EASING CITY TRAFFIC

TRAFFIC CONTROL

TRAFFIC SYSTEM IN URBAN AREAS

TRAFFIC **CONTROL**

INDUCTIVE LOOPS DETECTOR

TRAFFIC LIGHT CONTROLLER
CROSS **RS 4**

TRAFFIC LIGHT CONTROLLER
CROSS **RS 4S**

VIDEO DETECTION

ACTIVE PREFERENCE OF PUBLIC TRANSPORT
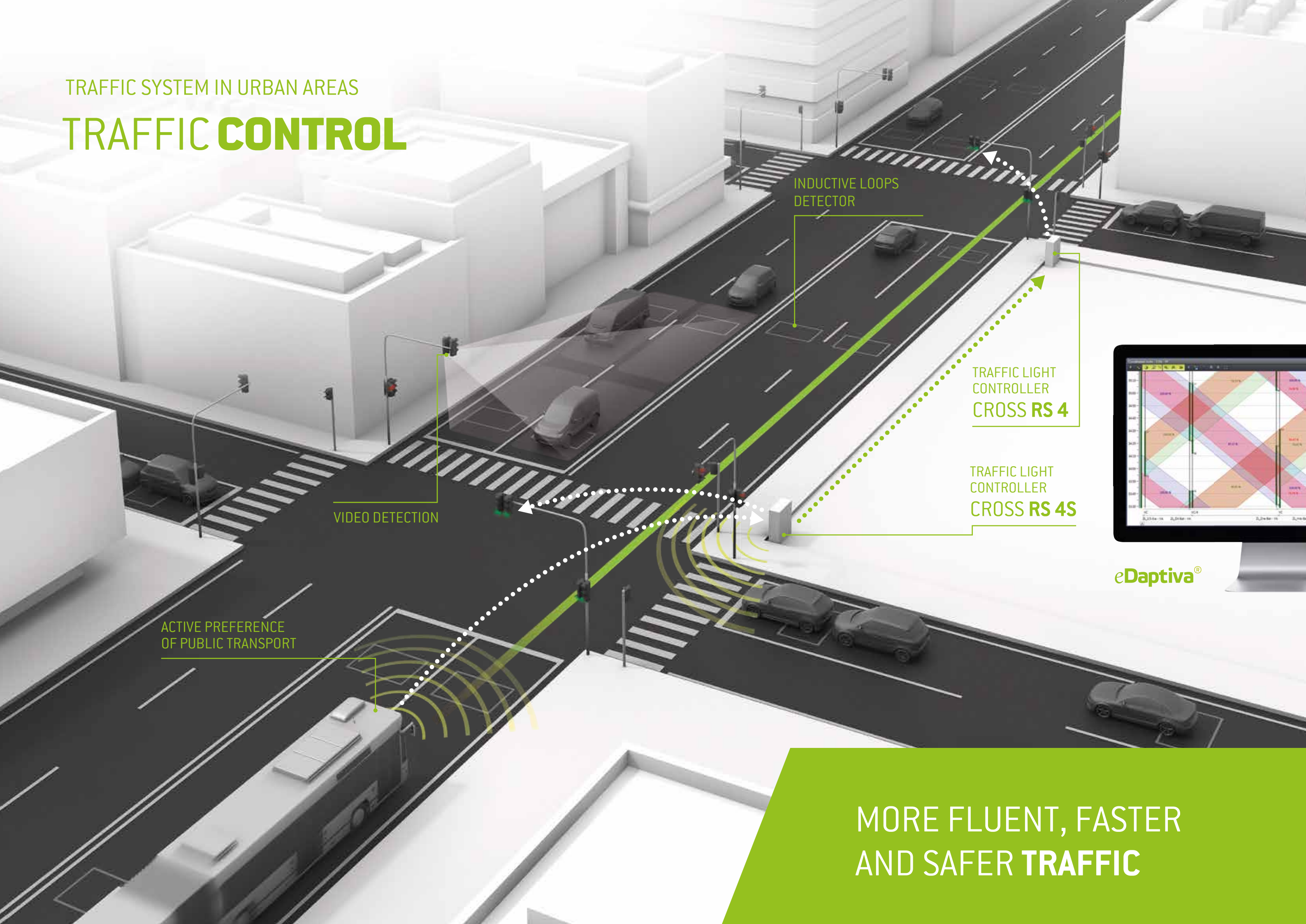
*e*Daptiva®

MORE FLUENT, FASTER
AND SAFER **TRAFFIC**

ADAPTIVE TRAFFIC CONTROL SOLUTIONS FOR URBAN TRAFFIC

CROSS

We offer smart systems of traffic control that can be adjusted according to particular needs of any city or a given traffic situation. The system includes independent control of intersections as well as tools for automatic adaptive traffic control based on current traffic flow. The system allows an active public transport preference and detection of available pre-set routes for emergency vehicles.

- Decentralized traffic control
- Decentralized traffic control in coordination
- On-line monitoring, status control and failure management
- Traffic control in all modes with centralized management
- Centralized full-featured monitoring and control
- Full adaptive control and traffic flow optimization
- Traffic data collection for traffic flow analysis
- Up to 1500 controllers (intersections) can be connected in eDaptiva traffic management center
- Connectivity via several protocols

C2X – an option of connecting the traffic light controller to the surrounding infrastructure

Prepared for low power LED signal heads 1 W 24 V DC

Prepared for a cloud solution in Invipo

CROSS traffic light controllers from the RS 4 and RS 4S series are available also in the OEM version

Traffic Light Controller
CROSS RS 4

CROSS RS 4 is the fourth generation of our most powerful traffic light controller. All CROSS traffic light controllers can work in the decentralized mode in a "master – slave" coordination and/or can be integrated into an urban traffic management center.

CROSS RS 4 is able to process information from various traffic detectors. Signal head outputs are fully configurable and each output is individually monitored. All CROSS traffic light controllers meet every security criteria on the highest level.

- Fire brigade, police, ambulance preference in 13 preset routes
- Number of signal groups – max. 64
- Number of signal head outputs – max. 288
- Number of loop detectors – max. 128
- Number of usable external inputs – max. 248
- Number of pedestrian push buttons – max. 111
- Number of signal plan frameworks – max. 32
- Number of stages in each signal plan – max. 16
- Number of stages of manual control – max. 6 + all-red
- Interface via RS 232, Ethernet, USB, GSM, GPS, 3G, optionally: opto-isolated RS 232, RS 485, DSL
- 4,3" LCD touch display or LCM sign 2x20

Traffic Light Controller
CROSS RS 4S

CROSS RS 4S model is a smaller and more compact version of the RS 4 traffic controller. It processes a lower amount of inputs and is designed for fast and simple installation. The controllers allow connections with various types of peripheries and plug-in modules.

- Fire brigade, police, ambulance preference in 13 preset routes
- Number of signal groups – max. 64
- Number of signal head outputs – max. 192
- Monitoring of each signal head output
- Number of loop detectors – max. 128
- Number of usable external inputs – max. 200
- Number of pedestrian push buttons – max. 74
- Number of signal plans – max. 32
- Number of stages in each signal plan – max. 16
- Number of stages of manual control – maximum 6 + all-red
- Interface via RS 232, Ethernet, USB, GSM, GPS, 3G, optionally: opto-isollated RS 232, RS 485, DSL
- 4,3" LCD touch screen

CROSS Traffic Light Controllers of the 4th generation

- Creation and control in fixed signal plan
- Creation and control in dynamic signal plan
- Public transport preference
- Fulfills requirements of EN 50556, EN 12675
- Safety integrity level SIL3

TYPICAL ACCESSORIES

Detectors

- Loop detectors
- Video detection
- Wireless magnetic detectors
- Pedestrian push buttons
- Radars

Signal Heads

- Power supply AC 230 V, 40 V, 10 V, 24 V DC 1 W
- Equipment: bulbs, LEDs

Public transport preference

- On-board unit and further vehicle equipment
- Modem inside the controllers

C2X
CONNECTING
TRAFFIC LIGHT CONTROLLERS
TO THE INFRASTRUCTURE

CROSS traffic light controllers communicate and exchange information with the surrounding infrastructure which enables reaching the highest level of traffic efficiency and security.

CROSS RS 4
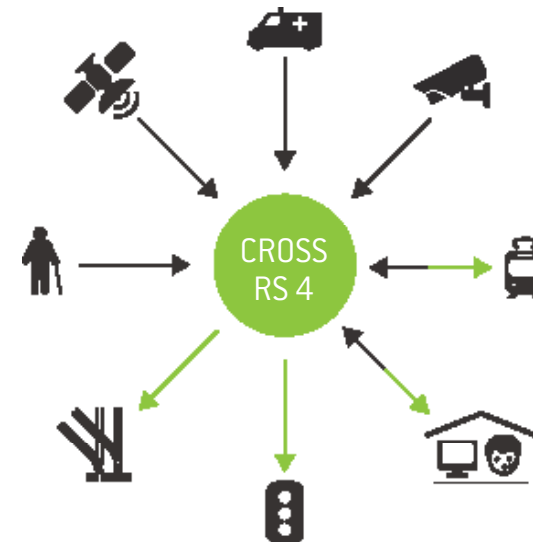
ACTIVE PREFERENCE
OF PUBLIC TRANSPORT

CROSS systems enable an active preference of the public transport vehicles at the traffic light controlled intersections. The data transfer between the public transportation vehicles and the traffic light controller makes the traffic flow more efficient without limiting the individual automobile traffic. CROSS traffic light controllers manage signal plans in real time and assign the vehicle preference required which minimises the risk of creating a delay in heavy traffic.

- Selective vehicle preference assignment
- Preference setting according to the local traffic hierarchy plan
- Minimizes the delay of all vehicles at intersections
- Optimizes the coordination necessary for public transport vehicles
- Only gives preference to physically present vehicles
- Isolated branch opens only for the current passage of public transport vehicles
- Can provide additional public transport dependent traffic functions

ABSOLUTE PREFERENCE
OF EMERGENCY VEHICLES

CROSS traffic light controllers can generate free lanes for emergency vehicles based on a received request. Typically, it applies to ambulances and firefighters.

CROSS
SOFTWARE

The CROSS software package contains a comprehensive range of products for configuration, remote control, and monitoring of traffic controllers. It can also be used for traffic planning, traffic situations modelling, device supervision, traffic monitoring and adaptive control.

The system is based on CROSS eDita® (maintenance and programming software) and eDaptiva® (full-featured urban traffic management center), which cooperate together. The solution is complemented by an add-on module – eDaptiva® web thin client for system monitoring by using eDaptiva® services.

eDita®

CROSS eDita® is a new software tool for parametric programming and uploading of traffic definitions into CROSS traffic light controllers (with the option of real-time monitoring).

eDaptiva®

eDaptiva® is a multi-featured urban traffic management center. eDaptiva® provides monitoring, supervision, and adaptive control and meets different requirements of small, middle-sized or large urban areas. Basic system monitoring is available also via eDaptiva® web thin client in an online form of Invipo interface.
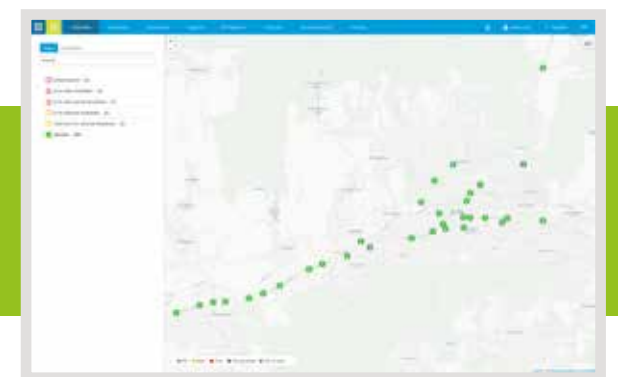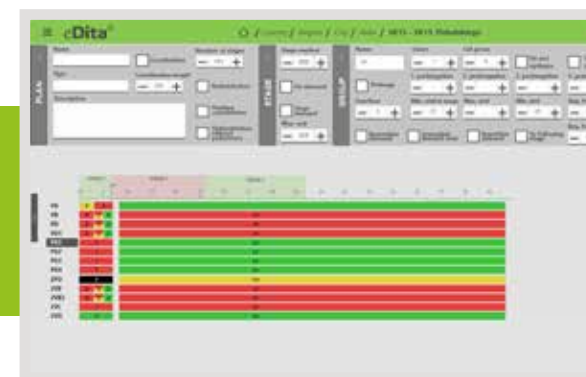
CASE STUDY

ADAPTIVE CONTROL AND PUBLIC TRANSPORT PREFERENCE IN ZLÍN

The public transport in Zlín is on time. Since 2013 the system of public transport preference has been in use there. Within the project installation, 88 public transport vehicles were equipped with onboard units and communication devices for drivers. At the same time, we installed radio modems for two-way communication between vehicles and controllers into 41 traffic light controllers.

It has resulted into an interconnected system of direct two-way communication that enables every traffic light controller to obtain precise information about the current position of public transport vehicles which allows it to optimise their transit through the intersection by, for instance, prolonging the period of green light. Meanwhile, the driver is informed about the time options for fast passage through the intersection which enables him to react by, for example, staying longer at the stop.

Thanks to the public transport preference system, city passage achieved up to 20 % travel time reduction and on the basis of the data, timetables have been adjusted.

REFERENCES

Belgium, Namur
Traffic control

Germany, Ulm
Traffic control

Poland, Legnica
Traffic control

Russia, St. Petersburg
Adaptive control

Czech Republic, Brno
Adaptive control with public system
preference

Czech Republic, Zlín
Adaptive control with public system
preference

Bulgaria, Sofia
Adaptive control

Russia, Sochi
Adaptive control, implemented for Winter
Olympic Games 2014 project

Turkey, Izmir
Adaptive control with public system
preference (as a part of integrated ITS project)

Oman, Muscat
Decentralized traffic control

Brazil, Guaruja
Decentralized traffic control

CROSS Zlín

Hasičská 397, Louky | 763 02 Zlín | Czech Republic

Tel.: +420 577 110 211 | E-mail: info@cross.cz

www.cross.cz