



# Intellectual Smart

**Intelligent Transportation System (ITS);  
Smart City (SC)**



**Intellectual  
Smart**

**Intellectual Smart is a systems integrator in ITS and Smart Cities field.**

**We provide various items and systems, from which the ITS and SC could be constructed, as well as the typical Roadmap of the project.**

# Advantages of ITS implementation

Practice gives the following values of the achieved effects of the implementation of ITS:

- ✓ Reduction of accidents on the roads by 15 %
- ✓ Reduction of the average travel time by 30 %
- ✓ Increasing the speed of response to incident by 25 %
- ✓ Fuel saving effect of 25 %
- ✓ Reduction of environmental pollution
- ✓ Reduction of road maintenance costs



# Equipment and software supply



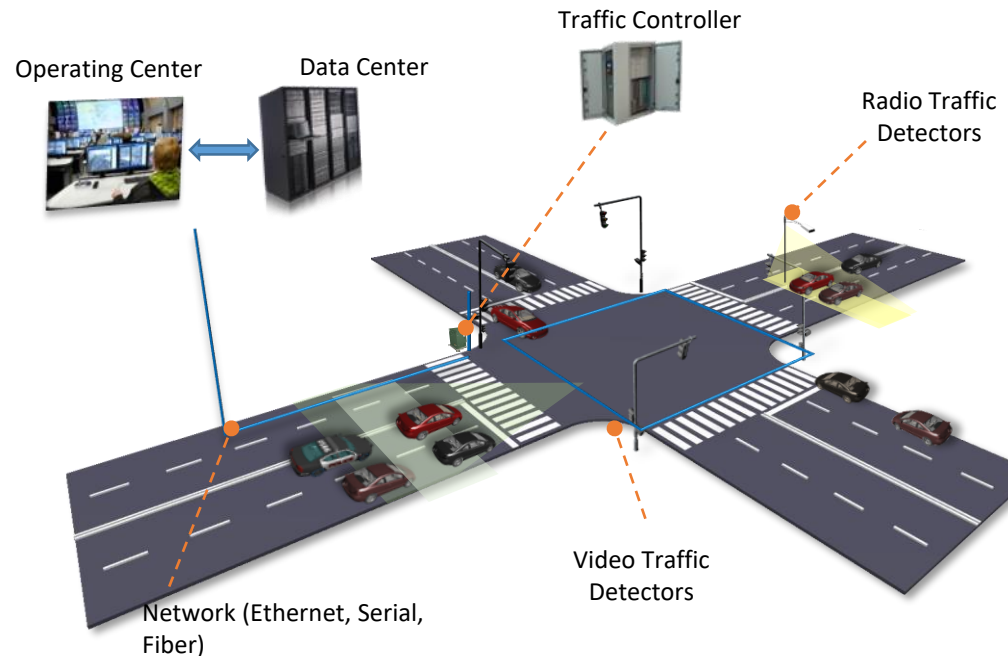
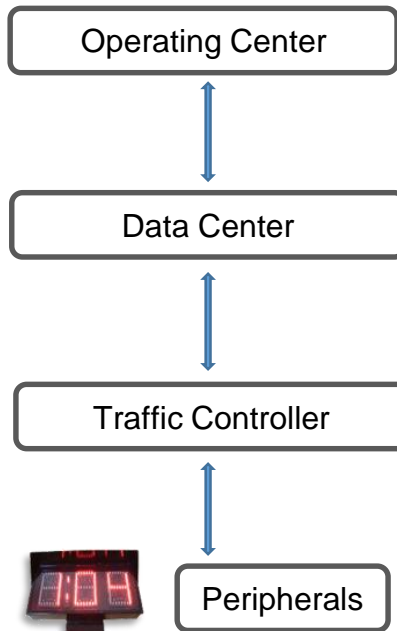
Intellectual Smart EOOD can supply all needed equipment and software for implementation of ITS and SC projects:

- ✓ Integration platform
- ✓ Geoinformation system
- ✓ Integrated security systems
- ✓ Client applications, including for tablets and smartphones
- ✓ Road controllers with adaptive mode of control
- ✓ Smart traffic lights with embedded video cameras
- ✓ Radio and video traffic detectors
- ✓ Complexes of photo and video recordings of traffic violations
- ✓ Complexes of weight in motion control
- ✓ Video cameras and videoanalytics
- ✓ Information displays and variable message signs
- ✓ Smart stops
- ✓ Road weather stations
- ✓ Barriers
- ✓ Emergency phones and alarm buttons
- ✓ Parking meters and payment acceptance devices for toll roads
- ✓ Sensors of various risk events: gas analyzers, smoke, weather stations, etc.

# Technical means of ITS



- ✓ ITS is a tool for centralized dispatching and management of traffic light objects
- ✓ ITS coordinates traffic lights management at zone or route level
- ✓ ITS provides network adaptive management of traffic light objects



Traffic  
Lights

Traffic  
Detectors

VMS

Timers

# Composition of solutions

Our company offers the solution for the automation of traffic control on the street network of settlements and on highways.

Our ITS solution includes the following subsystems:

- ✓ traffic regulation, implementing coordinated and adaptive traffic light control modes of traffic flows
- ✓ informing drivers
- ✓ traffic monitoring

**Traffic controllers:**  
**GENUS traffic controller**



**Traffic Detectors:**  
**GENUS video detector**



**Information display boards**



**GENUS CITY software**





**GENUS video detector** is a technical tool that records the number of vehicles passing through a section of the road, as well as determining the parameters of traffic flows

## Main functions:

- ✓ Determines the number of vehicles, traffic density, the time interval between passing vehicles
- ✓ Used for traffic control at intersections (traffic light control, early detection of traffic congestion)
- ✓ It is used in traffic management on motorways with car number recognition
- ✓ Determines the duration of traffic congestion
- ✓ It can be used as a stationary or mobile device for measuring traffic intensity



## Main characteristics:

- Area of detection features up to 6 lanes
- Installation up to 300 m from the control box
- Energy consumption of 30 watt
- Installation between 3.5 and 12 m high
- IP65 security class



**GENUS traffic controller** is an intelligent traffic controller for managing a wide range of peripherals placed on the crossroads



## Main functions:

- ✓ Intelligent traffic management on the road crossing
- ✓ Adaptive management on the local zone level, based on the traffic detector data
- ✓ Creating adaptive sections by combining several adjacent crossroads
- ✓ Work in a coordination group managed by central software
- ✓ The traffic controller on the street-road network is the center that aggregates peripheral devices at the zonal level

## Main characteristics:

- Support for the open UTMIC protocol
- Support for the open STCIP protocol
- Support for IUG405 protocol
- Support for the open OCIT protocol
- Support for up to 130 signal groups
- Compliance with standards: EN 50556; EN 12675; EN 50293; EN61508
- Support for up to 256 transport detectors
- Security class IP65
- Multilingual graphical interface





**Information display system** informs drivers about the traffic situation and upcoming major events

## Main functions:

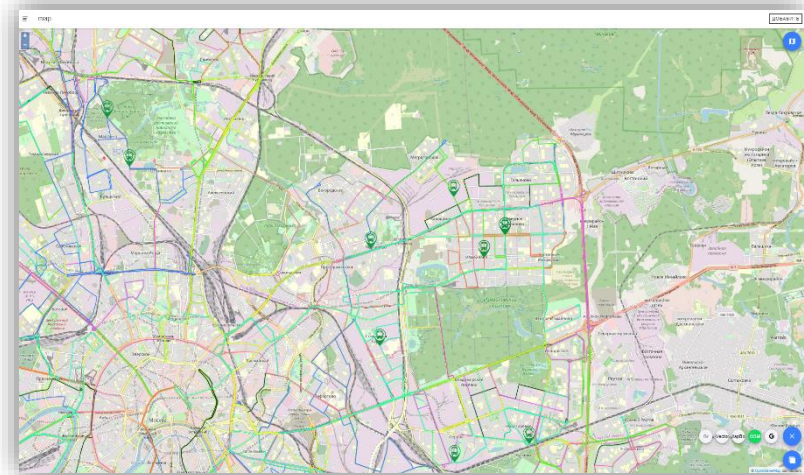
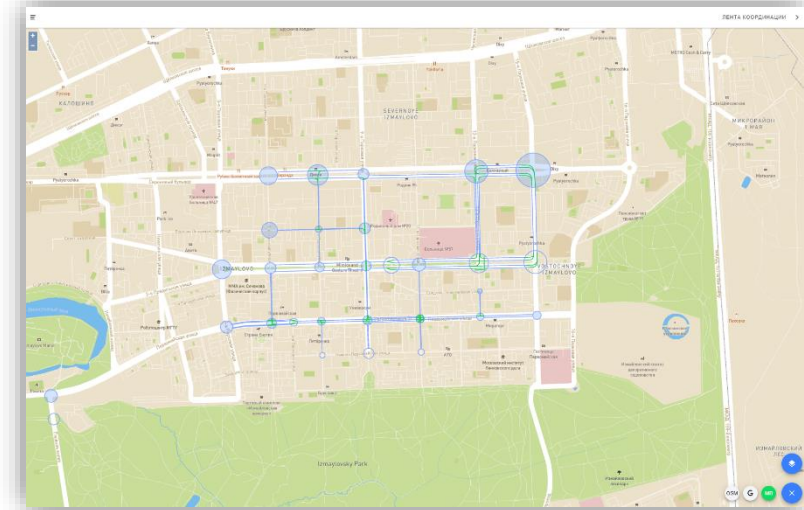
- ✓ informing drivers for:
  - Road conditions or driving order
  - Limiting the speed of movement (including for meteorological reasons)
  - Detour routes of transport congestion places
  - Carrying out work on the roadway



## GENUS CITY software is designed to automate the management and optimization of traffic flows through traffic control elements

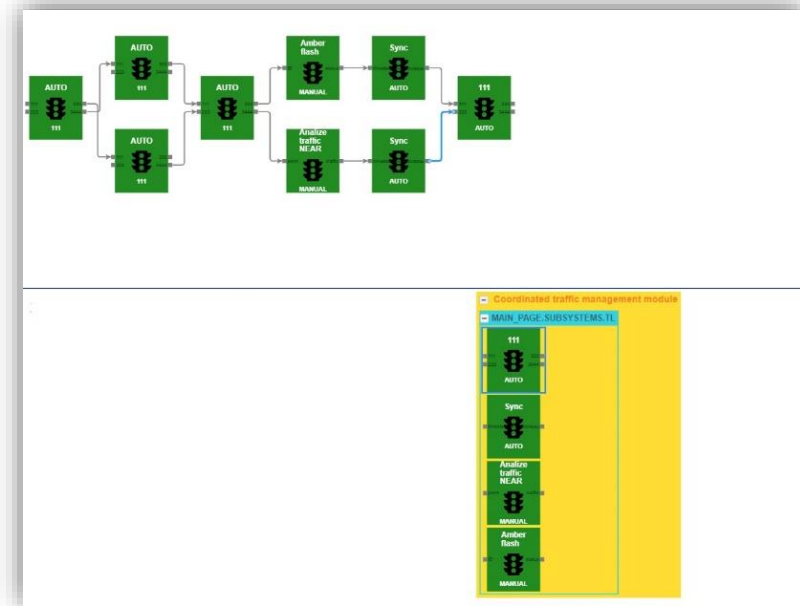
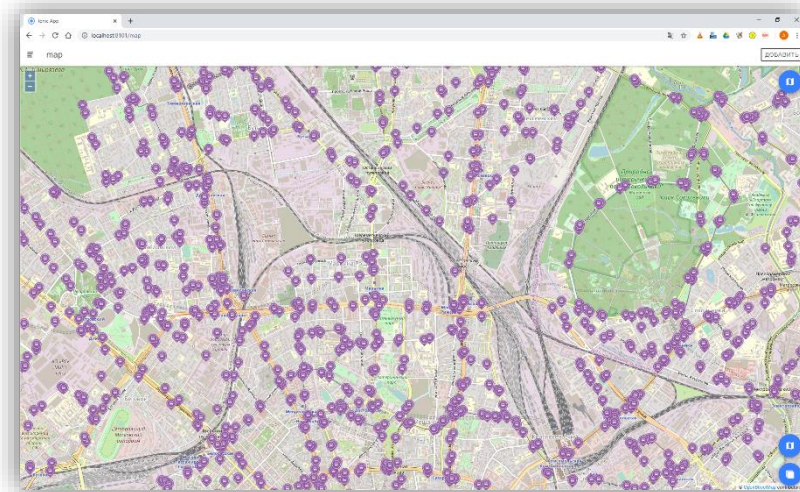
### Short description of the features:

- Monitoring and control of traffic on the road network management through traffic lights, as well as indirect management through the information warning board, traffic sign management in various situations
- Collection, storage, generalization and processing of operational information about the parameters of the traffic flow
- Automatic detection of emergency situations
- Informing drivers about traffic conditions by displaying information on the information display panel, controlled traffic signs placed on the road network management
- Video monitoring of the state of road segments of the road network

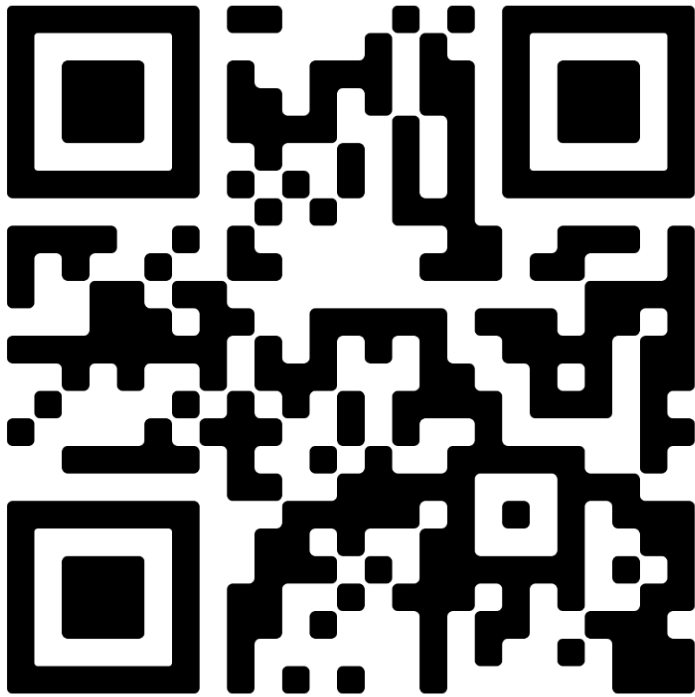


## Management of network adaptive zones «SmartZone»:

- Optimization of the operation mode of traffic lights to maximize the bandwidth of the zone as a whole
- Continuous recalculation of phase distributions depending on the parameters of traffic flows
- Optimization of the throughput capacity of sections of the road network not only within the zone, but also on the approach to it
- Continuous modeling of the development of the road traffic situation (calculating about 1000 possible outcomes and choosing the optimal one)
- Visualization of the simulation results in the form of a «traffic jam forecast» layer
- Checking the optimality of ready-made coordination plans using simulation methods



Intellectual Smart EOOD produces modern equipment and software that, in terms of quality and functionality.



## Intellectual Smart EOOD

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