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Highlights of Keynote Speech at PCVS2024

Into the Future with Process Control

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Ir. Fauziah Ali, Head of Process Control and Optimization at Petronas, highlighted process control's critical evolution and future trajectory. Drawing from her 34 years of industry experience, she emphasized the indispensable role of process control in ensuring operational safety, stability, and optimization across industries, particularly in the oil, gas, and energy sectors.

1. Historical Perspective and Current Trends

Process control has progressed from manual operations to advanced systems like digital control systems, SCADA, and predictive control models. Modern advancements integrate operational (OT) and information (IT) technologies, fostering enhanced data flow but increasing cybersecurity challenges.

2. Future Challenges and Innovations

Ir. Fauziah identified key global challenges, including resource depletion, climate change, and waste management. These challenges necessitate a shift toward renewable energy sources (e.g., solar, wind, bioenergy) and innovations in recycling technologies to support circular economies. Emerging priorities for process control include real-time optimization of renewable energy systems, predictive technologies for waste reprocessing, and advanced algorithms for biofuel production and other complex processes.

3. Role of Engineers and Academia

The future demands engineers who are agile, adaptable, and equipped with critical thinking skills to address unprecedented challenges. Ir. Fauziah urged academia to modernize curricula to align with fast-emerging technologies and industrial needs. She emphasized fostering innovation and adaptability among future engineers to thrive in a rapidly evolving field.

4. Closing Note

She encouraged participants to see innovation as an opportunity rather than a threat, encouraging collaboration between industry and academia to drive sustainable and efficient solutions for future challenges.