GEUTEBRÜCK

# Video solutions for the Public Transport

# Video security for all areas of public transport

In 2019, around **11.6 billion** passengers were transported in Germany by local public transport (regular service). (Source: statista.com).
In many other countries the number is comparable or even higher.

Every traveller relies on the fact that the best possible care is taken to ensure his or her safety during the entire journey. But where large crowds of people meet, something unforeseen can always happen. It is crucial that you, as the person responsible for security in local public transport, are able to detect irregularities immediately and take appropriate measures quickly. Risks lurk everywhere, at any time. Platforms, station concourses, stairs, escalators, stops and in the transport vehicles - practically any area can be the focus of a dangerous situation from now on.

Furthermore, in the age of high-speed trains, it is becoming increasingly important to be able to automatically observe dangerous sections of the route, such as tunnels and bridges, from a distance. Accidents can thus be prevented, as dangers can be detected early and countermeasures can be initiated immediately.

Many large railway facilities and bus companies worldwide already use a Geutebrück video security system as a central element of their security concept and have demonstrably increased the security of passengers considerably.

**Recognising**
Every unusual occurrence in the video images is automatically analyzed and evaluated - by our video content analysis and our artificial intelligence (AI).

**Alarming**
Video alarms are transmitted in real time — to any connected system, whether vehicle, security center, tablet or smartphone.

**Documenting**
Storage space-saving permanent recording and live recording in the case of an event — everything safely documented.

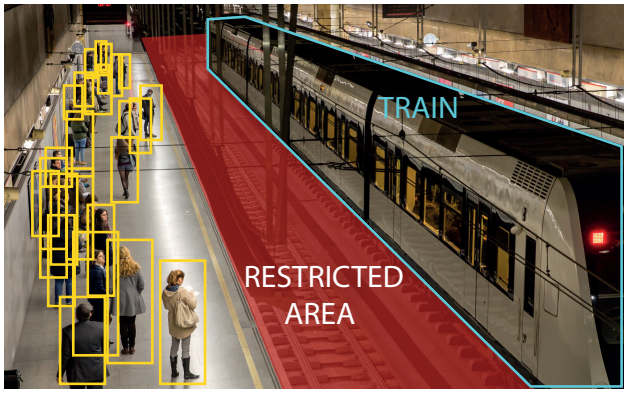
**Court usable video evidence**
Clear evidence in court through tamper-proof image format (GBF).

**Mobile and multisite**
Video images e.g. from vehicles, stations, bus stops and route sections can be viewed from any location.

**Precise localization of incidents**
The additional, graphical display of alarms in site plans specifies the location of the event.

**Controlling**
Integrated interfaces offer limitless control options — lighting, doors, voice connections, acoustic alarm indicators, automatic announcements and much more.

# Intelligent video solutions for rail traffic





## TRACK AND PLATFORM SECURITY:

The content-based video analysis monitors the area of the rails and triggers an alarm if the defined virtual limit is exceeded. The video analysis differentiates between persons and trains, so that an approaching train does not trigger a false alarm.

Unusual behaviour patterns of people, such as prolonged stays in the immediate vicinity of the track, can be automatically reported by intelligent algorithms. If there are people in the track bed, an additional warning message with corresponding video images can be sent to an approaching train and braking can be initiated earlier.

Automated braking of a train would also be technically realisable through available interfaces. With the Geutebrück solution, a significant increase in safety at railway and underground stations can be achieved and threatening situations can be detected early. Each case is documented in a tamper-proof way.

In addition, suspiciously fast movements on an otherwise deserted platform (harassment) or objects left unattended, such as suitcases or parcels, can be detected and reported by the camera-based video content analysis.

You gain valuable time to initiate the right measures in good time from a central location.

## STATION HALLS, STAIRS AND ESCALATORS:

With the area-wide positioning of megapixel cameras in combination with high-speed dome cameras, you can monitor your entire area, not only from your security center, but also on a mobile „patrol“ using your tablets or smartphones.

With graphical map-based user interfaces for selecting the cameras, you can keep your orientation in any situation. This simplifies, for example, the „video tracking“ of suspicious persons.

In addition, the Motion Search function allows you to find the exact video recording you need to clarify irregularities within seconds.

Nothing gets lost — everything is comprehensible.

# Intelligent video solutions for rail traffic

**TRACK SURVEILLANCE, TUNNELS, BRIDGES, RAILWAY CROSSINGS AND OVERHEAD WIRES:**

Our professional thermal cameras allow you to reliably monitor sections of road, tunnels or bridges many hundreds of meters long with just a few cameras without additional lighting at night, in rain, fog or snow.

High-resolution IP cameras at unmanned railway crossings and barrier systems provide additional safety at traffic crossings.

In connection with our video analysis, you automatically receive an alarm image in your control centre and are forwarded directly to the train operator's control desk as soon as a person or other object is on the tracks. You recognize the danger at an early stage and can react in a targeted manner.


**CONNECT GEOGRAPHICALLY FARAWAY LOCATIONS:**

Thanks to our Adaptive Stream Management, you receive brilliant, high-resolution camera images easily over your existing networks — in real time and with minimal bandwidth consumption. Connect the video security systems of entire railway lines with several stations and line monitoring into a centralized, virtual overall system.

**OPEN INTERFACES - THE PERFECT SYMBIOSIS OF YOUR SYSTEMS:**

Control the almost infinite functional diversity of your Geutebrück video security system with messages from your own systems (operations control system, fault alarm system, fire alarm system, emergency call system). Automatically connected, high-resolution camera images show you exactly the detailed information that is often missing, which you need for a quick assessment of operational situations of any kind.

# Mobile video solutions for public transport

**THE HARDWARE IN THE TRANSPORT VEHICLE:**

Mounted on the doors and in the passenger area, certified, high-resolution IP video cameras (certified according to EN 50155:2007) capture all areas inside the vehicle.

The recording of the video images (incl. audio if desired) takes place on a hardware platform specially designed for mobile use. The certified design can be used in all kinds of vehicles and can also be connected via radio transmissions (WIFI, mobile radio).

An integrable GPS module allows the localization and recording of the current location.


Certificates:
EN 50155 / EN45545
E-Mark, CE / FCC Class A, according to EN 55022, EN 55024 & EN 55032

## SYNCHRONISATION OF RECORDINGS TO THE CONTROL CENTER:

The recorded video data can be permanently synchronized with the main or back-up system in the control center via the mobile Internet and WLAN.
This enables the control center to monitor the situation in the vehicles at all times, evaluate stored recordings and, if necessary, store and secure unusual events such as theft, passenger nuisance, accidents or vandalism in a way that can be used in court.

## AUTOMATED ALARM PROCESSING IN CONNECTION WITH OTHER CONTROL SYSTEMS:

Emergency call buttons installed at the driver's and in the vehicle start pre-parameterised event sequences when triggered.

**Here is an example of automatic, parallel running alarm workflows of the video management software in combination with other control systems:**

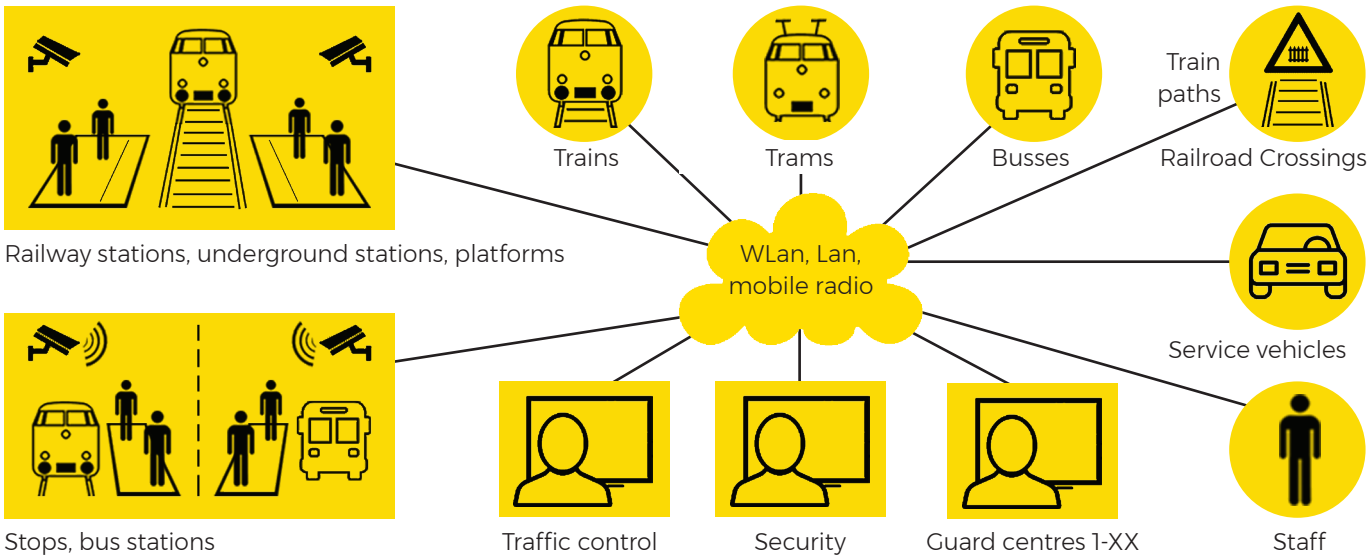
- Display of the corresponding camera images on the driver's monitor.
- Switching on an emergency display (alarm light) on the vehicle to alert other road users.
- Playing an automatic audio announcement to the passengers.
- Additional menu display on the driver's monitor for commenting on the alarm and making a direct emergency call to the police or fire department.
- Alarm display of the camera images with the recorded history at the dispatcher's office.
- Automatic activation of an intercom connection between the driver and the traffic control.
- Transmission of camera images to the smartphones of nearby controllers.
- Transmission of the camera images to the tablets of other mobile service vehicles of the company.
- Data transmission via interface e.g. to the train management system of the company.


## IMAGE TRANSMISSION FROM TRACK CAMERAS INTO THE VEHICLE:

Depending on the size of the vehicle, it is often difficult for the driver to oversee the situation at stops or platforms.
The transmission of the local camera images of a stop into the driver's cab of the vehicle shows the driver the situation around the vehicle and increases the safety of the passengers when entering and leaving the vehicle.

At night in particular, it can be a decisive advantage for the driver to be able to assess the situation before approaching a stop in order to be able to identify risk situations in advance.

# Your entire route network always under control




## GLOBALLY NETWORKED

The management software G-SIM with the software option G-SIM/Global allows you mutual access to every location, every vehicle and all connected employees in your route network. All functions and resources can be accessed depending on the respective rights structure. This includes access to cameras, site plans, alarm processing, process data, connected third party systems as well as for administrators the configuration of user rights and much more.

You get control of the systems at each location and the systems at the other locations. Everything is interconnected, everything communicates with each other - across locations, user-friendly and fail-safe.

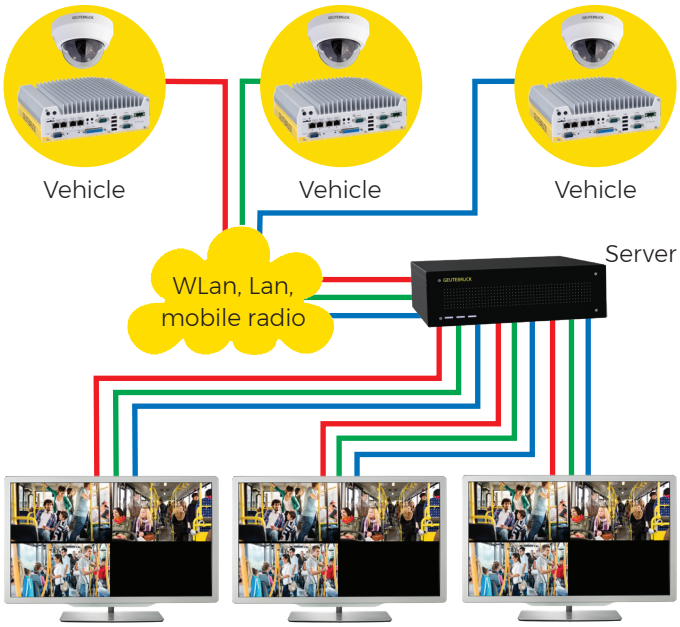
## SMOOTH TRANSMISSION OF VIDEO DATA EVEN AT LOW BANDWIDTHS

**Stationary server for broadband forwarding (proxy application)**

This software option allows you to use the live stream of camera images from a mobile system simultaneously at multiple locations and by multiple users.

To save bandwidth, the live stream is transmitted only once from the mobile system to a stationary server.

Multiple access is then only granted to the stationary server that has a stronger network connection.

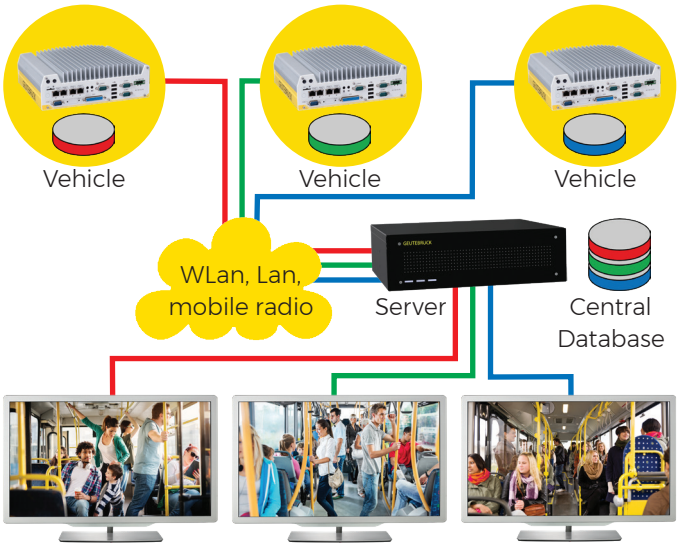


**Stationary server for automatic backup of mobile video databases (database replication)**

This software option replicates the database of a (mobile) remote server to a stationary server.

Replication is executed when sufficient bandwidth is available. It can be paused when the bandwidth becomes less or the connection to the Internet is lost, and resumed when the bandwidth is good enough.

The databases of several, mobile servers can be aggregated (merged) on a single, stationary server.




## YOUR SMARTPHONE BECOMES A CCTV CAMERA

**Smartphone as a Camera**
Use smartphones as mobile cameras and transmit video images of your choice in real time to the central video management system.
Controllers and security staff can use an app to transmit, store and document video images to the control center and trigger alarms and events.
The flexible use of the smartphone camera enables you to directly integrate the control center into incidents, to inform them and to store video images centrally in a way that can be used in court.

Use the de-escalating effect of the smartphone camera to effectively protect your employees from verbal and physical attacks.

*(Delivery date on request)*

## PROTECTIVE MEASURES CONCERNING CORONAVIRUS

Geutebrück offers various solutions for the current situation, which contribute significantly to meeting the strict regulations for the containment of the coronavirus.

Depending on your needs, we can assist with contact-free body temperature measurement, automatic recognition of mouth and nose protection using artificial intelligence, and automatic counting of people.


Of course, these current video solutions can be seamlessly integrated into your Geutebrück security system at any location.

**Talk to us.**
We are happy to support you in planning and setting up your system

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www.geutebrueck.com