

IFAT, Munich exhibition centre, Hall A5, Stand 243

Preparing the water industry for the future: identifying and implementing trends

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In order to remain fit for the future, water supply and distribution facilities need to set themselves special challenges and take future trends seriously. Topics such as system migration and modernisation, data capture and analysis or preventive maintenance are becoming increasingly important when it comes to ensuring a high level of plant availability and efficient operation.

"The primary goal of every company is to guarantee long-term business continuity while maintaining a high level of plant availability. It is important to implement notable trends effectively – with the help of modern automation technologies, for example. These can help to minimise life-cycle costs significantly and ensure that a plant is operated effectively", explains Detlef Koffke, Manager Industry Sector Water, Factory Automation – European Business Group, Mitsubishi Electric Europe B.V.

Avoiding machine shutdowns

Shutdown periods increase total operating costs and affect quality and efficiency. For that reason, downtimes should be kept to a minimum during the migration or modernisation of existing plants. Shutdowns can be reduced by carrying out the integration of the new system in parallel, without disrupting normal operation. Modern automation technologies, standardised software and flexible solutions – such as adapter solutions for example – can provide support in the run-up, enabling procurement

costs and cabling work to be reduced.

Tested and proven function blocks, standardised hardware and software solutions as well as specific libraries can also help to reduce the costs associated with project planning, engineering and commissioning.

Advanced condition monitoring

Ideally, a condition monitoring solution would be integrated in the complete system in conjunction with a form of energy monitoring. It could then help to ensure reliable system optimisation as well as minimise costs, downtimes and risks such as unscheduled shutdowns. Preventive maintenance enables the life-cycle of components to be maximised while maintaining the same level of performance and repairs to be scheduled. A modern condition monitoring system can be integrated quite easily and flexibly adjusted in line with plant requirements. In addition, it has an intuitive operating concept and offers the option of long-term data storage.

Improving plant transparency

Transparency is playing an increasingly important role in guaranteeing system availability and efficiency. Besides the central visualisation of the whole plant, it is all about the integration of decentralised plant components in real time. Intelligent remote terminal units (RTUs for short) can be used to connect external stations to a central process control or SCADA system.

The smartRTUs from Mitsubishi Electric feed data from branched plant systems such as pipelines, pumping stations or water treatment plants into the central SCADA system in real time. In the event of communication failure, they will temporarily store all the relevant data. The comprehensive overview of the current plant status will also include

acute maintenance requirements and fault or alarm messages.

Monitoring energy consumption and water pressure

Rising energy prices and the huge costs that can be incurred as a result of water losses in pipe systems are two further reasons for plant operators to decide to go digital. Tried and tested solutions can be used to optimise pumping station pressure, for example, enabling the load on the pipe network as well as water losses to be reduced.

Modern energy management systems allow energy consumption to be determined, evaluated, optimised and ultimately planned in detail. Detlef Koffke adds: "No plant should be without scalable solutions for tasks ranging from energy recording through peak load management to improving overall plant efficiency. These can open up possibilities for reducing energy consumption in almost all areas. So it is ultimately up to the operator to exploit that potential."

Notes:

See how Mitsubishi Electric is able to respond to today's automation demands in the water industry:

eu3a.mitsubishielectric.com/fa/en/solutions/industries/water

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Image captions:



Picture 1: Detlef Koffke, Manager Industry Sector Water, Factory Automation – European Business Group, Mitsubishi Electric Europe B.V., explains: "Modern automation technologies can help to minimise the life-cycle costs of a plant significantly and ensure that it is operated effectively in every respect."

[Source: Mitsubishi Electric Europe B.V.]



Picture 2: The municipal water treatment plant in Rotenburg a. d. Fulda where a condition monitoring solution is successfully used and minimises downtimes and repair costs amongst other things. The solution was created by a well-known e-F@ctory Alliance Partner and Mitsubishi Electric.

[Source: Mitsubishi Electric Europe B.V.]



Picture 3: The smartRTUs from Mitsubishi Electric feed data from remote branched plant systems such as pipelines, pumping stations or water treatment plants over long distances into the main plant system.

[Source: Mitsubishi Electric Europe B.V., Thinkstock]

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With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 129.000 employees the company recorded consolidated group sales of 36,0 billion US Dollar* in the fiscal year ended March 31, 2015.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe B.V., Factory Automation European Business Group (FA-EBG) has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

**Exchange rate 120 Yen = 1 US Dollar, Stand 31.3.2015 (Source: Tokyo Foreign Exchange Market)*

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