



# FROM DIGITAL CONNECTION TO INTELLIGENT CONTROL

—  
MATRIX platform solutions for access, time and more requirements.

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# NETWORKING TO MAKE LIFE EASIER: THE MATRIX SOFTWARE PLATFORM

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## **Networking as one of the keys to success**

Communication and relationships make many things easier, with different forms of expertise and information being more effectively utilized to each participant's benefit. Those who are well connected reach their goals more quickly.

And while this is true of personal contacts, in this Age of Digitalization it is even more applicable to systems. The better data is captured and the more efficiently it is processed, the simpler and more effective is its management.

## **Efficient data management is essential**

With ever-growing data volumes being generated for safety, security, personnel and building management applications, such efficiency is essential. Not just in major corporations, airports and sports stadiums but also in small and medium-sized enterprises.

Time management, access control, emergency exit security, central building management and CCTV monitoring all have to be organized and coordinated. From the multi-storey car park to the execu-

tive's suite on the top floor. So it is good to know that these different areas can be managed from a single source – MATRIX.

## **Adaptable and versatile**

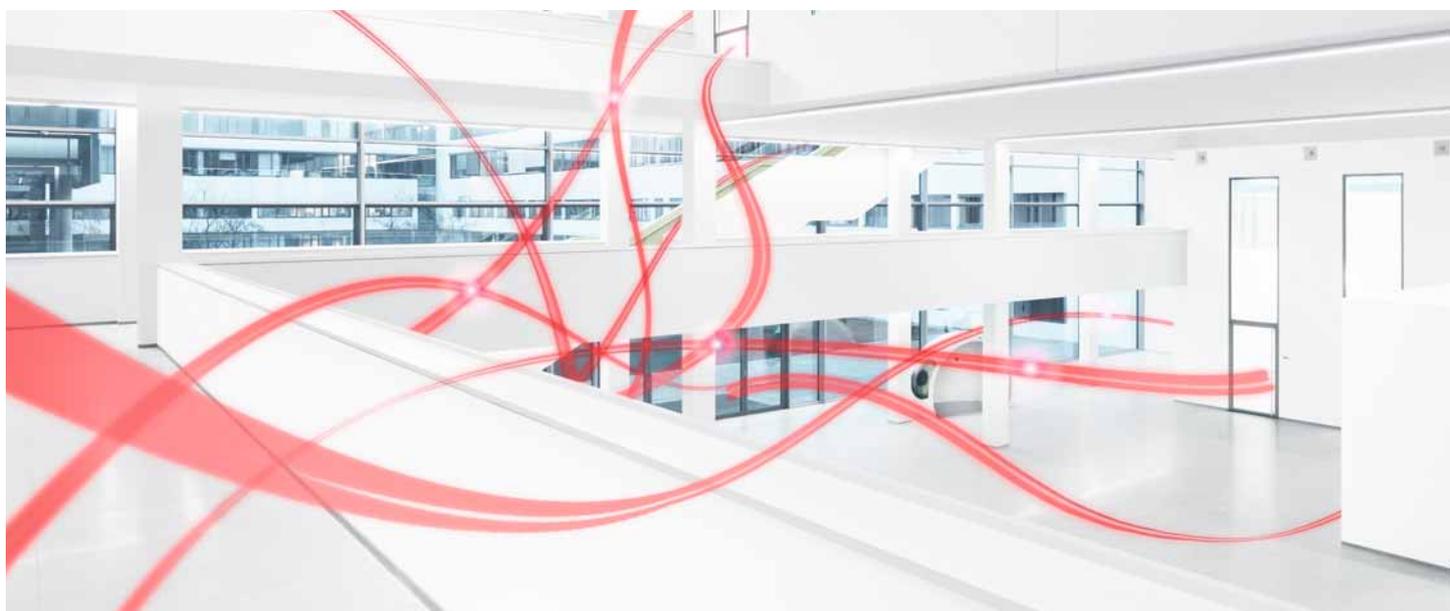
MATRIX is a multi-language, modular software platform capable of gathering data from different systems within one clearly arranged and understandable user interface.

It offers standardized open interfaces for flexible networking, with the core modules of access control and time recording being readily integratable with host and legacy systems.

Various buildings with often different monitoring and control systems and individual access authorizations can thus be joined within an efficiently functioning, holistic system.

## **Intuitive and user friendly**

The dialogs most frequently required are arranged at the top of the user interface, while those less used are located below. Following configuration, basic inputs are only rarely changed. This reduces the training time and decreases operating error.



# HOLOSTIC BUILDING CONTROL

Precision solutions that meet your specific requirements.



**1 Access control hardware**  
Electrified door hardware allows the effective and reliable design of emergency exit and access control systems.



**2 Visitor management**  
The visitor management module offers fast registration and data retrieval to determine who is visiting whom and how long they have been present. Statistics on visitor flows can also be generated by the system.



**3 Emergency exit control**  
The TMS door management system for emergency exit control can be integrated without problem within the MATRIX Professional modular system. Moreover, the MATRIX system is a perfect team player when it comes to interacting with, for example, fire alarm, hazard alert or anti-intruder security systems.

## Multilingual and multitalented

All the processing dialogs and data are simultaneously available in several languages: German, English, French, Dutch, Russian, Italian, Spanish and Portuguese.



**Readily combinable**

MATRIX is suitable for virtually any entrance and exit situation. It also serves as a platform for other systems such as elevator controls or CCTV. Various systems and online and offline components can be combined with ease, and there is a configurable access controller that allows the connection

of all door components and proximity access readers from the DORMA range on the basis of an easily understood circuit diagram.

**Simple retrofits**

If required, MATRIX can also be implemented retrospectively because the wireless components which are the basis of the software system

are controlled by radio link. This means no chiseling of walls, no intervention in the existing building fabric, and no excessive time or cost expenditure. And if businesses need to move premises or expand, these radio-networked components can be removed, refitted and reconfigured at will.

**Easy operation**

The MATRIX system software meets all the requirements specified in EN 50133. So the time and cost required for familiarization and data housekeeping is kept small – delivering major benefit for users everywhere.



**4 Time recording**

MATRIX records the attendance or other time registrations of employees in the company with integrated workflow functionality. Their presence can be registered via time recording terminals or using a MATRIX web recording function, or a mixture of the two.



**5 Elevator control**

The user rights in respect of elevator systems can be individually and flexibly activated so that, for example, only certain authorized personnel have access after office hours.



**6 Single-file access control**

At security-relevant access points, the personnel singling function ensures that only individual persons are allowed passage; groups are forced to approach in single file.



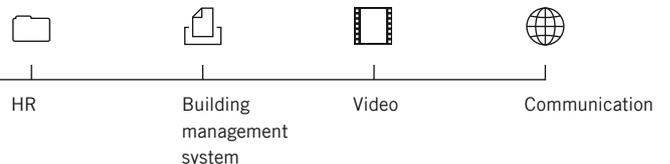
**7 Barriers**

Car park barriers can also be integrated in the access control system, with MATRIX able to incorporate all relevant door and access components on the basis of an easily understandable circuit diagram.



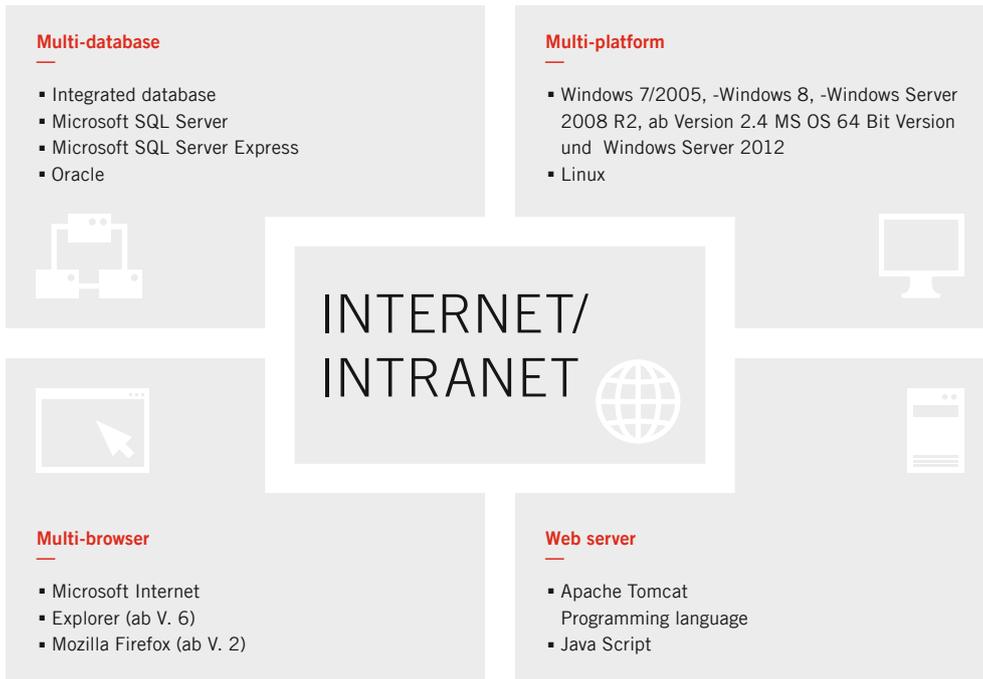
**Simply versatile**

MATRIX offers configurable interfaces (including a certified SAP interface) for forwarding data to all relevant subsystems – including signals from the access control system, emergency exit control system, alarm systems, building management systems and time management systems.



# BROWSER-BASED, MODULAR AND EXTENSIVELY ADAPTABLE

The universal solution for companies big and small.



## Future security

- Browser-based user interface enables configuration and usage from any point around the world.
- Multi-browser system: Windows or Linux, Multi-database, MS SQL or Oracle.
- Multi-tenancy/multi-client capability: Several companies can make use of MATRIX to access their particular areas. This saves on both purchase and maintenance costs.
- Company-specific workflows can be utilized, for example, for visitor management, vendor management and similar.

## The A to Z of MATRIX system software

**A**  
Access rights can be defined as full or read-only access authorizations.

**C**  
Code: Between 1 and 6-digit PIN codes.

**D**  
Database: Integrated SQL H2 database engine.

Door management: For every door, time intervals can be defined in MATRIX in which, irrespective of the personnel profile, only certain actions are possible.

**E**  
Equipment management: By DOR-MA Terminal Management (DTM) module; installation of components and their management and control by netbook.

**I**  
Individual authorizations: For personnel-related rights.

**L**  
Lists: Predefined or specifically defined dynamic lists for personnel data in PDF format.

**N**  
Number of ID credentials: Unlimited, dependent only on the grade of license.

**O**  
Options: Airlock control, elevator control, arming/disarming of anti-intruder security and alarm systems, attendance matrices for the visualization of people present in a certain defined zone.

**P**  
Personnel management: An access authorization defines where and when a person may pass through an access point. Authorizations may be issued either for individual doors or room zones (door groups). When a person may pass through a door is defined in the authorization on the basis of access week plans in conjunction with an access calendar.

**R**  
Ready-to-run function: ID credential readers, doors, calendars, day programs and week plans already predefined.

**S**  
Security options: Multiple ID usage, double access refusal/timed anti-passback functions, and inter-room or inter-zone passage control.

**T**  
Troubleshooting: By DORMA Support.

**U**  
User groups: As many as you want. The menu offers dynamic adaptability to the various permissions required.

# PASSIONS RUNNING HIGH FOR 90 MINUTES

MATRIX as applied in stadiums.



## Sporting occasions are mass events

Tens of thousands fill the stadiums in the shortest of time. Following the match, they also want to leave the stadium safely.

## Safety and control as central requirement

Controlling visitor/spectator flows is an essential function in such arenas. And the security of the non-public areas against unauthorized access is also particularly important. Only players and officials are allowed in the

changing room areas. VIPs like to have separate access to their boxes. Guests of state require special attention and extended protection. And only employees should have access to concealed equipment.

**Borussia Dortmund's VVB Stadium is equipped with numerous DORMA solutions, including a recently installed MATRIX Professional access control system.**

Electronic XS Pro cylinders secure the main entrances to the stadium and also the entire peripheral shell, the

equipment rooms and the VIP boxes. The individually and flexibly controllable ID credential process imple-

mented ensures that secure areas can only be entered by authorized personnel.



### MATRIX software

- MATRIX Professional
- Utilization of a highly secure and encipherable ID process

### System components

- Approx. 750 DORMA XS Pro electronic cylinders.

# BIG ON SECURITY & SAFETY FOR THOSE SMALL IN STATURE

MATRIX as applied in schools.



The MATRIX software system is of flexible modular design and thus capable of networking both internal and external communication facilities.



## The Luxembourg educational centre “Complexe Scolaire de Diekirch” has adopted electronic access control throughout

So that the entire school complex comprising six separate buildings, and also the adjoining underground car park, are secure around the clock and can only be accessed by authorized persons.

- Widely used after school finishes, e.g. by sports clubs
- Issue of access authorizations simple, variable and flexible

- Door Manager module provides the building administration staff with clear information on door status
- Specific, timed control and access authorization for individual areas including underground car park
- Single-source supply of all components installed on and around the doors to ensure maximum security & safety, even in an emergency
- In the event of an intruder alarm or rampage alert, perpetrators can be effectively quarantined with the entrances and exits designed to be locked and unlocked from a central location

### MATRIX software

- MATRIX Professional Access (software)
- Access on Card (function/option)
- Supplementary functionality with Door Manager module to support building management/ activity visualization

### System components

- 350 online/offline (S6/XS) readers

# KNOWLEDGE NEEDS SPECIAL PROTECTION

MATRIX as applied in universities.



## MATRIX software

- MATRIX Professional Access, 10,000 users with clients
- MATRIX with AoC module

## System components

- 924 XS fittings
- 62 terminals
- 548 readers
- 400 electric strikes
- 22 SVP 2000 motor locks
- 62 TMS emergency exit control systems

## Belval in Luxembourg is regarded as one of the biggest and most ambitious town development projects in the whole of Europe

On the site of a former steel-works, science, culture, work, leisure and life and being blended together within an exciting, holistic environment.

The “Cité des Sciences“ (City of Science) is the lead project with 20 new buildings being constructed in the area of the former blast furnace terrace to house the University of Luxembourg and allied research institutes.

Here, MATRIX Professional Access is to provide comprehensive control of the access rights to the various facilities. Online and offline fittings are to be intelligently networked, with more than 10,000 users being provided with individual permissions.

The access control and emergency exit security systems will be integrally managed by the MATRIX architecture linked to the host building management system.

# NETWORKING SECURITY & SAFETY ON THE GROUND

MATRIX as applied in airports.



## Airports count among the facilities with the highest security & safety standards

High passenger volumes and a continuous flow of visitors and personnel place many and varied requirements on the security & safety systems deployed in an airport.

Taking the example of the major Donezk hub in Ukraine, it is clear what kind of essential and problem-solving configuration possibilities the MATRIX software system offers in conjunction with DORMA door controls and

automatics. In the run-up to the UEFA European Football Cup in 2012, and in acknowledgement of its significance as a bridge between Eastern Europe and Asia, Donezk Airport has received two new terminals in recent years.

All the external and internal doors are monitored and secured (online and offline) by MATRIX. Access control and emergency exit security have been incorporated within the building management system and networked with the firefighting, CCTV and alarm systems of a partner company.

## MATRIX software

### Access control

- MATRIX Professional with Access on Card
- Door Manager (building management/activity visualization)

### MATRIX components

- Approx. 750 online readers
- Approx. 20 SVP 2000 motor locks
- Approx. 220 TMS emergency exit control systems with TL/G and TV 100 locking devices

### Door controls

- Approx. 500 TS 93 door closers for single and double doors
- Approx. 300 electric strikes
- Approx. 450 OGRO lever handles

### Automatic doors

- Approx. 20 ES 200 sliding door operators
- Approx. 170 ED 250 swing door operators
- Approx. 10 Porteo door operators (toilets for disabled access)

# MAJOR SOLUTIONS IN THE WORLD OF POLITICS – NETWORKED AND INTERNATIONAL

MATRIX as applied in parliamentary buildings.



## MATRIX software

- MATRIX Professional Access with Access on Card

## MATRIX components

- AoC Terminals

### Brussels

- XS cylinders + XS fittings

### Luxembourg

- XS cylinders + XS fittings

### Strasbourg

- XS cylinders + XS fittings

**With 750 MEPs from 28 nations, the European Parliament is the largest multinational governing assembly of its kind in the world**

Its offices and conference rooms are divided between three European countries:

- Strasbourg in France, the seat of Parliament (12 plenary sessions per year);
- Brussels in Belgium (committee and parliamentary party meetings, occasional minor plenary sessions); and
- Luxembourg (parliamentary administration and general secretariat).

All three European parliamentary complexes have been equipped with MATRIX.

DORMA supplied the offline components for all the offices, facilities and equipment rooms. These were networked with the online system of a partner company (VSK).

# THE MATRIX COMPONENTS

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Modular concept for individual solutions in access control and time recording.

## Access control components



### MATRIX AIR fitting

Currently the flattest electronic fitting available in the marketplace, this facilitates controlled door release through a normal opening action applied to the lever handle, ensuring both high security and high convenience.



### XS Pro fitting

The door fitting with stand-alone access control for proximity ID fobs. Proven technology, for quick, cable-free installation.



### MATRIX AIR cylinder

The first electronic cylinder that telescopes to allow flexible adaptability to the door thickness. Thanks to this unique technology, it can be installed without the need for any major advance measurement work, and can also be removed and refitted elsewhere.



### XS Pro cylinder

The cylinder comes in a wide range of options for extensive flexibility, e.g. in timber, glass, emergency exit and fire doors.

## ID credential readers



### MATRIX AIR reader

Smart XS Pro technology in elegant design matching that of the other MATRIX AIR components. For an integral, consistent look.



### XS Pro reader

This reader is designed for permanent installation next to the door, yet requires no cabling to the central control unit. Ideal for doors designed to be fitted e.g. with an electric strike but without any further wiring.

MATRIX AIR is being constantly expanded.

XS Pro is available for more complex solutions.



### S6 reader

Matched to the trim dimensions of major switchbox manufacturers BERKER, GIRA, JUNG and MERTEN and available as a simple proximity unit, with PIN keypad or as a key-switch.



### Specially designed column

For those looking for something special, we also offer specially designed columns that combine pure elegance with functionality while offering a good alternative to surface mounting solutions.



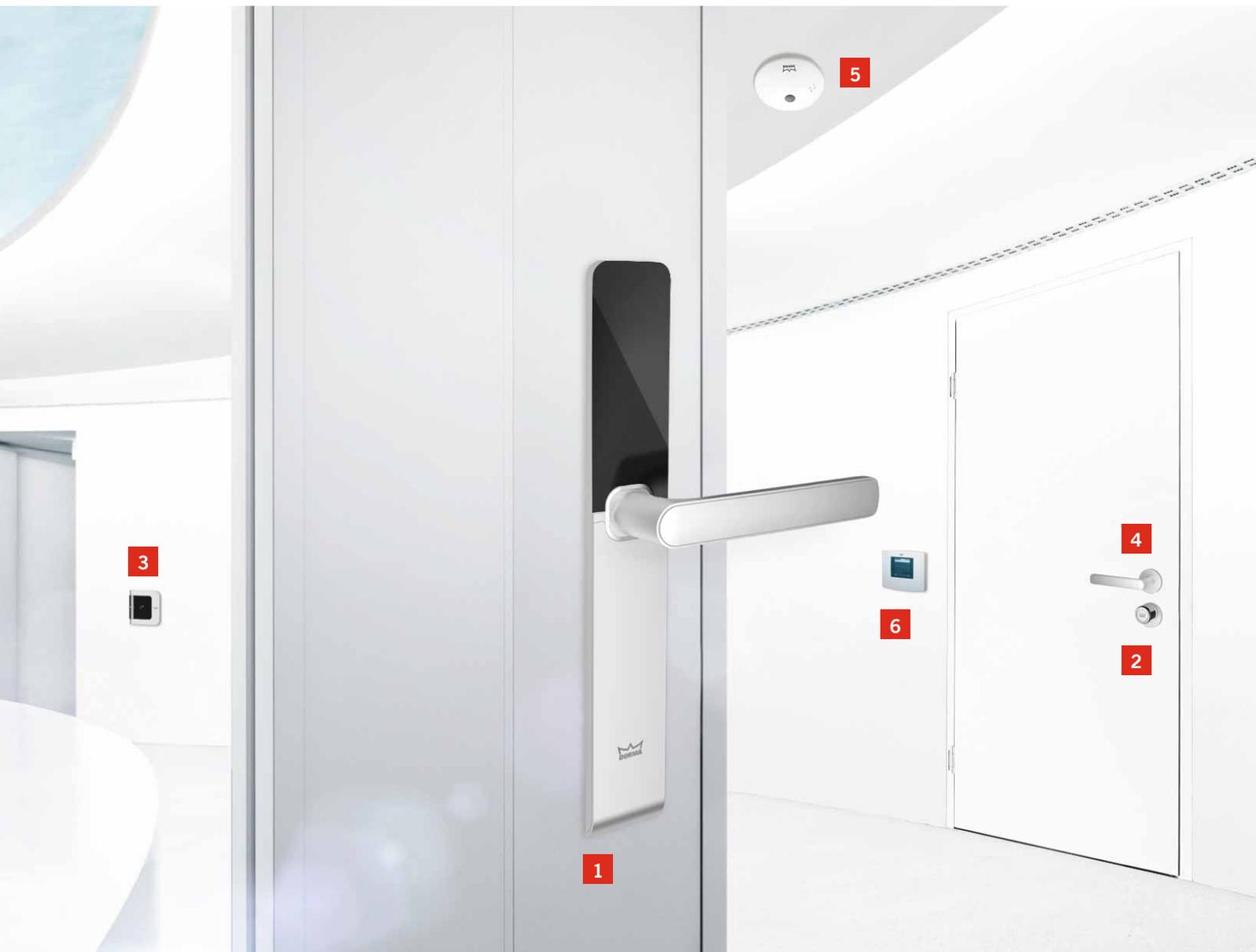
### Traffic Point

For simplicity, the cabling for the MATRIX AIR Traffic Point can be provided in suspended ceilings, again leaving the primary building fabric unimpaired.



### Access ID credentials

There are various access ID types available for personnel accreditation.



## Central access control

### B6L access control center



Designed as a high-performance access control center with LAN connection and housed in a 19 inch rack.

### B6R access control center



B6R access control center for connection via an RS 485 interface.

### System components

- 1** MATRIX AIR fitting
- 2** MATRIX AIR cylinder
- 3** MATRIX AIR reader
- 4** OGRO lever handle
- 5** Traffic Point
- 6** Terminal

## Time recording



### M6L terminal

Recording of work times on presentation of an ID credential at the "clocking-in" terminal or by inputting relevant data via MATRIX web client (arrival, departure, break, business trips).

# ADD-ONS FOR TAILORED INTERIORS

MATRIX-compatible components for emergency exits, anti-intruder security and automatic operation.

The often contradictory safety and security requirements placed on an emergency exits – safe escape from inside to out in an emergency yet

reliable day-to-day prevention of unauthorized usage from both sides of the door – can be reconciled with the three basic components of a DORMA

emergency exit control system.

In combination with automatic operators, this system also provides for barrier-free access.

## Emergency exit control and door management



### Surface-mounted door terminal TL-G AP

Rugged emergency exit door terminal housing for installation of interface boards (TL-S). Door terminals (TL-G) combine reliable functionality with a high level of operational convenience.



### Flush-mounted door terminal TL-UP

Door terminal sets for flush (concealed) mounting with DCW bus technology for connection to DORMA emergency exit control units. The technology ensures rapid wiring interconnection and the automatic assignment of addresses to the individual components. This makes installation and configuration both fast and uncomplicated.



### Set components

As for the access control system, the components are available in System 55-compatible designs for emergency exit control and door management systems.



### Door management (TMS)

Control panel systems for the operation and monitoring of emergency exit doors and doors in security-relevant areas.



### Emergency exit control RZ TMS 2

Remote control unit for networked and non-networked TMS emergency exit doors.

## Locking system components



### Electromechanical door locking devices TV 100/TV 100 DCW®

Electromechanical door locking devices for doors in emergency exits and escape routes.



### Electromechanical door locking devices TV 200/TV 200 DCW®

Electromechanical door locking devices for doors in emergency exits and escape routes.



### Electromechanical door locking devices TV 500/TV 500 DCW®

Electromechanical door locking devices for concealed frame installation at doors in emergency exits and escape routes.



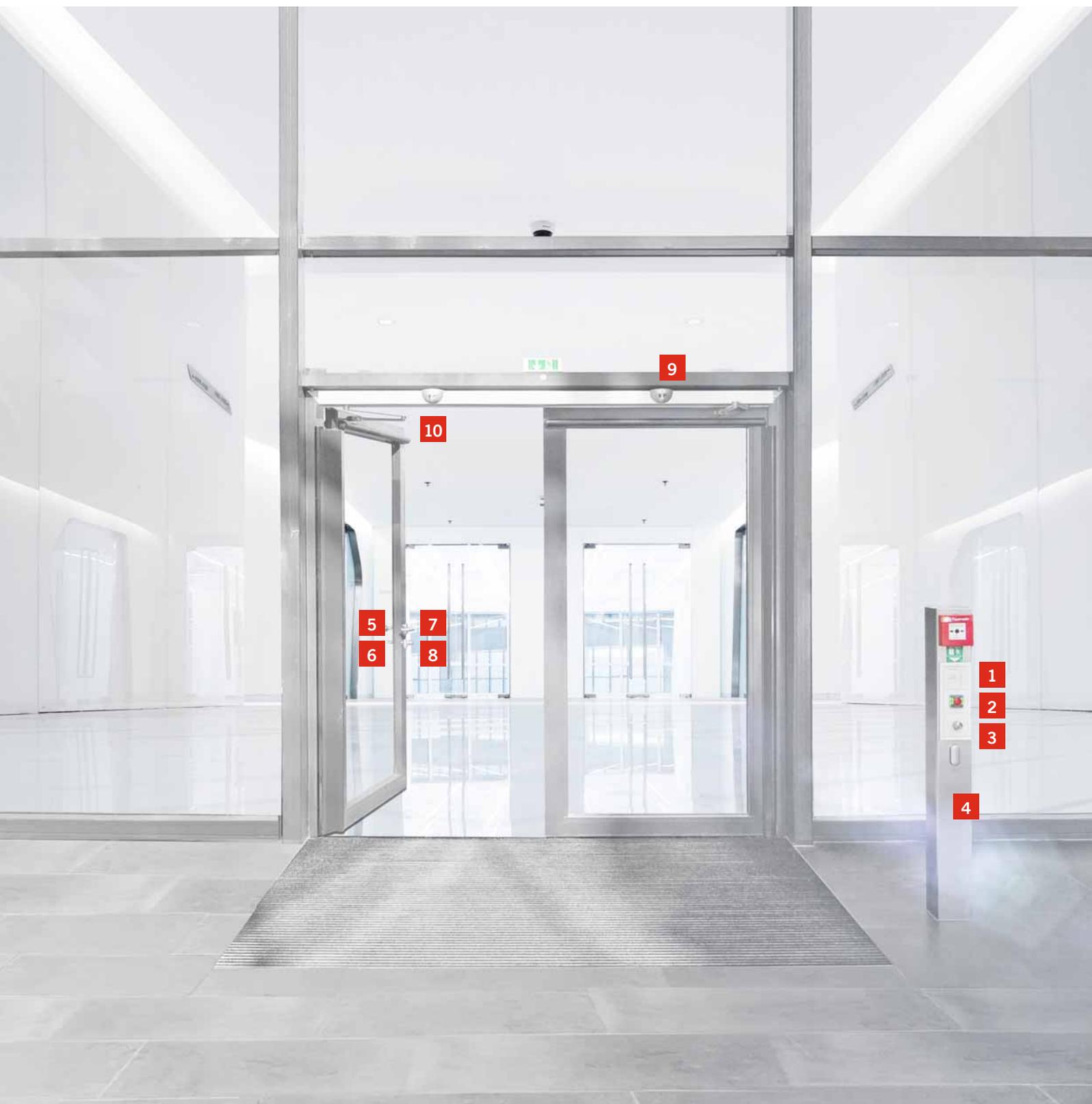
### Emergency escape locks with automatic locking function SVP 2000/SVP 4000

Emergency escape motor locks with automatic locking action. SVP locks engage automatically each time the door is closed – for maximum convenience and security.



### Alarm components – Signaling devices

Signaling devices for emergency exit control and security applications provide effective and conspicuous warnings in emergency situations through the emission of visual and/or audible signals.



#### System components

- |                               |  |  |
|-------------------------------|--|--|
| <b>1</b> Touchscreen panel    | <b>5</b> OGRO lever handle                     | <b>9</b> Sensor                                |
| <b>2</b> Emergency pushbutton | <b>6</b> MATRIX AIR cylinder                   | <b>10</b> ED 250 automatic swing door operator |
| <b>3</b> Keyswitch            | <b>7</b> Lock                                  |  |
| <b>4</b> Design column        | <b>8</b> Electromechanical door locking device |  |

# AS INDIVIDUAL AND DIVERSE AS YOUR REQUIREMENTS

From single door application to corporate solution.

## Access control software

### MATRIX Professional Access

- Modular system for access control, time recording and time management with the possibility of integration of the TMS system for emergency exit control
- Multi-grade license model
- Access functions in accordance with EN 50133 and higher
- Supplementary wizards/modules to facilitate full integration in accordance with the requirements of major corporations

### MATRIX Entry

- Access control and time recording system offering flexible expandability
- Wizards for standard tasks to enable operator guidance for the commissioning of a large number of components error-free
- Supports any number of B6L 4P boxes/access control units with online bus components; access control combinable with online ID readers, XS Offline and XS Access on Card
- Expandable as a wireless online system

### MATRIX XS Plus

- Electronic access control and time recording system upgrade
- The “Plus” functional upgrade offers extended possibilities for larger or growing companies, including the capability of grouping and timer controlled access rights aligned to a calendar with public holiday/vacation management and week and day programs
- System can be expanded at any time

### MATRIX XS

- Electronic access and time recording system
- Access rights checked with the click of a mouse to instantly determine who is entitled to open which door.
- Control software free of license fees
- Enables the simple preparation of a clearly structured locking system diagram
- System can be expanded at any time.

#### Product details:

- Can manage up to 300,000 ID credentials/users
- Ergonomically designed browser-based user interface
- Standard operating concept for maximum user friendliness
- Configurable interfaces for connection to host systems
- Supports all processes including wireless online for MATRIX AIR and XS Pro

#### Product details:

- For up to 2,000 ID credentials/users
- Ergonomically designed browser-based user interface
- Standard operating concept for maximum user friendliness

#### Product details:

- For 1,000 doors or 750 ID credentials/users
- Standard operating concepts for maximum user friendliness
- Supports components of the XS family

#### Product details:

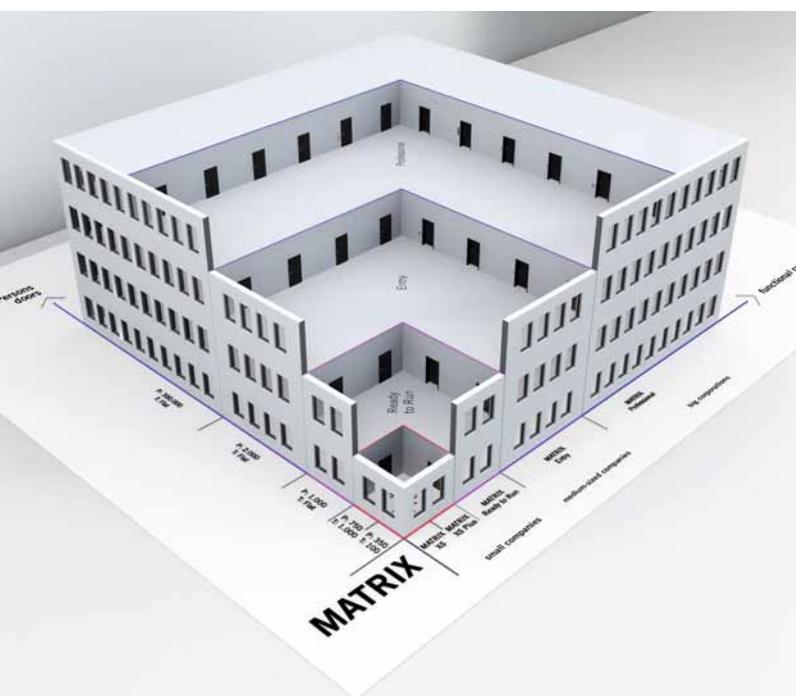
- For 100 doors or 350 ID credentials/users
- Standard operating concepts for maximum user friendliness
- Supports components of the XS family

**MATRIX software platform – modular and tailorable**

**Benefits:**

- Flexible and versatile: from the simple locking system to highly complex corporate solution.
- If application requirements should change, MATRIX will adapt to the new situation so you don't lose out on your investment.
- High level of compatibility with other systems based on open interfaces (e.g. in conjunction with video verification or elevator control systems).

- DORMA supports your planning activities with professional advice, delegating our especially trained employees to your site as and when required.
- We offer individual solutions that take in to account all the factors relevant to the medium- and long-term success of your project.



Time recording/time management software

**MATRIX Professional Time**

- MATRIX Professional Time is a stand-alone time management system for small to medium-sized enterprises.
- It can be fully integrated within a company access control system. Rules typical of time recording systems can be easily parameterized.
- Web portal for employee time registrations and staff enquiries

**MATRIX Professional Connect**

- Subsystem for SAP and other HR host systems
- KK1 interface also suitable for non-SAP systems
- MATRIX information portal provides individual staff information
- Time recording via terminal or web
- Indication of connection status with report function
- Simulated real-time calculation with time terminals

**Supplementary licensing options for the full integration of further applications**

- Door management system (TMS) integration at the database level
- Integration managers – for linking up external systems with fixed data structures
- Door Manager module for alarm management including activity visualization
- Visitor management with pre-registration
- Room management with room reservation
- XS wireless online (radio control): Online operation with XS Traffic Point
- XS AoC: Day authorizations on the ID credential, with updating via the TP4 terminal or AoC station
- Full multi-tenancy/multi-client capability with separate or common terminal pool
- Arming/disarming of intruder alarm systems

**Product details:**

- Structured correction input dialogs
- Retroactive accounting for correction purposes, etc.
- Implementation of company-specific rules.
- Time terminals can also be used for access control

**Product details:**

- System monitor shows clearly structured status of communication with the host system
- Stand-alone access control functionality with common personnel master data; all MATRIX options applicable
- MATRIX access control can be combined with all options for EN 50133 conformity

# A MODULAR SYSTEM WITH MANY OPTIONS

Existing systems can be expanded and augmented at any time.



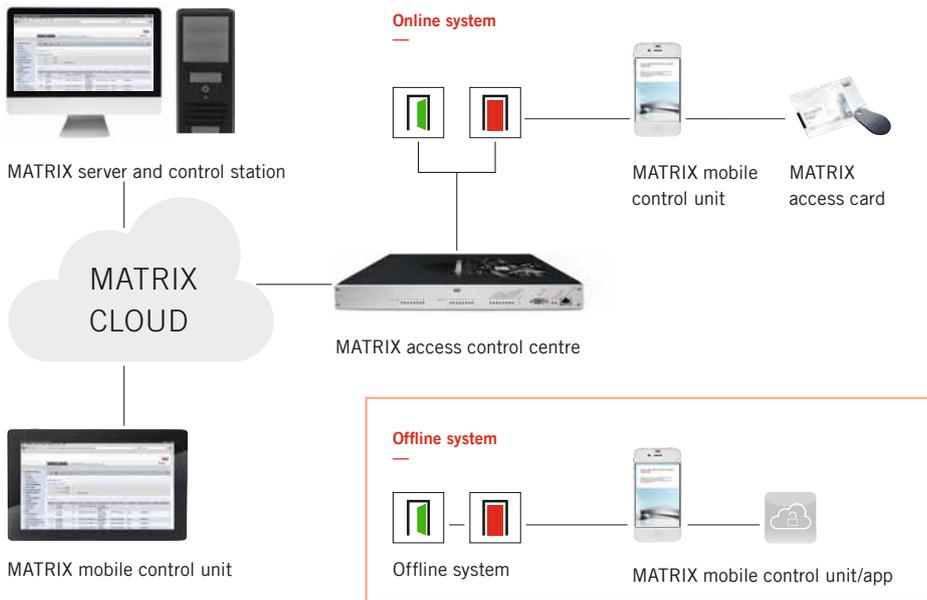
The MATRIX technology is being constantly further developed, giving you the security of a constantly updated system and therefore future-proof system.

## Access control software

MATRIX access control software Functions and options	Professional Access	Entry Online+ XS	Entry Online	Entry XS	XS Plus	XS
≤ 100 doors/350 ID credentials/users						•
≤ 1,000 doors/750 ID credentials/users					•	–
≤ 2,000 ID credentials/users		•	•	•	–	–
≤ 300,000 ID credentials/users	•	–	–	–	–	–
Flat 1,000 users	–	–	–	–	–	–
Flat 2,000 users	–	•	•	•	–	–
License graduation according to number of employees	•	–	–	–	–	–
Free of license fee	–	–	–	–	–	•
Connection of XS components offline	•				•	•
Connection of TP4 components	•					
<b>Additional options</b>						
Access on Card (XS), authorization with USB reader	○	○	–	○		
TMS integration (door management/emergency exit control)	○	○	○	○		
DIM DORMA Integration Manager preconfigured	○	○	○	○		
Door Manager (alarm management/layout plan/activity visualization)	○	○	○	–		
Visitor management	○	–	–	–		
Room management	○	○	○	○		
Connection of XS components online (wireless)	○	–	–	–		
Multi-tenancy/multi-client capable	○	–	–	–		
Monitoring of locking devices	•*	•*	•*	–		
Arming/disarming of alarm systems	•*	•*	•*	–		
Local override of alarm systems	•*	•*	•*	–		
Single file control (turnstiles, airlock control)	•*	•*	•*	–		

• yes – no ○ optional

### Fast data access both online and offline



### Partial or complete solutions: From SMEs to major corporations

The customer decides which data need to be collected. Open interfaces are provided for the integration of further components such as an emergency exit control. One part of a building or several locations can be controlled as required.

### Online system for comprehensive solutions involving several sites or locations

The individual doors and components are networked via the online system. Access rights can be modified “on the go” and immediately activated at the corresponding doors. Events/audit data can also be retrieved live and online.

### Offline system ideal for smaller solutions

Here, the access rights are stored in the fittings themselves. Programming is also performed directly at the fitting without any wired connections.

### Access on Card for frequently used doors

The access rights are stored on the ID card. Changes can therefore be transferred more easily without every component having to be reprogrammed manually every time.

### Time recording/time management software

MATRIX time recording software Functions and license options	Professional Time	Professional Connect
For SAP and other ERP systems		•
KK1 interface also suitable for non-SAP systems		•
Subsystem for SAP and other HR host systems		•
Stand-alone time management system	•	•
Time recording via terminal	•	•
Time recording/information via web portal	•	•
Certified for SAP ECC 6.0	•	•
<b>Functional expansion</b>		
Access control	○	○
ID recognition, PIN input, verification of biometric features	○	○
Upload of personnel master data sets for access control functions	○	○
Integration of vehicles, elevators, airlock control functions, turnstiles, underground car parks, key depositories	○	○
All wired and wireless access control components in one system	○	○
Barrier-free access solutions	○	–
Single-file access control	○	○
Visitor management: Web pre-registration/visitor ID issue systems	○	○
External company employee management with separate access and presence control	○	○
Interfaces with other building management systems	○	○
– Alarm system		
– Building management system		
– CCTV systems		

• yes – no ○ optional



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