

PRODUCT CATALOG

VEHICLE SCANNER 3.0

VERSION SMALL / CAR / VAN / TRUCK

JUNI 2021



Product description

The TwoTronic scanner represents a highly innovative system for vehicle exterior monitoring. It is used for both pure documentation of the vehicles' conditions as well as for automated exterior surface inspection. Several automotive business cases are supported with such a digitalization and automation tool, like automotive OEMs and their supply chain, after-sales repair & service workshops, rental car & vans organizations, supplier of shared mobility services as well as fleet management & logistics.

Through a patented concept evolved in the market over years, vehicles can be documented and audited by „driving through the scanner“ within smallest space requirements and minimal capital expenditure incl. follow-up costs. The system has a modular & case-sensitive highly configurable structure and can „scan“ all sides of a vehicle including the underbody in high resolution. For any additional acquisition needs we offer additional solutions such as mobile smart cameras, thermal-, endoscope-, and process-cameras, info tablets, cloud services and much more. Through the uniform structure and the same process landscape of all scanner types, the images are compared and evaluated independently of used scanner site.

Variants (details can be found at the end of the document):

The vehicle scanner is offered in three variants for vehicles of different sizes:

Small for up to 1.6m scan height without roof cameras

Car for up to 2m scan height incl. roof and

Van for up to 2,8m vehicle height incl. roof

Truck for up to 4m vehicle height incl. roof

Function:

The scanner detects with its LIDAR-based sensor system the presence of a vehicle in a distance up to 25m in front of the scanner. It activates his multi-camera acquisition system following the vehicle pass through the scanner by rotating its camera-holding pillar appropriately. Together with its active, LED-based adaptive illumination system ideal image-acquisition conditions are achieved, providing an excellent price - performance ratio: the best pictures at the minimal possible costs. This fully automated process produces at its end highest quality images to be used for pure documentation. Or an additional inspection model optionally offers an AI-based automated inspection together with advanced industrial image processing functionalities. A deflectometry-inspired illumination provides additional inspection possibilities. As the scanner can be used in both driving directions, a lighting system indicates the current status of the scanner to potential users.

Configuration:

The advanced scanner system is based on a highly scalable architecture with multiple configuration possibilities, thus covering multiple business scenarios and individual use cases.

You can configure your digital scanner system individually.

We are always available for consultation.

You should know the following points in advance:

1. which maximum size of vehicles should be covered?
2. should the system be installed indoor or outdoor?
3. do you prefer an installation frame within the ground for a tire scanner and / or underbody module or a ramp system?
4. how many vehicles will pass through the system on average each day?
5. the size of the storage solution (how long shall the pictures stay available)?
6. do you prefer a local storage or cloud-based storage solution?
7. which additional add-ons do you need?

Vehicle Scanner 3.0

Which product version is needed – vehicle size ?

Check
Up to 1m

Small
Up to 2m

Car
Up to 2m +
Roof cameras

Van
Up to 2,8m
+Roof cameras

Truck
Up to 4m +
Roof cameras

Indoor or Outdoor ?

Indoor
Place

Outdoor
Static
Upgrade

Are tire profiles values and / or underbody pictures needed ?

Yes

Yes

Over ground level
Ramp system Full
3m wide

Underground
Foundation frame

Tire scanner (max 4t max. 4t axle load and 4 wheels per vehicle)?

No

Yes

Blind
modul

Underbody module

Automated cleaning ? Air pressure module

Optional additional modules

Storage
Solution

Ergonomic
Frontend

LTE Modul

Smart
Display

Tire
Analyse

face
anonymization

GPU Upgrade

main
investigation
detection

AI surface
inspection

driving
ability
analysis

The Vehicle scanner 3.0

Since 2013, TwoTronic GmbH has been working on the digitalization of vehicles. Already today many car dealerships and leasing companies work with our systems and they can hardly imagine life without them. Our systems offer you and your employees not only more comfort and safety, but also many other aspects, that offer an unparalleled added value.

Your advantage - the added value:

- Time savings for employees and customers
- Risk minimization through documented transfer of risk
- Transparency and sustainability of vehicle condition
- Unique selling proposition, competitive advantages
- Standardized images supplement the digital vehicle file
- Completely new customer experience
- Ideal for fleet managers
- Regular checklists for integration into leasing, service and insurance contracts

System properties:

- Automatic License Plate Recognition
- Minimum space requirements
- Seamless integration (e.g. gate entrance, passage area, etc.)
- Multiple use of the cameras for different viewing angles
- High-performance LED illumination for maximum image quality
- Special coating of the surfaces to avoid mirroring & reflections
- Outstanding camera and lens quality
- optional person face anonymization for data protection compliant operation
- optional tire scanner for the detection of tire condition and chassis problems
- freely programmable image positions and angles

Our systems are modular so that we can offer you the perfect solution for your processes. You can also benefit from our extensions, such as the underbody scanner, info display or the fully integrated tire scanner from Beissbarth. Further new and innovative enhancements await you in the future.

Start with us into a new service of the future!

	Pro
Sensor type	Sony CMOS global shutter
Images Aspect ratio	4 : 3 panorama
Image sensor readout method	Global - simultaneous (whole sensor surface simultaneously)
Direction of travel	2 way (Bi-directional)
Automatic license plate recognition	2 way
Post-processing time / vehicle (Car version)	7 seconds
Images without geometric distortions (see technical info)	yes
Maximum passage vehicle speed	Up to 8 (10) km/h

Scanner-Panels

Small Pro Outdoor

FS3-SOKS-Pro

Digital outdoor documentation system for passenger cars up to 1.6m height as a basic system. The image acquisition panels with their re-positionable, high-resolution cameras and system lighting form the basic building block of the system. It optically records the exterior condition of the car, without underbody and roof, in both directions of travel in an automated process incl. license plate recognition & position determination in the scanner.

Included in the system:

- Integrated Industrial Server
- High-resolution rolling shutter cameras
- Sensor technology for vehicle detection
- LED signaling on both sides incl. traffic lights
- Bi-directional travel of vehicle through the scanner possible
- Documentation of vehicles up to a height of 1.6m
- System LED lighting

Scope of delivery:

- 1x FS3-Small-Pro scanner panel-Master
- 1x FS3-Small-Pro scanner panel-Slave
- 1x installation kit standard



Car Pro Outdoor

FS3-COKS-Pro

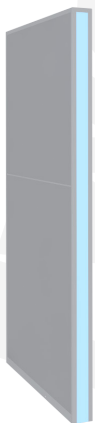
Digital outdoor documentation system for passenger cars up to 2.0m height as a basic system. The image acquisition panels with their re-positionable, high-resolution cameras and system lighting form the basic building block of the system. It optically records the exterior condition of the car, without underbody and roof, in both directions of travel in an automated process incl. license plate recognition & position determination in the scanner.

Included in the system:

- Integrated Industrial Server
- High-resolution global shutter cameras
- Sensor technology for vehicle detection
- LED signaling on both sides incl. traffic lights
- Bi-directional travel of vehicle through the scanner possible
- Documentation of vehicles up to a height of 2.0m
- System LED lighting

Scope of delivery:

- 1x FS3-Car-Pro scanner panel-Master
- 1x FS3-Car-Pro scanner panel-Slave
- 1x Installation kit standard



Depending on the structure situation, the FS3-CSK module must also be booked for static securing.



Scanner-Panels



Van Pro Outdoor

FS3-VOKS-Pro

Digital outdoor documentation system for Vehicles up to 2.8m height as a basic system. The image acquisition panels with their re-positionable, high-resolution cameras and system lighting form the basic building block of the system. It optically records the exterior condition of the car, without underbody and roof, in both directions of travel in an automated process incl. license plate recognition & position determination in the scanner.

Included in the system:

- Integrated Industrial Server
- High-resolution global shutter cameras
- Sensor technology for vehicle detection
- LED signaling on both sides incl. traffic lights
- Bi-directional travel of vehicle through the scanner possible
- Documentation of vehicles up to a height of 2.8m
- System LED lighting

Scope of delivery:

- 1x FS3-Van-Pro scanner panel-Master
- 1x FS3-Van-Pro scanner panel-Slave
- 1x Installation kit standard

Depending on the structure situation, the FS3-VSK module must also be booked for static securing.



Truck Pro Outdoor

FS3-TOKS-Pro

Digital outdoor documentation system for trucks up to 4.0m height as a basic system. The image acquisition panels with their re-positionable, high-resolution cameras and system lighting form the basic building block of the system. It optically records the exterior condition of the car, without underbody and roof, in both directions of travel in an automated process incl. license plate recognition & position determination in the scanner.

Included in the system:

- Integrated Industrial Server
- High-resolution global shutter cameras
- Sensor technology for vehicle detection
- LED signaling on both sides incl. traffic lights
- Bi-directional travel of vehicle through the scanner possible
- Documentation of vehicles up to a height of 4.0m
- System LED lighting

Scope of delivery:

- 1x FS3-Truck-Pro scanner panel-Master
- 1x FS3-Truck-Pro scanner panel-Slave
- 1x Truck Traverse system with cable duct
- 1x Installation kit standard



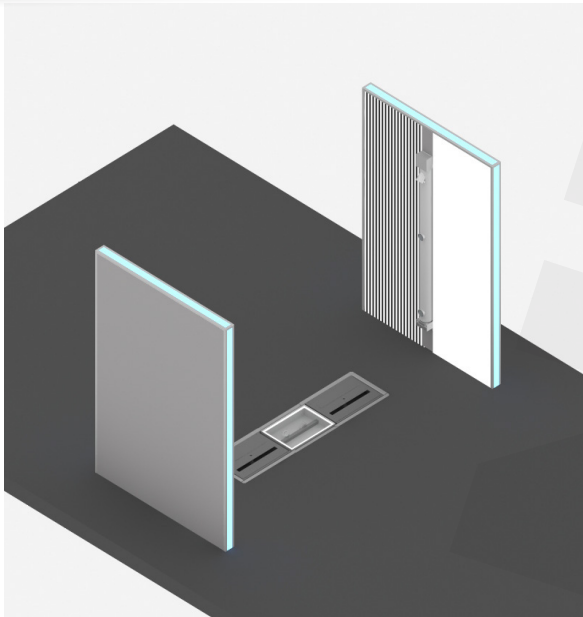
FS3-Ins-GM-VT

Installation flat rate for scanner panels van / truck

The technical requirements of our installation document are assumed

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Extensions



Deflektometry Upgrade

Upgrade module suitable for FS3 systems consisting of:

- 4 UV and weather resistant milk plexiglass panes (2 with deflectometry pattern)
- Industrial LED panels (backlight)
- Electronic kit for control

Deflectometry projects a pattern onto reflective surfaces, which is of decisive importance especially in case of deformations. Suitable for indoor and outdoor use.

FS3-SDef-Upg Vehicle Scanner 3.0 Small Deflectometry Upgrade

FS3-CDef-Upg Vehicle Scanner 3.0 Car Deflectometry Upgrade

FS3-VDef-Upg Vehicle Scanner 3.0 Van Deflectometry Upgrade

AI

FS3-KI

Upgrade module suitable for FS3 systems consisting of:

- AI algorithm with one year software updates
- Included in the system:

Scope of delivery:

Coming soon

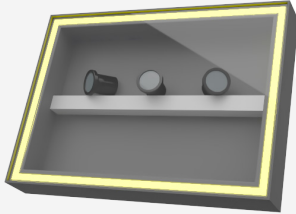
Scope of delivery:

1x Installation kit standard

AI
UPGRADE



Extensions



Underbody Pro

FS3-UM-Pro

The underbody module is the ideal extension for all versions of the vehicle scanner. With the underbody scanner you can scan without additional time and effort high-resolution pictures of the vehicle underside create. The system has Global Shutter cameras² and an adaptive high-performance LED lighting system.

To complement Basic and Pro systems

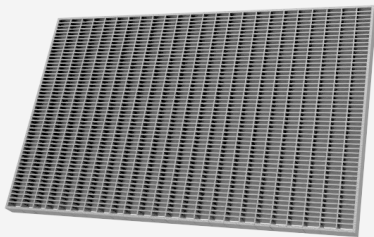
Scope of delivery:

1x Underbody module-Pro

1x cable set

1x mounting material

not for tropical and subtropical countries



Dummy module tire scanner

FS3-BM

The dummy module is designed for the case that the foundation frame or a Ramp system is ordered without tire scanner.

An axle load of 4t must not be exceeded.

Blind modules are available on request for higher loads.

Scope of delivery:

2x dummy module up to withstand a load of up to 4t



Foundation Frame

FS3-FR

Frame for embedding in concrete with filling pieces

It is advisable that the frame is installed by the customer.

However, we can also provide an offer for the installation.

**COMPRESSED
AIR
MODULE**

Compressed Air Module

FS3-DLM

The compressed air module is used for independent cleaning of the underbody module and the tire scanner module.

Special nozzles remove leaves, snow, water and other impurities. To supplement the tire scanner and underbody module.

Scope of delivery:

- oilfree whisper Compressor
- Switch cabinet in scanner module
- Compressed air kit

The upgrade removes coarse dirt, but it is still recommended that at least once per week, clean the windscreen of the underbody module and the scanner surfaces of the tire scanner.



FS3-Ins-UM

Installation flat rate underfloor module

The prerequisite is an installed foundation frame.

The technical requirements of our installation document are assumed

Extensions

Tire Scanner Easy Tread UF

by Beissbarth

FS3-RS-UF

Tire tread measurement with robust HD camera technology.

Scope of delivery:

- 2 measuring units
- Glass pane puller / cleaning cloth
- Installation material

Maximum axle load of 4t must not be exceeded !
Only vehicles with 4 tyres / no double tyres



FS3-Ins-RS

Installation flat rate tire scanner

The prerequisite is an installed foundation frame or a Ramp System.

Ramp system Small

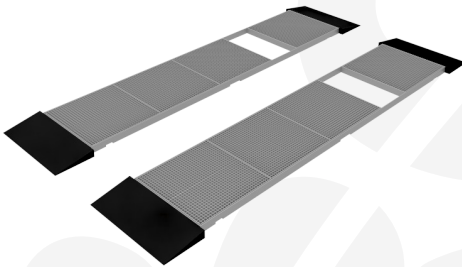
FS3-RAS

Upgrade module for all versions of the vehicle scanner for Above-ground installation

- Aluminium lightweight construction ramp system
- installation height 9cm
- drivable grids with max. 5t load capacity
- lane width of 80 cm each

Scope of delivery:

1x ramp system Small



Ramp system Full

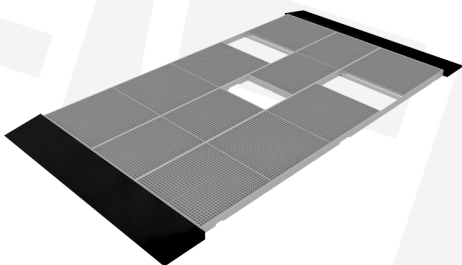
FS3-RAF

Upgrade module for all versions of the vehicle scanner for Above-ground installation

- Aluminium lightweight construction Ramp system
- installation height 9cm
- trafficable light grids with max. 5t load capacity
- Ramp width of 300 cm

Scope of delivery:

1x ramp system Full



FS3-INS-RA

Installation flat rate for ramp system

A FS3 basic module is required

The technical requirements of our installation document are assumed

Upgrades

STATIC UPGRADES

Static Upgrades

Upgrade for FS3-Systems

Static upgrade for car and van systems as upgrade

Scope of delivery:
- Static Upgrade Kit
- Installation material

FS3-CSK Car Static Upgrade

FS3-VSK Van Static Upgrade

COOLING UPGRADE

Cooling Upgrade

FS3-Cool

Upgrade module for all versions of the vehicle scanner
High performance Cooling Solution

Scope of delivery:
- Cooling Upgrade Kit

for tropical and subtropical countries

LTE UPGRADE

LTE Upgrade

Upgrade module for all versions of the vehicle scanner

Scope of delivery:
- Industrial LTE Router
- High performance mimo antenne

FS3-LTE-Upg

Annual fee for mobile phone contract with unlimited data volume in Germany (one year)

FS3-LTE-Service

Extensions

SMART DISPLAY

Smartdisplay Indoor

for the display of the tire values and other info's
FS3-SDI

Scope of delivery:

- 49" industrial display
- Dust and humidity protected
- Wall bracket / pedestal
- Signal connection to the scanner
- Installation material



FS3-INS-SD

Installation flat rate for ramp system
FS3 basic module is required

The technical requirements of our installation document are assumed

GPU UPGRADE

GPU Upgrades

FS3-GPU-Upgrades

Upgrade module for all versions of the vehicle scanner

- for face anonymization FS3-GV-Upg and AI-based damage detection
FS3-KI

FS3-GPU-small

FS3-GPU-medium

FS3-GPU-fast

PERSONS FACE ANONYMIZATION

Persons Face anonymization Upgrade

FS3-GV-Upg

Upgrade module for all versions of the vehicle scanner

- 1-year update service for face anonymization
- 95 - 98%
- incl. update installation

Scope of delivery:

1x FS3-GV-US

System Storage



Storage Version Premium 1

FS3-Storage-PV1

The Storage Version Pro 1 is for small and medium-sized businesses, the expansion of the memory is only possible within a limited scope.

- 19" memory solution
- 8 x 3.5" bay for hard disks
- redundant electricity supply
- 4 x 6TB 24/7 HDD
- 1 Hot Spare HDD (configured)
- Usable memory approx. 12TB
- Extension by 4 additional HDD's possible
- 10G Lan Uplink
- Virtualization option

Scope of delivery:

- 1x Storage Version 1
- 1x pre-installation and implementation
- 1x mounting material



Storage Version Premium 2

FS3-Storage-PV2

The Storage Version Pro 2 is designed for large car dealerships / leasing companies and customers with a high volume of scans.

- 19" storage solution
- 12 x 3.5" bay for hard disks
- redundant electricity supply
- 6 x 6TB 24/7 HDD
- 1 Hot Spare HDD (configured)
- Usable memory approx. 24TB
- Extension by 6 additional HDD's possible
- 10G Lan Uplink
- Virtualization option

Scope of delivery:

- 1x Storage Version 2
- 1x pre-installation and implementation
- 1x mounting material



Storage Version Premium 3

FS3-Storage-PV3

The Storage Version Pro 3 is for customers who want a maximum storage solution.

- 19" storage solution
- 16 x 3.5" bay for hard disks
- redundant electricity supply
- 12 x 6TB 24/7 HDD
- 2 Hot Spare HDD (configured)
- Usable memory approx. 54TB
- Extension by 4 additional HDD's possible
- 10G Lan Uplink
- Virtualization option

Scope of delivery:

- 1x Storage Version 2
- 1x pre-installation and implementation
- 1x mounting material

If a redundant storage solution is required, a separate system can be ordered to create backups automatically.

System Storage

Storage Version Light 1

FS3-Storage-LV1

The Storage Version Light 1 is the smallest storage solution.

- 19" storage solution
- 4 x 3.5" bay for hard disks
- 3 x 4TB 24/7 HDD
- Usable memory approx. 8TB
- Extension by 1 additional HDD possible
- 10G Lan Uplink

Scope of delivery:

- 1x Storage Version Light 1
- 1x pre-installation and implementation
- 1x mounting material



Storage Version Light 2

FS3-Storage-LV2

The Storage Version Light 2 still has reserves for SMEs to Extension.

- 19" storage solution
- 8 x 3.5" bay for hard disks
- 4 x 6TB 24/7 HDD
- Usable memory approx. 18TB
- Extension by 4 additional HDD's possible
- 10G Lan Uplink

Scope of delivery:

- 1x Storage Version Light 2
- 1x pre-installation and implementation
- 1x mounting material



Storage Version Light 3

FS3-Storage-LV3

The Storage Version 3 has the option of virtualization

- 19" storage solution
- 8 x 3.5" bay for hard disks
- 4 x 6TB 24/7 HDD
- Usable memory approx. 18TB
- Extension by 4 additional HDD's possible
- 10G Lan Uplink
- Virtualization option

Scope of delivery:

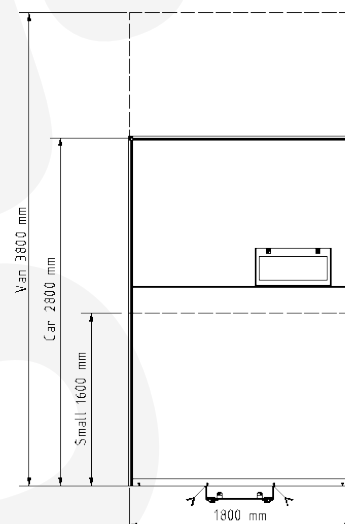
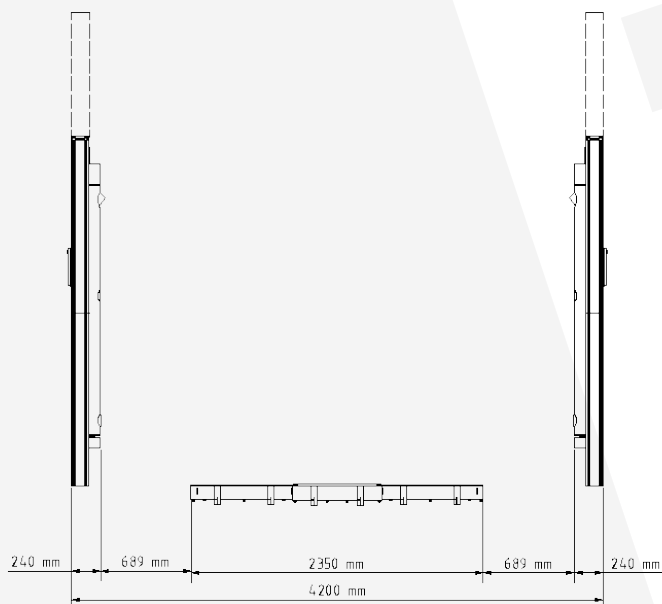
- 1x Storage Version Light 3
- 1x pre-installation and implementation
- 1x mounting material



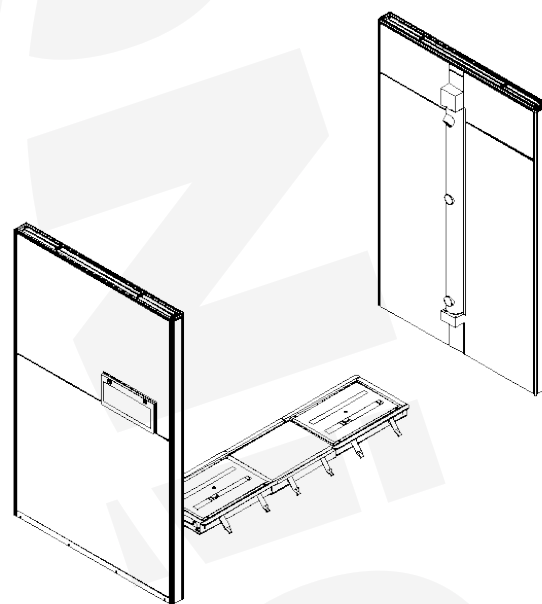
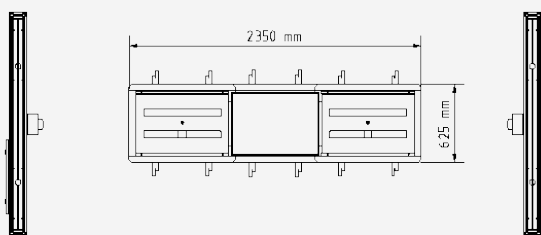
If a redundant storage solution is required, a separate system can be ordered to create backups automatically.

Space Requirements

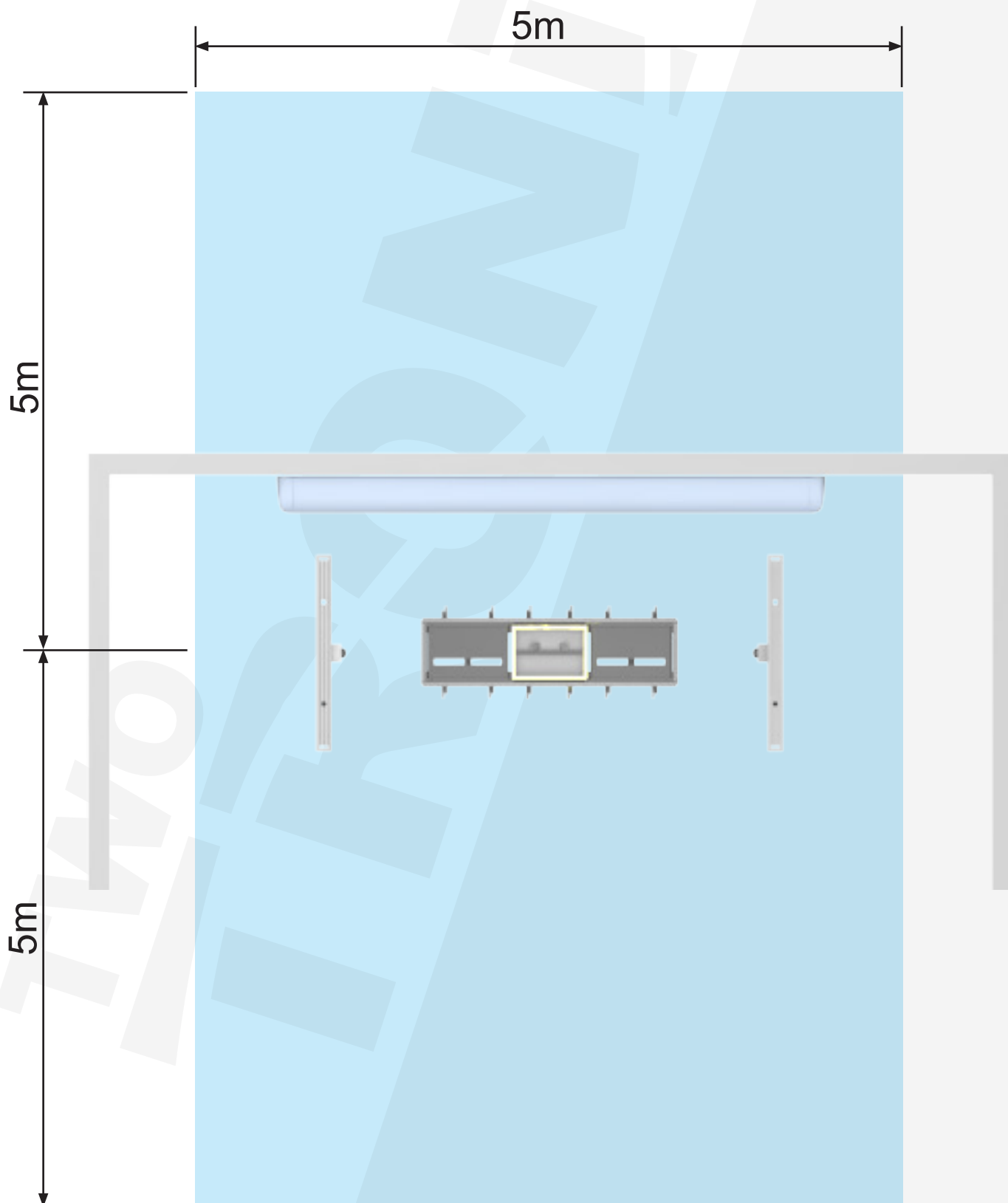
Frontansicht



Draufsicht

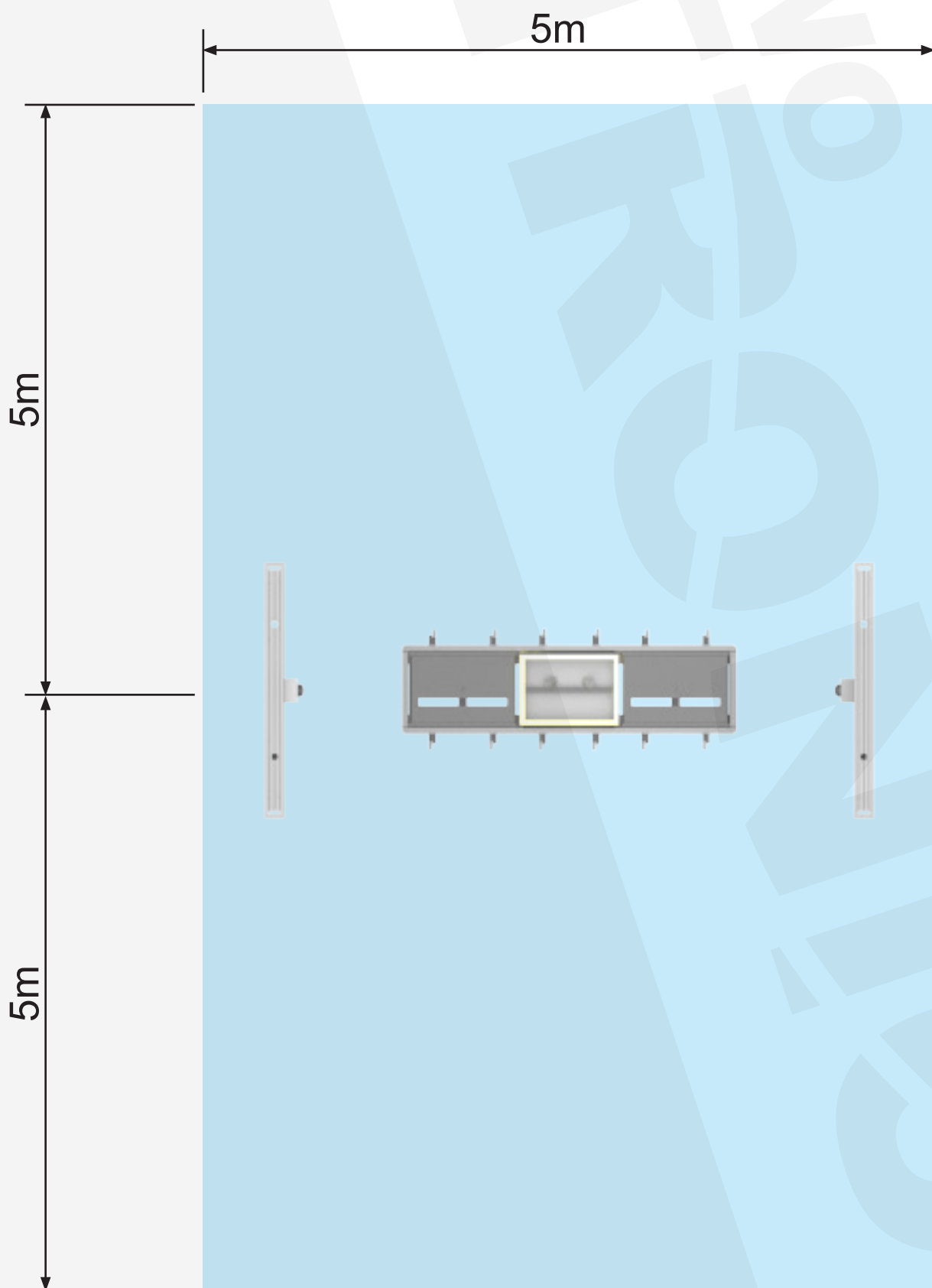


Space requirement roller door



All solutions can be placed directly in front of or behind a roller door. The space required is only necessary for vehicle registration and behind the panel for maintenance purposes.

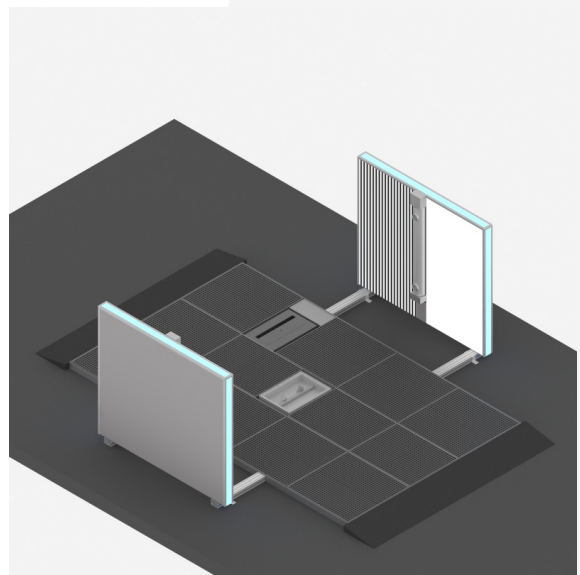
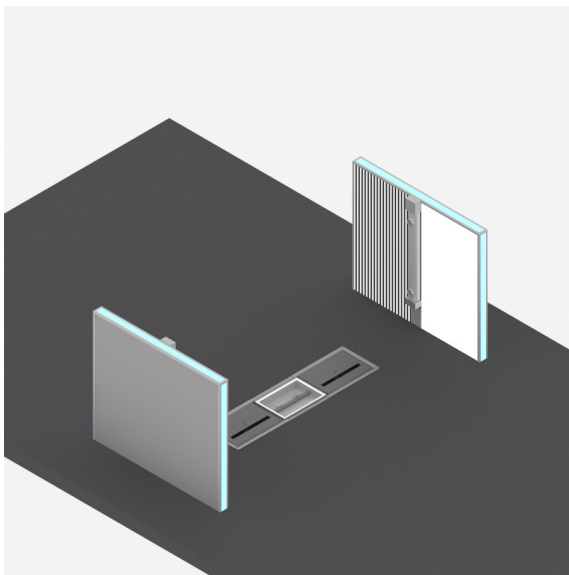
Space requirement Area



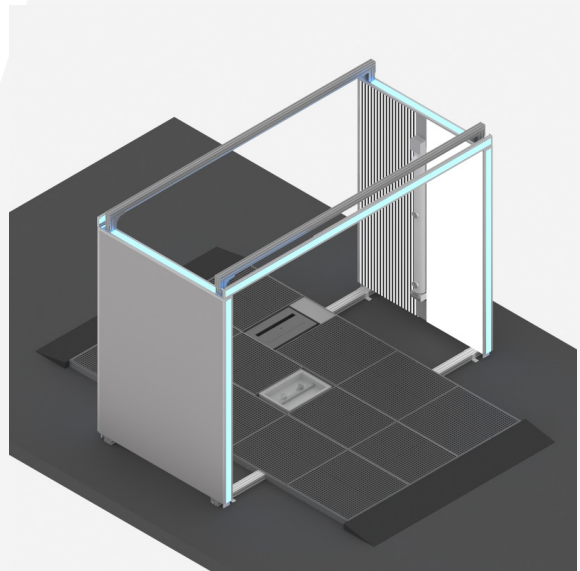
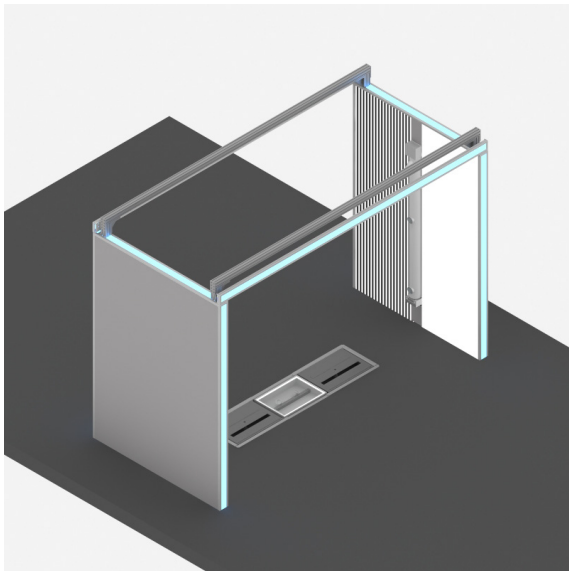
All solutions can be placed directly in front of or behind a roller door. The space required is only necessary for vehicle registration and behind the panel for maintenance purposes.

Examples

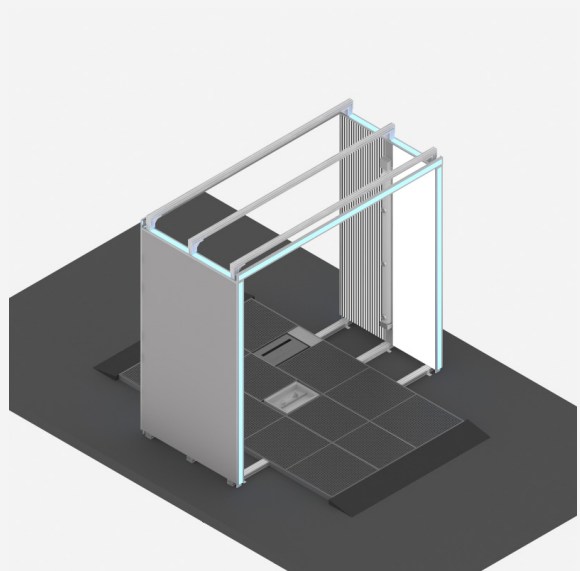
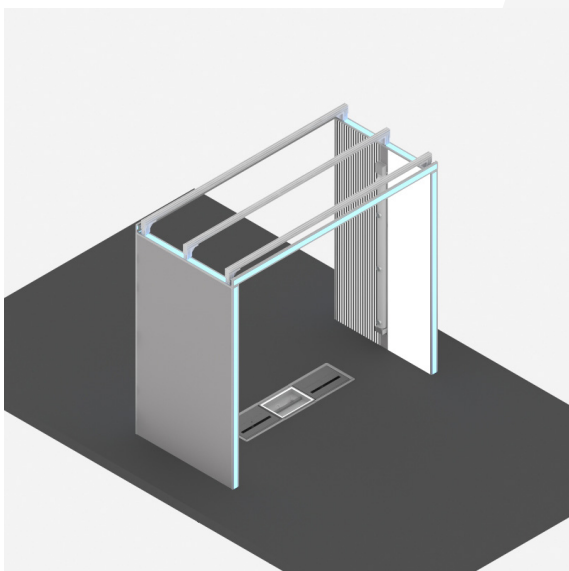
Small



Car



Van



Notizen

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Examples

