

Case reference
Teleste Video Security and Information

**WisDOT State highways
Wisconsin, USA**



WisDOT Statewide Videosystem

Statewide highway video system for the Wisconsin Department of Transportation, USA

AT A GLANCE
Population more than 5 750 000, 11 753 miles of state highways, approx. 4 600 bridges

Case in brief

WisDOT manages congestion and improves safety, efficiency and mobility on state highways. Most of their video cameras are located on freeways and interstate highways, and the department also has temporary cameras located on construction sites.

WisDOT made their first traffic camera deployment in 1995, and the co-operation between Teleste and WisDOT began in 2010. Over the years, Teleste has provided WisDOT with hardware as well as a video management system.

In 2015, WisDOT deployed Teleste's IP video management system, the S-VMX, including NVR for recording of all cameras. One of the essential features of the system is its scalability, which meets the client's ongoing drive for continuous development and fulfils their evolving needs.

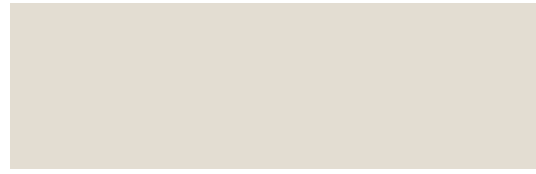
Deploying the Teleste's video management system has enabled WisDOT to improve their CCTV operations. In addition, the system supports developing and defining best practises for e.g. traffic incident management and emergency traffic control, which are targets set by the TIME program.

WisDOT

The Wisconsin Department of Transportation (WisDOT) is responsible for planning, building and maintaining the network of state highways and interstate highway system in Wisconsin, USA. One of WisDOT's main targets is to improve safety, efficiency and mobility on state highways.

WisDOT leads the state of Wisconsin's Traffic Incident Management Enhancement (TIME) program that aims to develop and implement the state's Emergency Traffic Control and Scene Management Guidelines.





Objectives

- Create an evolving video system that allows increased scalability in the number of cameras, users and video formats.
- Enable transcoding of video streams to internet.
- Support WisDOTs operating environment that includes a 24/7 statewide resource & communications center, more than 400 cameras on freeways and interstate highways, as well as temporary cameras located on construction sites.
- Enhance traffic incident management.
- Provide evidential information to law enforcement via video recordings.
- Achieve greater control of video archives and provide a sufficient amount of storage space for the recorded video.
- Increase system reliability via more robust hardware.
- Improve operations, find out lessons learnt and define best practises via further inspection of the stored video streams.
- Enhance cooperation with third parties, such as the Wisconsin Traffic Incident Management Enhancement (TIME) program, to develop emergency traffic control and scene management.

Solution

Teleste provided WisDOT with an end-to-end video management solution that offers all hardware and software, greater scalability, and support for their large, growing system. Compared to WisDOT's previous solution, Teleste's system also offers increased flexibility, more reliability and control, as well as superior quality of cameras and recording control software.

The system features:

- Video surveillance cameras connected to MPX-E encoders, or in the case of high definition COHU helios cameras, they have an embedded encoder.
- 10 Gbps network capacity and a statewide fibre optic ring for transporting all multicast video traffic.
- 64 terabytes of disk space dedicated to video storage and including 8 NVRs with 8 TB of storage each.
- SD video recordings as 4CIF MPEG-4, with a variable bit rate capped at 3000bps @30FPS.
- HD video recordings as H.264, 1280 x 720, max bitrate of 3000bps @30FPS.
- Instantaneous benefits are achieved by control room staff regularly noticing areas of improvement and best practices in:
 - Communication with law enforcement
 - Faster confirmation and response
 - Ability of the control room to coordinate response efforts or assist with efforts (ramp gate closures, etc.) sooner
 - Verifying wrong-way driver alerts
 - Alerting the media to, e.g., notify the public about incidents of concern.
- CCTV recording has enhanced the operation of TIME:
 - Video clips can be used for TIME education and training, which increases safety and efficiency and improves TIME techniques
 - Saved video is used on a regular basis by WisDOT, as well as emergency responders, to review incidents and learn how to respond more efficiently
 - The system also enhances possibilities to assist law enforcement by providing evidential information. It enables offloading incidents and videos of interest to a permanent storage for 120 days for further inspection. After 120 days the stored material is deleted in accordance with the records retention policy.