

# AUTOMATION SUPPLIERS MUST SEE THROUGH THE EYES OF END USERS

As Industrial Facilities Take on More Complex Tasks and Lose In-House Expertise, They Ought to Be Able to Rely on Suppliers to Show the Way and Help Them Achieve Their Goals

by Jim Montague

The best process automation suppliers know exactly what their users need because they listen to them intently and follow through aggressively on what they require. This is always the case at Yokogawa Corp. of America, which works so closely with its customers and end users that they practically live inside each other's heads—similar to all longtime and devoted family members.

For instance, process engineer and CEO Simon Lam described precisely what users need from their suppliers when he delivered the lead-off keynote address, "Current Industry Challenges and Expectations for an Automation Partner," on the opening day of the 2014 Yokogawa Users Group Conference and Exhibition on Sept. 9 in Houston, Texas. This year's event has 500 registrants from 160 companies and 10 countries outside North America, which represents a 40% increase in attendance over the prior event in 2012.

Starting out as a process engineer, Lam has worked for 40 years in various

process applications and organizations, and was CEO of CSPCL, a petrochemical joint venture between China National Offshore Oil Co. (CNOOC) and Shell, until he retired in 2007. In 2008, he rejoined Shell as venture director of Shell Eastern Petrochemical Complex (SEPC), Shell's largest petrochemical manufacturing investment in Singapore, and retired a second time in May 2010. Most recently, he became interim CEO of Indonesia-based Jurong Aromatics in 2012, helped restructure the \$2.4-billion oil and petrochemical manufacturer, and presently serves as an advisor to its board chairman.

"I began as a process engineer at Shell in the early 1970s, and gradually moved to the business side," said Lam. "Of course, there's been a lot of changes in industrial automation (IA) over the years. The control rooms in those early days were all analog panels, and so the operators would tear through the charts to put together reports for the managers. In the past 10 years or more, digital panels and systems and more powerful computers



"Industrial automation is a business tool, not just a control tool, which can help process businesses meet their industrial challenges," said process engineer Simon Lam, Shell retired, in his keynote presentation at the Yokogawa 2014 Users Conference. "Is our industrial automation vendor dealing with cost factors only, or do we have a strategic, value-added partner for growth?"

have come in. They're able to handle much larger data pools at much higher speeds, and they let us manage increasingly complex operations and plants."

Lam added that process control used to be reliable, but was local and scattered. "At five refinery complexes in Indonesia, there would be five managers and five sets of engineers, so they couldn't really be managed together," explains Lam. "Now we have one total plant control solution; we're able to more closely supervise the performance of critical operations and equipment; and we're integrated with manufacturing execution system (MES) portfolios of our equipment and other plant assets. So we're not just doing simple IA and control anymore; we're managing relevant information better and serving operators, technical support staff, managers and other personnel at the different data levels that they need. And it's happening fast and integrated enough that we can manage production as total business unit.

"IA is a business tool, not just a control tool, which can help process businesses meet their industrial challenges."

## **DEEP INTEGRATION REQUIRES DEEPER COOPERATION**

However, this accelerated, deeply integrated IA world brings up some new needs for end users, according to Lam. "The challenges now are these: How do we maintain cost leadership through lowering expenses? How do we achieve safe production with increased scrutiny from the public? How do we get the maximum benefit out of our feedstock? How do we handle the dilution of our technical experiences and resources due to reduced technical know-how and people, and then manage change with improved human reliability? We've got advanced controls and simulations in our plants, but some are so reliable that many operators don't get the experience of managing their systems in exceptional situations," explained Lam. "Finally, we have to ask, is our IA vendor dealing with cost factors only, or do we have a strategic, value-added partner for growth?"

Consequently, as a process control end user, Lam has several essential requirements. "At a minimum, we require a reliable DCS

platform, but sitting on this platform, we need software packages that can make our whole IA system a power tool to achieve short- and long-term financial objectives," said Lam. "We must be able to use IA tools to reduce costs of maintenance through increased reliability; enhance safety with intelligent alarm management that ensures operational integrity; and use simulation software to further optimize production with tools we can use day-to-day that can also aid training. We also want to enhance training and retraining of operators by using more dynamic simulations because it's critical to keep operators trained and alert, instead of being unable to remember important start-up and shutdown procedures after six years have gone by.

"One plant I know trained all its operators before major shutdowns and after major start-ups, while another stopped using its operator training system (OTS) after two years because they had to call their IA vendor too often and weren't able to keep up with it. It's critical to keep OTSs up to date for them to be useful, but they must also be simple enough to use and maintain."

## HELP DEAL WITH THE BRAIN DRAIN

Lam added that to assist young operators and technicians, and to help them avoid mishaps, some end users are employing artificial intelligence to help capture and disseminate the experience of veteran technical professionals. “Capturing and preserving steps in a process control application helps avoid possibly missing them later,” added Lamb. “We also need suppliers like Yokogawa that can enable us to avoid safety infringements or costly downtime, and help us establish audit trails and maintain statutory compliance.”

Likewise, Lam added that individual site managers expect IA suppliers to understand

their unique business concerns and help them meet challenges by using their own industrial knowledge. “Site managers don’t think suppliers have to know everything, but they also don’t want someone to look at them with a blank face,” said Lam. “They just want someone who will really try to work with them. These days, we’re driven to collaborate collectively with consultants and IA suppliers to secure the right business architectures, embedded know-how and best practices to run sustainable, competitive businesses. This means we have to maintain long-term relationships with our suppliers, just as we provide the human resources needed to supplement our own business units.” ■