



**VITRONIC**  
the machine vision people



## TOLLCHECKER ROADSIDE GANTRYLESS TOLLING

To meet the requirements of tolling roads with fewer lanes VITRONIC has developed an alternative to conventional gantry infrastructure. In contrast to sensors affixed to overhead frameworks, VITRONIC's new system allows camera-based identification and vehicle classification from the roadside. All vehicle-to-infrastructure (V2I) components, processing technology and sensors are installed in a compact housing, the iconic design housing, which requires minimal groundwork.

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## Lateral sensor array – a clever solution

Most Electronic Toll Collection (ETC) free-flow systems are gantry-mounted. But especially for coverage of roads with fewer lanes, gantries have drawbacks. They require extensive, costly groundworks with temporary lane closures during construction.

For smaller toll roads TOLLCHECKER ROADSIDE can replace gantry installations with equal functionalities. It is secured to the roadside and houses all necessary components including a complete sensor array, illumination and data processing technology – a clever all-in-one tolling solution.

## High-resolution optical classification

TOLLCHECKER ROADSIDE uses advanced machine vision technology to capture high resolution images of passing traffic from the side. The process of identifying vehicles works similar to that of gantry systems; either through front and/or rear ANPR or with V2I communication via RFID or DSRC transponders.

TOLLCHECKER ROADSIDE is able to support all current modes of Electronic Toll Collection (ETC). The integrated microwave DSRC communication is compatible with the European Electronic Toll Service (EETS).

Out of high-res images the system determines vehicle dimensions, the number of axles and whether trailers or superstructures are present. The applied sensor technology is particularly suitable for the identification of long vehicles, since uniform illumination over the entire vehicle length and thus excellent image quality is achieved. In addition, it can optionally read vehicle markings such as hazardous goods placards or other labels. All sensor data is automatically

- » Turnkey RSE solution
- » High-res optical classification day and night thanks to uniform illumination
- » Front and rear ANPR
- » V2I communication (RFID, DSRC)
- » Easy-to-install, service-friendly due to compact, modular design housing
- » Low infrastructure requirements

compiled into complete passage reports. The vehicle is automatically sorted into the respective class of the tolling scheme and immediately verified against existing tolling accounts or passed on for billing.

## Compact, service-friendly design housing

For straightforward installation and service, TOLLCHECKER ROADSIDE is integrated in VITRONIC's design housing. The design minimizes installation effort and environmental footprint. The housing comes preconfigured and can be quickly set up at the roadside with minimal groundwork. The system is equipped with a built-in 4G-ready wireless data connection. For maximum security, the aluminium casing offers video surveillance, an electronic two-way locking system and an encrypted data transmission. The color design of the pillar can be customized to suit any environment.



High-res sideways images for classification including size, type, axle count and trailers

VITRONIC Dr.-Ing. Stein  
Bildverarbeitungssysteme GmbH  
Hasengartenstr. 14  
65189 Wiesbaden, Germany  
Fon +49 611 7152 0  
Fax +49 611 7152 133  
www.vitronic.com  
sales@vitronic.com

Louisville, USA – sales.us@vitronic.com  
Melbourne, Australia – sales.au@vitronic.com  
Dubai, United Arab Emirates – sales.ae@vitronic.com  
Shanghai, China – sales.cn@vitronic.com