CEDES
Predict. Protect. Perform.

VITECTOR
by CEDES

Solutions for Industrial and Residential Doors

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YOUR PARTNER OF CHOICE - TODAY AND TOMORROW

The CEDES Group offers its innovative solutions for elevators, escalators, industrial and residential doors, and warehouse management systems in more than 60 countries. We develop intelligent and safe sensing, control and communication systems that provide actionable data streams for higher operational and maintenance efficiency. Our product portfolio ranges from simple optical sensors, through highly complex 3D camera systems in cutting-edge ToF (Time-of-Flight) technology, to smart IoT-enabling devices.

With our deep domain expertise and tireless curiosity, we aim to predict the future needs of our customers and strive to find practical solutions that others haven`t considered. This has led to significant innovations in the elevator industry, and the nomination for R+T Innovation Award 2024 demonstrates that we are on the right track in the door industry as well.

CEDES
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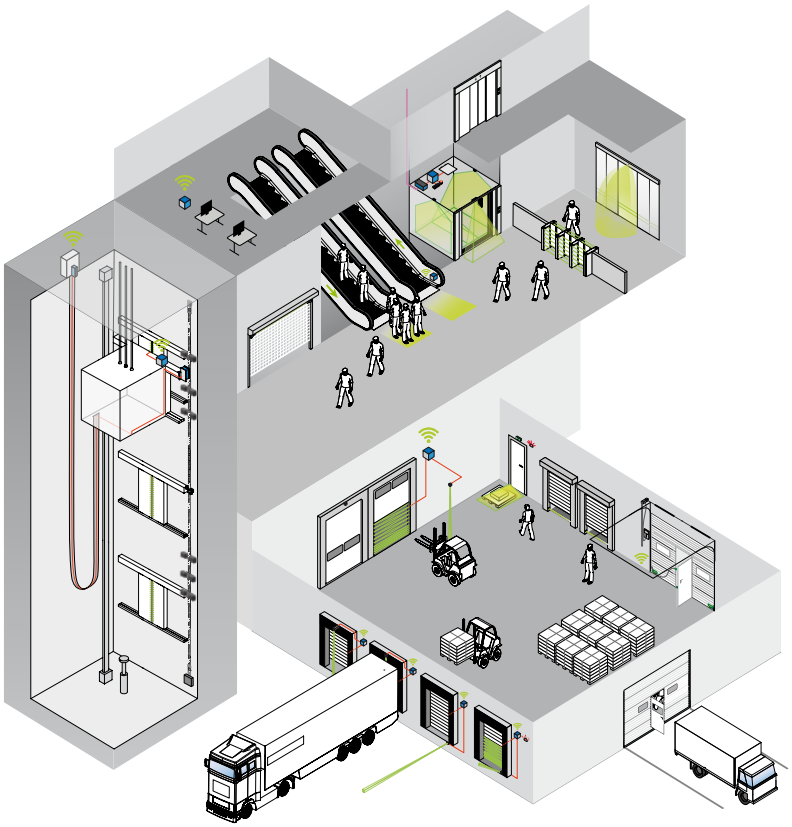


A core pillar of CEDES has always been safety – we protect people and objects by providing safe and reliable solutions. We also protect our customers by nurturing trusting, long-lasting, collaborative relationships and by making meaningful advancements without compromising our standards of high quality and reliability. Our rigorously engineered products are made to perform in the real world.

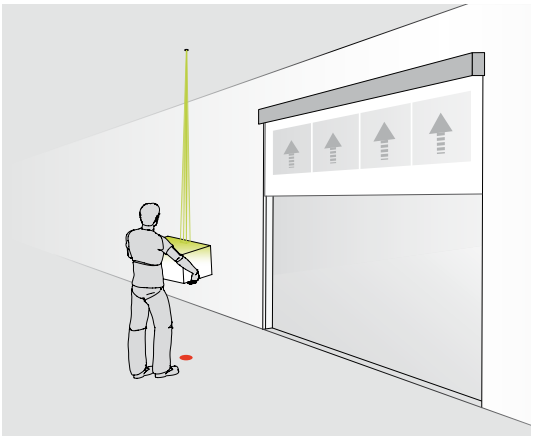
Reliable service belongs to this approach. In order to streamline our production and logistics processes, we have recently opened a new production facility in Romania, offering our customers greater flexibility and proximity. We are your local and global partner. We will help you to find the right solution for your needs and to future-proof your business.

VITECTOR by CEDES

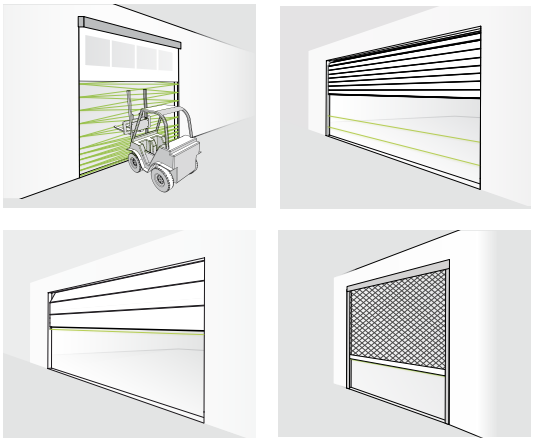
CREATE SOLUTIONS FOR ALL SAFEGUARDING & MONITORING APPLICATIONS IN THE FIELD OF ENTRANCE AUTOMATION

- Realize the roadmaps of the Business Unit Entrance Automation and create a path for intelligent safety sensors
- Unlock the potential of sensors through IoT
- Partner with leading innovators to enable advancement for the overall door systems and create added value while using our sensor systems for OEMs

Loading dock presence detection

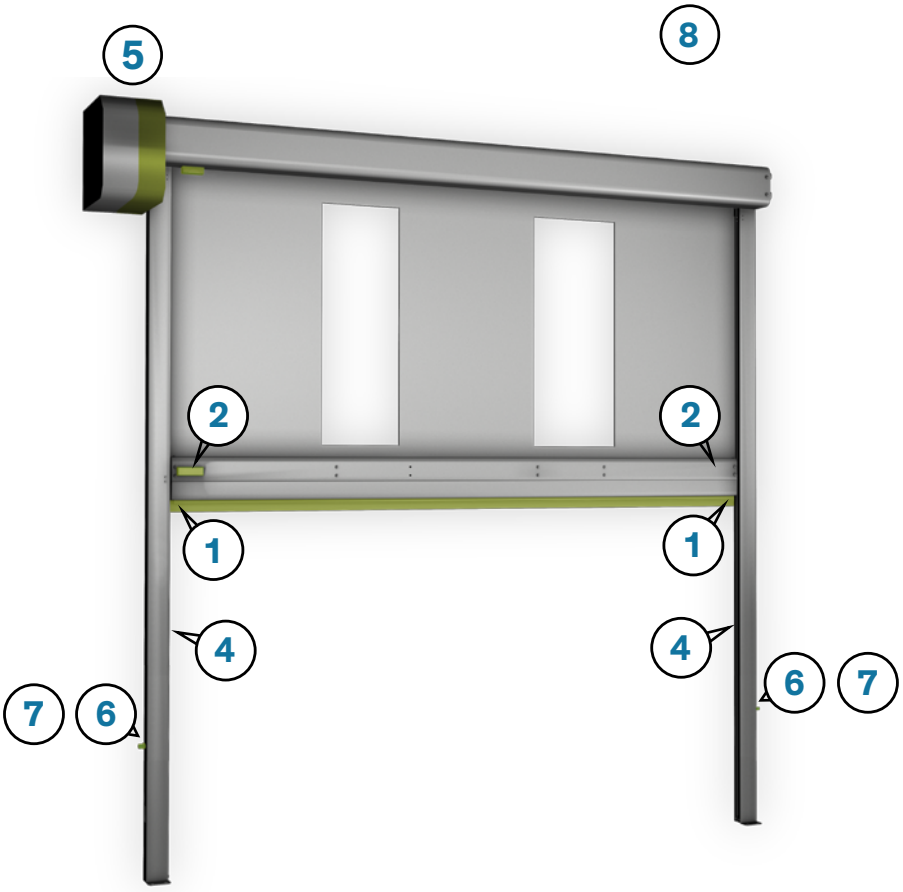


Intelligent door opening



Safeguarding of the main closing edge

Position monitoring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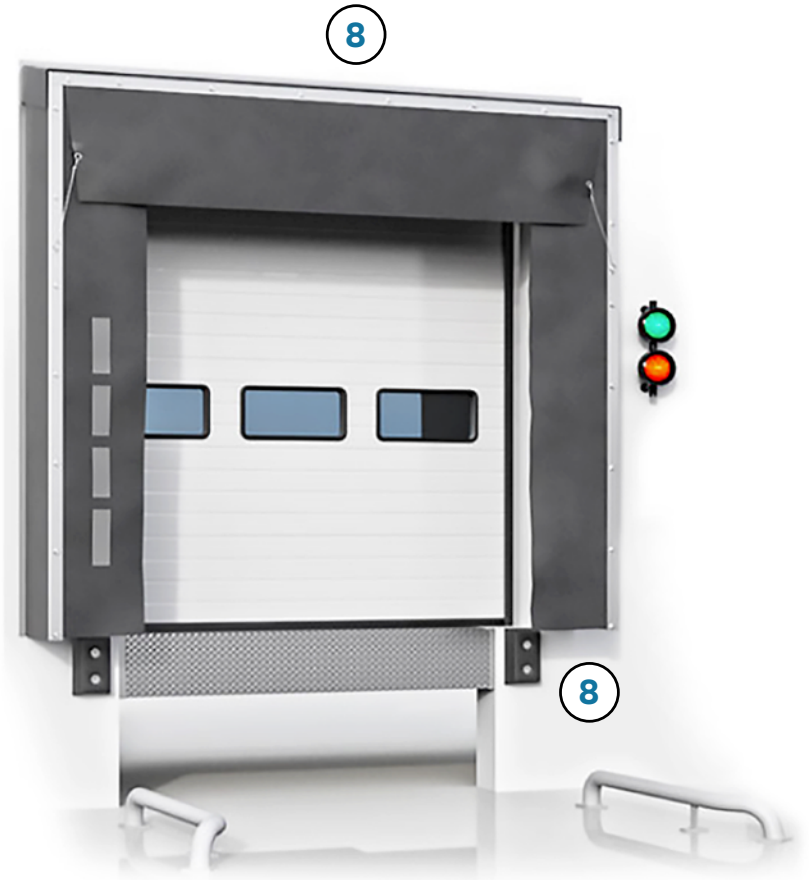
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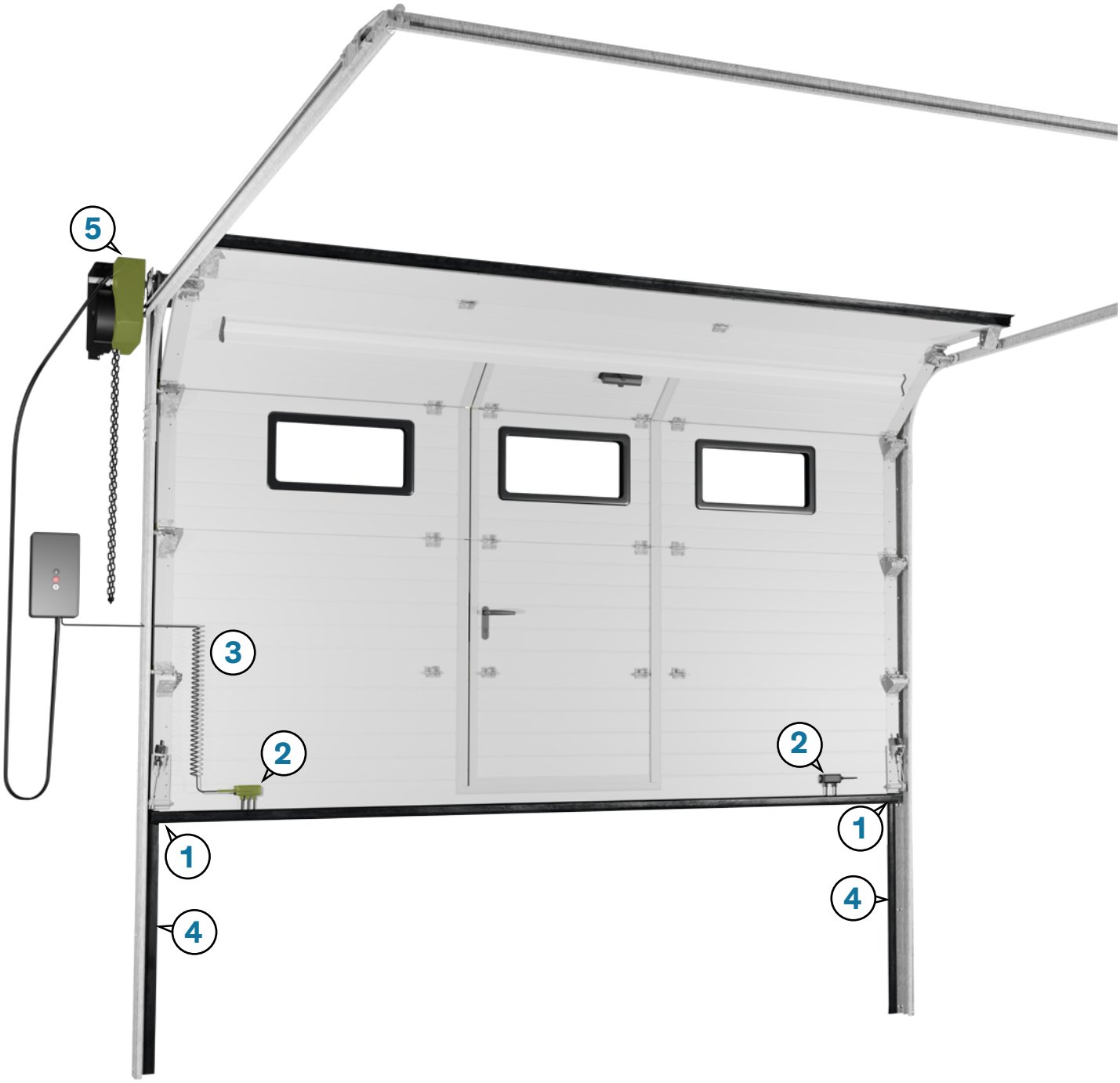
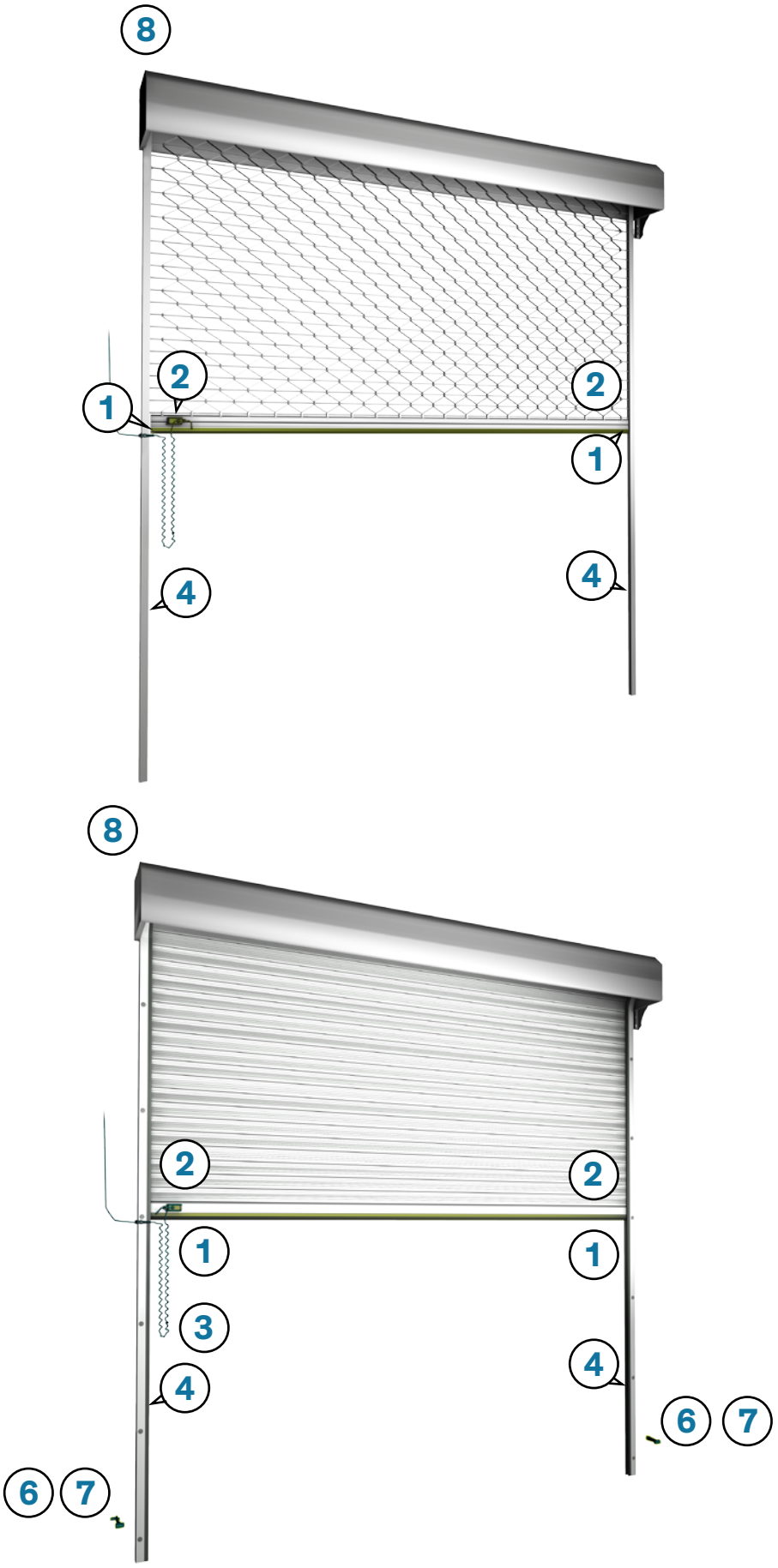
APPLICATION OVERVIEW



1 Sensing edge
- **1.1** Optical sensing edge
- **1.2** Airwave switch

2 Junction box
3 Coil cord
4 Light curtain
5 Encoder
6 Light barrier
7 Reflective light barriers
8 Door opening / Presence detection

APPLICATION OVERVIEW



INDUSTRIAL DOORS

SAFEGUARDING

SAFEGUARDING OF THE MAIN CLOSING EDGE

CEDES offers a wide range of door safeguarding methods that help prevent injuries and damage to doors. They include stationary safeguarding with single or reflective light barriers, as well as physical safeguarding of the main closing edge with optical safety edges.

PHYSICAL SAFEGUARDING OF THE CLOSING EDGE

OPTICAL SENSING EDGE

OSE (UL)

Safety edges are used wherever moving edges pose a hazard to people. The hazardous areas are protected by hollow rubber profiles. As soon as a person or object touches them, the sensing profile is deformed, and the potentially hazardous movement stops.

FEATURES:

- Various versions available
- Two wires interface
- Easy installation
- High safety and flexibility
- Infrared sensors

OSE ADVANTAGES:

The advanced OSE technology offers the following advantages:

- Easy assembly
- High level of safety
- High environmental resistance
- High flexibility

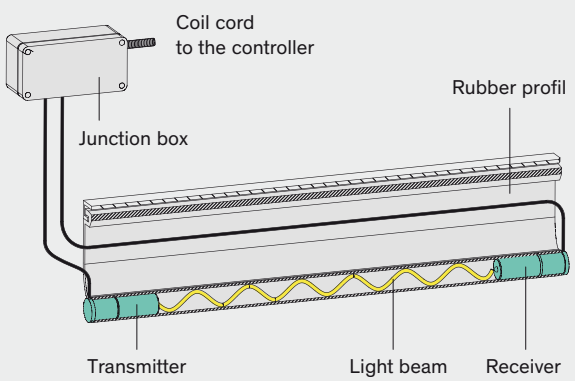
This results in reduced costs, as well as a higher level of safety and availability of the sensing edge.

THE INTELLIGENCE OF OSE IS IN ITS TRANSMITTER AND RECEIVER:

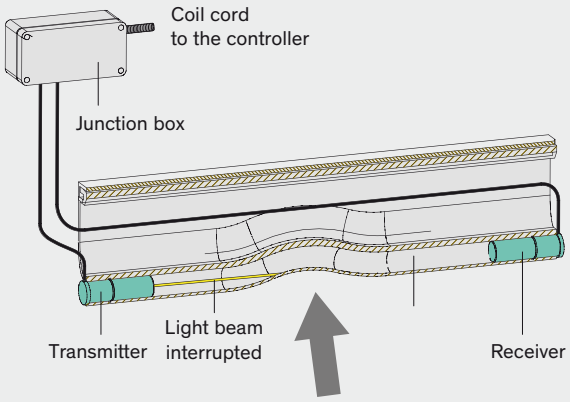
- Simple interface to the control units, easy to integrate into the door controller
- Automatic adjustment of the signal strength to the length of the sensing edge
- Compensation for the possible ageing of rubber profiles
- Partial compensation for humidity and dirt in the edge
- High immunity to ambient light
- No sensitive connections to the controller, which means no EMC problems
- Leads to the sensors with max. length of 200 m possible

OPERATING PRINCIPLE

Optical sensing edge not activated



Optical sensing edge activated



ADDITIONAL STATIONARY SAFEGUARDING

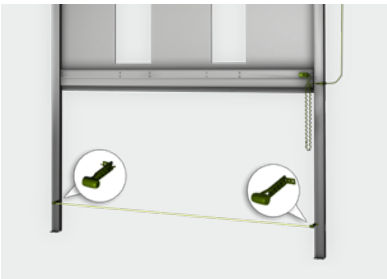
REFLECTIVE PHOTO EYE

OPTOEYE

The OPTOEYE consists of two infrared sensors inserted into flexible rubber brackets, which are mounted next to the door opening. Installation is very easy since the LEDs indicate alignment and power.

The OPTOEYE is specifically designed to withstand rough commercial and industrial environments. Its flexible design makes it highly resistant to impacts and mechanical shocks; its NEMA4X rating proves its resistance against any kind of moisture.

The photo eyes have been certified as Type 4X by Underwriters Laboratory, as tested to the UL50 standard. This certification comes in addition to the UL325 recognition, which has qualified the OPTOEYE as an entrapment protection sensor on doors and gates.



FEATURES:

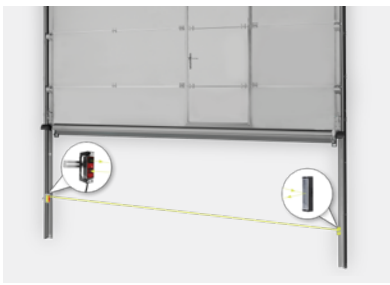
- UL325:2010 recognized
- NEMA 4X rated
- Optimal for commercial & industrial settings
- Withstands collisions and impacts due to flexible design
- Easy installation
- Adjustable with supplied wing nuts

REFLECTIVE PHOTO EYE

RAY-RT

With its adaptable design, RAY-RT can be installed in the most challenging locations of door construction. It is designed for securing various points of the door and due to its compact size, it can even be integrated in the guide rail.

Thanks to the 360° rotatable fixing clamps and the compact design, RAY-RT can be installed in the door frame. An integrated function display and adjustment aid enable easy installation. Various interfaces facilitate integration into the door control system and retrofitting to existing doors. RAY-RT is available in three different housing versions (standard, industrial and heavy duty) for optimum application.



FEATURES:

- Available with either a standard or long-range reflector
- Resistant to ambient light through red light technology
- Close range detection
- Available output versions: relay, pulsed 2-wire
- IP65
- LED indicator
- Conform to UL325

ADDITIONAL STATIONARY SAFEGUARDING

LIGHT BARRIER

RAY-N

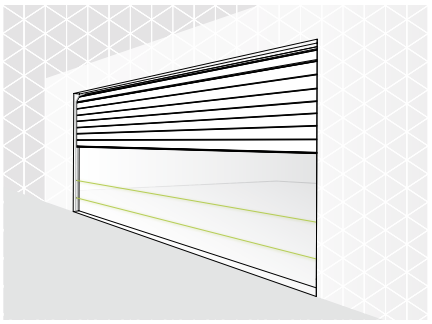
RAY-N photo eyes are monitored sensors, using the same proven technology as the OPTOEYE. When the signal between emitter and receiver is interrupted, the sensor sends a signal to the operator to stop and reverse the door.

FEATURES:

- UL325 recognized photo eye
- NEMA 1 rated
- Proven technology
- High range
- Versatile mounting options
- Economical design

LIGHT BARRIER

ELS 500



The ELS 500 light barrier has a very robust design and due to the M12 housing it is easy to mount. The emitter has an adjustable emitting strength to configure the system for the used application.

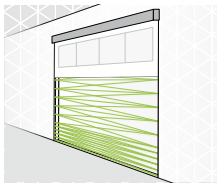
FEATURES:

- Easy mounting concept without expensive kits
- Operating range up to 20 m
- PNP or NPN output, light or dark switching available
- Emitting power adjustment

CONTACTLESS SAFEGUARDING OF THE CLOSING EDGE

LICHT CURTAIN

GridScan/Pro



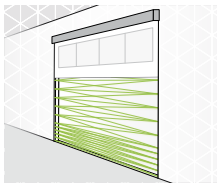
GridScan/Pro is a highly reliable SIL 2-certified safety light curtain for industrial doors. Equipped with EC type examination certification, it can be used at any door. Thanks to its multi-output design and the changeable operating mode (from blanking to static), the GridScan/Pro can be integrated in all types of door control systems.

FEATURES:

- TÜV – EC Type examination certified
- SIL2-certified
- Direct integration into the door edge due to door blanking
- Combined output with PNP/NPN (push-pull) and FSS (OSE)
- Changeable operation between blanking and static mode
- Easiest alignment
- 2nd output for additional information
- Ideal for modernization projects due to FSS control unit
- Door closing speed up to 1.6 m/s
- Fulfils SIL2 without testing if FSS output selected

LICHT CURTAIN

GridScan/Pro SI



GridScan/Pro SI is a highly reliable SIL 2-certified safety light curtain with a serial interface for industrial doors. Certified with an EC-type examination, it can be used in any door. The serial interface allows for the integration of additional functions such as soft stop, increasing the door`s service life.

FEATURES:

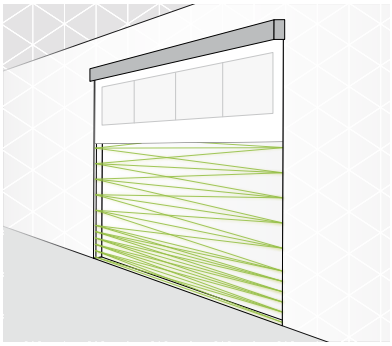
- TÜV-EC Type examination certified
- SIL2-certified
- Direct integration into the door edge possible (door blanking)
- Serial interface RS485
- Single beam information
- Easiest alignment
- Standby mode
- Maintenance information
- Door closing speed up to 1.6 m/s
- Cross-section of only 12 mm × 14.5 mm

ADVANTAGES:

- Higher safety level thanks to plausibility check of the door position
- Reduced mechanical wear due to the soft stop function
- Energy saving thanks to the standby mode and high door closing speed
- Reduced service costs based on the available maintenance information
- Reliable functioning in humid environments and in all weathers

LIGHT CURTAIN

GridScan/Mini



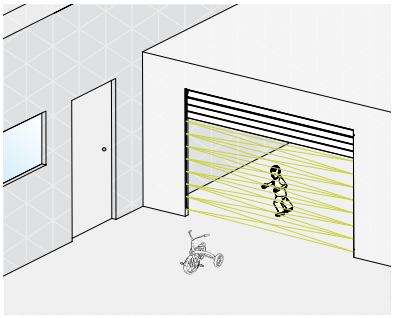
The GridScan/Mini is an extremely compact SIL 2-certified safety light curtain. Its door blanking function allows it to be integrated into the door design. The system with an FSS output fulfills EN 13849-1 Cat. 2 without testing.

FEATURES:

- Criss-cross beams
- SIL2-certified
- FSS version fulfills SIL2 without testing
- Direct integration into the door edge (SB and DB types)
- TÜV-approved
- For door speeds up to 1.6 m/s
- Waterproof housing (IP67) and very high light reserve make the GridScan/Mini insensitive to dust, dirt and water
- Electrical synchronization for increased light and strobe immunity
- Short-circuit proof semiconductor output PNP/NPN (push-pull) or FSS output
- Cross-section only 12 mm × 16 mm

MICRO MF

Micro MF



The Micro MF is a universal light curtain for safeguarding automatic doors. Its robustness and flexible optical element arrangement allows it to be adapted to customer-specific applications.

FEATURES:

- Integrated controller
- Integrated LED indicator
- Telemonitoring status output (TMS)
- Test input for increased safety
- Criss-cross beams
- IP65 (Standard) and IP67 (waterproof) versions available
- High EMC immunity

APPLICATIONS:

- Sliding doors
- Garage and industrial doors

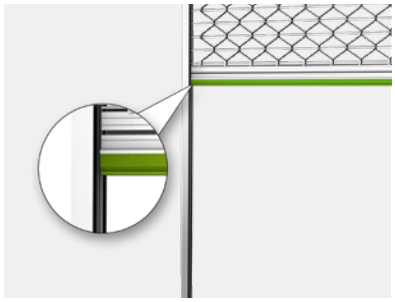
PNEUMATIC SENSING EDGE

Airwave switch / Radioswitch + Accessories

Airwave switches are actuated by pressure waves created by any kind of pressure source. A rubber tube inside the weather seal of the door is used to create a pressure wave. When the pneumatic edge hits an obstacle, a pressure wave is created inside of the tube and this wave is recognized by the switch.

Airwave switches are a cost-efficient way to safeguard doors and gates against entrapment. These pneumatic switches can be installed without any special tools directly on site. Installation is as easy as measuring and cutting the weather seal extrusion and connecting the switch to a tube in the weather seal.

Radioswitch is a pneumatic switch that sends a radio signal to the receiving unit upon activation. The small radio transmitter unit and the pneumatic switch, as well as the receiver unit are packaged within a waterproof housing. To ensure easy connection to a control unit, the receiver is equipped with a relay output.



FEATURES:

- Works with positive or negative pressure
- Different signal generators possible
- Easy assembly on site without adhesive
- Resistant to environmental influences
- Easy installation
- High flexibility
- Adjustable sensitivity
- Maintenance-free

ACCESSORIES:

- Silicone hoses
- Angled plugs
- Connectors

INDUSTRIAL DOORS

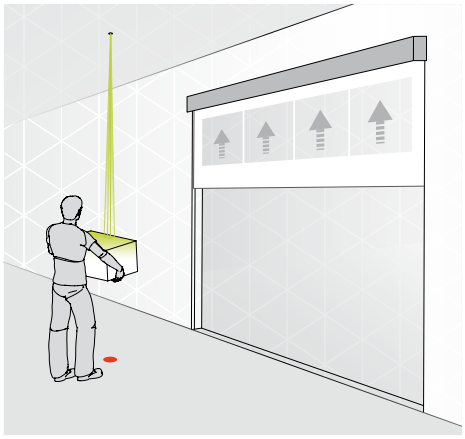
OPENING

OPENING

Practical and hygienic: CEDES sensors serve as door openers, offering a contactless pull-string alternative. The 3D camera sensor TOF/Spot contributes to the smooth flow of people and vehicles and prevents unnecessary door opening thanks to its small detection area.

PULL-STRING REPLACEMENT

TOF/Spot



The TOF/Spot is a compact yet powerful measuring system with the widest range of application possibilities. It offers ultra-reliable detection and exact detection range setting.

FEATURES:

- Time-of-Flight (TOF) Sensor
- Exact distance setting, independent from background
- Excellent detection capability
- Small and sleek design
- Operating range from 0.2 m up to 6 m
- Easy mounting
- Insensitive to ambient light up to 100,000 lux

INDUSTRIAL DOORS

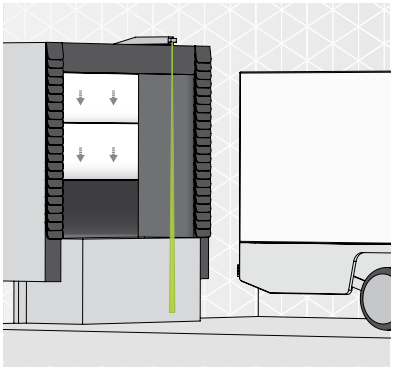
MONITORING

MONITORING

Our door monitoring solutions are designed to provide more safety and higher operational efficiency. The truck presence detection functionality is a good example of these advantages. This application is also based on our 3D ToF sensors – TOF/Spot can determine if a truck is parked at the loading dock and control door opening and closing accordingly. It prevents unnecessary door opening, which results in increased energy efficiency of the building. For this reason, the solution is particularly useful for cold storage facilities.

TRUCK PRESENCE DETECTION

TOF/Spot



TOF/Spot can be applied to determine the presence of a truck at a loading dock, preventing unnecessary opening of the automatic door. This solution increases the overall energy efficiency of the building.

FEATURES:

- Prevents door opening when there is no truck at the loading dock
- Exact distance setting, independent from background
- Compact and sleek design
- Operating range from 0.2 m up to 6 m

ADVANTAGES:

- Saves energy
- Flexible mounting in or outside of the dock thanks to outdoor housing
- Prevents door closing when a truck is at the dock

POSITION MONITORING

Encoder (DMC)

DMC is a universal limit switch for all door types. A setup of two magnetic encoders determines the exact door position without batteries. The redundant non-contact sensor principle is unaffected by humidity or harsh environment. Selectable protocols allow communication with all major RS485 door control interfaces and can be chosen on site by a hidden switch.

FEATURES:

- Magnetic encoder technology
- Up to 4 revolutions
- Interface and mechanical compatibility with current design
- Internal memory to store door information
- Cat. 2 / PL “c” acc. to EN ISO 13849-1

INDUSTRIAL DOORS

ACCESSORIES

ACCESSORIES

You don`t need to look for another supplier for cables, junction boxes and mounting brackets. CEDES offers complete solutions, incl. appropriate accessories. The one-stop-shop principle saves you time and simplifies the ordering and logistics process in a significant way.

ACCESSORIES

OSE CABLE SETS

Cable sets (CS)

OSE cable sets contain a junction box, a spiral cable and cable gland accessories, and hence everything required to connect OSE sensors to a control device. Cable sets are provided with junction boxes and spiral cables in three sizes, each designed for different door types.

Cable sets CS 200X and CS 300X are available in standard and advanced versions which contain a diagnostic PCB instead of a luster terminal and an additional mounting bracket for better handling of the spiral cable.

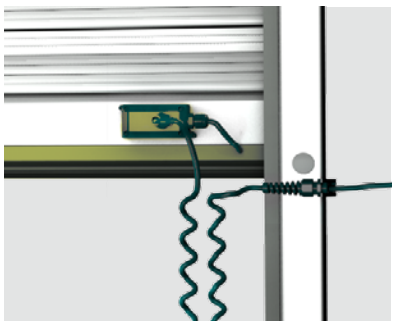
FEATURES:

Required accessories for the connection of safety edge:

- Junction boxes in 3 sizes for all applications
- Including cable glands and coil cords
- Optional: PCB with diagnostic function
- Optional: Mounting bracket

JUNCTION BOXES

Junction boxes (JB)



The junction boxes are available in different sizes (small, medium, large), depending on the desired application. The housing can be opaque or transparent – e.g. the status LED of the safety edge is visible through the translucent lid.

The pre-embossed cable glands in the housing ensure easy handling without tools. PCBs with diagnostic function and mounting brackets can be ordered optionally.

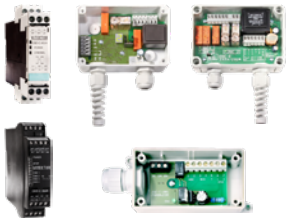
FEATURES:

- Junction boxes in 3 sizes for all applications
- Including cable glands
- PCB with diagnostic function optionally available

ACCESSORIES

CONTROL UNITS

OSE-C



For retrofitting older door systems, or for door controls without an integrated "OSE" interface, control units are required for evaluating the signal. All safety light barriers with an OSE signal can be connected to the evaluation units.

The signal is evaluated and provides a switching function in the form of potential-free contacts.

Various control units are available for retrofitting (safety categories, with/without housing).

FEATURES:

- Wide variety of control units
- Safety categories 1 to 4, EN 13849-1, UL 325
- Different mounting options

RUBBER PROFILES

OSE-P

The hollow rubber profiles enclose the OSE safety light barrier. When the hollow rubber profile is deformed, the optical channel is interrupted, causing a dynamic safety signal to fail. This is detected by the control unit which interrupts the enable circuit. The potentially hazardous movement is halted.

FEATURES:

- Wide range of different rubber profiles
- Profile heights 30 mm to 90 mm
- Profile widths 14 mm to 45 mm
- Available with and without sealing lip in EPDM and NBR
- Customized profiles available
- End caps for optical termination (TPE)

MOUNTING BRACKET

Offset bracket (AC)

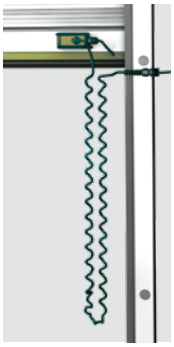
The mounting bracket is installed at half of the total height of the door, then wired up to the operator. This allows the coil cord to stretch only half the length.

FEATURES:

- Fixes the coil cord to the guide rail
- Helps prevent coil cord damage
- Material: Galvanized steel
- M16 flexing bend protection

ACCESSORIES

COIL CORDS



Coil cords are commonly used to wire the sensing edge from the moving door panel to the stationary door control unit. This solution is cost efficient and proven to work reliably. The wiring connection from the sensing edge to the coil cord is usually done within the protected environment of a junction box.

FEATURES:

- 3 - 5 leads
- Max. extension 3 m
- Spiral length 750 mm

BUMPERS

OSE-B

Bumpers are used for long-term protection of horizontally mounted safety contact edges. In a closed state the door leaf sits on the bumpers. These protect the rubber profile and/or the inner optical closing edge device from damage.

The installation height is selected to ensure that the hollow chamber containing the closing edge sensor is not deformed, but that the sealing flanges or the sealing chamber make tight contact with the floor.

FEATURES:

- Simple to attach
- Available for rolling doors or sectional doors
- Modular bumper for custom thickness / height

SPECIAL APPLICATIONS

PEDESTRIAN DOORS

SAFEGUARDING AND OPENING

CEDES sensors are much more than practical, contactless door openers. For instance, TOFniva monitors a surface of 2 square meters and can be applied at emergency exits – it triggers an alarm, if an object is blocking the exit. TOF/Start-EA detects and ignores cross-traffic in order to prevent unnecessary door opening and save energy.

SAFEGUARDING

ELS 263

The ELS 263 light barrier has a very compact design and is easily built into door frames or indeed anywhere where space is limited. Fully potted, it is also ideal for outdoor safeguarding applications.

FEATURES:

- Compact dimensions
- Simplest assembly (snap-in)
- Reliable for outside applications
- Integrated controller
- PNP or NPN output, light or dark switching available
- Multiple ELS 263 units connectable in a network with Y-switch

APPLICATIONS:

- Automatic sliding doors
- Elevator doors
- Vertically closing gates
- Escalators and travelators
- Personnel sluices

SAFEGUARDING

ELS 300

The ELS 300 light barrier is certified under EN-13849, Category 2, Performance Level C. Its compact design allows it to be easily integrated into the safeguarding application.

FEATURES:

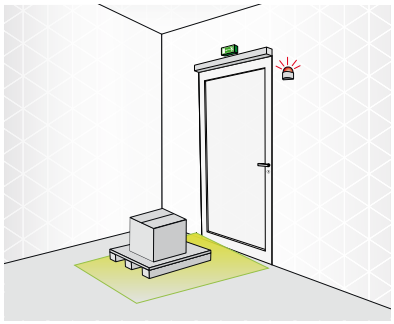
- Type 2 light barrier suitable for Cat. 2 applications
- Compact dimensions
- Excellent detection capability even in harsh environmental conditions
- Very resistant to ambient light
- Integrated controller
- PNP or NPN output, light or dark switching available
- Various operating ranges available
- Multiple ELS 300 units connectable in a network with Y-switch

APPLICATIONS:

- Automatic sliding doors
- Elevator doors
- Vertically closing gates
- Escalators and travelators
- Personnel sluices

MONITORING

TOFniva



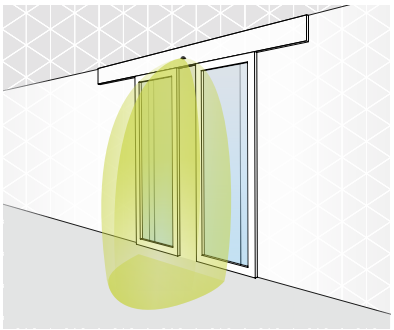
The TOFniva monitors a area of up to 2 m x 2 m, detecting when people or objects enter it. The detection area can be set to meet specific application needs and works with all backgrounds.

FEATURES:

- Excellent detection capability, independent of reflectance
- Individual setting of the detection area
- Detection area operates with all types of background
- Insensitive to ambient light

DOOR OPENING

RDS 100



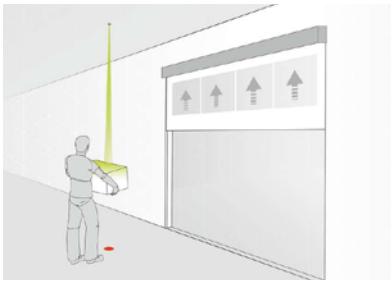
The RDS 100 radar sensor provides very reliable door activation. The sensor can be used for all automatic doors, thanks to his large detection area of 4 x 2 m at a mounting height of 2.2 m.

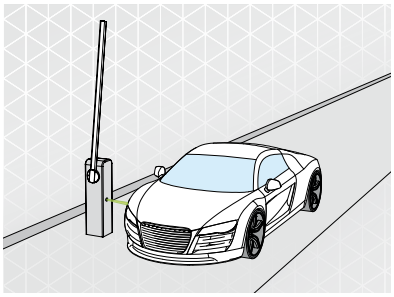
FEATURES:

- Easy mounting concept without expensive kits
- Adjustable detection angle
- Wide detection area
- Very compact sensor

DOOR OPENING

TOF/Spot





The TOF/Spot is a compact yet powerful measuring system with the widest range of application possibilities. It offers ultra-reliable detection and exact detection range setting.

FEATURES:

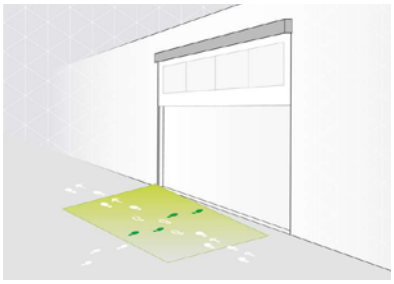
- Time-of-Flight (TOF) sensor
- Exact distance setting, independent from background
- Excellent detection capability
- Small and sleek design
- Operating range from 0.2 m up to 6 m
- Easy mounting
- Insensitive to ambient light up to 100,000 lux

APPLICATIONS:

- Presence detection of trucks
- Presence and movement detection, e.g. at car park barriers
- Opening pulse generator of industrial doors
- Replaces pull-string door opening

DOOR OPENING

TOF/Start-EA



The TOF/Start-EA is the ideal door-opening sensor for pedestrian and industrial doors. Cross-traffic is ignored, ensuring energy-efficient usage and reducing mechanical wear.

FEATURES:

- Ignores cross-traffic via intelligent direction recognition
- Excellent detection capability, independent of reflectance
- Individual setting of the detection area
- Detection area operates with all types of background
- Insensitive to ambient light

THE MOST IMPORTANT DOOR STANDARDS

Door and gate systems must be designed in accordance with ANSI/CAN/UL325. Not only manufacturers, but also maintenance companies are obliged to comply with the normative regulations.

Our products that are applied as safety devices on door systems, e.g. devices for closing edge safeguarding or pull-in protection, light curtains and pre-travelling light barriers, must comply with ANSI/CAN/UL 325.

ANSI/CAN/UL 325

UL 325 is a standard for safety that addresses the automatic operation of garage doors, vehicular gates, louvers, and windows. This standard is concerned with protecting people regarding the operators and systems.

ASTM F2200

ASTM F2200 is the standard for automated vehicular gate construction. This standard is concerned with protecting people regarding the gate construction and fabrication when intending to automate.

TRADE ASSOCIATIONS

Together with other experts around the world, we contribute our experience and knowledge to advance the door industry.

DASMA

DASMA is the largest and most important association of the door industry in the USA.

IDA

IDA is a leading trade association representing the door and access system industry by providing advocacy, education, and collaboration

BVT - VERBAND TORE

The BVT is a German association of door manufacturers and door component suppliers.

BAS.T

BAS.T associates leading manufacturers of door drives, wireless systems, safety devices and controllers.

SUSTAINABILITY

Sustainability is at the root of everything that we do. The technologies our partners invest in today - which are the technologies CEDES is at the forefront of developing - will have a lasting impact on the future of our planet and the communities we serve.

CO_2 NEUTRAL BY THE END OF 2024

We cover 20% of our energy consumption with the photovoltaic system installed on the roof, and 80% with CO2-neutral power purchased from REPOWER AG. We are also planning to connect to district heating from the GEVAG waste incineration plant.

SOLAR ENERGY

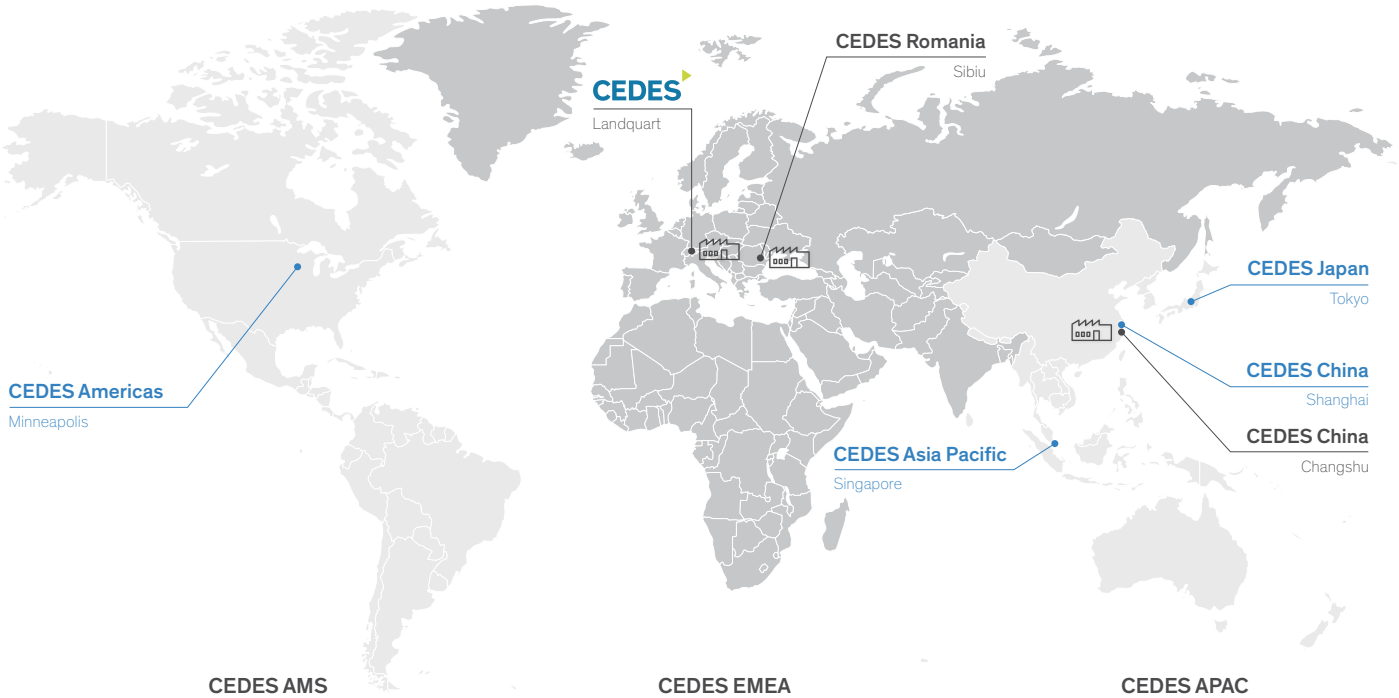
1,750 square meters – that‘s the total surface of solar panels installed on the roof of our Science Park building in Landquart. The photovoltaic system will provide around 360‘000 kWh electricity per year and reduce our CO2 emissions by 65 tons per year!

E-MOBILITY

E-cars, e-bikes, e-scooters: more and more CEDES employees use electrically powered vehicles to commute to work. Specially designated parking spaces and PLUG‘N‘ROLL charging stations are at their disposal in the Science Park. On top of that, we are planning to replace our current company cars with e-cars.

LOCATIONS

We are your local and global partner.



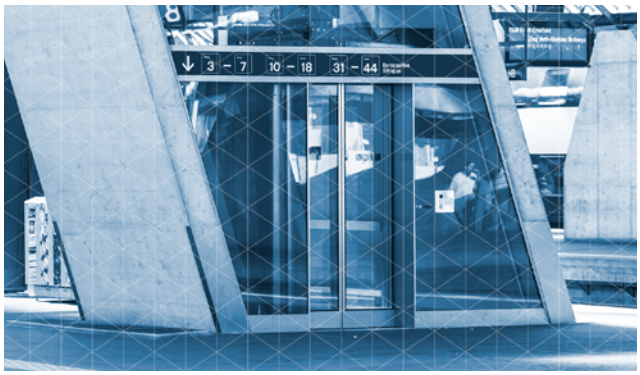
CEDES AMS | CEDES EMEA | CEDES APAC

NOTES

CEDES APPLICATION MARKETS

Learn more about our application markets

ELEVATOR & ESCALATOR



ENTRANCE AUTOMATION

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