Challenge sheet

Euskal Trenbide Sarea

Document management and monitoring of environmental compliance in public contracts for railway infrastructure works

How might we facilitate document management and real-time monitoring of environmental compliance in railway infrastructure works and projects, in order to verify the required documentation, detect regulatory non-compliance in time and generate efficient reporting for the promoting body?

Sub-challenges

- How might we manage the documentation submitted and existing for each of the works in order to carry out real-time monitoring?

  It involves automatically structuring and centralizing the large volume of information scattered across the cloud (such as waste transfer notes, analyses and reports) submitted by contractors, environmental technical assistance teams and site environmental managers. The aim is to speed up the technical processing of the data in order to have an immediate, up-to-date and reliable picture of the environmental status of each railway project.

- How might we access the parameters needed to produce the monitoring reports?

  It seeks to enable an intelligent extraction system that automatically locates, captures and organizes the key indicators and technical parameters contained in Word, Excel and PDF files. This will make it easier for technical staff to draw up environmental monitoring reports quickly, reducing the time spent manually searching the entity's document history.

- How might we find out about possible non-compliances in real time, in order to take corrective action and ensure regulatory rigor?

  It focuses on implementing an early-warning engine that automatically cross-references the works' operational data with the requirements of the Environmental Impact Statement (EIS) and current regulations. The solution will make it possible to detect deviations early so that immediate corrective measures can be applied, minimizing the risk of environmental damage, claims or administrative penalties.

Context

Euskal Trenbide Sarea (ETS) is the Basque Government's public body responsible for the construction, maintenance and management of railway transport infrastructure in the Basque Autonomous Community. As part of the execution of major infrastructure works, ETS's Environment Area (later coordinating with Construction and Facilities and Maintenance) must ensure strict environmental control of projects.

Currently, this entire environmental monitoring and control process is carried out completely manually. Contractors, environmental technical assistance teams and site environmental managers generate a massive volume of unstructured information (text files, standalone spreadsheets and PDFs) that is stored in cloud repositories with no unified approach to its use. The dispersion and manual analysis of these documents slows down the supervisory capacity of ETS technical staff, making it harder to quickly detect regulatory deviations, errors in waste flows or critical environmental risks, which consumes valuable expert time that could instead be devoted to technical and strategic advisory work.

Identified problem

Environmental monitoring and control on the works managed by ETS faces high operational inefficiency because the current document review process is carried out entirely manually. Contractors generate a massive daily volume of critical information (such as waste transfer notes, soil analyses and monitoring reports) in scattered, unstructured formats such as Word, Excel and PDF.

Lacking advanced centralization and analysis technology tools, these documents are stored disconnectedly in the cloud, which prevents unified use of the data and lengthens the department's response times. This lack of real-time visibility makes it harder to detect early possible deviations or non-compliance with the Environmental Impact Statements (EIS) and current sector regulations.

As a result, the risk of environmental incidents, administrative penalties or third-party claims rises significantly, while valuable expert time from ETS technical staff is consumed on administrative and manual search tasks that could instead be devoted to the strategic and preventive management of the area.

Stakeholders involved

The following profiles are involved in this challenge:

- **Directorate of R&D&I, Quality and Environment (challenge-owning team):** Acts as the expert user and main promoter of the solution. Its technical staff will be responsible for guiding the tool's requirements, making use of monitoring data and carrying out the mandatory final validation of all alerts and reports issued.

- **Environmental technical assistance teams, site environmental managers and External Contractors:** These are the parties responsible for generating and supplying, on a daily basis, the entire volume of on-site information (transfer notes, analyses, control sheets) in various formats, feeding the cloud repository from which the tool will extract the data.

Materials and tools

Below is a description of the entity's current technology environment, for context. Integration with these systems does not need to be a requirement of the pilot, but participating entities should be aware of it so that their proposals are realistic and compatible with any future deployment. Information on data format, hosting, type of systems, the person managing them and any relevant information on integrations will also be included.

- **Current data environment and storage:** Documents and critical information generated on site are currently stored and shared through cloud folders, where specific access is configured and managed for the various parties and stakeholders involved in each project.

- **Document formats:** The technology solution will mainly have to work with unstructured information. The key file formats making up the daily flow of environmental documentation are word processing documents (Word), spreadsheets (Excel) and readable or scanned documents (PDF).

- **Integration requirement:** The development and deployment of the initial pilot does not require immediate integration with complex corporate systems. However, since the solution will draw on the files submitted by contractors, the system architecture must be designed from the outset to be compatible with the cloud environments used and ready for any subsequent scaling.

- **Environment security requirements:** The provider must guarantee that no data used to train, test or feed the system leaves the infrastructure or environment assigned by the entity, under any circumstances. Likewise, for the final post-pilot deployment, the proposed technical solution must strictly align with and comply with the international information security standards set out in the ISO 27001 certification.

What are we looking for?

A technological solution that enables:

- Capturing, processing and structuring data from documents in various formats such as Word, Excel and PDF generated at the different works.

- Automatically cross-referencing the works' operational data with the limits set in the Environmental Impact Statement (EIS) and applicable regulations.

- Generating automated early warnings for environmental incidents or deviations before they pose a real risk or lead to a penalty.
- Providing an agile query environment that summarizes the environmental compliance status of each railway project.

Key considerations

- **Security and Confidentiality:** All critical data and reports used to train or feed the solution must remain under strict control and may not leave the entity's own environment under any circumstances.
- **Absolute Reliability:** Given the high regulatory and financial risk involved in environmental non-compliance, tolerance for error or the generation of invented data is extremely low; the solution must be fully reliable.
- **Future Integrability:** Although during the pilot phase the solution will operate on a limited basis, connecting to the cloud access points where the files currently reside, its architecture must be designed from the outset to be compatible with subsequent scaling and integration with ETS's global systems.
- **Provider Certifications:** For a stable deployment and use after the pilot, the solution and the technology provider must align with international information security standards such as ISO 27001 certification.
- **Human Oversight:** The system will always function as an advanced assistance tool, with the final decision and validation of all results resting with the technical profile.

Process and key dates

To take part in the challenge, send your proposal to the challenge at the email address from which you received this challenge sheet: govtech@bindplatform.com

The deadline for receiving a response to the proposal is: **xx/xx/xx at xx:xx.**

The selection process consists of two phases

Phase 1 (Oct 26-28): pitches from semifinalists with the company. Startups will have to present their
proposal in 10 minutes. As a result, three startups will be selected as finalists.

Phase 2 (Nov 17-18): round of interviews with finalists and the company. Startups will need to go into more depth on their proposal.

What you gain access to

Winning startup: Paid pilot with a maximum of €15,000. The pilot to implement the winning solution will begin in December and will last 6 months.

In addition, finalist startups will gain access to a **B2G market-entry training session** on November 17 and 18.