

## Zaporizhzhia Situation Center



Country: Ukraine

City: Zaporizhzhia

Areas: Government,  
City Safety,  
Police, Violations, Monitoring  
Rooms

The Zaporizhzhia Situation Center is a control organization, where online monitoring of the situation in the city is carried out using a video surveillance system. Center employees monitor the places of the greatest concentration of people, and objects requiring increased attention from the public safety aspect. Recently, Zaporizhzhia residents had the opportunity to report violations occur in the city to the Situation Center workers. Zaporizhzhia residents can apply for violations of city landscaping, thefts, and also administrative violations.

### Customer Pain Points:

- No traffic calculation system.
- Difficulty of tracking the vehicles by types and number of people.
- No statistic about the number of vehicles around the city or town.
- Absence of real-time traffic calculation
- Absence of reports as such like vehicle data, that can be used by the internal staff
- No VMS System installed

## Our Solution – VEZHA Traffic Analytics

The Traffic Analytics module was chosen and improves the following to update the work quality :

- The calculation of transport by types was made.
- Many types of vehicles were determined in the city.
- Vehicle statistics help to find loaded roads and streets.
- Ability to separate the results by time and date.
- The Situation Center is able now to generate statistical reports on transport to simplify traffic analytics.

## Hardware Requirements:

In way to organize the hardware for different analytics, 1 server was assembled with the following characteristics for analytics and virtual machine:

Middleware	CPU	Intel(R) Xeon(R) Silver 4114 CPU @ 2.20GHz
Middleware core	RAM	16 GB
Database	Operating system	Ubuntu 18.04.3 LTS (Bionic Beaver)
MQ Server		

2 analytical servers with the following characteristics:

CPU	Intel(R) Xeon(R) Silver 4110 CPU @ 2.10GHz (2)
RAM	126 GB
GPU	nVidia RTX 2080 ti 11GB
Operating system	Ubuntu 18.04.3 LTS (Bionic Beaver)

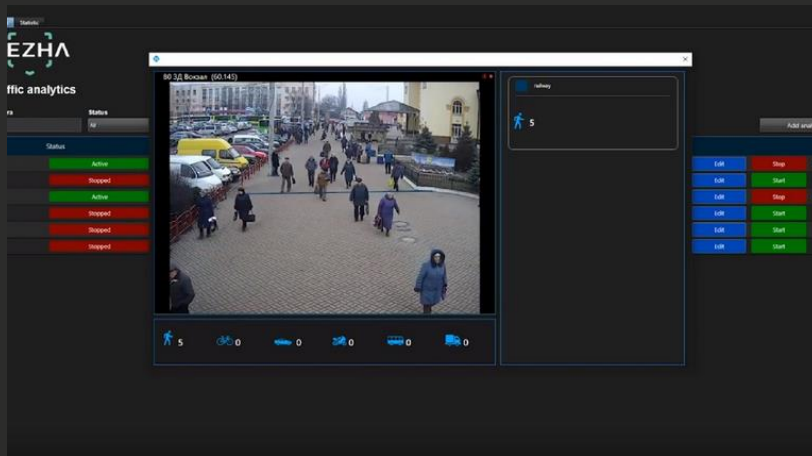
And one more server for storage: based on Dell EMC PowerScale.

## User Rights

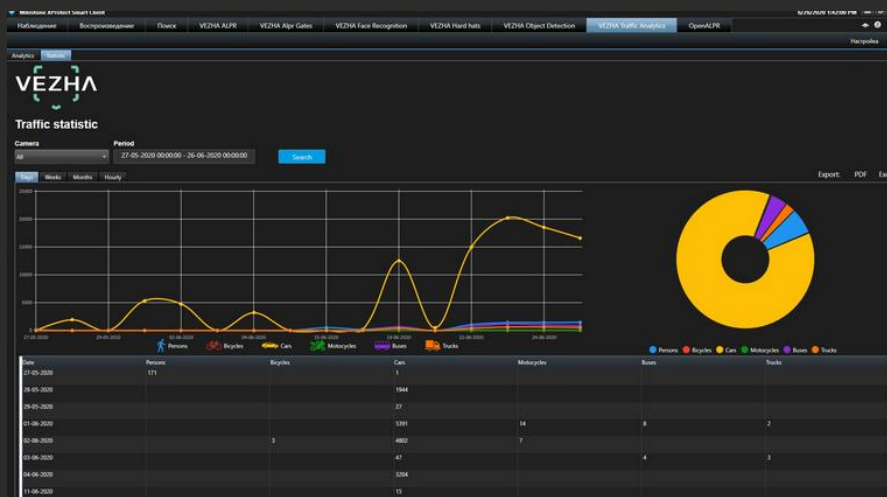
Since the situation center is a large structure, where each employee has access only to his own data and modules, the VEZHA system provides many roles for different employees. These are administrator, inspector, manager, user, view analytics roles. Each role is a set of access rights enabled for a specific user.



## Milestone Integrations



- Incoresoft VEZHA works in security systems of safe and smart cities with high traffic flow at speeds up to 250 km/hr. It works using neural networks, which automatically gives higher calculation accuracy.
- Using the Milestone Integration and Traffic Plugin all staff of the situational center can use the solution as VMS, also make calculation of traffic on highly loaded streets and roads.
- While tracking the vehicles the system forms the statistics.
- Using VMS, the staff can find not only the calculation of vehicles by types, but also give an example of video at the same. Milestone XProtect, VEZHA ALPR Plugin for Milestone XProtect and directly added video streams are installed on every computer.
- The plugin has a direct connection with the server, updates are made weekly thanks to the VEZHA specialists, which allows to always have a new updated version of the software.



## Our Solution Advantages

- Module's based on neural networks
- The module allows to classify exactly the types of vehicle (car, bus, truck, bike, motorbike) and the person.
- The calculation is made with very high accuracy.
- Even if the plates are dirty, blurred, unfocused, dark, or light our system can still recognize the plate numbers.
- The traffic analytics is suitable for solving traffic analysis problems on various roads with the classification of a car class (passenger, truck, bus)
- Simple integration without any special settings.
- Possibility to generate reports in Microsoft Power Bi and Google Data Studio.

## Conclusion

Incoresoft has implemented an efficient traffic calculation system in a way to reload streets and roads with huge number of transport.

Using the traffic analytics module the staff can identify the most highly-loaded roads in a city with a population of 740,000 inhabitants. At the moment, we are talking about expanding the number of licenses for the entire city.

