Traffic solutions
Equipment, installation, maintenance and operation for traffic control

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Solutions from Siemens enhance road safety and help traffic professionals and local authorities to manage their transport networks and improve the traffic flow in congested urban and inter-urban areas.

Siemens has a proven track record of delivering reliable and innovative solutions that address challenging applications worldwide.

We have the passion, understanding and experience to design and deliver a broad range of effective products and services, helping transportation professionals around the world meet their varied and challenging objectives.

Siemens: Driving Innovation.
Sustainability

Road traffic is a significant contributor to emissions and environmental issues have become a key driver for change in the traffic industry. Siemens is committed to minimising its own environmental impact as well as helping its customers to reduce traffic emissions.

By making traffic flow more efficiently and reducing congestion, local authorities can contribute towards their environmental targets. Siemens provides proven Urban Traffic Control (UTC) and strategy management solutions that can help achieve these goals.

Siemens products can help reduce the power consumption and cost of traffic control and management. Siemens Extra Low Voltage (ELV) traffic signals use around 75% less energy than conventional solutions. In Southampton, for example, low energy LED traffic signals from Siemens are estimated to reduce carbon emissions by more than 400 tonnes each year.

Emissions can also be cut by reducing the quantity of materials used, extending product life-spans and cutting maintenance requirements. Siemens Central Light Source (CLS) signal heads achieve all three of these goals. Siemens develops innovative approaches to sustainable solutions, such as our LED retrofit solution that allows new low-energy LED modules to be fitted to existing traffic signals, minimising waste and saving cost.

Siemens has achieved the BS EN ISO14001 environmental standard and is committed to responsible and green production. With all products manufactured in the UK, the impact of shipping is reduced and customers can be sure the supply chain is fully compliant with the relevant green requirements and policies.

Whatever the signal, it’s always green.

Complete mobility

Siemens’ integrated mobility solutions enable better connections between road and rail travel. Countless millions of commuters travel to work in cities around the globe every day. To them, intelligently connected transport networks mean better travel information, fewer delays and less stress. And for the environment, it means fewer emissions.

As market leaders across rail, road and logistics, Siemens is pursuing the goal of networking various transportation systems with one another to move people and goods efficiently – complete mobility.
Global capabilities

Siemens is the leading supplier of traffic solutions in the UK and has a growing customer base overseas. Our experience ranges from major projects, such as the turn-key delivery of complex junction design and Urban Traffic Control solutions to the smallest local traffic control projects. All projects, whatever their size, receive an unrivalled attention to detail from an experienced Siemens team to ensure a successful delivery.

Siemens largest Urban Traffic Control (UTC) system is installed in Santiago, the capital city of Chile. Based on Siemens controllers and PC SCOOT technology, it monitors traffic control at over 2,500 intersections in a city of 6 million people. The system optimises traffic signal operation in real-time and adjusts the signal timings to match prevailing conditions, thus increasing network efficiency.

Siemens has successfully designed, manufactured and installed successful traffic management solutions in locations throughout China, South America, South Africa, India and the Middle East.

Innovation

With an enviable track record for innovation, Siemens has consistently developed new solutions for traffic management. We re-invented the traffic light, with the introduction of Extra Low Voltage (ELV) technology and developed new approaches to traffic management with products such as PC SCOOT, which provides adaptive traffic control in over 200 cities around the world.

New technology can help reduce costs, improve performance and open up new opportunities to manage traffic effectively. For example, the Siemens Heimdall range of above-ground detectors, based on radar technology, are simple to install and maintain, avoiding the costs and disruption of placing loops in the road.

Sometimes the best ideas are the simplest ones. Siemens worked with Transport for London to build a new type of pedestrian crossing controller, which is concealed in a bench – reducing the clutter of street furniture. And our low-level access signal poles reduce the risks and costs associated with working at height.

For its innovative work on low-energy traffic signal solutions, Siemens won the Energy and Environment iaward, the first award of its kind to be backed by the British Government. The awards recognise and celebrate the best British achievements in science, technology and innovation.
Siemens offers a complete solution for the reliable and cost effective control of pedestrian and traffic intersection signals. With many years experience in microprocessor-based traffic controller design, traffic control forms the core of our business.

Siemens pioneered the use of Extra Low Voltage (ELV) systems, which reduce energy consumption by up to 75% and help meet sustainability targets through lower CO2 emissions. Improved electrical safety at intersections, substantially lower operating costs and improved cable runs also feature on the long list of ELV benefits.

The robust and proven Helios range of traffic signals delivers optimum clarity, physical appearance and reliability in a robust, vandal-resistant construction. An LED retrofit option enables existing installed signals with incandescent lamps to be cost-effectively upgraded to the latest LED technology, thus saving on electricity costs, with a power consumption as low as 9W.

Siemens provides a range of control systems, including the proven PC SCOOT solution for urban adaptive control and MOVA for more isolated junctions. Our products are continually enhanced to capitalise on technology advances, in particular those made within the UTMC arena. The proven Siemens UTMC outstation was the first on the market to deliver the UG405 protocol, allowing customers to consider alternative and cheaper options for communicating with their equipment on street.

In the UK, Siemens maintains the majority of traffic signals and equipment. Our service organisation provides maintenance under contract to local authorities across the country, not just for Siemens equipment but for all systems in use.

Detection

For informed traffic management decisions, operators and systems require accurate data. Siemens provides a broad range of detectors that can provide the most appropriate solution for the application, including both vehicle and pedestrian detection.

Siemens Heimdall above-ground detectors use advanced radar technology, which is immune to changing light levels and weather, to provide solutions for pedestrian detection and also SCOOT and MOVA vehicle applications. Developed wholly by Siemens, each detector is built around a technologically advanced planar radar antenna system and a sophisticated digital signal processing engine. They are simple to install with no road surface disruption and have very low maintenance requirements.

For inductive loop vehicle detection, Siemens provides solutions that are well-suited to urban, inter-urban and motorway applications. Using the latest technology, the detectors will interface to all popular traffic control equipment. They offer excellent performance for traffic control, counting and incident detection.

A range of CCTV traffic monitoring and market leading Automatic Number Plate Recognition (ANPR) cameras that integrate with our traffic management systems complete the Siemens detection portfolio.

Solutions

• Low Voltage (LV) and Extra Low Voltage (ELV) solutions
• Pedestrian and intersection controllers
• Full pedestrian solutions
• Fully UTMC compliant communication out-stations
• LED signals and retrofit solutions
• Selective vehicle detection and priority

Solutions

• Heimdall above ground pedestrian and vehicle detection
• Loop detection
• CCTV and ANPR capabilities
• Urban and Inter-urban applications
Variable message signs

Variable message signs from Siemens provide concise, highly visible information to drivers. This means they are better informed and can help to reduce traffic congestion, shorten journey times and cut pollution levels.

Available in a range of different enclosure sizes, with display characters from 100mm to 320mm and with easy integration to new and existing UTMC management systems, Siemens VMS efficiently provide real time car park and traffic information to drivers.

Maintenance access and flexible mounting options are key design priorities allowing for a wide variety of mounting options and minimising the time required for installation. Siemens VMS also support remote monitoring and sign configuration.

Reducing car park queues in Nottingham

To help cut congestion and parking queues, Nottingham City Council uses variable message signs from Siemens. These inform drivers in real time of the availability of parking spaces in each of the City’s five zones and their associated car parks.

The signs are used at key points around the city centre road network where drivers are likely to make decisions about their route and intended place of parking. By dissuading drivers from approaching full car parks, queues can be minimised and congestion reduced.

Key features

- UTMC compliant interfaces
- Flexible communication options
- Single and dual colour displays
- Advanced fault monitoring
- Web browser interface for support and maintenance

Systems

Urban traffic control

Across the UK and around the world, Urban Traffic Control (UTC) systems from Siemens are used for the efficient control of large and complex road networks.

For strategic management, Comet, our advanced traffic management and information system, is the key component of many integrated traffic control centres in the UK and across the world. Comet enables traffic managers to manage the flow of traffic effectively, to monitor their urban networks, identify trends in network performance and provide useful information to travellers. Comet is fully UTMC compliant and integrates systems and information from a broad range of on street equipment, platforms and suppliers, providing the maximum in information accessibility, dissemination, flexibility and scalability.

Journey time measurement systems

Transportation professionals need to be able to understand the impact of traffic management measures and to evaluate their success. They also need to be able to communicate this to road users, budget holders and other stakeholders.

While Urban Traffic Control has traditionally been able to provide a basic indication of congestion and journey times, the use of automatic number plate recognition (ANPR) provides a more accurate way of monitoring journey times and hence overall network performance.

Siemens provides sophisticated journey time measurement systems (JTMS) that integrate journey time data from ANPR cameras with the Comet system. This gives a platform to understand the behaviour of traffic management initiatives and monitor their return on investment, as well as to respond in real time to incidents that are affecting traffic flow.

Journey time monitoring in Essex

Our Traffic Management solutions have significantly reduced annual journey times in Essex, delivering annual savings of over £4m and removing almost 1000 tonnes of CO2 from the Essex County Council road network.

Solutions

- Comet modular UTMC Common Database
- Web-based information and mapping solutions
- PC SCOOT UTC
- Dial-Up Strategic Control (DUSC)
- Journey time measurement systems
- Automatic number plate recognition
- Hosted and managed service
Road safety and enforcement

Enforcement plays an essential role in traffic management and keeping the road network operating safely. Safety cameras have helped reduce casualties, and average speed cameras based on number plate recognition are now an increasingly common method for enforcing safe speeds and thus reducing accidents.

Siemens SafeZone is an average speed enforcement system for the urban environment, specifically designed to enable customers to enforce speed limits at safety critical areas such as outside schools and in villages.

SafeZone uses the Siemens Sicore ANPR camera system to identify vehicles as they enter an enforcement zone, calculates the average speed within the zone and creates evidential records for vehicles exceeding the speed limit. To minimise the impact on the existing street scene, SafeZone cameras can be mounted on existing street furniture, with a single camera enforcing two lanes of traffic, either single or dual direction. SafeZone can support multi-lane and multi-entry and exit points, ensuring customers can use the solution for all types of urban, rural, highway and motorway average speed enforcement applications.

Demand management and road user charging

Congestion is an ever-increasing problem on our roads.

Siemens is at the forefront of road user charging technology worldwide.

We provide all forms of road user charging technology, from City Tolling schemes that use automatic number plate recognition (ANPR) cameras and DSRC (dedicated short range communications) technologies, to nationwide Road User Charging schemes that use GNSS (global navigation satellite system) and mapping solutions.

Road charging in London

Siemens has worked with Transport for London to provide the enforcement system for the London congestion charging scheme. Siemens designed, built and installed the system that comprises a highly resilient Congestion Charging instation, communications network, and over 1900 ANPR cameras across 400 locations.

The system was designed to meet Home Office requirements for automatic traffic enforcement systems and incorporates robust and proven technologies for encryption and authentication that can handle millions of Evidential Records every day.
Pollution monitoring and Low Emission Zones

With road vehicles being a major contributor of airborne pollution, there is a need to monitor roadside air quality, and for traffic managers to minimise the environmental impact of the road network.

LEZ in London

The largest Low Emission Zone (LEZ) in the world has been designed, supplied and installed by Siemens across Greater London. Siemens was awarded the contract for this project due to its success with the London congestion charge scheme and its proven understanding of large-scale systems of this type. The Low Emission Zone is implemented through a network of over 300 ANPR cameras communicating with dedicated LEZ instation equipment that is operated by Siemens.

The aim of LEZ is to improve the air quality in London by discouraging the use of the most polluting vehicles across the capital. The LEZ enforcement system charges high emission (polluting) vehicles, currently 12.5 tonnes or greater, as they travel around Greater London. Data shows a clear trend that the LEZ is delivering air quality benefits for Londoners.

Solutions for Electric Vehicles

Siemens is committed to developing a sustainable future and embracing the challenges and opportunities that the increasing integration of Electric Vehicles brings. We are uniquely placed to play a leading role in the evolving Electric Vehicle market as we are the only company worldwide that can deliver products, services and know-how along the entire chain from power generation and energy conversion, to transmission and distribution. In addition we are UK market leaders in Complete Transportation with a broad transportation and traffic management portfolio, with many years experience of designing, manufacturing, installing and maintaining traffic management systems and road-side equipment.

Siemens is engaged in major projects across Europe to devise and develop the future solutions and business models that will establish Electric Vehicles as a viable and attractive transport option in the near term. We are delivery partners for Source London, the Capital’s ambitious plan to develop the UK’s largest electric vehicle charge point network.
Consultancy Services

Through its Consultancy Services group, Siemens offers a wide range of expert traffic engineering consultancy, design and modelling services. Its team of highly trained and experienced consultants has a proven track record of delivering transport solutions in the UK and worldwide – ranging from small-scale projects up to major urban schemes and national initiatives.

The Consultancy Services group provides support to customers at all stages of the network management lifecycle, from strategy and planning, through to implementation, service delivery and continuous improvement. Siemens can provide expertise at any level of involvement, whether this is individual signal control schemes or large regional solutions.

Siemens consultants have unrivalled access to knowledge from system designers, system support engineers and maintenance organisations. This gives them the best possible insight into traffic issues and enables them to develop innovative, cost-effective traffic solutions.

Expertise and Capabilities
• UTMC / SCOOT configuration and validation
• Modelling and micro-simulation
• Signal and junction design
• ITS strategic planning
• Operational support
Working with Siemens

Products and technology are just the starting point. The success of any traffic system depends on effective project management, installation, commissioning and training.

Siemens has the right mix of skills and experience to handle and deliver complex products. Professional project management ensures the successful implementation of systems and effective risk management means that any issues are predicted, contained and controlled. Our engineers, technicians and consultants are all experts in their field and passionate about their work.

Our UK manufacturing facility was voted 2010 Factory of the Year and Best Electronics and Electrical Plant at the Best Factory Awards organised by Cranfield School of Management. Our BSI accreditation for environmental management and success in winning prestigious industry awards for excellence from the British Quality Foundation, ASLEC and HEMSA also highlight the company’s commitment towards continuous improvement.

In the UK, Siemens has several hundred skilled installation and maintenance engineers and a fully equipped training school with full time lecturers. Choosing Siemens provides the backup of and reliability of a team who are passionate about traffic control and in developing the innovative products and approaches to service delivery that our customers expect.

Service and Maintenance

Siemens is proud to maintain over half of all the traffic signals in the UK. Operating from a number of regional depots, our Field Service engineers work to install and maintain traffic control systems, both from Siemens and other manufacturers and are supported 24 hours a day, 7 days a week by a team of dedicated customer service representatives in our Contact Centre. Key Performance Indicators (KPIs) are frequently used to ensure maintenance contracts are operated to the highest standards, both in regard to Health and Safety and service innovation, with the added benefits of transparency between all relevant partners.

Work the way you want

It may be that a simple product solution is all you require. It may be that a hosted or managed service can deliver greater value. Siemens has a proven history of delivering both types of solution and a range of combinations in between. Our aim is to reduce your costs without affecting levels of service or client visibility.

Partnering

The public sector faces unprecedented challenges in the drive to improve service quality and obtain greater efficiencies. These objectives require change and modernisation, from business processes to information and communication. Working in partnership, Siemens can deliver real solutions to address these challenges. Siemens recognise that partnering can take many forms and can involve a variety of functions encompassing different types of activity. Our experience with Essex County Council has proven the benefits of partnering; lower overall costs, delivery of Authority objectives, innovation “on tap” and a positive approach to dealing with issues are just some of the advantages of working together.

Financial intelligence

Siemens commands a detailed understanding of public sector procurement processes. Coupled with the flexible and innovative asset financing offered by Siemens Financial Services (SFS), we can work with customers to ensure that even the way our Siemens products and services are paid for makes best use of public resources. With SFS, we are able to deliver cost saving measures over a short period, with payment stretched across the desired contract period. Examples of this type of approach include replacement of incandescent traffic signals with LEDs and the replacement of expensive leased line communications with other, less expensive forms of UTC communication and control.