

Applications and Architecture 

'SPOT' and 'UTOPIA' Applications and Architecture

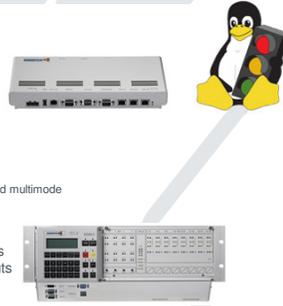
- With the arrival of Swarco Traffic Ltd into the UK market comes the opportunity for some of the European products and strategies to be deployed and fully supported in a way that has not been possible before.
- At the forefront of the Swarco control strategies is SPOT and adaptive algorithm that is flexible enough to run at an individual junction (like MOVA) or expand to a group of junctions (like linked MOVA or a SCOOT region) or with the addition of the UTOPIA instation operate as a complete coordinated ITS solution.

SWARCO TRAFFIC LTD | 03/10/2011

SPOT Outstation and I/F Capability 

SPOT' (Universal) Outstation

- Specification**
 - ARM 9 200 MIPS processor
 - 64MB Flash, 32MB RAM
 - SD Card Reader
- Communication Options**
 - 3 * SHDSL Channels
 - 3 * Fibre Optic Channels single and multimode
 - 3G Modem
 - Ethernet (ADSL, Mesh etc.)
- Peripherals**
 - 4 Digital Outputs / 8 Digital Inputs
 - 8 Digital Outputs / 16 Digital Inputs
 - 24 Digital Outputs
 - 24 Digital Inputs



SWARCO TRAFFIC LTD | 03/10/2011

SPOT Detection Requirements 

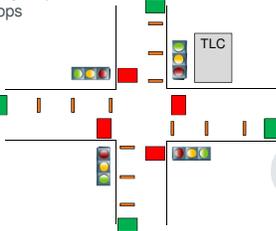
SPOT' Vehicle Detection

- SPOT Requires incoming and outgoing detectors much like MOVA and SCOOT
- Incoming detector minimum distance from stop line is 75m to 105m
- Detector should be clear of queues
- Needs both dynamic and presence detection
- Outgoing loop at exit
- If exit volume low (side road) can be omitted
- Video detection can be used as a loop alternative

SWARCO TRAFFIC LTD | 03/10/2011

'SPOT' Junction Layout 

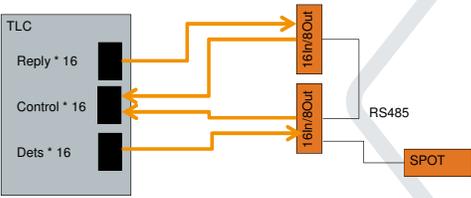
- SPOT incoming loops
- SPOT exit loops



SWARCO TRAFFIC LTD | 03/10/2011

SPOT to a UK Controller 

- Parallel (0141 style) UTC interface 16 output and 16 inputs
- Configure required stage control and reply bits
- Add extra detection in controller if required
- Add SPOT peripheral for parallel interface



SWARCO TRAFFIC LTD | 03/10/2011

SPOT Configuration 

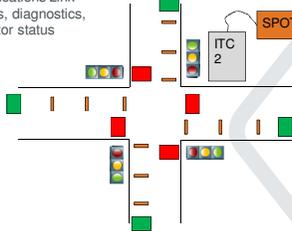
- Stage Definition
- Detector allocation
- Parallel or Serial Interface
- Communication setup
- Neighbouring nodes
- Green Times
- Approach weighting
- Public transport weighting

SWARCO TRAFFIC LTD | 03/10/2011

SPOT to SWARCO ITC 2 Controller



- Additional detection wired into ITC-2
- ITC-2 Configured for SPOT
- Add SPOT outstation
 - RS232 Communications Link
 - Full phase, status, diagnostics, plan control, detector status

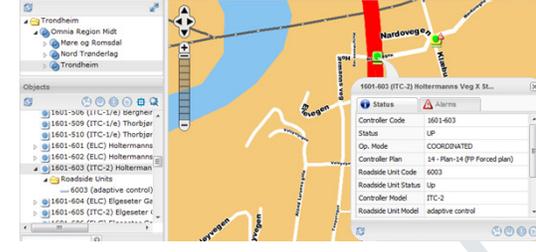


SWARCO TRAFFIC LTD | 03/10/2011

SPOT to SWARCO ITC 2 Controller



- Remote access to controller status and alarms plus SPOT via instation

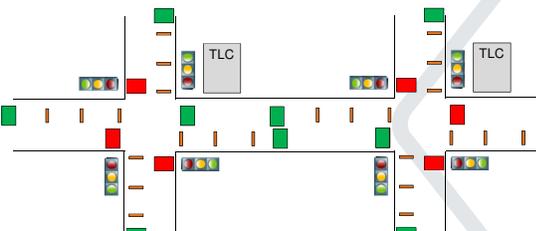


SWARCO TRAFFIC LTD | 03/10/2011

SPOT – Linked Sites

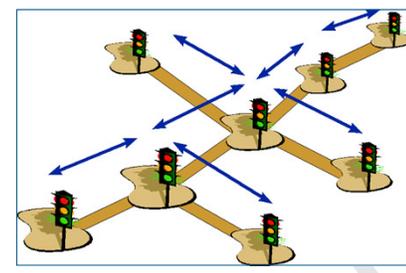


- Linking SPOT sites can reduce detection requirements
 - Queue information can be shared reducing detector requirements
 - Remove entry loops and use exit loops
 - Extend benefits across the network



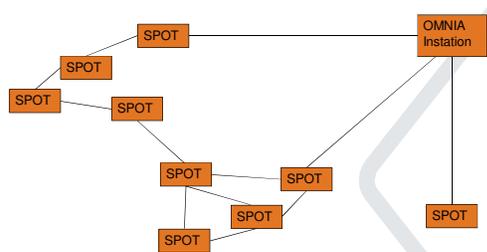
SWARCO TRAFFIC LTD | 03/10/2011

SPOT Configuration and Connection

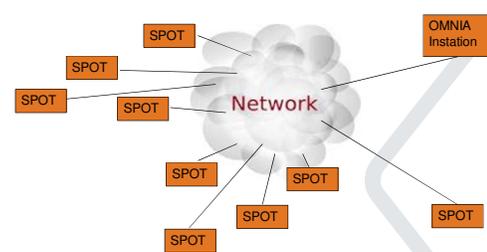
SWARCO TRAFFIC LTD | 03/10/2011

SPOT Connection Methods

SWARCO TRAFFIC LTD | 03/10/2011

SPOT Connection Methods

SWARCO TRAFFIC LTD | 03/10/2011

Large Scale SPOT Deployment **swarco**

► Example Oslo Network Topology

SWARCO TRAFFIC LTD. | 03/10/2011

SPOT > UTOPIA > Public Transport **swarco**

SPOT' Public Transport Priority Mechanisms

SWARCO TRAFFIC LTD. | 03/10/2011

Total SPOT > UTOPIA > OMNIA System **swarco**

SWARCO TRAFFIC LTD. | 03/10/2011

Current Plans and Trials **swarco**

'SPOT' and 'UTOPIA' Current Plans and Trials

- We have a number of ongoing activities to show that the European Strategies, Systems and Products are fully transferable to the UK, these include;
 - Wicklow – Ireland
 - Southampton – Romanse
 - Galway Project

SWARCO TRAFFIC LTD. | 03/10/2011

Summary **swarco**

"SPOT the Difference"

- Whilst there are a number of differences with 'SPOT' (and UTOPIA) product and systems offerings, there are also a number of similarities.
- Swarco products being based on European advances are able to deliver a number of benefits especially when it comes to communications, advanced functionality and open architectures, in particular;
 - Public Transport which is at the heart of many of the European products and strategies delivering the fully integrated benefits that can be seen in Europe
 - Modern Communications, both at the hardware (IP) interface level and the 'Open' ITS NTCIP protocols. And DATEX II standards.
 - 'Truly' Open Systems, allowing easy integration, enhancement and expansion of Software functionality both on the instation and outstation platforms.

SWARCO TRAFFIC LTD. | 03/10/2011

SWARCO | First in Traffic Solutions. **swarco**

SWARCO is a growing international group headquartered in Austria. The SWARCO companies provide the complete range of road marking, signalling and traffic management products, services and solutions.

"SWARCO has developed into a strong corporate group that is among today's leading international traffic technology suppliers. We want to continue this path of success together with you, our partners, and be your first choice in road safety and intelligent traffic management worldwide."

Manfred Swarovski
Chairman and founder of SWARCO

Thank you for your attention

SWARCO TRAFFIC LTD.
25, Erica Road, Stacy Bushes, Milton Keynes, Bucks, MK12 6HS, UK
T. +44-1908-315400 F. +44-1908-315401
E. office.stl@swarco.com www.swarco.com/stl

SWARCO TRAFFIC LTD. | 03/10/2011