

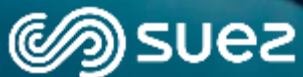
WATER QUALITY MONITORING

Two H2020 European projects:
Fiware4Water and aqua3S

Stéphane DEVEUGHÈLE

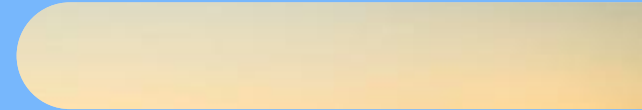
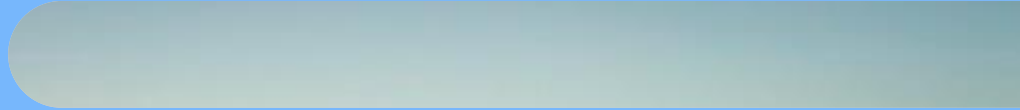
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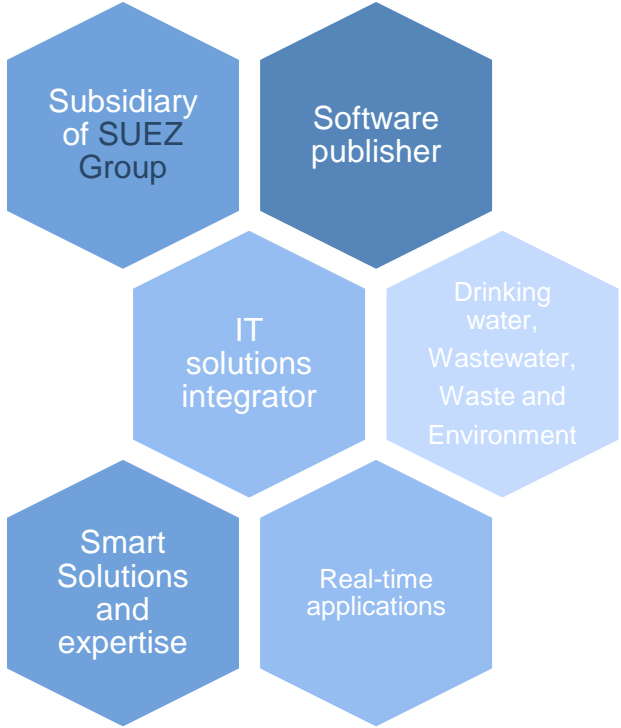


1.

SUEZ Smart Solutions



SUEZ Smart Solutions: an overview



www.suezsmartsolutions.com/en

SUEZ Smart Solutions: key figures

Expertise



Smart metering &
Smart Water



Deployments





R&D and Innovation











2.

Two H2020 European projects: Fiware4Water and aqua3S



Two H2020 European project in the water domain

Topic		
Title	FIWARE for the Next Generation Internet Services for the water sector	Enhancing Standardisation strategies to integrate innovative technologies for Safety and Security in existing water networks
Duration	3 years	3 years
Start date	June 2019	September 2019
Partners	14	23
Countries	7 France Germany Greece Netherlands Romania Spain United Kingdom	10 Belgium Bulgaria Cyprus Czech Republic Germany Greece Ireland Italy Spain United Kingdom
Link	www.fiware4water.eu	https://aqua3s.eu

French pilot sites

Topic		
Target	Water supply system	Water supply system
Location	Cannes area (south of France) 	West of Paris 
Public client (water union)		
Private operator		

Business issues

Domain	Business issue		
Water production and transport	Forecast water resources availability	x	
Water production and transport	Forecast water demand	x	x
Water distribution	Detect water leaks	x	x
Water distribution	Detect abnormal water quality events	x	x
Both	Data imputation (= data reconstruction)		x

Scientific models building

USE OF MACHINE LEARNING TECHNIQUES



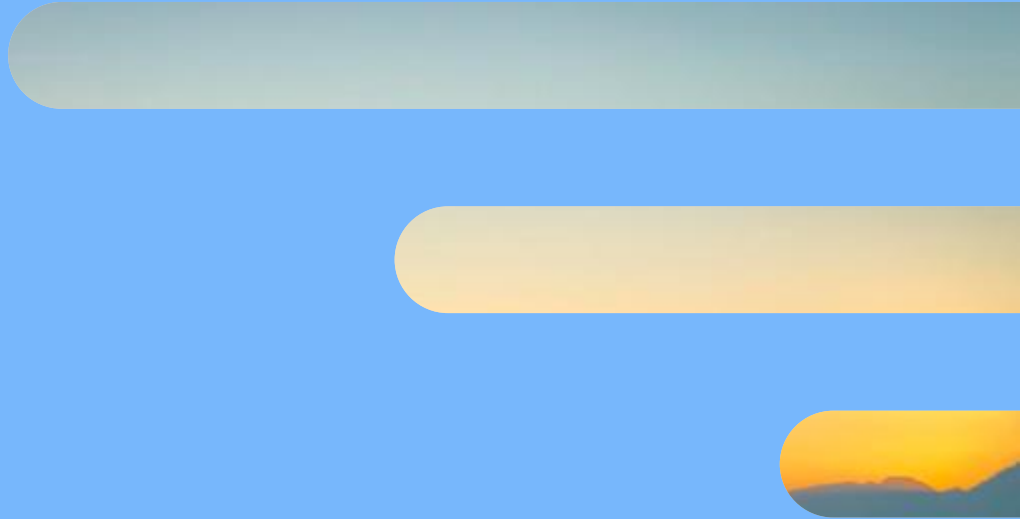
No use of hydraulics or water chemistry equations

Use of historical data sets

Supervised and unsupervised learning
(depends on the model under consideration)

3.

Functional architecture



AQUADVANCED®: a suite of software products for the water business



AQUADVANCED®
Water Networks



AQUADVANCED®
Urban Drainage



AQUADVANCED®
Quality Monitoring



AQUADVANCED® Energy



AQUADVANCED® Plant



AQUACALC™



AQUADVANCED® Well Watch



Publisher : SUEZ Smart Solutions

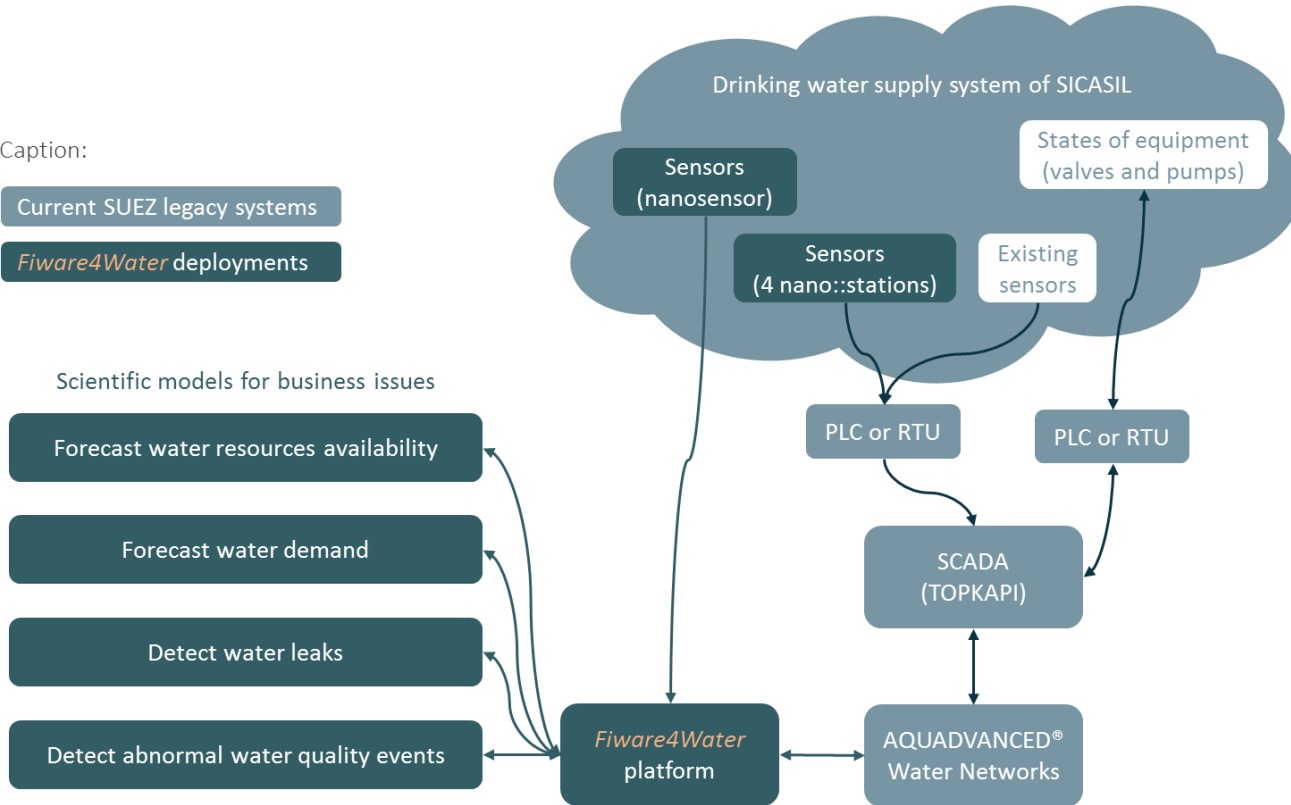
www.suezsmartsolutions.com/en/gamme-fiche-produits/aquadvanced-R

Fiware4Water: functional architecture

Caption:

Current SUEZ legacy systems

Fiware4Water deployments



aqua3S: functional architecture

Caption:

Current SUEZ legacy systems

aqua3S deployments

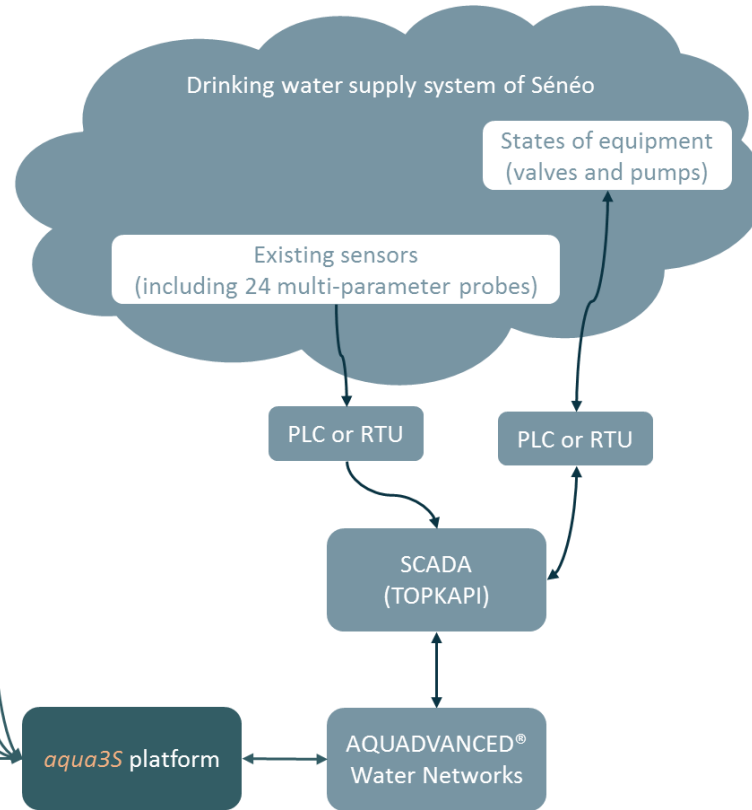
Scientific models for business issues

Forecast water demand

Data imputation

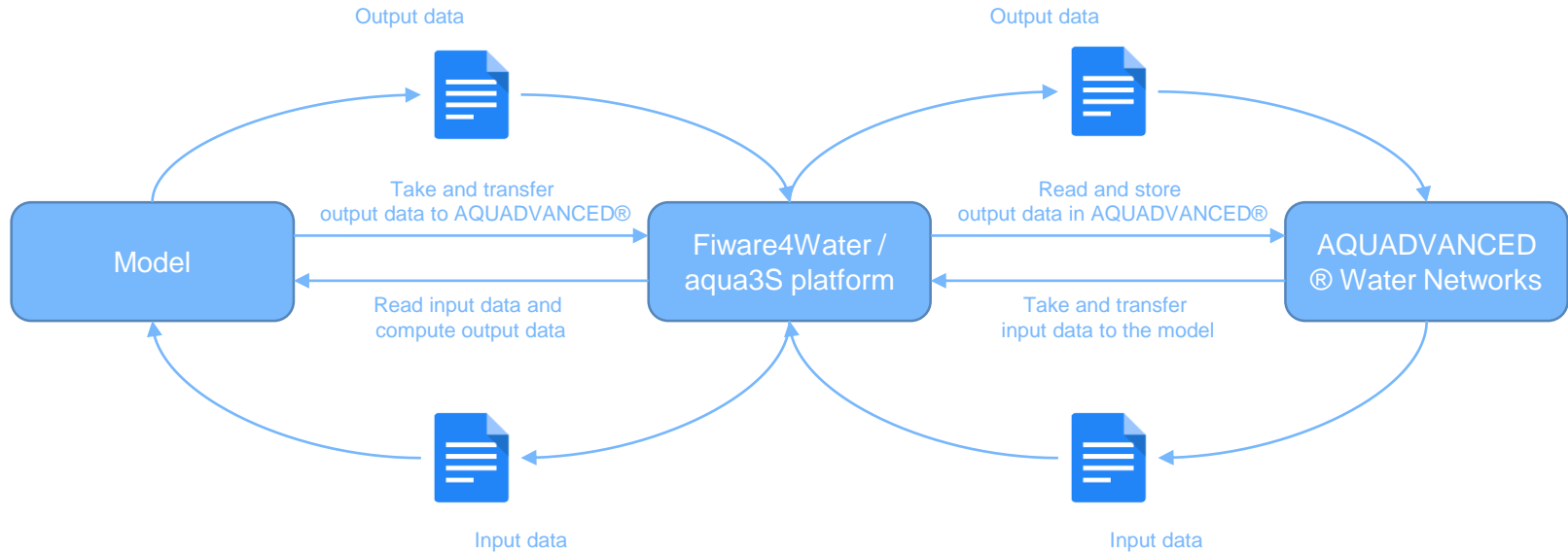
Detect abnormal water quality events

Detect water leaks



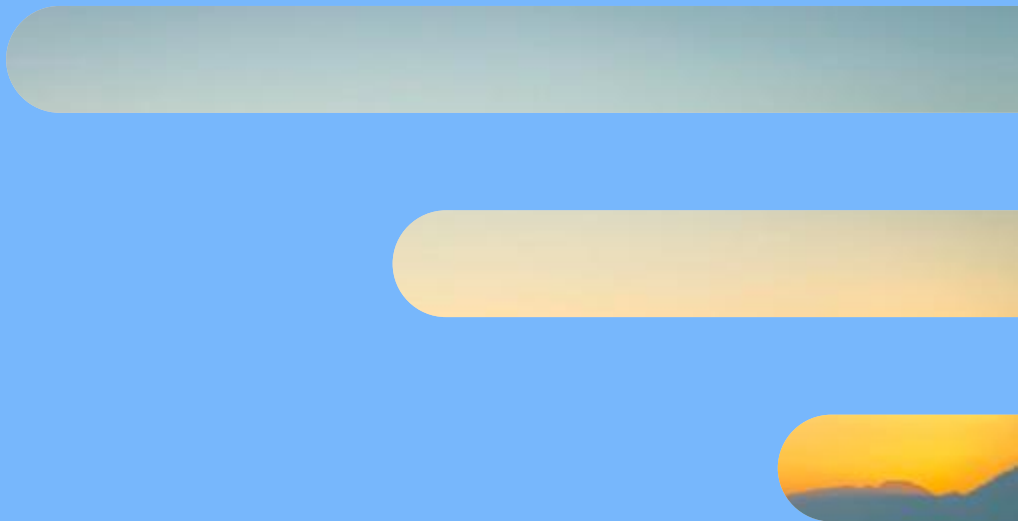
Data exchanges

⇒ **BASED ON THE FIWARE EUROPEAN IT PLATFORM**



4.

The FIWARE platform



The FIWARE platform



⇒ **CONTEXT**

- FIWARE foundation (independent organisation supported by the EU)
- Independent open source community
- **Objectives:**
 - Building an open and sustainable ecosystem around public software platform standards
 - Stimulate the development of new smart applications in multiple sectors: cities, energy, industry, agriculture, etc.

⇒ **KEY FIGURES**

- FIWARE adoption: 140 cities in 30 countries
- More than 1000 start-ups use FIWARE

⇒ **CURRENT SITUATION**

- Industrial sectors using FIWARE:
 - Smart City
 - Agriculture
 - Telecommunications
 - Etc.

THANK YOU

