



Driving Global Safety

APSE Advisory Group

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Chairman

We are in the business of saving lives.”

Chris Hanson-Abbott, OBE
Chairman and founder



Our Vision

No more lives lost in collisions with vehicles and mobile machinery.



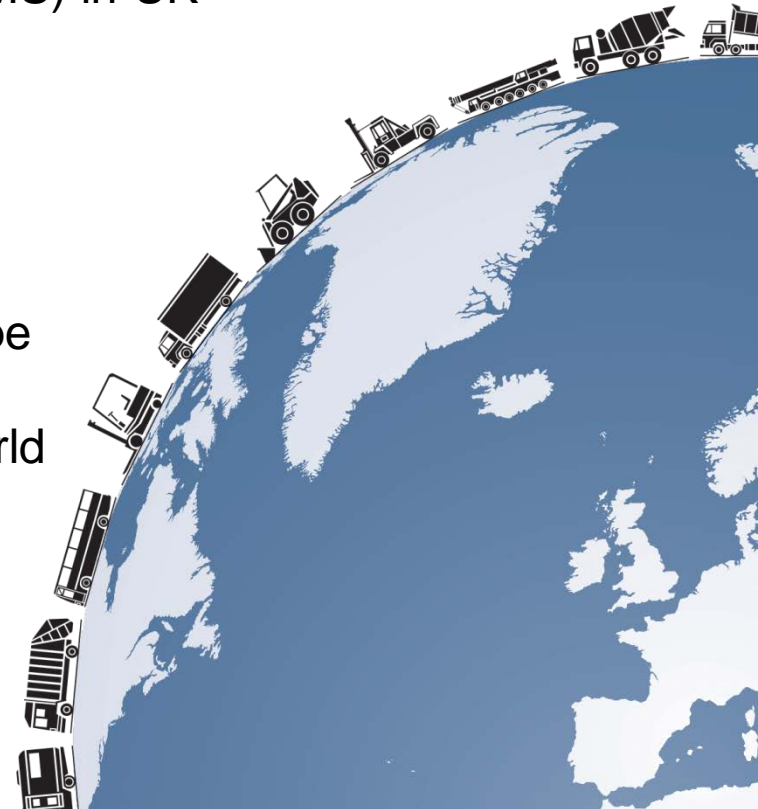
Overview

- A world leader in reversing safety systems.
- Safety & efficiency products for commercial vehicles and mobile plant machinery.
- Established in 1976. HQ in UK.
- Subsidiaries in USA, Canada, Germany, France, Italy, the Netherlands, South Africa, Poland & UK.
- Customers on every continent.
- OEM and aftermarket supply.
- ISO 9001:2008 compliant.



Pioneers

- **First** reversing alarm in Europe
- **First** rear-view Camera Monitor System (CMS) in UK
- **First** rear detection system in Europe
- **First** speaking reversing alarm in the world
- **First** self-adjusting reversing alarm in Europe
- **First** white sound reversing alarm in the world
- **Pioneer** of 'Birds Eye View' CMS for Commercial vehicles and mobile plant machinery



Current Market Concerns

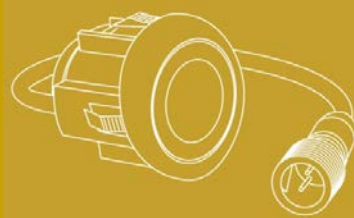
- Vehicle blind spots
- Vulnerable road user safety
- Driver Safety
- Driver information overload
- Crash for Cash scams and false insurance claims
- Specifications Schemes - CLOCS/FORS and Direct Vision Standard

Vehicle Safety Solutions

Camera Monitor Systems



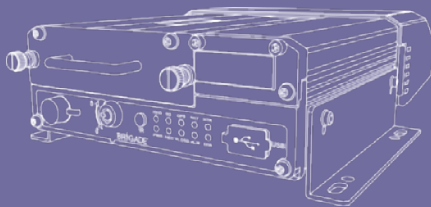
Ultrasonic Obstacle Detection



Reversing & Warning Alarms



Mobile Digital Recording



Backeye® 360



Radar Obstacle Detection



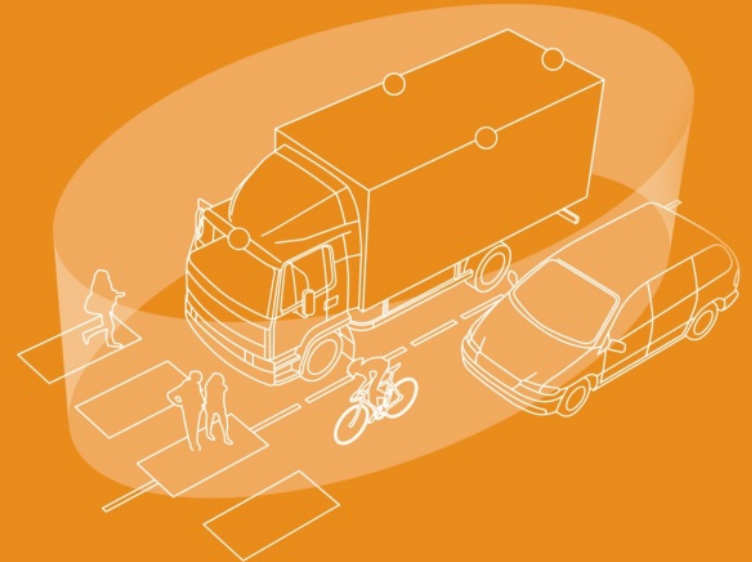
Backeye® 360

Backeye®360 is an intelligent camera monitor system designed to assist low-speed manoeuvrability by providing the driver with a complete surround view of the vehicle in real time.

4 Cameras

1 Image

0 Blind spots



Benefits

- ✓ Eliminates blind spots
- ✓ Comprehensive real time view of surrounding area in single image
- ✓ Wide angle camera views
- ✓ Reduced collisions with vulnerable road users
- ✓ Reduced vehicle damage and down time



EIS Waste

“Our driver was using a front end loader to empty large containers on a refuse collection. He emptied the first and second container, and while he was emptying the third staff began re-filling the empty bins. The manager later phoned to say we had not emptied one of the bins. I argued that we had, she disputed this but didn’t want to pursue the claim when I offered to send the CCTV footage recorded from the 360 cameras.”

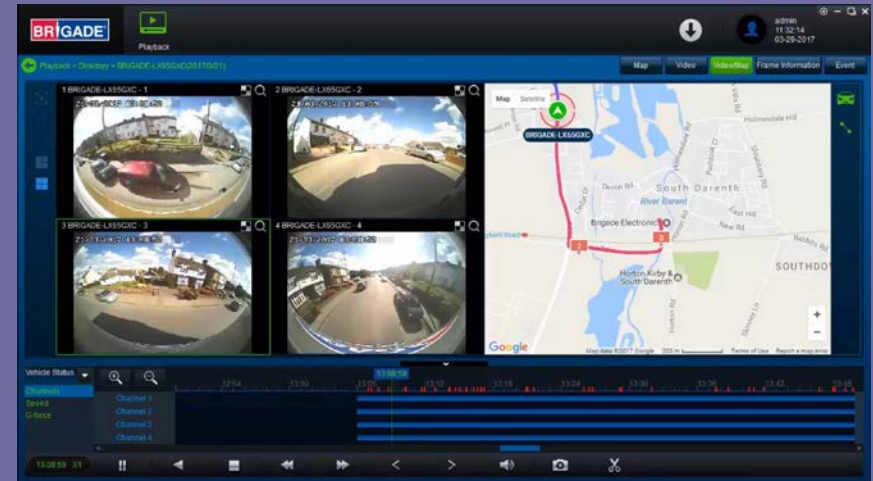
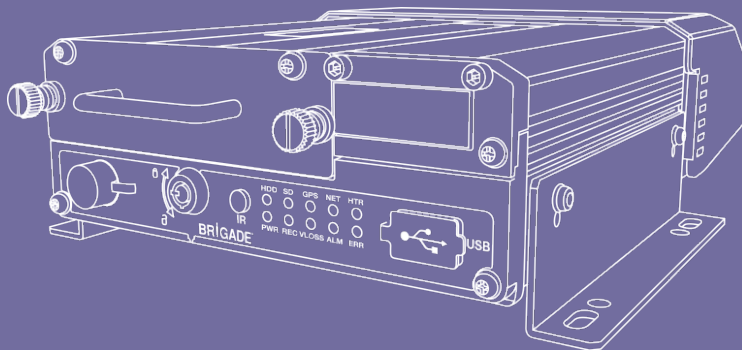
Before fitting the system, we would have returned to the site 20 miles away and re-empted the bin free of charge. The 360 degree camera systems are good for preventing accidents but there are greater benefits than safety alone. When connected to MDR, the wide angle lenses pick up much further a field than normal cameras.”

EIS Waste Transport Manager, Raymond Henderson

Mobile Digital Recording

8 & 4 Channel MDR – Mobile Digital Recorder

- Black box recorder
- 3G/Wifi capabilities
- Incident/accident analysis & evidence
- False claim prevention
- Theft & shrinkage deterrent



Features and Benefits

- Record up to eight channels simultaneously
- Up to 1164 hours (145 x 8 hour days) recording time
 - 500GB HDD storage – 4 Channel
 - 1TB HDD storage – 8 Channel
- Mirror/simultaneous recording on built in SD card
- Built in GPS receiver
- Built in G-Sensor (8 Channel only)
- Up to eight configurable trigger inputs
- Anti-vibration housing
- Audio Functionality
- Search by date, time or triggered events.
- Download the recording direct from MDR to a USB storage device

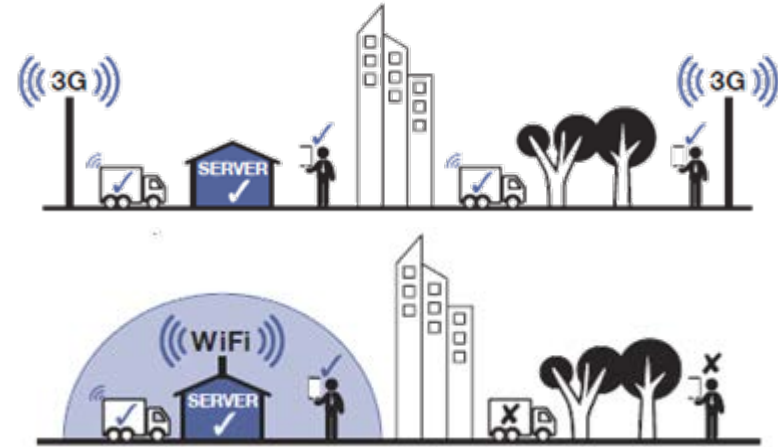


Benefits:

- ✓ Provides irrefutable evidence
- ✓ Protects drivers
- ✓ Assists in proving false claims
- ✓ Reduces insurance premiums
- ✓ Peace of mind for passengers and driver

3G/Wifi Capability

- Download data without physically going to the vehicle
- Set-up automatic download of triggered events
- Stream data remotely via 3G network
- Live View up to 36 cameras from multiple MDRs via 3G network
- Real-time GPS tracking via 3G network
- Immediate notification of triggered events via 3G network or scheduled summary of events on WiFi
- Mobile App to access live views, vehicle locations, create snapshots and receive alerts



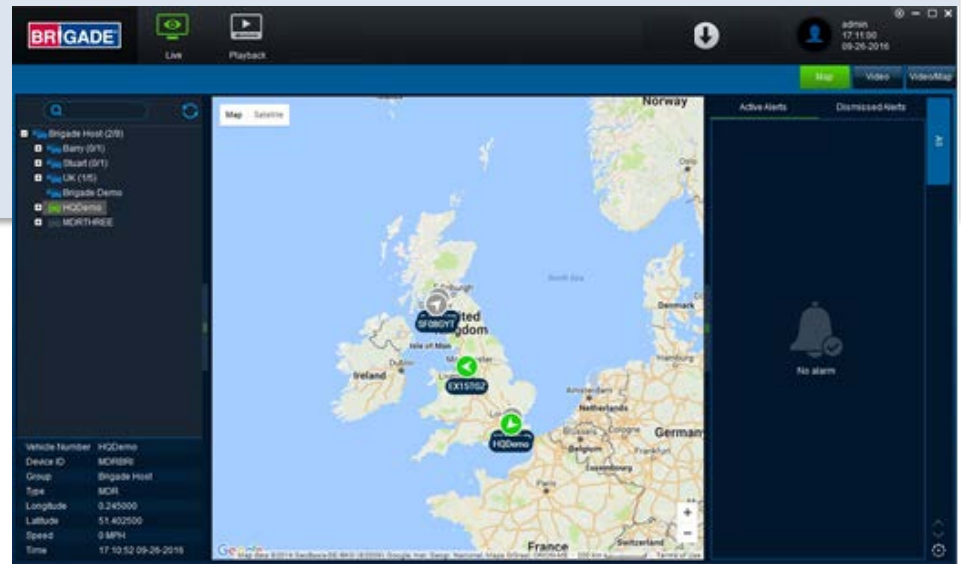
Brigade 3G Service Offering:

- 12 months 3G data service plan
- 500MB, 1GB or 2GB 3G SIM card
- Activation of SIM and set up of server
- Access to Brigade cloud server
- Identification of network/SIM issuers
- Technical helpline and online tutorial videos

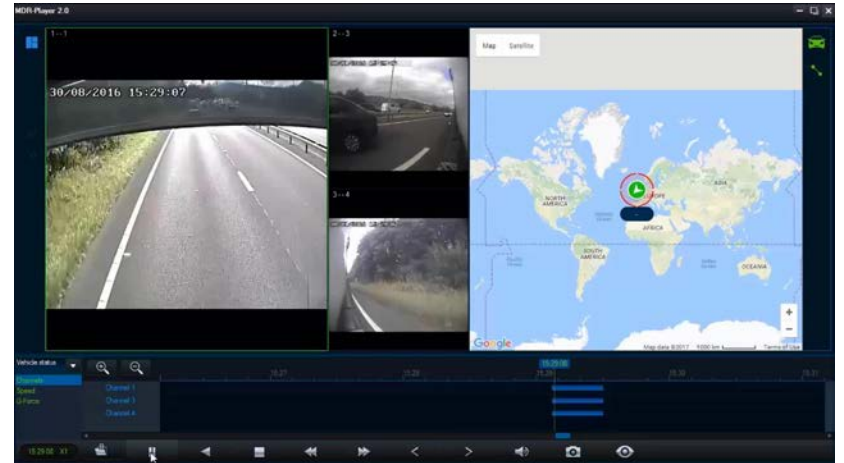
MDR with 3G

Brigade Service Offering

- Remote real-time access via dashboard or mobile app
- Playback of video
- Scheduled data downloads
- Triggered data downloads
- Manual data downloads



Footage



Benefits

- ✓ Irrefutable evidence in the case of accidents and legal proceedings
- ✓ Assists in proving false claims
- ✓ Provides protection for drivers
- ✓ Encourages driver best practise
- ✓ Enables effective driver training
- ✓ Reduces insurance premiums
- ✓ Peace of mind for passengers and drivers



EIS Waste

“In one incident our driver was on a dual carriageway and the lorry driver in front was driving erratically, speeding up and slowing down continuously. Our driver decided to overtake the vehicle to avoid it. He pulled into the outside lane to overtake and as he did the third party driver left their lane and bounced into our vehicle, ripping the side of their lorry.

The third party driver blamed our driver.

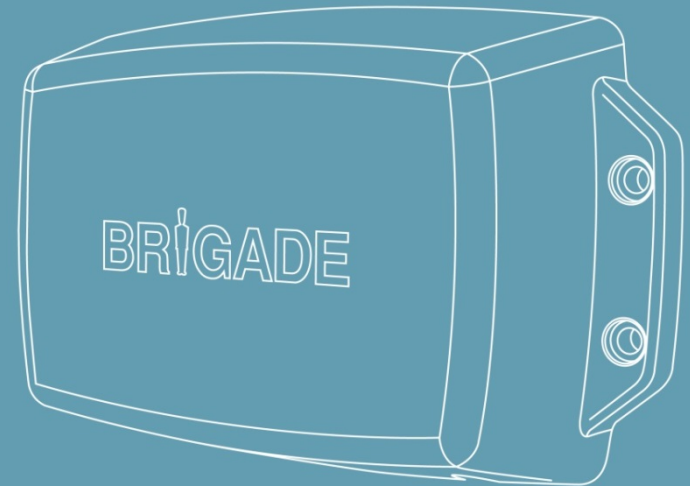
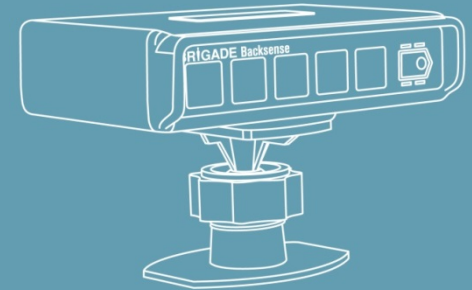
I sent a copy of the MDR footage to their transport manager who withdrew the claim.”

EIS Waste Transport Manager, Raymond Henderson

Radar Obstacle Detection

Backsense®

- Programmable Detection Range
 - BS-8000 – 3m to 30m detection range, 2m to 10m width
- Fixed Detection Range
 - BS-7030 – 3m detection range, 2.5m width
 - BS-7046 – 4.5m detection range, 3.5m width
 - BS-7060 – 6m detection range, 4.5m width



Features and Benefits

- Close detection zone with targeted beam pattern
- Controlled beam pattern to minimise false warnings
- Frequency modulated continuous wave radar technology
- Can trigger other safety devices such as camera monitor systems or reversing alarms
- 5 stage audible and visual display
- Suitable for both on- and off-road applications
- Rugged design for severe weather conditions and all terrains
- Effective through non-metallic objects
- Self-diagnostics alert
- Choice of detection ranges
- Comprehensive certification



Benefits:

- ✓ Unique to Brigade
- ✓ Well defined detection area
- ✓ Ideal for off-road applications
- ✓ Suitable for on-road applications
- ✓ Easy to use
- ✓ Comprehensive certification

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EIS Waste

“We have trialled the Backsense® system on Radar system on a Mercedes Econic refuse collection vehicle, as well as on some of the plant machinery, in operation at our busy recycling centre at Gallowhill. We want to give our drivers as much help as possible eradicating any blind spots and areas of danger around our vehicles. The Backsense device gives the driver an extra set of eyes at the rear of the vehicle and we will be installing the system to all plant on-site including forklifts and telehandlers.”

EIS Waste Transport Manager, Raymond Henderson

EV's & Hybrids Are Here



More than 2 million electric vehicles on the road worldwide

Hardware



Sample Sound



The Proof





Driving Global Safety

Any Questions?

Thanks For Listening

