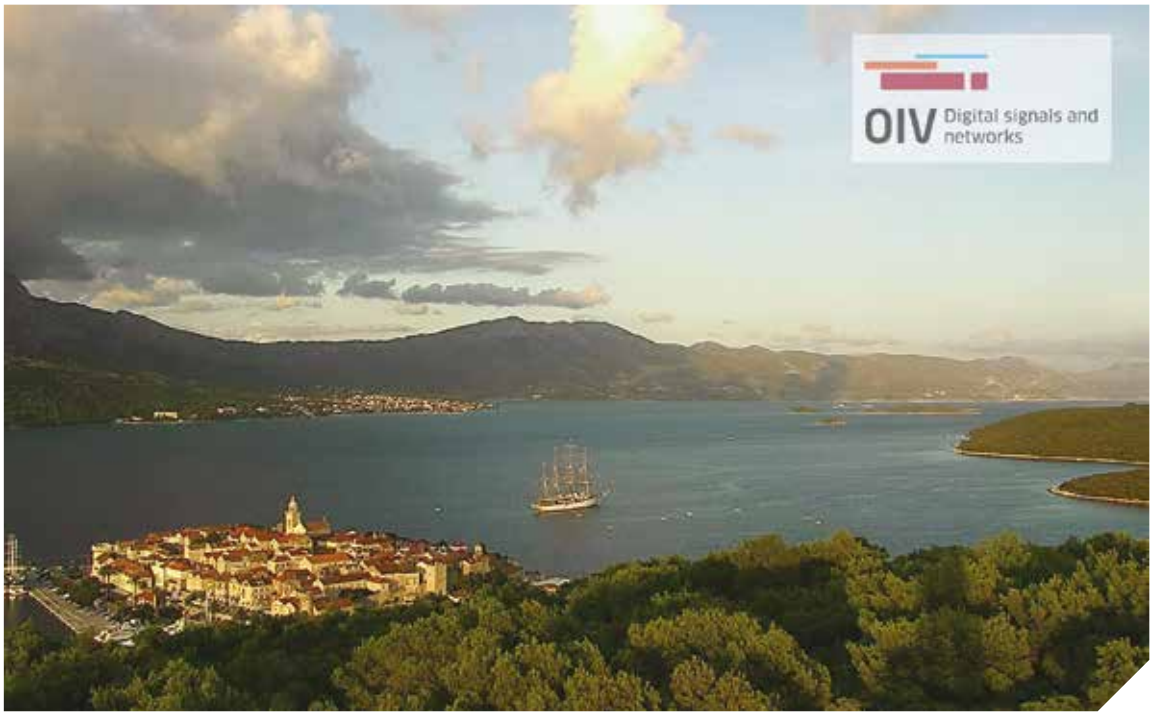
Axis cameras monitor small aircraft routes in Croatia.

Croatian broadcasting company OIV uses its antenna towers for video monitoring of flight corridors.



Organization:
OIV Digital signals and networks

Location:
Croatia

Industry segment:
Commercial

Application:
Broadcasting, remote monitoring

Axis partner:
Securitas Hrvatska

Mission

OIV provides national TV and radio broadcasting services in Croatia, including the transmission of all national Croatian TV and radio stations as well as most regional and local TV stations. The initial idea behind the company's new project was simple: In addition to providing terrestrial broadcasting, the dense network of antenna towers could serve the additional purpose of monitoring the air routes of small aircraft. Cooperation with Croatia Control, a provider of aeronautical information and meteorological and surveillance services, was established on the grounds that real-time information about current meteorological conditions is essential to ensure aviation safety. The IP cameras were determined to be the best solution due to OIV's own transmission network.

Solution

OIV decided to use 3 types of Axis network cameras in the system: AXIS Q6115-E PTZ, AXIS Q6045-E MK II PTZ, and AXIS Q6055-E PTZ. Pan-tilt-zoom was important due to the need for wide-area coverage and the ability to zoom in with great detail using a single camera.

The high image quality, durability, and reliability of the Axis cameras is extraordinary, especially at high altitudes: the altitude of one of the locations, Licka Pljesivica, is over 1,500 meters above sea level. On the other hand, small airplanes operate at relatively low altitudes (500–600 m) in comparison with other aircraft, which means pilots have access to 4G mobile signals and real-time images on the Croatia Control website.

Result

Cooperation with Croatia Control has been a success. Providing pilots with more detailed information about their routes helps prevent plane crashes, and other steps are being taken to further improve aviation safety. Recently, a new project was launched for the construction of a multipurpose antenna tower at Ilin Vrh, Konavle, which will include a surveillance system and electronic communications equipment. The effective and efficient use of the antenna towers has encouraged other organizations to take advantage of the features of IP cameras.

AXIS COMMUNICATIONS

72263/EN/R1/1809

"Axis cameras are solid, robust, and reliable. Nevertheless, it sometimes happens that we need to go up and fix a problem, especially when the weather conditions are extreme. It once happened that after seven days of strong winds and snow, we needed to fix a frozen PTZ dome."

Mihael Ilić, Head of Optical Infrastructure and Transmission Networks Department, OIV.

OIV and the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture in Split (FESB) have worked together on the development of a system for the early detection of wildfires, and there's also an option for TV and internet to present "slow TV" and the tourism potential of charming Croatian landscapes.

Better use of antenna towers

OIV handles the transmission and broadcasting of radio and television programs on the behalf of others via the electronic communications infrastructure in Croatia. Thanks to this role, the company has its own transmission system combining microwave and optical networks. The initial idea was to use the antenna towers, often located at high altitudes but conveniently covered by the network at the same time, to help monitor weather conditions in the flight corridors of small aircraft.

Whereas bigger commercial aircraft operate at altitudes of approximately 10,000 meters (with private jets cruising even higher at around 12,000 meters), the cruising altitude of smaller airplanes is much lower, often about 500-600 meters. Because of this, pilots of such airplanes can access 4G mobile networks. These conditions turned out to be a good basis for cooperation with Croatia Control, a provider of aeronautical information, to develop a database of real-time information, images, and time-lapse videos provided to pilots on a designated website.

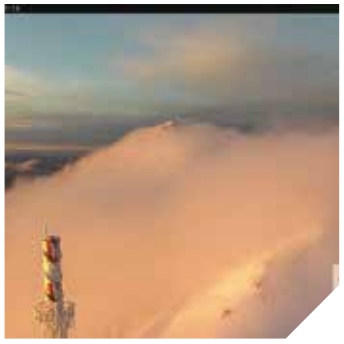
The ups and downs of altitude

Croatia Control runs air navigation services, pursuing the basic principle of a high level of air traffic safety. With such a mission, the technical division of Croatia Control constantly works on the development and implementation of new technologies and systems. Use of Axis IP cameras installed on antenna towers is an example of such an effort and can greatly increase the amount of information available about the flight route. However, there are some obstacles in installing network cameras at the cruising altitudes of small airplanes. Firstly, the cameras have to be extremely resistant, especially to the harsh weather conditions above 1,000 meters with strong wind gusts that people in Croatia call *bora*. This strong northerly wind can reach speeds of up to 200 km/h and occurs along the length of the Adriatic coast, creating a hazard to maritime and air transport. And to the cameras as well. Secondly, when something goes wrong, the cameras aren't easily accessible. "Axis cameras are solid, robust, and reliable. Nevertheless, it sometimes happens that we need to go up and fix a problem, especially when weather conditions are extreme. It once happened that after seven days of strong *bora* and snow, we needed to fix a frozen PTZ dome," explains Mihael Ilić, head of the optical infrastructure and transmission networks department at OIV.

Other projects in the pipeline

Despite some difficulties with the unforgiving Mediterranean weather, the system serves its purpose more than well. "As the end user, Croatia Control is very satisfied with our service, and they want a long-term contract with more locations," says Ilić. Helping to improve aviation safety isn't the only activity of OIV CSR: Cooperation with FESB has led to the development of a system for the early detection of wildfires and its implementation in Dalmatia (the southern part of Croatia). Currently, 90 cameras are assisting in the early detection of fires. Last but not least, the breath-taking bird's-eye views have lots of potential for tourism.

Using the special ACAP application CamStreamer, live streams from the cameras can be easily made available for mainstream audiences with no additional service costs. "We're testing CamStreamer software on some of the cameras. The Croatian coast is beautiful, and we'd like to share it by means of live touristic videos," explains Ilić. With 17.4 million tourists visiting Croatia last year, chances are that Axis IP cameras will soon be given other new roles.



OIV Digital signals and networks

SECURITAS

For more information on Axis solutions, visit www.axis.com/industries-and-applications
To find a reseller of Axis products & solutions, visit www.axis.com/where-to-buy

AXIS COMMUNICATIONS