RACS 5

Integrated Access Control Solution in the 3T Office Park in Gdynia

Investor
3T Office Park Sp. z o.o.

Contractor
Andrem AB Sp. z o.o.

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

Integrations
Schindler elevators
VSS Hikvision

Users
13,000

Doors
237

Identification
proximity: MIFARE® cards
mobile: Bluetooth, NFC

Barriers

3T Office Park – this largest office investment in Gdynia associates its name with both architecture (*Three Towers*) and location (*Tricity*). The complex was honoured with the „Best Office Development Poland 2020-2021" award from the European Property Awards. Its towers located at the foot of the moraine hills between Redłowo and Kamienna Góra offer a wonderful view of the nearby sports facilities and the entire Gulf of Gdańsk – from Oksywie to the Northern Port. In addition to offices, there are also general use rooms among others intended for, medical centres, restaurants, or even a nursery and kindergarten. Such diversity puts high demands on the security systems, dedicated to ensuring the safety of the entire facility. The assumed number of users and their diversity is an additional challenge, especially for the access control system, which allows specific groups or even individuals to enter individual zones and rooms.

roger
Intelligence for Building

Requirements

Since it is a brand-new facility, which includes space for future lease, the contractor faced the challenge of choosing a solution enabling flexible adaptation to future requirements. Selected technical security systems had to cooperate with each other without problems and allow for easy modification/adaptation to the needs of changing users and be user-friendly, both on a daily and service basis. The Access Control System (ACS) supporting the operation of elevators and the Video Surveillance System (VSS) were chosen as the ground of the entire solution.

Solutions

The facility includes three towers connected with each other by a two-level underground garage and two common levels. The main area rented for offices includes 33 repeatable floors, located in two side towers of 10 floors and in the middle one with 13 floors.

MIFARE® technology has been chosen as the standard for reading proximity cards for access control. The system uses MIFARE® Classic 1k proximity cards, which provide a higher level of security than the commonly used UNIQUE standard (EM 125 kHz). In addition, the readers used provide full support for MIFARE® DESFire® or MIFARE® Plus cards (SL3 mode), the use of which in the system allows for the highest level of security available today.

Almost half of the doors are equipped with electric locks, where the exit signal is given by pressing the handle, not by the reader or a typical exit button. Some doors are also equipped with GEZE locks with time-programmable automation enabling access to people with disabilities, e.g. in wheelchairs, by opening the door by pressing a special button. Outside the agreed hours, an opening is possible with the use of standard access cards.

After the market research, a native Polish solution by Roger was selected – the RACS 5 system, which offers a comprehensive solution in the field of access control, both in terms of hardware and software. The decision was made mainly due to the direct support of the manufacturer, available right away and on-site, its scope, and readiness to make the necessary changes in the implementation of the project, both in the configuration of the hardware and the software itself. In addition to ongoing active support, after-sales support based on a dedicated department is also provided. The price, significantly different from other available solutions, also played an important role.

Currently, 237 MCT80M-BLE readers with MC16-PAC access controllers (in versions supporting 3, 5, 6, 8 doors and in the form of access control kits supporting 3 and 4 doors as part of the kit), and MIFARE® readers in Schindler elevators supplied by their manufacturer have been installed in the facility.

Integration with the Schindler elevator system using its own readers required the system to be adapted to the needs of this implementation. It was done by creating linking between both systems at the level of identical parameters – user name and assigned access profiles. Each of the profiles is associated with access to a specific floor. In addition to writing an integrating module (permanently introduced into the new, next version of the system), the firmware of Schindler readers required updating in order to fully support the access cards used in the entire system.

Linking events from doors with the preview from cameras were achieved through integration with the video surveillance system (VSS) including 205 cameras and running on four 64-channel recorders. The line crossing analysis at the garage entrances triggers an alarm sent to security (as an intrusion) in VISO – the module responsible for event visualization.

In the latest version of VISO (2.0, 64-bit), it is planned to provide a „video wall", allowing the display of views with multiple camera streams (currently it is possible to preview 16 cameras simultaneously per view, which was increased from the previous 9 for the purposes of this project).

The system also works with gates and card depositories for guests, with the function of ejecting cards that are incorrect or not registered in the system. RACS 5 readers are built into the gates. The authorization takes place in the RACS 5 controller, which then sends a signal to the dormakaba gate to enable the passage.

Integration with the BMS system has also been implemented. It consists in transmitting signals about a critical or alarm state of the access control system to the BMS (action on the event).

The system uses BLE (*Bluetooth Low Energy*) proximity readers by Roger (MCT80M-BLE) and Schindler readers (elevators).

The applied Roger readers were made in a special version with a changed front panel adapted to the investor's requirements. The readers enable the identification of users through access cards, as well as mobile, using smartphones (Bluetooth/NFC mobile access).

The project is scaled to support up to 13,000 users. There is a limit for elevator users to 10,000.

The whole solution is connected via the IP protocol through the building's structural network with separate VLANs for individual systems, ensuring the required bandwidth for each of them.

The implementation of the system was divided into stages depending on the construction progress of the entire facility. Trouble-free installation could be realized thanks to its prior planning and low-level programming of all the most important elements before their installation on the site. Currently, such a low-level programming option has been added to the latest version of the VISO module, which allows for remote programming without the need to connect directly to a given element/module.

The problems occurring during the implementation were solved on an ongoing basis, with the full support of the manufacturer, which consisted in providing the necessary explanations or hints, as well as software modifications. The 64-bit version 2.0 of VISO, which has just been introduced to use, will significantly extend the available possibilities of adapting the system to the user's needs.

The decision to choose a specific solution was made at the end of 2020. The implementation of the system started in February 2021 and lasted several months, until May 2021, when the system was put into operation. Currently, at the request of users, further – not planned before – doors controlled by the system, e.g. to the server room are added. The solution is being adjusted on an ongoing basis to the investor's requirements, based on the gained experience during use and the needs of new tenants.

RACS 5
3T Office Park

237 Doors

13,000 Users

Integration with
Schindler Elevators

Barriers
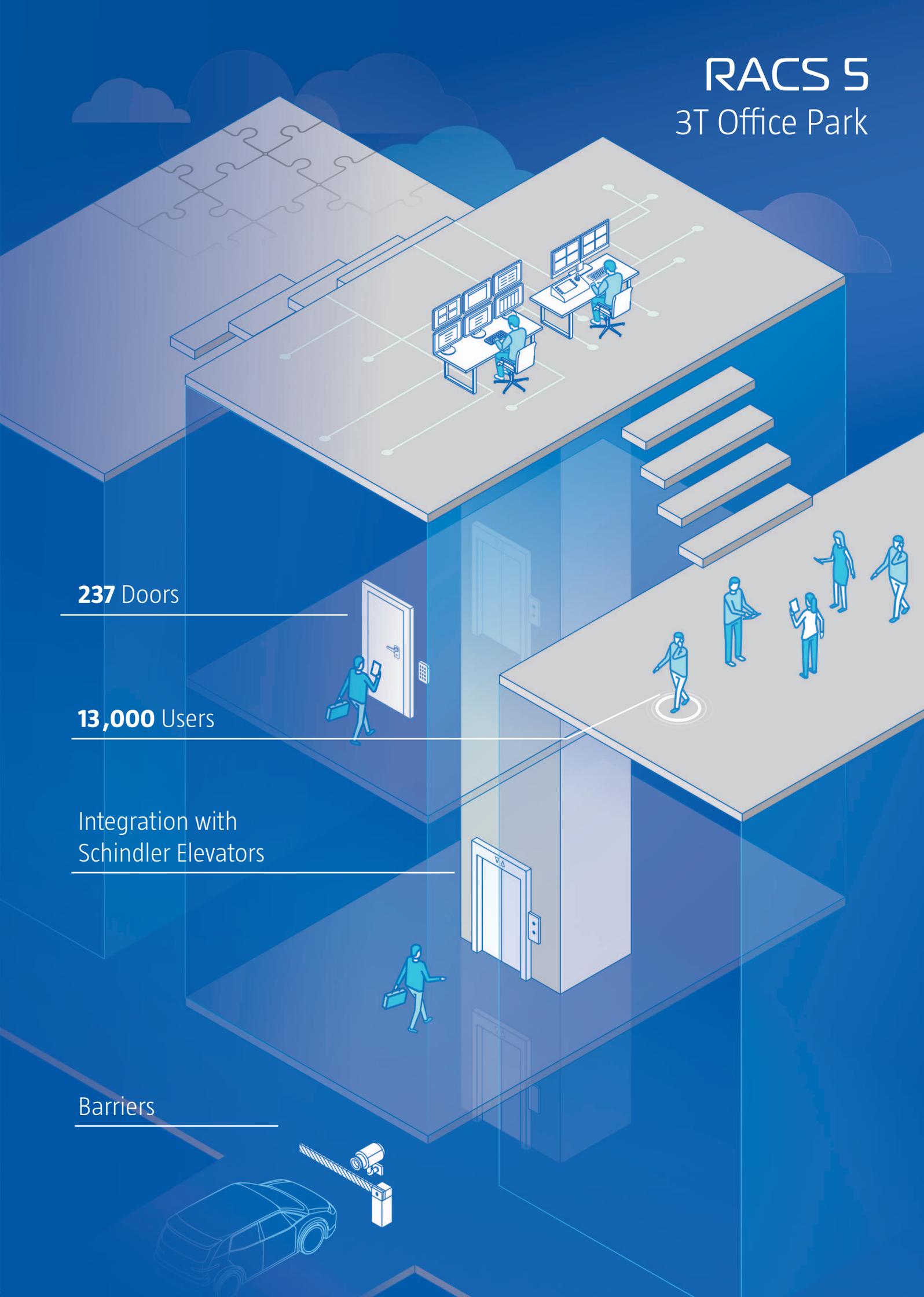
Benefits

The choice of the RACS 5 system enabled meeting all requirements while ensuring fast and comprehensive manufacturer's support. The native Polish system of the *Enterprise-class* enabled integration access control system with VSS and BMS as well as central management at a reasonable price.

There are plans to expand the existing installation with additional doors in accordance with the requirements of current users and new tenants. Furthermore, additional features will be added such as the system division into partitions and the expansion of the VSS with additional cameras.

roger