



ROAD TRAFFIC TECHNOLOGY

**GOOD JOURNEY  
INNOVATIONS**





# CROSS HOLDING

The company dates back to 1994 and set out by installing systems comprising stand-alone traffic light controllers. We have grown and diversified ever since to the extent that our staff now carry out major Smart City and road projects all around the world. Enabling smooth, safe travel for everyone is the goal of CROSS – a family-run business – and the team it employs.



Ing. Tomáš Juřík  
CEO

## VISION

To be at the forefront of developing and implementing innovative traffic technologies. To deliver world-class services, technology and products to our partners and customers.

## WHY CROSS?

- State-of-the-art technology
- In-house R&D
- Experts and transport engineers
- Wealth of real-world experience
- Customized solutions
- Flexibility

1994

BEGINNING OF THE STORY

200+

EMPLOYEES

50+

DEVELOPERS

20+

MILLION EUR TURNOVER

The advanced technologies we develop in-house at CROSS are applied in everything we do – ITS and Smart Cities projects, Traffic Control, Parking, Weigh-In-Motion, Road Telematics and Road Weather status. We have specialists on hand for consultation capable of discussing a potential project of any scale, covering all the bases – from A to Z. An important factor for

clients is the knowledge that any state-of-the-art proposal from us will be interoperable with the software or hardware they already have in place and can be customized to suit the given application. Systems by CROSS have been installed in locations from Japan to Brazil, Norway to Tanzania with the aim of keeping traffic moving whatever the local conditions.

### CROSS HOLDING:

CROSS Zlín, a. s. | Incinity, s. r. o. | Lab Systém, s. r. o. | Cross Türkiye | Cross Deutschland | Spinnea | Britec



INTERTRAFFIC INNOVATION AWARDS 2018  
Winner in the Infrastructure category



INTERTRAFFIC INNOVATION AWARDS 2016  
Overall winner



INTERTRAFFIC INNOVATION AWARDS 2016  
Winner in the Smart Mobility category



SMART CITY SERVICE AWARD 2017  
Winner



- CROSS headquarters
- CROSS branches
- CROSS installations

## MISSION

We aim to improve conditions for road-based travel through applying the latest technologies. Our priorities are safety and the efficient traffic flow of all vehicles and freight.

# PRODUCT OVERVIEW

[www.cross-traffic.com](http://www.cross-traffic.com)

## NEW HEADQUARTERS

In August 2023, we moved into our brand new production and development headquarters in Zlín-Malenovice.



## WEIGH IN MOTION

An advanced and progressive Weigh-in-Motion system for weighing fast-moving vehicles in combination with loop detectors, road sensors and a core WIM module. CROSS software enables on-line measurement as well as immediate validation and enforcement.

[www.optiwim.com](http://www.optiwim.com)



- CrossWIM** dynamic weighing unit with a facility for direct enforcement
- #OPTIWIM** certified as the most precise system for assessing dynamic weight

## TRAFFIC CONTROL

Complete systems and hardware for intelligent control of traffic in cities, including traffic light controllers and control centres for comprehensive monitoring purposes and adaptive traffic management.



- CROSS RS 4S** traffic light controller
- CROSS RS 5** traffic light controller
- eDaptiva** full-featured urban traffic management centre
- PTC** maintenance and programming software

## PARKING SYSTEMS

A complete solution for parking in outdoor areas, urban zones, garages or car parks. Every device is integrated with a system that handles all management and control, including payment terminals for off-street and on-street parking.



- CrossPark** parking system with automatic barriers
- CROSS APTM** universal payment terminal
- CROSS APTML** payment terminal lite
- CROSS PTi/VTi** entry and exit terminals

## ROAD WEATHER

A system for monitoring and predicting weather conditions on roads and in cities. It can be extended to form a comprehensive solution with numerous options for intelligent management of wintertime road maintenance.

[www.metis4.com](http://www.metis4.com)



- CrossMet** road and urban meteorological stations
- METIS** advanced road weather information system
- SSWM** system to aid decision-making in road maintenance
- WMI** performance of wintertime maintenance and cost analysis

## DATA COLLECTION

State-of-the-art systems for classifying and counting vehicles, based on inductive loops, cameras or radars. The ability to monitor traffic flow and calculate travel times.



- CrossCount** traffic counter and classification device
- Travel Time module** traffic detectors and unit for traffic flow monitoring and predicting travel times
- CROSS ControlUnit** universal unit for collecting and transferring telematic data

## INVIPO

Software for smart cities and intelligent transport systems. Invipo is data storage, management software and information portal in one. It integrates city and road technologies into a common user interface with smart tools.

[www.invipo.com](http://www.invipo.com)



UNIQUE PROJECT  
IN THE CZECH REPUBLIC

# INTELLIGENT TRANSPORT SYSTEM IN HRADEC KRÁLOVÉ



If you are looking for the most up-to-date set of technologies for traffic control used in one project, then focus on the project implemented by us in Hradec Králové. This is the best example of connecting a traffic control system with traffic counters based on advanced video detection, violation systems and data sharing through the V2X interface.

We delivered the latest development generation of the CROSS RS 4S controller to Hradec Králové. The controller communicates directly with the CROSS eDaptiva center using the European standardized open protocol OCIT. A C2X Road Side Unit (RSU) communicating on the ITS G5 standard is connected to each light signaling controller. C-ITS systems use data generated during the driving of currently produced vehicles, which these vehicles exchange not only with each other, but also with the surrounding infrastructure. The exchange of vehicle data is the basic idea of cooperative intelligent transport systems (C-ITS), where it is the fastest way to

express information to the driver quickly, reliably and intelligibly. The C2X system (possibly also referred to as V2X) is used as part of public transport priority and for the preference of emergency vehicles, as well as for informing drivers about possible traffic problems such as a pedestrian at an intersection, a traffic queue, a car in the opposite direction and others.

The complexity of the system is underscored by the installation of overview cameras with an advanced detection engine for counting and classifying traffic, directional analysis, detection of possible problems in traffic, and analysis of the speed of the traffic stream. As for infringement systems, the project includes 4 section speed measurement systems, 6 radars for instantaneous speed measurement and 2 red light crossing detection. Furthermore, the system also included the application of the LoRaWAN network, especially for the analysis of electricity consumption within transport infrastructure systems.

All the mentioned systems are combined into the smart city integration platform Invipo, which not only offers a web interface for the entire intelligent transport system, but also enables the integration of other city technologies into one unit. This platform stands on three basic pillars. These are data and integration, interoperability and smart scenarios, and presentation and open data. As part of this unique project, the integration of such a large number of systems into one platform makes it possible to search for a new context among the obtained data and maximize the efficiency of traffic control in the city of Hradec Králové.



# REFERENCES

Other references 



**Hungary**  
Network of 106 Weigh-in-Motion stations



**Mošnov, Czech Republic**  
Comprehensive airport parking



**Czech Republic**  
Road weather national system



**Kampala, Uganda**  
Barrier parking system for Makerere University



**Olomouc, Czech Republic**  
2000 parking spaces in the Šantovka Shopping Gallery



**Bulgaria**  
Data collection, network of 200 CrossCount stations



**Saudi Arabia**  
Weigh-in-Motion



**Czech Republic**  
Weigh-in-Motion for direct enforcement

5  
CONTINENTS

73  
COUNTRIES

1000+  
SATISFIED CUSTOMERS



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EUROPEAN UNION  
European Regional Development Fund  
Operational Programme Enterprise  
and Innovations for Competitiveness

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