REMOS™

Revolutionising Traffic Management
for a Safer, Greener Future

REMOS
REMOTELY OPERATED SIGNALS

Introducing
REMOS™

Designed to transform the way we manage temporary traffic works, REMOS introduces a new era where traffic signals are controlled remotely, eliminating the need for on-site operatives.

This cutting-edge technology not only enhances safety and efficiency but also addresses key environmental concerns, making traffic management more sustainable than ever before.

What is REMOS™?

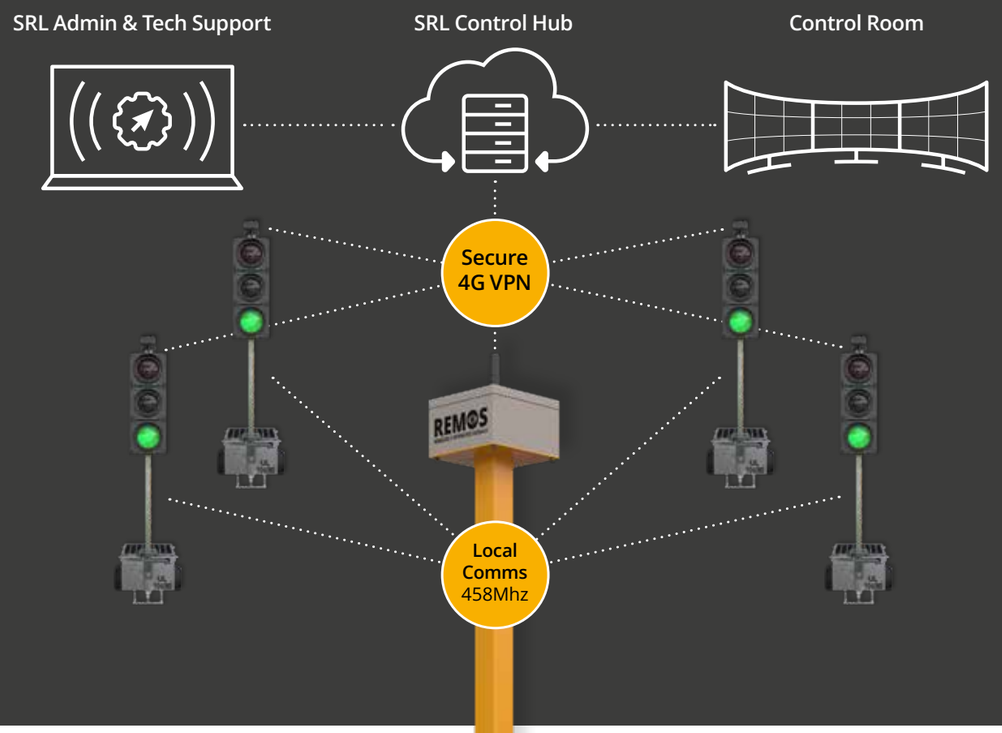
Representing a groundbreaking innovation in the field of traffic management, **REMOS** stands for Remotely Operated Signals.

Traditionally, a large proportion of roadworks are deployed with permits which require a traffic management operative to be physically present at the worksite to monitor traffic flows and respond to any issues. This approach, while effective, places a significant strain on human resources, increased operational costs, and exposes workers to potential hazards.

With REMOS, these challenges are a thing of the past. REMOS allows for the remote monitoring and management of traffic signals from a secure, central location.

This system is designed to work seamlessly in all traffic environments, providing real-time data and control to operators who can manage multiple sites simultaneously.

REMOS is not just an improvement; it's a complete reimagining of how traffic management can be conducted.



Challenges

Managing traffic at roadworks and other temporary traffic sites has always been a resource-intensive task. On any given day, hundreds of sites across the UK require on-site operatives to ensure smooth traffic flow and minimise disruption. However, this traditional approach comes with several challenges:

Strain on Human Resources
The constant need for on-site personnel stretches available resources thin, often leading to increased labour costs and logistical challenges in staffing.

Safety Concerns
Traffic management operatives are frequently exposed to dangerous conditions, working near moving vehicles. This exposure not only puts their physical safety at risk but also subjects them to potential roadworker abuse - a growing concern in the industry.

Environmental Impact
Regular site visits and the necessity of vehicle idling at work sites contribute to increased carbon emissions, negatively impacting the environment.

Public Perception
Local authorities often demand visible personnel at roadworks to provide reassurance. However, the effectiveness of this approach is limited by human error and fatigue.

These challenges underscore the need for a **more efficient, safe, and sustainable solution** - one that REMOS is uniquely positioned to provide.

How **REMOS™ Solves the Problem**

By enabling remote operation, REMOS removes the need for on-site operatives, significantly reducing the risks and costs associated with traffic management.

Here's how REMOS works:

1.

Data Capture:
REMOS systems are equipped with advanced radar sensors and CCTV cameras that continuously monitor traffic flow at the site. The radar detects vehicle movement, while cameras stream live footage of the area.

2.

Data Transmission:
The captured data is transmitted in real-time to SRL's Central Control Room via the SRL Control Hub. This web-based platform allows operatives to access live traffic data and video feeds from multiple sites simultaneously.

3.

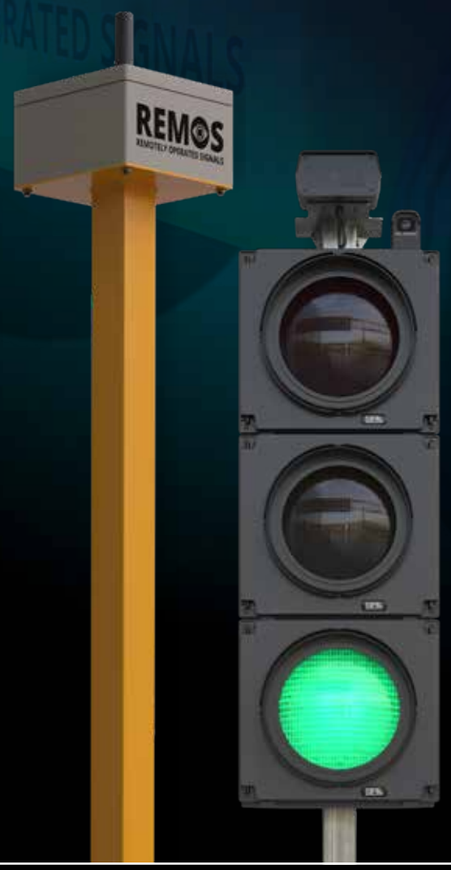
Remote Operation:
Trained professionals in the control room analyse the real-time data and remotely manage the traffic signals. They can switch between automated modes and manual control as needed, ensuring optimal traffic flow at all times.

4.

Proactive Management:
REMOS allows for more frequent interventions and adjustments to traffic signals, reducing the likelihood of traffic congestion and improving overall efficiency. With REMOS, potential issues are identified and addressed before they escalate, minimising disruption and enhancing road user safety.

REMOS
REMOTELY OPERATED SIGNALS

Level up
Traffic Management



Improved Safety
By removing the need for on-site personnel, REMOS significantly reduces the risk of accidents and injuries. Additionally, it eliminates the potential for roadworker abuse, a critical issue that affects worker morale and well-being.

Cost and Labour Savings
With REMOS, one operator can manage multiple sites simultaneously from a central location. This capability drastically reduces the need for on-site operatives, leading to substantial labour cost savings.

Environmental Benefits
REMOS contributes to a greener environment by reducing the number of site visits and minimising vehicle idling. These factors directly reduce carbon emissions, helping organisations meet their sustainability goals.

Enhanced Process Efficiency
REMOS allows for the rapid identification and elimination of bottlenecks, ensuring smoother traffic flow and reduced congestion. There is no line of sight required; cameras have much greater visibility than an operative on site.

Reliability and Compliance
REMOS is built on a robust platform that ensures consistent performance and compliance with industry standards.

REMOS is a new, **indispensable tool for traffic management**, offering a superior alternative to traditional methods.

A Greener Solution
for Traffic Management

Sustainability has never been more important. Organisations are seeking ways to reduce their environmental impact, and traffic management is no exception.

With REMOS, the need for frequent site visits is eliminated, as all traffic signal operations can be managed remotely. This reduction in travel not only lowers fuel costs but also cuts down on emissions, contributing to a cleaner, greener environment.

Vehicle idling is another major contributor to carbon emissions at traffic management sites. With REMOS, the improved efficiency in traffic flow reduces the amount of time vehicles spend idling at temporary traffic signals. This decrease in idling time directly translates into lower emissions, further enhancing the environmental benefits of REMOS.

To put this into perspective, removing just one on-site operative from traffic management operations for a full working year can reduce carbon emissions by approximately 3,564kg.

Multiply this across several sites and operatives, and the environmental impact becomes substantial.

Beyond the direct reduction in emissions, REMOS also aligns with broader sustainability initiatives by promoting more efficient use of resources. The reduced need for travel, combined with the optimised management of traffic flow, means fewer resources are consumed overall.

REMOS with **Multiphase ADS**

REMOS sets a new benchmark in temporary traffic signal technology—and at its core is **Multiphase ADS:** a cutting-edge, intelligent traffic management system that is automatically configured from the moment our signals are switched on.

By default, REMOS operates in **Multiphase ADS** mode, meaning traffic flows are optimised before a single human intervention is made. It's traffic intelligence, built-in.

What is Multiphase ADS?

Multiphase ADS (Adaptive Detection System) is SRL's proprietary technology that adjusts traffic light timings in real-time. It works by linking a high-accuracy radar detector to temporary traffic signals. This radar continuously captures critical data—vehicle volumes, speeds, and flow direction—direct from the roadside.

This data is then processed by a smart algorithm that dynamically adjusts green times to manage traffic flow with maximum efficiency.

- Up to 60 seconds of green time: Keeps traffic moving longer where it matters most.
- Reduced interstage time: Minimises delays between light changes, slashing overall stop-start time.
- Accounts for HGV lag: Ensures heavier, slower vehicles don't distort signal timings.
- 2, 3, and 4-way control: The only system of its kind that handles complex junctions seamlessly.

Proven Performance. **Immediate Impact.**

When traffic builds up—especially in areas with tidal flows or peak commuting pressure—**REMOS with Multiphase ADS** steps in to keep things moving. It adapts instantly to traffic conditions, extending green time in busier directions and easing back when flows settle. This intelligent flexibility reduces congestion and improves journey times from the outset.

Independent experts at **IRConsultancy** and **Bryan G Hall** ran a model at a busy tidal flow location in Yorkshire, using a 3-way control system powered by Multiphase ADS.

THE RESULTS
(over a single peak-hour period):

50% reduction in total queue lengths

29% decrease in maximum queue length

40% improvement in average journey times

52% faster travel for the busiest route (North–South)

BENEFITS FOR ROAD USERS

Less queuing

Faster journeys

Improved experience around temporary works2, 3, and 4-way control: The only system of its kind that handles complex junctions seamlessly.

SRL Control Hub
Centralised, Secure, Efficient

At the heart of REMOS is the SRL Control Hub, a secure, web-based platform that enables the remote operation of traffic signals. This sophisticated system allows trained operators to monitor live traffic flows, switch between automatic and manual modes, and control signal operations with precision - all from the comfort of a central control room.

User-Friendly Interface
The SRL Control Hub has been designed with the user in mind. Its intuitive interface allows operatives to quickly access critical information and manage multiple sites simultaneously. The dashboard provides real-time data, live video feeds, and control options, ensuring that operators have all the tools they need at their fingertips.

Security and Compliance
Security is paramount in the operation of the SRL Control Hub. Access is restricted to qualified operators, ensuring that only authorised personnel can control traffic signals. The system is also designed with GDPR compliance in mind, with no storage of CCTV images, thereby safeguarding privacy while adhering to legal standards.

Operational Flexibility
The SRL Control Hub offers flexibility in traffic management operations. Operators can switch between Vehicle Actuation (VA), Multiphase ADS, and manual control modes, depending on the specific needs of the site.

Inside REMOS:
Key Components

Each REMOS component has been carefully selected and engineered to ensure seamless operation and optimal performance.

Portable Traffic Signals
These are the heart of the REMOS system, housing the control electronics that manage the signal operations. SRL's portable traffic signals are designed to be robust and weather-resistant, ensuring reliable performance in all conditions.

RTMC & Control Hub Subscription
The Remote Traffic Management Controller (RTMC) is the brain of the REMOS system, processing data from the radar and CCTV components and transmitting it to the Control Hub. Subscription to the SRL Control Hub provides ongoing access to the platform's features, ensuring continuous operation and support.

REMOS™ Signal Heads
The signal heads are equipped with high-visibility LED lights that ensure clear communication of traffic signals to drivers. These signals are remotely controlled via the SRL Control Hub, allowing for instant changes in response to traffic conditions.

CCTV Cameras
High-definition CCTV cameras are installed in the head of the traffic light signal, providing live video feeds to the control room. These cameras are crucial for real-time monitoring, allowing operators to assess traffic conditions and respond accordingly.

Multiphase ADS Detectors
The ADS detectors continuously scan the area to detect vehicle movements. This data is crucial for the automated management of traffic signals.

Two Ways *of Working*

REMOS™ Flex

For short duration works
- flexible, reactive deployment.

Traffic Management is responsible for deployment and battery exchanges. SRL is responsible for signal monitoring.

Available on
Contract Hire

REMOS™ Max

For long duration,
planned works.

A full, turn-key service. SRL take responsibility for both deployment and signal monitoring.

Available on
Ad-Hoc Hire

	REMOS™ Flex	REMOS™ Max
Contract Type	Contract	Ad-hoc
Solution	Generic	Bespoke
Minimum Hire Contract Length	52 weeks 4-week trial available	14 days+
Monitoring Hours	7am – 7pm Max 12 hours/day[1], 7 days a week	Unlimited
Physical Deployment	TM	SRL
Battery Technology	AGM (OBC)	Lithium
Average Battery Life	5 days	28 - 30 days
Battery Trackers	Yes	No (Under development)
Solar Charging	Yes	No
Pedestrian Functionality	No	Yes (With integrated CCTV solution)
Site Configuration	Up to 4 way	Up to 8 way
SRL Control Room Notification Required	2-24 hours	7-10 days

How does **REMOS™ Flex work?**

SRL's Service Delivery Process is designed to ensure a consistent, high-quality approach across all stages of service provision.

This structured pre-deployment framework supports efficient communication, operational excellence, and a reliable service experience.

Traffic Management looks after the assets and deploys in local region at short notice, advising the SRL REMOS Control Centre in Solihull who set up the monitoring at no additional charge to the fixed rate.

Hirer informs SRL of a new REMOS job, by completing the REMOS Request Form

SRL to confirm assigned REMOS Control Centre operator and contact details

SRL creates a site file for each installation

Hirer assigns REMOS kit and informs asssigned SRL REMOS operator to enable configuration

Hirer sets up kit in depot, and completes basic testing

SRL REMOS operator performs camera and signal checks

Hirer calls REMOS operator to confirm Control Centre is ready to take control of site

How does **REMOS™ Max work?**

To enable SRL to understand the nature of your work, REMOS viability, and to provide a bespoke quote, all REMOS Max customers are required to complete a site suitability form for each project.

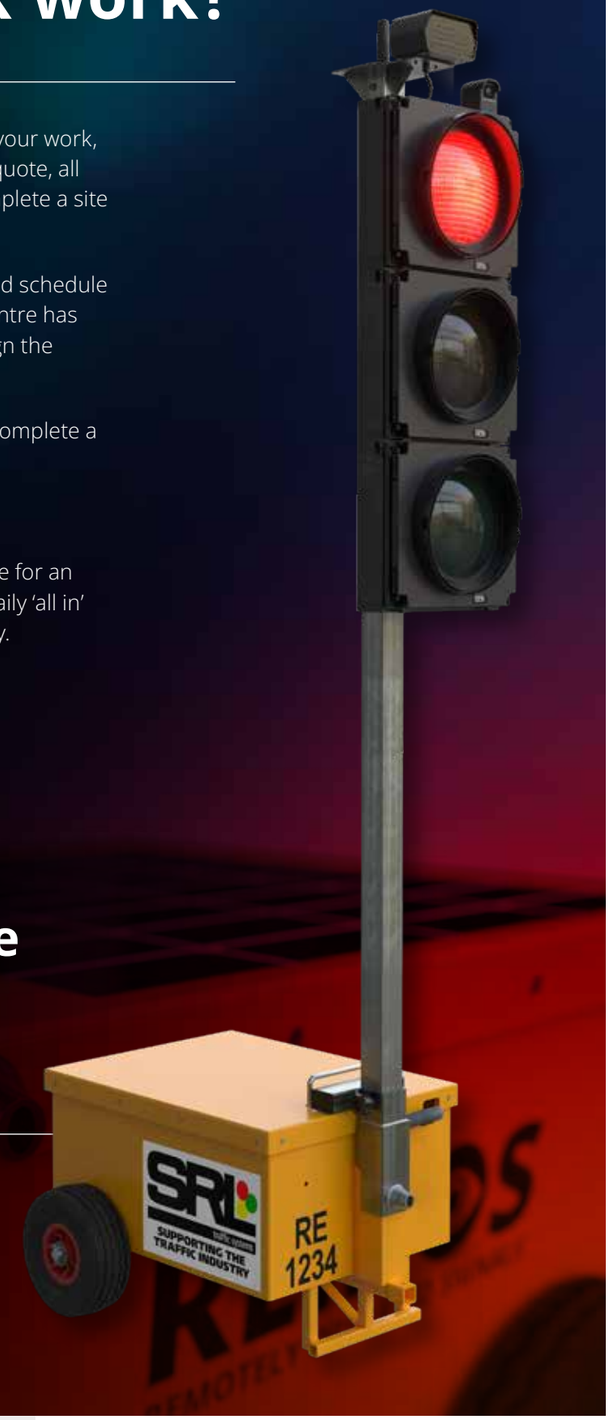
This approach ensures that SRL can plan and schedule works, ensuring that the REMOS Control Centre has full visibility of upcoming schemes and assign the appropriate resource.

All REMOS Max customers are required to complete a site suitability form

for each project.

REMOS Max is available through Ad Hoc Hire for an agreed and prefixed period. SRL charge a daily 'all in' rate for the service – no other charges apply.

SRL charge **a daily 'all-in' rate for the service** - no other charges apply.



Which model is right for me?

REMOS™ Flex

- We **regularly** complete jobs which require an operator to stay on site
- Most of our jobs are **short-term** (less than week)
- Our business is incredibly **reactive**; we support **emergency works** and receive minimal notice from our customers
- We struggle providing the **human resource** to consistently monitor portable signals **Monday - Friday**

REMOS™ Max

- We **rarely** complete jobs requiring an operator to stay on site
- Most of our jobs are **long-term** (a week or more)
- Our issues with **staff retention** would make training staff on REMOS challenging; we'd prefer to avoid additional responsibilit.
- We struggle providing the **human resource** to monitor portable signals
- We regularly have monitoring jobs that also require **pedestrian functionality**

Safety First: Compliance and Reliability

By adhering to the highest industry standards and regulatory requirements, REMOS ensures that traffic signals operate safely and reliably, protecting both workers and road users.

REMOS meets all relevant statutory guidelines and industry standards, including:

BS EN 50556:
Road traffic signal systems.

BS EN 12368:
Traffic control equipment—signal heads.

BS EN 12675:
Functional safety requirements for road traffic signal control systems.

BS EN 50293:
Electromagnetic compatibility for road traffic control systems.

Operational Security
REMOS is built with multiple layers of security to protect the system from unauthorised access. All operators undergo rigorous security vetting, and the system itself is protected by advanced encryption and access controls. This ensures that only qualified professionals can operate the system, maintaining the integrity of traffic management operations.

GDPR Compliance
Live feeds are used solely for real-time traffic monitoring, with no data retention, ensuring that the privacy of individuals is respected.

Reliability in the Field
REMOS has been extensively tested in real-world conditions to ensure its reliability. Whether dealing with adverse weather, high traffic volumes, or complex traffic scenarios, REMOS has proven to be a dependable solution.

Your Questions Answered: **REMOS™ FAQs**

To help you better understand REMOS and its capabilities, we've compiled answers to some of the most frequently asked questions:

Q: How does REMOS handle sites with limited network connectivity?

A: The technology we use in REMOS allows for video streaming in poor network / bandwidth areas, with almost complete network coverage.

Q: How many stages/phases can REMOS monitor?

A: REMOS is capable of monitoring up to eight stages or phases at any given time. This allows a single operator to manage complex traffic patterns across multiple sites simultaneously.

Q: What does the REMOS Control Room consist of?

A: The REMOS Control Room is a secure space equipped with high-resolution screens for viewing live video feeds from traffic sites. Operators have licensed access to the SRL Control Hub, where they can manage signals in real-time.

Q: What is the maximum range between REMOS signals?

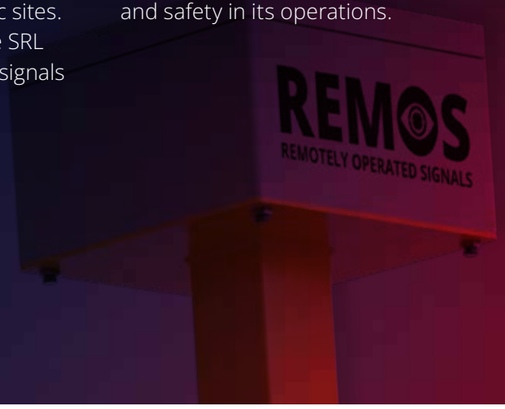
A: REMOS is designed to work effectively with up to 300 meters between signals, even in situations where line-of-sight is not possible.

Q: Are CCTV images stored?

A: No, REMOS does not store any CCTV images. The system is designed for real-time monitoring only, ensuring compliance with GDPR regulations and protecting individual privacy.

Q: Does REMOS comply with industry standards?

A: Yes, REMOS adheres to all relevant statutory guidelines and industry standards, including BS EN 50556, BS EN 12675, BS EN 12368, and BS EN 50293, ensuring reliability and safety in its operations.



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The Future of Traffic Management Starts with

REMOS

REMOTELY OPERATED SIGNALS

Join the REMOS™ Revolution

For more information about REMOS,
Visit **srl.co.uk** or call us on **01606 738866**

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