

Digital Products and Services Catalogue

Safer, Greener and More
Efficient Work Zones



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“Digitalisation will disrupt our industry and help us to deliver safer, greener and more efficient work zones. At Ramudden Global we embrace change and innovation is a continuous process of improving our operations and delivering better outcomes to our customers.”

Hans-Olov Blom,
Ramudden Global, CEO

About Ramudden Global

Ramudden Global is a network of infrastructure safety companies providing urban and high-speed traffic management, vegetation management, digital services, and specialisms in infrastructure safety.

With over 4,500 employees across 12 different countries, our success is down to our focus on our mission, 'to get people home safely every day'. No matter where you are, our employees, our customers' employees, and the general public deserve to work, travel, and move through the world safely. We believe this is what matters most.

It inspires our entrepreneurial spirit and creativity, sharing ideas and solutions to lead the way in innovation and governance to become a force for good. Behind every road work, construction site, or industrial work zone is an unseen workforce who care about the safety of infrastructure that makes up our society and that we all rely on, every day, without a thought.

Our business is led by entrepreneurs, who had the vision to see that building and maintaining our society's infrastructure could be made safe. They found the solutions to fix problems others were unable to see, and pioneered ways to make it happen.

They're still doing it today. Inspiring their teams to see the opportunities to improve, giving them the knowledge, freedom, and resources to make them a reality.

Although today we are more than 4,500 people, we are often invisible, working together to keep people and workers safe. From the small, simpler risks like closing a path and cutting back a tree, to the larger complexities of maintaining high-speed motorways and planning the safety protocols of huge construction sites, we're right here.

We come from every walk of life, all putting into practice what we know, caring enough to make the world that bit safer.

A force for good. A caring force for a safer world.



“We are witnessing the unstoppable and rapid digitalisation of work zones and road infrastructure around the world. Tools, assets, and vehicles are becoming smart and connected, bringing a wealth of new possibilities and opportunities. At Ramudden Digital, our 140 digital experts are at the forefront of this digital wave, using the latest best-of-breed technologies and data to create seamless digital solutions that make roads safer for workers and road users, lower the carbon footprint of road works, and unlock new business efficiencies for our customers.”

Patrick Razavet,
Ramudden Global, CDO

Our Digital Products and Services

Safer, Greener and More Efficient Work Zones

At Ramudden Digital we believe that technology has a major role to play in creating safer, greener, and more efficient work zones. Our portfolio of proven digital products and services has been carefully designed to address these aims and is based on a common platform that creates a digital twin of all types of temporary work zones and assets. This unique approach allows rapid deployment and customisation of connected products whilst almost eliminating any site set up requirements.

Safety

Our number one priority is to provide safe working environments for infrastructure workers whilst ensuring road users can safely navigate these worksites. Our solutions help protect workers from errant vehicles whilst providing dynamic warnings to road users of upcoming hazards. We also provide solutions that safeguard workers from hazards within the work zone and protect vulnerable road users such as pedestrians from vehicles.

Sustainability

Sustainability is an integral part of how we do business. Our solutions have enabled a paradigm shift moving away from routine maintenance of work zones to event-based maintenance. This has made it possible to significantly reduce vehicle movements and associated emissions, whilst our teams are able to respond much quicker to any incidents or misplaced safety equipment. This improves operational efficiency.

Efficiency

Increasing traffic flows are putting major pressure on transport networks, with delays costing the global economy billions every year. Given that there is only limited scope for new infrastructure developments, there is increasing reliance on making the maintenance of our existing networks safer, leaner, and less disruptive. Our solutions have enabled a step change in traffic management, freeing up resources for value-added activities whilst using a data-led approach to optimising journey times for road users.

Our digital products and services fall into four categories suitable to urban and high-speed road and rail environments.

01

Worker Safety

Protecting our most important asset.

02

Digital Supervision

24/7 remote supervision enabling rapid response to issues.

03

Traffic Analytics

Enables intelligence-led decision-making to reduce cost, journey time, and carbon emissions.

04

Traffic Control

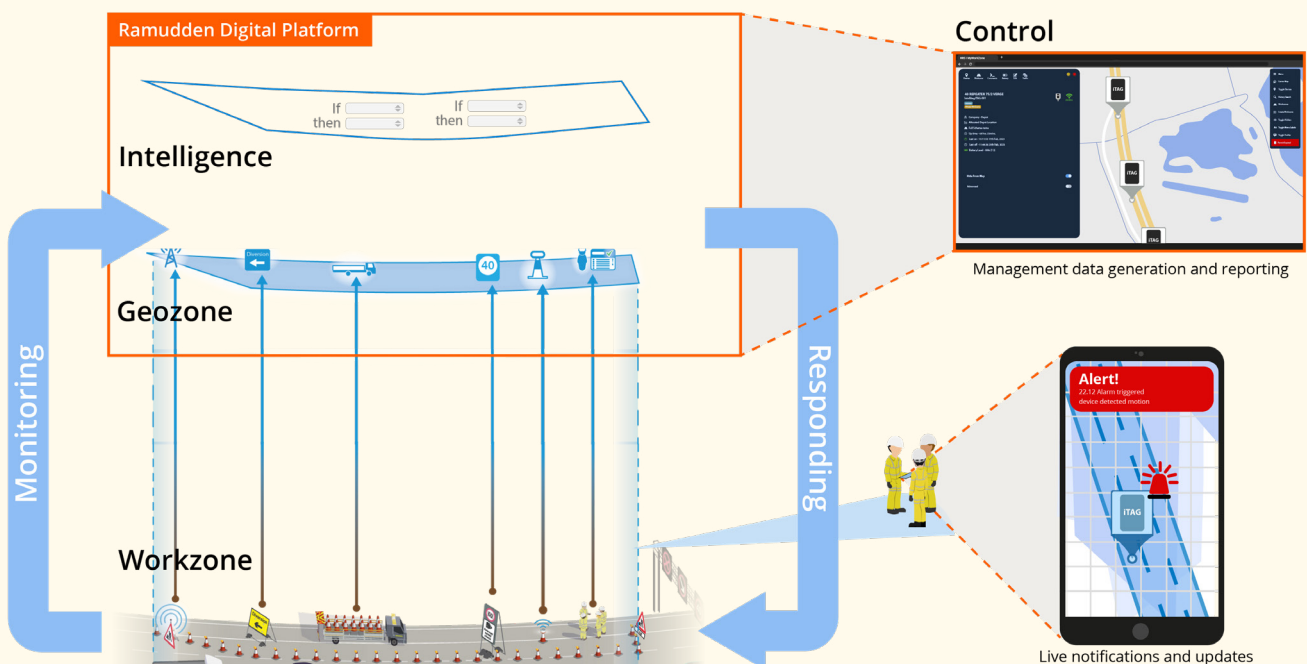
Safely and efficiently managing traffic past work zones to reduce impact on local communities and road users.

Our Platform and Digital Ecosystem

At Ramudden Global we have created a digital ecosystem that creates a seamless user experience. From creation of a digital twin of safety critical work zone equipment to advanced traffic measurement and analysis, all can be managed from our Ramudden Global Digital Platform.

This allows you to:

- Remotely monitor safety-critical equipment, therefore enabling a move towards event-based maintenance.
- Provide targeted, configurable safety alerts to keep workers and road users safe.
- View work zones in real-time to monitor activity and timing i.e. working windows.
- Create a digital archive of all deployments.
- Automate the configuration and interaction of connected equipment using our proprietary patent-protected geozoning system.
- Automate interaction between Ramudden Digital and third-party products, creating a seamless user experience.



01

Worker Safety



In infrastructure construction and maintenance, traffic cones, or other plastic delineators are often the only protection workers have.

On a high proportion of road-based work zones, traffic cones or plastic delineators are the only temporary form of protection workers have from adjacent traffic. As a result, thousands of road worker injuries and hundreds of deaths are caused by workers being struck by errant vehicles when they are in a work zone. Driver error, confusion, distraction, or influence of alcohol or drugs are all major risks to workers who rightfully expect to be able to work in a safe place.

In 2011 Ramudden Global took the call to action following an incursion that led to the death of an infrastructure worker. We developed an incursion warning system that has become multi-award-winning and has made infrastructure workers feel significantly safer in work zones across Europe, Canada, and APAC.

Primarily designed as a warning if all other control measures fail, the system is also being used to remove traffic management personnel from potentially hazardous locations and redeploy them to other more value-adding activities. This has improved their safety whilst also improving the efficiency of overall work zone management.

Our incursion prevention and warning system makes it possible to create an electronic safety perimeter around any type of work zone within a matter of seconds with the following key business benefits:

- Instantly warns the workforce in case of a work zone breach, helping them avoid harm.
- Instant (customisable) alerts to the workforce for non-life-threatening events, such as access by emergency services and/or escorted vehicles to improve safety and efficiency.
- Removes traffic controllers from areas of potential harm and redeploys them to more value-adding activities.
- Provides the ability for stakeholders to communicate with designated site personnel without the need for a physical presence.
- Generates deployment and breach data enabling data-lead continuous improvement.

Our ethos is simplicity and hence all our solutions are deployable by a single person. Where possible we make existing equipment smart to ensure field personnel are not at risk any longer than necessary.

Our proprietary geozoning system enables the creation of a digital twin of the work zone which automates equipment configuration and set up on site, making it easy and quick to scale digital solutions on site.

Portable Site Alarm (PSA)



Find out more



Product overview

The Portable Site Alarm (PSA) is a cloud-connected audiovisual alarm. It can be used to warn personnel of unauthorised worksite incursions by vehicles or people and includes secondary alert functions that can be customised to suit site requirements.

The PSA will automatically connect to nearby Smart Lamp sensors, Sentry Lasers, Incursion Warning Buttons, or Intellicam® Freestanding Recording Systems using a dedicated RF link. PSAs can communicate with secondary PSAs over unlimited distances.

PSAs can be supplied in different base colours. Several alarm/alert types can be configured via the Ramudden Global Geozoning platform. All deployment and alarm/alert data is viewable on the Ramudden Global Geozoning platform.

Where to use

PSAs are used as part of an incursion warning system designed to alert infrastructure workers of errant vehicles entering their work area. This can be lane or full closures of roads or railways.

Sensors are situated at strategic points alongside the work area or road/rail closure with PSAs situated within the works area. The use of PSAs is considered best practice by National Highways UK.

Business benefits

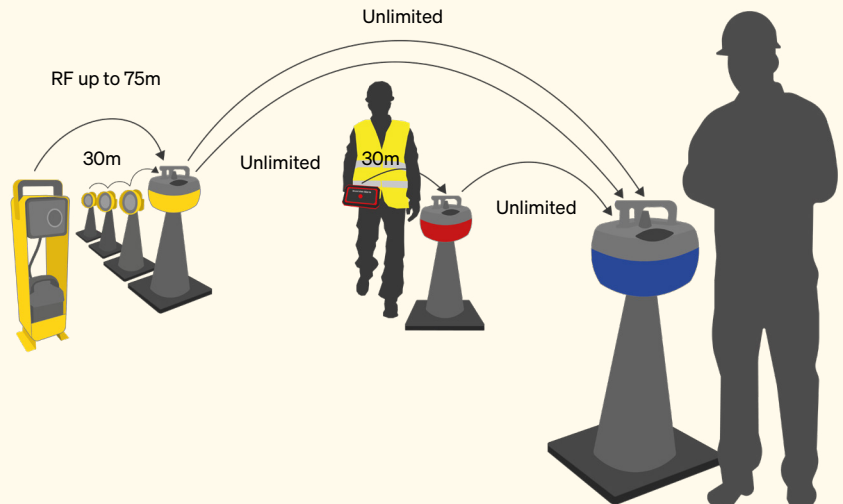
- Enables instant warning for road workers in case of a worksite breach/incursion.
- Helps remove personnel from hazardous areas.
- Makes overall site management more efficient and reduces carbon emissions.

Key features

- Customisable audiovisual alarms/alerts.
- Lightweight and single button operation.
- Long battery life (40 hours).
- Cloud connectivity and status reporting.
- Remote status monitoring and reporting via Ramudden Global Geozoning platform.



PSA base colour indicative.



System overview:

PSAs communicate over unlimited distance with secondary PSAs.

Equipment Availability	UK	EU	US/Canada	APAC
PSA-01 (866MHz)	•	•		
PSA-02 (4G 915 MHz)			•	•

Sentry Laser



Find out more



Product overview

The Sentry Laser is a portable laser detector that has been designed to detect people and vehicles and communicate wirelessly with other incursion warning equipment, such as Portable Site Alarms. The Sentry does not require a reflector, which makes it easy to deploy. It also holds a customisable detection range, which can be set up by temporarily pointing the device at a solid object.

Where to use

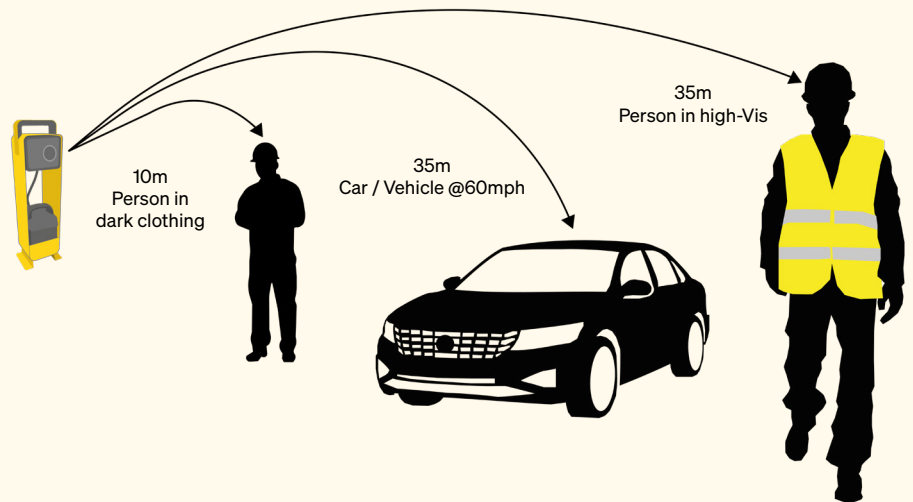
Sentry Lasers are typically used to detect errant vehicles or pedestrians entering a work zone. In such a case they are often used in conjunction with Portable Site Alarms. They can also be used as a stand-alone device to form an exclusion zone around heavy plant/machinery.

Business benefits

- 24/7 monitoring without need for personnel.
- Automatically detects intrusions to offer advance warnings to the workforce and allow for the rapid containment of the intruder.

Key features

- Customisable laser detection range.
- Long battery life (120 hours).
- Automatically connects to nearby PSA.



Equipment Availability	UK	EU	US/Canada	APAC
Sentry 01 (866MHz)	•	•		
Sentry 02 (915 MHz)			•	•

Intellicone® Smart Lamp



Find out more



Product overview

Intellicone® Smart lamp is a standard Unipart Dorman ConeLITE Lamp fitted with an integral accelerometer. Once installed on a cone the Intellicone® Smart Lamp will detect any vehicle strikes or manual movement. Smart Lamps communicate wirelessly with Portable Site Alarms and will trigger an audiovisual alarm when disturbed.

Where to use

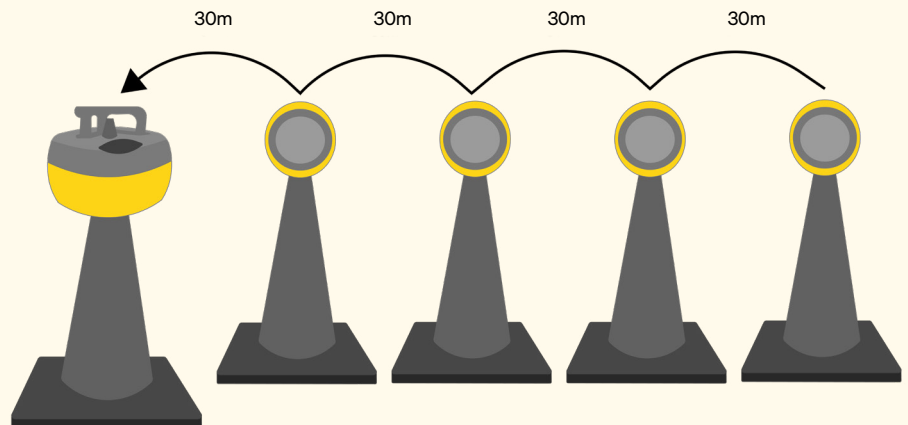
Intellicone® Smart Lamps are used as part of traffic management. They can be used on full closure points or longitudinal cone lines (i.e. lane closures). Smart Lamps can be used with Portable Site Alarms or Beacons. The Smart Lamps activate when fitted onto cones, and are suitable for most cone types.

Business benefits

- 24/7 monitoring without need for personnel.
- Automatically detects intrusions to offer advance warnings to the workforce and allow for the rapid containment of intruder.

Key features

- Multiple sensitivity settings.
- Long battery life (subject to battery used).
- Allows for signal hopping and easy fit to standard cones.
- Automatically connects to nearby PSA or Beacons.



Equipment Availability	UK	EU	US/Canada	APAC
IL-01 (866MHz)	•	•		
IL-02 (4G 915 MHz)			•	•

Incursion Button



Find out more



Product overview

The Incursion Button is an accessory to the Portable Site Alarm and can be used to activate it remotely (typically up to 30 metres away).

Where to use

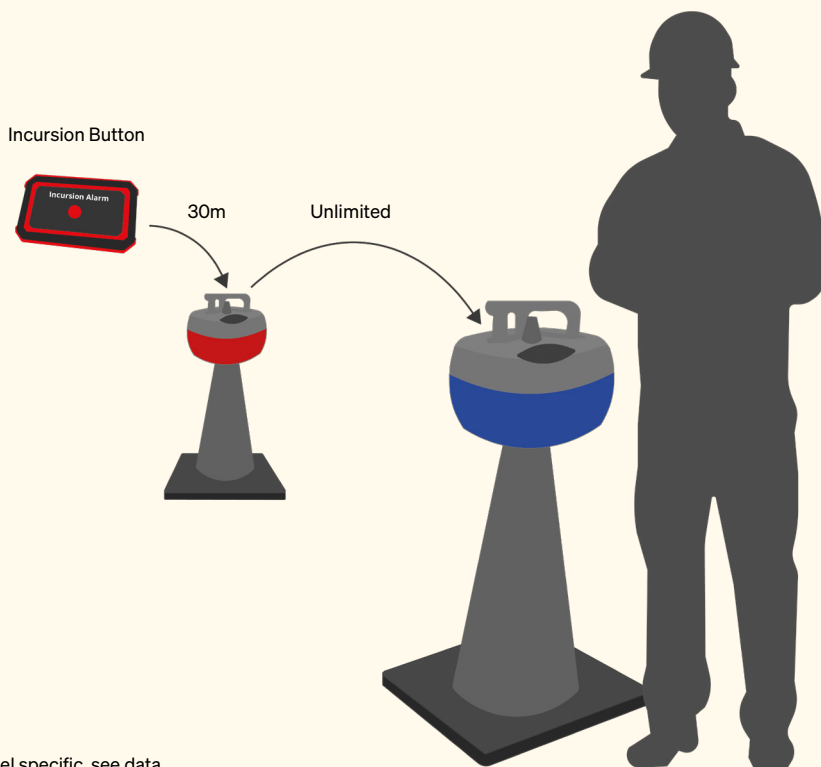
Incursion Buttons are used by workers controlling works entry points but can also be used by lookouts.

Business benefits

- Enables workers to instantly trigger an alert.
- Easy to carry and single button operation.

Key features

- Automatically connects to nearby PSA*.
- Long battery life (>6 months, subject to use).



*model specific, see data sheet for more information

Equipment Availability	UK	EU	US/Canada	APAC
Incursion Button-01 (866MHz)	•	•		
Incursion Button-02 (915 MHz)			•	•

Closure Beacon



Find out more



Product overview

The Closure Beacon is a cloud-connected portable device that can be used as a gateway to monitor Smart Lamps and Laser Sentry. When connected it shows its location on the Ramudden Global platform.

Where to use

Closure Beacons can be used at uncrewed closure points or sites to monitor site integrity. The device is small and less conspicuous than a PSA.

Business benefits

- Enables instant notification of site breaches (used in conjunction with Smart Lamps and Laser Sentry).
- Helps remove personnel from hazardous areas.

Key features

- Lightweight and single button operation.
- Cloud connectivity and status reporting.



Equipment Availability	UK	EU	US/Canada	APAC
Closure Beacon-01 (866MHz)	●	●		



Customer Communication Terminal

Find out more



Product overview

The Customer Communication Terminal (CCT) is a cloud-connected two-way communication device that can be mounted onto existing temporary traffic management sign frames (UK). The CCT is portable, flexible, and is designed so that it can be tailored to a wide range of scenarios. It can be set up to provide instant two-way communication like an intercom device or to provide pre-recorded information at the touch of a button. All deployment and usage data is viewable on the Ramudden Global platform.

Where to use

CCTs can be used in a wide range of scenarios, including on road closures where it can provide local residents and the general public with the ability to contact traffic management personnel in the event they need to access their property through a worksite. Another application is as a temporary emergency call point, i.e. for vehicle breakdowns or at events.

Where being set up to provide pre-recorded messages the CCT can be used to keep road users up to date on works taking place in their area or at road closure points.

Business benefits

- Enables instant two-way communication with road users without the need for personnel.
- Helps remove personnel from hazardous areas.

Key features

- Lightweight and single button operation.
- Cloud connectivity and status reporting.
- Can be mounted onto standard traffic management furniture.



Equipment Availability	UK	EU	US/Canada	APAC
CCT-01 (2G)	•	•		

Freestanding Recording System (Intellicam®)



Find out more



Product overview

Intellicam® is a 360-degree cloud-connected portable incident camera that complements the PSA and is part of the incursion warning system. It enables capture of footage before and after the incursion warning system has been activated. All footage is securely stored.

Where to use

Intellicam® can be used on both unmanned and manned closure points or worksites. It provides additional security and helps capture any incursion events or attempts.

Business benefits

- Provides additional security to site staff and enables use of unmanned sites.
- Evidence of site incursions.
- It provides a deterrent effect, helping prevent incursions.

Key features

- Cloud-connected, capturing exact moments before and after an incursion or attempted incursion.
- 360-degrees encrypted recordings securely stored in the cloud.
- Lightweight and easy to install by a single person.
- Links seamlessly to other incursion warning products.



Equipment Availability	UK	EU	US/Canada	APAC
CAM-01 (2G)	•	•		

ANPR Works Access System (Intelligate®)



Find out more



Product overview

The Intelligate® ANPR-enabled works access system is a fully automated cloud-connected solution. Approved vehicles will be recognised by the ANPR camera which opens the electronic gate. The system is easy to install by a single person and is battery-powered.

Where to use

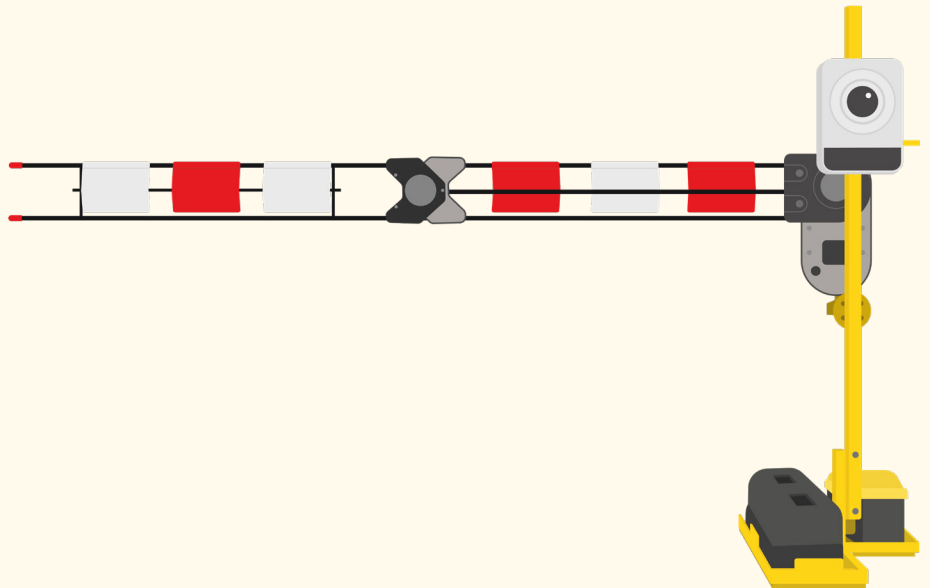
Intelligate® can be used for applications where temporary gate control is required. This includes works access points in work zones or other site entry points.

Business benefits

- Removes personnel from areas of potential confrontation.
- Automates access control, denying access to vehicles that have not been authorised.

Key features

- Cloud connectivity makes it easy to add and remove approved vehicles and allows remote operation of the barrier by authorised personnel.
- Modular construction allows rapid installation by a single person.



Equipment Availability	UK	EU	US/Canada	APAC
ANPR-01	•	•		

Enhanced Mobile Carriageway Closure (EMCC)



Find out more



Product overview

Enhanced Mobile Carriageway Closure (EMCC) is a technique that enables temporary traffic management contractors to temporarily slow down traffic (rolling roadblock) to safely deploy lane or full closures. All EMCC vehicles are equipped with incursion and proximity warning systems that help keep workers safe in the event a vehicle breaches the temporary rolling roadblock.

Where to use

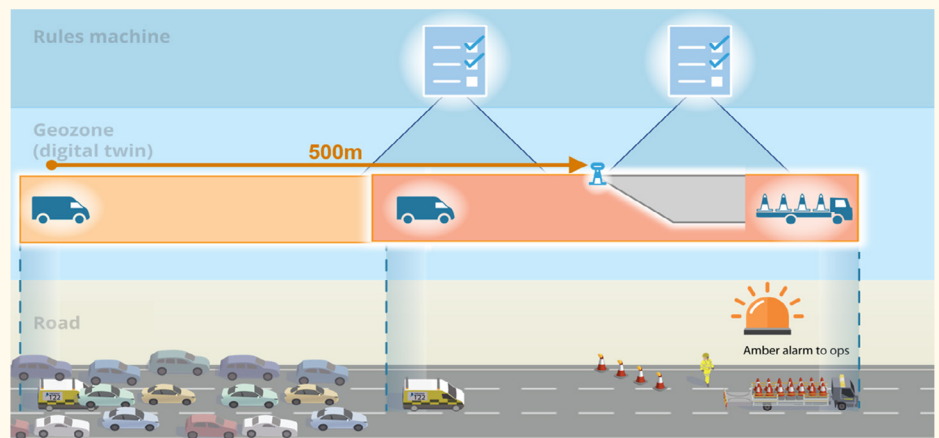
EMCC is used when installing temporary traffic management and is usually in place for no longer than 7-15 minutes. EMCC incursion and proximity warning systems are part of the vehicle and allow real-time monitoring of vehicle progress.

Business benefits

- Increases the working window and creates a safer working environment when installing temporary traffic management.
- Offers instant warning if an EMCC block is breached and proximity alerts to guide drivers to reduce potential risk to road workers installing traffic management.

Key features

- Instant incursion alert via button in cab.
- Automatic proximity alarm (to work crew deployed temporary traffic management).
- Cloud connectivity for real-time progress tracking and compliance monitoring.



Equipment Availability	UK	EU	US/Canada	APAC
EMCC-01 (866MHz)	●	●		



02

Digital Supervision



Maintaining the integrity of temporary traffic management installations is largely done via routine visual inspections which are time-consuming and energy-intensive.

Monitoring and managing work zone integrity is still largely a manual process. It is common for traffic management personnel to routinely drive through work zones to check signs and delineators (i.e. cones) are in place and address any issues such as fallen down signs. Visual inspections are sometimes difficult due to the speeds involved and require significant vehicle movements which adds to traffic and greenhouse gas emissions.

At Ramudden Global we are aiming for a paradigm shift from routine to event-based maintenance of work zones. Using our award-winning technology platform we connect safety-critical work zone assets to our cloud-based platform. This provides 24/7 monitoring which means that any exceptions (i.e. low batteries, fallen down signs and cones) can be responded to immediately, reducing the risk to road users and road workers. By reducing visual inspections, it is also possible to reduce vehicle movements and the carbon footprint associated with maintaining the integrity of work zones.

Our digital supervision solutions make it possible to create a digital twin of safety-critical temporary traffic management assets, including:

- Conventional road works signage to monitor position and potential falls.
- Delineators such as cones, channelisers, or temporary barriers to monitor for any impact or displacement.
- Variable message signs and temporary traffic lights to monitor their status, including position and battery.

Digital supervision is the future of work zone management. It improves safety of road users and workers, improves service to road operators, and significantly reduces greenhouse gas emissions.

Soon it will allow connected vehicles to receive advanced warning of work zones ahead, helping to reduce incidents and improving journeys.

Find out more



Product overview

Intellitag® is a cloud-connected asset monitoring device that can be attached to a wide range of temporary traffic management assets. Once deployed it will create a digital twin of the asset it is attached to and monitor its position and status. This includes tilt/fall over events, making it ideally suited to monitor temporary traffic management signage.

Where to use

Intellitag® can be used to monitor temporary traffic management signage, barriers, or delineators (i.e. diversion routes). This will create a digital twin of these assets, allowing them to be monitored remotely and making the maintenance of temporary work zones more efficient by reducing unnecessary visual inspections. This more targeted approach enables a shift from routine to event-based work zone maintenance.

Business benefits

- Monitoring sites remotely reduces cost and the site's carbon footprint, and allows more efficient use of human resources.
- Enables customisable status updates and trigger events (tilt/falls), reducing risk to road users.

Key features

- Lightweight and zero button operation.
- Long battery life (>6 months, depending on use).
- Remote status monitoring and reporting via Ramudden Global Geozoning platform.



Equipment Availability	UK	EU	US/Canada	APAC
TAG-01 (2G)	•	•		
TAG-02 (4G)			2024	2024

Smart Battery Lid



Find out more



Product overview

The Smart Battery Lid is a cloud-connected asset monitoring device integrated within a modified battery lid. Once deployed it will create a digital twin of the battery it is attached to and monitor its position, impact, and battery status.

Where to use

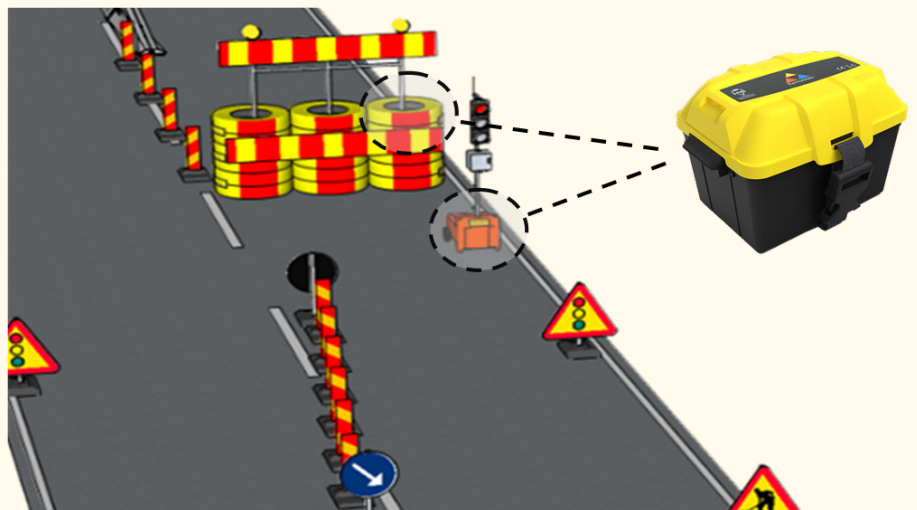
Can be deployed anywhere battery monitoring is required (subject to battery type).

Business benefits

- Enables needs-based targeted battery changes, reducing cost and carbon footprint.
- Enables customisable status updates and trigger events (tilt/falls).
- Creates a digital twin of key work zone assets.

Key features

- Lightweight and zero button operation.
- Can be used with wide range of lead acid batteries.
- Remote status monitoring and reporting via Ramudden Global Geozoning platform.



Equipment Availability	UK	EU	US/Canada	APAC
SMART BATTERY-01 (2G)	•	•		

Traffic Management Beacons



Find out more



Product overview

Traffic Management Beacons can be used to digitally mark a work zone and monitor compatible sensors. The Beacons are cloud-connected and powered by long-life batteries, making them ideally suited for short- and long-term deployments.

Where to use

Beacons can be used to mark strategic points of temporary traffic management/work zones, such as the start and the end. They are also used in conjunction with Smart Batteries or Smart Lamps to monitor work zone delineation (i.e. tapers, longitudinal). This enables remote monitoring of the work zone and reduces need for visual inspections.

Business benefits

- Enables remote monitoring of work zone delineation, reducing the need for visual inspections.
- Digitally marking the work zone provides real-time data on work zone deployments (working window), helping to improve planning.

Key features

- Lightweight and zero button operation.
- Long battery life (>6 months, depending on use).
- Remote status monitoring and reporting via Ramudden Global Geozoning platform.



Equipment Availability	UK	EU	US/Canada	APAC
TAB-01 (2G 866MHz)	•	•		

Smart Battery

Smart Lamp



[Find out more](#)

[Find out more](#)



Product overview

The Smart Battery is an air alkaline battery modified to fit an RF-enabled motion sensor. The sensor is removable and reusable and can be used in most Road Danger Lamps. Once installed the on board sensor will detect the impact over a preset threshold.

Where to use

The Smart Battery can be used in conventional Road Danger Lamps. When installed it will power the Lamps and detect if the Lamp is impacted. Typical use is as part of delineations such as tapers or longitudinal runs on work zones. Smart Batteries are always used in conjunction with Traffic Management Beacons.

Business benefits

- Enables remote monitoring of work zone delineation, reducing the need for visual inspections.
- Smart Battery can be used with existing lamps.

Key features

- Makes existing 4R25 6V batteries smart.
- Re-usable motion sensor.
- Connects to nearby cloud connected Beacons.

Equipment availability	UK	EU	US	APAC
SMART-BATTERY-01	●	●		

Product overview

The Smart Lamp contains an RF- and GPS-enabled motion sensor that communicates seamlessly with Traffic Management Beacons. Once the lamp is activated the sensor will send regular status updates including battery status and will instantly send an alert if the Smart Lamp falls (preset tilt angle).

Where to use

Smart Lamps are used as part of temporary traffic management. They can be attached to cones or signs.

Business benefits

- Enables remote monitoring of work zone delineation, reducing the need for visual inspections.
- Makes existing assets smart.

Key features

- Makes existing lamps smart.
- Connects to nearby cloud-connected beacons.
- On board GPS.

Equipment availability	UK	EU	US	APAC
SMART LAMP	●	●		

Find out more



Product overview

Intelliframe® is a smart sign frame that can be deployed as part of temporary traffic management. Intelliframe® has on board cloud connectivity including GPS and motion sensing technology to detect when a sign has fallen over. It also has the ability to detect whether or not a sign plate has been attached and can switch workflows based on this. An integrated low-power display can be used to display information such as permit numbers.

Where to use

Intelliframe® can be used in a wide range of scenarios. This includes as part of normal temporary traffic management signage, diversion routes, and as a permit sign/display. A dedicated device management system can be used to monitor signs and, depending on which workflow is Used, it can monitor permit compliance. It is possible to automatically display the permit number and permit dates when the sign is deployed.

Business benefits

- Monitors all temporary traffic management signage in real-time, making it possible to move to event-based maintenance of sites.
- Monitors permit compliance in real-time, reducing potential fines.
- Enables customisable status updates and trigger events (tilt/falls).

Key features

- Lightweight and zero button operation.
- Long battery life (>12 months, depending on use).
- Remote status monitoring and reporting via Ramudden Global Geozoning platform.

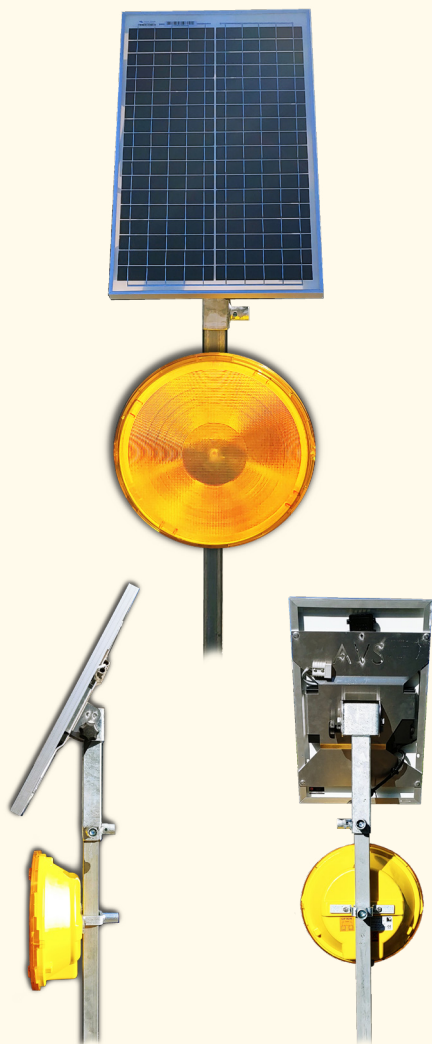


Equipment Availability	UK	EU	US/Canada	APAC
IFL-O1 (2G)	●	●		

SmartSolar



Find out more



Product overview

SmartSolar is a solar-powered cloud-connected road danger lamp. On board GPS allows accurate positioning whilst a motion sensor will detect any excessive movement or fall over events.

Where to use

SmartSolar is used at the start of work zones or on signage to highlight these to oncoming road users. Cloud connectivity means that the lamps can be monitored remotely, reducing any need for visual inspection. Depending on actual battery status, replacement can be planned more accurately.

Business benefits

- Cloud connectivity means battery status can be monitored remotely, reducing unnecessary visits.
- Fall down events can be addressed immediately, reducing risk to road users and road workers.
- Digital marking of worksites.

Key features

- Integral solar panel extends battery life.
- GPS provides accurate location tracking.



Equipment Availability	UK	EU	US/Canada	APAC
SMART SOLAR (2G)	●	●		

03

Traffic Analytics



Accurate data provides invaluable insights which are essential in improving the safety of our infrastructure.

Better data enables us to make better decisions. This is an age-old saying but holds particularly true for the management of heavily used and safety-critical assets such as our road and rail networks.

Being able to measure traffic flows in real-time whilst identifying and classifying different road users helps to quickly build a picture of any specific challenges faced and how these can be rectified or improved on.

At Ramudden Global we use the latest technologies including image processing and fibre optic technologies, which can be deployed in almost any setting to improve safety and traffic flows.

This ranges from analysing use of pedestrian crossings to counting train cart axles. We do not just use data to create insights and reports for clients. We also supply displays and warning technologies that can take real-time traffic measurements to improve road users' safety.

Our range of cloud-connected products enable:

- Real-time monitoring of traffic flows, including road user classification.
- Provision of dynamic warnings to oncoming vehicles of pedestrians using a crossing.
- Measuring and displaying number of road users (i.e. bicycles) using dedicated road space.
- Real-time travel time measurement and relaying this on Variable Message Signs.

All our solutions are highly modular and can be deployed in urban and high-speed roads. In most cases solar power options are available to enable high levels of autonomy and minimal maintenance.



Tube, Fibre and PIR Traffic Analysis Systems

Find out more



Product overview

Cloud-connected pneumatic tube, fibre or PIR-based traffic flow and classification system based on proprietary algorithms. The system is easy to deploy and measures speed, direction, vehicle/road user type (axle count), heading, and cross distance.

Where to use

The systems can be deployed in most settings requiring minimal installation time. Tube and fibre are used for vehicle counting and PIR for pedestrians, animals, etc. Cloud connectivity means that all data is in real-time and can be processed and analysed in a dashboarding/reporting suite.

Business benefits

- High-quality data enables better decision-making, with the ultimate aim to improve journeys (safer and more reliable).
- Remote monitoring enables quicker turnaround, reducing reporting time.

Key features

- Cloud-connected with either a tube, Fibre optic, and PIR option.
- Speed, direction, road user classification in real time.
- Slimline design enables placement in narrow areas (central reservation embankment).
- High accuracy data is available in dedicated dashboarding and reporting suite.
- Integrated solar panels enable a fully autonomous operation.



Equipment Availability	UK	EU	US/Canada	APAC
SIGNCO-01	●	●		



RailWatch – Train Detection and Warning System

Find out more



Product overview

RailWatch uses a proprietary optic fibre-based detection methodology which detects train carriage axels with a very high degree of accuracy. The output can be used for statistical analysis and for triggering remote flashing beacons or signs to complement existing warning systems or, for example, warn nearby workers.

Where to use

RailWatch can be used on a wide range of fixed and short-term deployment scenarios. Solar power and cloud connectivity provide autonomy and remote monitoring. Installation is simple and quick.

Business benefits

- High resolution classification of rail traffic, helping assess wear and tear.
- Speed and presence detection to warn road users and workers.

Key features

- Rail cart axle detection (including type and length of carts).
- Weight and speed measurement.
- Solar-powered and cloud connectivity enables triggering of customised warning systems placed upstream.
- Remote status monitoring and reporting via dedicated portal.

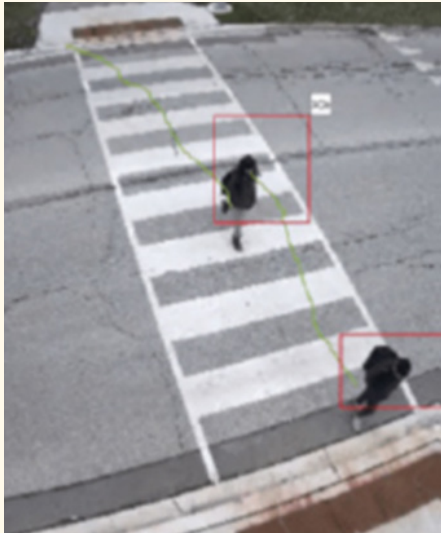


Equipment Availability	UK	EU	US/Canada	APAC
RailWatch-01	•	•		



SmartWatch – Pedestrian Crossing Monitoring

Find out more



Product overview

The Stinson SmartWatch PXO (Pedestrian Crossing) solution offers cities valuable insight into the utilisation rates and safety performance of their PXOs. This turnkey analytical solution combines video-based edge analytics with LTE communication and a cloud-based data portal. SmartWatch also enables instant activation of a PXO flash system when pedestrians or cyclists access the crossing, significantly improving overall safety.

Where to use

Pedestrian crossings.

Business benefits

- Utilisation visibility of key pedestrian crossings to enable intelligence-led decision-making.
- Detailed safety and compliance data: The solution not only captures count data on pedestrians, bicycles, cars, and trucks, but also detects vehicle non-compliance when pedestrians and bicycles are using the crossing. This feature helps cities monitor and address safety issues effectively.
- Instant alert to oncoming road users when PXO is in use (pedestrians or cyclists crossing).

Key features

- Smart City Data cloud-based portal stores all data indefinitely, allowing cities to maintain historical records and perform long-term trend analysis.
- Easy retrofitting: The system can be retrofitted to any existing PXO, making it a practical solution for upgrading current infrastructure without extensive modifications. An AC-powered and solar-powered version of the solution is available.
- Privacy considerations: The solution offers privacy screening and blanking to protect the privacy of people and businesses.

SMARTWATCH

CROSSWALK MONITORING & SAFETY SYSTEM

- Detects noncompliance.
- Classifies & counts pedestrians, bikes & vehicles.
- Auto activates a PXO flash system when pedestrian or cyclist present in the crossing, improving compliance, safety and accessibility.

CREATING A SAFER TOMORROW.
FOR EVERYONE.

Equipment Availability	UK	EU	US/Canada	APAC
SmartWatch Pedestrian	●	●	●	●

Bicycle Displays



Find out more



Product overview

Bicycle display is part of a so-called 'bicycle barometer system' that uses fibre optic sensors to detect the number of passing cyclists and relays that to road users.

Where to use

Bicycle Displays can be used in urban areas to inform road users and to encourage general bicycle usage. It also provides statistics on bicycle journeys, which can be viewed remotely.

Business benefits

- Encourages bicycle use, reducing vehicle usage and associated carbon emissions.
- Statistical analysis of bicycle usage, helping authorities makes better informed decisions.
- Marketing bicycle use.

Key features

- High accuracy detection, classification.
- Display technology with optional solar power.
- Robust and weatherproof.



Equipment Availability	UK	EU	US/Canada	APAC
Bicycle Display		•		

Travel Time Measurement



Find out more



Product overview

Easy to deploy Bluetooth and Wi-Fi-enabled travel time information system. Cloud connectivity allows remote monitoring and analysis with the ability to display current travel time on compatible Variable Message Signs.

Where to use

Stinson AIS can be deployed in most locations to measure traffic flow. The system's small footprint and solar option make it quick to install and ensure it can be operated for long periods of time without maintenance.

Business benefits

- Provides real-time traffic flow information to validate signal coordination and timing changes (i.e. signals).
- Ability to connect to nearly portable Variable Message Signs creates an instant travel advisory system which keeps road users informed.
- Detects congestion, which can help catch breakdowns and accidents quickly.

Key features

- Cloud connectivity with Bluetooth and Wi-Fi transceivers on board allows for maximum device detection capabilities.
- A modular system which can be installed as a standalone unit or in existing cabinets.
- GUI mapping to rapidly set up routes, with API connections to third party systems.
- Solar option to provide autonomy where there is no permanent power source.



Example of temporary travel time system.



Example of permanent travel time system.

Equipment Availability	UK	EU	US/Canada	APAC
Stinson AIS	•	•	•	•



AMAG Conflict Analysis System

Find out more



Product overview

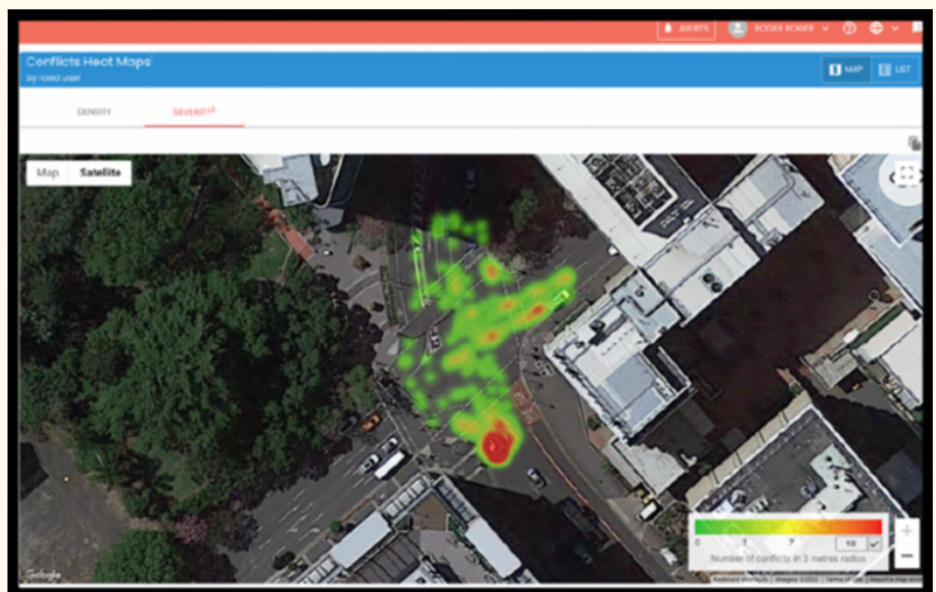
The AMAG Conflict Analysis and Safety Alert System combines smart cameras, AI, machine learning, and video analytics to analyse road safety. This allows for comprehensive examination of road user behaviours. In contrast to traditional approaches that depend on years of historical data, our safety and analysis system proactively monitors near-misses, identifies traffic behaviour trends, and offers valuable insights into accident probabilities and causes at intersections and roadways. By safeguarding vulnerable road users and enhancing overall road safety, we enable prompt, actionable decision-making, eliminating the need to wait for accidents to occur.

Where to use

AMAG Conflict Analysis & Safety Alert System is designed to be used at any section of road on which you wish to examine safety aspects, for example, intersections, roundabouts, and slip roads.

Business benefits & key features

- Provides valuable data to assess the impact of specific interventions or safety measures in road safety. This helps to identify effective strategies for reducing accidents.
- Predicts and compares crash risks for different road user types, movements, sites, and times of the day. Helping prioritise high-risk areas and proactively implement safety measures.
- Allows comparison against established safety benchmarks to gauge the effectiveness of existing safety measures and determine areas for improvement.
- Provides critical information to target enforcement efforts and improve compliance with traffic rules, ultimately reducing the likelihood of accidents caused by reckless behaviour.
- Offers valuable insights into traffic flow and behaviour patterns, aiding in the identification of potential safety issues and informing traffic management decisions.



Equipment Availability	UK	EU	US/Canada	APAC
AMAG	●	●	●	●

04

Traffic Control



Monitoring and optimising traffic flows to reduce journey time and improve road user safety is an essential part of holistic modern-day traffic management.

Ensuring safe and efficient passage through temporary work zones is an important part of work zone management. Some road users perceive road works as an annoyance and have little sympathy or patience. This can lead to challenging situations, creating risks for both road users and road workers. At Ramudden Global we have developed a portfolio of products that help improve traffic flow and provide road users with timely and appropriate alerts and warnings to help them safely and predictably navigate work zones.

This includes solutions that help prevent road accidents in tailbacks caused by work zones. Our advanced queue detection technology is coupled with cloud-connected variable message signs to deliver real-time warnings that have prevented serious injuries to road users. Creating a digital twin means that the system can be monitored remotely, providing valuable insights into the impact on road users' behaviour.

Our Smart Traffic Lights build on over 40 years of experience in developing and deploying traffic lights in temporary work zones. Enabling cloud connectivity means a more seamless experience, plus the ability to adjust red light timings to suit traffic flow which is groundbreaking in the temporary traffic light industry.

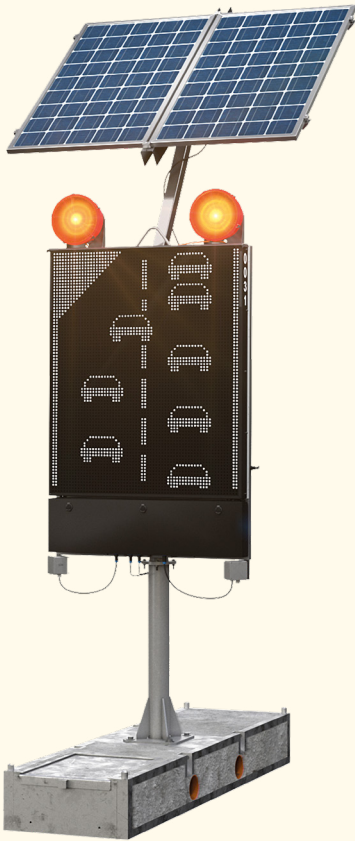
Our range of cloud-connected products enable:

- Queue detection monitoring and warning.
- Dynamic traffic management around work zones to reduce delays.

Smart VMS System



Find out more



Product overview

The Smart VMS System detects slow or queuing traffic and triggers relevant warnings to oncoming road users via LED variable message signs. The system is fully automated and monitors traffic by individual lane allowing a targeted approach. It can also be used to provide a dynamic speed limit or to display a diversion route. All devices are cloud-connected and remotely monitored.

Where to use

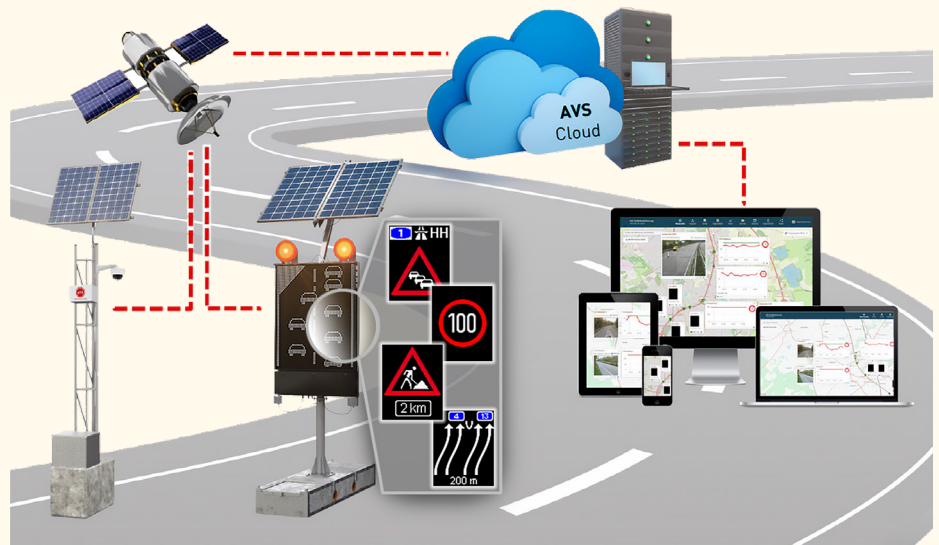
The Smart VMS System is frequently used in the lead up to work zones where lane restrictions can cause slow or standing traffic. The system helps prevent rear-ending where oncoming high-speed traffic comes across slower moving traffic.

Business benefits

- Reduces the likelihood of accidents in tailbacks resulting from work zones.
- Managing Speed Dynamically to optimise traffic flows through work zones.

Key features

- Slimline design enables placement in narrow areas (central reservation/embankment).
- Integrated solar panels enable a fully autonomous operation.
- Remote status monitoring and reporting via our portal.



Equipment Availability	UK	EU	US/Canada	APAC
MIS LED-01	●	●		

Smart Traffic Light



Find out more



Product overview

The Smart Traffic Light is equipped with digital and intelligent technologies. Unlike conventional traffic lights, a Smart Traffic Light can do more than just regulate traffic flows. Cloud connectivity means that location, battery voltage, and system performance can be monitored remotely.

Where to use

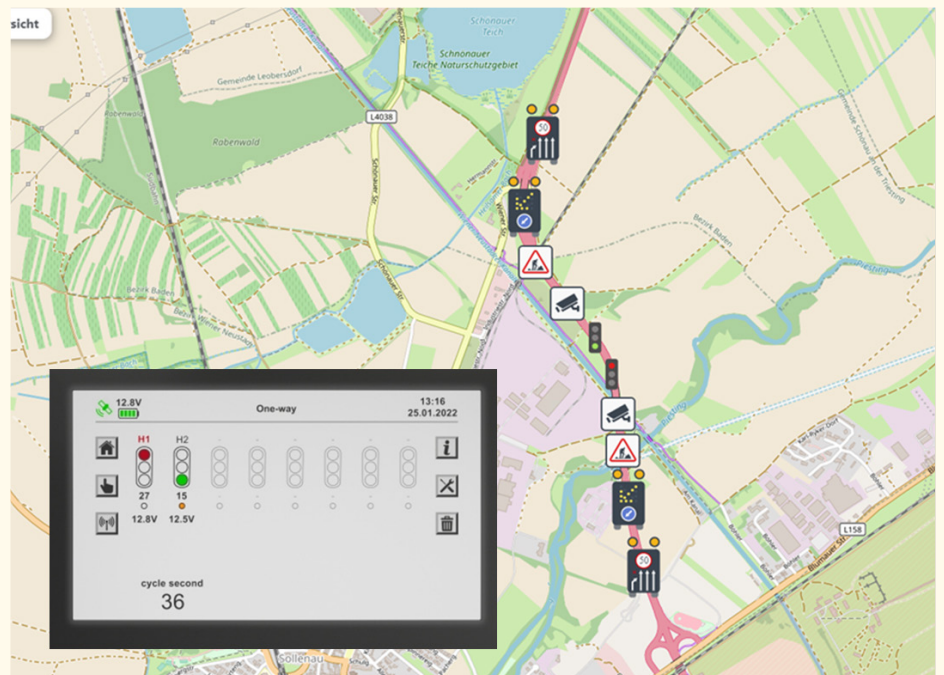
Smart Traffic Lights can be used to safely manage traffic around work zones.

Business Benefits

- Cloud connectivity enables remote monitoring of vitals such as battery status and location.
- Enables customisable status updates and messages.

Key features

- Slim line design enables placement in narrow areas (central reservation/embankment).
- Integrated solar panels enable a fully autonomous operation.
- Remote status monitoring and reporting via Ramudden Global Geozoning platform.

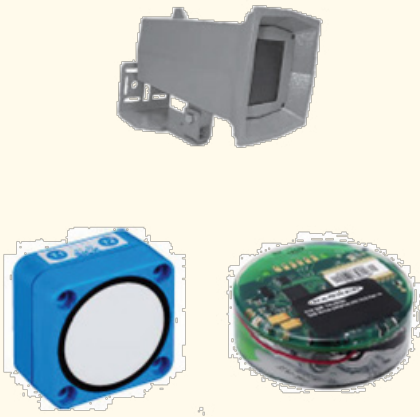


Equipment Availability	UK	EU	US/Canada	APAC
SMART TRAFFIC LIGHT-01	●	●		



Custom Industrial Warning System

Find out more



Product overview

A highly customisable warning system can be installed for temporary or permanent applications. It comprises a range of detection systems, including beam break, ultrasonic, loop detectors, magnetometers, radar, and microwave sensors, all of which can be deployed to detect vehicles or vehicle status. The detection systems also trigger sounders, LED warning signs, or beacons. Solar-power solutions can help achieve a high degree of autonomy.

Where to use

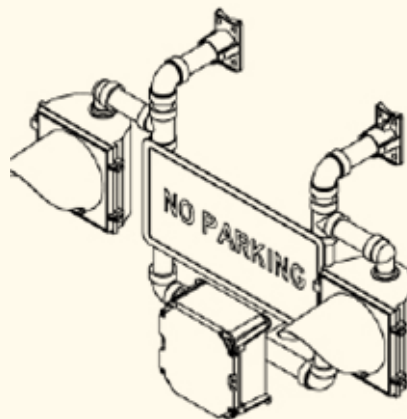
The detection systems can be used to detect overheight or speeding vehicles, as well as vehicles entering or exiting a worksite. Bespoke set-ups can be installed on work zones or commercial facilities such as industrial estates and car parks.

Business benefits

- Reduces incidents involving vehicles hitting critical infrastructure or causing accidents whilst merging with high-speed traffic when exiting a work zone.
- Reduces incidents involving works vehicles and pedestrians.

Key features

- Highly customisable with wide range of sensor solutions to create 'plug and play' capability.
- Ability to operate on AC or solar with high degree of autonomy.
- Cloud connectivity enables remote monitoring and status reporting.



Equipment Availability	UK	EU	US/Canada	APAC
CIWS	•	•	•	•

At Ramudden Global we have over 15 years of experience in developing, implementing, and deploying digital solutions that have a proven track record in enhancing safety, improving operational efficiency, and reducing carbon emissions.

We have developed a unique approach that allows rapid scale-up and takes account of all the operational and cultural changes needed for an organisation to effectively adopt and benefit from digital solutions.

Contact us to today to start your journey:

Roger Poeth

International Business Development Director,
Ramudden Global
roger.poeth@ramuddenglobal.com



