



**TNCHE Asia 2023 Conference**  
**" Decarbonization of Process Industry and**  
**Next-Generation Materials for Sustainability "**  
**Presenter Bio Data & Abstract**



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**Title of Presentation** : How Digitalization Drives Decarbonization and  
 Circularity within the Chemical Industry – Pathways to  
 Net-Zero

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**Presentation Abstract :**

As the world moves rapidly towards the goal of net zero by 2050, chemical companies find themselves at the epicenter of this transition, from an input, output, and processing perspective. Whilst these companies are trying to bring about change, they are also battling with a large number of disconnected digital tools and therefore siloed information, making it extremely challenging to connect the dots. This is all whilst dealing with intense market pressure to deliver product and process innovation for highly complex, world-scale chemical processes that are difficult to simulate. Only a paradigm shift can bring about significant enough change but the latest digital solutions are able to connect data, apps, and people like never before.

This presentation explores three core steps that chemical companies can take to create a more sustainable and circular economy, with digitalization at its core:

1. Unlocking efficiencies to achieve operational excellence: optimizing existing processes, developing workforce competence, improving maintenance, and other energy efficiency measures
2. Progressively introducing greener feedstocks: evaluating and designing greener chemical processes more efficiently
3. Transitioning to renewable energy sources and developing new recyclable products to improve circularity: requiring CAPEX investment plus industry collaboration and innovation

Discover real-world examples of how leading chemicals companies are making efficiency gains and reducing emissions on the path to net zero by embracing digital technology and new ways of working across the entire plant life cycle.