

Kobe City Construction Bureau, Drainage & Rivers Department uses Axis network cameras to support citizen safety. Disaster prevention and damage reduction using a surveillance system to improve citizen awareness.

神戸市河川モニタリングカメラシステム

位置図 設置場所位置図を表示します。
 アニメーション 直近6時間の画像を30秒に圧縮したアニメーションを表示します。
 レインマップ250 神戸市域の降雨の様子をカラーで表示します。河川の上流に大雨が降ると、急激に河川の水位が上昇し、危険な状態になります。

モニタ場所 住吉川（五百崎橋の上流・左岸側から）

現在の映像
 2007-10-20 13:19:21



水位計
 カマラの地口にある兵庫橋水位計の水位を表示しています



*** 小波印時水位 *** はん部注意水位 *** 避難判断水位 *** はん部危険水位 *** 計画水位

平常時の画像



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Organization:
 Kobe City Construction Bureau

Location:
 Kobe City, Hyogo Prefecture, Japan

Industry segment:
 Government

Application:
 Monitoring for disaster prevention and damage reduction

Axis partner:
 ArkSystem

Mission

Kobe City is nestled in the Rokko Mountains, and while the city is blessed with an abundance of water, the Rokko Mountains are close to the ocean. This makes for swift currents and rapidly rising water when there are torrential rains, making it a geographical area troubled with flooding damage. River improvements are being made in Kobe City and the issue of disaster prevention is being addressed. In addition, damage reduction—keeping damage to a minimum—is a challenge also being addressed. When rivers swell, a call for evacuation is not enough and as a result, much damage can be done. In an effort to decrease the damage even a little bit, raising citizen awareness of damage prevention has become an ongoing issue.

Solution

At the Kobe City Policy Research Council, a plan was put forth and discussed to install cameras in addition to the existing water level observation systems, to monitor the rivers. However, the state-installed system was extremely

expensive and installing the same equipment was problematic in terms of budget. While gathering information, an article about the “NetEye” camera service provided by ArkSystem, an Axis partner, attracted attention. The possibility of installing a network camera system was reviewed.

In 2006, 4 Axis network cameras were evaluated and the results were as follows: Image quality was good (both day and night) and the cameras gave good value for the price. The next year 16 additional cameras were installed for a current total of 20 AXIS 221 Network Cameras operating in 20 locations. The monitoring screen displays not only images of the river, but the water level indicator as well. Monitoring can be done via the Internet at the Rivers Section or the Fire Department. In addition, monitoring footage is publicly available on a website so citizens can confirm the current situation using the image information and raise damage prevention awareness.

"Since the earthquake we've launched the "Disaster Prevention Community" who has worked to raise disaster prevention awareness among citizens. The system, which allows us to confirm the condition of rivers on the Internet, has been useful in raising disaster prevention awareness."

Mr. Nakamura, Assistant Manager, Kobe City Construction Bureau Drainage and Rivers Department, Rivers Section.

Result

The threat of river disaster is difficult to convey through words and text. Now, realization that there is threat of river disaster occurs due to public footage showing rising waters or the river's condition. In particular, everyone can watch the "Local disaster leader" elected by the local disaster community unit and develop an understanding of the state of local rivers.

The next step in disaster prevention, damage reduction

"Since experiencing the Great Hanshin earthquake, Kobe city has been working on urban development that is strong in the face of disaster. In addition to disaster prevention measures such as river improvement, it is important to work on damage reduction on a daily basis to provide for disasters. I believe that the camera system is effective as a measure to provide information", says Assistant Manager Nakamura, Kobe City. Currently, cameras are installed on 16 rivers at 20 locations, all of which can be viewed at the website. The same website displays footage of normal conditions and current conditions, and data from a water level indicator in the vicinity. The condition of the river can be understood at a glance. The site can also be accessed through a cell phone.

"This system can provide a variety of information; citizens can improve their understanding of a river disaster, and public service announcements can be made," states Assistant Manager Nakamura. In addition, footage of past rising waters is also available. A sharp rise in the water level is visible in a matter of minutes, the danger of river disaster and necessity for prompt evacuation can be assessed.

Advanced functions and high image quality are guaranteed at a low price

The footage from each camera is supervised by the "NetEye," an internet observation camera service. The screen on the web open to the public is refreshed every 2 minutes, however, monitoring is done at the Civil Engineering Division on a screen specifically for supervision. This system also has the function to supervise operating conditions of the cameras and lines. If there is an abnormality, a notice is promptly sent to the cell phone of the registered person in charge.

"With the open interface of Axis products, there is a high degree of flexibility in the deployment of the system. The system construction and what it provides make it high caliber and easy to use," says Mr. Kawaguchi, president of ArkSystem Co., Ltd.

"Monitoring can be done not just during the day, but overnight as well, for 24 hours a day. Axis network cameras provide sharp, high-quality images not just during the day, but at night. In addition, I believe the camera's capabilities and value for the money make it an outstanding product," says Assistant Manager Nakamura. At installation, and for privacy reasons, the cameras were adjusted to not show the faces of people passing by.

When danger is expected, all rivers can be reviewed

"I am satisfied with the existing cameras. I'd like more citizens to know about and use this system, for it to be a widely discussed topic. Our cities reports and events get updated, but I'm thinking of revamping the website itself to make it easier to use," says Mr. Nakamura.

There are plans to install an additional 10 cameras, for a total of 30 cameras in use, to cover anticipated flooding areas in Hyogo Prefecture.



Kobe City Construction Bureau,
Rivers Department Home page:
www.city.kobe.jp/cityoffice/30/035/
River Monitoring System website:
www17.plala.or.jp/kcamera/

