EXEROS TECHNOLOGIES

Vision-Based LOW BRIDGE RECOGNITION

Bus, Coach, HGVs, Plant & Machinery or any other tall vehicle

Why Low Bridge Recognition Systems?

*An average of 5 bridges strikes happen daily in the UK alone.**

Without proper warning of a low bridge ahead, large vehicles are at risk of hitting a bridge, endangering the life of driver, passengers, and other road users, and resulting in costly delays to service and repairs.

**Source: Network Rail Report, 2020/21*

Reduces driver and passenger safety risk caused by low-bridge strikes.

Reduces delays and disruption to service Increasing passenger frustrations.

Reduces costs and insurance premiums incurred due to bridge strike.

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In association with: FORS, CLOCS, Crossrail, RHA, FITAS PATRON, FTA, Crown Commercial Service

LEVERAGING VISUAL DATA FOR HIGH ACCURACY RECOGNITION

What Is Considered A Low Bridge?

Network Rail and the Bridge Strike Prevention Group state the standard clearance over public roads should be 16'6" (5.03m).

Bridges lower than 16'6" are considered low bridges & signs must be present showing the maximum vehicle height that can safely pass underneath.

What Makes Our Low Bridge Recognition System Superior?

	Other Systems	Exeros' Camera-Based System
Location-Based Detection	✓	✓
Road Sign Visual Detection		✓
Low Bridge Visual Detection		✓
Advanced Use of RFID		✓

How We Use Smart RFID

Our intelligent RFID reader automatically identifies the trailer height from the smart RFID tag installed. Ensuring that our system is armed to provide accurate low bridge warnings to your driver, eliminating any human error and confusion over vehicle and trailer height.

Combines GPS Data with Visual Detection for Accurate Recognition of Low Bridge

Geo-fence Data is not always updated. Traditional low bridge warning systems rely on valid GPS data to function correctly. The Exeros camera-based low bridge recognition system combines 3 levels of detection to combat wrong or outdated information.

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HOW IT WORKS

LOCATION-BASED DETECTION

Use of geo-fencing technology to identify a low-bridge in the area and alert driver accordingly.

1. GPS Tracking

- The system tracks a vehicle's location through real-time GPS tracking.
- When a vehicle enters a specific geo-fence area where a bridge has been previously identified, the system cross-references the vehicle's dimensions with saved height and width of bridge in the area.
- The AI system determines if the vehicle's dimensions exceed those of the bridge, triggering a set of actions if needed.

***Geo-fencing is a location-based service using GPS data to trigger a set of actions when an object enters or exits a virtual geographic perimeter, known as geofence. Geofence does not identify the exact route of the vehicle. Geofencing is dependent on accurate GPS data.*

VISUAL DETECTION

3D Scanning of road ahead for accurate detection of road signs and low bridge when geo-location fails to do so.

2. Road Sign Recognition

- The camera identifies height and width dimensions on low-bridge road signs mounted on or near oncoming bridge.
- The system cross-references the bridge dimensions with the vehicle's own saved dimensions.
- The AI system determines if the vehicle's height or width exceed those indicated on the low-bridge road sign.

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HOW IT WORKS

3. Low Bridge Recognition

- The AI camera scans and measures the height and width dimensions of an approaching bridge hole.
- The system cross-references the bridge dimensions with the vehicle's own saved dimensions.
- The AI system determines whether the vehicle will be able to safely go through the bridge tunnel.

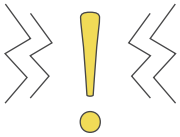
DRIVER WARNING IN REAL-TIME

4. Visual, Audible & Haptic Alerts

If the vehicle exceeds the height or width of an approaching bridge, the AI system will alert the driver through visual, audible and/or haptic alerts.

Visual Alert

Audible Alert



Haptic Alert

**STANDALONE OR CONNECT TO DVR

for cloud-based uploads, added storage capacity, additional camera connections and more.

About Exeros

Founded in 2009 Exeros Technologies is an innovative technology led company with a vision to change vehicle and road safety for good. Our aim is to bring safety technology solutions to vehicles and drivers both inside and out.

We are trusted to supply high quality products and deliver excellent service to protect people, reputations and assets.

- All our system installations are carried out to strict standards by Certified Auto Electricians preserving manufacturer warranties.
- All our systems are fully approved and compliant with FORS, CLOCS, Crossrail, RHA, Fitas Patrons, FTA and Crown Commercial Services.
- Exeros are ISO9001:2015 and ISO27001:2013 certified.

Proud to be working with:

First Bus · Somerset Passenger Solutions · Nottinghamshire County Council · AA · national highways

CONTACT US

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