



## SOLUTIONS FOR SMART CITY



## Automation of road infrastructure





## AUTOMATION OF ROAD INFRASTRUCTURE

#### **IMPLEMENTATION OF SMART CROSSROADS SYSTEM**

- Running a Red light
- The "stop line" crossing
- Pedestrian crossing control

### **COMPLEXES FOR FIXING** TRAFFIC VIOLATIONS

- Speed cameras with 92% Belarusian license plate recognition quality, instead of 68% of the current ones (verified)
- Face recognition cameras through the windshield to record drivers deprived of the right to drive a vehicle

### **INSTALLATION OF DATA ACQUISITION SENSORS FOR** MONITORING AND DATABASE **FORMATION:**

- Population
- Tourist activity
- Weather conditions
- Traffic flow
- The level of environmental pollution



## AUTOMATION OF ROAD INFRASTRUCTURE

### **IMPLEMENTATION** OF WEIGHT-DIMENSIONAL **CONTROL SYSTEMS**

To monitor traffic flow and identify violations of freight transport

### **IMPLEMENTATION OF PAID PARKING SYSTEMS:**

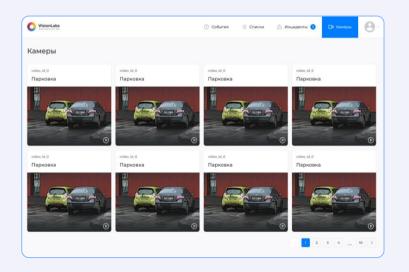
- Public mobile application for quick access to services and payment for city parking
- Recording license plates by cameras

**INTEGRATION WITH NEW AND EXISTING CALL-CENTERS FOR OPERATIONAL ASSISTANCE TO SERVICE USERS** 



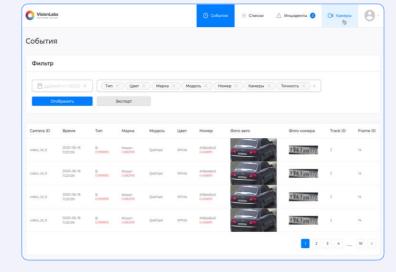


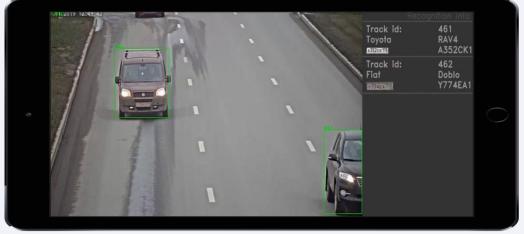
## **AUTOMATION OF ROAD INFRASTRUCTURE**













## Public transportation



## Digitalization of public transport at all stages of the life cycle

- Traffic dispatch and control system
- Navigation monitoring system
- Fare collection and control system
- Ridership analysis system
- Passenger information system
- Wi-Fi Internet access system
- Environmental and meteorological monitoring system
- Smart stop management system
- Video surveillance and video analytics system
- Driving quality control and traffic rules compliance system



## Digital education





## DIGITAL EDUCATION

## MONITORING AND ATTENDANCE CONTROL SYSTEM

- Register of arrival/departure of students, staff, teachers
- FR ACS control of electric locks and turnstiles
- Instant alerts via: webconsole, IOS/Android client, messenger
- Central Alert and Even Logging Console
- Notification of blacklists for security services
- Statistical reporting system

### EMPLOYEE ARRIVAL/DEPARTURE LOG SERVICE

- Automatic recognition of employees entering and exiting
- Calculation of the employee's time in the room
- Real time-tracking, excluding substitution of access cards, sign in the log-book and other common manipulations

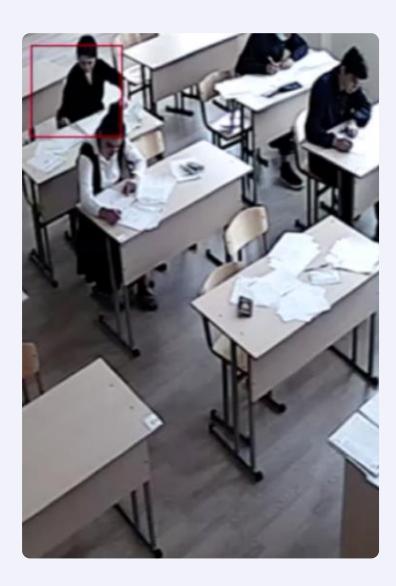
### MY REPORT BOOK

Mobile application for parents and students with web versions of personal account.

Electronic analogue of a paper report book. With its help, parents will be able to timely find out information about their child's progress, monitor assignments and attendance. And students themselves will be able to view homework, class schedules, teachers' comments on work in class, current and final grades.



## DIGITAL EDUCATION





#### Регистрация учетной записи Luna Exam ID

Для регистрации Luna Exam ID пожалуйста следуйте следующим правилам:

- 1. Ознакомьтесь и дайте Ваше согласие с правилами регистрации Luna Exam ID. Правила регистрации Luna Exam ID.
- 2. Загрузите разворот скана паспорта с Вашей фотографией в одном из требуемых форматов (300 dpi, jpeg/png). Нажмите для загрузки скана паспорта. Загружен файл: photo\_2020-12-28\_16-14-02.jpg
- 3. Укажите Ваш уникальный e-mail, который будет использоваться для взаимодействия с Вами.

v@visionlabs.ru

4. Сфотографируйтесь на Вашу веб-камеру используя кнопку ниже и следуя инструкциям под изображением

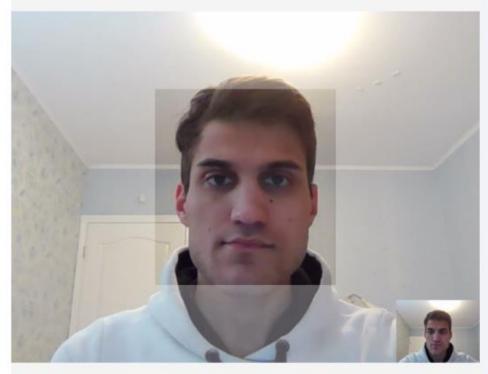
#### Сфотографироваться

5. Проверьте правильность введенных Вами данных для определения возможности регистрации Luna Exam ID.

Верификация

Авторизация

Регистрация



Для регистрации учетной записи Luna Exam пожалуйста поместите лицо в выделенное на экране окно

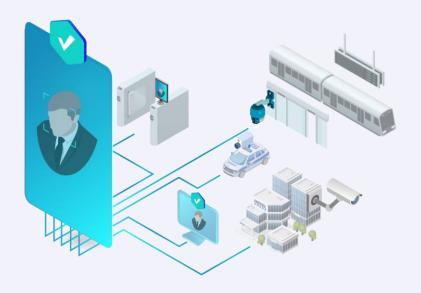


## Safe city





- Detecting objects that may be dangerous
- Prompt response to anomalies (fights, mass gatherings, people lying down)
- Tracking the movement of people through a network of surveillance cameras, for quick search of people
- Crime prevention and prompt search for intruders
- Rapid response to smoke and fire detection



#### **CURRENT SYSTEM STATISTICS:**

Less than 1 second it is required to identify a person in the human flow

The rate of crime detection using recognition systems increases by 16%

~ 7 thousand citizens were detained using the facial recognition system operating in the capital

356 lost citizens were found

81 lost children were returned to the family



# Digital housing and communal services





## DIGITAL HOUSING AND COMMUNAL SERVICES

## MOBILE APPLICATION FOR AN EMPLOYEE OF A MANAGEMENT COMPANY:

- Maintaining a database of objects (buildings, premises) - accounting of residential premises, commercial premises, offices, parking lots, etc.
- Maintaining a database of premises owners
- Maintaining a database of personal accounts
- Maintaining a database of management company employees
- Maintaining a database with access to ACS

#### **RESIDENT APPLICATION:**

- Charges and payments
- Current receipts
- Interaction between residents and the management company



## Access control by face biometrics





## ACCESS CONTROL BY FACE BIOMETRICS

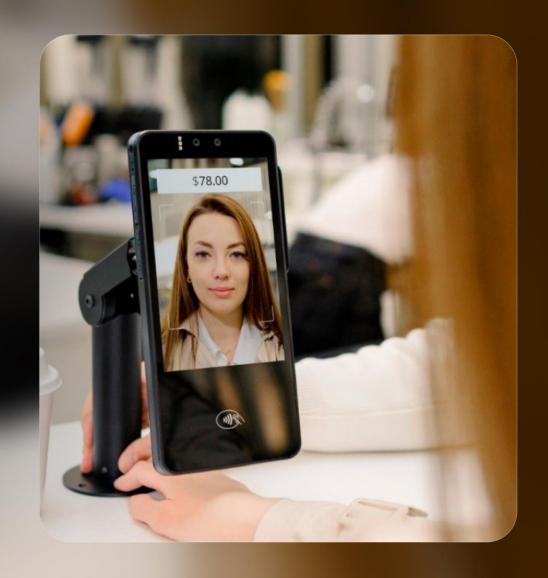
~1.5 milliseconds is required for one person to pass through an access control system equipped with biometrics (depending on the speed of the turnstile)

ACS capacity, up to 40 people per minute, gives reducing the number of late arrivals and early departures from the workplace, due to a working time tracking system integrated with a biometric access control system





Contactless payment service for goods in food retails





## CONTACTLESS PAYMENT SERVICE FOR GOODS IN FOOD RETAILS

#### **SOLVED PROBLEMS**

Payment for goods and services using the Buyer's biometric profile

Improving the quality and speed of customer service

Improvement of the loyalty program "bonus card" = "face"

Providing a single point of control for biometric payment terminals

The solution is implemented in devices with the biometrics reader module "Camera Intel RealSense". Major food retailers have tested a new payment method with facial recognition and replicate (or plan) this payment method across the network. The pilot launch demonstrated high customer interest







Service for time-tracking on a pc



## SERVICE FOR TIME-TRACKING ON A PC

#### **SOLVED PROBLEMS**

Taking a photo of a PC user and sending the photo for verification

«Liveness» and facial attributes checking

Evaluation of verification results and notification of responsible persons

Using biometric identification, the presence of an employee at the workplace is determined and reliable recording of working time is provided. The application generates statistical reports by day, week, month, with the ability to filter and search by individual employees and departments.

