



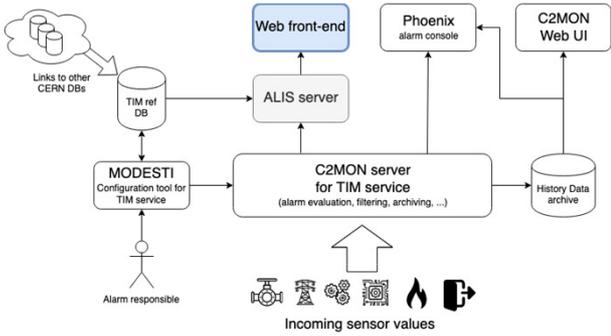
# Improving alarm handling for the TI operators by integrating different sources in one Alarm Management and Information System

MOPHA118

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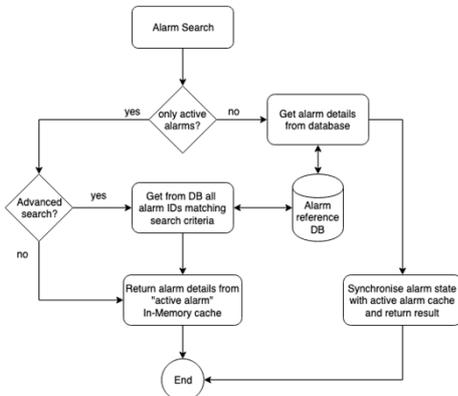
CERN uses a central alarm system to monitor its complex technical infrastructure. The Technical Infrastructure (TI) operators must handle a large number of alarms coming from several thousand equipments spread around CERN. In order to focus on the most important events and improve the time required to solve the problem, it is necessary to provide extensive helpful information such as alarm states of linked systems, a geographical overview on a detailed map and clear instructions to the operators. In addition, it is useful to temporarily inhibit alarms coming from equipment during planned maintenance or interventions. The tool presents all necessary information in one place and adds simple and intuitive functionality to ease the operation with an enhanced interface.

## Overall Architecture



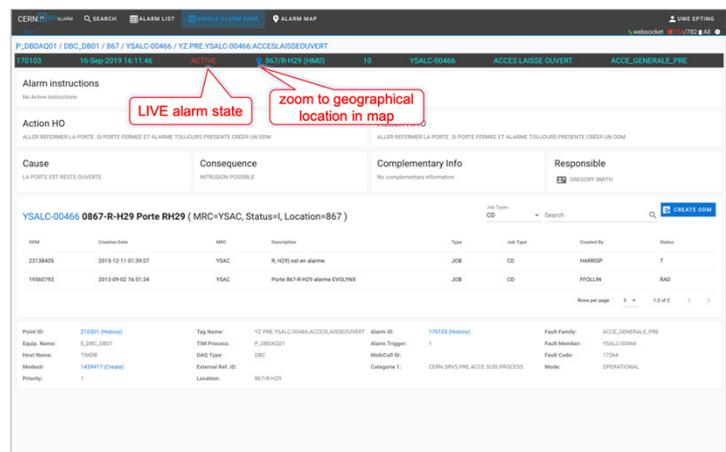
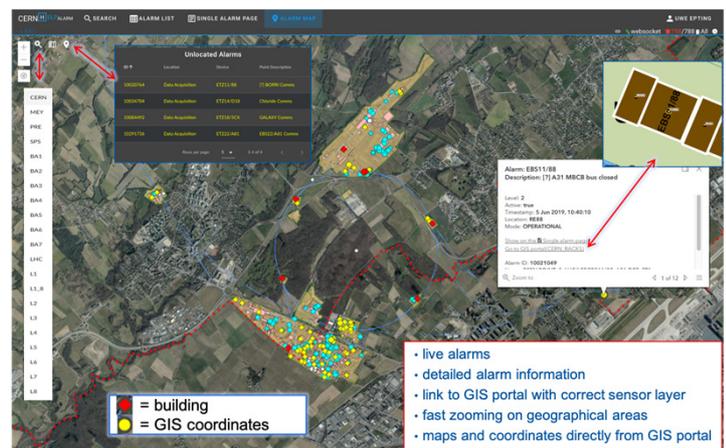
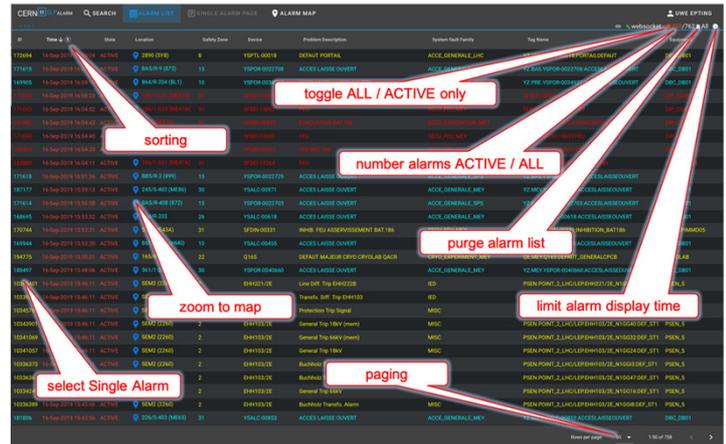
- The **ALarm Information System (ALIS)** connects to the **Technical Infrastructure Monitoring (TIM)** service at CERN to get live alarm updates.
- TIM is based on **CERN Control and Monitoring Platform (C2MON)**, which is available as Open Source project on GitHub (<https://github.com/c2mon/c2mon>)
- Currently more than **170'000** configured alarms

## Search Optimisation



An up-to-date list of all active alarms is kept in memory to get ultra fast search results for the most common use cases

## Web Front-End



## Front-End Technology



## Back-End Technology



## Conclusion

Tests showed a very good robustness and fast availability of live data. This confirms the chosen architecture and encourages to add more modules and functionality to provide this service to an extended number of users. The availability of ALIS on all web-capable devices enlarges its usage to teams in the field and provides live status information for nearby equipment.