alarte

Remote long-term monitoring of critical infrastructure with key safety movement band tolerance in landslide vulnerable areas

María Zalbide
TECNALIA

FEHRL

Introduction

ALARTE is a 30-month project under the H2020 2018-2020 EIC-FTI call, focused on developing a robotic inclinometer.

Natural landslides cause damages of €18 billion/year at a global scale, and this number is increasing steadily due to climate change and human activities.

Monitoring slope movements is becoming a crucial task in today's societies

Automatic inclinometers are capable of transmitting data in real time; however, they are very costly and require complex technical installations.

ALARTE is:
- **an automatic inclinometer probe that can transmit data in real time,**
- **cost-effective and easily installed**

Challenges

- Improve operational and risk management capabilities
- Real time and accurate deep ground monitoring
- Data-driven decisions making process, automatic alerts
- Competitive, easy and cost-effective tools for an efficient decision-making

ALARTE solution

- ➢ **Remote and competitive Robotised vertical inclinometer probe** with controller
- ➢ Ensuring continuous online risk awareness and timely response

Benefits

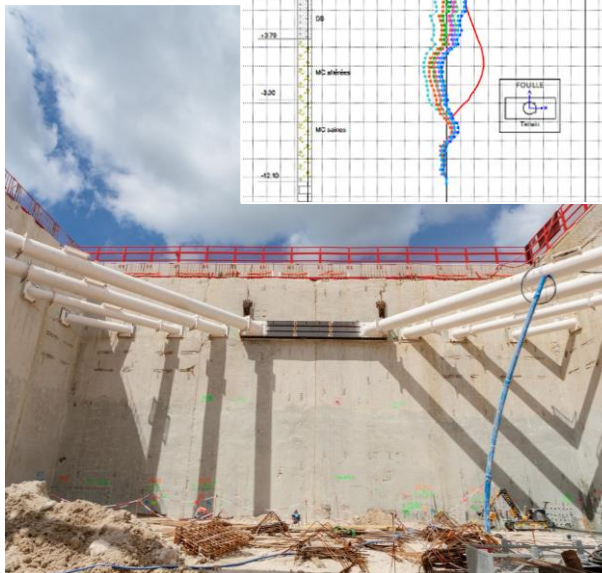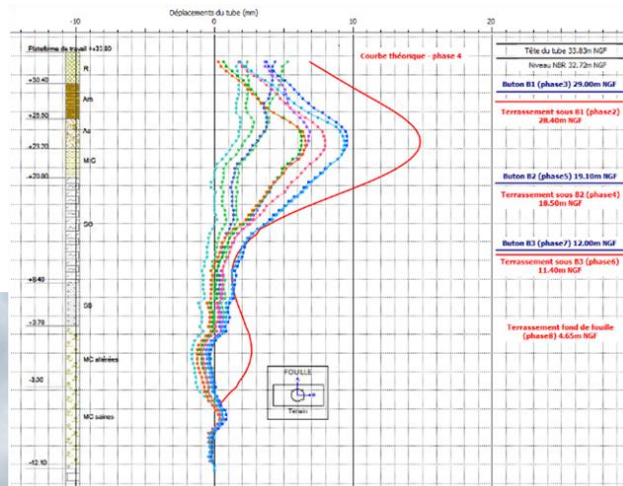**Accurate and reliable data**

Automatic alerts

Easy and quick set-up

Flexible and
autonomous system
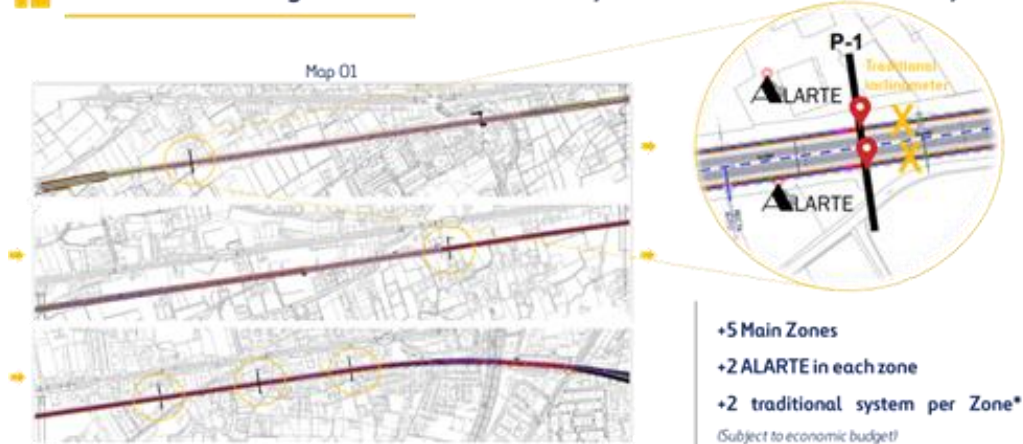
Improved risk management

Attractive price

Applications

- ➢ Landslides
- ➢ Mines
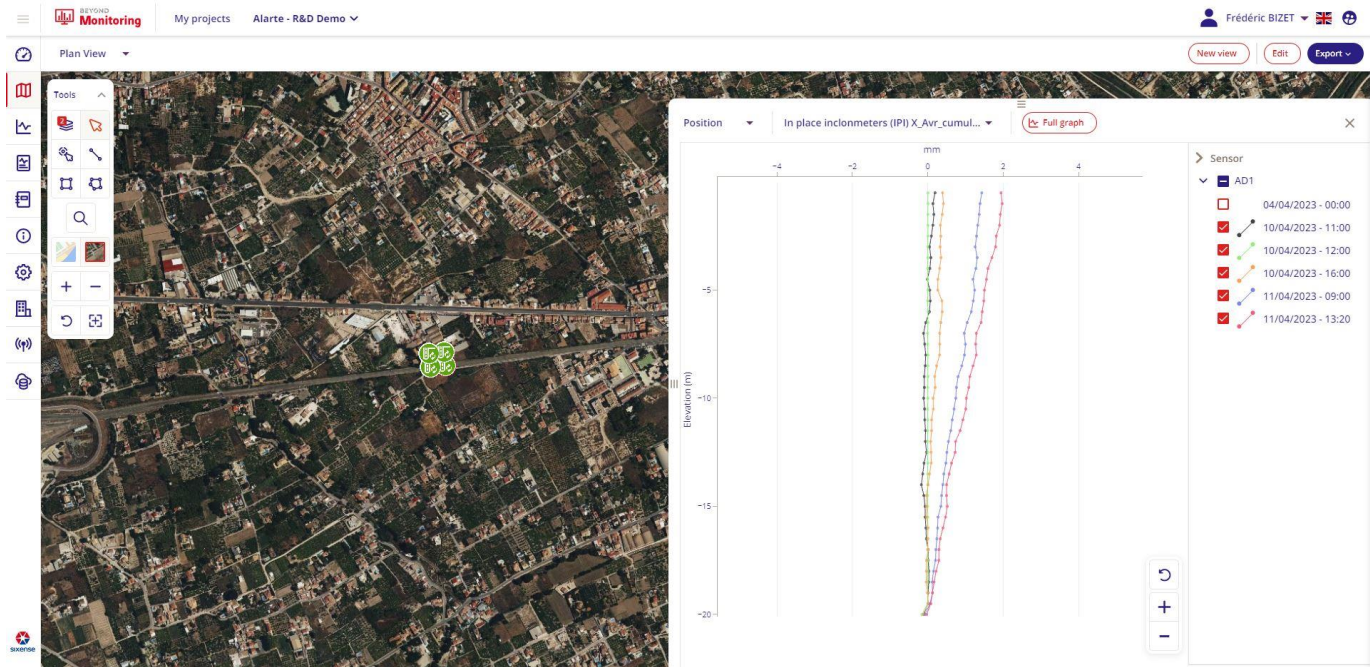- ➢ Hydraulic infrastructures
- ➢ Transportation infrastructures

Validation of prototype

Scenario: *Underground works on the city of Murcia's arterial railway*

Map 01

P-1

Traditional
inclinometer

ALARTE

ALARTE

+5 Main Zones

+2 ALARTE in each zone

+2 traditional system per Zone*

(Subject to economic budget)

alarte

THANK YOU!

The sole responsibility for the content of this document lies with the authors.
The Innovation and Networks Executive Agency (INEA) is not responsible for any use that may be made of the information it contains