ASIAN DOWNSTREAM SUMMIT 2017

Harnessing the Potential of Digital & Process Technologies

Speaker interview with **Richard Mark Soley - Executive Director, Industrial Internet Consortium (IIC).**

He will be presenting a keynote session on "*The Industrial Revolution Meets the Internet Revolution*" on 25th October.

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

There is a lot of rather generic information being circulated as "evidence" that technology innovations, in particular the Industrial Internet of Things (IoT) and its various aspects (sensors, control systems, analytics, machine learning, integration with enterprise systems) can be leveraged to improve the industry. However, generic wording could be reused in just about any other industry (example: https://www.accenture.com/us-en/insight-highlights-energy-asia-downstream-industry-iot). What we really need are case studies or success stories that come from the O&G companies themselves, not from consultants, and help us understand what approaches have resulted in concrete savings or revenue enhancement. We don't have this yet, but the Industrial Internet Consortium (IIC) testbed program (www.iiconsortium.org/test-beds.htm) promises to provide exactly these lessons.

Even extensive reports on the state of the downstream industry in Asia are long on generalities and short on specifics (e.g., http://www.wipro.com/documents/downstream-oil-and-gas-achieving-excellence-by-integrating-operations.pdf).

2. 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?

A more important question is, what is the O&G industry's rate of adoption of digital transformation approaches as compared to other industries such as manufacturing, aerospace, transporation, retail, etc. If we ask ourselves this question, then the answer is unfortunately that the O&G industry is lagging by some years in its adoption of automation, analytics, and enterprise integration. It is then important to understand the reasons:

- There is a strong concern for the protection of data, so that even when it is clear that sharing data would allow the industry to better predict equipment failure and safety incidents, the operators are unwilling to share the data.

- There is a high sense of “uniqueness” in the O&G industry in general, so that companies are not very willing to accept that the lessons of other process industries can be applied. In fact the industry is not particularly unique (no industry is) although of course it has its own domain knowledge & vocabulary.
- When the price of oil was high, profitability was so good that it was not a top priority to introduce new technologies that could reduce costs by a small percentage. Finally, with the reduced margins we see today, there is a belated recognition that techniques such as predictive maintenance can make a big difference in the operational efficiency of refineries, pipelines, pumping stations, etc.

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 business cases are relatively clear when looking at other industries, or even as some case studies in downstream. For example, an IoT implementation at Marathon Oil (in the U.S.) in partnership with Accenture resulted in a reduction in accidents due to real-time monitoring of the movement of refinery workers, geolocation of hazardous spots, and more.

Pipeline and refinery surveillance through cameras and drones is a key opportunity. While it can reduce security risks, this is also an opportunity for attackers to penetrate monitoring systems unless strong cybersecurity measures are implemented (see the attack on the BTC pipeline in Turkey in 2008 as proof that this is a serious issue).

Predictive maintenance of rotating equipment (pumps, motors, compressors) is a good example of an end-to-end integration from sensor data to analytics to improve the uptime of equipment while saving on maintenance costs.

4. What will be the highlight of your presentation at Asian Downstream Summit?

I will highlight the Industrial Internet Consortium (IIC) and its mission to accelerate the adoption of IoT in many industries, including O&G, but developing testbed projects all over the world and learning how best to implement the technology, as well as how it disrupts various industries.