CIMAC Sets Sights On Shanghai

A conversation with CIMAC President Yasuhiro Itoh

Yasuhiro Itoh, managing director of Niigata Power Systems Co., was named as the new CIMAC president for 2010 to 2013.

The next CIMAC Congress will take place in 2013 but planning is already under way to ensure the 27th gathering is a success. The CIMAC Congress, held every three years, brings together manufacturers of diesel and gas engines and gas turbines and the users of these prime movers in such applications as ship propulsion, power generation and rail traction. The 26th Congress was held in Bergen, Norway, in June and hosted more than 900 delegates from 39 countries. More than 230 papers were presented.

During the 2010 Congress, Yasuhiro Itoh, managing director of Niigata Power Systems Co., was named as CIMAC president for 2010 to 2013, with responsibilities for the 27th CIMAC Congress in Shanghai, China, in May 2013.

CIMAC, the International Council on Combustion Engines, was founded in 1950 as an industry forum to discuss new ideas and developments within the engine and components industry together with institutes and universities. That spirit continues to this day but now also includes a greater emphasis on end-user attendance by soliciting technical presentations from operators and designers of ships, power plants and locomotives.

"Former CIMAC president, Karl Wojik, created a clear strategy for CIMAC and aligned all of the CIMAC roles to create a worldwide association for large engines," said Itoh. "My goal is to build on what he established by continuing to grow and strengthen this organization, a special emphasis being CIMAC's geographic reach."

Accordingly, one of the key tasks on Itoh's agenda is to increase CIMAC participation from China and Korea.

"We will be seeking increased involvement from Asian countries," said Itoh. "Japan has a long history with CIMAC and has been very involved with the organization. I would like to see similar commitments from China and Korea. Japan, Korea and China make up a very large portion of the manufacturing and engineering of large engines. We are in contact with key personnel in China and Korea to try and increase the involvement from companies within those countries. We are looking for ways to promote the congress within that region and increase the involvement from companies located there. The 2013 Congress will be held in Shanghai. I believe it will be very successful. We are meeting with appropriate personnel to ensure participation is as strong as it can be from Asian country manufacturers."

Myriad challenges face engine communities today. When CIMAC gathers in 2013, considerable focus will be on emissions. According to Itoh, regardless of the application, emissions are one of the biggest challenges for the engine landscape. Itoh sees stricter regulations as a growth opportunity for engine and turbine manufacturers around the world.

"Environmental protection and associated regulations are the driving force of technology improvements," said Itoh. "A strong company will be stronger. Weak companies will be weaker due to such very high challenges.

"Emissions are among the key challenges of the engine communities right now. Within the marine industry, for example, IMO Tier 3 is approaching. IMO Tier 2 can be achieved by an in-engine solution. For Tier 3, there are a lot of different approaches. So far we don't know which is the best solution. It is both pre- and post-cylinder solutions

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— aftertreatment or two-stage turbocharging for example — that are currently making progress. There are a lot of terms in use today: low sulfur diesel, dual-fuel engines, heavy fuel oil, water injections, cold ironing, alternative fuels, common rail — these are all popular terms in the industry today. There is an endless list of possibilities. But there are a host of options that are in development and in the market today that won't be around in three to five years. Some of the technologies being developed today will be scrapped, and some will be greatly improved. By the next CIMAC Congress, it might be a lot clearer which of these technologies is right, which will still exist."

Itoh added, "The question was asked at the panel discussion during the Congress this year, 'What comes after heavy fuel? What is next?' One panelist answered, 'It is heavy fuel.' LNG does not yet have a sufficient infrastructure. SCR … if every ship installed SCR, is it possible to provide a catalyst to all of the engines? Is it possible to provide urea in all ports? It is not a viable solution yet. There is no single right answer today. Hence, we will continue to explore new technologies and developments."

CIMAC's focus goes beyond the engine and the turbine to include the complete engine room. Itoh said the technologies needed to address today's challenges will also come from beyond the engine. "The discussion must include the integrated systems and controls as well," he said.

"CIMAC was founded in 1950 to discuss the problems facing large engines. The first CIMAC Congress was held in 1951," Itoh said. "The key topic was heavy fuel. Nearly 60 years later, we are still discussing heavy fuel. But combustion is not the single biggest issue within the CIMAC organization. Past issues have been heavy fuel, greater fuel economy, increasing power. Now it is the time of emissions. This is not only a focus for the engine, but for all of the integrated systems and controls as well."

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BY ROBERTA PRANDI

Distributed I/O Systems

Regulateurs Europa Ltd. introduced Iceni, a new product range for the company's portfolio of control and monitoring systems

A typical node with Iceni input/output modules, master module and power supply. Iceni is a new product range by Regulateurs Europa, part of the Heinzmann group.

Regulateurs Europa Ltd., part of the Heinzmann group, believes that Iceni is a significant addition to the company's portfolio of control and monitoring systems. In fact, the Iceni modules can be used to either communicate with PC or PLC equipment, or extend the range of RE Viking35 digital governor ECUs, said the company.

Iceni provides a range of digital and analog input/output modules that can be plugged together to form nodes on a distributed I/O system. These nodes can be positioned at strategic points around the plant, enabling local field devices to be wired to the modules rather than individually back to the master station, thus simplifying the plant wiring.

The DIN rail-mounted modules have up to eight channels according to the module type. Configuration parameters of specific I/O channels and fieldbus communications are set using an integral graphic color display and front panel pushbuttons to navigate the menu system, thus eliminating the need for a dedicated programmer or laptop, said Regulateurs Europa.

"With a temperature range of -20° to 70°C, Iceni has been developed to withstand the high temperatures of an engine room environment, but is equally suited for a much wider role," said Nick Mace, sales manager at Regulateurs Europa.

"This product has been developed for all applications, both to enhance our range of control and monitor solutions or as a device for other OEMs," he added.

Mace said each network node is controlled by a master module that always occupies the first slot; a combination of input/output modules is then plugged into the master module to cover the specific requirements. The master module can access the input process image to determine the plant status and also write to the output process image area to control plant devices.

Each node is completed with a single power supply module or two power supply modules if redundancy is required.

"The master module is currently available with Modbus RTU communication protocol, but more protocols, including CANopen, will be available soon," said Mace.

"The status of individual channels is easily identifiable by the LED indicators on the front panels. As an aid to commissioning, local plant status information, including analog input values, can be displayed on the graphic display without the fieldbus connection being present," said Mace. "This permits wiring and device operation to be verified locally, completely independent of the fieldbus controller."

To help fault finding, diagnostic information on the fieldbus and the input/output modules is available on the graphic display. Changeover alarm contacts are provided on the master and power supply modules, and these can be used to alert the operator that a node is not available or to enable backup control systems.

The Iceni modules are currently being prepared for marine approval by DNV (Det Norske Veritas) and Lloyd's Register.

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