

Optimizing efficiency through digitalization in chemicals, petrochemicals and refining  
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## Exclusive Speaker Interview



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**1. Please introduce your role at East Coast Refinery and Aromatics Plant based in Kertih, Terengganu, Malaysia.**

As Principal Engineer, Instrument and Control, I advise not only within my plant site but extend to other PETRONAS sites in matters pertaining to instrumentation and control

**2. What does the subject of digital transformation and IoT mean to you?**

As Instrument and Control Engineer, I am expected to apply high technology tools as to enable automation in the plant process control, monitoring and safeguarding. Since 1983 where the refinery was first constructed and commissioned, we saw the evolving technology from pneumatics and then to analogue and to digital technology change which starts from emerging, pacing, key and finally become a matured base technology for ready deployment

**3. What's the greatest impact IoT, data analytics and AI will have on the industry? What lies ahead of operators and how will they adapt?**

The greatest impacts of IoT, data analytics and AI are the improvement in the level of reliability, safety and efficiency of the plant. Operators have to learn and adapt to the new technology to improve their ways of working

**4. How do you see the role of the Industrial Internet of Things in refining, petrochemicals & chemicals? What are the key benefits and opportunities of using IIoT solutions in downstream operations?**

The technology has disrupted the way we do things to a more efficient and connected way that we ever thought could have been done before. All data becomes transparent and available until to the cloud/ stakeholders that informed decision can be made immediately.

**5. How will this paradigm shift affect talent in manufacturing & downstream industry overall?**

With this paradigm shift, it is important for operators to learn and adapt to the new technology so that they can make improvements to their ways of working. For example, OT Technicians have to learn the IT with the merging of IT into the OT.

**6. What does workplace innovation look like at your organization?**

Innovation has become one of the key initiatives to move the company to new level within the market.

**7. How does this impact your customers?**

It gives customer the confidence of our capability to deliver.

**8. What are the latest technology adoptions by downstream operators in Asia? Are there any success stories that other operators can learn from?**

Pervasive wireless, edge computing to reduce pain points, predictive analytic tools, real time optimization tools to improve work processes

**9. What Does Industrie 4.0 mean for your company?**

It means the use of smart devices with connectivity feature to enable diagnostics for the company.

**10. Will Artificial Intelligence replace humans working in oil and gas?**

No, I do not think that artificial intelligence will replace humans working in oil and gas.

**11. What is the current state of cybersecurity preparedness across refining, petrochemicals and chemicals and how is the cybersecurity market set to evolve?**

The current state of cybersecurity preparedness is that they are ready for any potential attack and it will evolve as the sophistication of the attack evolves.

**12. Are manufacturers concerned about cybersecurity in their organization?**

Yes, manufacturers are indeed concerned about the cybersecurity in their organization.

**13. What are the key technologies which your company would like to implement in the next 5 years? (for refiners, petrochemical & chemicals companies only)**

The key technologies that the company would like to implement in the next 5 years are digital and cybersecurity technologies.

**14. What are the current challenges and hurdles that affect the spread and deployment of the Internet of Things in your organization? (for refiners, petrochemical & chemicals companies only)**

The current challenges revolved around the organisation's budget, competency and legacy system.

**15. What impact does Big Data have on operational efficiency and how is Big Data changing the industry?**

Big Data leaves positive impacts such as the improvement in diagnostics capability and plant reliability.

**16. What are your views on Asia's downstream industries rate of digitalisation as compared to counterparts in other regions i.e. America, Europe and the Middle East markets?**

In my opinion, we are catching up and maybe leading in some aspects.

**17. What will the future workforce look like in the digital age?**

The future workforce will have very minimal no of personnel onsite