitive Digital Twin Platform

23 Feb 2026 . 2 Min Read . CW Team

Tata Consulting Engineers (TCE) has launched a Cognitive Digital Twin and Industrial AI platform built on NVIDIA Corporation (NVIDIA) accelerated computing and the NVIDIA Omniverse libraries. The platform is designed to embed engineering-grade digital twins and Industrial AI across manufacturing, energy and infrastructure, enabling data-driven decision making across the full lifecycle of industrial assets. It positions TCE as an engineering-led execution partner for Industrial AI.

At the core of the platform is TCE's Cognitive Twin framework, built on NVIDIA libraries and open models, which enables high-fidelity real-time AI-driven digital twins that mirror, simulate and optimise physical systems. These living representations integrate engineering data with operational intelligence to support precision, reliability and performance and to drive operational decision making.

Pilot implementations are under way with National High Speed Rail Corporation Limited, Torrent Power and Power Grid Corporation of India Limited, demonstrating a shift from static digital models to cognitive digital twins that actively support operations. The platform combines NVIDIA Omniverse libraries, NIM microservices and open models with TCE's domain expertise in engineering design, project delivery and full asset lifecycle management.

TCE embeds Cognitive Digital Twins at concept and front end engineering design stages so that safety, reliability, maintainability and energy efficiency are considered early in the design process. This lifecycle first approach enables more informed capital investment decisions and improves long term operational performance once assets enter service.

The platform addresses safety monitoring, quality inspection, reliability, predictive maintenance, energy optimisation and digital twin driven operations and aligns with priorities around manufacturing competitiveness, infrastructure modernisation and the energy transition. By making Industrial AI intrinsic to how assets are conceived, delivered and operated, TCE aims to support safer, more reliable, more efficient and more sustainable industrial systems drawing on more than six decades of experience.