

JORNADA

Smart & Digital Water Solutions

RETEMA
REVISTA TÉCNICA DE MEDIO AMBIENTE

JORDI RAICH MONTIU
S::CAN

#SDWaterSolutions

WHO IS S::CAN?

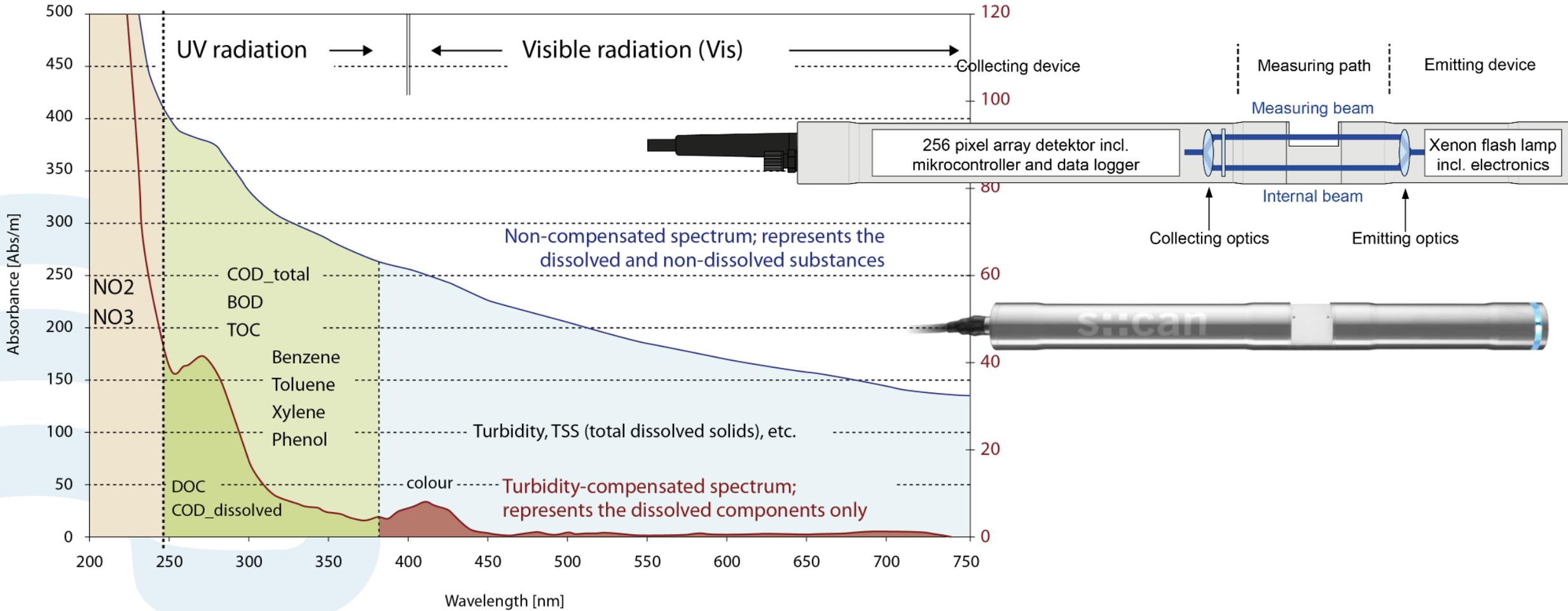
- 1999 University Spin-Off from Univ. Boku Wien
- Family-originated, Headquarters in Vienna, Austria
- 4 Subsidiaries in USA, Mexico, Spain, France, and Offices in India, China, Italy, and Portugal.
- 45 Sales partners globally
- We unite R&D, manufacturing, sales, and services
- 75 staff globally, 10 in R&D



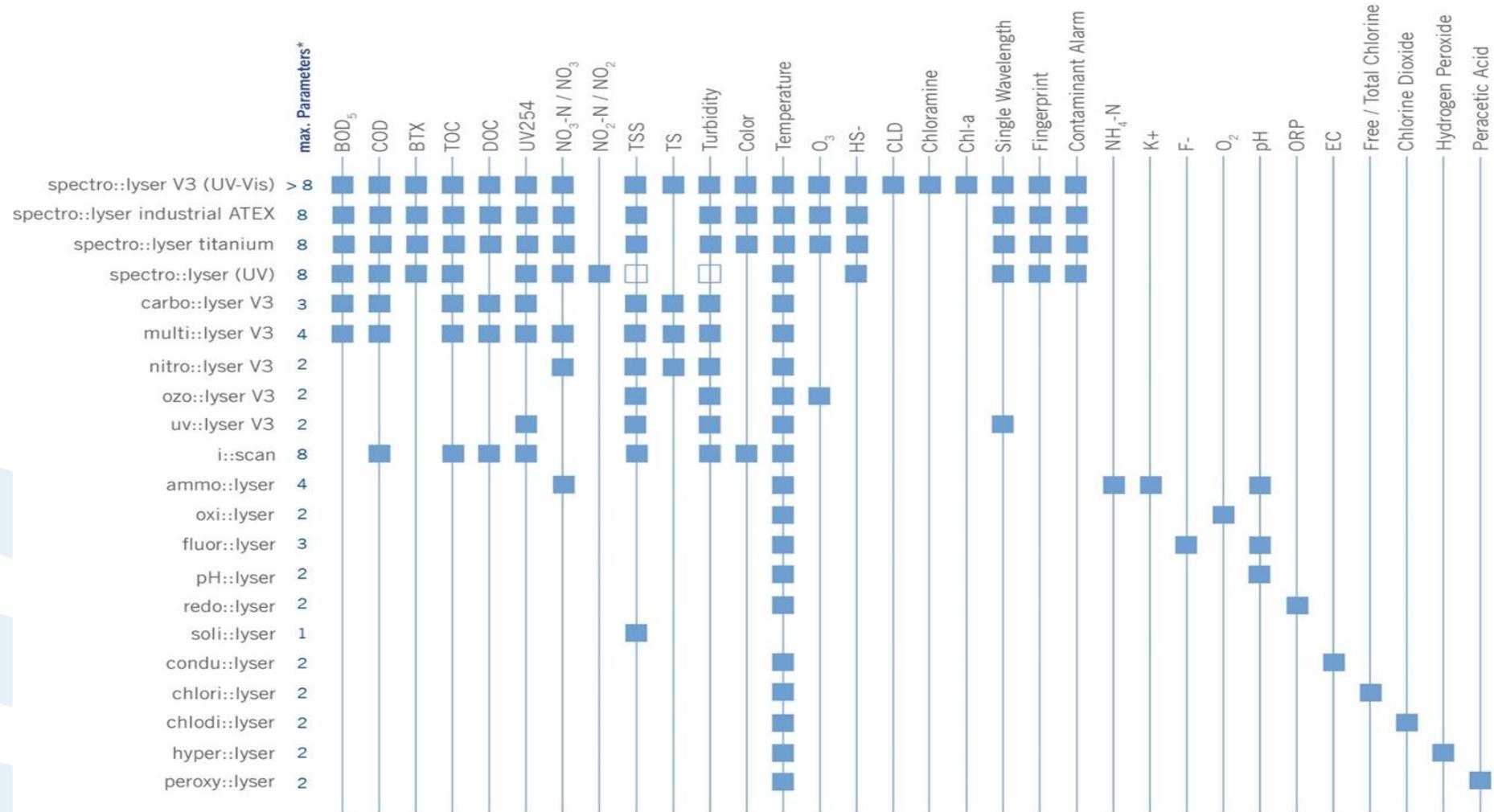
University of Natural Resources and Life Science („Boku“), Vienna, Austria



MEASURING PRINCIPLE



PARAMETERS



* The number of parameters is depending on the specific configuration of the monitoring system.

BADGER METER A GLOBAL ORGANIZATION



We, with our global network of Sales Partners, provide presales and post sales consultations, services and support



Control. Manage. Optimize.

CONTINUOUSLY INVESTING IN GROWTH PLATFORMS

Driving Enhancements in Smarter Measurement & Actionable Data → Enhanced Operational Efficiencies

Static Metering

- Smarter meters – flow, pressure, temperature, valves
- 2nd generation platform releases started in 2020
- Vertical integration of chip sets in order to control the evolution of smarter devices
- Improved accuracies

Innovation Centers:
Lulea, Sweden
Milwaukee, WI, USA



Water Quality

- Low maintenance, reagent-less sensors
- Advanced IoT edge computing detects events
- 60+ parameters for water and gas
- 20+ years of leadership in optical spectrometry, 30+ years in electrochemical

Innovation Centers:
Vienna, Austria
Philadelphia, PA, USA



Cellular & IoT

- 5th generation endpoint released in 2021
- 18-24 month iterative development cycles
- Pioneer in market; first generation debut was 2014
- Millions of cellular endpoints deployed

Innovation Center:
Milwaukee, WI, USA



Software & Analytics

- Cloud software for utility operations, sustainability
- Holistic view of water systems
- Real time detection of anomalies and events
- Decision dashboards
- Process automation

Innovation Center:
Los Gatos, CA, USA

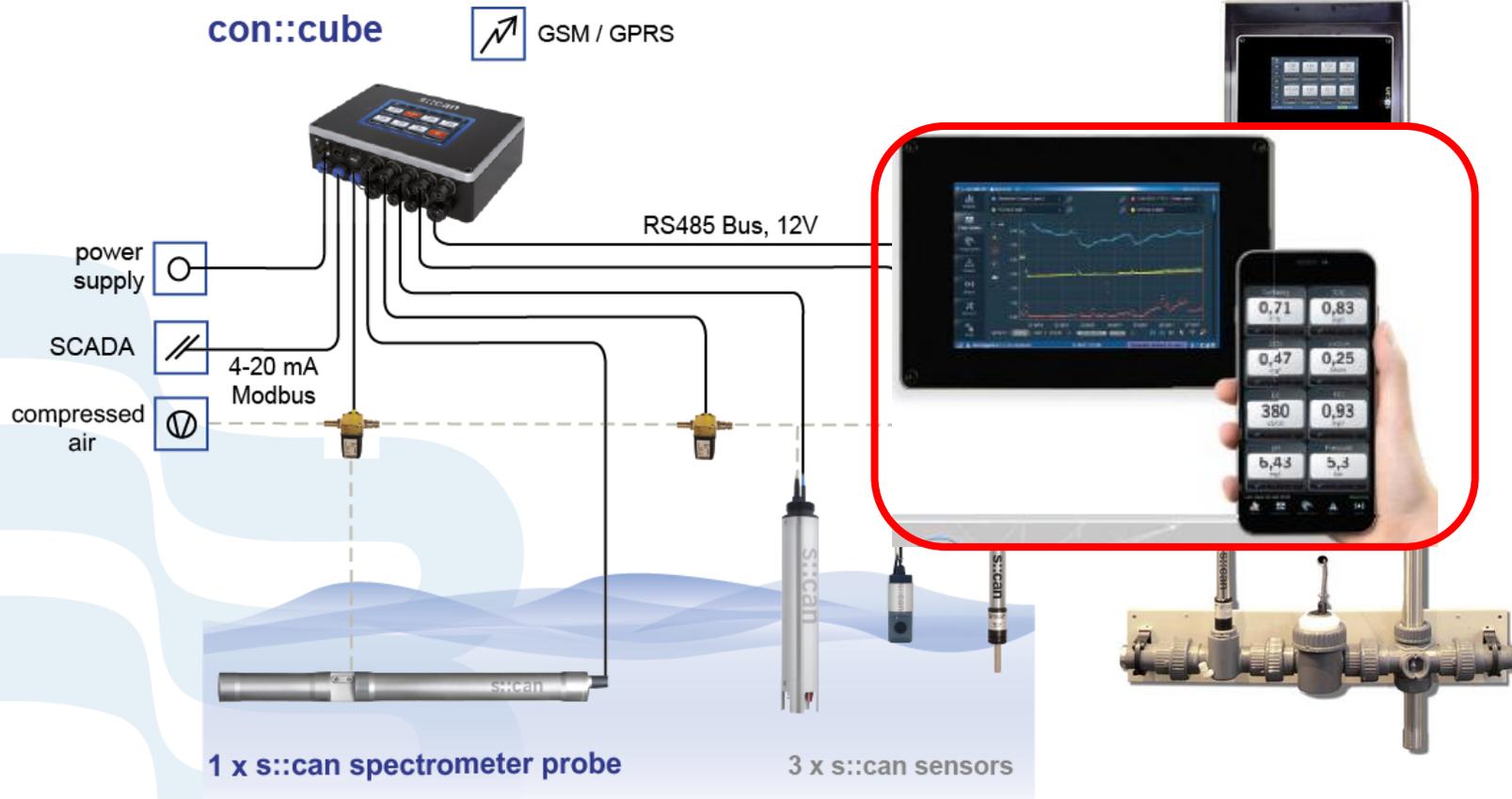


WHY W.Q. MONITORING IS IMPORTANT? EPA SOURCE

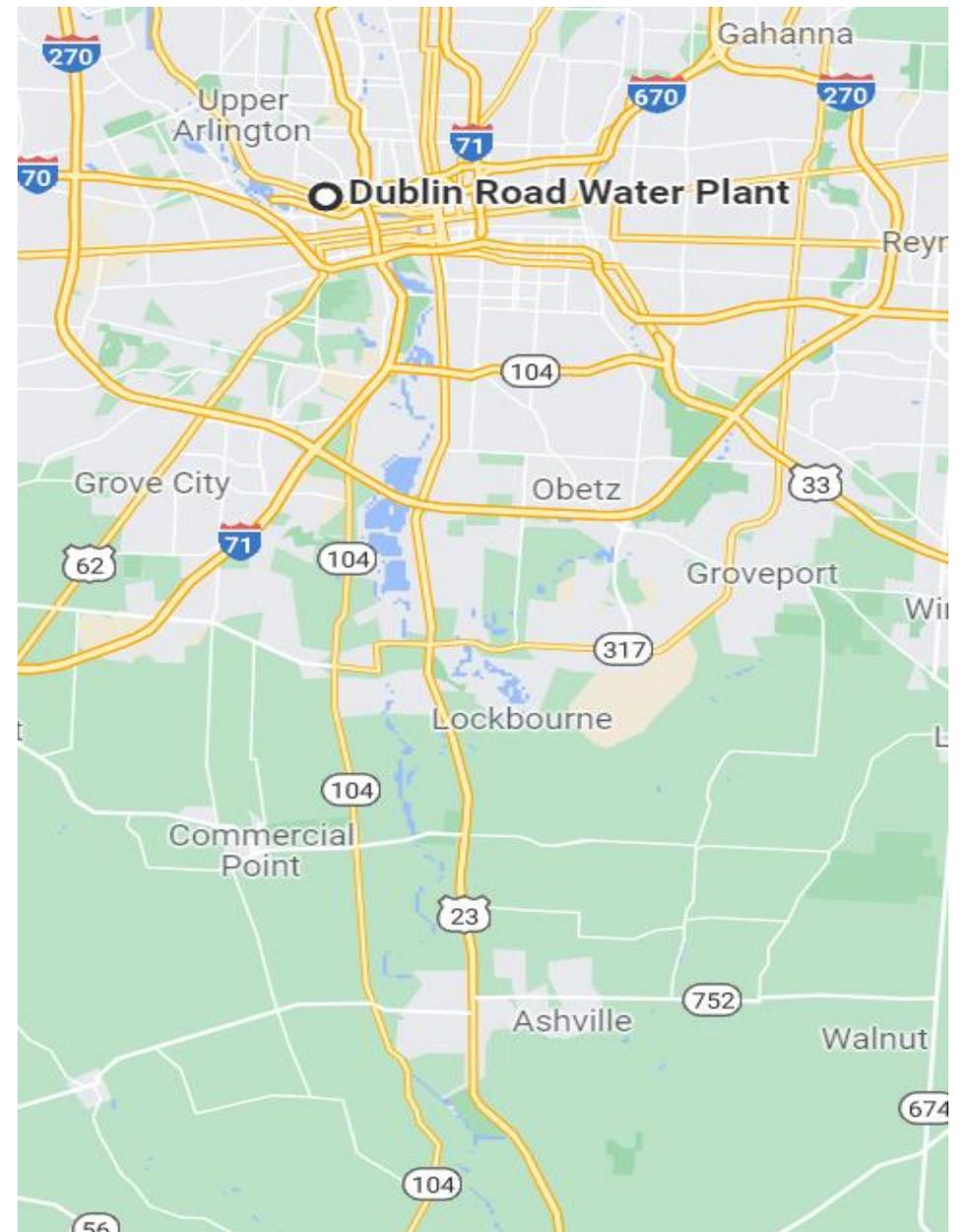
REASONS TO IMPLEMENT SOURCE WATER MONITORING

- Provide information to facilitate protection of the public water supply for all intended uses
- Observe long-term trends in source water quality to prepare for future challenges or regulations
- Detect and respond to contamination incidents
- Optimize treatment processes to improve finished water quality and reduce costs
- Develop information that supports regulatory compliance
- Investigate and identify pollution sources and potentially responsible parties

INSTALLATION AND CONNECTIVITY



CASE STUDY: NITRATE CONTAMINATION IN DUBLIN ROAD DWTP – COLUMBUS, OH

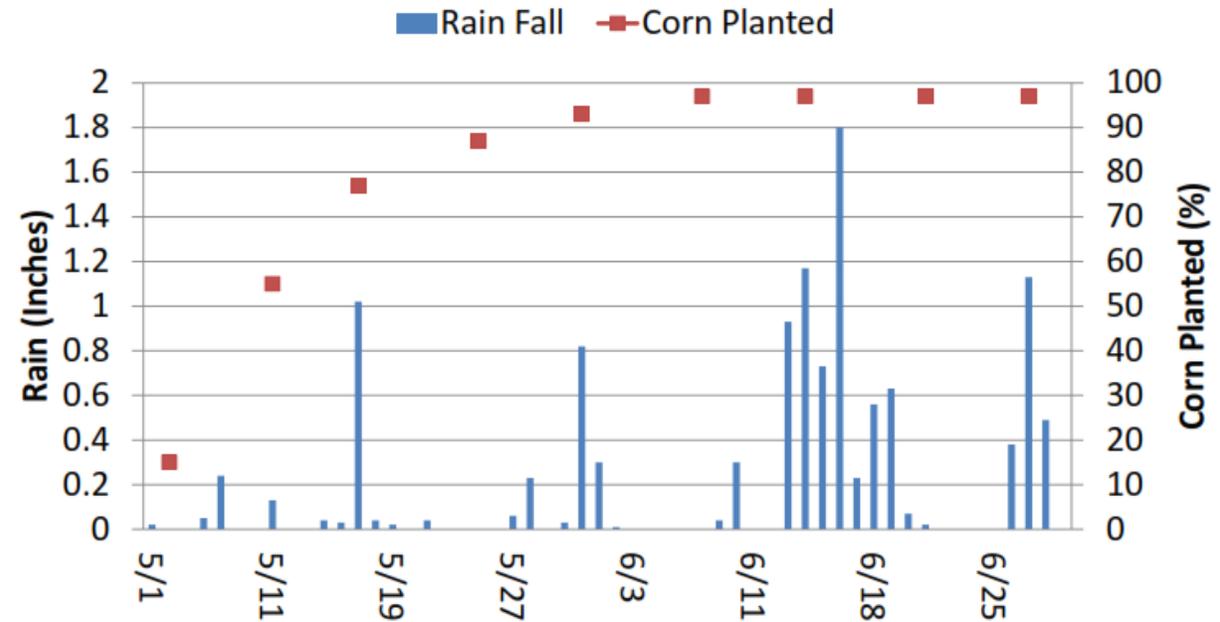


CASE STUDY: DUBLIN ROAD DWTP – COLUMBUS, OH

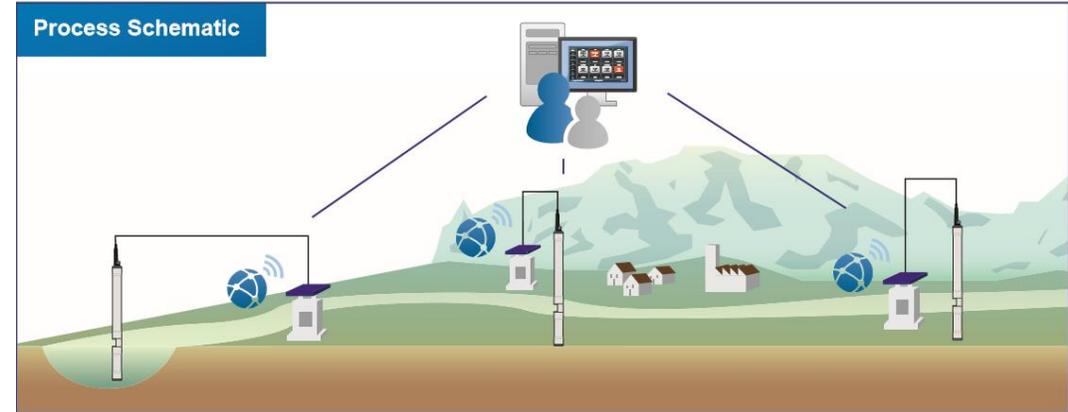
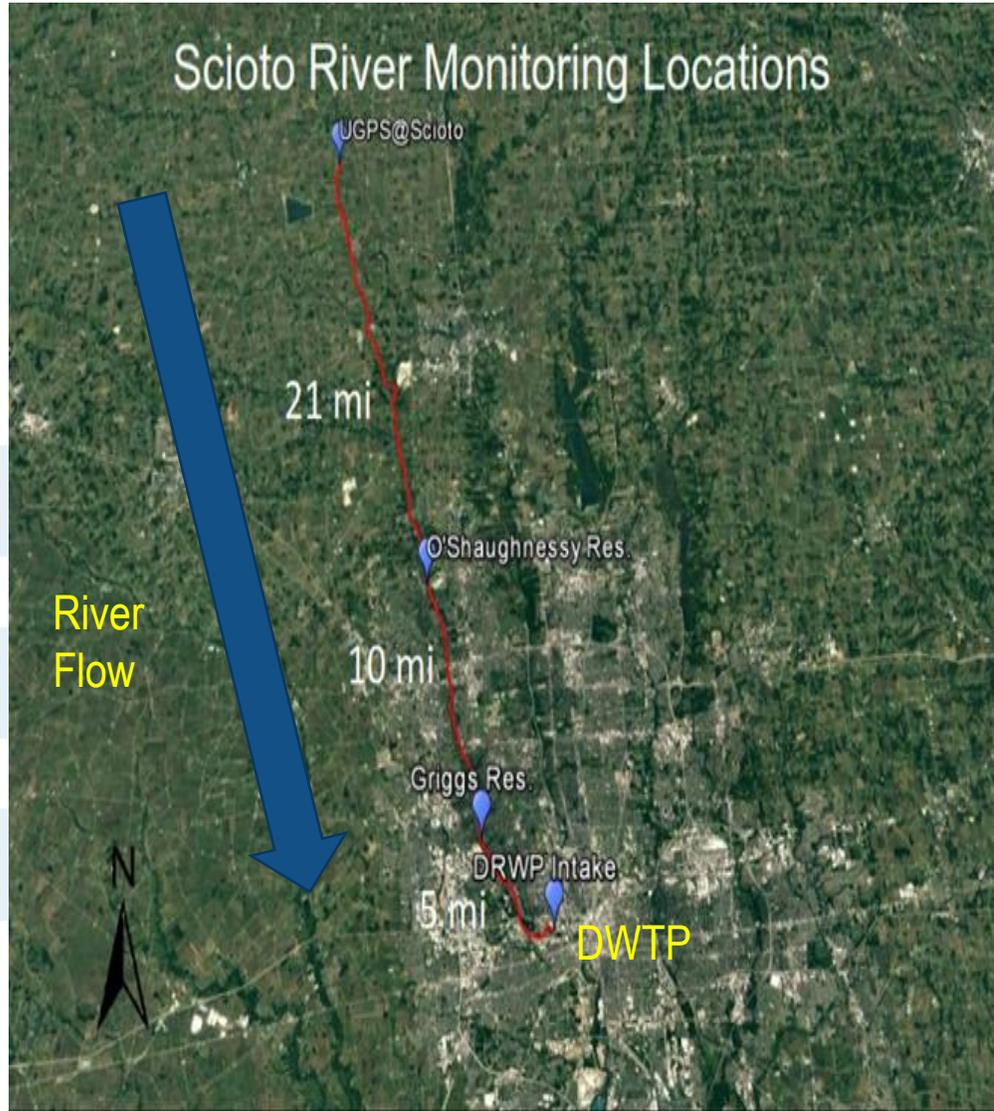


- Nitrogen is applied as a fertilizer to agricultural & residential land; bacteria in the soil convert N to NO₃
- Highly leachable and moves readily through the soil
- Maximum Contaminate Level = 10mg/L NO₃-N

Rainfall vs. Corn Planted

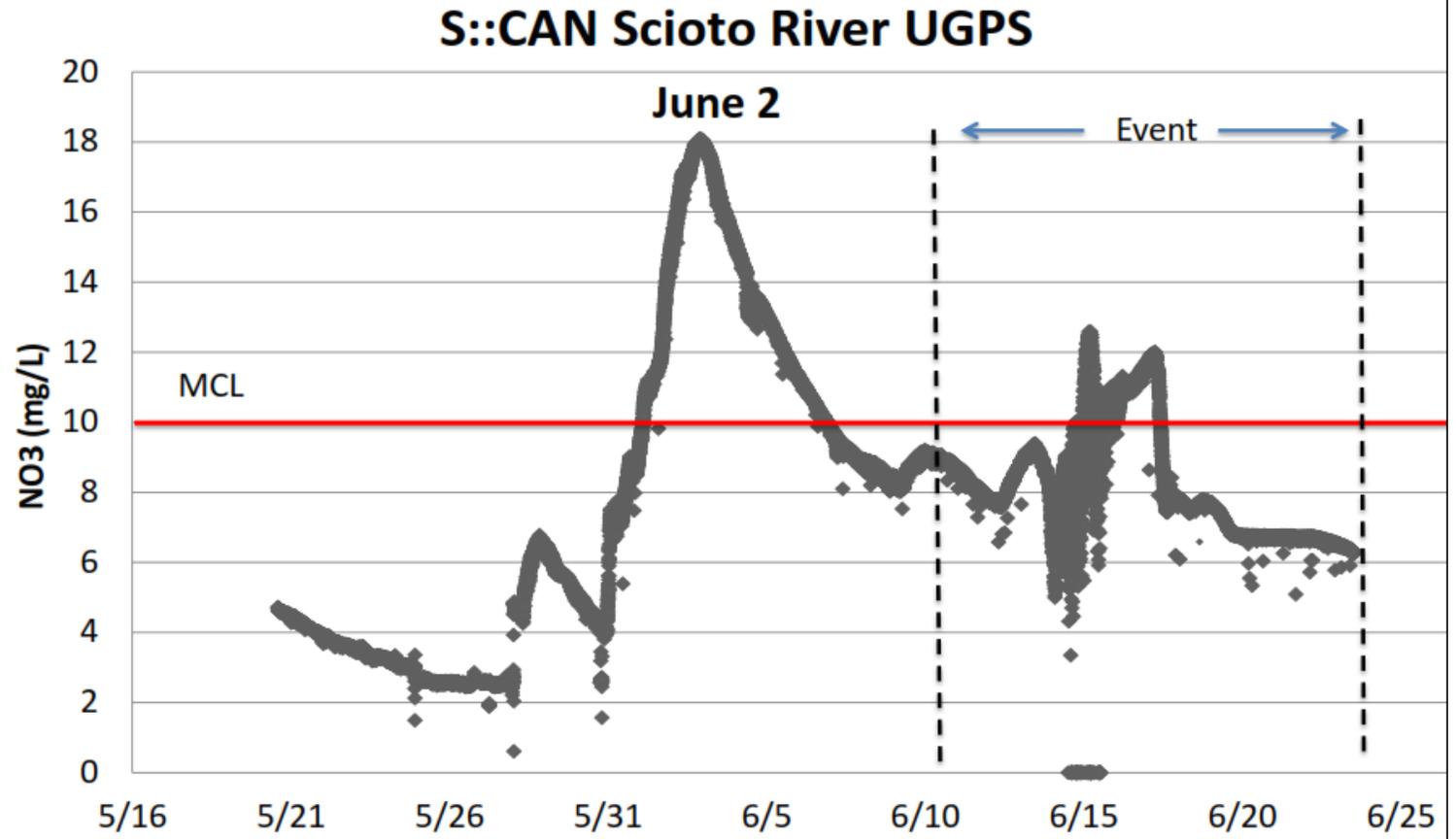
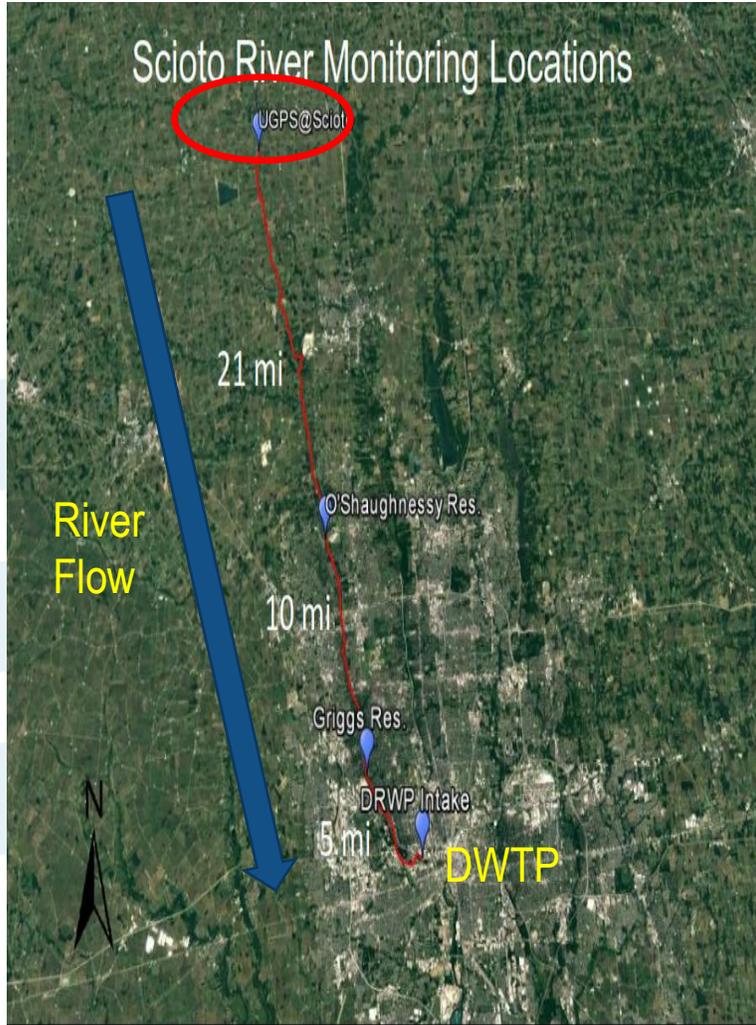


CASE STUDY: DUBLIN ROAD DWTP – COLUMBUS, OH



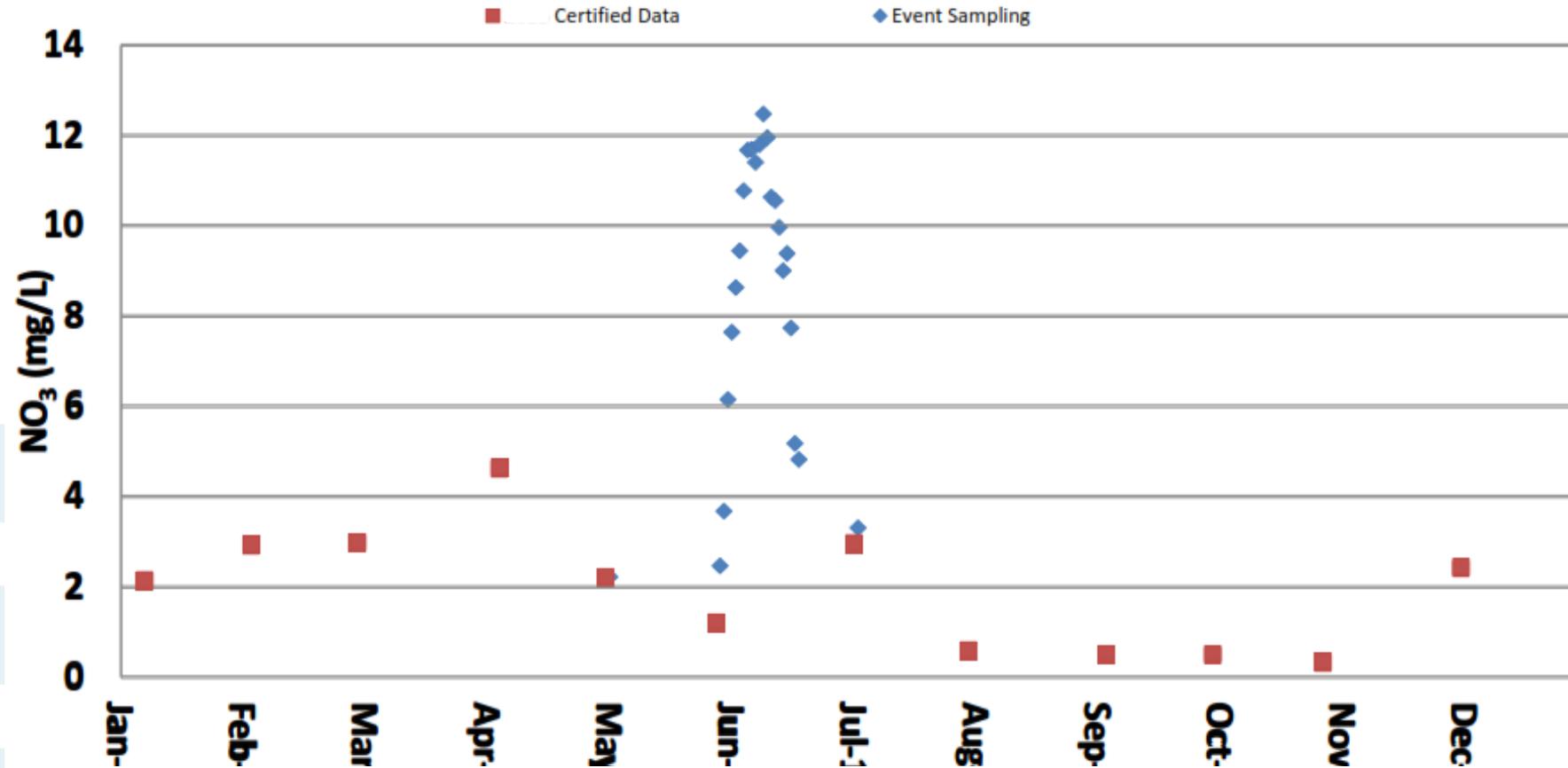
- NO₃ is not removed with current treatment at DWTP
- 4 s::can Remote Monitoring Stations deployed along 30 miles of the Scioto River
- Each Station monitoring NO₃, TOC, DOC, NTU via a single instrument the spectro::lyser
- Data is transmitted back to DRWP via 3G communication

CASE STUDY: DUBLIN ROAD DWTP – COLUMBUS, OH

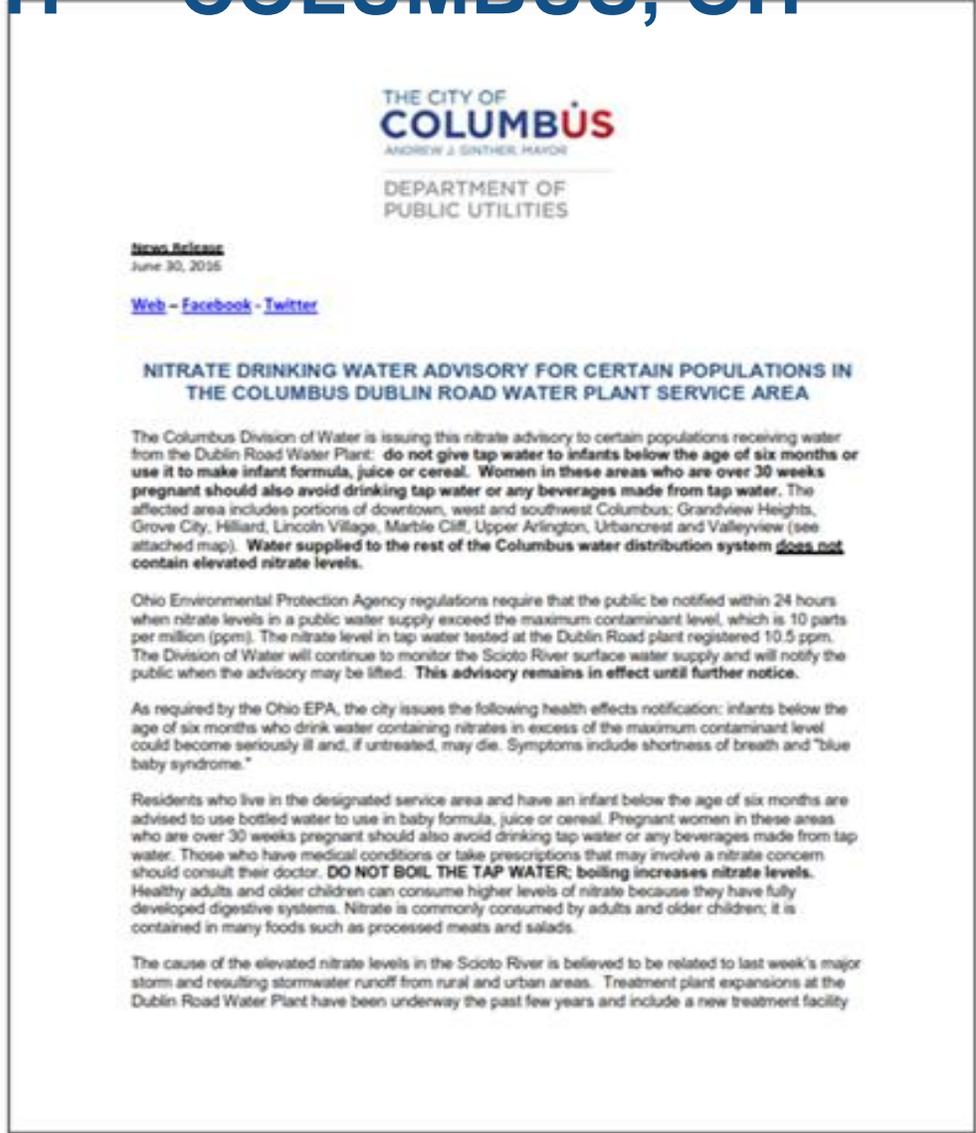
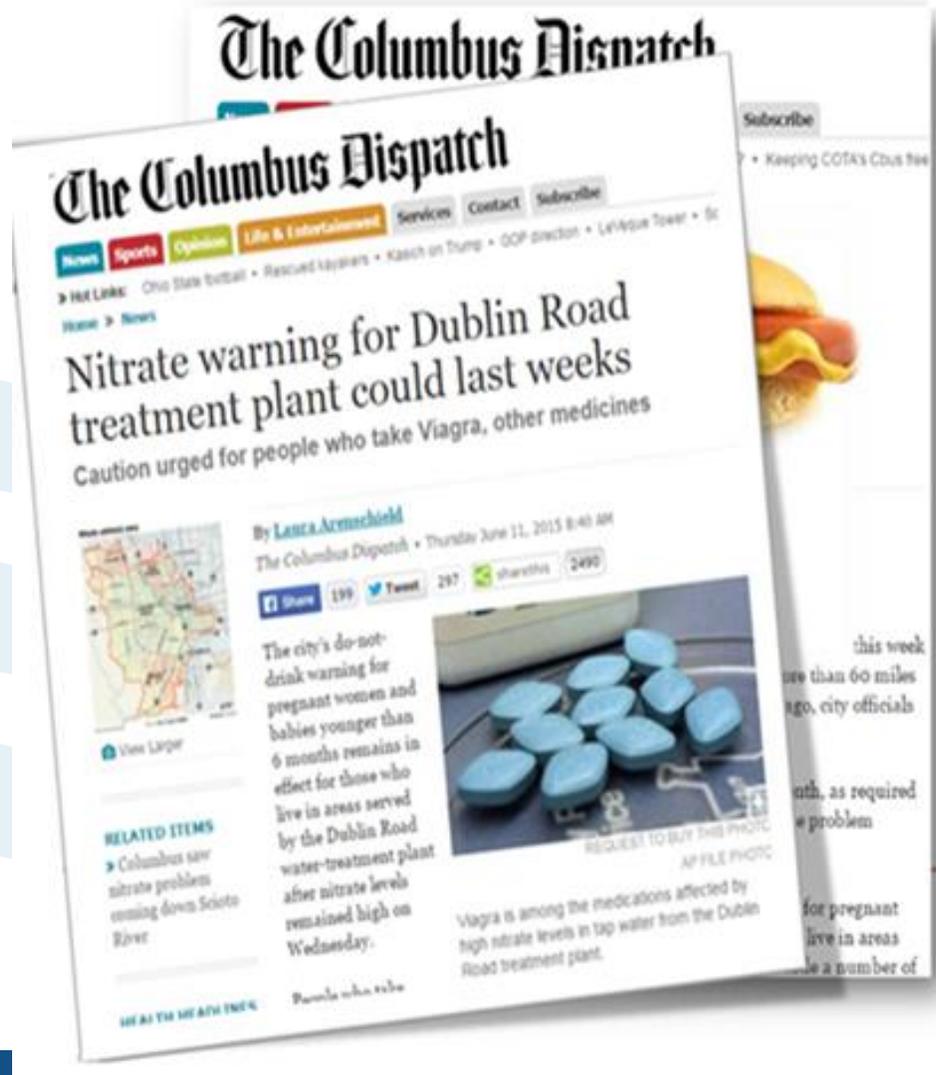


CASE STUDY: DUBLIN ROAD DWTP – COLUMBUS, OH

Compliance NO₃ For DRWP Tap



CASE STUDY: DUBLIN ROAD DWTP – COLUMBUS, OH

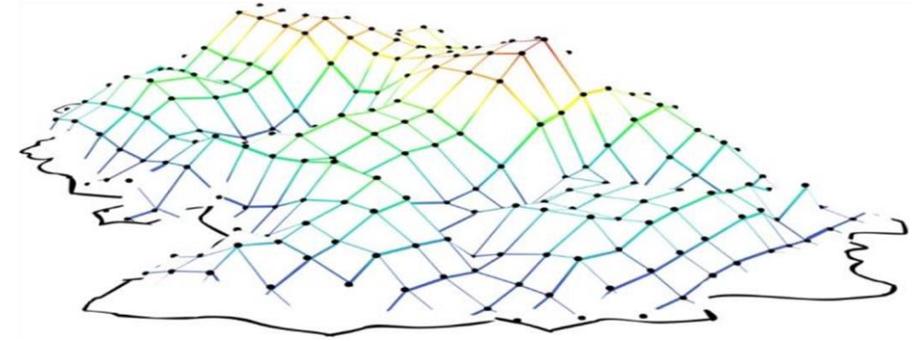


CASE STUDY: DUBLIN ROAD DWTP – COLUMBUS, OH

- * Investment for such a solution (NO₃, TOC, DOC, NTU) is around 20.000 €
- * OPEX is very low, almost zero
- * Lifetime is more than 10 years

OTHER REFERENCES

LARGE MONITORING NETWORKS



Country , City	Application	Stations
Spain , Madrid	WW	96
Spain , Madrid	DW	40
Spain , Valencia	DW	35
Spain , Tarragona	DW	25
Spain , Barcelona	DW	51
England, London	WW	123
Belgium	WW	115
Italy, Milano	DW	30
Beijing, China	DW	40

TAKE HOME MESSAGE

- **Digitalization** journey is a reality and COVID-19 pushed it forward.
- Investments in **water quality control** can help protecting population, keep your water utility reputation as well as protect your assets.
- Technology is **ready**. It “only” needs to be embraced.

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¡MUCHAS GRACIAS POR VUESTRA ATENCIÓN!

JORDI RAICH MONTIU – jraich@s-can.es

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