

"Orlan" – the platform for a smart city

Orlan LLC



2020

What is a smart and a safe city?

A smart city offers modern quality of life through the usage of innovative technologies that provide cost-effective, environmentally friendly and safe use of all urban service units of the city.

A safe city is a smart city that guarantees public safety without reducing the quality of citizens' life.

The aim of smart and safe city is to receive the maximum amount of objective data on the situation in the city automatically, so it helps to reduce costs and improve the quality of citizens' life.



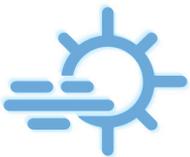
Why do you need a smart and safe city?



Urban growth: an increasing population density increases the burden on urban infrastructure (transport, real estate, electricity) which as a result leads to large capital investments.



The rise of terrorism: the increasing terrorist threat requires modern methods of prevention and response.



The environmental degradation: a constant increase of greenhouse gas emissions and other harmful substances leads to irreversible changes in the earth's ecosphere.



The importance of cities in the global economy: the world's 600 largest cities since 2010 to 2025 will be responsible for 65% of global GDP growth.



Budget cuts: the negative economic climate does not allow to deal with the problems using high-cost methods.

What is the concept of smart city?

The primary purpose is to automate all urban processes via digital technologies.

It is necessary to obtain objective data using various devices:

- Cameras: video surveillance, video fixation.
- Sensors: weather sensors, environmental sensors, etc.



The importance of the "Safe City" program



The main Government priority is to register and react on different types of threats (natural, man-made, biological and social, environmental, etc), this task provides public safety.

The implementing of the activities of this program involves the installation of a variety of sensors, surveillance systems and the creation of situation centres.

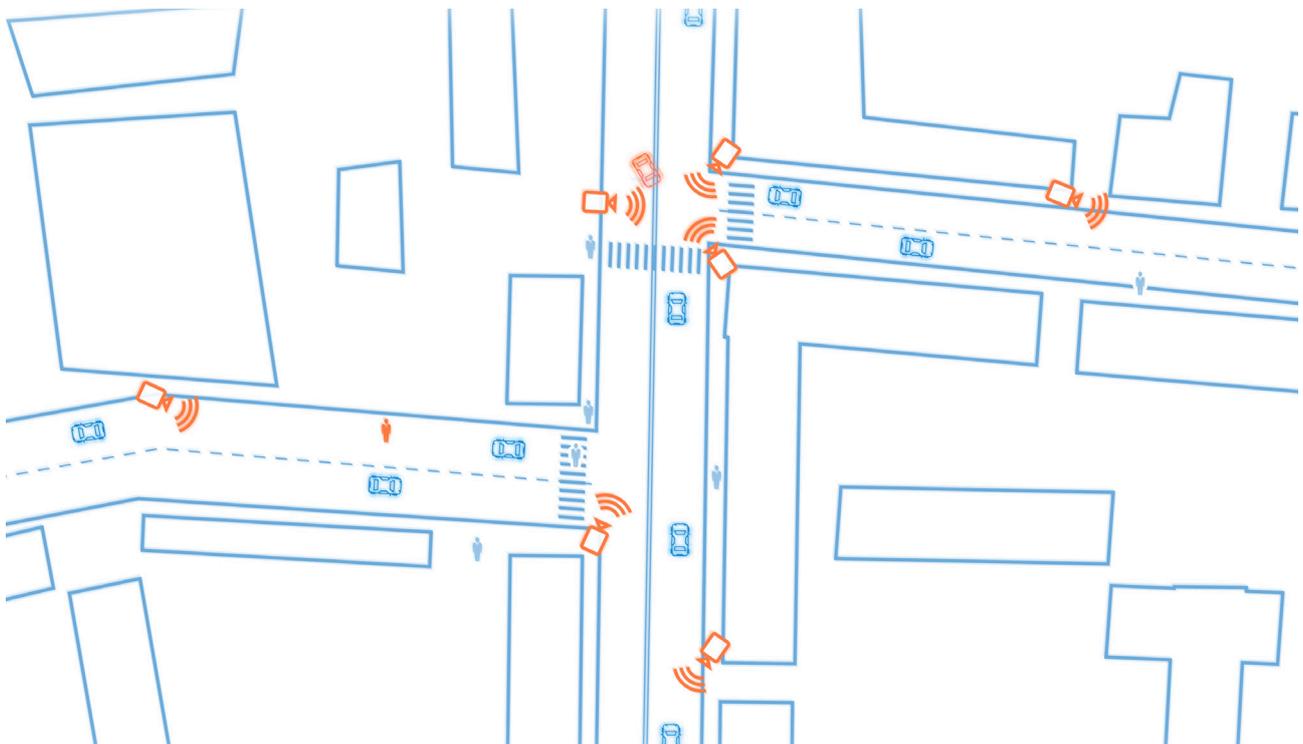
"Safe City" solutions based on "Orlan" allow you to build a multipurpose platform that is able to implement any concept in the security sector.

The characteristics of current decisions on program "Safe City"

The most of the existing projects are focused only on video analytics and video surveillance. As a consequence, it greatly limits the detection of many types of threats.

Most of the existing situation centers are not integrated into a single system and do not allow to monitor the situation with a single console.

The states should not be focused only on the problem of security, otherwise it will be difficult to combine the implementation of future infrastructure projects with other systems such as Automated Traffic Control System or environmental monitoring.



The platform "Orlan"

The basis of the platform is a camera with video surveillance and traffic violations recording, equipped with a set of different sensors.



Built-in video camera:

- recognizes license plates;
- detects traffic violations;
- recognizes characteristics of traffic flow;
- implements video analytics;
- monitors emergency situations through the access to the video stream in real time;
- captures the facts of emergency situations;
- transmits video to other security and video surveillance systems (including wireless).

Chemical Sensors:

- measure environmental conditions of air.

Temperature and humidity sensor:

- conducts meteorological observations.

Built-in thermal imaging:

- detects fires and abnormally high temperatures;
- detects warm objects (people, animals, vehicles) with high reliability, even at night.

Built-in microphone:

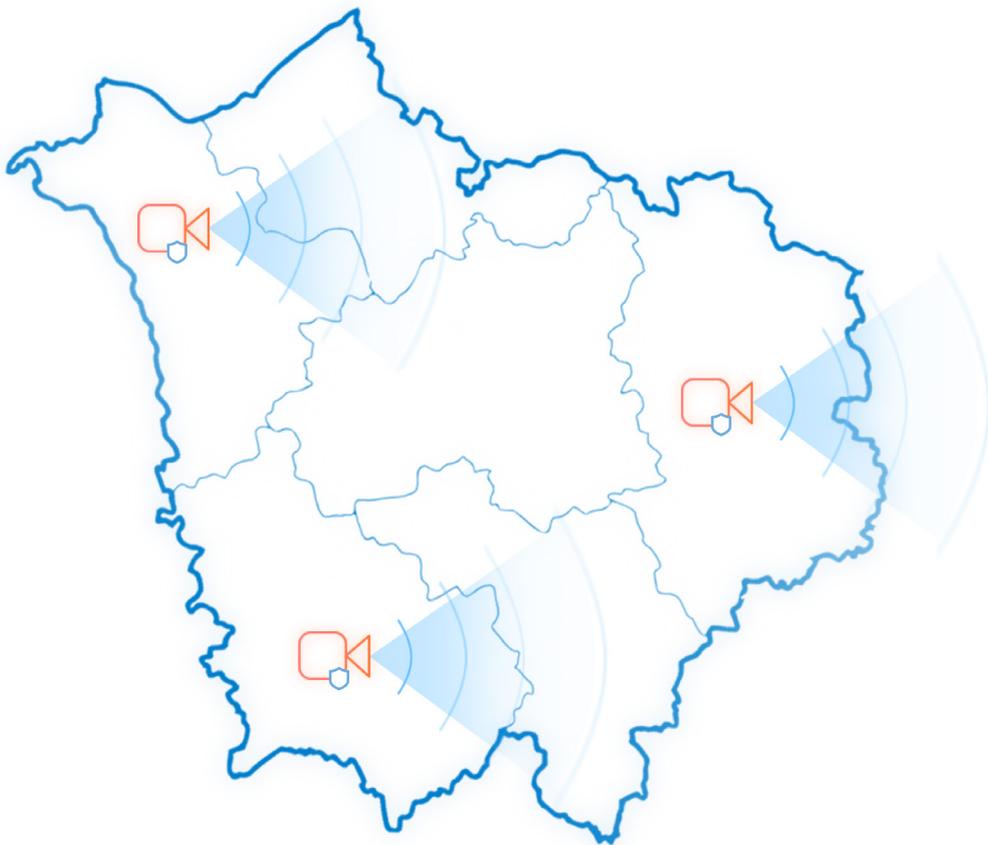
- conducts remote audio monitoring;
- produces automatic acoustic control.

Also has GPS and GLONASS, accelerometer, GSM, SDR, Wi-Fi, a Geiger counter, laser.

The platform "Orlan" - conceptual difference

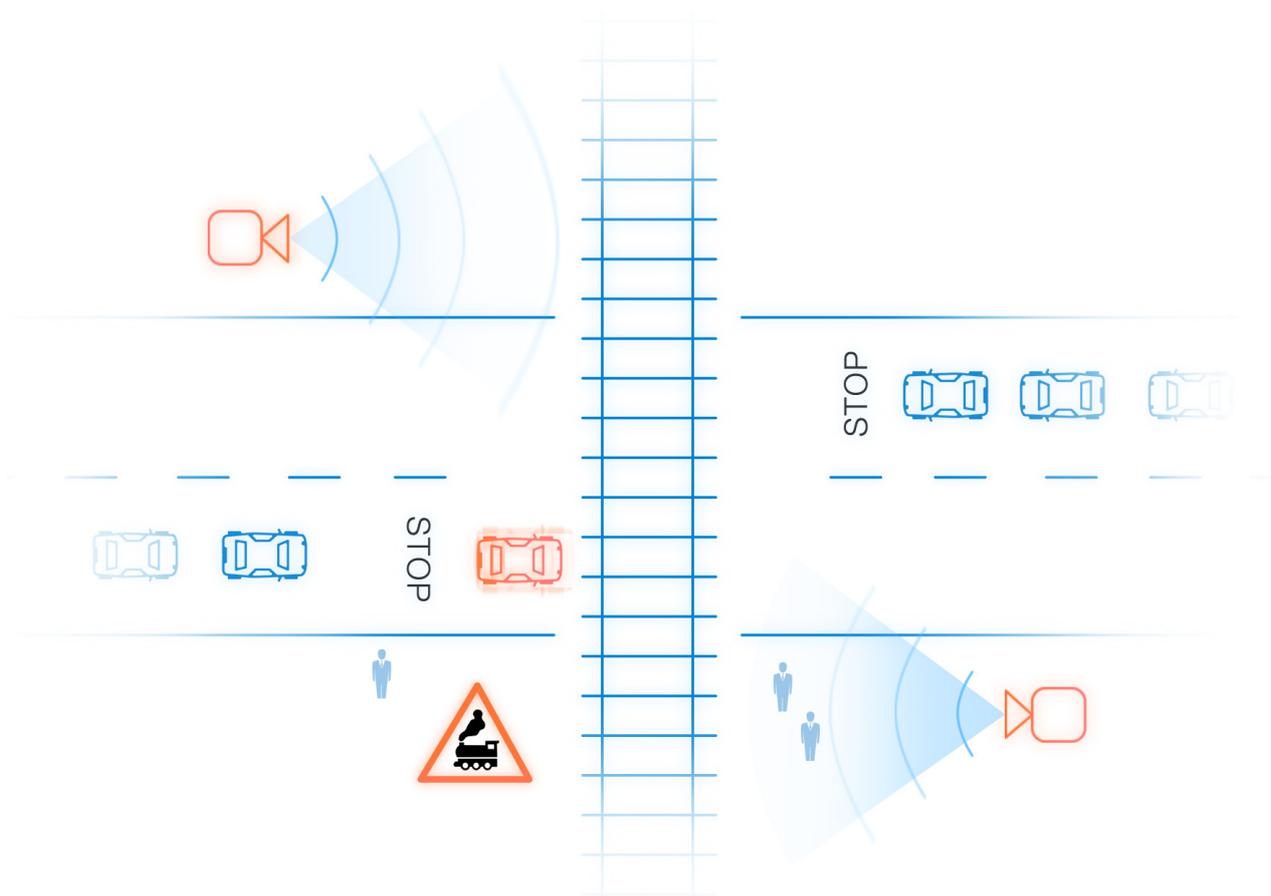
Three solutions in one:

- Due to broad set of built-in sensors of various types and the ability to connect external sensors it implements the concept of smart city.
- Due to algorithms of video analytics it recognizes all kinds of emergency situations.
- The platform is about the future – in the future due to the special SDR technology the systems that are not yet implemented can be connected to the camera, which is a base station for such solutions.



The platform "Orlan" - video surveillance

- Detects various traffic violations, including: not giving way to pedestrians, speed measurement, etc.
- The camera implements video analytic systems: determines the forgotten things, the presence of people in certain areas, the analysis of people flows, etc.
- If there are already customized video surveillance systems – "Orlan" can transmit the data to them.



The platform "Orlan" - emergency situations

- Due to the built-in thermal imaging "Orlan" captures accidents and fires.



- Due to water recognition algorithms automatically detects flood.



The platform "Orlan" - terrorism and breakdown of law and order

Due to the built-in microphones "Orlan" automatically captures:

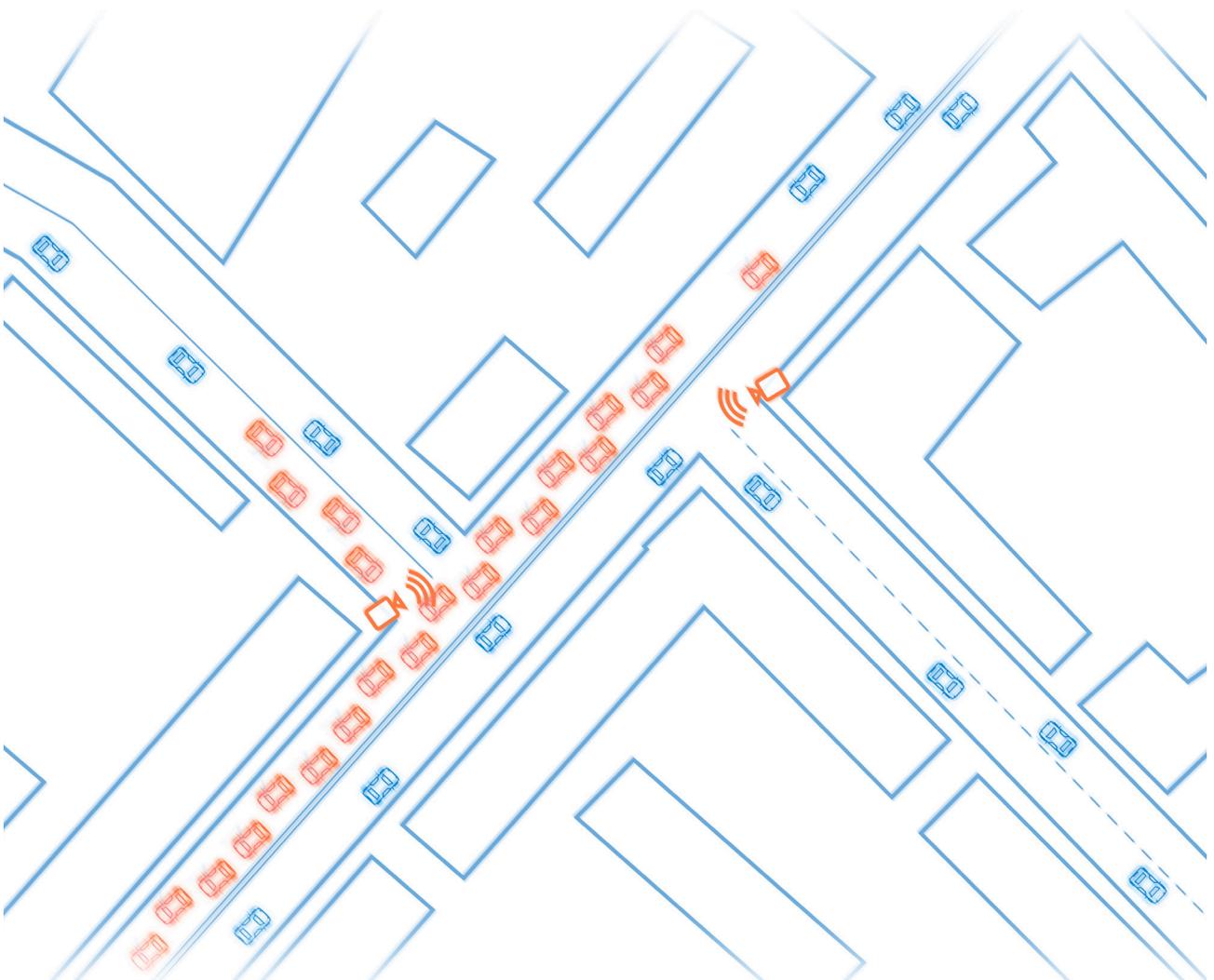
- explosions;
- glass breakage;
- shots;
- shouts.

It is also possible to carry out a remote acoustic monitoring.



"Orlan" - Intelligent Transportation System

Due to the recognition of license plates "Orlan" automatically captures the transport routes, congestion, traffic violations, types of vehicles and then it can transmit the data to the Automated Traffic Control System, to the parking department or other transport service.



The platform "Orlan" - environment

- Due to built-in thermometer and hygrometer it can monitor weather and meteorological conditions.
- Due to a Geiger counter it can measure background radiation.
- Due to the built-in sensor of carbon monoxide air condition can be measured. Also it can be equipped with additional sensors to measure other chemical pollution.



The platform "Orlan" for citizens and urban services

- Due to the built-in Wi-Fi module, one can organize extra hotspots and the Internet.
- Due to the built-in speakers system can notify residents about various events.
- Also "Orlan" can output laser projection, for example on pedestrian crossings.
- The platform is able to receive data from different personal emergency assistance devices, for example "Life Button" type.
- The system also can automatically get data from housing counters (including those that do not have radio, as well as those that will be installed in the future), increasing the collection of funds and improving citizens' comfort.
- The platform of telemetry and control of all devices connected to the system is realized.

The platform "Orlan" - situation centre

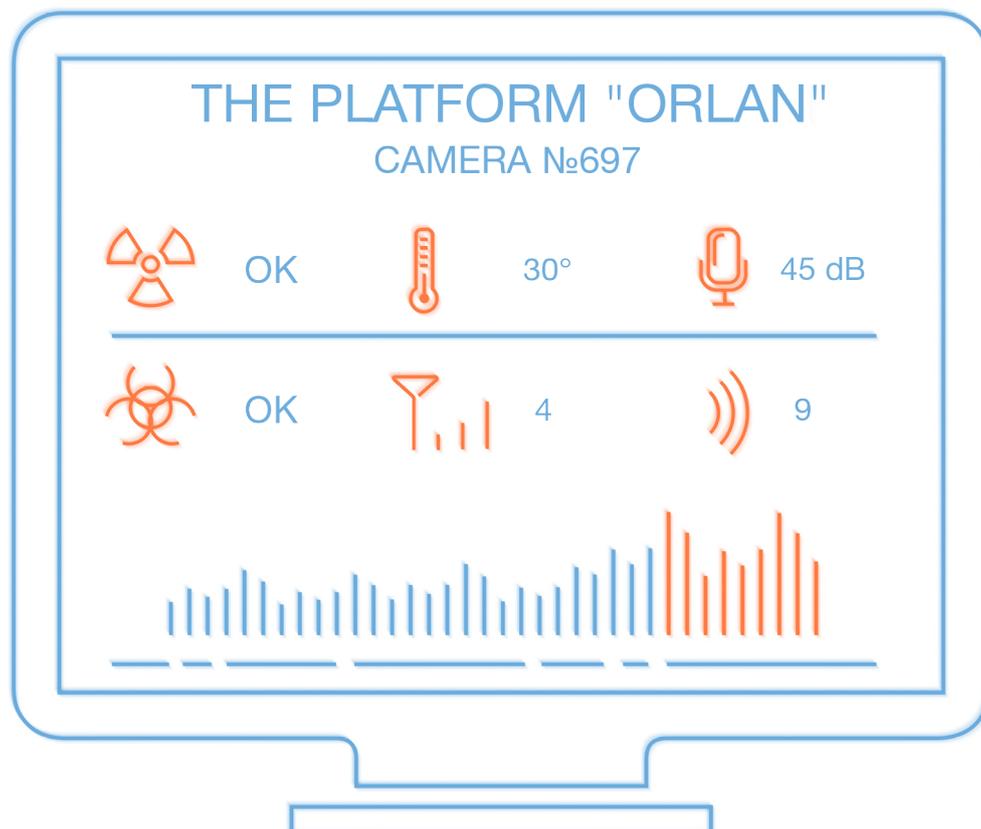
Three solutions in one:

Due to the flexibility and accessibility of the system the data can be transmitted to other existing systems.

The organization of the unified center for integrated access is possible.

Also, a smart control panel can be implemented. It allows to:

- intuitively monitor the situation anywhere in the city;
- receive information about the events directly;
- coordinate the actions of all urban services.



The platform "Orlan" - the summary

- The platform "Orlan" is a durable solution for the implementing of a smart and safe city.
- Among existing solutions it implements the concept of a safe city the most completely.
- It can effectively solve many problems related to transport, public services and citizens.





Moscow, Russia
121205, 7 Nobel street

e-mail: info@orlan-pdd.ru
phone: +7 (495) 961-63-95
web: orlan-pdd.ru