



# WATERSIM

Digitizing Water Resilience



WATER RESILIENCE COALITION



CEO WATER MANDATE



# ACTING ON WATER STRESS IN BASINS



## ABOUT THE PROJECT

Water is an essential resource to everyone on Earth. However, according to UNESCO, between **2-3 billion people worldwide experience water shortages**.

These shortages will only get worse over the coming decades as the **increasing number of extreme and prolonged droughts** is stressing ecosystems leading to dire consequences.

Effective water resource management is no longer strategic but necessary.

Which is why the European Space Agency (ESA), the CEO Water Mandate and the Water Resilience Coalition opened a call for projects aimed at Digitising Water Resilience and address the global water crisis in its three dimensions:

- Availability
- Quality
- Accessibility

This call for project resonated with CLS and its partner Vortex-io who have teamed up to provide an innovative solution.

## OUR SOLUTION

In the framework of this project, which is fully financed by ESA, CLS and Vortex-io aim to design and develop a solution to provide water actors with tailor-made tools to monitor the quantity and quality of water and be in possession of indicators dedicated to their needs.

Since 2015, South Africa has experienced water shortages with **19% of the rural**

**population lacking access to a reliable water supply.**

By 2030, water demand in South Africa could **exceed supply by 17%.**

We are working to offer a range of services essential for effective water resource management in South Africa.

There are three phases of the project:



[www.cls.fr](http://www.cls.fr)



[umondongue@groupcls.com](mailto:umondongue@groupcls.com)



[www.vortex-io.fr](http://www.vortex-io.fr)

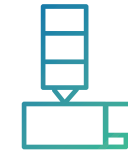


# SYSTEM COMPONENTS



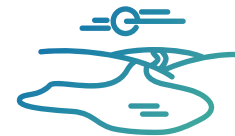
## IN-SITU STATIONS

Real-time water monitoring using GNSS & satellite communication capable of measuring water level and flow as well as monitoring flooding, low flows and water quality



## EARTH OBSERVATION DATA

Data on surface temperature, quality, levels and quantity over the last 30 years are collected, qualified and integrated into the platform



## REGIONAL INFORMATION

Local data on land use as well as weather and forecast data is also integrated, enhancing analysis



## PLATFORM

All of this data is available via an interactive web interface allowing you to make informed decisions



\* Actual products may differ

### 4 levels of service:

- 1 / Foundation: universal access to data
- 2 / Monitoring and control
- 3 / Historical datas & Indicators
- 4 / Expertise to get more



## CLS

A subsidiary of the French space Agency CNES (34%) and CNP (66%), CLS has been a global pioneer in the provision of Earth Observation and monitoring solutions since 1986. Its mission is to develop and deploy innovative solutions that enable us to understand and protect our planet and manage its resources sustainably.

**22,000**

CLS processes data from more than 22,000 virtual hydrological stations worldwide

**30**

Years of experience in space hydrology

## Vortex-io

Benefitting from 15 years' worth of experience in space altimetry & oceanography, Vortex-io provides a large-scale solution for the resilience of territories and the security of people and property, facing flood and drought risks.

**1,000+**

In-situ hydrological stations deployed by Vortex-io providing water and weather parameters in real-time

### WATERSIM, A CUSTOMER-ORIENTED SERVICE

The Water Resilience Coalition is an initiative aiming to address the global water crisis. By 2030, they hope to achieve positive water impact in over 100 water-stressed basins that support over 3 billion people.

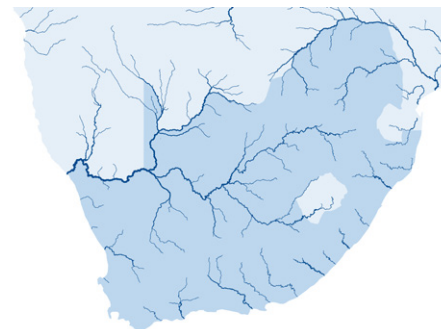
In 2018, Cape Town was poised to reach Day Zero and become the first major city in the world to run out of water.

We are working today to propose a solution that will effectively manage water resources in South Africa.

We are currently looking for partners, who are interested in building tomorrow's solutions for our environment.

We are ready to accompany you in your projects, and/or to build a brand-new project around this topic together.

If you wish to participate, please contact us.



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