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The editors of Water Technology
report breaking news and session
highlights from **WEFTEC 2025**

September 29 - October 1, 2025 • Chicago USA

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BUILDING A
**RESILIENT AND
SUSTAINABLE**
FUTURE

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Building a resilient and sustainable future

WEFTEC 2025 kicked off with an opening general session that focused on the theme of resilience in the water sector, recognizing the challenges of climate change, aging infrastructure and workforce gaps

By Alex Cossin

Resilience is one of the guiding principles for the water sector, driven by the need to address climate change, aging infrastructure and equity challenges. The Metropolitan Water Reclamation District of Greater Chicago (MWRD) was highlighted as an example of historical and ongoing resilience, specifically referencing the bold engineering feat of reversing the flow of the Chicago River over a century ago.

The work of the water community, from managing storms to recovering resources, was described by MWRD

Board of Directors President Kari Steele as “writing the next chapter of resilience.”

“That bold engineering feat, one of the greatest of this time, was born of necessity, vision and courage,” Steele said. “And it continues to inspire us today.”

WEF’s three strategic pillars

WEF President Howard Carter outlined the organization’s mission to secure a more resilient future through three pillars:

Workforce attraction and development: Carter



“Our study reveals a \$47 billion opportunity around reducing waste and enhancing system efficiency.”

highlighted the need to address the “Silver Tsunami,” or age-related retirements within the industry, by attracting a diverse and passionate water workforce. This involves raising awareness, providing training and certificates, and connecting talent to in-demand jobs. The Operations Challenge was showcased as a leadership development incubator.

Cultivating a purpose-driven community: Carter emphasized the value of volunteers, committees and member associations in fostering collaborations and connections. The goal is to build community by promoting best practices and inclusive engagement. Carter cited the revitalization of the Utah Young Professionals (YP) group as an example.

Leading the transformation of the circular water economy: Shifting the traditional “extract, use and discard” model to one that treats the water cycle as a renewable resource involves reducing waste, recovering nutrients and energy, and regenerating nature. Carter highlighted a recent WEF study that revealed a \$47 billion funding opportunity in this shift.

“Our study highlights the opportunities for water strategies that are responsible both environmentally and

financially,” said Carter. “In fact, the recent study reveals a \$47 billion opportunity around reducing waste and enhancing system efficiency.”

The personal meaning of resilience

Travis Mills, retired U.S. Army staff sergeant, author and founder of the Travis Mills Foundation, speaking at WEFTEC 2025 in Chicago about his struggles as a quadruple amputee and how he has adapted to change.

Mills’ core message is that while one cannot always control a situation, one can always control their attitude. He emphasized the vital role of having a support group – his family, the dedicated medical team that saved his life and fellow veterans who had overcome similar injuries.

Following his military service, Mills created the Travis Mills Foundation to support other injured veterans and their families, showing that a devastating event can lead to a new, powerful mission to serve.

“As a platform, WEFTEC is more meaningful than ever,” said WEF Executive Director Ralph Erik Exton during the opening general session. “It is a platform for communities to connect and for critical content to be shared.

Schneider Electric's green path to optimized water

The company's optimization solutions range from digital twin design tools and comprehensive process management software to smarter drives and open, software-defined automation systems

Daniel Gaddy

The staff of Schneider Electric are offering tours of the future of water solutions throughout WEFTEC 2025 this week in Chicago. A pathway in Schneider's iconic shade of green takes visitors to several stops all within Schneider's booth, #2349, at the McCormick Place Conference Center in Chicago.

The first stop is a massive screen highlighting EcoStruxure Water Advisor, a comprehensive suite of management software developed to manage the complete water cycle. This includes aspects from planning and design to operations and maintenance. The suite also pairs aggregated, contextualized data with predictive analytics to optimize water operations.

According to Schneider officials, EcoStruxure allows for real-time enterprise-wide visibility by entirely connecting operations—from the field to the main office—into a single, unified view. This platform drives smarter, data-informed strategies by integrating operational technology, information technology and energy technology.

Shan Subramaniam (picture), water and wastewater segment leader for Schneider, showed an example of how this software would work for a state-wide water treatment operation.

"It looks at, from a headquarters view, what's my high level KPI of operating assets right down into an asset that I'm operating, like a typical pump," he said.

EcoStruxure can show users how that pump is performing by tapping into maintenance information



coming from an IT data source as well as operational information from an OT data source.

On the next stop of Schneider's booth tour, Brian Plamondon with Schneider's Secure Power Division, talked about the solutions the company offers for redundant servers with uninterruptable power supplies.

"Redundancy is a huge deal, and making sure that you have everything stay online despite power going out, that's the biggest piece of the puzzle here," he said. "I look at it like [a football analogy]. The server is the brains. That's the quarterback, right? They're throwing the big toss. They're making sure all the information gets to where it needs to go. I look at the uninterruptible power supply, like a left tackle. It's the second highest paid player on the team, right? It's the second most important position, because you're keeping the quarterback from getting sacked. That's the same exact way we're making sure that your servers stay up."

At the next stop, Heleno Linhares discussed Schneider's work in the shift toward open, software-defined automation (SDA). Unlike traditional systems tied to proprietary hardware, SDA decouples software from hardware, creating an adaptable, vendor-agnostic framework.



“With open, software-defined automation, you are able to develop your application and, only in the end, decide what is the best hardware architecture for your application.”

Schneider Electric has emerged as a global leader in this transformation. As a founding member of UniversalAutomation.org, Schneider Electric is not only advocating for open standards like IEC 61499, but also actively building solutions that enable them. EcoStruxure offers a modular and flexible approach that allows businesses to modernize legacy infrastructure, scale operations and innovate without the constraints of vendor lock-in.

“Now you are able to develop your application and, only in the end, decide what is the best hardware architecture for your application,” Linhares said. “And this architecture can be hardware from Schneider or any vendor from UniversalAutomation.org.”

On his stop of the tour, Product Application Engineer Thom Chenoweth highlighted Schneider’s latest technology in ultra-low harmonic drives. He said the company’s Altivar Process ATV680 series now offers its smallest footprint yet, taking up 40% less space than its predecessor.

“With this reduction in size, you also lose weight—about 1,000 pounds. You’re also going to cut energy usage, and you don’t need to cool the room as much,” he added.

On the next stop, Energy Management Software Sales Executive Lauren Krueger discussed Schneider’s etap software, which offers electrical power systems modeling and simulation, optimizing customer electricity power systems based on their digital twin equivalents.

“What’s unique about etap is that it can actually map to meters in the field, and it can pull in real-time data,” Krueger said. “So once you have real-time data in a power

system study software, you can use that for doing more dynamic simulations, so you’re more able to evaluate what’s going to happen with your system.”

Krueger also showcased SpecLive Collaborate, a first-of-its-kind platform streamlining the specification development process. This system provides complete, up-to-date information to increase accuracy for architectural, engineering and construction specifications. Developed in partnership with RIB Software, this next-generation platform provides new levels of simplicity, transparency and version control for modern design and engineering firms.

Also highlighted at Schneider’s booth were the company’s motor control centers. Product Manager Jenna Wilkens showed off equipment like the Altivar Process 630, part of the next generation of variable speed drives designed to deliver Industrial IoT benefits. These devices are EcoStruxure-ready solutions that provide built-in intelligence to gather data and share information at the enterprise level. They offer a range from 0.75 kW to 2600 kW in all voltages.

The last stop featured a presentation from Principal Technologist Sahand Iman of Schneider’s AVEVA Process Simulation, which is now available for the water and wastewater industry. This is an integrated platform for engineers and operators to innovate across the entire process life cycle, from design and simulation to training and operations. This solution offers a digital twin with which users can explore all dimensions of a potential design and to quantify the impact on sustainability, feasibility and profitability for each engineering process.

For a deeper look into Schneider’s water solutions visit
<https://www.se.com/us/en/work/solutions/water/>.



From new ideas to transformative innovations

WEFTEC panel discusses how water industry innovators can help ensure their new ideas don't sit idle on the launch pad

Keith Larson

The Innovation Showcase theater at WEFTEC 2025 is hosting a series of presentations and panel discussions this week on a broad range of technical innovations with meaning for the water industry. But Monday morning's session on "The Dynamics of Water Innovation" focused on the business of innovation itself. That is, how entrepreneurs and other organizational innovators across the water landscape can most efficiently move their next idea into a new business and ultimately an accepted practice industrywide. 120 Water's Megan Glover

(left in image) and Xylem's Sivan Zamir (right in image) were joined by Ecolab's Brian Larsen in a wide-ranging discussion moderated by the University of Michigan's Glen Daigger.

Fully understanding—and being able to articulate—the value proposition on one's solution was one of the central recommendations of the panelists. "It's too easy to focus on the technology and the engineering involved in the new innovation and not the specific return on investment it promises," said Glover. "One also needs to understand capital market dynamics," she added.



“It’s too easy to focus on the technology and the engineering involved in the new innovation and not the specific return on investment it promises.”

“Entrepreneurs sometimes underestimate their negotiating power.”

And that can lead to an endless series of pilots that never realize the profits that are needed to make a business out of the innovation. “You can’t make a business out of selling R&D,” Daigger quipped.

“Make sure the price you establish for your innovation is based on value delivered, not cost incurred,” said Zamir. “Also, do your homework and know what personas are involved in deciding to give your innovation a try.” One especially useful tool is a pilot-to-scale agreement that specifies if a free pilot meets all promised KPIs, the buyer is obligated to invest in a full-scale implementation.

When it comes to finding an outside source of funds to grow your business, “choosing your capital partner is everything,” said Glover. Not only will they provide funding, they’ll be on your board—and they can have a huge impact, she stressed. “As an industry, we need more funds that understand the water business and appreciate what’s possible.”

“Sometimes there are ‘water curious’ investors that don’t understand the returns that are achievable in our industry,” added Zamir. “Also, remember that venture capital is not the only way to go.”

More established companies such as Xylem also have accelerator programs that provide funding as well as technical and business expertise and connections. “In

general, innovators are looking to accelerate their learnings,” Zamir said. Accelerators and channel partners can be great sources of data points that confirm or contradict one’s own assessments with respect to one’s value proposition, she added.

“Value proposition will be specific to each customer, depending on the problem they are trying to solve,” added Glover.

“Don’t start with vague value propositions like percentage savings,” said Savin. You need to have specifics that may take the form of quantitative, spreadsheet-calculated impacts based on a particular customer’s production parameters. “You need to give them dollars and cents for their particular operation,” she explained.

“My company, 120 Water, was started as a provider of water testing kits,” said Glover. But what customers really found of value was the real-time data that the tests gave them. And that’s how 120 Water became a software company. “What you want to do is innovate on what your customers find of value.”

On the funding front, you need to make sure you’re not forever stuck in runway mode, added Larsen. “You have to get enough funding to get off the ground.” And when you find an investor, “oversubscribe if you can,” added Glover. This is especially important so that you can hire the leaders you need to get off that runway and really take off.

America's water crisis approaches tipping point

While U.S. leaders recognize the urgent need for smarter water management and infrastructure modernization, there's a significant and concerning gap between strategy and execution

As America's manufacturing sector—which already accounts for more than 75% of water use in 60 U.S. counties—surges amid reshoring and digitalization, water demand is set to intensify. Against this backdrop, coupled with aging water systems buckling under pressure, it's no surprise that 60% of leaders believe that water-related risks will outpace all other infrastructure threats and two-thirds agree that near-term water infrastructure updates are critical.

The U.S. leads the world in per capita water use—1,802 gallons per person—yet 20% of treated water, representing 7 billion gallons or enough to supply New York for a week, is lost every day through leaky pipes, according to Schneider Electric's Sustainability Research Institute. And with 260,000 water main breaks each year—one every two minutes—the financial and operational toll is mounting, costing utilities \$6.4 billion in lost revenue and cities \$2.6 billion in repairs annually.

“Water is not just essential for life. It's the backbone of America's economic strength. Yet today the U.S. is facing a major water crisis, driven by driven by dwindling supply and outdated infrastructure,” says Sophie Borgne, water & environment segment president, Schneider Electric. “Effective water management is no easy task, but we have a clear opportunity and collective responsibility to embrace automation and smarter water strategies to avoid putting economic growth and urban resilience at risk.”

Disconnect between strategy and action

The study, based on insights from over 200 U.S. decision-makers and conducted in partnership with B2B



research firm NewtonX, shows that despite widespread recognition of the risks, execution is lagging. While 9 in 10 city leaders and 6 in 10 business leaders report having a water strategy, only a small fraction fully implements it. Just one in 10 leaders consistently follow smart water plans, citing budget constraints, operational pressures, and lack of real-time data as key barriers. Cybersecurity concerns also loom large, with 25% of leaders worried about system vulnerabilities.

The study also reveals the difference in priorities, with city leaders ranking water management as a medium priority and business leaders not seeing it as priority and placing three times more importance on cost reduction, with an added focus on AI and digital transformation.

Digital solutions face barriers despite proven ROI. Smart technologies like leak detection and digital twins offer proven benefits, delivering 5–10% cost savings for nearly half of city leaders and 40% of business executives. Budget constraints, cybersecurity risk and operational complexities remain key barriers to adoption. City leaders cite knowledge gaps, while business leaders grapple with competing priorities that hinder progress.

To learn more, [download](#) the full Schneider Electric study entitled: “U.S. Water Infrastructure: From Fixing Leaks to Regenerating the System.”

Aquacycl hits ground running at WEFTEC 2025

CEO Orianna Bretschger and her team had plenty going on during the first day of WEFTEC 2025

By Jesse Osbourne

Orianna Bretschger was on the move during the first day of WEFTEC 2025 at McCormick Place in Chicago.

The Aquacycl founder and CEO was a steady presence at the industrial wastewater treatment company's booth, with she and her team providing wastewater consultations and walking booth visitors through demonstrations of the company's BETT and SulfideFix units.

And Bretschger was also a featured panelist during a Monday afternoon technical session as part of the event's Innovation Pavilion. Overall, it was a busy first day at the water industry's largest event of the year.

"WEFTEC is a great event, one that we look forward to every year. It's an opportunity for Aquacycl's business to connect with engineers, EPCs, partners, vendors and, of course, folks that we've been collaborating with in the industry over the years," Bretschger said. "And it's a super important meeting, especially on the wastewater side of water, where it's an opportunity for everyone to talk about what's new in their product lines, some of the latest case studies, and a great opportunity, too, to learn about new research and all of the different panels and technical discussions. It's really a wonderful way for the industry to connect and learn what's new, what's upcoming and what's next."

At Booth 6221, visitors were not only able to meet with the Aquacycl team, but they were able to go in-depth on the company's BETT system — a modular, onsite industrial wastewater treatment system designed for treating high-strength wastewater at the source.

"Aquacycl's BETT system is a bioelectric chemical treatment technology," Bretschger said. "It's an



opportunity for us to show folks this is a very new way of doing treatment where we're electronically controlling metabolism, and that enables us to take out some massive loads — 3,000 pounds of BOD [biochemical oxygen demand] per day, but it only requires 16 kilowatt hours a day to do it.

"It's a different way of doing industrial treatment and it's always great to be able to show and tell."

Aquacycl's BETT systems are currently being used in [food and beverage](#), [oil and gas](#), and chemical processing operations.

Also on display was the SulfideFix odor control product, [which was launched in September 2024](#), just ahead of WEFTEC 2024.

"SulfideFix is a way to prevent sulfide emissions in storage tanks. We have this installed also with several of our clients now, ensuring that there is a safe operating environment without the odor nuisance and without the corrosion hassle," Bretschger said. "And what's unique about the SulfideFix product is that it retrofits into existing tanks... we can come in, install our units and take



“We’re electronically controlling metabolism, and that enables us to take out some massive loads — 3,000 pounds of BOD [biochemical oxygen demand] per day, but it only requires 16 kilowatt hours a day to do it.”

that sulfide emission level of hundreds of parts per million down to below one part per million, and we do that with a minimal energy footprint and zero chemicals.”

While most SulfideFix installations have been in the food and beverage space, Bretschger said the product can also be used in pulp and paper, oil and gas, and municipal storage and collection applications.

Away from the booth, Bretschger was one of five panelists during a Monday session as part of the event’s Innovation Pavilion titled *Innovating for Today*, where she talked about Aquacycl’s journey and product developments over the years. And she is also taking part in a panel discussion on Wednesday titled *Beyond the*

Standalone: Integrating Global Innovation for the Future of Wastewater.

“This will be about global collaboration,” Bretschger said. “Aquacycl opened offices in the Netherlands in 2023, so we’re a U.S. company going to Europe to bring our technology and hopefully address some of the challenges there. And there are some companies that are bringing their new water technologies to the United States. So, this panel will really address what are the challenges, what are the drivers, and what are some of the opportunities, as well as who is there to help, like The Water Council and their sister organizations in other geographies.”

To find out more about Aquacycl,
visit www.aquacycl.com.

Innovative reuse plan cuts potato plant water consumption by half

Nano-filtration and fit-for-purpose reuse strategies ensured safety and compliance while reducing water use by more than 50%

Speaking at WEFTEC 2025 this week in Chicago, Nick Butson, an engineer with Geosyntec Consultants, shared a case study in which his company helped a Canadian potato processor reduce its water use by more than half. Butson said the processor set a goal of reducing its water consumption by 50 to 80 percent due to the rising costs of water from the local utility.

The project faced three main constraints. The first of which involved treatment residuals. “So, if we did generate, say, a concentrate from a high-pressure membrane system, what are we going to do with that?” Butson asked.

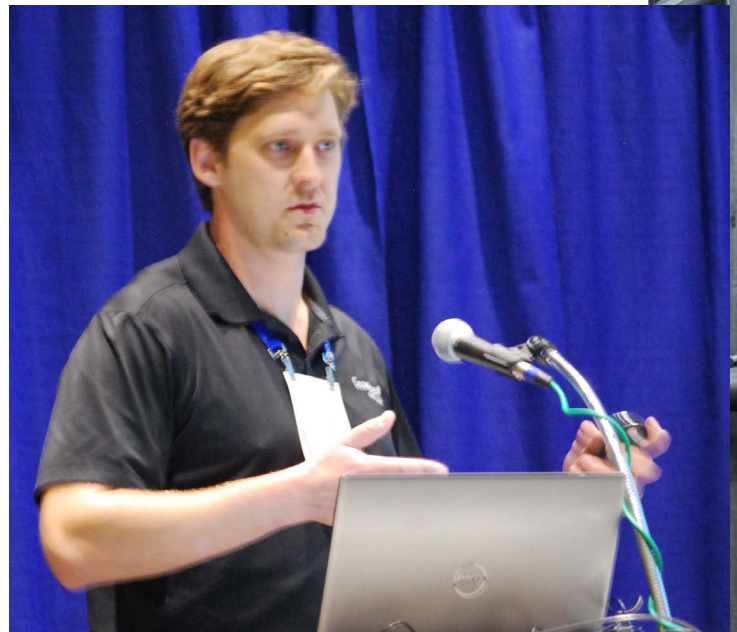
The other constraints were costs and regulations.

In Canada, food plants are regulated by the Canadian Food Inspection Agency (CFIA). The rules are simple to state but tricky to apply: water used in food production cannot introduce biological, chemical or physical hazards.

Instead of treating all reuse water to the same level, they applied a fit-for-purpose approach. Lower-quality reuse water could go to the wastewater treatment plant itself or to boilers. Higher-quality reuse water could be directed to potato washing or rinsing lines.

Butson stressed that this was a water reuse system not a potable water reuse system.

“It wasn’t going to be commingled with any potable water within the facility that got into plumbing codes. That was a lot more of a mess than what we or the facility wanted to sign up for,” he said. “So this is all reused water that wasn’t going to be used in sinks or toilets or anything like that.”



The processor’s initial treatment system included a primary treatment, anaerobic digestion to reduce organics, and a membrane bioreactor (MBR) for nutrient removal and UV disinfection.

According to Butson, the plant’s choices for additional treatment were ultra-filtration, nano-filtration or reverse osmosis (RO). They ultimately went with nano-filtration because they didn’t need to produce water that was RO permeate quality.

The processor also went with a separate distribution system to keep reuse water completely isolated from the facility’s potable supply.

This design struck a balance between performance and cost, while also keeping operations simple for plant staff.

Butson said projections show that such a nano-filtration system can achieve a maximum recovery of 75% without significant issues.

The next steps for the plant could be a general validation protocol (GVP), including 16 weeks of challenge testing before full-scale implementation.

The time is now for water infrastructure investment

Water Technology's Keith Larson caught up with Schneider Electric's water lead, Sophie Borgne, on the state of the U.S. water infrastructure and next steps needed to head off pending crises

On the occasion of this week's WEFTEC 2025 conference in Chicago, our own Keith Larson had a chance to sit down and connect with Sophie Borgne, water and environment segment president, Schneider Electric. Their conversation centered on the company's [recent survey of city and business leaders](#) that revealed an alarming gap between needed modernization of America's water infrastructure and the lack of organizational commitment to address it. Read on for more of what was said.

Q: U.S. leaders recognize the urgent need for smarter water management and infrastructure modernization, yet there's a significant gap between strategy and execution. Why is this gap concerning?

A: We have actually just released a survey of the U.S. water markets that shows two thirds of the leaders we interviewed rank water risk as the highest risk to their operations. And that's among both municipalities and industry business leaders, which is good. On the other hand, the next question was: What are you going to do about it? And more specifically, do you have a line in your 2026 budget addressing water risk? The answer is that only one out of 10 have it in their budget plan for 2026. So, this gap between recognizing its strategic importance and taking steps to address it is pretty big, and it is concerning because the availability of water is a big concern overall.



An interesting datapoint from the World Economic Forum is that by 2030—which is not so far away—water demand is going to exceed water supply by 40%. So, that's huge. That's specifically fresh water, but that's the kind we need for agriculture, for industries and for citizens overall. We need to act quite urgently to begin closing this gap. And if we don't take a first step, or if only 10% take a first step in 2026, the window of opportunity to act gets that much shorter.

Q: Water is critical to the manufacturing industry and demand is growing as these operations grow. What industries are expanding and increasing their water usage?

A: It's not so much about industry increasing water use. Rather, it's about industry investing in additional capacity to meet society's demands. And in the U.S., in particular, there are a lot of programs and incentives for reshoring and developing U.S. manufacturing. This is good, but it translates into investments in semiconductor factories, in data centers, in many things needed to make the economy successful. But those industries

are all water intensive as well. You need water to clean semiconductor chips; you need water to cool data centers; you need water to mine rare earth elements; you need water to drill for oil. You need water for pretty much every industry. So, the increase in water consumption is not the use of water per amount of goods produced, but in line with overall economic growth.

There's also not a lot of process and regulations around where companies tap into the water supply, although that is starting to change. There are more and more examples of permits being denied because of the potential impact on water availability for a given community. This is starting to put more pressure on those industries to demonstrate how they are going to manage water in a sustainable manner: the license to operate is quite literally linked to water.

Q: We often associate Smart Water technology with municipal water treatment plants and pumping systems. Why is Smart Water becoming more important for manufacturers and others?

A: The reason industry hasn't invested as massively in water efficiency as it has in energy efficiency or other kinds of improvement programs is because the marginal cost of water itself is nowhere as significant as the cost of energy or other raw materials. At least for now, if you look at it from a pure P&L perspective, it's not the investment on which you'll get the highest return on investment. But as of late, water has become a key topic in terms of risk management and resilience.

What I find super interesting is that when you apply smart technology to water you don't save water only. There are associated savings such as in energy from less pumping. When you use less water, you often use less energy as well. It compounds the savings.

Industries are also investing in water treatment capabilities to clean the water or bring the water to a certain level of quality before discharging it. In the process, they are recovering precious metals for example, and everything they are recovering that once qualified as waste or contaminants is now seen as a potentially valuable by-product. A growing number of industrial companies are now doing this "urban mining" themselves or partnering with other companies to do so.

Q: In your survey, city leaders ranked water management as only a medium priority and business leaders didn't see it as priority at all—placing three times more importance on cost reduction. What is at risk for business leaders that don't have or have not implemented a Smart Water plan?

A: The very real risk they face is no water, no business. The risk is amplified by potential extreme weather events that are happening more and more often. And that risk takes the shape of having to stop current operations as well as not being authorized to set up new ones.

Q: Budget constraints, operational pressures, and lack of real-time data as cited as key barriers to Smart Water strategy implementation. What advice do you have for those trying to balance these priorities?

A: Our advice is to digitalize, automate and optimize. Digitalize means more than just collecting data. There is plenty of data in your system, but it's heterogeneous, it's disjointed, it's not collected. So, first implement a layer to contextualize that data: stop driving blind, get visibility, know where you are. Then, once you have visibility, automate all the real-time actions that you can now see deliver quick wins. Finally, optimize operations by leveraging AI, machine learning and other digital tools.

Q: How can companies that don't have a Smart Water strategy get started in putting one together?

A: I would highly recommend that they look for a good partner to get started. What I find unique to the water industry is that utilities don't really compete with one another and there is a lot of openness to share practices and experience. Don't go on this voyage alone. Look around for partners. Leverage the collective intelligence that has accumulated in the water sector. Keep in mind that identifying the problem you want to solve is paramount. Digital technology can do a lot, but it can't do everything, and you risk getting lost in your digital transformation project. So, first find your true North Star, the most pressing issue you want to address, and I promise technology can help.



Processors turn to simplicity, reliability in chemical feed pumping solutions

New products on display at the Watson-Marlow booth at WEFTEC 2025 include peristaltic pumps for abrasive and corrosive fluids, models with real-time pressure monitoring, plus quick-change hoses for aggressive media.

Jesse Osborne

In addition to showing off and discussing his company's newest products at the Watson-Marlow Fluid Technology Solutions booth at WEFTEC 2025, Mike St. Germain, the company's vice president of process industries, made time to share some insights on topics and trends shaping the water and wastewater industry.

Q: What are some of the important topics and emerging trends that are shaping the water/wastewater industry?

A: The water and wastewater industry is changing quickly under the combined pressure of workforce shortages, sustainability goals and technical demands.



“Peristaltic pumps have no valves, impellers or seals to fail. Maintenance is fast, safe and tool-free, making them ideal for understaffed facilities.”

Many utilities no longer have the staff to run or maintain complicated systems, which makes simplicity and reliability essential. Equipment that installs easily, runs without constant oversight and requires little maintenance is now a necessity rather than a preference.

Environmental concerns are just as urgent. With global water scarcity expected to intensify in the next decade, utilities must find ways to treat, reuse and manage resources more effectively. That focus extends to the products they buy. Durability and overall lifecycle cost now weigh as heavily as recyclability when utilities evaluate solutions.

The municipal market adds another layer of complexity since every project must align the interests of operators, engineers and contractors. Local representatives who know the landscape are often the key to moving projects forward. Across all of these pressures, the industry is shifting toward technologies and partnerships built on simplicity and long-term reliability.

Q: Why is the utilities sector moving away from diaphragm pumps and toward smarter dosing solutions?

A: The utilities sector is increasingly replacing diaphragm pumps with dosing solutions like peristaltic pumps. This change reflects the operational and technical limitations of older technologies and the growing need for reliability and precision.

Staffing shortages have also made maintenance a critical concern. Diaphragm pumps, with their many components, often require frequent repairs and downtime. Peristaltic pumps, by contrast, have a simpler design with no valves, impellers or seals to fail. Maintenance is

fast, safe and sometimes tool-free, making them ideal for understaffed facilities.

Peristaltic technology also handles difficult chemicals more reliably. It provides accurate, repeatable flow even with off-gassing substances like sodium hypochlorite and can pump abrasive or viscous materials consistently. Modern models include intelligent features such as alarms, automatic shutoff and error reporting, further reducing risk and optimizing chemical use.

For utilities, switching to peristaltic pumps delivers more than convenience. It ensures robust, low-maintenance and precise dosing that meets the demands of modern water and wastewater treatment while protecting water quality and operational efficiency. The use of peristaltic pumps simplifies installations by reducing the need for accessories such as strainers and dampeners. It's not just to eliminate the cost of these components, but also to streamline the ongoing maintenance they require. This leads to fewer potential points of failure in the system, improving reliability and uptime. In many cases, it also shortens installation time and reduces overall operational complexity.

Q: How do the educational challenges differ between the mature municipal water market and the broader industrial sector?

A: In the municipal market, peristaltic technology is well understood, so the focus is on reinforcing brand reputation and navigating a complex, multi-stakeholder sales process involving operators, engineers and contractors. In contrast, many industrial customers are unfamiliar with modern peristaltic pumps or associate them with outdated, lower-quality products. Educating

this audience requires demonstrating how contemporary pumps handle abrasive, viscous and off-gassing fluids reliably, while improving efficiency, reducing maintenance and ensuring process safety. In this context, building trust is just as important as explaining the technology itself.

Q: Why are more communities and industries turning to modular or decentralized wastewater systems?

A: Decentralized and modular wastewater systems are gaining traction, especially in smaller communities, industrial sites and rapidly growing urban areas. These systems reduce reliance on large, centralized infrastructure while offering scalable, low-maintenance solutions. Remote monitoring and automated controls allow limited staff to operate treatment units safely and efficiently. Many decentralized systems also enable resource recovery, such as energy from biogas or nutrients for fertilizer, supporting both sustainability and cost-effectiveness. By combining flexibility, reliability and environmental benefits, decentralized treatment is helping utilities meet regulatory standards and community needs without the complexity and expense of traditional large-scale plants.

Q: What is Watson-Marlow showcasing at WEFTEC this year?

A: At WEFTEC, we're showcasing our chemical feed solutions for the water and wastewater treatment industry, educating attendees who stop by on our diverse range of precision-engineered peristaltic pumps and hoses that help deliver cost savings, lower maintenance and sustainability benefits.

Also on display are our diverse range of peristaltic pumps, tubing and hoses have been developed for a range of challenging applications from versatile and accurate chemical dosing, to handling abrasive sludge and slurries:

- [Bredel Heavy Duty Pump](#) — recently launched, it's built for abrasive, high-solid slurries and corrosive fluids.
- [Qdos H-FLO Pump + Pressure Sensing Kit](#) — the newest in the Qdos range, it's engineered for higher flow rates and real-time pressure monitoring to make chemical dosing simpler, safer and more cost-effective.
- [Bredel APEX Hose Pump](#) — a low-maintenance option for aggressive or abrasive applications with quick hose changes and longer service intervals.

Q: How are Watson-Marlow products helping address sustainability, efficiency and process safety in water/wastewater treatment?

A: Our [eco-design program](#) and focus on product durability helps reduce environmental impact while providing customers with carbon data to support their net-zero goals. Pumps are designed to conserve resources by enabling reliable water reuse, reducing energy consumption and minimizing chemical usage through precise, repeatable dosing.

Efficiency is also built into our technology. Peristaltic pumps deliver accurate flow even with off-gassing, abrasive or viscous fluids. Their simple, low-maintenance design eliminates valves, impellers and seals that can fail, reducing downtime and making them ideal for facilities with limited staff. AI-enabled features predict tubing wear before failures occur, preventing costly clean-ups and process interruptions.

Additionally, process safety is integral to our designs. Quick, tool-free maintenance limits operator exposure, while leak containment, intelligent alarms and remote monitoring protect both staff and water quality. These features make Watson-Marlow pumps particularly valuable for remote or understaffed sites.

By combining sustainability, reliability and safety, Watson-Marlow provides solutions that help the utilities sector operate efficiently, protect the environment and maintain the highest standards of water quality.



Schneider Electric, Conroe transforming water infrastructure with automation

Texas city investing in scalable, intelligent systems to meet rising water demand and ensure long-term resilience.

Schneider Electric broke some major news at WEFTEC 2025 this week, announcing a strategic collaboration with the City of Conroe, Texas, to modernize and expand its water infrastructure using EcoStruxure Automation Expert (EAE) — Schneider Electric's open, software-defined automation solution.

As one of the [fastest-growing cities in the U.S.](#), Conroe is investing in scalable, intelligent systems to meet rising

water demand and ensure long-term resilience. With EAE now deployed across 19 water and wastewater facilities, the city is leveraging advanced automation to accelerate infrastructure delivery, improve service reliability and support sustainable development.

"Collaborating with Schneider Electric to implement EcoStruxure Automation Expert has been a valuable step in strengthening Conroe's water systems," said Daniel Robert, Water Superintendent, Conroe. "This initiative



“Water is essential to our communities and economy, yet cities across the U.S. are facing mounting challenges — from aging infrastructure and supply constraints to climate uncertainty.”

is helping us accelerate deployment, improve efficiency, while also supporting our broader goals around transparency and quality of life for residents.”

Transforming municipal infrastructure

The deployment marks a significant shift toward modular, software-defined automation — enabling faster commissioning, reduced engineering complexity and secure remote operations. Built-in cybersecurity and disaster recovery capabilities also bolster emergency response in a region still mindful of Hurricane Harvey’s impact.

““Water is essential to our communities and economy, yet cities across the U.S. are facing mounting challenges — from aging infrastructure and supply constraints to climate uncertainty,” said Andre Marino, SVP Industrial Automation NAM at Schneider Electric. “Conroe’s leadership shows what’s possible when municipalities embrace open, software-defined automation. With EcoStruxure Automation Expert, they’re accelerating infrastructure delivery, improving service reliability and building a more agile, efficient and resilient water system that sets a new benchmark for smart municipal infrastructure.”

Key outcomes enabled by EcoStruxure Automation Expert:

- \$50M infrastructure upgrade: Conroe is undertaking its most ambitious water infrastructure investment to date, focused on resilience, efficiency and transparency. EcoStruxure Automation Expert is a key enabler of this transformation, supporting the city’s long-term vision for smart, scalable infrastructure.
- Accelerated site deployment: EAE’s modular, software-defined architecture significantly reduces the time and complexity of bringing new plants

online. This has been instrumental in supporting rapid capacity expansion, including critical projects like the Silver Springs Bypass waterline.

- Delivering cost and efficiency gains: EAE helps reduce water loss and optimize operations, contributing to lower operational costs. These efficiencies demonstrate how innovation can deliver tangible benefits to residents.
- Cybersecurity and resilience: The secure-by-operations architecture strengthens resilience against cyber threats. Built-in disaster recovery and secure remote access capabilities enhance emergency preparedness, ensuring continuity in a region still mindful of Hurricane Harvey’s legacy.

Looking ahead

Conroe plans to expand its use of EcoStruxure Automation Expert in future phases, building a smart water infrastructure that will serve its growing population for decades. Schneider Electric remains committed to supporting the city’s long-term strategy and enabling sustainable, resilient urban development.

Across the globe, EcoStruxure Automation Expert is gaining momentum in the water sector. Other cities like Singapore and partners like Royal HaskoningDHV and Intidaya are leveraging its vendor-agnostic, hardware-independent design to boost energy efficiency, streamline diagnostics and reduce downtime.

“EcoStruxure Automation Expert is transforming water management,” said Sophie Borgne, President, Water & Environment, Schneider Electric. “It empowers utilities to meet future demands with confidence, sustainability and digital intelligence.”

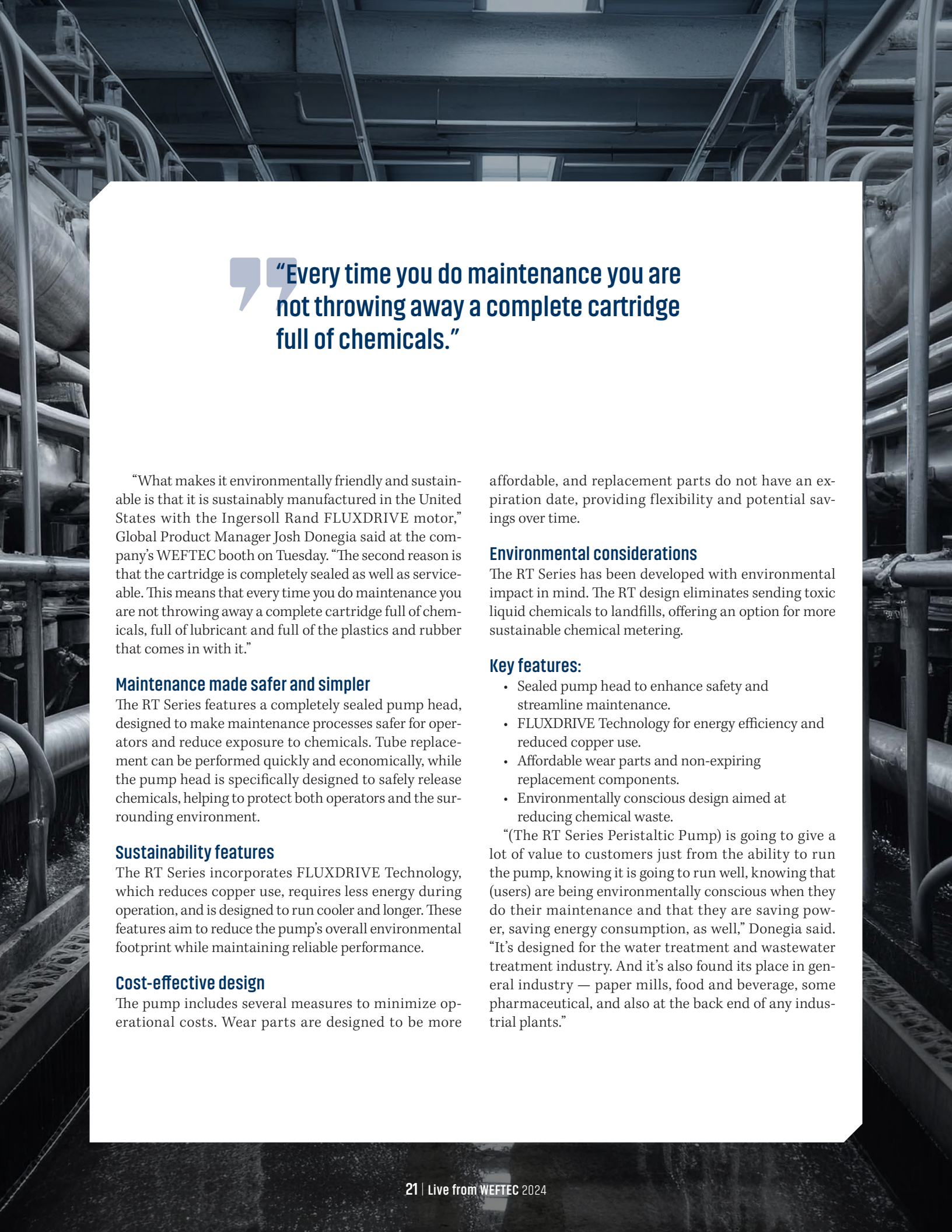


New metering pump solution stresses safety, sustainability

Albin Pump debuts its new RT Series peristaltic pump at WEFTEC 2025 in Chicago.

Water and wastewater operators looking for a chemical metering solution that balances performance, safety, cost-efficiency and environmental responsibility have a new option to consider: The RT Series Peristaltic Pump from Albin Pump.

The company debuted the new product this week at WEFTEC 2025 in Chicago. The RT Series Peristaltic Pump is engineered to prioritize safety, simplify maintenance, reduce environmental impact and optimize operational costs, and has been developed to meet the needs of industries requiring chemical metering solutions that are efficient, sustainable and cost-effective.



“Every time you do maintenance you are not throwing away a complete cartridge full of chemicals.”

“What makes it environmentally friendly and sustainable is that it is sustainably manufactured in the United States with the Ingersoll Rand FLUXDRIVE motor,” Global Product Manager Josh Donegia said at the company’s WEFTEC booth on Tuesday. “The second reason is that the cartridge is completely sealed as well as serviceable. This means that every time you do maintenance you are not throwing away a complete cartridge full of chemicals, full of lubricant and full of the plastics and rubber that comes in with it.”

Maintenance made safer and simpler

The RT Series features a completely sealed pump head, designed to make maintenance processes safer for operators and reduce exposure to chemicals. Tube replacement can be performed quickly and economically, while the pump head is specifically designed to safely release chemicals, helping to protect both operators and the surrounding environment.

Sustainability features

The RT Series incorporates FLUXDRIVE Technology, which reduces copper use, requires less energy during operation, and is designed to run cooler and longer. These features aim to reduce the pump’s overall environmental footprint while maintaining reliable performance.

Cost-effective design

The pump includes several measures to minimize operational costs. Wear parts are designed to be more

affordable, and replacement parts do not have an expiration date, providing flexibility and potential savings over time.

Environmental considerations

The RT Series has been developed with environmental impact in mind. The RT design eliminates sending toxic liquid chemicals to landfills, offering an option for more sustainable chemical metering.

Key features:

- Sealed pump head to enhance safety and streamline maintenance.
- FLUXDRIVE Technology for energy efficiency and reduced copper use.
- Affordable wear parts and non-expiring replacement components.
- Environmentally conscious design aimed at reducing chemical waste.

“(The RT Series Peristaltic Pump) is going to give a lot of value to customers just from the ability to run the pump, knowing it is going to run well, knowing that (users) are being environmentally conscious when they do their maintenance and that they are saving power, saving energy consumption, as well,” Donegia said. “It’s designed for the water treatment and wastewater treatment industry. And it’s also found its place in general industry — paper mills, food and beverage, some pharmaceutical, and also at the back end of any industrial plants.”

Permian Basin faces oversupply of produced water

While a combination of recycling and reinjecting produced water underground has worked so far, 2034 projections indicate 300 million barrels daily with nowhere to go.

Keith Larson

In this era of global climate change, a growing number of regions seem to have too little and occasionally too much water. The latter is the case of late in the Permian Basin, where oil and gas operators will soon need to develop alternative methods of dealing with excess produced water, that is, water that emerges from the ground along with 50% of the nation's crude oil and 20% of its natural gas.

Jeff Steinwinder, senior project engineer with Waggoner Engineer, explained this growing conundrum during his presentation, "Beneficial Reuse of Permian Basin Produced Water," at this week's WEFTEC conference in Chicago.

"What makes the Permian Basin an 'unconventional' oil field is that wells are drilled vertically to about 10,000 feet where the oil and gas are located, then the drilling goes horizontal," he explained. Then, water is injected into the well at high pressures, "fracking" the surrounding shale deposits. "This water includes chemicals that help with the extraction of oil and gas. It also includes things like surfactants, biocides and scale inhibitors." Also included are proppant, sandy grains that lodge in the fractures and allow for the continuous release of oil and gas over the well's 20- or 30-year lifespan.

"When we say oil and gas production in the permit, we always neglect to mention that there's also 'produced water' that's extracted out of these wells," Steinwinder explained. And that produced water is invariably more than the amount of groundwater that's been injected. "All told, two billion—that's billion with a 'b'—gallons of



water are produced each day in the Permian Basin alone. And that number continues to grow as new wells go into production."

Re-injection and recycling

The water that is extracted from the wells is routed to a central tank battery that provides a rough and primary treatment, or water separation. It also provides a zone for the recovery of oil and gas products. After the central tank battery, the water enters what is referred to as the water corridor—a network of pipes and pump stations that allow an operator to move the water where it needs to be.

"There are two main exits out of that water corridor," Steinwinder continued. Some is re-injected underground into non-oil-bearing formations that are above or below the Wolfcamp Shale. Some is recycled for hydraulic fracturing, although only a fraction can be used due to quality issues. And as more and more wells come online, the output of produced water continues to grow. Further complicating matters, the longer a well is online, the more water (and fewer hydrocarbons) are produced. Another complicating factor is that reinjection of



“Beginning in 2030, a small portion will have no place to go, and by 2034 expectations are that 300 million barrels per day will have no place to go.”

produced water above the Wolfcamp Shale has resulted in localized pressures as high as 500-psi in some areas, which in turn has led to seismic events.

Despite the continuous recycling and reinjection of produced water over time, “beginning in 2030, a small portion will have no place to go, and by 2034 expectations are that 300 million barrels per day will have no place to go,” said Steinwinder.

“So, why aren’t we all deployed out the Permian right now working through some really cool, beneficial reuse treatment projects? Well, it’s not yet economically feasible,” Steinwinder said. “Certainly, in the eyes of operators, it’s still cheaper to inject the water into the subsurface through the permitted disposal wells at costs of about 60 cents per barrel, compared with beneficial reuse

operations that will run \$1.50 per barrel.”

Steinwinder went on to describe appropriate beneficial reuse treatments that may ultimately be brought to bear, including additional primary treatment to remove oils and grease solids, desalination and final polishing. “As technology advances, and as regulations become clearer, that pricing gap will narrow,” Steinwinder said.

“Lastly, I wanted to discuss emerging market opportunities in the permit,” Steinwinder concluded. “A place that has abundant water is ripe for beneficial reuse purposes of that water, and one that I’m sure we’ve all heard discussions about this week is the data center. Data center power requires a lot of water—and a number of data centers already have located into the Permian because of this opportunity.”

The future of automation, and what is possible

Schneider Electric's Jacob Thompson and AVEVA's Graeme Fukuda explored the future of automation during a WEFTEC 2025 educational session

What is the future of automation in the water and wastewater sector? That was the primary question at hand during an educational session hosted by Schneider Electric's Jacob Thompson and AVEVA's Graeme Fukuda at WEFTEC 2025 in Chicago this week.

Thompson, the company's business development leader for next generation automation systems, kicked off things by outlining what Schneider Electric's views are related to the future of automation, along with what the company is seeing in the market. Thompson said Schneider Electric believes in three strong pillars in terms of automation:

- Simplicity and flexibility
- Interoperable and portable
- Autonomous operations

"So, simplicity and flexibility – we don't need automation systems to be difficult to manage. Whenever we have intercommunication issues, when we have multiple different SCADA systems, when we have multi-vendor automation systems, not a lot of them can speak to each other, and therefore we see that as a growing need to change and have a unified automation structure," Thompson said.

Interoperability and portability expand off that first pillar, Thompson continued. "So, if you have a control system that can't be readily upgraded from one supplier's hardware to another's, that can completely change in today's world."

"And then autonomous operations. We see it all the time in water and wastewater — the workforce is changing, and there's also a workforce demand that is pretty



high. How do we attract that young workforce? We see that there is a growing trend to make data-driven decisions with less humans doing the work.

Schneider's open and interoperable approach

The Schneider Electric solution? An open, software-defined automation system called EcoStruxure Automation Expert.

At its core, EcoStruxure Automation Expert decouples software from hardware, allowing true portability of applications across vendors. It establishes an open platform where best-of-breed solutions can be seamlessly plugged together to build custom automation architectures tailored to unique needs — just like apps on a smartphone.

EcoStruxure Automation Expert makes this vision a reality with a software-defined architecture that simplifies integration and IT/OT convergence. Backed by the UniversalAutomation.org shared source model, it enables truly portable industrial apps that run across any vendor's hardware.

"What Schneider is saying, is that we're going to make a virtualized, software-defined platform for PLCs but make it completely open — meaning with the software Schneider has, I can control other vendors' systems, and

“EcoStruxure Automation Expert decouples software from hardware, allowing true portability of applications across vendors.”

break away from the vendor-locked systems that you have today,” Thompson said. “In a nutshell, EcoStruxure Automation Expert is one software platform where you can design and build your application, create a simulation ... you can create a digital twin of your control network and simulate everything in your process prior to deploying that application on a PLC.”

A contextualization platform, from field to cloud

Thompson then turned things over to Fukuda to discuss CONNECT, which is AVEVA's open and neutral industrial intelligence platform that is integrated with EcoStruxure Automation Expert and pairs aggregated, contextualized data with predictive analytics to optimize water operations.

The goal of CONNECT, Fukuda said, is data accessibility—and getting the right data to the right people.

“It’s about making that data accessible but then also having a digital throughline throughout this entire industrial lifecycle so that you’re realizing the most value out of that information,” Fukuda said. “So, what we have built is our industrial intelligence platform as a service, CONNECT. We kind of see this as our ecosystem of different apps that can span across this entire industrial lifecycle.

“The world is changing from when our data use cases were within the four walls of a plant,” Fukuda continued. “But now more data generators are out on the edge. Now we’re doing more data sharing with our vendors, with our partners, with the rest of our data ecosystem. We really see this entire architecture as hybrid. You need something that can not only go across this industrial lifecycle, but can also cover edge, the plant, the cloud, to use the right tools for the right use cases.”

Fukuda said the main use cases that AVEVA is targeting are currently split between efficient water use or efficient energy use, but that the company is exploring more use cases and apps to add to the CONNECT platform.

“We can update that quite quickly, push new applications and let partners develop on that same ecosystem where all this data can live,” Fukuda said.

CONNECT enabling AI applications

Additionally, AVEVA is bringing about an AI assistant as part of its CONNECT platform to help users interact with the information in a manner comparable to ChatGPT.

“We’ve got some certain guardrails around it, so I wouldn’t call it exactly (ChatGPT), but we want people to interact with their data in a conversational style,” Fukuda said. “We want to make sure that this bot can summarize and provide concise content in terms of answers. And we always need to make sure those answers are traceable,” Fukuda said.

Fukuda added that the AI assistant will also have a generative side that can create visualizations such as charts and dashboard to quickly deliver contextual information to users. Session attendees were able to see video demonstrations of CONNECT’s AI capabilities before Fukuda concluded his portion of the presentation.

Thompson then closed things out by sharing his view of the future of automation.

“To sum it up, what does the future of automation look like?” Thompson asked. “It’s open, it’s software-defined and, on top of that, you have access to all the data, and you can take that data one step forward and actually make it actionable data with AVEVA CONNECT.”



New Schneider tools streamline end-to-end water cycle intelligence

Complemented by the AVEVA CONNECT data contextualization platform, the company's new EcoStruxure Water Advisor simplifies time-to-value for digital transformation of water and wastewater operations

As population growth, aging infrastructure, and increasing water scarcity strain the already stressed water sector, digital transformation is imperative to meeting future needs. At this week's WEFTEC 2025 conference in Chicgao, Schneider Electric demonstrated how the new EcoStruxure Water Advisor is breaking down the barriers of digital transformation and allowing customers to make the most of their data and infrastructure.

EcoStruxure Water Advisor is a comprehensive suite of water management software applications developed to manage the complete water cycle—from planning and design, to operations, maintenance, and optimization. It also leverages AVEVA's CONNECT platform to pair aggregated, contextualized data with predictive analytics. The integration of CONNECT helps to accelerate time to value, while bringing insights and driving efficiency across the organization. By providing pre-defined use cases and analytics, design and implementation time is significantly reduced, offering insights to users faster and with significantly lower development cost.

EcoStruxure Water Advisor now empowers water customers to drive insight and action across their digital

“EcoStruxure Water Advisor now empowers water customers to drive insight and action across their digital ecosystem.”

ecosystem. This unified decision-support environment addresses various pre-defined and customizable customer use-cases supported to deliver:

- Real-time enterprise-wide visibility by entirely connecting operations—from field to office—into a single, unified view. This innovation empowers faster decision-making, improves efficiency, and enhances responsiveness across the utilities value chain.
- Accelerated digital transformation with fully contextualized information and industry-specific AI/ML solutions to unlock innovation by leveraging value-added analytics and services.
- Liberated silos integrated through a centralized platform that brings together data across

operational technology, information technology and energy technology domains. Users benefit from enriched visualizations and advanced analytics that foster collaboration and drive smarter, data-informed strategies.

Designed with integration simplicity in mind, this solution seamlessly connects with existing IT/OT & ET data sources, including SCADA and control systems, ensuring that water utilities can adopt the technology with minimal disruption while maximizing the value of their existing infrastructure.

The new EcoStruxure Water Advisor suite is planned for release in early 2026. The first module, which will focus on enabling utilities to proactively address water loss management, is set to launch in January 2026.

For a deeper look into Schneider's water solutions visit
<https://www.se.com/us/en/work/solutions/water/>.



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