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SafeZone

The face of modern speed enforcement, past schools, through villages, town and cities.

Saving lives; outside schools, through cities and villages...

Engineer, educate, enforce. The three pillars of road safety govern the development and implementation of SafeZone.

The advanced Sicore ANPR cameras used with SafeZone are compact and unobtrusive.

Why Siemens?

From design and delivery to service and support, Siemens is all about confidence. The confidence of drivers around the world that are kept informed, safe and moving. The confidence of our customers and delivery partners in dealing with a financially-robust and stable multi-national organisation, and in our heritage, experience and professionalism, in ecologically-sound, quality solutions and reliable service delivery.

That unique combination has made us market leaders, committed to the traffic industry with the broadest range of innovative traffic management technology, road safety products and support services in the UK and a proven history of delivering complex traffic solutions.

The success of any traffic system depends on effective systems design and consultancy, project management, installation, commissioning, training and support. Siemens has the right mix of skills and experience to design and deliver complex products and systems. Professional project management and close collaboration with delivery partners ensures the successful and timely implementation and effective low-risk management means that any potential issues are predicted, contained and controlled.

Operating to the highest standards of engineering excellence, Siemens UK has several hundred skilled engineers, technicians and consultants, all experts in their field and passionate about their work. Our award-winning manufacturing and repair facility is supplemented by a fully equipped training school and an extensive service and maintenance network. Operating from regional depots throughout the UK, our Field Service engineers install, maintain and upgrade systems and equipment, 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.

With the expertise, experience and local knowledge to deliver at every stage of a project, Siemens is the right choice.

SafeZone - An overview

Through cities, towns, villages, on urban and inter-urban roads, and past schools, SafeZone is a Home Office Type Approved average speed enforcement system based on industry leading automatic number plate recognition (ANPR) technology.

SafeZone provides effective speed enforcement in a zone that extends between pairs of cameras that are mounted either at the side of single or dual lane carriageways or on cantilever poles or gantries over multi-lane roads.

With a compelling combination of mounting height options, dual lane coverage using a single camera, industry-leading image quality and number plate read accuracy, SafeZone can be used to provide effective 24/7 speed enforcement in many deployment scenarios.

The enforcement zone (which can be as short as 75 metres or many kilometres) maximises driver and pedestrian safety by encouraging adherence to the road speed limits. In addition to the reduction in KSI incidents, additional benefits are delivered in terms of reducing congestion and the reduction in vehicle CO2 and NOx emissions.

Offering more cost-effective, greater area coverage than simply replacing existing wet-film cameras with digital spot-speed replacements, and less intrusive than speed-calming road engineering measures, SafeZone is designed to deliver all the benefits of average speed enforcement with minimal streetscape impact.

Back-office services manage the cameras and collect the encrypted enforcement data from them, before forwarding Evidential Records to a physically separate computer for decrypting and viewing of the potential offenses.

SafeZone is approved for 24/7 enforcement at speeds between 20mph and 140 mph. It supports multi-lane and multi-entry/exit points, allowing users the freedom to apply the system to all types of urban, rural, highway or motorway average speed enforcement programmes.

SafeZone can be installed in residential areas with minimum impact on the local environment, using the proven road safety benefits of average speed enforcement systems to cover much larger areas than traditional spot speed camera installation.

How does SafeZone work?

Each camera in the enforced network reads the number plate of every vehicle passing through its field of view and sends an encrypted plate read including time and date stamp to the Evidence Retrieval and Control Unit (ERCU) back office. At the back-office, the plates are matched from two or more cameras and the time difference between the matched reads is used to determine the average speed of the vehicle between cameras.

Evidential records are created for vehicles that exceed the set speed threshold and these encrypted records are transferred from the ERCU to an Offense Viewing and Decision System (OVDS) for decrypting and viewing, before being passed on to third-party penalty notice management systems.

Powerful data filtering and sorting strategies in the OVDS allows for effective intelligence-led enforcement. In addition, a data analysis function allows comprehensive reporting of violation statistics.

SafeZone's advanced technology and ease of deployment make it cost-effective for residential, city, rural or motorway enforcement. Siemens fully qualified team of highway and system design engineers will help you evaluate suitable locations and design all aspects of your SafeZone deployment.

Siemens offers an approved remote back office hosting service. This alternative to installing ERCUs at customers' Central Ticket Office removes capital cost and ongoing operational costs for maintenance and support. This service can also be provided solely on a charge per violation basis.

Self-financing
Through Siemens Financial Services we can supply, install and administer SafeZone equipment based upon a customised rental, lease or pay-per-violation basis. As part of the pay-per-violation service Siemens will deliver encrypted ERCU output for review and further action by the appropriate organisation.

SafeZone in practice

As one of the first sites in the country to fully deploy SafeZone for enforcement purposes, average speed cameras in the village of Milton Ernest, Bedford measure the speed of vehicles travelling along the A6 and Radwell Road and provide evidential records of any vehicles exceeding the assigned speed threshold to Bedfordshire Police. Following the success of this system in reducing the average speed of traffic between cameras, further sites have been identified and installed.

In the Netherlands, an inter-urban version of SafeZone has been deployed to discourage motorists from exceeding 80 kph on two sections of the A13 motorway, the main arterial route between Rotterdam and The Hague. Modified for the Dutch market, the award-winning solution was designed, supplied and installed by Siemens for the Ministry of Justice, Netherlands and will be serviced for a period of 8 years by Siemens, Netherlands.

Representing the largest roll-out of SafeZone in an urban area anywhere in the UK, Transport for London has awarded Siemens a contract to replace existing speed cameras on selected routes in the Capital with new, digital average speed enforcement systems as part of its London Safety Camera Replacement Project. The contract awarded to Siemens includes the deployment of more than 100 Automatic Number Plate Recognition (ANPR) cameras covering four main routes across London, and the provision of ongoing service and maintenance.

The key components of SafeZone

- SafeZone camera with integrated number-plate recognition software and dual-lane IR and colour overview cameras.
- Outstation - a high security unobtrusive, pole-mounted cabinet with tamper-detection and 3G wireless data from the camera. Alternatively, a ground-mount cabinet is available with additional environmental monitoring and PIN code entry functionality.
- Evidence Retrieval and Control Unit (ERCU) instation collects passage data, checks for speed violations between defined camera pairs and produces encrypted Evidential Records when a speed violation is detected. The ERCU also manages outstation security monitoring and collects diagnostic data from the camera.
- Offence Viewing and Decision System (OVDS) to view, verify and process offence data with interfaces to all major UK deployed penalty notice processing systems.

Deployment options

Single or bi-directional enforcement across 2 lanes of traffic
Effective replacement for spot speed enforcement around villages and schools

- All speeds enforced from 20 mph through to National Speed Limit.
- Replacement of physical traffic calming and pinch points
- Motorway and dual carriageways
- Can be installed on existing street furniture

Community benefits

- Limited visual intrusion upon existing street scene
- Proven high driver compliance to speed limits
- Smoothes traffic flow and reduces congestion
- Reduction in noise and environmental pollution levels
- Provides educational platform for schools
- High level of public acceptance compared to traditional spot-speed enforcement

Technical Specifications:

UK Home Office Type Approved system parameters

- 75 metres minimum baseline for 25mm lens camera
- 100 metres minimum baseline for 35mm lens camera
- Unlimited maximum baseline
- Minimum H.O. approved enforcement speed 20 mph (32 kph)
- Maximum H.O. approved enforcement speed 140 mph (225 kph)
- 2 lane single or bi-directional (co and contra-directional traffic flows) per camera
- 4 metres minimum camera mounting height with 25mm lens
  - 5 metres maximum camera mounting height with 25mm lens.
- 5 metres minimum camera mounting height with 35mm lens
  - 8 metres maximum camera mounting height with 35mm lens.

General:

- Internal video-based vehicle triggering
- Integral infrared illuminator – 850nm wavelength Infra-Red (non-visible)
- 3G or wired communications from out-station to instation
- Two independent real-time clocks for primary and secondary time stamping

Outstation cabinet:

Pole-top mounting

- Dimensions: 241mm x 125mm x 350mm (W x D x H)
- Weight: 11kg
- Supports a single camera
  - 3G network router
- Tamper proof design with unique keys
- Aluminium alloy, powder-coated for corrosion resistance
- Environmental Protection IP65
- Separate low-voltage Power Supply (pole or feeder pillar mounted)

Optional ground-mounted outstation cabinet:

- Dimensions: 400mm x 300mm x 1100mm (W x D x H)
- Weight: 27.5kg
- Supports up to 2 cameras
  - 3G or wired network router
  - Environmental monitoring
- Tamper proof design with unique keys and PIN entry keypad
- Lightning protection as standard
- Aluminium alloy, powder-coated for corrosion resistance

Environmental Protection IP65

Integrated low-voltage Power Supply

Camera:

- Temperature range
  -30 deg C to + 60 deg C (Fanless design)
- Power Supply 20 – 26VDC, 2.5A
- Power consumption Typically 25W
- Weight - Approximately 5.7kg (excluding bracket)
- Dimensions 188mm x 210mm x 386mm (W x D x H) including anti-glare sun shield

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