

Presentation Title: From Silos to Synergy: Achieving Operational Excellence Through Asset Operations Management

Speaker Name & Position: Kah-Ming Chai, Executive Consultant

Abstract (150-200 words):

Asset-intensive industries face mounting challenges in ensuring operational safety, reliability, and asset integrity while meeting sustainability goals. Traditional approaches such as Asset Performance Management (APM) and Industrial IoT (IIoT) platforms often fall short in delivering holistic solutions that unify engineering, maintenance, reliability, and operations. Asset Operations Management (AOM) emerges as a transformative framework that leverages composable digital twins and industrial AI agents to address these gaps.

This presentation explores how AOM integrates real-time data, predictive analytics, and autonomous decision-making to enhance operational excellence. Composable digital twins provide modular, scalable models of assets and processes, enabling real-time situational awareness and simulation. Industrial AI agents act as intelligent co-workers, continuously optimizing operations, predicting failures, and orchestrating workflows. Together, these technologies deliver measurable outcomes: reduced downtime, improved safety through proactive risk mitigation, and alignment with ESG goals via energy optimization.

The session will outline a strategic implementation roadmap using the "Think Big, Start Small, Scale Fast" model to achieve scalable adoption while addressing integration challenges across IT/OT systems. Attendees will gain insights into the future of industrial AI, including advancements in human-AI collaboration, generative AI applications, and cross-industry digital twin ecosystems.

Speaker Biodata

Name: Chai Kah-Ming

Title: Executive Consultant

Company: Yokogawa Engineering Asia Pte. Ltd.

Professional Background:

Kah-Ming is a Registered Management Consultant with 22 years of experience in industrial automation and digitalization. In Yokogawa, Kah-Ming leads a team of consultants performing industry 4.0 readiness benchmarking and technology roadmap development for manufacturing operations, including pharmaceuticals, food and beverages. Other functional roles held by Kah-Ming over the span of his career include business development, project management and system engineering.

Expertise:

Technology Management, Information Systems, Internet of Things, Automation Architecture.

Education:

- MBA, UCLA Anderson & NUS Business School
- PGDip Digital Management, Teesside University
- BSc (Hons) in Electrical Engineering, University Technology Malaysia

Notable Achievements:

- Completed more than 30 SIRI assessments and roadmap design services, identified total value creation potential estimated at USD300 million.
- Conducted feasibility studies for implementation of IoT analytics for rotating equipment to more than 80 sites across Asia Pacific between 2021 to 2022.
- Saved US\$2.5M for project owner by identifying scope gaps in the IT-OT integration blueprint for a mega capital project in 2019.
- Managed a cloud-based asset performance monitoring system for a global agri-food company in 2015. Client improved equipment reliability and lowered energy cost from 10 sites across Asia Pacific and Europe.

Publications and Presentations:

5th November 2024, Digital Energy Asia Summit, Kuala Lumpur, Speaker, “Digital Transformation Journey –The First Steps Towards Industry 4.0”

22nd October 2024, Hydrogen Asia Conference, Kuala Lumpur, Panelist, “Digital Solutions, Modelling and Simulations”.

8th October, Yokogawa Indonesia 30th Anniversary Conference, Jakarta, “Developing Asset Operation Management Systems”.

Headshot:

