

Optimizing efficiency through digitalization in chemicals, petrochemicals and refining  
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**1. Please introduce your role at ARC Advisory Group**

My role at ARC Advisory Group is as the Director of Strategic Services

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

Digital Transformation is a comprehensive IT/OT technology strategy and roadmap for production operations to take advantage of state-of-the-art technologies.

**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?**

Downstream operators are reacting to the Digital Transformation reality: Innovate or get run over.

**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?**

There are opportunities for downstream companies to use analytics/big data for downtime reduction, performance improvements, and visualisation of real-time information.

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

Digital Transformation will require collaborations between different parts of the organization, especially IT, Operations, and Engineering, and will also require change management.

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

In our organization, we must be prepared to embrace new technologies, and to adapt to changes to the organization.

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

It provides better response time, with more accurate data for our customers.

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

Downstream operators are using machine learning to mine historical data to correlate causes of equipment failures, and they are using new real-time data to make real-time adjustments to reduce waste and increase output.

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

With Industrie 4.0, it can only mean more opportunities for improvements in our performance.

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

It will empower the workers by providing better information and knowledge. It will replace humans who do not stay current with the new technologies.

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

Companies must be prepared for the cybersecurity impact of the digital changes – whenever you introduce a new digital connection, you introduce a potential cyber security vulnerability.

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

Yes, but some are slow to understand that cybersecurity is the responsibility of their entire organization. It is not only a technology issue.

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

The tools to mine Big Data, especially from data already collected in historians, are becoming easier to use. This has a huge impact in finding correlations of causes for equipment failures.

**14. 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?**

Overall, Asia's downstream industries are adopting digitalisation technologies at the same rate as other areas.

**15. With these radical changes looming what opportunities lie ahead for manufacturers?**

One major opportunity for manufacturers is the impact on organization structure.

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

Subject Matter Experts (SMEs) will always be needed to interpret the data correlations. Operations personnel will be provided with more accurate real-time information to more efficiently run their plants. There must be increased collaboration across different parts of the organization.

**17. What will be the highlight of your presentation at Asian Downstream Summit 2018?**

The highlight of my presentation is about the role of the emerging Digital Organization and the various metrics to measure success.