TNChE Asia 2025 Conference

" Accelerating Industrial Decarbonization: Digital-AI and Energy Transformation "

Presenter's Biodata & Abstract

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Current Position : **Assistant Technical Manager**

Title of Presentation : **Driving Innovation and Sustainability toward Net-Zero World with Engineering Simulation Technology spotlight on Hydrogen applications**

Presentation Abstract:

Reducing carbon emissions is crucial for industries worldwide as they move toward a carbonneutral (Carbon Neutrality/Net Zero) future. This transition involves exploring clean energy sources such as hydrogen and integrating ammonia into production processes, which are key to meeting the demands of various sectors, including energy, transportation, and industry sectors. Additionally, Carbon Capture, Utilization, and Storage (CCUS) has emerged as a crucial technology for effectively reducing carbon emissions.

Despite these advancements, the transition to green energy faces significant engineering challenges. Overcoming these challenges is essential for developing a comprehensive clean energy infrastructure, which serves as a foundation for achieving long-term carbon neutrality.

This session presents the hydrogen ecosystem and its application of advanced engineering simulation technology, which plays a critical role in optimizing every stage—from production and storage to transportation and utilization (or consumption) to enable sustainable and safer hydrogen adoption. By integrating these technologies, industries can enhance efficiency, minimize risks, improve safety standards, and foster sustainable innovation within organizations.