

# Motorway & Tunnel Management



*Keeping the world moving*

**tyco**

*Traffic & Transportation*

# Tyco Motorway & Tunnel Management System

## Meridian

Today's Motorway owners face a variety of challenges; increased public awareness, safety, performance, recovery of investments, and speed of technological change.

Owners must also ensure that all stakeholders, such as police, ambulance, fire fighters and the driving public, have access to up to date and reliable information.

Meridian is an advanced software system for monitoring and controlling complex systems and devices specializing in management of motorways and tunnels. It is the product of many years of refinement and adaptation through listening to the needs of customers and keeping pace with leading technology.

Meridian has been used for motorway management and tunnel management systems all over the world, including New Zealand, and Australia. Applications vary in complexity ranging from tolling systems in Portugal to managing a 9Km tunnel with more than 25,000 devices in Singapore.

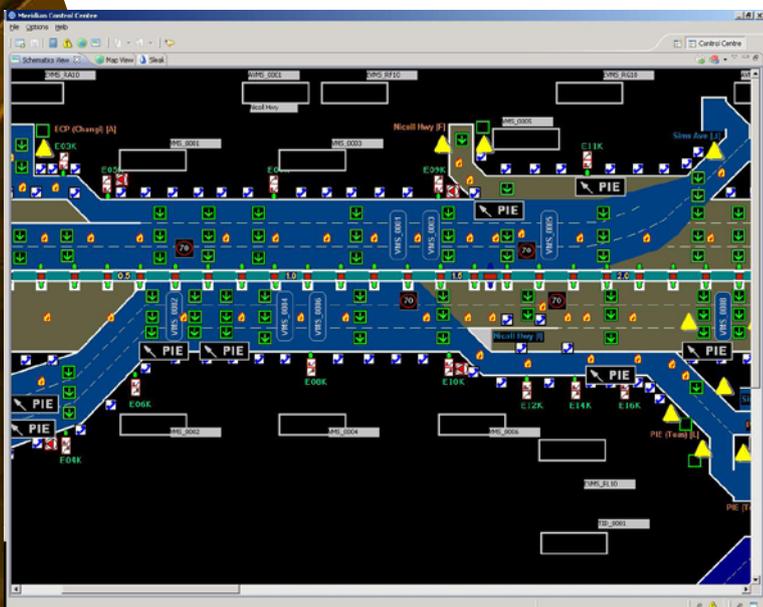
Operators use Meridian through a rich graphical Interface (GUI) using Menu- and Mouse- driven Windows applications. This GUI, known as the Meridian Workbench, relays real-time status updates of devices through video, images and data-tables as appropriate. By using simple point-and-click, devices can be interrogated further or directly controlled.

Standard Meridian Features include:

- High availability and reliability
- Integrated Traffic, Plant (SCADA), and Incident Management, into one system
- Geographic Information System (GIS) Technology – real locations, used for accurate incident management.
- Schematics / SCADA displays
- Automatic Dynamic Response

Along the Motorway are a multitude of devices and technologies including CCTV, wireless and fiber links, variable signs, and traffic monitoring devices. The Meridian, an event Management system, is the means of connecting these devices and subsystems to all stakeholders in a single configurable system.

Its versatility makes it an ideal platform to manage traffic in a motorway environment, provide decision-making facilities in response to incidents and to control road signs and devices.



## Benefits of Meridian

### Safety

Safety on Motorways is the public's most important priority. Increasing safety on motorways is a combination of activities that manage the motorway according to specific traffic conditions. The activities range from variable speed limits, over speed enforcement, to traveller warning mechanisms.

Meridian provides a comprehensive system of facilities that allow the user to manage any type of traffic condition in a timely manner. The state of the art, response plan system provides easy and fast response mechanisms that help operators to quickly handle any situation on the road, and avoid follow-on accidents.

### Road Performance

Road Performance is not only of major public interest but also essential for privately operated roads. Meridian is specifically designed to increase road performance through highly specialized management functionality.

The system provides latest traffic detection algorithms that inform about congestion levels, detects queues and transient situations and provides leading edge incident detection technology.

Modern traffic data analysis and statistical reporting allow the operator to identify bottlenecks and increase flow capacity.

### Road Network Planning

Long term road planning requires large amounts of historical traffic data for the analysis of road capacities and road usage. Meridian provides statistical analysis tools that allow better planning and help to improve the overall performance of the road network.

### Operations

Operators are the heart and soul of road management. They ensure the safety, performance and availability of the motorways. The Meridian's easy to use interface provides operators with the tools they need to quickly react to situations on the road.

The system provides automatic and semi-automatic action to different operational aspects. This reduces response times significantly.

### Cost Reduction

Meridian's state of the art technology provides major cost reductions in the operational area as well as maintenance cost of equipment.

Through modern user interface design and optimized dialog design Meridian makes handling of multiple situations easy. This increases operator efficiency and reduces costs on the road and in the operations area.

### Traveller Information

A wide range of information dissemination mechanisms are an integral part of Meridian. The system provides traveler information via a network of variable message signs and warning signs.

### Integrated Solution

Meridian uses an integrated approach to ITS. The system acts as the integrating platform for all different subsystems that make up the motorway.

This includes CCTV, Traffic Detection Systems, Variable Message Signs, Changeable Message Signs, Hardware Cabinets and all other plant equipment.

All systems can be controlled via Meridian, whereby the system provides the operator with a single interface component to all systems in the environment. Operators do not need to switch between applications but can directly change settings in all underlying systems by using Meridian's comprehensive response plans.

### Map Based User Control

Meridian provides an easy to use graphical representation of the road network. It employs latest GIS technology that is linked with the spatial database of Meridian. With a simple mouse click the operator can retrieve information about any aspect of the systems.



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