

IN CONTROL

QDS helped keep sewage from flowing onto streets during August floods

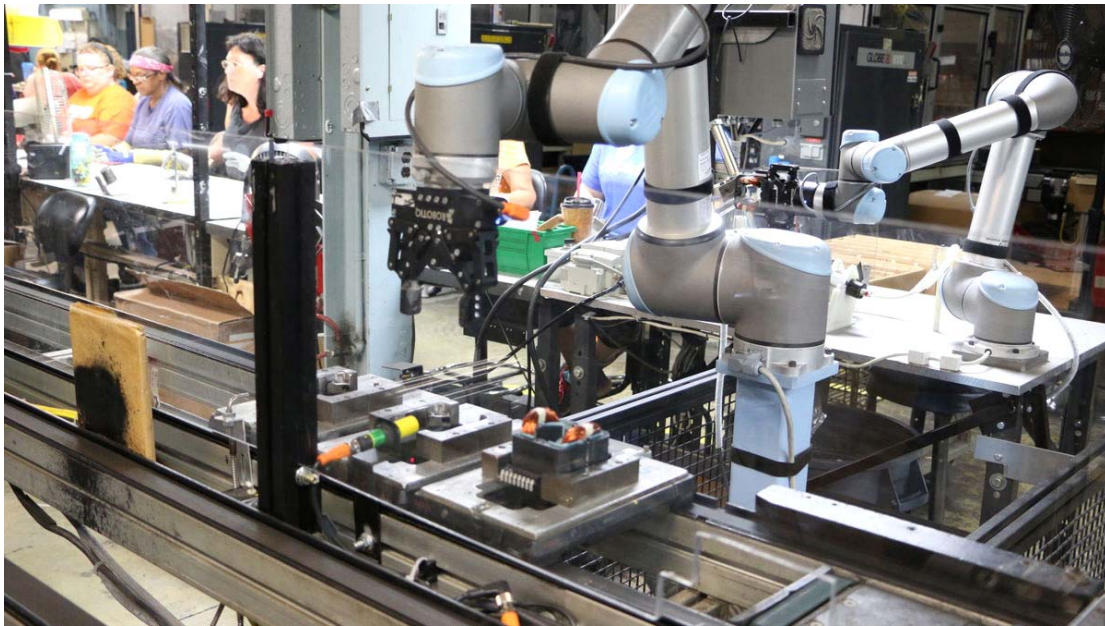
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Cleaning tanks, foreground, and holding tanks for overflow are part of the South Wastewater Treatment Plant on Gardere Lane. Long before it was built, engineering consulting firm QDS Systems in Baton Rouge was able to show how the facility would work.



Powerful pumps move wastewater through the South Wastewater Treatment Plant on Gardere Lane. Long before it was built, engineering consulting firm QDS Systems in Baton Rouge was able to show how the facility would work.



Two robots work in tandem along conveyor belts that transport electrical components for a customer of Universal Robots. Engineering consulting firm QDS Systems in Baton Rouge is a Louisiana distributor for Universal's collaborative robots, or 'cobots.' They are designed to assist workers with a variety of repetitive tasks. The two robots were named Thelma and Louise by workers who feared the cobots might drive their jobs off a cliff. Instead, they've discovered the cobots free them from tedious tasks, allowing workers to focus on more challenging jobs.

Long before the city-parish completed the South Wastewater Treatment Plant, the centerpiece of more than \$1 billion in federally mandated improvements, one could get an idea of the facility's workings by visiting a business on Industriplex Boulevard.

Inside QDS Systems, the entire plant setup was jammed into 1,500 square feet. There were the automated systems that regulate pressure, pumps, filters and water quality. Also, the controls that one day would allow workers to direct millions of gallons of wastewater into four massive tanks off Gardere Lane and help prevent sewage from running into the streets during the August flood. All of that took shape in much-reduced size at QDS.

"A system typically requires that first you have to engineer it," QDS President Stan Prutz said. "But then you might have to work with a customer to really determine what his needs are, to figure out the details of what it is they really

need."

Once that's done, QDS shows the client the kind of automation that can be applied to the problem. It writes a detailed report of what will be done; turns the report over to engineering; comes up with detailed drawings of the plans; and puts together a "book" that includes prints of what the system will look like, how it will be installed and wired together, and all the information needed to train the client's workers on the system.

The engineering consulting firm also creates a small-scale version of many projects to make sure they perform as planned. The working models have included the robotic gantry system — the platform that allows a crane to travel the length of a factory floor — for a tiremaking plant in Santiago, Chile; the East Baton Rouge Parish water treatment plant; and a pipelaying barge sent to Malaysia. "The simulations are fabulous," Prutz said.

QDS builds the control panels in its shop, then sends them to the plant where contractors install them. The company sends an engineer out to commission the system, which may involve programming, tuning or calibrating the process and providing some training for workers. The company also makes sure the software and hardware of a client's adjoining systems works together seamlessly.

"And that's how you end up with automation," Prutz said.

Some projects can be done in a week. Some, like the water treatment plant, take years.

QDS designs control systems for petrochemical, oil and gas, water/wastewater, and the food and beverage industries.

Charlie Freeburgh, vice chancellor for workforce development at Baton Rouge Community College, said instrumented control systems handle thousands and thousands of processes at area plants and refineries.

"The best analogy is the cruise control of your car. If you want a certain speed, you set it and the instrument measures the speed of the car and tells the accelerator, if you will, to speed up or slow down," he said.

In a chemical plant, control systems can maintain the content level and temperature in a tank, manipulating valves to add more material or less. Those sorts of level controls are on almost every vessel in a plant. They all tie into distributed control systems, the computer systems that allow a control room

operator to monitor the plant's operations.

The control systems have been around for decades but have grown far more sophisticated over time, Freeburgh said. The new digital systems can measure a process a thousand times a second and make adjustments instantly.

The demand for these types of services is growing, partly because of the manufacturing renaissance underway in Louisiana, partly from the constant push to cut costs and improve efficiency.

Until recently, the state considered \$5 billion worth of permits for industrial projects a pretty good capital investment, Prutz said. Right now, Louisiana has somewhere between \$50 billion and \$100 billion worth of permits — 10 to 20 times the norm — with the bulk of that work in Baton Rouge and Lake Charles.

Prutz said the company's annual revenue has ranged from \$3 million to \$6 million in recent years, depending on what large projects are underway.

"Right now, we're kind of focusing on slower growth. We're not trying to double overnight," Prutz said. "We've set a goal of growing 20 percent a year, and given that some of the new markets that we're getting into are growing way faster than that, it should be quite doable."

For example, QDS recently added to its list of solutions collaborative robots, which assist workers with a variety of repetitive tasks. QDS is Universal Robots' premier distributor in Louisiana and certified systems integrator. The global market for "cobots" is expected to jump from \$110 million in 2015 to \$3.3 billion in 2022, according to research firm MarketsandMarkets.com.

So far, QDS has tackled only a couple of cobot projects, Prutz said. But he expects that to change.

In the meantime, QDS has prepared for the coming growth. The company already has plans drawn up to double the size of its 5,000-square-foot building and has the property to do so. The company now employs 12 people, but the existing building can handle four to five more at most.

Prutz said one of the keys to the company's success has been servicing what it sells.

Early Tuesday morning, Prutz spent a couple of hours on the phone with a

Bogalusa official, helping troubleshoot the city's wastewater treatment control system. QDS sold the system to the city 18 years ago.

Customers remember that type of help, Prutz said. The company's strategy of partnering with clients is the reason QDS has customers like Bogalusa or a food company that Prutz has worked with since the 1980s.

Prutz said in addition to service, the keys to the company's success include having a broad breadth of knowledge.

"So many people out there who provide support know their part, but they don't know all the other pieces," he said. "And today, it's about how all the pieces are connected and work together more than it is about any one piece."