

## 1. Entity posing the challenge

**ACLIMA:** Agrupalab, AAC-Acústica, Sercontrol

## 2. Challenge

**How can we achieve basic modelling of data gathered by sensors in the laboratory in order to identify patterns of cause and effect?**

## 3. Possible solutions that can be applied

- Big data and AI
- Sensors applied to environmental monitoring

## 4. Context

The environmental industry or eco-industry has undergone a real digital revolution in recent years, and this includes the companies that make up the **environmental monitoring value chain**. **AAC (noise), Sercontrol (air quality) and Agrupalab (water and soil)** are all companies with extensive knowledge and experience in activities related to improving the environment. Their main activity involves measuring and interpreting data on environmental quality using different specialist measurement methods and devices. Measurements are taken both in controlled environments such as laboratories and in situ in the field.

Along the same lines, the companies proposing the following challenge see a **clear opportunity around modelling the data gathered in the laboratory area**, in order to **interpret values and identify correlations and causalities of the parameters measured in routine operations**. In this sense, the creation of knowledge about samples and data available to the company will make it possible to provide value-added services in the future (when outdoor sensor technology 4.0 is sufficiently advanced, and there are very low levels of sampling error), particularly in terms of the anticipation, prevention and treatment of possible environmental mishaps (e.g. leaks of hazardous materials in river water, harmful levels of environmental pollution due to industrial leaks, etc.).

## 5. Subsidiary challenges and objectives

The poor processing of data gathered by companies from their laboratory tests and the difficulty of extracting reliable data outside the laboratory lead not only to inefficiency in carrying out routine tasks, but also to a lack of quality information, intelligence and traceability on the parameters measured. This is where companies envisage creating a predictive platform which **correlates the data captured by sensors in real time with the knowledge (cause and effect) generated by processing laboratory data using AI**. **A visualisation platform that will also make it possible** to create a smart model for monitoring, detecting and communicating early warnings and possible incidents in the futur

