ela INNOVATION

SUCCESS STORY

Indoor Location

Secure the RER C construction site for the SNCF

SNCF

ELA Innovation deploys its solution to locate and count workers on the RER C worksite.

The SNCF has placed its trust in ELA Innovation for its RER C maintenance project. **This challenge entails deploying, in less than 2 months**, a communication infrastructure to ensure the safety of workers over 8 kilometers of tunnel.

To meet this challenge, ELA Innovation implemented its **people counting and location 4.0 solution.** One of the key points was to secure more than **thirty entrances/exits by counting the personnel** comings and goings without using cables.

«I already experienced other solutions and was pleased to see that ELA Innovation was particularly easy to use. I am, we are, happy to keep the solution."

E. GALAND - Project Manager SNCF

THE KEY PLAYERS

Tag manufacturer	Technology editor	IoT Plateform editor	End User

THE CLIENT NEEDS

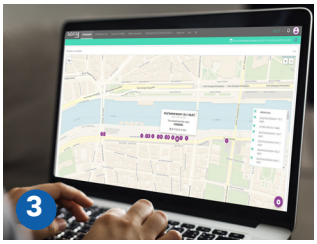
- Count and locate workers in over **8 kilometers** of tunnels **in real time**
- Have a solution with an autonomy reaching **at least 8 years.**
- **Lower the annual cost** of the counting solution
- **Add an alarm** feature in case of evacuation.

THE EQUIPMENT

- 320 Anchors and 480 mobile tags **Wirepas MESH**[1]
- 3 **Solidrun**[2] gateway
- **Synox**[3] **IoT** plateform


1


2


3

THE OPERATING MODE

From a technical point of view, the location solution is based on a **mesh network composed** of fixed and mobile tags. The first ones, known as anchors, are installed at regular intervals (25 meters) throughout the site[1], while the second ones are carried by workers[2]. The mobile Blue PUCK ID Mesh emits signals directed towards various anchors, which in turn pick up all dialogues and transmit the information to the gateway. However, since the data collected by the tags is raw, it is transformed into **GPS data** (latitude and longitude) by the Wirepas Positioning Engine and visualized on Synox's business web database application.

In case of tunnel evacuation, it is possible to remotely activate an audible (buzzer) and visual (LED) alarm from the **Synox business application**. The LEDs are visible on the entire tag network (anchors and mobiles) whereas the audible alarm is only triggered on the mobile tags. The battery-operated infrastructure, **requiring no connection**, facilitates the deployment of the solution and ensures an extremely competitive total cost of ownership.

THE ADVANTAGES

- 100% autonomous tags
- **Low cost** implementation
- **Compact, watertight, and robust tags**
- **Accuracy from 5 to 10 meters**
- **Important autonomy**

THE RESULTS

- After the solution was implemented, SNCF operators were able to know where each worker was at all time.
- In September 2019, ELA Innovation brought together all the SNCF operators, each person had positive feedback on the project.

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