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Skyrocketing energy demands… The rising need for raw materials to produce more consumer goods… An ever-expanding global economy connecting the continents… These macroeconomic forces are spurring further productivity investment by owner operators (O/Os), as well as engineering, procurement and construction (EPC) companies. These entities need every possible advantage to differentiate themselves from their competitors.

One of the trends spurring this productivity revolution can be summarized as interdiscipline integration—*or interoperability*. Interoperability is managing, accessing and sharing information seamlessly between the engineering design basis, reliability, maintenance, content management and other systems. It should be a core value and will result in productivity gains both between disciplines within the O/O organization and across the entire plant value chain. Interoperability enables teamwork, and is critical for plant asset management. While the solution to poor asset performance is conceptually clear, few companies currently have a plant asset information management strategy in place that is adequate to support the required interoperability initiatives.

By automating the processes that currently exist between the project phase and the operations and maintenance phase of a plant, interoperability can improve the handover process between EPCs and O/Os. Handover carries a connotation of being a very manual process, but the opportunity exists for people to automate this process dramatically, typically saving $10-15 million and up to a year of effort after the completion of a CAPEX (capital expenditure) project. One of the root causes of owner/ operator interoperability problems is a degradation of engineering design basis information. Utilizing an automated, effective and complete handover process will effectively make the manual handover process disappear, allowing the engineering design basis to be used for the life of the plant by non-engineers.

Significantly, O/Os have the most to gain from improved interoperability, because research has

shown that they bear the largest share of costs resulting from efficiency losses attributable to inadequate handover. However, interoperability opportunities are not isolated to handover and exist throughout the plant life-cycle. Poor management of plant asset information has an impact on the O/O's financial performance. Research studies estimated the cost of poor interoperability across the complete design, build and operate supply chain to be $15.8 billion per year in increased CAPEX and OPEX (operational expense). Of these costs, two-thirds are borne by O/Os—*which incur most of these costs during ongoing facility operation and maintenance (O&M)* .

Participants in one survey felt that poor interoperability between groups representing the design/build and operate/maintain stages averaged 3% of plant revenues. And opinions in the survey were relatively consistent among O/Os and EPCs. While no analysis was done as to the source of these losses (CAPEX or OPEX), the potential savings are obviously large and compelling.

The day is coming when O/Os will be ready to demand interoperability—*and EPCs will say they can make it happen* .
Vendors should support openness standards such as ISO 15926 to provide the necessary tools to ensure project information is reflected accurately in operations and maintenance systems. We simply need to prepare for this day, and make sure we do our part to make it a reality.
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