City of Zurich monitors the quality of its drinking water with s::can

Drinking water monitoring

s::can's event detection system monitors the drinking water quality in Zurich's piping system with the revolutionary i::scan

City of Zurich (Switzerland)

Parameters monitored:

- **Turbidtiy**
- **UV254**
- **Color**
- **TOC**

Facts & Figures

Company/Institution:
City of Zurich

Location:
Zurich (Switzerland)

Application:
Drinking water

s::can Partner:
Aqua Innovation

Key Products installed:
i::scan
moni::tool

Background

Zurich water works supplies one of the world's best quality drinking water to the population of the Zurich metropolitan area. To ensure that the quality of the water remains high after it leaves the water treatment facility, and to detect any deterioration of the quality due to problems with the piping, the city of Zurich was looking for a water quality monitoring solution with the following characteristics:

- Deployed in-pipe
- Option to function as a smart grid
- Cost effective
- Coupled to a robust event detection system.

s::can's solution

To be able to measure several parameters simultaneously the i::scan was installed with an in-pipe fixture. The i::scan is a revolutionary and affordable spectrometer that uses the latest LED technology to measure the absorption spectrum. The measured parameters include Turbidity, UV254, TOC, BOD and Color, depending on the application.

The i::scan was installed in-pipe using a unique fixture that can withstand pressures up to 10 bar. The fixture has a separate valve to close the connection to the mains. This allows the i::scan to be taken out of the pipe for inspection or cleaning without interfering with the flow of the water.

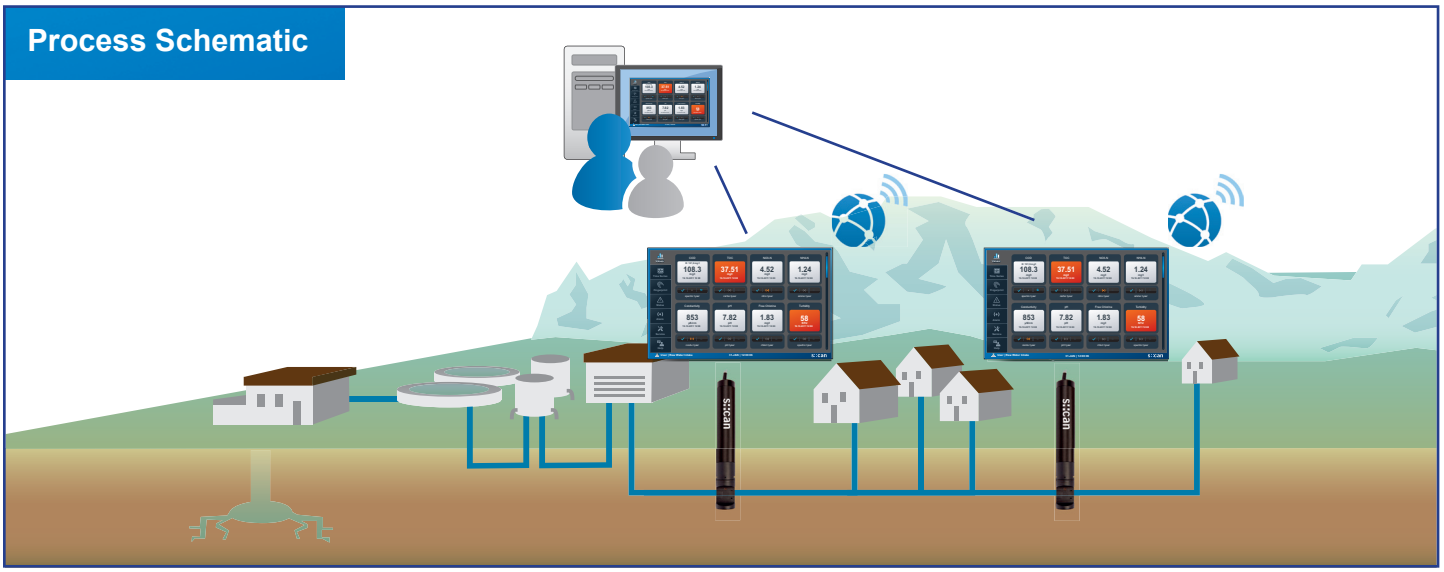
The system was installed in combination with a decentralized event detection system based on s::can's moni::tool, that continuously analyzes spectral alarm parameters to detect changes resulting from untypical, possibly harmful, water quality events. These parameters are trained through data from the monitoring sites and then respond to deviations from the water quality observed during the training. moni::tool is a revolutionary new platform for the management of measuring stations, online probes and analyzers. Whether it is installed in a large monitoring network or as a standalone station, moni::tool's intuitive software and state of the art features are an essential backbone for sensor and station management.

"Measuring SAC-254, turbidity and TOC simultaneously will set new standards in On-Line water quality monitoring networks."

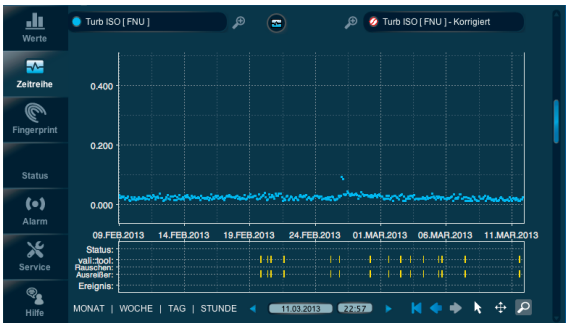
Alejandro Schnyder
(CEO of Aqua Innovation)

s::can
Intelligent. Optical. Online.

Process Schematic

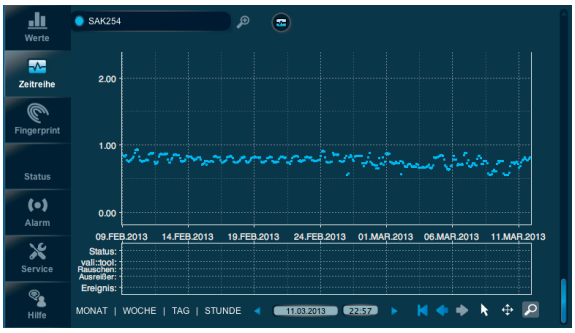


In-pipe turbidity measurement with the i::scan

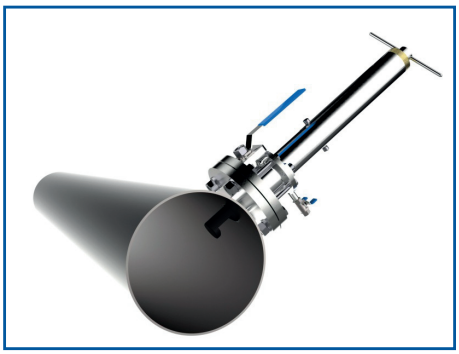


Continuous measurement of turbidity shows stable water quality. A water quality event would trigger an alarm to the operator.

In-pipe UV254 measurement with the i::scan



Measurement of UV254 clearly shows day and night pattern of organic compounds at very low levels in the water.



The i::scan in-pipe fixture allows for measurement directly in the medium without any bypasses. The in-pipe fixture has been designed and tested to work with a pressure of up to 10 bar. It contains a shut off valve that that enables to remove the sensor for maintenance without interfering with the flow of the mains.

The new i::scan combines the high performance of a multi wavelength spectrophotometer with even lower costs than of simple photometers! From cost sensitive simple applications to highly resolved "Smart Water Grids", in small unmanned plants, or even in single building protection - the i::scan is the perfect tool.

By measuring and monitoring the water quality in Zurich, s::can helps the city of Zurich to maintain it's high standards of water quality. s::can is the world technology leader for submersible online spectrometer probes, water protection systems and event detection software. More than 4500 s::can monitoring systems are in use worldwide for drinking-, environmental-, waste-, and industrial water applications.

s::can Messtechnik GmbH
Brigittagasse 22-24
1200 Vienna, Austria

Phone: +43 / 1 / 219 73 93
Fax: +43 / 1 / 219 73 93-12

E-Mail: sales@s-can.at
Web: www.s-can.at