

Alarm Management in a Hospital Environment

Ente Ospedaliero Cantonale (EOC)

The EOC administrates a total of 6 cantonal hospitals in Ticino. It ensures hospital processes run smoothly and efficiently and supports them for large-scale investments. To evaluate a complete alarm management solution, for two years the pilot installation “Ospedale Regionale di Mendrisio” was tested for reliability, integration and practical suitability. The high level of acceptance among doctors, health care personnel and technical personnel was the determining factor for the decision to equip additional cantonal hospitals with the **AMX Alarm Management System**.

In 2004, the expansion work at the Ospedale Civico (Lugano) and the Ospedale Italiano (Lugano) were successfully completed and handed over to the EOC. Additional projects were implemented at the Ospedale San Giovanni (Bellinzona), the Ospedale di Acquarossa and the Ospedale di Faido in the first half of 2005.

Initial Position in Lugano

The hospitals in Lugano are geographically separated, which necessitated the transparent depiction of all processes that **spanned all its organizations**. The targeted personnel (health care and technicians) had to be reachable locally as well as across all hospital locations in case of an event using an identical alarm process.

The REAnimation Solution

The mobility of the targeted personnel had absolutely the highest priority (DECT terminals). Therefore, all alarm process had to be displayed on a DECT terminal. The alarms are sent to the targeted personnel using **Text Displays**. Displayed texts (what, where) are interpreted more quickly and better than voice messages. If the target person is already busy on a call, advance notice is given, then the call will be **interrupted within a predefined period of time**. This gives the targeted person enough time to put the existing call on hold or terminate the call. This feature is achieved through a high level of integration of the system into the telephony infrastructure (Alcatel OmniPCX Enterprise).

To carry out REAnimation, it must be established that an **emergency team** made up of **at least** one representative of the corresponding faculty (doctor, anesthetist, OP, medicine, etc.) is available. If individual faculties are not reached despite parallel alarms, those faculties are placed in **escalation** mode until the entire emergency team is completely operative.

Technical Solution

The HONEYWELL facility management system, the **CERBERUS** fire alarm system, the **GETS** nurse call system and further system environments were integrated into the central AMX Alarm Management Server either using the standard protocol ESPA 4.4.4 or with potential-free contacts. All alarm processes are independent of the geographic locations of the mobile technician. The technicians also receive the events in the form of an internal **DECT SMS (mini messaging)**. This gives each technician a reminder, allowing them to set aside non-urgent events for later processing.

The need to edit information is significant in the hospital environment. For this reason, the system was integrated into the LAN, to give those responsible password-protected access. Extensive changes are first exported into spreadsheets (Excel), processed offline, and then reimported.

The modular platform and the direct access to ATT development resources ensure that the **AMX Alarm Management System** can be quickly adapted to changing demands. This guarantees increased protection of investment and allows the EOC to actualize future projects simply and inexpensively.