



SIEMENS



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Communication Network and Migration Expertise

Siemens Mobility, Traffic Solutions designs, markets, manufactures, installs and maintains an unrivalled portfolio of innovative traffic control and management solutions from its headquarters in the UK.

Our solutions enhance road safety and allow traffic professionals and local authorities to manage their transport networks effectively and improve the traffic flow in congested urban and inter-urban areas.

A resilient and cost-effective communications network is the foundation of all Traffic Management solutions. Understanding the real-time traffic situation on your network and ensuring tactical and strategic decisions made centrally are communicated on street in a secure, reliable and timely fashion is fundamental to the Traffic Management task and essential to keep road networks running effectively.

Urban road networks across the UK share many similarities and can benefit significantly from the deployment of largely off-the shelf Traffic Management products. However, communication requirements vary, depending on the traffic management application, required data rates and availability, the local geography and topography and of course budgetary constraints. There is also the added complication of an ever increasing array of communication technologies from which to choose, each with their own unique performance and cost characteristics, from a myriad of suppliers. Presented with this unprecedented level of choice and flexibility, Siemens can help Local Authorities and Network Operators make sense of these options through the design and provision of the most appropriate communications solution to meet your Traffic Management requirements and budgetary constraints.



Our industry experience and understanding is unrivalled and is the product of many years delivering and operating successful, reliable and innovative solutions that address traffic management challenges in varying environments worldwide. We use this experience to design and deliver communications solutions that meet your requirements - and those of your travelling public.

Siemens is a leading supplier and integrator of UTMC and ITS solutions and equipment and has delivered close to 100 UTC systems in the UK and overseas. We have designed and delivered the communications networks for many of these systems.

Our support and service capabilities include;

- Technical site surveys, feasibility studies and architecture design of the most appropriate communications architecture for your Traffic Management and UTC requirements, including wired, fibre, mesh and wireless approaches
- Communication networks and equipment specification
- Competitive cost benefit analysis
- Identification and project management of all communication infrastructure supply chain partners
- Supply, deployment and commissioning of an end to end communications network for your Traffic Management and UTC operations, including appropriate In-station connectivity and equipping junctions with appropriate fully IP-compliant connectivity, using for example ADSL, SDSL, fibre, 3G or mesh wireless.
- System support, fault management and configuration
- Hosting and operational support



Customer Benefits include;

- Working with a single partner with proven traffic management application and communication network experience and expertise
- Provision of a secure, scalable and future proof communications network
- Robust traffic management infrastructure that is not susceptible to service reduction due to individual failures
- Sustainable revenue cost reduction in UTC operation.

Migrating to the latest IP Communications

The traditional communication method for the provision of real time UTC control makes use of analogue leased lines, either point to point, or point to multi point. This technology has been declared end of life by BT and support will be withdrawn from 2018. In order to maintain the UTC service and to improve resilience and affordability, Local and Road Network Authorities now need to consider digital Internet Protocol (IP) communications options.

Siemens can help you migrate to a communications solution that has significantly reduced operational costs when compared with existing networks. We will provide a seamless transition to a new digital solution with a future proof design and extensive expansion capabilities.

We will identify the most appropriate communications architecture and solution for your specific requirements, taking into account the application, required performance and availability levels (current and future), environmental and cost constraints, levels of customer expertise and available support commitments for example.

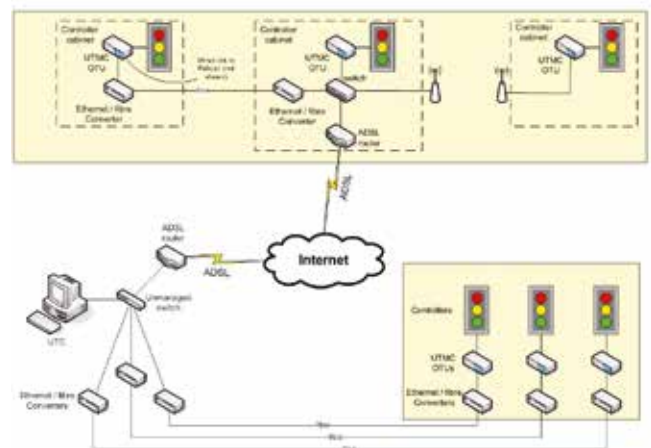
We will identify and utilise a range of technologies that are proven to provide the robust performance required to meet your requirements, whether it is the operation of real time UTC, VMS or Car Park management for example. We will demonstrate the reliability and security of the system and performance levels appropriate for each element of the communications solution.

Siemens will draw on its extensive experience and supply chain relationships to fully leverage the best solution and response from third party suppliers and actively engage with key suppliers to ensure that the desired project timescales are achieved.

To deliver upgraded sites with full functionality and minimal downtime, Siemens will provide a project delivery team, comprising local implementation engineers and support management staff from our Poole-based headquarters.

Prior to all communication network migration projects, Siemens will provide an outline design, identifying and recommending potential communications methods and replacement technology for all sites and the likely operational costs and potential savings offered as a result.

Final detailed designs are submitted following detailed survey works of all junctions and UTC sites, where overall interoperability and maintainability is also considered to ensure the scheme is robust and expandable. To deliver the most cost effective option on a site by site basis, Siemens supplies, installs and commissions all new communications infrastructure and undertakes all UTC database changes when necessary, ensuring that the UTC system remains in service and control of existing sites is maintained.



Cheshire West and Chester

A new Siemens UTC system has been installed with over 80 sites upgraded from the existing analogue leased lines to wireless IP communications. Following extensive site surveys to identify the modification requirements at each location, the project involved the replacement of all on-street OTUs with new Siemens UTMC units and traffic signal controllers reconfigured including SCOOT validation, where required. The Siemens UTMC OTU implements the latest UG405 protocol enabling users to leverage the full benefits of SCOOT MC3 and, in particular, the potential use of multiple communications links.

Site surveys were carried out to identify all locations for the installation of new equipment and any on-site traffic signal modifications or reconfiguration of traffic controllers. Design drawings and written reports were produced showing all wireless equipment installation details and required site modifications.

South Lanarkshire

On a smaller scale in Blantyre, South Lanarkshire, Siemens conducted site surveys of communications links at five locations for civils works to be undertaken for the design and installation of wireless equipment cables from traffic signal controllers to signals links.

North Lincolnshire

In North Lincolnshire, Siemens has supplied a new UTC system where there was no existing communications network or ducting infrastructure in place to support fixed wiring. Siemens engaged with an established provider of Mesh technology to survey, design and supply a wireless solution to provide robust communications, initially to eight traffic signal junctions, but with the capacity to be expanded to four more phases. The wireless equipment was manufactured and tested by the specialist supplier and

all installation and commissioning works were undertaken by local Siemens engineers. The solution design has provided a reliable low revenue IP communications network that is scalable for the authority's future requirements.

Barnsley

Siemens has completed upgrade and expansion works to the Barnsley UTC system which previously made use of analogue leased lines. Siemens replaced the majority of these lines with a fibre optic network, with a small number of more distant sites converted to use business ADSL broadband lines. Working with a specialist supplier, Siemens designed and installed a fibre optic network to communicate with both the traffic signals and a number of CCTV cameras around Barnsley. Where new ducting was required, civil engineering services were included as part of the project.

Perth and Kinross

Siemens designed, installed and commissioned a new optical fibre communications network along with an upgrade to the UTC system and replacement of all UTC communications outstations with new IP units. The fibre optical network was designed to provide a fully resilient network across the city of Perth and comprises of three managed fibre ring circuits.

The design of the network offers reliable communications to both traffic signal junctions and CCTV camera sites throughout the city and provides links to the Police for the sharing of CCTV images. The design of the solution provides for a doubling of capacity, should it be needed in the future. Siemens engaged with a specialist supplier for the optical fibre elements of the project and supplied all other items for the project directly. Siemens took responsibility for the overall delivery of the project.





Dorset and Essex Councils

Both Dorset and Essex Councils have made use of LLU technologies to convert existing leased analogue lines to modern IP SDSL communications. In both authorities, Siemens has worked with suppliers to convert nearly 100 sites to IP communications and UG405. The Siemens designed solution is cost competitive and highly scalable, but required no civil engineering involvement at the installation stage.

Slough

Siemens has supplied and installed a total of 50 UG405 outstations complete with 3G routers. This project required the conversion of all existing sites to a wireless IP solution. 3G was chosen as it offered a very competitive operating cost in areas that had less stringent performance SLAs in place. Reliable SCOOT control has been achieved whilst offering a significant reduction in communications cost.

Somerset

Somerset County Council operates a Siemens PC SCOOT system to control signalised junctions and crossings across the county. In support of a County Hall relocation project and to future proof the traffic management communications infrastructure, Siemens designed, installed and commissioned a fibre communications network to replace ageing analogue copper runs in the county. Effective traffic control was maintained throughout the migration program to the new system. Traditional ADSL broadband technology was provided using industrial grade routers at a small number of remote locations, with a number of locations being linked into the new fibre network using a local Mesh wireless solution. This provided the authority with an extensive and flexible revenue free communications network.

Transport Northern Ireland

Siemens is contracted by Transport NI to provide a fully digital UTC system using the very latest in communication technologies. As part of this substantial year long project, Siemens will replace all existing analogue communication with digital IP communication services and equipment at over 300 sites across Belfast and Northern Ireland. A detailed survey of all sites was conducted to determine the most reliable and cost effective communication approach for each location, with resilient communication provided through a combination of secure and private internet service and local MESH wireless equipment. The Transport NI project also included the migration of UTC hardware to a Siemens Hosted solution.



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