

The Manufacturers Forum at ICA 2017

“Smart Water Quality Sensors - Acceptance for Process Control”

Mirror: Increase the Acceptance of (advanced) Process Control via (better) Online Sensors

Introduction

It is almost common sense today that for optimized, efficient WWTP control, reliable water quality data, especially nutrient concentrations, are crucial. Since about 25 years already, plant operators have been using sensors to measure such data, but somehow they remained on the verge to be accepted as valuable and reliable tools for that purpose. With some exceptions such as DO or pH, they did not quite make it into broad application, and it is still the domain of the braver operators to install them, operate them, and allow their plant to be controlled by their outputs.

Why is that ? Where is the bottleneck ? What are the limitations, and what can be done to further improve the sensors, the data quality, and their integration into daily operation ?

So, we ask, are today's water quality data generally reliable enough to be used in

- ➔ Process monitoring ?
- ➔ Process control ?
- ➔ Remote monitoring, -control and -operation of WWTPs ?

Can advanced control systems rely enough on water quality data, can they help to reduce lab hours / costs, and can authorities trust them enough for compliance statements ?

-> If there was a clear YES, sensors would be more widely and more successfully in use, and would be found more often in norms and standards.

This year's Manufacturer's Forum is planned to be a technical, concrete exchange. Sensor manufacturers will meet with SCADA experts, data analysis specialists with plant operators, to address some common targets: To make sensors more useful for process control, to better understand how to keep the sensors working well, to reduce the amount of work / and costs / involved with validation and maintenance, to reduce the risk of unstable process control conditions, to use sensors to make processes more transparent and better understandable, and to increase the acceptance for every day operation.

The Schedule of the Manufacturer's Forum

Welcome, Introduction

- 8:45 - 9:15 Welcome by the chairs
Overview on the Forum's idea, planned choreography of the day (*A. Weingartner*)
Summary introduction: Ways to increase reliability of data, to detect errors and faults, and to make water quality sensors more useful for the operator (*X. Gao, T. deLaura*)

Session 1: Water Quality Sensors & Parameters for Process Control

- 9:15 - 9:50 Water Quality Sensors & Parameters for Process Control (Andreas Weingartner)
9:50 - 10:00 Presentation of the score list

10:00-10:30 Coffee break

Session 2: In Search of the Key to Reliable Data

- 10:30 - 11:45 In search of the key to reliable data (moderator Xin Gao)
11:45 - 12:00 Presentation of the outcome

12:00 – 13:00 Lunch break

Session 3: Spotlight: Fault detection and transmission

- 13:00 - 14:10 Fault detection and transmission (moderator Tom deLaura)
14:15 – 14:30 Presentation of the outcome

14:30 – 15:00 Coffee break

Session 4: Spotlight: Fault Management and Escalation - the Practical Perspective

- 15:00 - 15:45 Fault management and escalation - the practical perspective (moderator - plant manager)
15:45 – 16:00 Presentation of outcome, recommendations to plant managers