

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 license plate recognition system.
- Difficulty of tracking the route of vehicles movement.
- No tracking of criminals vehicles who can move around the city or town.
- Absence of roads violations fixation
- Absence of reports as such like vehicle data, that couldn't be sent to Harpoon
- No VMS System installed

Our Solution – VEZHA ALPR

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

- Many license plates of criminal vehicles through the city were captured and recognized .
- Many brands, models, and colors of vehicles were determined in the city.
- Trajectory and direction analysis helps to find violators and prevent crimes.
- Ability to separate offenders by lists was obtained.
- 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
Middleware core
Database
MQ Server

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

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)

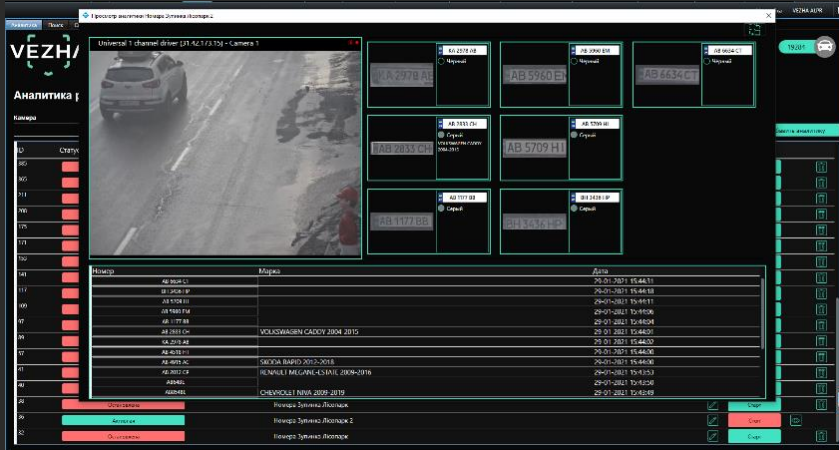
And one more server for storage: based on Dell EMC PowerScale.

User Rights

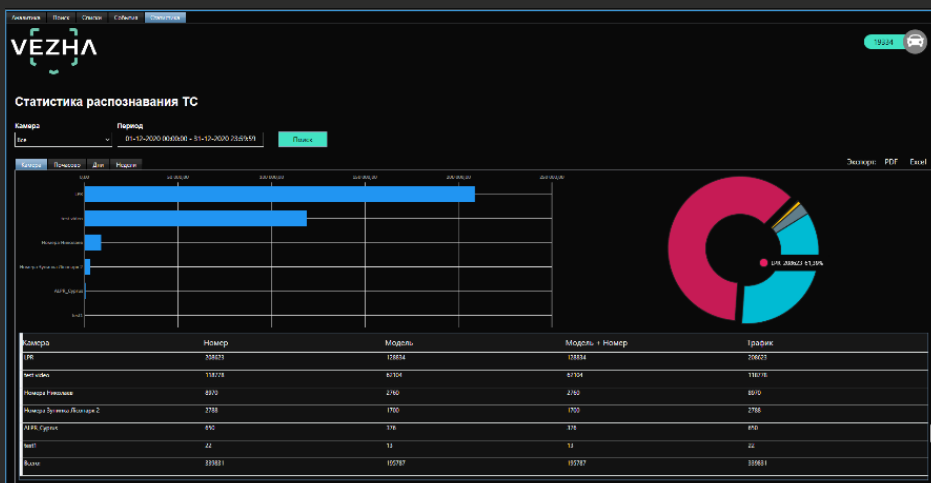
Since the situation center is a large structure, where each employee has access only to his own data and modules, the VEZHA system provides many roles for different employees. These are administrator, inspector, manager, user, view analytics roles.

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 recognition accuracy.
- Using the Milestone Integration and ALPR Plugin all staff of the situational center can use the solution as VMS, also recognize license plate, clarify the route, vehicle make and model.
- While tracking the criminals, the situational center can divide the vehicles into white and black lists of cars.
- Using VMS, the staff can find not only the photo, time, and place where the car is fixed at the time of violation, 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:

- License plate recognition accuracy up to 99.9%
- Our LPR solution doesn't have any limitations with lane quantity.
- Unlimited lists quantity with different rules
- Even if the plates are dirty, blurred, unfocused, dark, or light our system can still recognize the plate numbers
- Simple integration without any special settings
- Make, model, color, and direction recognition
- Intelligent analysis of columns and the ability to track vehicles
- Multi-line license plate recognition support

Conclusion

Incoresoft has implemented an efficient search system for wanted cars in a way to prevent crimes on the road.

According to the National Police of Ukraine, for the first half of 2019, the use of the ALPR module helped solve 500 offenses and prevented 500 crimes 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.

