

12th World Congress on Intelligent Transportation Systems (ITS) Review

Introduction

Staff of DMD & Associates Ltd attended the 12th World Congress on Intelligent Transportation Systems (ITS) held in San Francisco from November 6 – 10, 2005. This issue of the Advisor outlines a few of the interesting concepts and products showcased at the conference.

Automatic Incident Detection

In the past incident detection required a continuous human interface which involved viewing CCTV monitors and observing incidents. More often only the down stream effects of the incident were observed. New automatic incident detection technologies analyze real-time video images from CCTV cameras mounted on poles along the roadway. They detect various incidents on roadways, bridges, and tunnels and advise operators via preset alarms. The video image processing capabilities are now able to capable of detecting stopped vehicles, wrong way drivers, speed drop, queue, fallen objects, smoke, and pedestrians on a roadway.



An automatic incident detection system can be very effective for providing a fast response to an incident as well as a video log of past incidents. However, if the system is not properly configured, false alarms and nuisance alarms will be generated making the system less informative to the operator. A significant amount of effort must be given to the up front design, set-up and commissioning of the system to suit the dynamics of the particular roadway.

Video over IP Networks

A significant part of any CCTV system is its transmission network which is used to deliver the video images and camera control data. There are different mediums for the transmission of these signals including twisted pair, coax, wireless, and fibre cable. Typically, each individual camera requires its own transmission medium. However, with the proliferation of digital video compression, the same transmission mediums can now carry multiple video/data channels. One particular approach is to package this compressed video/data into a standardized IP Packet which can then be transmitted over an Ethernet network.

The advantages of this technology is a reduction in the physical complexity of a CCTV transmission network, the ability to integrate with existing Ethernet networks, added troubleshooting capabilities, and increased scalability. However, the method of deployment of this type of technology will be unique to every CCTV system.

DMD are committed to development and research of new technologies and design practices aimed at giving our clients the best value. For any further information on topics in this Advisor please contact Don McLean at 604-888-9010 or e-mail at don@dmdeng.com.

Road Weather Information Systems (RWIS)

A full-scale Road Weather Information Systems (RWIS) incorporates collection and dissemination elements to sense and collect on-site and real-time weather and road condition information, and ultimately process and disseminate this information. RWIS provides a tool to better manage maintenance resources during winter weather conditions. The cost of road treatment may be lowered, while more effective treatment reduces the public's exposure to hazardous road conditions, which may bring with it accident reduction. Design/build/finance/operate (DBFO) project teams can include RWIS stations during the design phase and realize their benefits during operation to assist in meeting their performance and maintenance criteria. RWIS stations could include interfaces to bridge deck heaters, in-road chemical sprayers, or traveler advisory signs.

