



# TMS SCOOT

## Putting you in control

Our traffic management and control systems have been deployed in many locations around the world, supporting and enabling our customers to implement the most advanced traffic management schemes, maximising efficiency whilst minimising the impact on the environment.

The Dynniq TMS is a proven Urban Traffic Management and Control (UTMC) solution, providing a powerful collection of tools for the modern network operator. A new graphical user interface allows for simple monitoring of the whole network, enabling the user to ensure that appropriate control strategies are being implemented. The system supports a mixed approach to signal control; Fixed Time UTC (with or without SAPS), SCOOT, MOVA and remote monitoring enabling the optimum strategy to be selected, supporting the need for efficient network performance, reduced congestion and improved air quality.

## The window to your system

The Dynniq TMS enables users to coordinate, control and monitor a region's signalised traffic intersections. The interface to these tools supports the differing needs of users depending on their role. A 'familiar' web-based user interface (UI) brings together equipment status monitoring 'at a glance' and intuitive access to the full suite of tools, minimising the effort required to monitor system operation.

## TMS User Interface (UI) – putting you in control

Save time with informative map-based displays for fault identification and easy data entry supported by on-screen tips, minimising the need to refer to support materials. The cascading of faults highlights even low-level field equipment problems, whilst the map based display reduces the chance of unintended equipment overrides being left active. The Dynniq TMS also allows access to the field equipment's own facilities, as if the user were on street.

The new UI permits access for many users with the ability to set permissions to appropriate levels, secure remote access is also supported via the internet. It allows users to see what they need to see by tailoring views to suit their individual requirements.

## Modern communications

The User Interface enables remote access and only requires the client to have standard web-browser software. This remote access approach enables the system to be hosted either by the client/system operator or remotely by a 3rd party. With all communications being IP based, users can connect over the internet. The Dynniq TMS implements the latest published UTMC data methods, enabling it to operate alongside equipment supplied by other manufacturers, both at the control centre (via server to server links) and at the roadside.

## SAPS – System Activated Plan Selection

This feature enables the user to implement alternative signal timings according to traffic conditions, without the need for a fully adaptive control system:

- Automatically selects appropriate fixed time plans in response to specific conditions
- Applies selected plans to individual intersections, regions or a whole area
- Caters for complicated conditions allowing combinations of flow, occupancy, queue and SCOOT detection to determine the plans to apply
- SAPS can be turned on and off by operator and timetable.



## SCOOT

A highly effective, established, fully adaptive control system containing many features that bring benefit to the overall traffic control environment. In addition to the traffic control algorithm itself, it supports mechanisms that enable reliable operation over wide area networks that may not all be under the control of the relevant traffic department. By doing so it reduces the costs of operation compared with the use of private networks.

- Enables the effective coordination of groups of signals by responding intelligently to changes in the traffic flow
  - Maximising the efficiency of the road network and reducing congestion is beneficial to the environment and the economy
  - Minimises the impact of incidents and events on the highway infrastructure
- Cost effective and efficient solution
  - Has no reliance on a library of man-made plans
- Enhanced capabilities for the management of congestion, bus priority and pedestrian facilities
- Supports time-stamping of data for packet based communications (no requirement for second-by-second data transmission networks)
- Congestion Supervisor – runs in background searching for and analysing congestion problems
- Typically reduces urban traffic delays by an average of 20%

Dynniq has a large number of installations worldwide and as joint owner of the SCOOT algorithm, we are members of the steering group responsible for the delivery of SCOOT development.

## Additional features and functions provided when using the SCOOT algorithm:

- **ASTRID/INGRID** – Astrid provides comprehensive graphical feedback on flow, delay, congestion and occupancy for future planning. Incident Detection is provided through the INGRID option within ASTRID. Also provides historical data feedback into the SCOOT algorithm
- **Public Transport Priority** – By enabling all forms of public transport priority to be fully considered, the Dynniq TMS can be used to encourage modal shift to more environmentally friendly journeys
- **Emission Simulation** – Simulation of the polluting effects of urban traffic and the graphical display of emission estimates of CO, CO<sub>2</sub>, NO<sub>x</sub>, particulates and hydrocarbons. Estimates of total carbon and fuel consumption. Pollution simulation data can be fed back into the traffic optimisation algorithm
- **Emergency Vehicle Priority** – Green-wave and priority facilities provide immediate response with subsequent traffic delays managed effectively to restore normal network operations
- **Sub-region cycle time Independence** – Allows for quiet junctions to be dropped out of the regional cycle time, to run at lower cycle times, and automatically picks the junction back up onto the main region when conditions start to get busier
- **Ghost staging** – Enables rarely used demand dependent stages to be "dropped" from the plan if they are uncalled for a number of cycles.

For more information on SCOOT  
visit [www.scoot-utc.com](http://www.scoot-utc.com)

## Technical specification

The table below gives a summary of the Dynniq TMS functions and capabilities.

<b>Control strategies supported</b>	SCOOT, System Activated Plan Selection (SAPS), Fixed Time and MOVA utilising a suitable outstation device
<b>Connections to outstations and controllers</b>	<ul style="list-style-type: none"><li>• UTMC UG405 and UTMC-29 protocols supported for permanent IP and PSTN/GSM dial-up connections</li><li>• Support for Legacy MCE0361 &amp; MCE0312 analogue communications</li></ul>
<b>Emergency management</b>	Green-wave priority routing
<b>Bus priority</b>	<ul style="list-style-type: none"><li>• Centre-to-centre interface using RTIG supports conditional priority</li><li>• Local priority measures also accommodated</li></ul>
<b>User access</b>	<ul style="list-style-type: none"><li>• Remote accessible via any IP network (subject to network configuration)</li><li>• 7 predefined classes of user with differing system access rights</li></ul>
<b>User interface</b>	<ul style="list-style-type: none"><li>• Map-based display showing 'status at a glance' view of field devices</li><li>• Field equipment can be visualised in its real geographical location</li><li>• A navigation panel supports predefined equipment hierarchy views for physical equipment and SCOOT logical equipment</li><li>• User-definable hierarchy views</li><li>• Active 'site-views' enable user configurable animation and interactive displays</li><li>• Automatic map zoom &amp; centring based on configured equipment</li></ul>
<b>Remote control</b>	Access to field device local controls e.g. traffic controller's web interface
<b>Mapping data</b>	Maps can be downloaded from open-source data (Open Street Map) and stored on a mapping server or accessed via the internet from Open Street Map
<b>Interfacing &amp; interoperability</b>	<ul style="list-style-type: none"><li>• Supports UTMC compliant UG405 interfacing to traffic signal controllers</li><li>• Supports interfacing to UTMC compliant Common Database</li></ul>
<b>System requirements</b>	<ul style="list-style-type: none"><li>• TMS System hosted on the HP-OpenVMS platform</li><li>• UI Server hosted on Microsoft Windows Server platform</li></ul>