



## 2008 GLOBAL EXCELLENCE AWARDS

### Location

Hong Kong, China

### Client

Hong Kong Special Administrative Region (HKSAR)

### Project Manager

Rex Lee

### Key Personnel

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## HONG KONG ROUTE 8 TRAFFIC CONTROL AND SURVEILLANCE SYSTEM

This project is the largest and most integrated Traffic Control and Surveillance System (TCSS) in Hong Kong, covering the entire 13.5 kilometer Route 8 road system stretching from Tsing Yi to Sha Tin. It provides the client with advanced functions for management of a complex highway network including bridge, tunnel and open road sections with safe and effective lane control and contra-flow operations. Delcan is a member of a joint venture called DIGJV, along with IMTECH from the Netherlands and GTECH in Hong Kong.

Construction of the new road link commenced in 2002 and is scheduled for completion by 2008. This new highway comprises the cable-stayed Stonecutters Bridge, Nam Wan Tunnel, Eagle's Nest Tunnel, Sha Tin Heights Tunnel and a new toll collection system. In particular, the Stonecutters

Bridge has a center span of over 1 kilometer across the Rambler Channel.

The scope of work to be executed under this contract includes the design, supply, installation, testing and commissioning of the following major items:

- **Central Control components comprising central system software, TCSS facilities central system hardware, and a manual fallback control system for tunnel traffic control devices in case of a central system and/or communications subsystem failure.**
- **Field Equipment including surveillance and detection systems, signals and variable message signs.**
- **Comprehensive Communications Subsystems.**





### **Client Impact/Value**

The degree of automation and decision support provided by the Route 8 TCSS reduces operator loading and eliminates operational inconsistency while ensuring quick responses and safety. The project also introduces the latest ITS technologies into Hong Kong, including integration of NTCIP traffic management devices, fully digitized video technologies, and an integrated Synchronous Digital Hierarchy (SDH) voice, data and video network.

### **Industry Impact/Value**

The project is a showcase for state-of-the-art ATMS. It demonstrates the benefits of integrating the latest and most cost-effective traffic management devices procured from around the world, without restriction on choices of suppliers and interface standards.

### **Community Impact/Value**

Route 8 is one of the most crucial sections in Hong Kong's Strategic Road Network. It provides a critical link from Sha Tin to Hong Kong International Airport. Our system provides a no surprise alternative to the motorists and public transport users at great travel time and fuel/economic savings.

### **Areas of Innovation**

The Route 8 TCSS in Hong Kong is currently the most sophisticated rule-based system in the world. There are a total of over 1,000 traffic control signs and signals of various types (15 full matrix variable message signs, 160 variable speed signs, 488 tunnel lane signals, 332 matrix lane signals and 131 variable prismatic signs).

The rule-based system in Route 8 has the capability to handle concurrent multiple incidents and/or queues in the same vicinity instead of displaying only one single event through event prioritization. Such systems can display "consolidated" or "combined" sign messages and prioritize the signal aspects. Many systems have adopted rule-based design, but only covered limited types of signs and traffic management strategies. The Route 8 system is currently the most comprehensive implementation of automatic rule-based TCSS in the world.