TNChE Asia 2025 Conference
" Accelerating Industrial Decarbonization:
Digital-AI and Energy Transformation "
Presenter's Biodata & Abstract

Full Name : **Ms. Elena Klebanov,**

Organization : **SAM GUARD (a SAMSON Group company)**

Current Position : **Managing Director, SAM GUARD**

Title of Presentation : **Smart Monitoring for Smarter Plants:**

Presentation Abstract:

In the era of digital transformation, the SAM GUARD platform harnesses AI to provide a comprehensive, real-time view of plant operations, enhancing both efficiency and safety without the need for additional hardware or costly integrations. Tailored specifically for the dynamic environment of industrial plants, it utilizes existing data to drive significant improvements across multiple dimensions of operations.

Holistic Visibility and Intelligent Alerting:

The SAM GUARD platform delivers accurate, AI-powered alerts tailored to the unique needs of each plant, providing critical visibility without overwhelming operators. It intelligently uncovers cascading effects across interconnected equipment, offering early insights into both asset-level issues and broader system-wide impacts. With a comprehensive approach, SAM GUARD also detects subtle anomalies-such as data drift and signal loss-and excels at advanced condition monitoring by leveraging data from multiple sensors.

Operational Excellence and ESG Impact:

By mapping digital processes in real time, SAM GUARD identifies potential cascading effects and tracks interdependencies within plant operations. This preemptive insight helps anticipate and mitigate risks before they escalate. The proactive fault detection feature significantly advances ESG objectives by minimizing emissions and enhancing worker safety, aligning with global sustainability standards.

Integration and Implementation:

Compatible with any equipment, failure type, or manufacturer, SAM GUARD requires no extra hardware and integrates seamlessly. It connects and contextualizes data from existing sensors and P&IDs or control room pictures, offering a deeper understanding of processes, detecting anomalies early, and preventing costly downtimes.

Case Study Highlight:

A real-world application demonstrated the system's efficacy when it detected a prolonged undetected water leak those traditional systems failed to identify. This early detection prevented further material loss and reduced safety risks, ensuring continuous and efficient production.