

Building water system resilience with a digital roadmap

As water-reliant businesses increasingly focus on the growing challenge of disaster management in response to both natural and man-made events, process monitoring software suites have emerged as a key element when it comes to business continuity and resilience planning.

More than any other component, water is essential in countless industries and business sectors, as well as a vital element for humanity. For drinking, hygiene and almost every industry, water is critical. Food and beverage businesses such as dairies and breweries, industrial sectors like pulp and paper or oil and gas, as well as municipal authorities and utilities tasked with supplying clean potable water and wastewater treatment services — the provision and quality of this resource must be maintained under all circumstances.

Simultaneously, all businesses and enterprises face the possibility of disruption as a result of both natural and man-made events. Natural disasters such as hurricanes, floods, droughts or fires, seasonal flu or unprecedented phenomena such as the COVID-19 pandemic, even localized events like power outages, terrorism or traffic disruption can all have an impact on the provision of good quality water. By reducing staff availability or making it impossible for them to reach a particular location to execute any required functions, normal business practices can be shattered by even the most unlikely developments when they affect the supply of good quality water.

There are significant business impacts. UN Water, for example, estimates that economic losses from weather-related disasters are around US\$250 — \$300 billion annually. However, it is also becoming increasingly evident that even extreme weather events are growing in frequency and intensity. With the economic cost of disasters acting as a major incentive for companies to devote greater focus to preparedness and prevention, far more attention is now being given to business continuity planning in sectors that rely on water and wastewater treatment.

Developing a business continuity strategy based on water resilience

Developing a business continuity plan is essential for water-reliant industries and service providers to maintain productivity and services during unplanned disruptions. Utilities and businesses which use water or which rely on wastewater treatment should adopt measures to ensure their businesses are robust and able to respond to even the most extreme circumstances. A continuity strategy can help protect businesses from lost production and financial losses, as well as minimizing any social impacts that may result from natural disasters.



While, by their very nature, disasters are unique and unfold in unpredictable ways, best practice business continuity plans outline all the necessary procedures which are needed for an organization to continue to operate or enable it to resume operations rapidly in the event of disruption. Any such strategy should ensure that it is appropriately structured to address any event and at any scale, from local up to and including a global response. Indeed, an effective business continuity strategy should ensure it is able to manage all potential local events to guarantee a business is globally robust. Failure to develop such a strategy can cost a business dearly, both financially and in reputational damage.

Today, the emergence of modern information and communications technology (ICT) platforms allow an approach to business continuity that can maintain seamless access to core system performance data. By delivering all necessary data and information, such systems allow timely intervention as required, even when staff are deployed remotely or unable to physically attend particular sites. Covering all business processes, key assets,

human resources and more, any business continuity strategy should use ICT to access business information from any remote location and from any device, even in the most extreme situations.

Building a robust water supply system for business continuity

Recognizing the challenges faced by water-reliant enterprises, Veolia developed its cloud-based Hubgrade digital platform that can support all remote data monitoring activities. A holistic suite of intelligent solutions that provides a real-time plant overview to ensure water quality is maintained. Alongside the core Hubgrade system, additional modules also support remote plant process optimization and decision-making, even under crisis conditions.

Suitable for water treatment and supply plants of any size, as well as both new and retrofit installations, the system monitors all necessary functions and appropriate qualities for all water process applications and features fully-integrated, best-in-class security. Considering business continuity best practices, companies and enterprises which rely on water quality must be proactive in

HUBGRADE HAS HELPED THE NOSEDO WWTP ACHIEVE ANNUAL OPEX SAVINGS OF MORE THAN €400,000.

Guaranteed uninterrupted supply of pure water

Regardless of size and location, every healthcare facility must adopt a robust resilience strategy to ensure patient safety and quality of care, under all circumstances. Healthcare facilities cannot afford any equipment failure or system shutdown, which consequences could lead to department closures, patient lists being cancelled, aggravated health, even death.

With a consistent supply of high-purity water a necessity for much of the healthcare sector, Hubgrade can optimize process water technology systems and prompt preventative maintenance to avoid system downtime. Operators and healthcare workers are assured of the seamless delivery of the high-purity water required by the site at all times, providing much-needed peace of mind.

An example comes from Ras Al Khaimah in the United Arab Emirates where RAK Hospital, a multispeciality facility, has been established since 2007. The hospital's clinical chemistry units — which must be operational 24 hours per day, seven days per week — require an uninterrupted supply of pure water for which both quality and quantity must be guaranteed.

Given how crucial this equipment is, response time on a service call cannot exceed two hours. With Veolia Water Technologies' closest office 90 minutes away, service teams are faced with a logistical challenge.

The hospital's critical analyzers are fed by two Elga Medica™ Pro 60 units equipped with Hubgrade for data visualization and performance alerts. Our service teams are able to remotely monitor water quality so when a drop occurred in the water resistivity, they immediately travelled to RAK Hospital to replace the consumable. The supply of pure water was restored without any impact on the operation of the facility. In another instance, Hubgrade alerted the service team that the feed water to the Elga units had stopped. The team was able to notify the customer and troubleshoot the water supply problem before the water storage was depleted.

The peace of mind procured by Hubgrade in this context is truly invaluable.



implementing technologies and protocols that can support business recovery in the event of disaster. Digital cloud-based tools like Hubgrade support water quality and help to guarantee 'business as usual' during crisis management by ensuring that water users are able to operate their businesses when staff are not available or are unable to physically reach water and wastewater treatment facilities.

Secure remote on-line access to critical water quality data is a key element in business continuity planning for all the diverse industries and applications reliant on water. Even relatively modest investment in digital technologies and ICT can make significant inroads when planning for business risk mitigation in the event of catastrophe. Simultaneously, such technologies can also help to optimize processes, equipment and facilities to reduce operational expenditure and even potentially eliminate capital expenditure requirements, delivering a return on investment irrespective of business risks emerging from unforeseen disruptive events.

An example comes from Milan in Italy where Hubgrade was commissioned in 2019. The real-time optimization tool has helped the Nosedo wastewater treatment facility achieve annual operational costs savings of more than €400,000.

It is clear that digital tooling has a key role in normal business operations, but in disaster planning, ICT at local, regional and global scales is a core part of any comprehensive business continuity strategy.