Talk on "Industrie 4.0 - Digitalization in Process Industry"

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Industrie 4.0, also known as the fourth industrial revolution, is a term coined by the German government which catalyses the digitalization of the manufacturing industry with process industry being included as well. The drivers of industrial sector has changed from the early days of steam and water power followed by electrical power, programmable logic controller and finally digitalization of the automation process of production. This constant revolution is fueled by technological advances in computing power, communication, development of sensors, virtualization, cloud computing as well as simulation. Within the context of process industries, digitalization has increasingly becomes the way forward in improving yield productivity.

Digitalization of process industries has already materialized in chemical plants, production of personalized medicine, food and beverage as well as oil and gas to name a few. Integrated engineering has a pivotal role to play especially in optimizing engineering and life cycle management via creation of common data model as well as cloud enabled services and analytics. The presence of a common data model is enriched along the life cycle and ensures consistency during all workflows in the process industries. With this in place, integrated operations will be in place followed by improvements in productivity and flexibility which are vital for any process industry.

Connectivity will be the key to enable digitalization of process industries. Reliable and secured communication must be in place to safeguard the integrity of production processes. This is also paramount for the rapid realization of the visions for the digitalization of process industries which include:

1. Increased level of integration and interoperability
2. Augmented reality
3. Increasing importance of 3D application and strong combination with 2D
4. Open architectures
5. Interfaces for new ways of collaboration

In conclusion, the wave of Industrie 4.0 would eventually sweep the entire industrial shore of Malaysia. With other equivalent initiatives such as Made in China 2025, Industrial Internet Consortium (IIC) and Vanguard Initiatives already in place, the day may even come faster than initially thought for Malaysia.