

M&C Solutions



Customer challenges

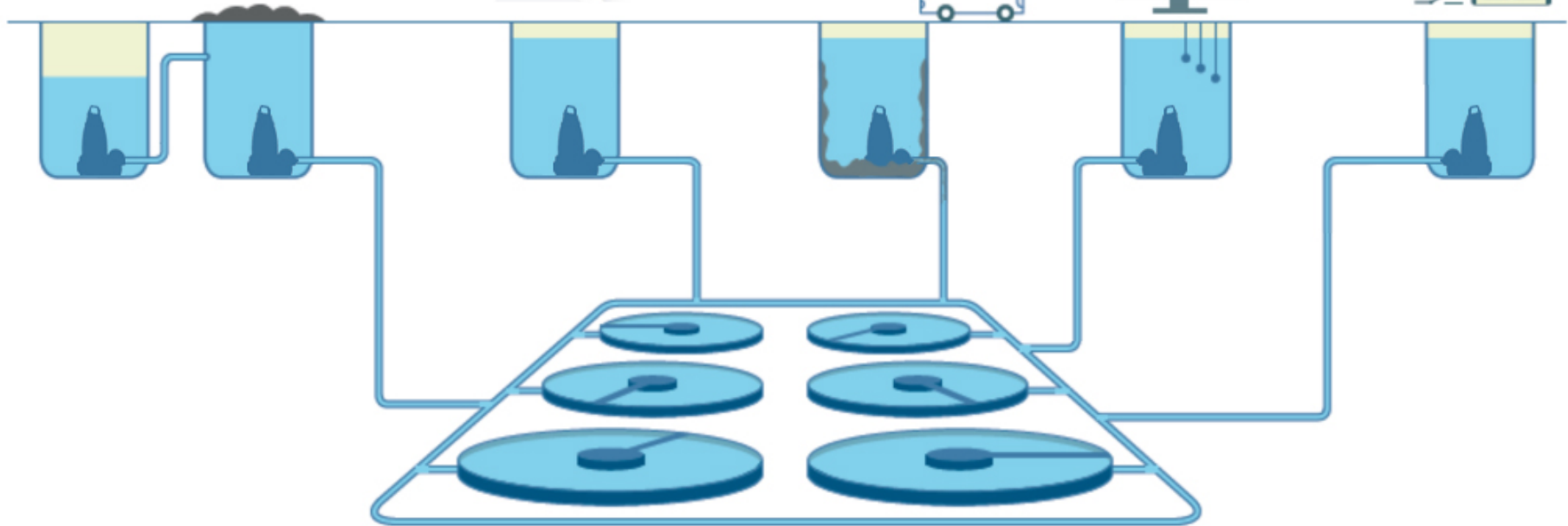
AVOID
sewage overflow

REDUCE
energy
consumption

ELIMINATE
unnecessary
call-outs

SIMPLICITY
in control system

IMPROVE
asset management



FUNCTIONS

How to avoid a sewage overflow from happening



Avoid sewage overflow

- Blockage detection & cleaning



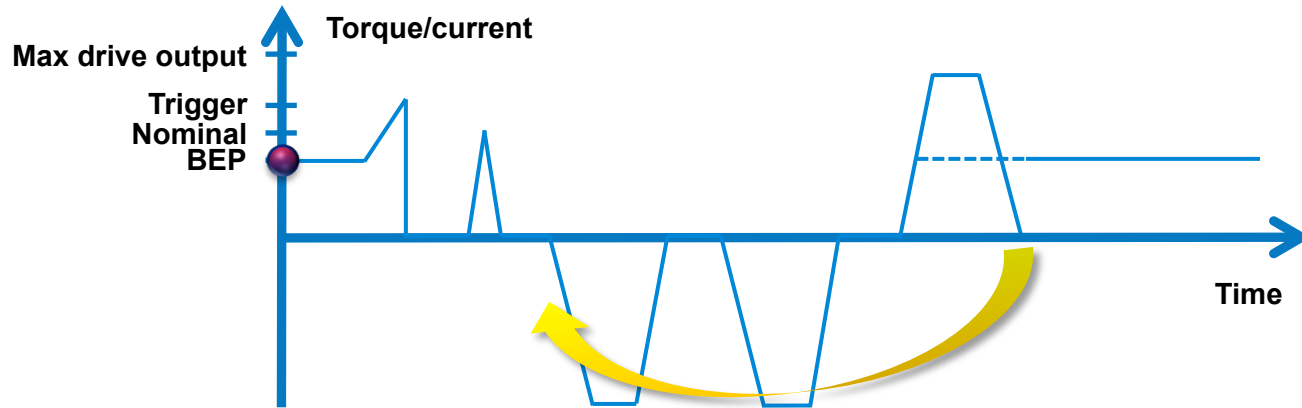
Avoid sewage overflow

Blockage detection & cleaning



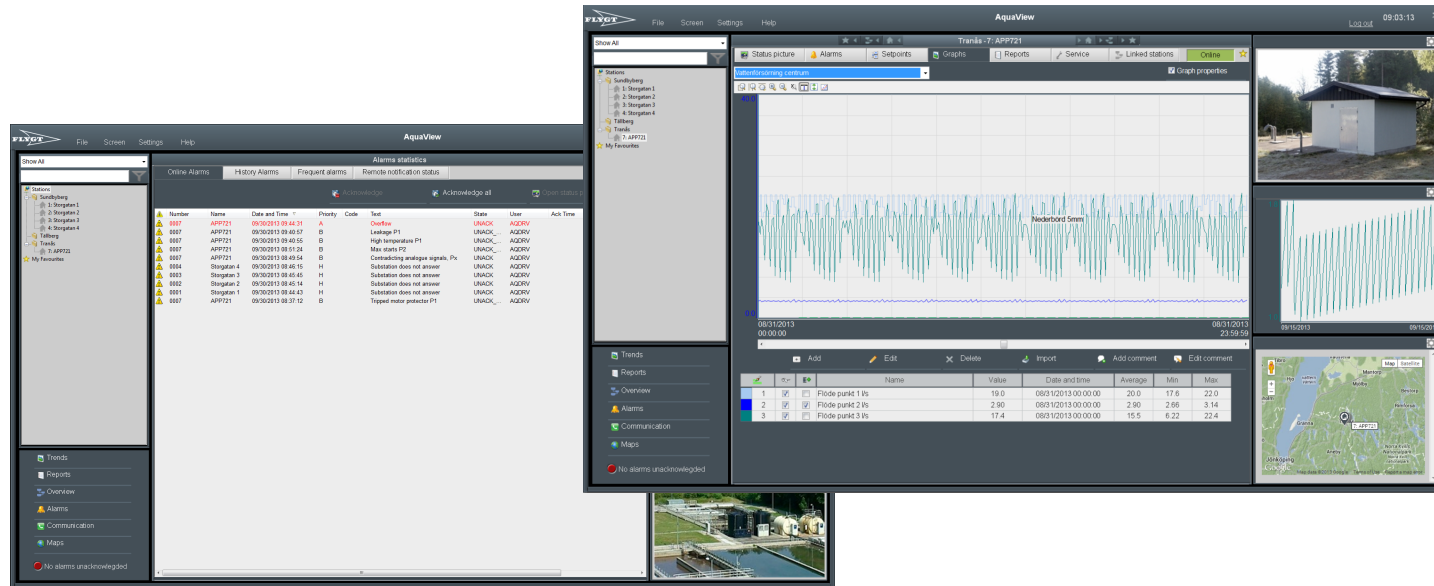
Avoid sewage overflow

– Blockage detection & cleaning



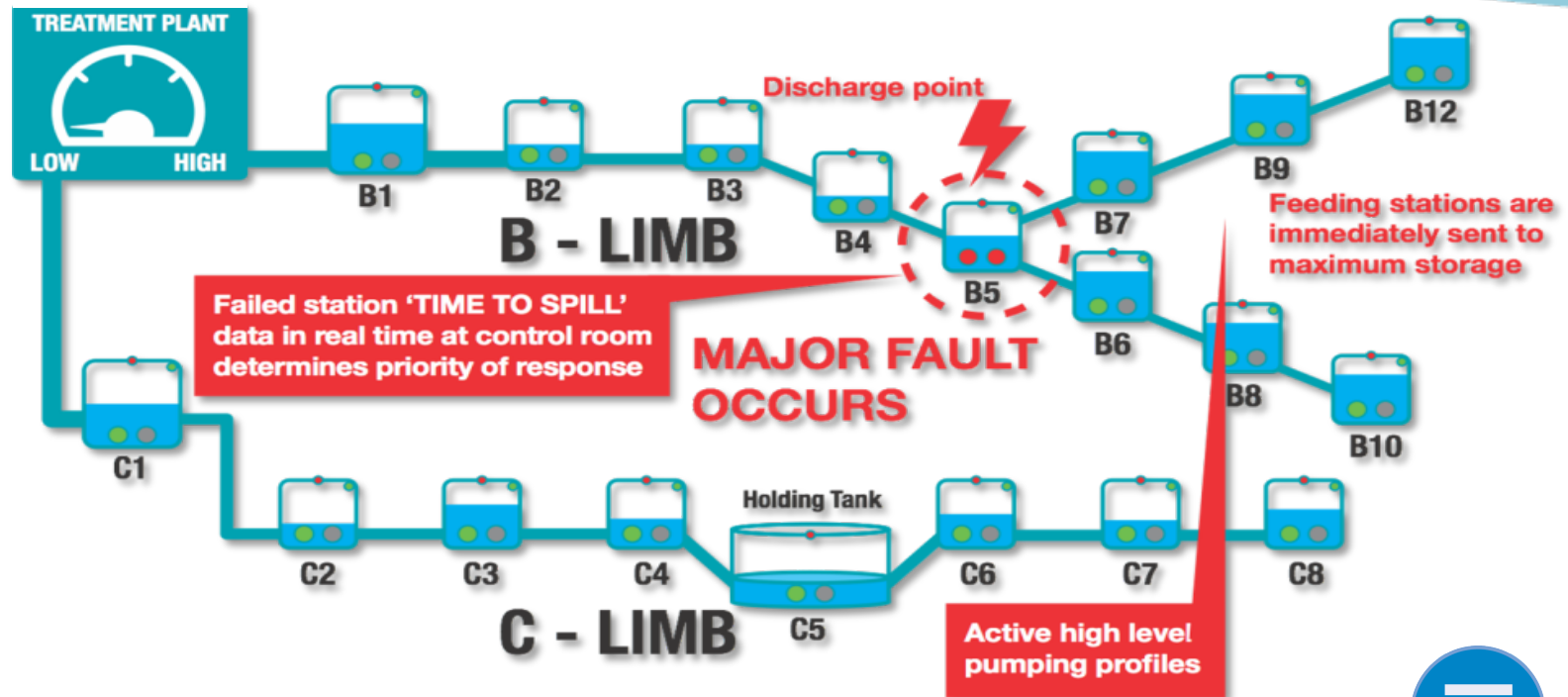
Avoid sewage overflow

– Overflow warning and monitoring



Avoid sewage overflow

- Sewage network buffering



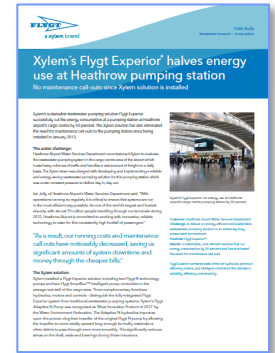
Would you like to chop your energy bill in half?



**Energy
minimization**

**Efficiency
alternation**

**Directed
pumping**



Reduce energy consumptions

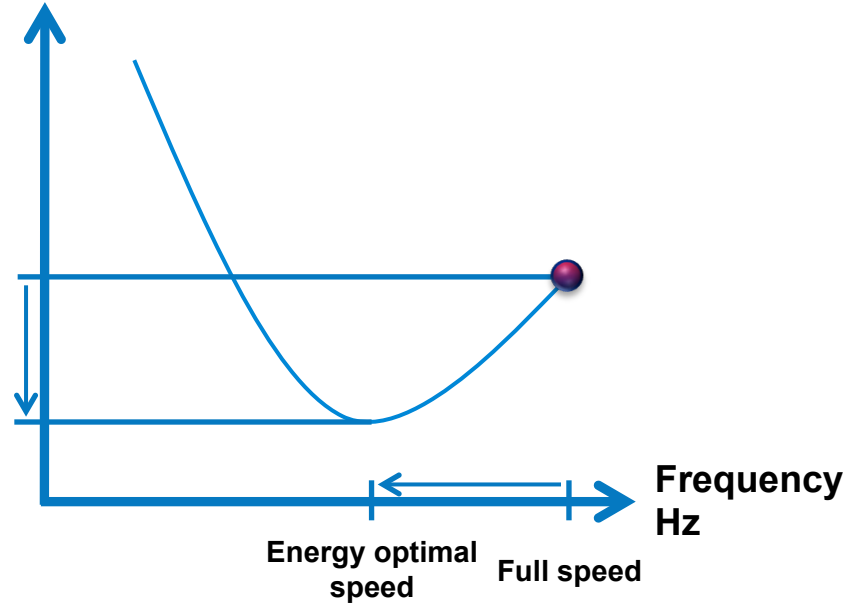
Energy minimization



Reduce energy consumptions

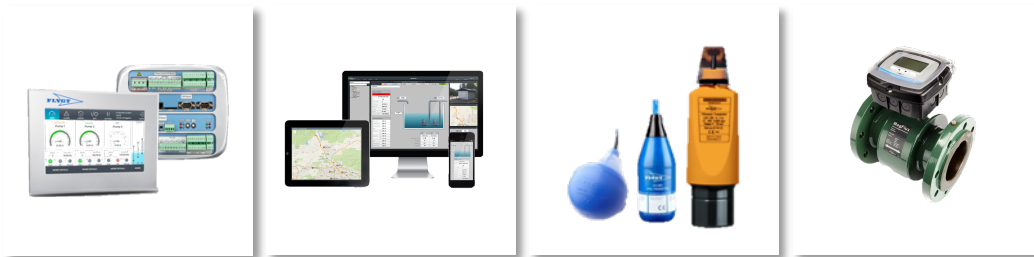
Energy minimization

Specific energy
 kW/m^3



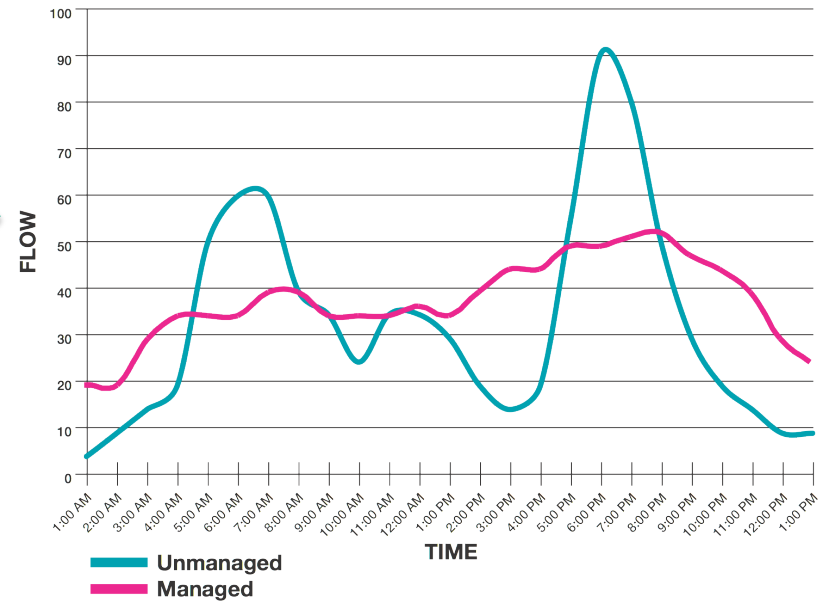
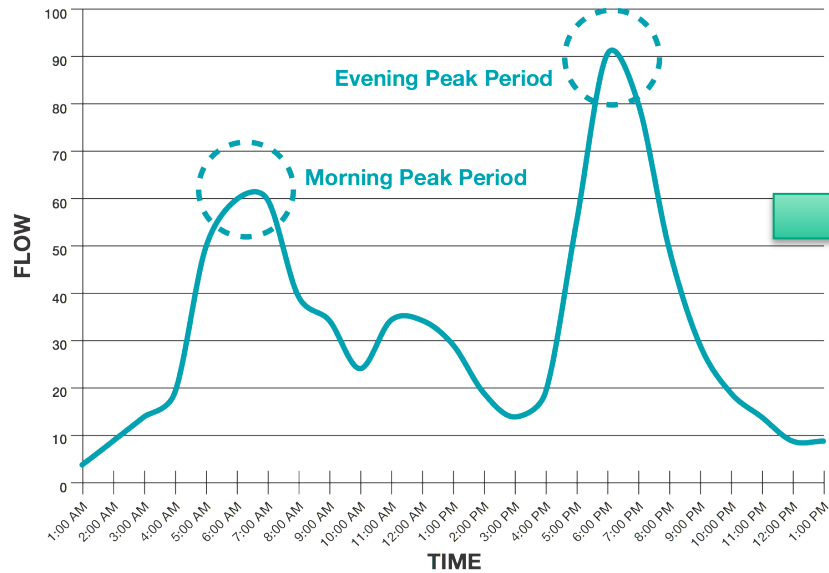
Reduce energy consumptions

- Efficiency alternation and station energy efficiency

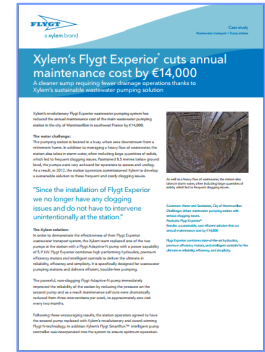


Reduce energy consumptions

- Directed pumping and off-peak hours operation

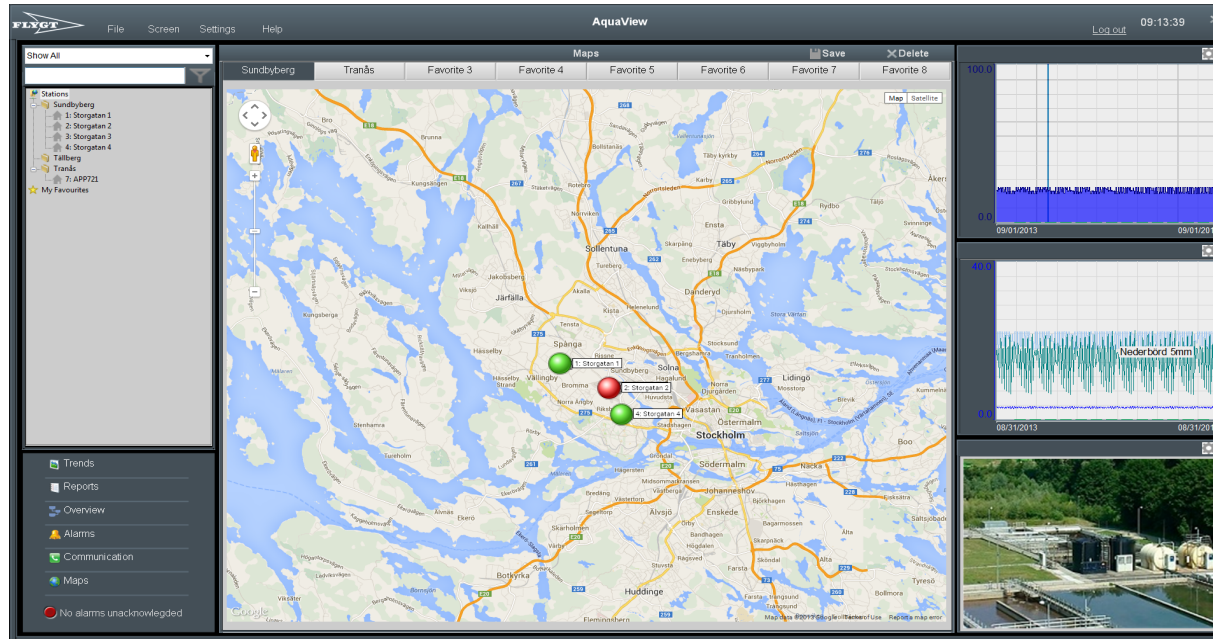


Goodbye call-outs. Hello higher productivity.



Limit call-outs

Intelligent alarm handling



Limit call-outs

Sump and pipe cleaning



Limit call-outs

Sump and pipe cleaning



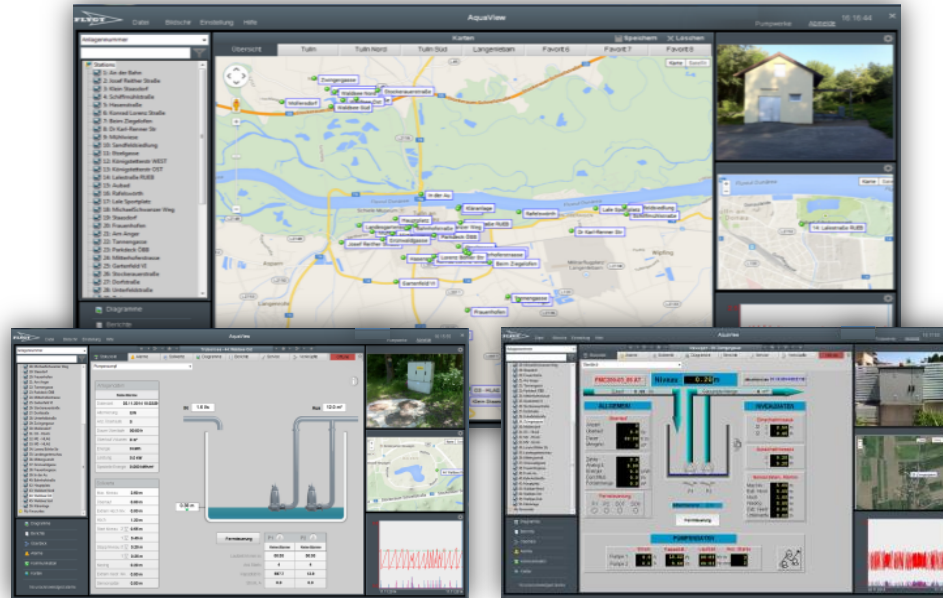
Limit call-outs

Sump and pipe cleaning

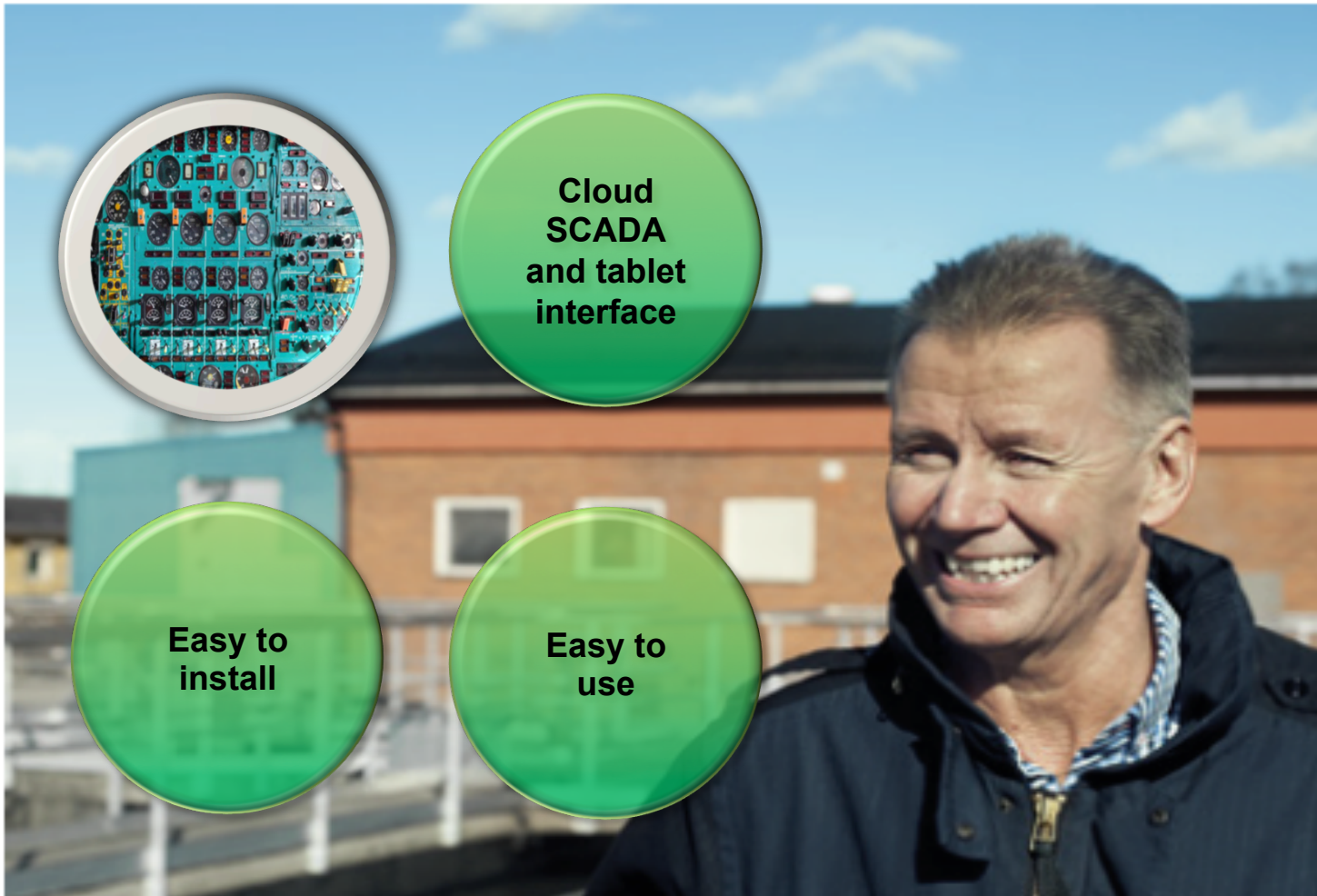


Limit call-outs

Remote monitoring and control



We put simplicity in a box. Really.

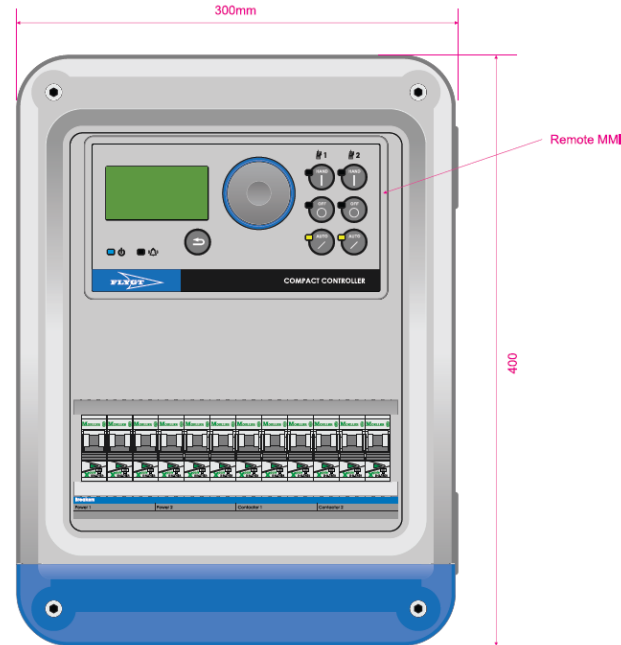


Simplify control systems

Easy to install, out-of-the-box installation

Once you use the set-up wizard, you never forget it. The MultiSmart is self-explanatory and everything is laid out for you. The infield training was great and now all it takes is about 1-2 hours to install and commission a MultiSmart.

- Ulysses Sivilla
Village of Wellington, Florida USA



Simplify control systems

Easy to use

Flovac needed to find a user-friendly control system for its vacuum pump stations, while still meeting the stringent requirements of major water authorities. Unlike traditional PLC's which require specialist programming, the use of the Multismart Pump Station Manager has meant that operators onsite could be easily trained to alter settings on MultiSmart's intuitive display.

**- John Radinoff, Managing Director
Flovac, Australia**



Simplify control systems

Cloud SCADA and tablet interface



Manage your assets wisely for the long term.



**Advanced
pump
protection**

**Incoming
power
analyzer**

**Preventive
maintenance**



Improve asset management

Advanced pump protection



-  Current monitor
-  Thermal switches: stator winding
-  Leakage: junction box / stator
-  Leakage, oil housing
-  Vibration
-  Temperature: bearings
-  Temperature: stator winding
-  Pump memory

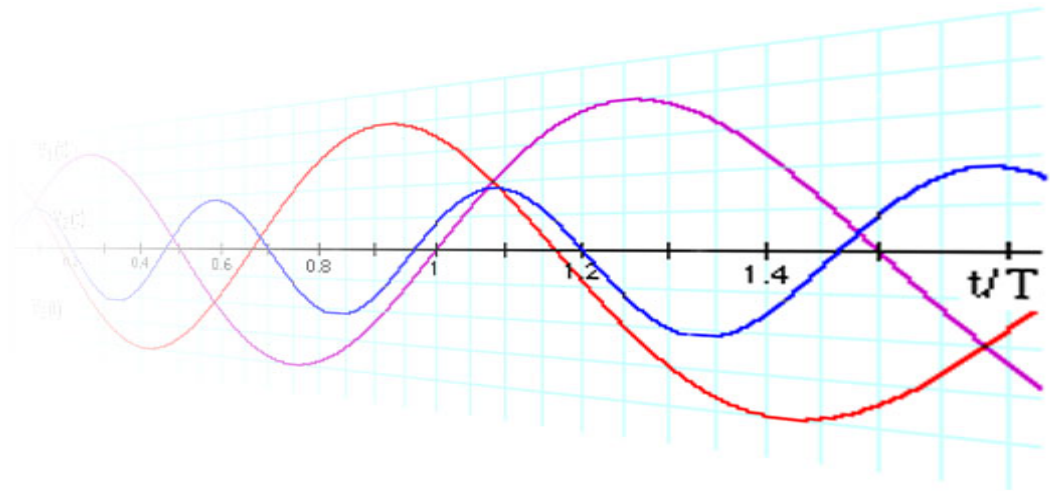


Improve asset management

Incoming power analyzer and data logging

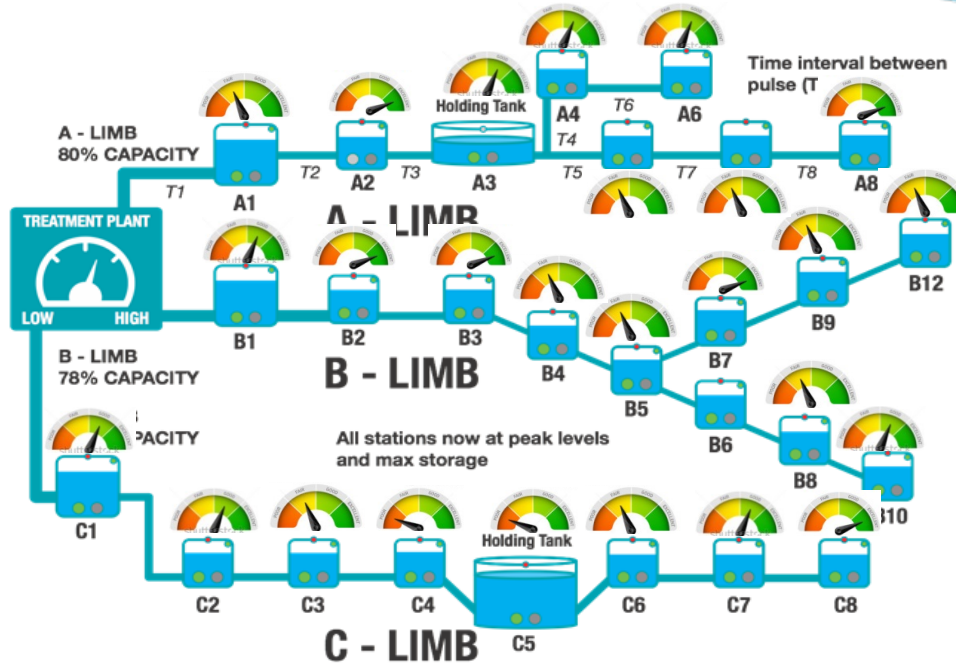
“We can program the controller to monitor the incoming voltage. If the voltage deviates from what we consider safe, the pump will immediately stop running. It will only start-up again when the voltage stabilizes. Concurrently, the system will signal the event and continue to notify the operator of any further changes. By protecting the motors, the controllers are, in fact, performing a preventative maintenance function. Cost savings, perhaps...cost-efficiency, definitely.”

Richard Guest
EAST BAY
REGIONAL PARK DISTRICT



Improve asset management

Preventive maintenance



Flygt AquaView – Total control. Your Way.



AquaView 7 is specifically engineered for water and wastewater professionals who demand intuitive ways to monitor, control and optimize their assets anywhere, anytime and from any device.



AQUAVIEW7 - VIDEO



AQUAVIEW7 - CASE



Case study
Söderhamn Nära

Swedish municipality gains total overview of water and wastewater operations

Importing 50 pump stations into AquaView 7 in less than one day

In less than a day, the District Operations Manager at Söderhamn Nära single-handedly installed the new AquaView 7 and imported 50 pump stations from AquaView 1.6, adding customized graphical overviews of the majority of his operations within just over a week.

The challenge:

Surrounding a deep bay on the Baltic coast, Söderhamn municipality lies some 250 km north of Stockholm, Sweden. At the heart of the region's wastewater treatment is a sensitive wetlands area, which helps to further reduce the content of organic substances, phosphorus and nitrogen in the 2.5 million cubic meters of treated wastewater that is discharged annually from one of the municipality's largest wastewater plants. This places strict environmental demands on the facility and makes intelligent wastewater treatment critical to the health of the local ecosystem.

Söderhamn Nära's water and wastewater operations serve 25,000 local inhabitants across an area of more than 2,000 km². The operations include five water purification plants, six treatment plants, 96 wastewater pump stations and ten water booster stations. Together, they treat as much as 4 million cubic meters of municipal and industrial wastewater and produce 2.3 million cubic meters of drinking water annually. For Gunnar Ericson, District Operations Manager at Söderhamn Nära, an advanced SCADA system is crucial to effective management and planning of such a complex and geographically diverse water and wastewater treatment system.

"AquaView 1.6 has served us well for a number of years, but we were in need of an upgrade to a more modern system. One that gives a more complete overview of our operations and is easier to use for all our staff."

The Xylem solution:

According to Mr. Ericson, upgrading to AquaView 7 could hardly have been simpler. In less than a day, with some assistance from Xylem's telephone support, he was easily able to import 50 pump stations from AquaView 1.6. "I'm convinced that anyone could set up and customize this



"It was very simple to get up and running. It was intuitive, and there were quite a few 'wow' moments compared to the old system" says Mr. Ericson, pictured here at Gransås wastewater treatment works.

Customer: Söderhamn Nära
Challenge: To upgrade to a more intuitive, customizable system with a comprehensive operational overview
Product: AquaView 7
Results: Installation in less than one day by a single person, with fully customized real-time overviews implemented in just over a week.



FGC400

– Powerful control. Compact format.

”Out of the box” functionality

- Extensive set-up wizard and intuitive HMI.
- Benefits: Easy to set up and commission

Flexible and expandable

- Possibility to interface with different systems and products
- Benefits: Wide range of applications with one product.

Advanced functionality

- Our advanced controller functionality downscaled.
- Benefits: Creates unique selling points at a low cost



Flygt MyConnect – Simpler, Smarter, Smaller

Compact modular control unit that helps you make the most out of most any water and wastewater pump station configuration.

Offers a wide range of connectivity options and built-in communications.



Flygt MultiSmart

– Intelligent pump station control

The world's first intelligent pump station manager, providing total control of up to six pumps with one intuitive interface.

Empowers your staff with hundreds of advanced functions designed specifically for water and wastewater.



MULTISMART – CASE



Case study
St Andrews, Scotland

St Andrews takes control over sewage pumping and safeguards the home of golf

MultiSmart™ reduces call-outs and cuts energy costs by more than 23%

After installing Flygt MultiSmart™ Intelligent Pump Station Manager (IPMS) at its existing terminal pump station, the historic town of St Andrews in Scotland reduced energy costs by more than 23%, eliminated weeks of man-hours spent on nuisance call-outs and minimized both operational and capital expenditures.

Background

With its sandy beaches, famous university and world-class golf course, St Andrews holds legendary status in Scottish history. Sometimes called “the home of golf,” its lush green links date back to 1754 and are located on the dramatic Fife coast, north of Edinburgh. The town's sewage pump station is also located in the harbor, meaning that any overflow ends up in this harbor and onto the adjacent beaches, which presently have Blue Flag bathing standard status.

The original installation consisted of three 50kW pumps using variable speed drives (VSDs) in a duty / assist / standby configuration. Control of the pumps was handled by a programmable local control (PLC) receiving level signals from an ultrasonic sensor. Backup pump control was ensured using float switches.

“The result has been a considerable drop in the number of call-outs by operation staff. The call-outs are now only for genuine problems.”

The challenge

The real challenge for St Andrews was erratic supply voltage fluctuations that resulted in constant call-outs of operational staff for pump resets. The fluctuations also damaged the VSDs, causing one unit to be replaced every year, in addition to other repair costs. It was not uncommon to have several pump cut-outs per month due to voltage fluctuations outside preset limits. During a two-week period alone, St Andrews sustained 164 voltage fluctuations, many of which would have required manual resets, data later showed.



St Andrews is situated on the Fife coast, Scotland and is world famous for golf.

Customer: St Andrews, Scotland, UK.
Challenge: Overflows, main voltage fluctuations, call-outs, energy consumption.
Solution: Flygt MultiSmart™ (IPSM), current transformers.
Results: 22% energy reduction and 5-10 fewer call-outs per week.



SmartRun

Reliability

- Automatic pump cleaning
 - optimized for N impellers
- Cyclic sump and pipe cleaning

Energy efficiency

- Adaptively finds the energy optimal speed
- Adaptive to future piping changes

Simplicity

- All parameters pre-set and correct from start
- Intelligent control, speed regulation, pump protection in one unit



SMARTRUN – CASE

FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Xylem's Flygt Exporier® cuts energy use at pumping station by 35 percent

Annual saving of €4,500 thanks to Xylem's sustainable wastewater pumping solution

Xylem's sustainable pumping solution Flygt Exporier® intelligently reduced the energy consumption and operating costs at a municipal wastewater pumping station in the Italian town of Castelnuovo di Stabia.

The water challenge:
The Castellnuovo plant, one of the largest in the region, treats wastewater from a residential area of 10,000 inhabitants. The plant's energy consumption is high, and the wastewater treatment plant (WWTP) is a major energy consumer in the area. The plant's energy consumption is high, and the wastewater treatment plant (WWTP) is a major energy consumer in the area.

The solution:
After evaluating the plant and the specific challenges faced by the plant operators, the local Xylem team recommended that Flygt Exporier® wastewater pumping system. Flygt Exporier® is a sustainable, high-efficiency, low-maintenance, and intelligent solution that reduces the plant's energy consumption and operating costs. It is a sustainable, high-efficiency, low-maintenance, and intelligent solution that reduces the plant's energy consumption and operating costs.

FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Xylem's Flygt Exporier® cuts energy use at pumping station by 27 percent

Sustainable wastewater pumping solution also eliminates clogging

Xylem's Flygt Exporier® intelligently reduced clogging and reduced the energy consumption by 27 percent at a municipal wastewater pumping station in the town of Castelnuovo di Stabia.

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FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Xylem's Flygt Exporier® cuts annual maintenance cost by €14,000

A cleaner pump requiring fewer drainage operations thanks to Xylem's sustainable wastewater pumping solution

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xylem
Let's Solve Water

Unitwater Case Study

Success Flygt Exporier pump technology is giving Xylem a cutting-edge advantage in saving communities around the world. The month Xylem flies into a project with Unitwater in Queensland has been a project of a possible return of work for a long time to come.

Unitwater Case Study:
Unitwater is a leading water utility in Queensland, Australia. They are looking for a sustainable wastewater pumping solution that can reduce energy consumption and operating costs. Xylem's Flygt Exporier® is a sustainable, high-efficiency, low-maintenance, and intelligent solution that reduces the plant's energy consumption and operating costs.

FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Xylem's Flygt Exporier® halves energy use at Heathrow pumping station

No maintenance call-outs since Xylem solution is installed

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FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Flygt Exporier Pump System in Jefferson Parish, LA

Flygt Exporier eliminates serious clogging issues and reduces energy consumption at Louisiana pump stations by 50 percent

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FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Flygt Exporier® generates 50% energy savings

Minimizing energy use at pump stations with extreme variable flows

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FLNXT
a xylem brand

Case Study
Wastewater Treatment • Pump Station

Flygt SmartRun® keeps control of the costs

A measure of pump station efficiency

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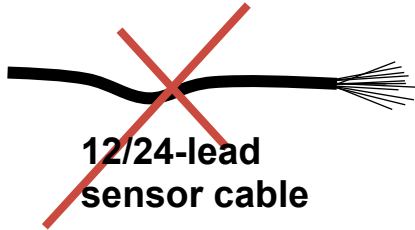
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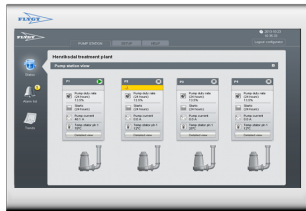
MAS 801

– Comprehensive pump protection



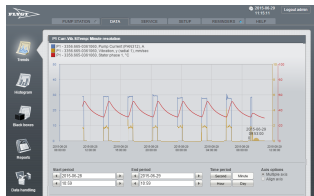
No sensor cable

12/24 lead sensor cable replaced by 2-wire communication
+ Increased reliability and simplified handling



New user interfaces, new design

7 inch color display, modernized web interface, new design of boxes
+ Easy to use and install, appealing look reflecting premium quality



Powerful overview, fault tracing and reporting

Extensive monitoring and logging capability
+ Feeling of control, accurate and efficient analysis



Built-in 3-axis vibration sensor and current transformer

Essential monitoring and information integrated in the pump
+ Comprehensive protection of pump, simple and in place.



Flygt MagFlux – Know your Flow!

- Wide range of flow sensor sizes DN20 (3/4") to DN1200 (48")
- Quick and easy commissioning with the unique MagFlux calibration code
- Flexible installation possibilities with compact or remote mount design (display up to 1000m (3300ft) from sensor)
- High accuracy 0.25% and wide flow velocity range 0,2 - 10 m/s (0.6ft/s - 30 ft/s)
- Network capable (Modbus/Profibus)

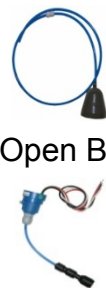


Flygt Measuring Devices Product Range 2017

Analog Level

Semi-Analog / Digital Level

Flow

Ultrasonic	Hydrostatic			Conductive	Acc.	Pneumatic	Level Switches & Over Flow			El.Magnetic
	High-End	Mid-End	Low-End							
										
LSU 100	LTU 801	LTU 601	LTU 401	Level Probe	LI 531 etc.	LTU 301	ENM 10	NF 5	003S	MagFlux



Challenge	Product						
	Function						
Avoid sewage overflow	Blockage detection and cleaning	✓		✓	✓		
	Overflow warning and monitoring	✓	✓	✓			✓
	Sewage network buffering			✓			✓
Reduce energy consumption	Energy minimization		✓		✓		
	Efficiency alternation and station energy efficiency			✓			✓
	Directed pumping and off-peak hours operation	✓		✓			✓
Simplify control systems	Easy to install	✓	✓	✓	✓	✓	✓
	Easy to use	✓	✓	✓	✓	✓	✓
	Cloud SCADA and tablet interface						✓
Limit call-outs	Intelligent alarm handling	✓		✓			
	Sump and pipe cleaning	✓	✓	✓	✓		
	Remote monitoring and control	✓	✓	✓	✓	✓	✓
Improve asset management	Advanced pump protection	✓		✓	✓	✓	
	Power analyzer	✓		✓	✓	✓	
	Preventive maintenance			✓		✓	✓