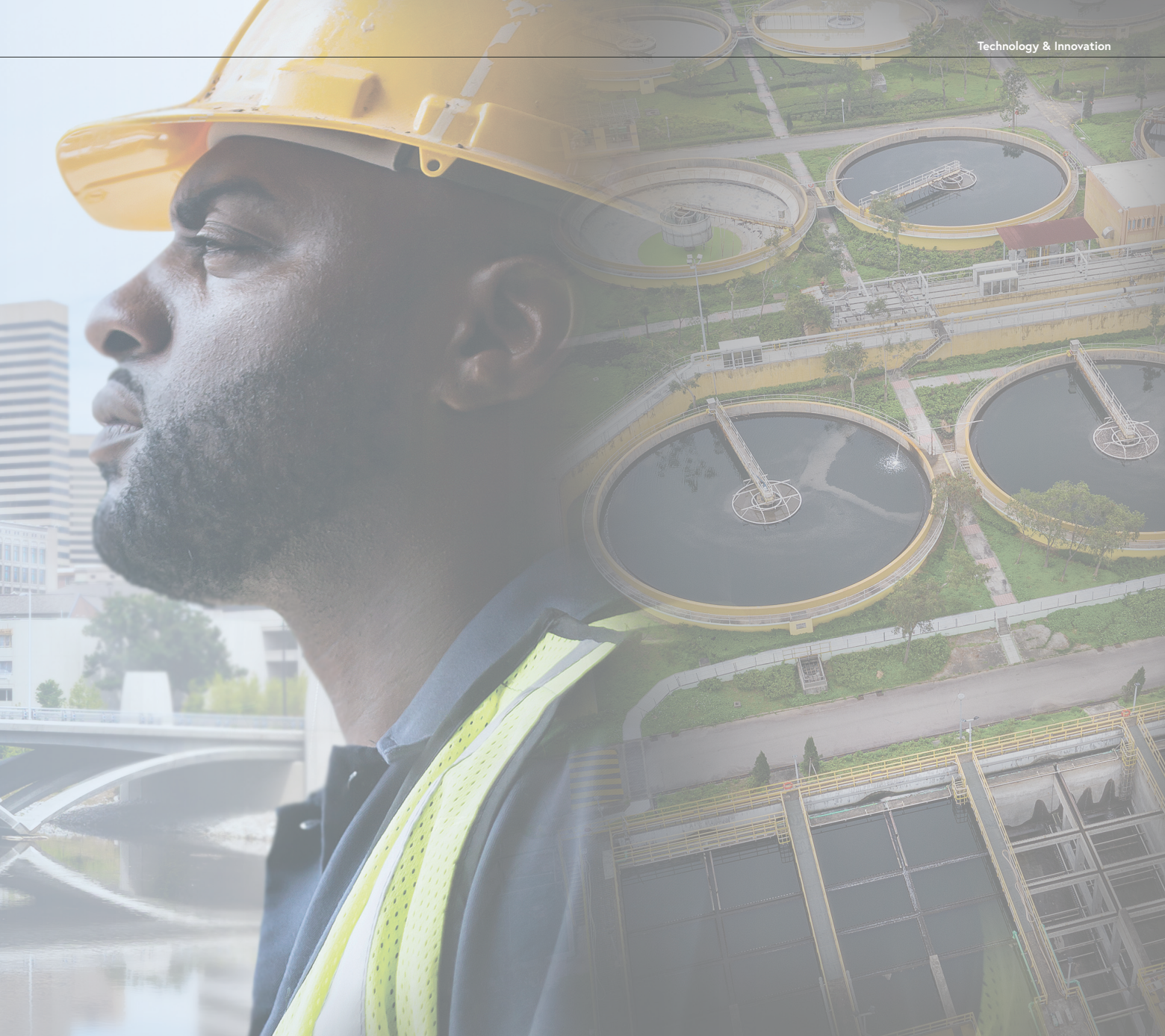




SOLVING WATER

Seizing the Opportunity of a Lifetime
Through Technological Innovation
and Partnerships

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Over the past 50 years, economic losses related to extreme hydro-meteorological events have increased by nearly 50 times. But while global water challenges are escalating like never before, so too are the possibilities for the world to solve them.

Two powerful forces are converging: the power of technology and innovation, and the power of creative partnerships. Combined, the water sector has the opportunity of a lifetime to solve water.

Growing issues like urbanization, overpopulation and severe storm events are placing unprecedented pressures on stormwater and wastewater systems around the globe. Building infrastructure that's resilient to these conditions is a complex and multi-dimensional task. But innovation and technology are driving progress.

Pump station design is a great example. Careful and thorough hydraulic analysis, powered by the emergence of Computational Fluid Dynamics, is assuring performance under the most

challenging operating conditions. This software virtually simulates what happens inside a pump station, enabling engineers to fine-tune and test their design, multiple times, until the correct configuration is determined. It's enabling engineers to build much smaller compact systems, with much greater resilience to stormwater.

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Digital solutions are also transforming combined sewage overflow management, preventing billions of gallons of polluted water from entering local ecosystems, while producing dramatic savings for communities by helping them avoid new construction costs.

A decade ago, South Bend, Indiana, was in the middle of a combined sewer overflow crisis, with one to two billion gallons of raw-sewage-contaminated water being dumped into the St. Joseph River every year. The city faced an \$860 million Long Term Control Plan that would have translated to a \$10,000 burden per citizen. But the city officials decided to think differently.

By leveraging a network of smart sensors and the power of artificial intelligence, South Bend implemented an innovative real-time decision support system developed by EmNet—a water technology start-up formed in partnership with the City of South Bend and the University of Notre Dame—and now part of Xylem. This new technology allowed the City to essentially “turn the lights on”



and gain unprecedented visibility into its systems, enabling water managers to identify potential issues at a glance and divert flows to reduce discharges. As a result, overflow volumes have been cut by more than 70 percent, or by 1 billion gallons a year. E. coli concentrations in the river have dropped by more than 50 percent, improving water quality. And the cost to achieve the City's environmental quality objectives has been reduced by \$500 million.

South Bend exemplifies the power of innovation and technology, as well as the power of creative partnerships between local government, universities and technology providers. By working together with policymakers to facilitate the use of more innovative technologies, the water sector can enable more of these success stories in the future.

Water stakeholders can also leverage the power of partnerships to raise awareness and build public support for our sector's efforts to create more water-secure and sustainable communities. Think about the water sector's role in advancing sustainability and achieving the United Nation's



Sustainable Development Goals. From helping reduce pollution and ensuring safe drinking water, to driving energy efficiencies, to resource recycling and promoting the circular economy, our sector is on the front lines every day protecting our environment, safety and quality of life. The water sector has so much to say and share about good water practices, and how they promote and enable sustainability. So, let's get more involved in the global conversation.

At Xylem, we are working to shine a spotlight on the water sector's key role in driving change through partnerships with universities like MIT and programs like the Stockholm Junior Water Prize, which gathers young talent from all over the world, encouraging their passion for water and sustainability issues. The competition draws more than 10,000 entries from over 30 countries every year. We have also launched a partnership with Premier League football champions Manchester City Football Club, and its sister team, the New York City Football Club, to raise public awareness around water. Though only one year in, we're already seeing

the impact of this collaboration in reaching new audiences. These are just a few of many examples of how we can expand awareness and engagement among our next generation of concerned citizens and leaders.

Yes, global water challenges are intensifying, and the pressures on water operators to manage them are profound. But at this moment in history, our sector has much to be optimistic about – we have a powerful opportunity before us.

By leveraging technology and innovation, and launching creative partnerships within and outside the sector, we can develop bold new approaches and build the support we need to advance them. We have the chance to solve many of the world's toughest water issues in our lifetime. Let's work together, be bold and seize it. 💧