INDUSTRY OBSERVATIONS FROM A FEW DIGITAL PLANT 2010 O/O & EPC ATTENDEES

Bob Donaho, Dow Chemical – Project Director – Ras Tanura Intergrated Project

What does plant lifecycle management mean to you in the context of information technologies and work processes?

"Plant lifecycle management means optimizing the utilization of the facility over the operating life of the facility to produce maximum economic return. Critical asset technical and performance data is provided through information management techniques that "information enable" the optimization work processes utilized to achieve optimum asset performance over the life cycle of the asset. "

What do you see as the biggest changes over the next few years for systems related to design, construction, and operations?

"Continued adoption of enabling information technologies to better integrate the activities of these critical phases of the asset lifecycle."

How can EPC's and O-O's better leverage information systems for collaboration on projects? What are the possible breakthroughs in this area?

"There continues to be opportunities to implement more robust collaborative environments through implementation of new information management technologies that can benefit both EPC's and O-O's on projects."

Raju Hingorani, Jacobs- VP, IT OPERATIONS SERVICES

What does plant lifecycle management mean to you in the context of information technologies and work processes?

Plant lifecycle management is delivery of the most effective business solution leveraging information technology, work processes and a global workforce. Shared use of data and inputs throughout the lifecycle is enabled by powerful technologies available today, and utilizing this data in conjunction with work processes allows the development of Information to improve decisions, manage risk and improve ROI of the plant throughout it's existence - from an idea to finally being taken out of service. Taking this further, Plant lifecycle management develops knowledge that can be developed for the next plant and so on enabling a continuous circle of value improvement

What do you see as the biggest changes over the next few years for systems related to design, construction, and operations?

Some of the biggest changes are going to be a 'Pull' process of project delivery - instead of Design leading to Construction and turned over to Operations the cycle will be Operations driving Construction which in turn will drive Engineering - a Construction based Engineering model.

How can EPC's and O-O's better leverage information systems for collaboration on projects? What are the possible breakthroughs in this area?

Starting with the recognition that O-O's are the drivers and have to be willing to accept and understand the cost/benefit ratio, there has to be an enduring change that the benefits of collaboration and shared data eclipse the silod 'competitive advantage' approach to all data.
A key breakthrough is in the integration of Lean technologies for the service business focused on 'data' quality and "doing it right the first time - all the time" resulting in significant improvement of value in the Plant lifecycle, just as Six Sigma and Lean manufacturing did for widget manufacturing.

Yee C. Chou, American Electric Power – IT Planning Manager

What do you see as the biggest changes over the next few years for systems related to design, construction, and operations?

Information technology is an enabling vehicle for a more efficient plant in today's tough economic condition while meeting ever increasing regulatory requirements and aging work force.

Graham Corsar, Suncor Energy – Information Management Lead

What does plant lifecycle management mean to you in the context of information technologies and work processes?

Plant Lifecycle Management is enabled by information technologies and work processes. These processes and technologies need to not only store information, but make it available to people in an effective, sustainable fashion. This means that information is stored in a consistent way, re-used when appropriate, updated as required to stay current and destroyed when it is not longer required. As well, information is an asset. It is as much a part of a plant as the equipment, piping, instrumentation and all other components. Information must be built, maintained, and protected so that it can service the plant for its entire lifespan.

What do you see as the biggest changes over the next few years for systems related to design, construction, and operations?

It's still interoperability. Information is an expensive asset right now. The only way to get the total cost of ownership down is re-use. If it is going to be re-used, it must be translatable from system to system, and application to application. It's just like the standard sizes and dimensions we have for building materials. We can re-use our tools because nuts and bolts have consistent sizes. We can re-use designs because lumber comes in consistent dimensions. Similarly, if we want to properly re-use our information, it needs to be predictable and consistent, so that we don't have to rebuild our toolkits (read design tools) every time we start a new project, or modify and existing facility.

How can EPC's and O-O's better leverage information systems for collaboration on projects? What are the possible breakthroughs in this area?

Get serious about standards and specifications. There is no end to the gadgets and widgets in information management systems. However, regardless of how cool these advances are, they're useless if the deliverables are different every project. O-O's need to set clear, consistent and enforceable standards - and live by them. It's not enough to write standards and expectations for new projects, those expectations need to work with existing data as well. If there are clear standards for what is expected, and what format it should be in, collaboration will just happen – because it's easier. If the standards are not good enough, we'll need to translate before we can collaborate, and that's just hard.
As to breakthroughs… ISO 15926 is huge… but the biggest breakthroughs will come when it starts to permeate the industry and becomes the default. As the next generation of tools come out – how well they leverage 15926 will dictate how big the breakthroughs are.

Ashish Shah, Fluor – Project Director, Industrial Group

What does plant lifecycle management mean to you in the context of information technologies and work processes?

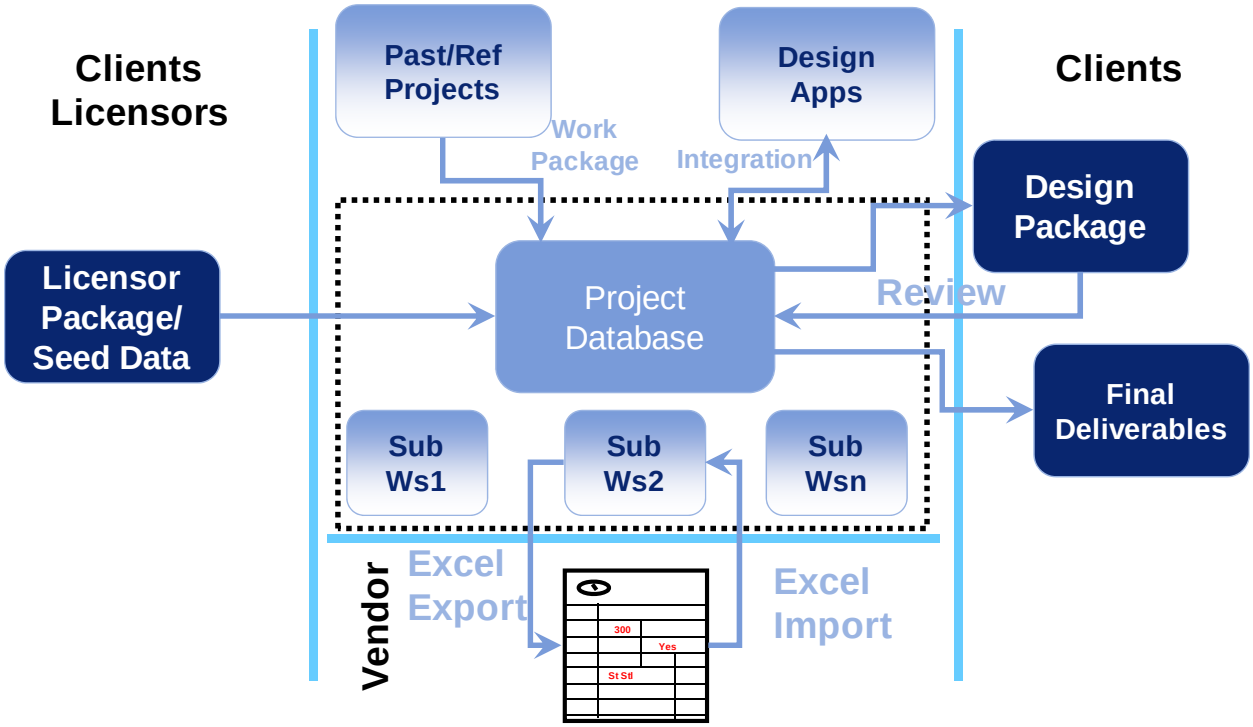
To manage the entire design, procurement, construction, commissioning, startup, operations and maintenance life cycle where ideally a company would received all the seed information electronically and at the end of the design life cycle deliver the information electronically to the client.

What do you see as the biggest changes over the next few years for systems related to design, construction, and operations?

I think the biggest change will have to come in the areas where we really deal with only data and not the documents. Everything should be transferred in electronic format and not any physical documents/files. The OO must be ready to accept and process the electronic information though.

How can EPC's and O-O's better leverage information systems for collaboration on projects? What are the possible breakthroughs in this area?

I have a model depiction of how the information should flow in a globally collaborative system as shown below across the OO, EPCs, Licensors and vendors.



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