

Introduction

Background & core activity/activities of the organisation.

Size and location(s) of your organisation.

Department(s) that will be involved in the project.

Items for the presentation.

Presentation of max. 10 minutes +
5 minutes for answering questions.

Documentation can be found on Indico
after registration to the meeting.

WE ARE CETAQUA (AGBAR-VEOLIA)

A network of water technology centres based on a **unique public-private collaboration model**.

We offer **RDI solutions that ensure that the entire water cycle is sustainable and efficient at all stages**.

Always **connected to the local area**, understanding local needs in order to cope with global challenges and thus ensure economic, environmental and social growth.

We are a connected network of RDI centres that carries out the innovation roadmap for adaptation and resilience to climate change.





About 218,000 employees in the world.



In 58 countries across 5 continents.



€45,3bn revenue

1



WATER

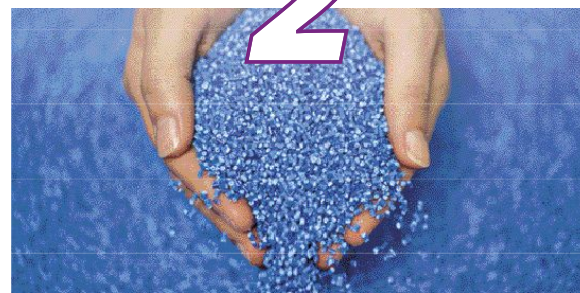
113 million people supplied

103 million people with sewage service

4.130 water production plants managed

3.506 wastewater treatment plants managed

2



WASTE

46 million people with municipal waste collection services

63 million tons of waste treated

533.759 clients

823 waste treatment facilities managed

3



ENERGY

42 TWh produced

46.922 thermal installations managed

680 heating and cooling networks managed

2.716 industrial sites managed

Betting on a unique ecosystem

TEAM



PROFILES

Current talent. 35 PhDs

- Chemical engineering
- Economics
- Environmental engineering
- Industrial engineering
- Civil engineering
- Science & technology

SCIENTIFIC NETWORK

Technical scientific committee



5 scientific-technical advisors



7 university students

Leaders in European competitive funding

We understand the meaning and purpose of the calls for proposals and we generate solid proposals aimed at achieving tangible results.

Over 100 public funding projects

PROJECTS WITH PUBLIC FUNDING

28 LIFE projects

37 EU R&D framework programme

19 Other EU projects (e.g. PRIMA, INTERREG, EIT, UIA)

34 Nacional projects (e.g. ERDF funds)

* (2022 data)

CETAQUA SUCCESS RATIO

38% in the most recent Horizon Europe calls* **VS** 13% European average

50% in the most recent LIFE project calls* **VS** 18% European average

Private funding projects

Mainly in conjunction with Aigües de Barcelona and other companies in the Agbar Group



And other entities from different sectors seeking to achieve efficiency in production processes and move towards the green transition



Over 450 private funding projects

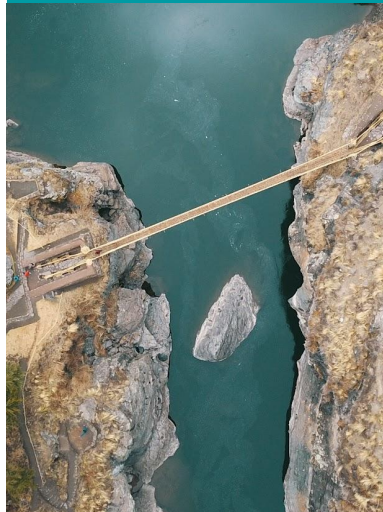
R+D+i areas

We focus on five **strategic areas of R+D+i** designed to meet the needs of companies and territories and respond to the challenges of society, directly benefiting people and the planet.

Our areas of innovation are aligned with the Sustainable Development Goals promoted by the United Nations:



Water resource planning and management



Production and new resources



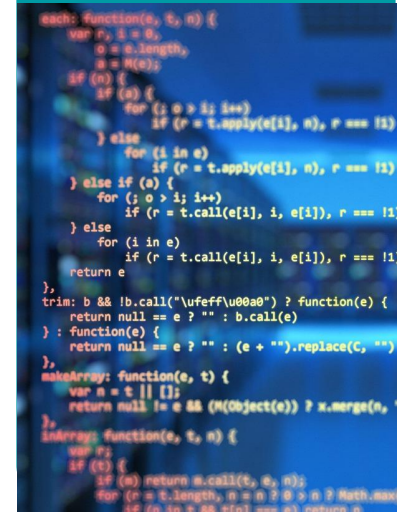
Zero waste and decarbonisation



Territorial and social sustainability



Efficient, safe and digital operation



Connections to the Call

Why/how is this Call relevant/important to your organisation(*) & how do you see your role in the project?

- Risk of cyber attacks for water utilities companies of Veolia group -> need of development solutions to minimize risks
- CETAQUA's role
 - Provide data from drinking water supply
 - Smart metering data
 - Operational data
 - Billing?
 - Adapt the solution to the water sector

Past activities or experiences with the Call topic?

STOP-IT: Strategic, Tactical, Operational Protection of water Infrastructure against cyber-physical Threats

- CETAQUA led Pilot Demonstrations and Pilot Validation results, Impact Report and Lessons learnt (25 solutions in 4 demo sites, 1 site in Barcelona)

EMERITUS: Environmental crimes' intelligence and investigation protocol based on multiple data sources

PathoCERT: Pathogen Contamination Emergency Response Technologies

WaterVerse

Indicative time: 2 minutes

() See for reference the starting document and visualisation for details about the project concept on Indico*

Specific interest & expertise

What are your direct interest areas in the SHIELD project?

Solutions to identify potential cyber attacks in water sector (Critical infrastructure) (IoT Mobility/water)

What technical expertise do you have within the organisation to address the challenges in the Call and in the SHIELD description (*see also starting document and visualisation for details about the project concept*)?

Expertise in optimizing network and plant operations for efficiency. Our deep understanding of data analysis, process optimization, and operational strategies, particularly within critical infrastructure sectors, will be invaluable in adapting ROOT and BioDynaMo for real-time anomaly detection in the water sector. We can contribute significantly to the development of use cases and the technical implementation of the SHIELD system within these domains.

Could you also briefly describe the data analytics team you have in your organisation?

Our data analytics team has over a decade of experience in the field. With 18 members working together, they bring a diverse range of expertise, covering areas like computer vision, machine learning, data science, statistics, and even civil engineering. This allows us to tackle complex challenges from multiple perspectives and deliver well-rounded solutions.

Indicative time: 2 minutes

Envisioned use of SHIELD project results

Could you characterize the data (kind, frequency, bandwidth) you have, and what you do with that data ?

- Operational data from drinking water network (frequency: 5 minutes)
 - Pumps: on/off, Hz
 - Dosage pumps: on/off, Hz
 - Valves: closed/opened, %
 - Water quality sensors (chlorine, turbidity, thrialomethanes, pH, T, redox)
 - Pressure
 - Flow
 - Other

Could you briefly give a few examples of potential attack vectors that have a data footprint?

- Customer data, billing trough smart-meters
- Fishing
- Operational issues (Drinking water network) -> chemical dosage (pump control, valve open/close), pressure/flows in drinking water network

Envisioned use of SHIELD project results

Where/ how could the project results be embedded in your organisation ? (*organisational, hierarchical*)

- Cetaqua is the water technology centre of Veolia in Spain, which operates > 100 treatment plants. Cetaqua has the capability to integrate the solution developed in Veolia's operation

What would be your envisioned integration path for the project outcomes inside your production system ?

- Pilot test in real time (specific sector of the operation)
- Full-test in the whole system
- Integration

Project outcomes

What would be the optimal outcome of the project for your organisation?

- To have a solution able to detect cyber-attacks in the drinking water supply

To which network(s)/audiences do you have access to present project outcomes?

- Local Administration: AMB, Catalan Water Agency
- Universities
- Other Water Utility Companies
- Technology providers
- Other