Brussels, 3 June 2025

ETN Global Digitalisation Webinar Series – Episode #2 “Powering the Future: Digital Transformation and Intelligent Monitoring in Gas Turbine Fleets”

The ETN Global Digitalisation and Diagnostic Working Group invites you to the second episode of its webinar series. The episode will take place on 2 July at 15:00-16:00 (CET). Presentations will be provided by:

- Craig Walker (Head of Digital Evolution - GT Fleet, Uniper): *Uniper's Digital Journey: Driving Transformation and Innovation From Ideation to Implementation in the Flexible Energy Gas Turbine Fleet*
- Imthiyas Manarikk (M&D Engineer, Uniper): *Towards Intelligent Condition Monitoring: A Framework for Next-Gen Vibration and Combustion Analytics*

“Uniper's Digital Journey: Driving Transformation and Innovation From Ideation to Implementation in the Flexible Energy Gas Turbine Fleet” (Craig Walker, Uniper)

Uniper digital journey has been a transformative experience, aimed at ensuring operational excellence, fostering innovation, and preparing for a sustainable future.

Uniper is committed to sustainability and innovation. Digitalisation offers opportunities to improve efficiency, enhance decision-making, and unlock new avenues for growth. In a competitive and evolving market, embracing digitalisation ensures that Uniper remains agile, resilient, and ahead of emerging trends.

Uniper digitalisation strategy revolves around principles of collaboration, scalability, and adaptability. To better understand the digital status of its sites, Uniper developed digital tools tailored to assess maturity levels.

The establishment of a digital community has been instrumental in fostering collaboration and innovation across Uniper. A cornerstone of its strategy has been the ideation workshops conducted at individual sites. These workshops provided a platform for stakeholders to brainstorm, innovate, and envision their digital future.

The Digital Evolution Department has set ambitious yet achievable deliverables for 2025/26. To gauge the success of its digital initiatives, Uniper has established clear metrics that focus on outcomes and impact.

“Towards Intelligent Condition Monitoring: A Framework for Next-Gen Vibration and Combustion Analytics” (Imthiyas Manarikk, Uniper)

Vibration-related issues in gas turbines can be catastrophic, often leading to sudden failures like blade loss or damage that occur within fractions of a second. These rapid events, if undetected, can result in unplanned downtime, costly repairs, and safety hazards. Traditional monitoring systems frequently miss these transient anomalies, highlighting the urgent need for more intelligent, responsive condition monitoring solutions.

This presentation introduces a framework for intelligent condition monitoring, emphasizing next-generation vibration and combustion analytics. Using a real-world case study involving blade loss in a gas turbine, we demonstrate how integrated data-driven diagnostics can detect and contextualise failure events earlier and more accurately.