RACS 5

CASE STUDY

Polish *Enterprise-class* Access Control System at the Stadium in Gdańsk

Investor
Arena Gdańsk Sp. z o.o.

Contractor
CVM Sp. z o. o.; P.U.H. POZYTRON

Manufacturer
Roger Sp. z o.o. sp. k.

Integrations
System VIZAN (Sprint S.A.)

Users
2000

Wired Doors
170

Wireless Doors
50

Readers
cards, fingerprints

Turnstiles and Barriers

The stadium in Gdańsk, which was built for Euro 2012 and was awarded the title of the most beautiful Euro stadium, is not only an arena for football players, it is also a venue where many various events are organized, and a place of daily work for many people. This nature of the facility imposes special requirements on the technical security systems, particularly the access control system, which provides access to individual zones and rooms for specific groups and individuals.

roger
Intelligence for Building

Requirements

Due to the changing conditions of the stadium's operation, the access control system originally installed in the facility required the necessary expansion and modernization after several years of intensive use. The owners faced a dilemma — invest in the existing system, which has its limitations, e.g. due to age, devices, technology, and software solutions used — or replace it with another, more adapted to current needs and with greater possibilities.

The requirements for the modernized system were not trivial. The system was to ensure control over the movement of people in the entire facility. The key challenge was the ability to create rules and schedules for the opening of individual doors covering the entire spectrum of the stadium's activities, not only sports or music mass events, but also fairs, conferences, and other events taking place on its premises. Additionally, it was necessary to not only manage the events themselves, but also to ensure proper daily maintenance of the facility. In line with the current trends, it was also required to be able to integrate with other systems, mainly the SMS (Security Management System) class, through an open API. An important requirement of the investor was the modern and attractive design of the installed devices, in particular readers located in generally accessible areas. The level of security offered by the chosen solution was crucial. Due to the constantly changing conditions of the stadium's operation, its flexibility in terms of configuration and expansion was a must.

The requirements of implementation imposed further limitations. Firstly, from the user's point of view, the entire modernization was to be imperceptible and without replacing the access cards (working in the MIFARE® standard) for current users. Secondly, the modernized doors could not be left unsecured for more than a few hours (maximum 1 day).

Last but not least, the costs incurred for the modernization, current maintenance, as well as the planned expansion or changes due to adaptation to future requirements were relevant.

Applied Solutions

Initially, the modernized system consisted of approximately 160 doors and 1,000 active users.

After the market research, a native Polish solution by Roger was selected. The RACS 5 system offers a comprehensive solution in the field of access control, both in terms of hardware and software.

The modernization process started with the installation of 33 new doors. This approach was aimed firstly at including doors that were not covered in the original design and secondly, verifying whether the RACS 5 system would meet the envisaged requirements.

Then, the system was fully modernized by replacing the existing one with a new RACS 5 system, while increasing the maximum number of supported users from 1000 to 2000.

In addition to the "typical" MIFARE® proximity readers (indoor and outdoor models), biometric (fingerprint readers) were also installed in several rooms that are especially essential for the functioning of the stadium, such as the main server room and rooms for network interfaces. In order to increase security there, a double identification was implemented (card reading plus fingerprint reading).

The readers are mainly installed at internal read-in and read-in/out doors and at turnstiles.

RWL-2 wireless locks were selected to support the access control to the VIP lounge.

Currently, there are approximately 170 wired and 50 wireless doors installed in the system.

Outside the building, a pair of barriers to the car park is operated by RACS 5 system, providing two-way access control for the vehicles.

The system provides anti-passback functionality for all doors in the facility and barriers in the car park, thus excluding the possibility of reusing the card without leaving the protected area.

The "Attendance zones" feature provided by the system is used to count the current number of people in a zone; it is planned to use this functionality to limit the entry of people beyond the set limit.

Initially, one of the first versions of the RACS 5 system was installed in the facility, then upgraded to the newest one as part of free updates.

The access control system is integrated with the VIZAN SMS visualization system. The operator workstations are located at the local surveillance centre (LSC). They allow full visualization of the current state of all doors and handling of alarm events. It is planned to create an independent workstation at the reception to handle the visitor log.

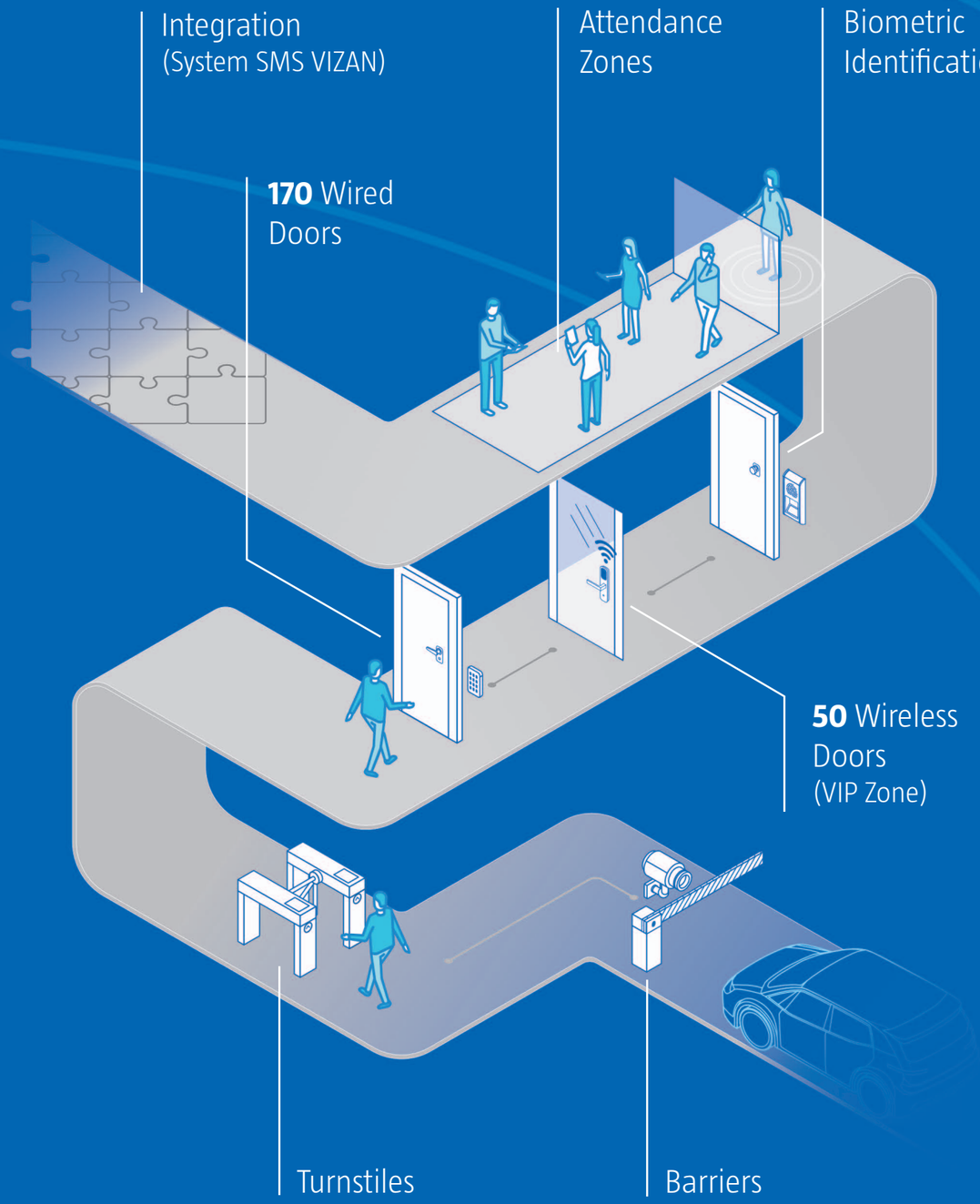
During the implementation, some errors had to be resolved — the main ones were disruptions in data transmission for wireless locks resulting from the construction of the facility — they were solved by making dedicated mounts for wireless hubs in cooperation with the equipment manufacturer. The energy consumption in wireless locks/readers was also optimized, which allowed for a significant extension of their working time on a set of batteries.

Thanks to good cooperation with the manufacturer, namely their R&D Dept., which was open-minded to product development and improvement proposals, many initially non-existent functionalities, important for the end-user and the contractor were implemented. These are i.e. card designing and printing, access right managing (currently there are approx. 400 various access rights defined in the system), or visitor log which is currently being developed and implemented. The visitor log will enable the assignment of access rights to the zone/doors separately for each card issued (from the pool of "free") and the automatic generation of the visitors' entry list.

The modernization of the system started in the summer of 2018, and its main stage was completed in December 2018. The replacement of the equipment (approx. 160 doors) took approx. 30 working days and all works including commissioning took approx. 2 months. A dozen or so people were involved in the implementation of the project.

The investor plans to expand the system both in size and its functionality, including launching the automatic number plate recognition system (ANPR/LPR) in order to further improve the operation of the car park.

RACS 5
Arena Gdańsk Stadium



Benefits

Thanks to choosing the RACS 5 system, the investor achieved significantly lower final costs of the investment as compared to the possible expansion of the already owned access control system.

The solution meets the investor's needs, both present and future, as well as guarantees stable supplies and support while offering the latest technologies and compliance with the current normative and legal regulations.

The existing cabling infrastructure was used during the modernization.

The new solution eliminated problems with integration/ communication with SMS (Security Management System).

Thanks to the proximity of the manufacturer's headquarters and his quick remote and on-site support — immediate response to problems, both software (errors detected during implementation/configuration) and hardware — the system operation was practically uninterrupted. This also guarantees flexibility in case of the system expansion or breakdown as the equipment is available for immediate delivery, i.e. shipped on the next business day.

The implemented solution is also important for the image of the city/local government — the owner of the Gdańsk Stadium — by promoting the Polish brand (Roger).

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