SUCCESS STORY

See Tec

Prepared for Floods with SeeTec – Swiss Canton Uri Uses SeeTec Software as Early Warning System

The severe floods of 2002 and 2013 have impressively shown the immense extent of damages natural events can cause in our intensively farmed and densely populated landscape. In both cases, numerous rivers were affected, among others some in South and East Germany, Austria and the Czech Republic. In Germany alone, the flood of 2002 brought about a total damage amounting to approximately € 11 billion.

In summer 2005, a storm in the Alpine region also led to floods resulting in a great number of devastations. While in mountain regions accidents and damages were especially caused by landslides, the overflowing rivers and lakes were the problem in the lowlands. Natural disasters cannot be impeded, but the consequences can be significantly reduced through preventive measures. For this reason, the Swiss canton Uri, which was particularly affected by the storm, decided to be better equipped for upcoming floods with the help of a video surveillance system.

▪ THE CHALLENGE

The water engineering department of the canton relies on a video management system to protect particularly vulnerable areas.

Hence, video cameras should monitor the level of the local waters at strategically important locations. The areas of overflow spillways (dykes) and flood buildings (driftwood grills, delay basins) should be provided with a reliable solution that runs stably under extreme external conditions and that can be operated intuitively. Another important criterion was the gradation of the rights of use. The access to the system's images should be granted to numerous employees to ensure 24/7 surveillance, while operation and configuration (e.g. an export of the recordings) should only be available to selected members of staff. To protect the privacy rights of randomly recorded people passing by, the cantonal operator required differentiated authorization groups. Since no security system had been in use for the early warning of floods before, an external office was entrusted with a conspectus of the requirements on the implementation in 2011. The demands of the engineering office R. Stöckli AG from Zurich were subsequently locally implemented by ParCom Systems. On their recommendation, the client chose the software solution of the German SeeTec AG.

▪ THE SOLUTION

The implementation of the video management system started promptly.

The modular system concept of the SeeTec Multi Solution Platform provides numerous options and features that approach the customers' individual wishes. Thus, the user is provided with a variety of clients that can optionally be activated or deactivated. In addition, external systems such as burglar alarm systems, intercoms or lighting systems can be operated directly on the SeeTec surface via I/O modules.

■ THE RESULT

In the outdoor area, video cameras by the company Axis Communications are in use at 13 locations along river beds. Specifically designed for outdoor use, the cameras are equipped with a robust housing and thus provide clear images even under extreme conditions.

The cameras keep an eye on strategically selected points so that a rise of the water level can be detected and reported immediately. The central control station of the system is located at the Civil Engineering Office in Altdorf, the canton's main place. The staff here has full access to the installed cameras and is able to configure and control them. 30 working stations are available to the administration. In total, more than 40 users, also including external emergency organizations such as local fire brigades, have access to the live images. What is of crucial importance for the cantonal administration is the finely graduated and flexible assignment of user rights in the client. Thus, external users defined previously are able to sight camera recordings, but cannot export them or change system settings.

"The different user rights and the software's user interface, which can be operated intuitively, approach an easy handling. Within a very short period of time, the required basic knowledge was imparted so that the performance of hardware and software is paramount", said Mirco Stadelmann, Project Manager at the partner ParCom Systems.

In addition to the surveillance cameras, a fixed lighting, which is connected with the SeeTec system via internet by means of an I/O module and a UTMS router, was installed at each site. The SeeTec software thus allows the staff to operate the lighting remotely. Thereby, in case of poor visibility conditions or at night, the light at any camera location can be activated remotely to be able to recognize emergencies at an early stage. The plan of site displayed in the software contains the locations of the used hardware and visualizes the current status of the lighting (on or off) via integrated lamp icons.

Furthermore, SeeTec Anywhere is integrated in the visualization platform by the manufacturer Citrix so that authorized employees are also able to connect remotely to the video system via their usual surface. Hereby, a previous installation of the SeeTec software on the single working stations is not necessary. This solution represents a simplification for the practical use in everyday life.

■ THE CUSTOMER

Fritz Epp, Head of the Water Maintenance Department at the management of the canton Uri, is extremely satisfied with the result:

"The installed solution is an immense decrease of work and effort. Thereby, dangers can be detected early and preventive measures for the protection of entire villages and communities can be taken. We do not have to check on site if everything is in order every time, but can easily view the situation from the control station."

Down to the present day, several small floods could be detected and dammed up early. For the future, an extension of the number of cameras is planned so that unpleasant surprises can be prevented as far as possible.