

Majority of water and sewerage companies across the world are now faced with similar challenges in business as well as in other sectors: Revenue growth, optimal operating margins, asset performance, and resilience are just some of the key areas where stakeholders need constant reassurance. As a result, making the right decisions in these areas is crucial.

Is the Water Industry ready for the future



With many water and sewerage companies around the world facing more and more challenges, making the right decisions now are harder and more critical than ever.

By Adrian Champion

At the same time, the world is becoming more complex and volatile. As the number of stakeholders in the water sector continues to increase, companies now also need to consider new regulatory requirements, the impacts of climate change, cyber threats, and rising costs on the business.

A recent published study showed that in this environment, making decisions is becoming ever more difficult as compared to history, and experience and intuition no longer

count as a guarantee for success.

To make the right decisions, the right people need to have access to the right information at the right time. And for these insights, companies need to maintain and protect their own data as an asset and make the best use of available external data.

In recent years, the volume of data water and sewerage utilities collect worldwide has been rising sharply, and this trend will only continue as smart meters and other technologies are rolled out on a

wider scale.

But how can a water company ensure that it capitalises on its existing data while also not only keeping itself from getting caught up in processing it, but also creating an environment where decisions are driven by robust business intelligence?

There are many data analytics challenges that water companies face. How they can be overcome, and what opportunities can the use of data analytics open up for the water sector?

With the rise of new technology within facilities, there are opportunities for operators and EPCs to ensure that important and relevant data is captured and stored in the right place from the point of project design.

This ensures future plant maintenance can be as effective and cost efficient as it needs to be in the future as we embrace a world of Industry 4.0 and Digital Twins.

However, though Industry 4.0 is rapidly gaining traction, many companies in the water industry are not yet applying the principle.

No man is an island

“Desert islands” may be beautiful and “one-off”, but they are lonely places.

Similarly, while there might be “one-off” solutions for people – as described by authors John Donne and J. M. Simmel, for example – in regards to machine or plant lifecycles, they don’t make life much easier.

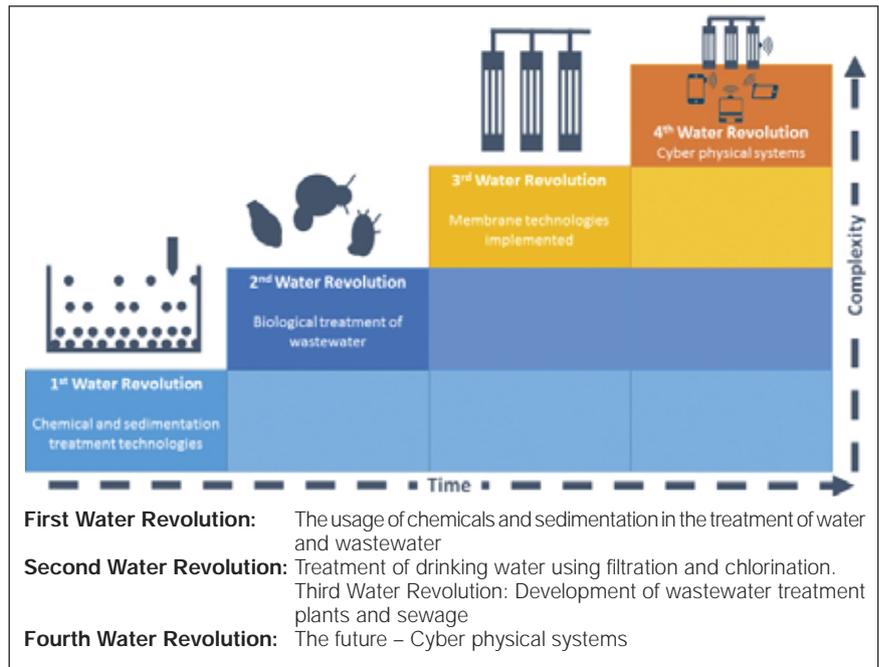
In fact, it is on the contrary.

If an engineering system has been designed to simplify the life or work of a plant designer, “one-off” solutions must be avoided at all costs. Or at the very least, they must include bridges.

Aucotec created Engineering Base (EB), an exceptionally integrative platform, for this very purpose. Its central, collaborative data model simplifies work by minimising the effort involved in liaising or making corrections, as well as by its function and template orientation.

Another key focus of EB lies in its receptivity for connections to further tools, such as 3-D software, process simulation, or the customer’s own ERP tools.

While excellent special solutions are available, a blanket tool can only ever be a compromise.



Integration

Even before Industry 4.0 emerged, technology and machinery were steadily increasing in complexity, with the number of special tools and additional solutions required for product lifecycles rising sharply.

As a result, a product’s ability to integrate became even more significant, a fact also reflected in the further development of Aucotec’s EB with the addition of the CAE system, a universal solution which can manage data and closely link projects across all disciplines – even external ones – and able to provide the necessary consistency and overview needed to master future engineering challenges efficiently.

Operators can start to think about Industry 4.0 and the benefits of big data as early as the beginning of the construction of a new plant or treatment plant project, and not just when a completed plant is handed over to them.

No compromises

Integration competence is the key to being able to realise the concept of a complete digital twin of the plant in the engineering process, and unless all the data can be integrated into one plant, this vision can never be achieved.

But in the process, it is important that valuable data does not end up in “dead” containers where it generally loses its stored logic. Nor is there any point creating one blanket system for all trades.

Planners, designers, and project managers should always be able to use the optimal tool for their respective discipline. While excellent special solutions are available, a blanket tool can only ever be a compromise.

Forget about worrying

Integrated project management tools in engineering systems also allows for the automation of project workflow, along with data transfer with all types of external systems.

Integration has become crucial in relation to Industry 4.0 as it is the automation of data integration

which completes the solution.

Aucotec recently demonstrated this integration with their Project Status Manager module for EB, which was first presented to the public at the Hannover Messe 2017, and guarantees that the central documentation is always up-to-date, considerably improving the quality of the data. Moreover, it can be adapted and customised according to the user, helping to increase security and save time.

Added value

Combining inherently diverse disciplines such as basic and detail engineering while also enabling simultaneous engineering with integration and connections to various ERP, PDM/PLM and automation systems, to all standard 3-D tools, and even to predictive maintenance solutions, and simulation or production tools means that operators and their contractors are able to build and maintain the type of plants needed in a challenging modern business environment

As a result, sturdy bridges are built, creating added value for all involved – no matter how remote the island.

Using the right engineering tools to link standard and non-standard business processes and systems will enable water companies to embrace Industry 4.0.

Conclusion

Realising and implementing these types of technologies will bring huge benefits. Many companies from State

Utility Companies such as BWT to service providers like Evoqua to Mechatronics already subscribe to this technology, both to their, and their customers, benefits.

Although the water industry is just beginning to discover the potential that data driven systems can offer, many already understand the opportunity, acknowledging that data driven intelligence has the potential to transform how water infrastructure is understood, managed, and used in the future as our plants get ever more complex and smarter. [WWA](#)



The Author

Adrian Champion is Jakarta-based Director of Adhinata Consulting, which provide digital solutions to the engineering industry in Southeast Asia, particularly Indonesia and Singapore. Adhinata is also the regional partner for Aucotec and Engineering Base.

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