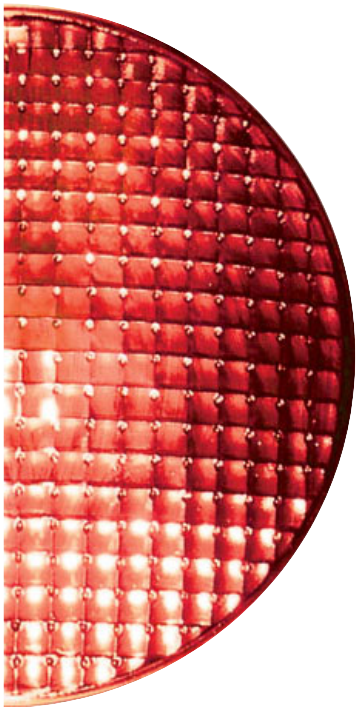


## Summary

Inductive loops are a mature technology and one should not expect or should feel the necessity to replace existing inductive loops with non invasive technology. However, in circumstances where inductive loops, for a variety of reasons cannot be used, the NID can offer a perfect alternative.



Gatsometer B.V.  
Postbus 4959  
2003 EZ Haarlem  
Nederland

Tel: +31 23 525 5050  
Fax: +31 23 527 6961  
sales@gatso.com  
www.gatsometer.com



G A T S O M E T E R B V



## Non Invasive technology using Loopless Trigger Radar

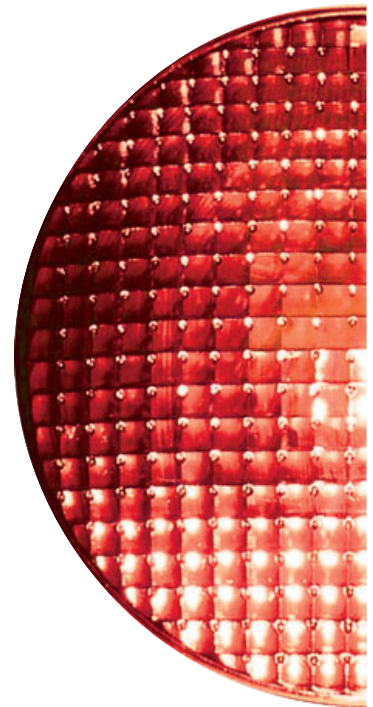
*Gatsometer BV is introducing a new technology in red light enforcement: **Non Invasive Detection (NID)**. The equipment built by Gatsometer BV for this application is called the **Loopless Trigger Radar (LTR)**.*

Today, most vehicle detection systems rely on inductive loop detectors that employ loops of insulated wire placed beneath the road surface. Gatsometer BV prides itself on being able to offer the most accurate inductive loop detector system in the world (The Gatsometer GLD4-2S) and for the majority of locations this is still the most favorable solution. However, obstacles in the road surface, railway crossings with large quantities of steel in the ground, and the requirement to close lanes of traffic for installation can make induction loop systems undesirable in certain sites and circumstances.

These special conditions have resulted in our company taking the initiative to come forward to meet this market demand with our new solution. The new NID system offers an accuracy of over 98% detection, this non invasive solution is once again a highly reliable product for road safety applications.

### What is it?

Gatsometer BV is the company that pioneered the use of radar for road traffic safety systems and has decades of experience in this field. With this new system, a virtual loop is projected onto each separate lane of the road surface. The functionality is the same as with inductive loops. A vehicle that violates the red light and moves through the virtual loop zone is detected by the NID unit, which in turn instructs the camera to take a picture of the offending vehicle. The fundamental difference with this system and inductive loops is that the radar loop is projected **onto** the road surface rather than placed **under** the road surface. It is in fact a virtual loop!



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### How does it work?

Each LTR detector is directed onto a single lane and projects a virtual loop on the road surface: the 'footprint'. A vehicle present in the footprint area is continuously measured and the output from these measurements is sent to the NID unit. The trigger point (or photo point) is in the middle of the footprint and can be aligned according to the local and legal situation: on the stop line, before the stop line or after the stop line. When a car is in violation, in this case passing the trigger point when the stoplight is red, the NID triggers the digital Gatso Traffic Camera, which will take a photograph of the offending vehicle. An optional second photograph is taken after an interval time or interval distance.

### Configuration

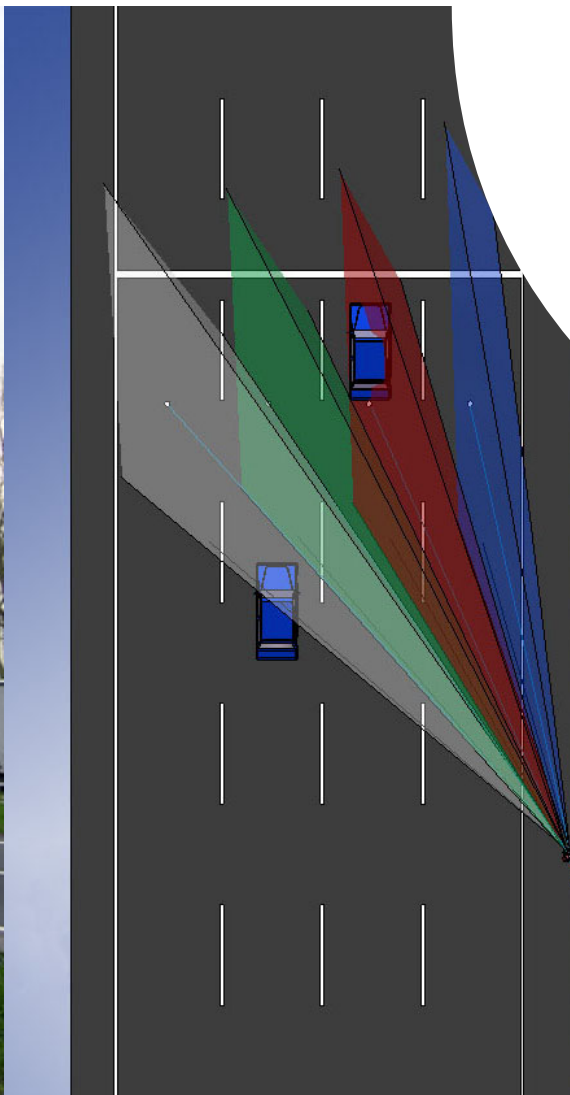
Employing the Multicam system, the NID can detect up to four lanes and can detect either approaching or receding traffic. One GTC-D can detect up to three lanes.

### Installation

A software package has been especially designed to guide installation engineers through the installation process. Exact positioning of the footprint and aligning of the trigger point is now a matter of utilising software and a double telescopic sight.

### Advantages:

- Suitable for all varieties of road including unsurfaced loose roads, deformed or uneven roads.
- Roads do not have to be closed and traffic does not have to be redirected during installation therefore costs and disruption to traffic flow are reduced.
- Suitable for unusual applications such as sound-dampening road surfaces, metal and reinforced concrete bridge sections, railway crossings etc.





### Compatibility

The non-invasive solution is pin compatible (plug-and-play) with the existing Gatsometer Loop Detector (GLD4-2S); allowing easy exchange of detector units in the Gatso Traffic Cameras (GTC-D, Multicam and the Point-to-Point® system). Of course the ability to download offence data (including the offence images) and also to adjust camera settings remotely is available for this new system.

### Technical specifications

#### LTR

*Electrical Characteristics:*

Supply voltage	12V DC +/- 10%
Power consumption	2 VA (typ.)
Operating temperature	-30°C to 85°C
Center Frequency	24.125GHz +/- 25MHz

#### NID

*Electrical Characteristics:*

Supply voltage	5V DC +/- 5%
Power consumption	1,75VA (typ.)
Operating temperature	-30°C to 85°C



The Loopless Trigger Radar