Case Story – Highlights

An integrated water management system for powerful optimisation

See how water utilities in Sweden are using a real-time operational system to reduce flooding, wastewater treatment costs and discharge of untreated wastewater into the environment

Increased cost savings
Delayed the need for an investment in renovations or relocation of the WWTP

Prioritisation of strategic investments
Allowed the city to focus on more critical needs as part of their long-term planning

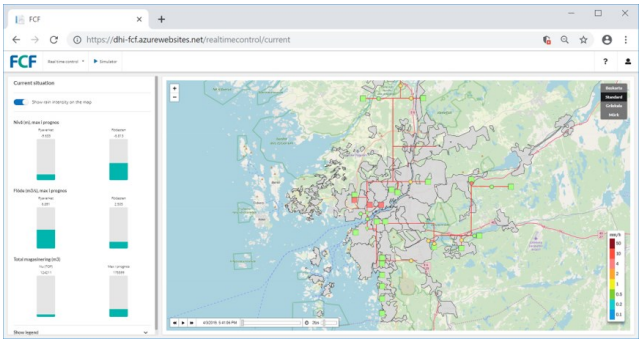
65% reduction in CSO spills & 85% reduction in bypass flows
Expected to be achieved within 12-24 months

Challenge

The city of Gothenburg is located on the west coast of Sweden by the river Göta Älv and the sea. Over the last 10 years, the city has faced rising sea levels, cloud burst rainfall and high flows in rivers and streams during storms. The heavy infiltration/inflow caused by severe storms combined with an increase in urbanisation has put a significant amount of pressure on the aging infrastructure leading to more untreated wastewater being discharged into the environment and higher treatment costs.

Solution

To combat these urban infiltration and inflow challenges, three water utilities in Sweden implemented a web-based decision support system called Future City Flow (FCF). Built on the powerful MIKE OPERATIONS platform, FCF combines a SCADA system with Predictive Modelling to control the wastewater system and optimise daily operations in real-time. It also uses scenario modelling to evaluate potential measures which effectively supports long term strategic and cost efficient planning by the city.



Solution highlights

- Targets both daily operations (OPEX) and long term strategic planning (CAPEX) from a water utility perspective
- Uses business intelligence and scenario modelling to strategically plan for long term prevention
- Built from a well calibrated MIKE URBAN hydraulic model based on continuous hydrology and multiple years of data
- Offers data assimilation for the forecasting to manage remaining deviations
- Features robust control strategies that consider variable forecast uncertainties while not jeopardising safety
- The recommended control strategy is based on forecast and automatically updated every hour

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The project was recently awarded additional funding for a 'Go Global' initiative with the purpose of exploring and identifying candidates for implementation of the Future City Flow system outside of the country.

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