

Commissioning of an earthquake early warning system on October 25th and 26th, 2022 for the works CAMPARI in Italy/Novi Ligure and ALBA



Initial Situation and Problem Statement

The Italian CAMPARI plants in Novi Ligure and Alba are located in legally defined seismic risk zones. On March 31, 2022, an official ministerial decree updated Italy's earthquake classification, which led to a reassessment of hazard maps by international insurers.

As a result, industrial companies, including CAMPARI, were confronted with increased insurance premiums. At the same time, there was a need to implement measures to improve operational safety and reduce potential damage caused by earthquake events.

Project Objective

The objective of the project was the installation and commissioning of an Earthquake Early Warning System (EEWS) in order to:

- minimize risks such as fires, explosions, and leakages at an early stage
- enable automated protective measures in the event of strong earthquakes
- sustainably increase operational safety
- reduce insurance premiums through preventive measures



NOVI LIGURE



Master



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Project Scope and Measures

The following measures were implemented as part of the project:

- Installation of the “secty lifePatron” earthquake early warning system at both plants
- Establishment of a system structure with one master and one submaster per site
- Integration of the system into the Building Management System (BMS) via potential-free contacts
- Implementation of automated control processes for safety-critical systems
- Acceptance testing and commissioning on October 25, 2022 (Novi Ligure) and October 26, 2022 (Alba)

Target Groups

The project is aimed at:

- production sites and their employees
- safety and technical managers
- insurance companies as risk assessors

Ressourcen und Budget

The following resources were deployed for implementation:

- specialized personnel for installation and integration
- hardware components of the “secty lifePatron” system
- interfaces to the Building Management System (BMS)
- investment budget for safety and automation technology

Expected Results and Benefits

The project achieves the following results:

- early detection of seismic activity
- automatic initiation of protective measures in the event of strong earthquakes
- increased safety for facilities and personnel
- reduction of potential material damage

The primary benefit lies in significant risk reduction as well as economic advantages through lower insurance premiums. The investment is therefore expected to pay off within a short period of time.

Risks and Challenges

Potential risks during the course of the project included:

- technical integration issues with existing systems
- communication failures between sensors
- power or system outages

To minimize these risks, extensive testing, monitoring functions, and status notifications were integrated into the Building Management System (BMS).

Technical Features

The implemented system “secty lifePatron” is an automatic earthquake early warning system (AEEWS) that has been tested in accordance with the European standard TS12884 and is TÜV-certified. The underlying standards are based on the ASCE 25-06 and ASCE 25-97 guidelines of the American Society of Civil Engineers and therefore also comply with the Italian regulations NTC 2018.

In the event of an emergency, the system enables:

- automatic shutdown of gas pipelines
- safeguarding of explosive alcohol storage tanks
- controlled shutdown or stoppage of production

Conclusion

With the successful commissioning of the earthquake early warning system at the CAMPARI plants in Novi Ligure and Alba, a significant contribution has been made to enhancing operational safety and reducing risks. The project combines technological innovation with practical safety measures and represents an important investment in the long-term resilience and operational security of both sites.

The project combines technological innovation with economic benefits and represents a sustainable investment in the long-term security and resilience of the sites.



ALBA



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