

Design, Operate, Maintain

Anna Wells , Editor

How DOM can help improve communication between design and MRO teams

Asset management can make or break an operation, but how can it remain manageable when systems become more multi-tiered and complex?

IFS, a global enterprise applications company, is no stranger to the ERP (enterprise resource planning) market—and, says the company, more and more emphasis must be placed on implementing greater communication between the various entities of a facility—namely those designing it during the contract phase, and those working on the MRO side.

The DOM Reality

According to a white paper on the topic ([Realize The Benefits Of Design, Operate, Maintain Today, June, 2006 \(1\), authored by Christian Klingspoor, an IFS AB Senior Asset Lifecycle Management Advisor \[1\]](#)), “As gaps in communication between design and operations/maintenance have widened, consulting engineers often have been free to design simply to meet a particular capacity increase outcome. Design data is developed separately, often on different platforms, from those used by manufacturing operations and maintenance personnel who will live with the industrial design into the future.

“Currently, an ISO data standard for this information is being developed, and that standardization should at least allow in-house staff and outside design consultants to more seamlessly communicate and share data that leads to greater industrial efficiency. But even before this ISO 15926 standard is finalized, there is plenty that maintenance and plant operations professionals can do to make DOM a reality today.”

Integration, Communication

The key to this seems to be in the consistency and availability of relevant information once operations begin—especially in relating to maintenance concerns. As an example, Klingspoor goes on to describe the crippling downtime that could occur on a hypothetical renovated production line when “the switch has just been thrown.” In the event of a sudden outage in this scenario, what happens if the necessary information maintenance personnel might need to address the outage is buried somewhere “in a stack of CDs and binders left by the consulting design engineers”?

In response to these types of concerns, among others, DOM is designed to keep operations and maintenance information in an easily-accessible format. Says

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Klingspoor, "It will also be important to have an asset management system with a layered architecture. This will enable you to view information on projects as they are in the design phase, and track them through the construction and design."

In addition, says Joakim Fransson, Senior Advisor, IFS Global Industry Group, having this design information in advance can save users valuable time in the long run: "You should be able to start uploading data from an engineering contractor way before you're actually going into operation, meaning you can start working with a preventive maintenance program."

Where (& Who) To Start

According to Fransson, different types of manufacturers will accrue varied benefits using DOM. "Basically, there are three main scenarios that you might work with," explains Fransson. Typical applications could include:

- A "green field" situation, where you've acquired a new plant where everything is uploaded and you basically get everything "in one go."
- You have some sort of a retrofit overhaul process, where there are larger chunks being re-designed, re-built and then put into operation again.
- You have an ongoing maintenance procedure, with smaller types of redesigns, or alignment of the production process.

There are also different volumes in these areas, says Fransson. An operational re-design, often one of the most difficult hurdles a manager can face, can be troubleshoot in advance: "(A manager) can use the data that goes into the redesign and ship it off to an engineering contractor; we have interfaces in order to be able to deliver a complete set of data," he says. "They can start at a higher level of information, rather than starting from scratch."

Maintenance, Early In The Game

One of the most critical elements in this relationship between designers and facility personnel is that plants can get a leg up on maintenance. Explains Fransson: "The quality assurance of the commissioning phase is—in a fully functioning system—before you operate it. So as soon as the 'bits and pieces' are decided within the engineering and contracting environment, you get a copy of it into the asset owner environment.

"The status of the product is set so it is working in a plan for operational fashion. You start working with your preventive maintenance, and everything that goes into the data that is required—like spare part planning for example. You can also hook that up to commissioning pieces—so from an owner-operator perspective, you'd be able to watch the plant grow and actually go through mechanical completion packages to see that everything goes into what you have ordered.

"If you look at design, operate, maintain: there needs to be these two pieces-- design and maintenance-- and they need to be more tightly glued together."

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[1. Christian Klingspoor, Realize The Benefits Of Design, Operate, Maintain Today, IFS, June, 2006](#) [1]

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