

Systecon™





Systecon™

50 YEARS OF
**CONTINUED
SUCCESS**



Written by Robert Hoshowsky

Without a doubt, COVID-19 has presented companies with both hurdles and opportunities. For Ohio-based Systecon, the pandemic was a chance to grow and explore bold, innovative ways of reaching out and interacting with clients.

A global leader in the manufacture of customized modular utility solutions, modular central plants and pumping systems,

and the company behind the acclaimed CritiChill® modular indirect evaporative cooling system, Systecon's services include installation, preventative maintenance, energy management solutions, monitoring of controls, upgrade and retrofit and more. Serving customers in diverse markets such as food and beverage, hospital and medical, retail, gaming, K-12 and higher education, industrial and others, the company remains very hands-on. ▶▶

► Biogas and CritiChill: powering the future

Environmentally friendly and renewable, biogas is quickly gaining popularity as an alternative to natural gas as a source of fuel. Although natural gas produces less carbon dioxide than burning oil or coal, it is still a fossil fuel, and the supply will eventually be exhausted. Recognizing this, the world is looking to biogas – produced from organic matter such as plant material and manure – as a substitution for fueling vehicles, and as a replacement for natural gas as a source of energy.

Playing a significant role in the future is Systecon's patented CritiChill system, developed by the company in-house. Brought to the market about a decade ago, CritiChill is dramatically more efficient (up to 30 percent greater) compared to ordinary air-cooled chiller plants operating at full loads, and uses only 20 percent of the water required by regular cooling towers.

Although biogas is a fairly recent development for Systecon, the company has been involved in a push for de-carbonization for some time, and CritiChill has long been a part of that equation.

"CritiChill is an electric-based product, so what is the source of the electricity?" asks Systecon's Sales and Marketing Manager Alex Juncker. "We are working with clients, so they evaluate that." In some cases, clients want to use the CritiChill system, but their existing power generation is carbon-intensive, such as coming from coal-powered plants. Based on the flexibility of the product, Systecon advocates using water for the heat

rejection cycle to reduce the amount of energy consumed, so the impact from that power plant is reduced. "So if we can improve the efficiency of the plant or of the CritiChill unit by utilizing water for evaporation, we can get better efficiencies," states Juncker.

Systecon is seeing tremendous activity in Canada right now with customers using renewable power and reducing the amount of water they use to cool.

"CritiChill is really able to mesh between those two situations, because it's not a product necessarily tied to water usage cooling due to its hybrid nature," says Juncker. "I think that's a great option for most of our customers when they are looking at electrification; you can use a CritiChill chill unit to do simultaneous cooling and/or heating, but with that, we can also evaluate reducing or limiting water usage, or reducing power consumption by improving the efficiency through water usage. So it is agile from a product standpoint to meet those de-carbonization goals."

Systecon sees itself being more and more involved with biogas and meeting the low- or no-carbon goals of its customers in the future. With unique abilities to design and plan for these goals and factory-test to see efficiencies of products before they are shipped, the company is well-equipped for a world using fewer fossil fuels and more clean, non-polluting renewables.



The value of virtual reality

Prior to the pandemic, customers came in for tours, where they could see and touch systems for themselves. The pandemic changed that for a time, with the need for physical distancing and safety. Although the company was deemed essential and continued to operate, in-person visits were few and far between.

This compelled Systecon to come up with a unique way of reaching out to clients and giving them a real-world experience delivered through virtual reality (VR).

“The VR came out of the inability to have people travel,” says Juncker. Starting development in the summer of 2020, Systecon unveiled the first prototyping a few months before rolling out the technology to its sales force.

Since customers were unable to physically come to the company’s facility because of COVID, Systecon brought a virtual reality offering to its clients through Oculus VR headsets. Oculus is one of the biggest manufacturers of these headsets. Translating the wearer’s movements into VR, the headsets immerse the user in the experience.

To prepare customers for their virtual visit, Systecon couriers them an Oculus headset, or delivers one through Regional Sales Manager Patrick Gaspar if he’s in their area. Once they don one of these hand control-equipped headsets, clients see a 3D version of the company’s pump package, with experts from Systecon standing by hundreds or even thousands of miles away available to answer questions.

While customers usually plan a VR walkthrough of 15 to 30 minutes, most end up staying at least an hour because of the strong interactive experience, and the valuable opportunity to feed questions about the product to experts.

“You get out of the virtual environment pretty quickly,” says Juncker. “Your brain adapts, and you’re then having a human conversation through the technology, even though he may not be in the same room, state, or even country, which is pretty great.”

Taking the lead on the VR project, Gaspar says customers really enjoy the experience. Systecon can point to how solutions are designed and developed in order to control risk. Real-time conversations in the environment speed up the design and learning process for owners, engineers, and construction managers.

Another pandemic approach included virtual training webinars to keep the business on track. ▶▶



► One-stop shop

Celebrating 50 years in business, Systecon has plenty of industry experience and longevity on its side. A one-stop shop means the experts at Systecon take care of all services and project parameters, from initial design to development, plant design and component selection, factory testing, shipment, start-up, commissioning, and any other related services.

Customers have peace of mind when they work with the professionals at Systecon because systems are tested in-house and backed by a complete, single-source warranty.

“From the customers I’ve spoken to there are multiple advantages,” says Gaspar, “including the availability of full-time, highly skilled and technical trades, engineering, greater speed to market, and risk management.”

With proven processes, Systecon handles requests from initial concept through design, manufacturing and delivery, start-up and turnover. By handling these aspects, Systecon can control costs, the scope of materials, and how equipment is going to perform.

“In addition to performance, safety is a key success factor for many customers,” says Gaspar. “Our safety rating is 0.47, and the industry average is 1.0. If you are above 1.0, you run into insurance and financial impacts for how the job is executed,” he says. “With Systecon’s safety rating, off-site construction is a major benefit when being selected to perform work and control risk.”

Beating the seasons

Another benefit to customers is Systecon’s large facility in West Chester, Ohio. Since it is indoors, weather is never an issue creating systems, and adverse jobsite conditions are eliminated. “Building in the wintertime doesn’t affect us at all; in fact, it’s an advantage,” says Gaspar.

For clients, the facility is also an ideal place to host owners, engineers and contractors (with COVID protocols in place) to come and check over the finished product before it’s delivered, adding additional value.

“Systecon is a business rich in pump system experience. From a design-engineering and construction point of view, the business simply cannot be beat.”

While performing in all three facets of project management – quality, cost and schedule – Systecon provides a well-rounded solution that is customized for each client accordingly. The result: certainty and confidence from the start, where a client can essentially pre-purchase a large and critical undertaking of work involving multiple trades and different disciplines – all up front.

“And we will hold to that,” says Gaspar, “because it’s a manufactured process. Everything is approved before we buy materials, before we build it and test it, so we eliminate any opportunities for change orders of stick-built construction in the field at the jobsite. Since we are in the factory, we avoid all those issues.”

Ahead of the pack

As the company behind standard pump packages along with customized modular pumping systems like VariPrime® and the ultra-advanced CritiChill® system, Systecon is a business rich in pump system experience. From a design-engineering and construction point of view, the business simply cannot be beat.

“We take pride in quality, and we are smarter than the average bear,” says Gaspar, “and I say that humbly though, because we have a wide range and a very deep bench of resources.”

Many of the company’s employees have been with Systecon between 20 and 40 years. Maintaining that wealth of knowledge and experience on all fronts allows the company to focus on providing products that are high-end, made from the right materials, and that meet all codes or regulations on any jobsite around the world, especially in North America.





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"That engineering and experience factor, and having good tenure on our staff, allows us to fully understand what the owner is asking, what problems we are solving, and what the requirements are from an engineering point of view – as well as code, regulation and compliance."

Acquired by ENGIE in 2019, Systecon's planned expansion in February 2020 coincided with the arrival of COVID. However, the timing worked out for them, as it allowed for additional space on the production floor, enabling the company to implement social distancing, which it wouldn't have been able to do otherwise.

"It was fortunate that event occurred at the time it did, with the opening of that expansion," says Juncker. "It added another 25,000 square feet of production along with lifting capabilities

of 70 tons in the production bay." The company facility now comprises about 146,500 square feet.

In the coming years, Systecon will continue to focus on decarbonization goals and energy-efficiency improvements. With its unique ability to design, plan and test the efficiency of products before they ship, Systecon continues to provide value to the marketplace.

"For us, it's not necessarily always the end product; it's how we work together, and how we can assist the owners and engineers to properly plan for a successful project that will allow for speed," says Juncker.

"Being involved early is key, and proper planning from inception is very important." ■



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