Tata Consulting Engineers drives India's first integrated rice & biomass bioethanol refinery

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Tata Consulting Engineers (TCE) played a key role in the successful commissioning of India's first integrated rice- and biomass-based bioethanol refinery in Odisha. This pioneering project combines both first-generation (1G) and second-generation (2G) bioethanol production within a single facility, marking a significant step forward in India's sustainable energy landscape.

TCE served as the Owner's Engineer and Project Consultant (OEPC), providing end-to-end engineering and project management consultancy services. The scope covered conceptual design, detailed engineering, procurement services, construction-phase support, and commissioning assistance.

The integrated plant has been designed to produce 100 kilolitres of ethanol per day, with feedstock sourced from broken rice grains for the 1G section and agricultural residues such as paddy and wheat straw for the upcoming 2G section.

The project is a landmark in India's bioenergy innovation journey, enabling ethanol production from both food-grade and agricultural waste feedstocks within a single facility.

The integrated bioethanol refinery stands as a benchmark for future biofuel projects in India. By combining advanced engineering, sustainable design, and measurable community impact, TCE has reaffirmed its leadership in enabling India's energy transition and supporting the nation's renewable energy targets.

This project exemplifies TCE's ability to deliver complex, first-of-its-kind facilities that integrate innovation, sustainability, and social value. Through its multidisciplinary expertise and engineering excellence, TCE continues to shape India's clean and self-reliant energy future.