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SENSACTIVE TECHNOLOGY

CONTINUOUS MEASUREMENT SYSTEM FOR THE EARLY DETECTION OF PATHOGENIC AGENTS IN WATER

CONTACT US

MIDDLE EAST AGENT

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SENSACTIVE TECHNOLOGY®

Sensactive Technology

Spanish start-up company, stablished around a team of experts in various disciplines (engineering, communications, preventive medicine and public health/diagnosis), with knowledge and experience in the intensive use of Information and Communication Technologies (ICT) and applicative biochemical technologies.

We apply our experience in the analysis of the complete water cycle, focused on supporting administrations, water management companies, environmental agents, agri-food and private companies, for the detection of microbiological agents of interest in water, helping in the fight and in their control, with impact on health, environment, economics and social aspects.

SENSACTIVE TECHNOLOGY ®

WaterBiosense® - functionality

Technology and innovation come together to offer a **unique solution on the market** that responds to the needs for monitoring microbiological levels of sanitary interest in wastewater, river, saltwater, drinking water... that affect or may affect the health of the population.
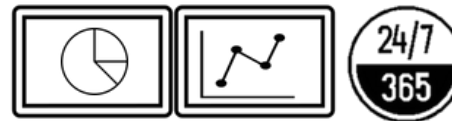
#Biotechnology

Installation at water control points in:

- Sewerage
  - ETAP / EDAR
  - Deposits and ACS
- Waste
  - Drinking and bath water
  - Ornamental fountains
  - Cooling towers

#IoT

Continuous, **remote** and semi-quantitative monitoring of the levels of microbiological agents at the point of detection, with an **integrated programmable system**.

#Biodata

Special public health and/or enviromental interest, from epidemiological surveillance, preventive and food and ecological safety.

Its **automatic sampling** capacity **24** hours a day, **365** days a year, makes it an effective ally for authorities, entities and maintenance companies for continuous monitoring and making appropriate health decisions.

WaterBiosense® - how it works

Automated water sample processing for on-site analysis

Recording and interpretation of data with warning and alarm system
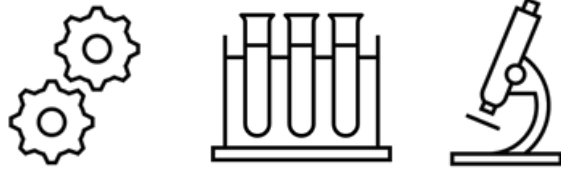
Detection of microorganisms through specific biosensors

Programable surveillance remote control

Instant sending of measurement data to management center

WaterBiosense®-IoT& comunications

WaterBiosense®modules installed at the different sampling points send the informBation of their readings through different wireless networks such as:

- •4G / 5G
- • NB-IoT
- • WiFi
- • Satellite

•WaterBiosense®Manager management system collects and processes the informBation and is responsable for:

- •Sampling schedule
- •Analysis collection
- •Monitoring results
- •Remote control
- •Adjustament of alert and warning systems
- •On-line maintenance

WaterBiosense® eColi

- Product of the WaterBiosense family specialized in the detection of **Escherichia coli (E. coli)** bacterium and other coliforms as indicators of faecal contamination.

- Adapting to E coli sampling needs:

Standar:	Clean waters
Plus:	Dirty waters
Advance:	Sewage waters

- Application in:
  - Water facilities for human consumption.
  - Bathing and recreational water use.
  - Contribution water for industry processes:
    - Agricultural
    - Agri-food
    - Food
    - Pharmacists
    - Industrial
  - Wastewater (human consumption or from industrial processes)

- Secures the **maintenance of the physicochemical and microbiological** quality of the water through continuous measurements on the presence of coliforms.

- It allows the implementation of **new, more sensitive, efficient and faster early detection strategies** that allow microbial analysis directly at the sampling point in real time.

WaterBiosense® -Biosensor for E. coli

• WaterBiosense® eColi is intended for the detection and semi-quantitative determination of the **Gramm negative bacteria Escherichia coli** present in water in any of its variants.

• The technology consists of an **innovate method** for capturing specific antibodies against E.coli linked to functionalized nanoparticles that give rise to an agglutination process in the biosensor that is quantified by means of sensors.

• The use of **antibodies** against specific surface antigens of E. coli provide **high sensitivity and specificity** to the WaterBiosense® method for early detection of bacterial contamination as an indicator of faecal contamination in any of the analysed samples.
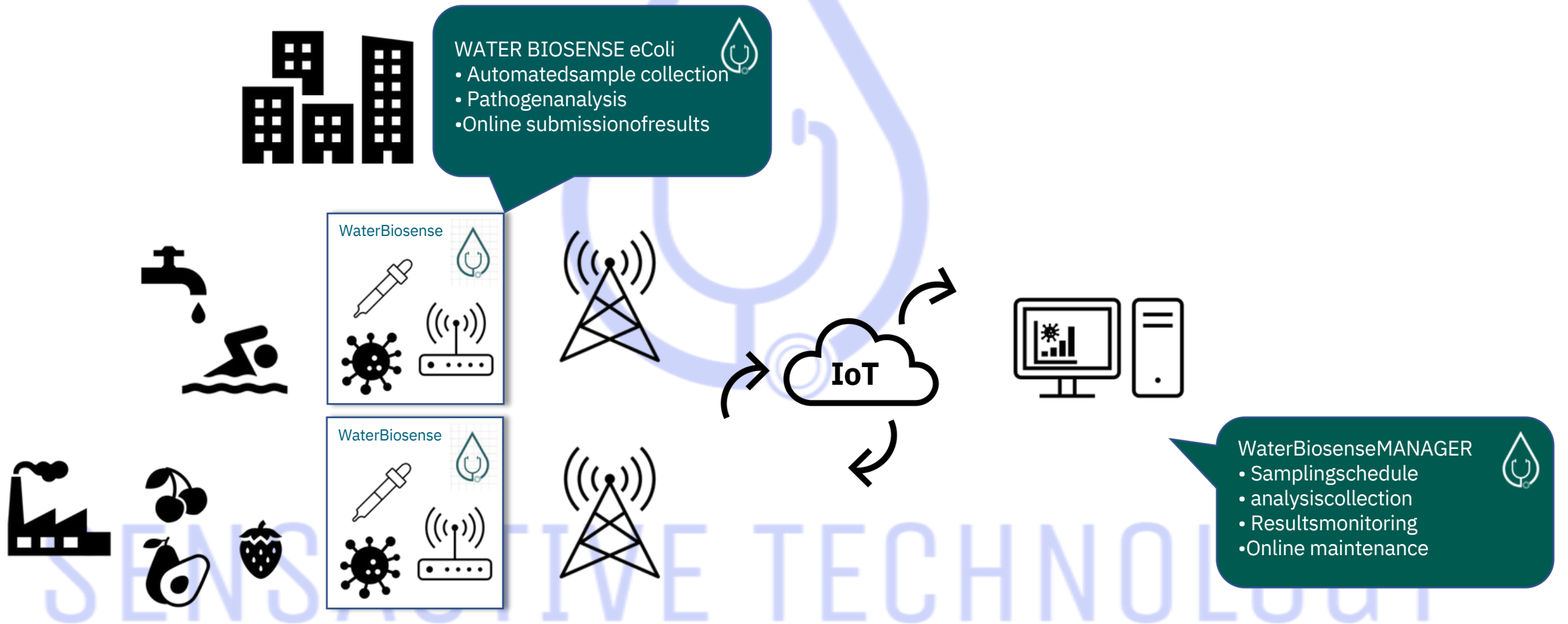
Technical data of E. coli in the laboratory:
-Specificity: >99% for coliforms
-Sensitivity: 94% compared to microbiological culture
-Detection limit: 2 CFU/L
-Saturation limit: 220 CFU/mL

• The batches of sensors are manufactured following **rigorous laboratory procedures** and passing quality control tests and technical specifications.
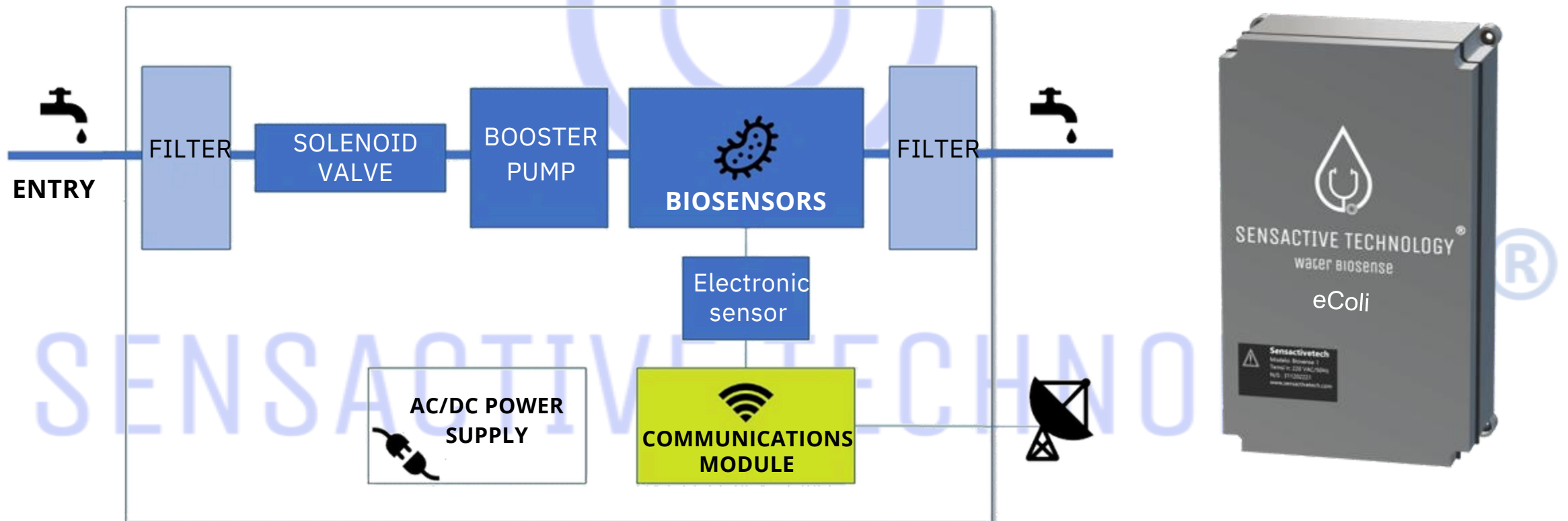
WaterBiosense® eColi

WaterBiosense® eColi

- ☐ Processing of the water sample by filtering and clearing.
- ☐ Detection of pathogens by biosensors.
- ☐ Registration and interpretation with alarm system.
- ☐ Scheduled sampling systems.
- ☐ Instant sending of results to management centres.

WaterBiosense® is:

An early warning and monitoring system that allows health care decisions to be made and prevent healthcare systems, preparing for increases in infections, which **reduces** the level of infections and improves the health response to those infected.

An **innovative** and compact system developed to carry out **instantaneous, continuous and automatic detect** of the presence of levels of **pathogenic agents** (bacteria, viruses, parasites, fungi, protozoa...) in water, both potable and non-potable, of interest for the Health. Its mission is the **early detection** of pathogens as well as their evolution, allowing **better management** of the sources of infection.

Water Biosense®, manages to respond to **urgent needs** and the demand for **detection** of causal or etiological agents.

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FLEXIBLE
ADAPTATION TO THE DETECTION NEEDS OF EACH CASE, OF EACH ENVIRONMENT AND OF EACH OF THE REQUIRED SPECIFICATIONS

AUTÓNOMY
100% AUTONOMOUS PROCESS WITH MINIMUM MAINTENANCE AND RESULTS IN A FINAL REPORT AVAILABLE AT ANY TIME

ROBUST
100% RELIABILITY AND SECURITY WITH AUTOMATED REMOTE SURVEILLANCE

WaterBiosense® eColi

Industrial processes and agri-food processes

The bigger industrial production of food means that the risks about food contaminated by the bacterium E. coli are increasing. It is of great importance to ensure that the supply Waters of these processes are not, therefore, contaminated.

FRANCE · HEALTH   Share (f) (✉) (~)

Nestlé faces a new charge after second range of pizzas suspected of contamination with 'E. coli' bacteria

A woman was hospitalized in Perpignan, six days after consuming a Buitoni Bella Napoli pizza. Analysis revealed the presence of the bacteria 'Escherichia coli'.

Le Monde with AFP ·

Published on May 5, 2022 at 12h21, updated at 12h21 on May 5, 2022 · ⏱ 2 min. · Lire en français

WaterBiosense® eColi

Bath waters

Wastewater discharges and their poor treatment means that they can contaminate bathing waters. This situation, of special importance after heavy rains, requires taking public health measures such as the closure of beaches, impacting tourism.

WaterBiosense® eColiis an **effective tool for continuous evaluation** of the state of the water in microbiological terms, allowing **better management of bathing areas** and detecting the appearance of pathogens. Continuous sampling through systems that allow **early warning** makes it possible to ensure the **quality rates of bathing water** in river & coastal towns.

E. coli: River Deben studies raise concerns about water quality

⏱ 9 April

| Woodbridge sits on the River Deben

Concerns have been raised about E. coli and the water quality of a Suffolk river.

Studies by the University of Suffolk and Woodbridge Town Council showed levels of the bacteria in the Deben "way above" government guidelines.

Prof Nic Bury said more research was needed but it was a "marker of other pollutants going into the river".

WaterBiosense® eColi

# Colaborations

WaterBiosense®-Registrationy Certifications

- WaterBiosense®is registered with the European Patent Office (EPO) under number 202130447, both nationally and internationally.
- UNE-EN16479
- Directives on Industrial Emissions.
- Directives on the Treatment of Urban Wastewater(DARU).
- Water Framework Directive.
- Framework Directive onMarine Strategy.
- UNE-EN17075
- ISO 5667-3:2012
- ISO/IEC 17025

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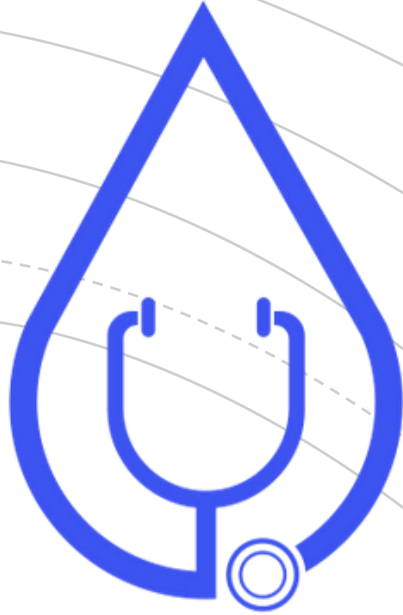
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