



# ACCESS CONTROL TO RESTRICTED AREAS

New Solution Significant Reduces Operational Costs and Improves Security

## CHALLENGES

The company dealing with the protection of closed zones wants to reduce operating costs and at the same time introduce to the market an alternative to classic remote controls with which users open and close gates and barriers. The company wants to manage devices remotely as well as configure them remotely. He wants access to closed zones to be given and received with immediate effect.

## SOLUTIONS

The solution consists of a hardware part - a module (based on the ESP32 controller and the RaspberryPI system), eTAGs RFID and RFID readers in the VHF frequency, as well as in the form of software that integrates all modules in the IoT infrastructure and the administration console.

ESP32 controllers have installed firmware that supports the RFID reader, which is responsible for access to closed zones only for registered RFID eTAGs. eTAGs are issued by the administrator and registered in the system as authorized to gain access.

The system works in the SaaS model in the cloud in multitenancy mode.

## BENEFITS

### Cost reduction

eTAGs are several dozen times cheaper than classic pilots. In addition, the administrator does not have to configure devices on site, which reduces logistics costs.

### Online monitoring

Each entry and exit to closed zones is recorded in real time, which allows you to keep strict records.

### Remote management

thanks to the operation in the IoT infrastructure, it is possible to remotely configure devices and manage the list of authorized eTAGs

## AT A GLANCE

### Objectives:



- Machine health monitoring
- Production performance improvement
- Failure prevention
- Predictable maintenance

### Solution:



- IoT hardware components
- Cloud service
- Employee dashboard
- Background processes

## PROJECT DETAILS



### Client

Company providing security services  
250+ employees



### Solution

IoT, Cloud service, RFID



### Technology

IoT: MQTT, UHF, Balena, Raspberry PI

Cloud Service: AWS Cloud, Java Spring Boot, Kafka, Angular



### Tools

GitLab CI/CD, AWS DevOps, Terraform