

POLYALERT

national alerting system

Civil and National Security

Alerting the population of an entire country - or a specific region - in good time in the event of a disaster is one of the fundamental duties of a government. An efficient alerting system can avert a lot of suffering and save human lives.

For decades, in the event of a disaster, the population in Switzerland has been alerted by sirens, which are distributed across the country. The POLYALERT project comprehensively modernises this system and provides the responsible authorities with new options for reaching the population.

With POLYALERT, the general alert and water alert provided by over 5000 sirens can both be triggered via secure networks, independently of telecommunications service providers.

Atos has received an order from the Swiss Federal Office for Civil Protection (Schweizerischen Bundesamt für Bevölkerungsschutz - BABS) to build the entire POLYALERT system, set it up in a "Command and Control Center" and ensure it operates perfectly.



The challenges

The system of alerting the population with sirens is a key part of Switzerland's national crisis management strategy. POLYALERT will provide rapid and secure alertings in all situations and, in contrast to the current system, independently of system producers and network operators.

The networks used must be highly secure and remain operational even if various system elements fail. This is a basic prerequisite for ensuring that as much of the population as possible can still be warned even in the event of a disaster.

The Federal Office for Civil Protection advertised for bids for the development and integration of POLYALERT, as well as its operation and the migration of the current system to POLYALERT, in an international tender in three lots in accordance with WTO guidelines. Atos was awarded the contract in all three lots due to its economically advantageous tender, which was also convincing from a technical point of view. POLYALERT is due to completely replace the old system by 2015.

The advantages: National networking and local competence

One of the challenges in implementing POLYALERT is being able to ensure that the population still can be warned at any time during the transition period. At no time may gaps appear that would make it impossible to alert the population of a disaster.

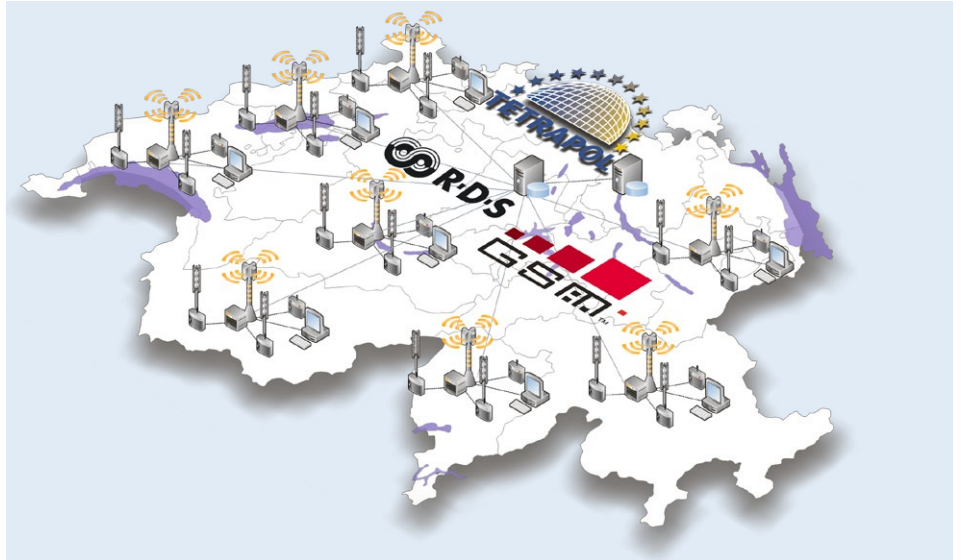
Atos is installing a system that takes the federalist structure of Switzerland into account. Generally, it is local or regional events that make a siren alarm necessary - when a flood occurs for example. It is intended that the sirens will be triggered locally by the individual cantons. With POLYALERT, the cantons can also be immediately networked with each other in the event of large scale disasters.

The majority of the stationary sirens can be triggered remotely. Furthermore, the local authorities also have the option of activating the sirens on-site at the siren locations.

POLYALERT - local and secure

“POLYALERT provides future-focused population alerting systems. An important aspect of this is the optimum usage of infrastructures by the federal government and the cantons throughout the entire operating life of the service. Close cooperation between all involved parties is the basis for the success of POLYALERT.”

Thomas Kiener, head of the telematic systems division and POLYALERT project manager at the Federal Office for Civil Protection



The solution: Local architecture and high-performance Command and Control Center

Atos is designing a distributed architecture for the POLYALERT system with local components. On the one hand, this enables the existing software modules used by the individual cantons and operators to be integrated into the system. And on the other, it guarantees that the population alerting system will not be interrupted even if individual components fail.

The POLYCOM professional radio network is the primary data transfer method. In order to guarantee alertings are given during all conceivable disaster scenarios, this communication is supported by transfers using GSM and UKW RDS.

An overview of the POLYALERT components:

- ▶ The remote control unit (RCU) receives triggering commands by radio at the siren location and activates the sirens.
- ▶ The control unit enables alarms to be triggered locally, e.g. at waterworks or civil protection organisations.

- ▶ The command center consists of a PC with the POLYALERT application installed on it. This is connected to the Command & Control Center (CC), which manages and monitors the entire system, and can trigger alarms. A GIS displays status information for all siren locations.
- ▶ In the CC, system components are controlled and monitored centrally and access to the various networks is ensured. A database stores all information and status reports.
- ▶ The system takes into account the autonomy of the cantons; alarms can be triggered in an emergency, even without a connection to the CC alarms. Virtual command centers provide additional, flexible access to the system administration across Switzerland.

Reliability is the highest priority

Atos prioritises the performance capability and reliability of POLYALERT. We build all systems in the Command & Control Center completely redundantly and host the server systems in two completely separate data processing centres that are geographically far apart. Both have infrastructures for backup, emergency power, fire detection and extinguishing, access and air conditioning.

This means that we can ensure the security and accessibility of the systems at all times. In accordance with the requirements of the Federal Office for Civil Protection, we ensure, as a full service provider, that an organization associated with the federal government can operate the system independently of us in the medium-term.

High-performance planning up to 2015

The transition from the current SFI 457 system to the new POLYALERT system requires high-performance planning: Population alerting systems must be guaranteed to be operational at all times. For this reason, we are preparing the migration so that both systems can be operated in parallel for a specified period. Not only do the remote control units at over 5000 siren locations need to be migrated, but also the command centers in 40 waterworks and 26 canton capitals.

POLYALERT will gradually be put into operation in a roll-out lasting from 2012 to 2015, and at the same time the previous system will be deactivated step by step. The number of supported systems will therefore steadily increase until 2015, by which time POLYALERT will have sole responsibility for securely alerting the entire Swiss population.

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Printed in
Switzerland
ZH 07/2014