

# G-SIM

## GEUTEBRÜCK Security Information Management



### Product information

The GEUTEBRÜCK Security Information Management (G-SIM) is fully scalable from the smallest single-NVR installation (the Small Business Edition) through the Business Edition to a full Enterprise system. What makes this possible is the architecture which was designed from the ground up to be scalable and to allow unprecedented power: a single server can run thousands of cameras. In fact, at one of our larger installations we run more than 5,500 cameras per server.

- | Complete flexibility for any number of networked workstations
- | Intuitive operation using individually designed site-plan-based operator interfaces
- | Complete video stream management for live and recorded video
- | Efficient alarm management with site plans, video and all other relevant information
- | Comprehensive support for delegation, i.e. for the hand-over of event or alarm processing, the allocation of tasks and for switching internal system communication between users
- | Perfect data protection as a result of the flexible administration of user rights and the complete audit trail
- | Management of all subcontractors and third party systems integrated into the GEUTEBRÜCK system

**GEUTEBRÜCK**  
Competence in Video Security

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## ***Intuitive and User Friendly Interface***

G-SIM was built for users. An easily customisable, flexible interface allows the user to select a screen layout and place camera viewers, guard tours, maps and item lists in any of the layout windows. Drag-and-drop functionality of all items as well as alternative keyboard control makes navigation a breeze. Consistent and intuitive system handling of items and functionality makes it easy to use, even for newcomers who are used to working with GUI-based programs.

### ***Multiple screen support***

Up to four screens are supported per workstation.

### ***Different font sizes***

We support different font sizes, allowing easier viewing on small, high-definition screens, or distant screens.

### ***User selection of screen templates for each individual screen***

Users may choose from a selection of pre-defined screen templates. Administrators may define new templates. Cameras, guard tours, maps and lists may be docked or duplicated in any window of such a template.

### ***Saving of favourite screen layouts***

Users may save screen layouts containing any screen components. These can be recalled quickly for performing common task.

Note that zoom levels and positions of maps and video, are included.

### ***Drag-and-drop support***

The user interface has been designed to be highly intuitive to use. Drag-and-drop support wherever possible, makes the interface fast and easy to use. Drag a camera to a map to show its position, drag it to an empty viewer to view it, drag it to a list to select it, drag it to a task to assign a camera-related task, etc.

### ***Easy access to all video network related items through lists***

Tabbed lists of sites, cameras, users, etc., make it easy to access items. Simple queries allow filtering to focus on specific items according to various criteria. Status icons in these lists give a quick overview of usage, alarm conditions, etc.

### ***Real-time update of system usage through status icons***

Status icons show information about an item. For example, in the camera list icons show which cameras are viewed by you, by other users, or are used in guard tours. These icons are updated in real time as usage and alarm conditions change, providing a quick overview of the system state.

### ***Focused access to the important information***

Most of the lists have easy-to-use filters to help the user focus on what is important. These filters allow you to see only selected groups or types of items. Filters even allow dynamic display of items which are currently being used in a specific way – such as all PTZ cameras that are being controlled on a specific group of sites; or all Alarms of a selected type that have been handled by a certain operator during, say, the last 2 weeks.

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## ***Live Cameras and Recorded Footage***

All standard camera viewing, reviewing and control functionality is available and easy to use. It is not necessary for the user to know about NVRs, how cameras are connected, or where the footage is stored. Users simply get a camera and drag it onto a viewer or map to use it. Cameras can be taken from the camera list, other maps, alarms, the list of who is using which camera, etc. Tasks and audit items can also have cameras attached to them for immediate access.

### ***Viewing of live cameras and reviewing recorded footage***

View a camera in any of the screen layout windows, move it to another position or to one of the other screens, show it full-screen or perform specific tasks with it, such as adding it to a Guard Tour (Camera Sequence), finding it on a map, creating a Video Event, etc.

### ***Clone the selected camera view for reviewing***

Easily open a review session of the same camera while viewing it live (or vice versa).

### ***Controlling live cameras and managing who has control***

Control PTZ cameras by using keyboard shortcuts, the mouse (by dragging the focus-point of the camera around and zooming in/out with the mouse wheel), or an MBeg controller. G-SIM manages the control of such cameras when more than one person has the privilege to take control, by prioritising the users according to the pre-configured user levels. Any camera under control shows who is controlling it, and warns a user attempting to take over such control.

### ***User defined and centrally managed PTZ pre-sets***

PTZ pre-sets are easy to assign, making the recall of such pre-sets simple via a list in the Camera Detail display, or through a drop-down list on the Viewer window. These positions can be assigned human readable names, e.g. Cargo Bay Door. These positions can be used as they are virtual cameras.

### ***Use all GEUTEBRÜCK supported cameras***

All cameras supported in a GEUTEBRÜCK video network can be accessed. This includes IP/ high-definition cameras and even IP-based PTZ cameras.

### ***Pan and Zoom***

Mouse-wheel digital zoom allows magnification of high definition footage after which the image may be dragged to pan. Double-click the viewer for a full screen view if more detail is required.

### ***User blocking of cameras***

Users (with the correct rights) may temporarily block access to cameras or camera groups for viewing or use by other users/user groups.

### ***Guard Tours (timed camera sequences)***

Pre-defined and user definable Guard Tours may be comprised of any combination or number of cameras across the video network for sequenced camera monitoring. Any item in the sequence may also be a (managed) PTZ pre-set. The duration for which each camera is viewed (dwell time) may also be configured. These tours may be defined globally for use by all operators, or privately for personal use — displaying any number of tours in any of the viewers. The user can easily see which item in the sequence is being displayed and even jump to any other item instantly. Use of a Tour definition is per user, and they don't impact each other.

### ***Real-time camera usage information for all users***

G-SIM shows who is using any given camera at any given time. Camera-specific notifications such as sync loss are also displayed in real time.

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## ***Maps***

Maps give a quick overview of camera positions and current alarm conditions. Maps may be linked per site or camera grouping like web pages, with hot-spot navigation areas. This allows easy navigation between different floors of a building and different areas in the larger area(s) under surveillance.

### ***Easy location of any camera on a map***

The keyboard or drag-and-drop may be used to locate a camera quickly on an already open map, or a new map can automatically be opened in a selected viewer with the camera position indicated and the map zoomed correctly.

### ***Camera detail and viewing directly from map***

Camera detail, a reference frame and current usage information is displayed when right-clicking a camera on a map, and can be viewed by dragging it to a viewer.

### ***Linked maps can be of different types***

Network overview maps may be used for navigation to sites. Detail drill-down areas on maps (hot-links) allow branching to other maps. The interface is akin to browsers, with back and forward buttons allowing operators to page through recently viewed maps.

### ***Pan and Zoom***

All maps support panning and zooming using the mouse and mouse wheel.

### ***Viewer windows may contain maps***

Any number of maps (or different views of the same map) may be open at once. Maps may be displayed in any viewer window (unless the administrator constrains this), and may be moved to other viewers on other screens. Some screen templates have larger display areas ideal for maps. These templates are designed by the administrator.

### ***User defined map components***

Dynamic map components with custom graphics may be defined. When linked to cameras or specific alarm instances, they could attract attention by alternating colour, transparency, or form, or even display conditional graphical information.

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## ***Alarms and health events***

Alarm handling involves the acknowledgement of an alarm by a user who is then responsible for its completion. Each alarm type can have a customisable handling procedure (check-list) that must be completed before an alarm may be completed.

### ***Different alarm levels***

Three alarm levels (critical, non-critical, information) are defined by default, with unique colour coding and audible alarm notifications.

### ***Configurable alarm handling procedures***

Step-by-step alarm handling procedures may be defined for each type of alarm. These may be simple instructions, check-list items or Yes/No questions. G-SIM can link to external documentation for more involved procedures.

### ***Default video related alarms***

Certain defaults are pre-defined, such as sync loss alarms or movement triggered events.

### ***GeViScope alarms***

All intrinsic GeViScope alarms may be used directly. This includes video sync alarms, camera position authentication and input triggers. Examples of the latter are duress, help phone, seismic and tamper alarms.

### ***Complex alarms generated by GeViScope / GeViSoft***

Any events or custom actions can be configured to generate alarms after being pre-processed by GeViScope or GeViSoft. Such

alarms may be generated in addition to the behaviour configured within the recording NVR or within GeViSoft. Even dual-sensor alarms are supported.

### ***Specialised derived and other video network alarms***

These alarms are derived from a number of different conditions or from sources not directly related to video streams, but which impact them. Examples are intermittent camera, camera down, NVR failure, GeViRAID errors, configured SNMP alarms, integration from access control systems, etc.

### ***Customer-specific alarms***

The plug-in alarm architecture of G-SIM allows integration of any custom alarms.

### ***Easy viewing of alarm-related camera footage***

Footage relating to an alarm can be viewed by dragging the alarm onto a viewer.

### ***Linking multiple cameras and even a map to an alarm***

Multiple cameras may be linked to a specific alarm instance, which will then be displayed when the alarm is reviewed (or automatically displayed). The alarm could optionally be configured to show a context-map as well.

### ***Review of an alarm***

Pending, new, or completed alarms may be reviewed in the AlarmView screen. Alarm detail, linked cameras in paused and/or replay/live state, and an optional map automatically showing the map-view focused on the linked cameras are also available.

### ***Alarm auto-display***

When one or more new alarms are received at a console, they can automatically be displayed (cued) for the operator to handle. The layout of the linked cameras (and map) can be changed per such alarm. This should clearly be done only for the most critical alarms.

### ***Uncompleted alarms may be transferred to other users***

A user may pass an alarm on to another user for completion. This allows subject matter experts to deal further with an alarm that an operator is not qualified to handle.

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## ***Video Events***

Users may tag video on-the-fly for later review or to be used in the compilation of evidence packs. This is as simple as pressing a single key to indicate the event type (theft, accident, ...), which is then used later to collate the required footage into evidence packs.

### ***Events from multiple cameras may be grouped together***

A video event may be a single event that requires further investigation, or it may be a group of several events from any number of cameras over time.

### ***Effortless tagging of events during surveillance operation***

An operator may tag a video event using keyboard shortcuts (or function buttons) without necessarily having to type any additional information. Such an event can easily be reviewed and completed at a later stage when evidence packs are being compiled.

### ***Easy export of video in the form of evidence packs***

Evidence packs may be exported as tamper-proof GscView Cut-Lists or MPEG via the standard export window.

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## ***User Rights, Restrictions, and Licensing***

Centrally managed licensing coupled with user rights and restrictions to control access to all functionality.

### ***Central system license management***

G-SIM's flexible licensing allows flexible functionality and pricing.

### ***Central user and rights management***

All users and their rights are centrally managed from the management console.

### ***Secure user log-ins***

All rights and restrictions to parts of the system are controlled by the .NET security manager using encrypted server requests. Users may use their Windows log-in for authentication, if required.

### ***All functionality available to a user is controlled***

System sections, buttons and display fields are only visible if a user has the necessary rights. Doing this in a group context makes for easy and safe updates when required.

### ***Real-time updates of permissions changes***

User consoles are updated to reflect new permissions settings immediately after transmission from the management console. No logging out & back in required.

### **Functionality may be “locked” to a specified operator console**

Restrictions may be configured for a specific workstation, so that only specified functions are available for any user when using than console. This is configured centrally. This is especially useful for workstations at insecure locations, e.g. in a building reception foyer.

### **Control over who may use specific sites, cameras & camera groups**

Users, user groups, or consoles may be restricted to have access to (or use) only certain cameras, camera groups, or even sites. The flexible licensing structure could greatly reduce the cost of implementation if many of the Operator Consoles are restricted to access only a local site, or a few sites. This is important if bandwidth is expensive (some of our customers runs over ISDN lines), or certain sites require higher security clearance to view.

### **Control who may receive specific alarms**

Users, user groups or consoles may be restricted to receive only certain Alarms or Alarm Types.

### **User hierarchy**

The differential rights and restrictions allow a user hierarchy to be defined. One very important point where this comes into play is with PTZ control — allowing an administrator to take over control of a PTZ even if an operator is controlling it at the time.

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## **Audit Logging and Usage Tracking**

System usage and set-up changes are logged in the central database and may be queried via the Audit Log section of the user interface. There is no other access to this log.

### **Detailed logging of all set-up changes**

Summaries of all configuration changes made in the management console are logged, including who made the changes.

### **Detailed logging of all user actions**

All user actions are logged, including inter alia all messages sent, cameras viewed, actions taken, how alarms were completed, etc.

### **Playback of user actions**

All logged viewing and reviewing actions may be played back. Viewed cameras may easily be located on maps.

### **Filtering and querying of audit data**

We have a powerful query builder which may be used to query the audit log. No SQL knowledge is required, as the interface is entirely graphical. The output may be printed, emailed, and exported to various formats including CSV, Excel, PDF, and others.

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## **Health Monitoring**

Health agents on remote computers and NVRs gather computer, camera and network health information that not only provides an overview of current system health, but also store historic health data — for example to see a camera’s sync loss profile over time.

### **Dashboard showing network-wide health status**

The current state of all G-SIM related software, site connections, and NVR storage systems are displayed for a quick overview of current status. More involved reports (including SNMP integrations) are simple to generate via the query builder, and are thus not displayed on the health overview screen.

### **Camera related health information**

Sync loss, camera down, and CPA events are monitored.

### **Common metrics**

- | NVR related health information
- | Storage related health information
- | UPS related health information
- | SNMP traps can be accepted, opening up massive monitoring possibilities

### **Health alarms**

Additional alarms may be generated as a result of thresholds on any monitored items being exceeded.

### **G-SIM system component monitoring and centralised automated updates**

All G-SIM components on the various computers are monitored and checked for consistency, with out-of-date components indicated on the Dashboard.

### **User feedback on Site List**

Unhealthy sites are marked on the site list. This includes partial failures, allowing pre-emptive correction.

### **Health reporting**

Summarised reports on health status may be generated at any time.



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## Remote Viewer Control, Unmanned Consoles, and Video Walls

Pre-configured users may control what others are viewing, and may send content to Unmanned Consoles (e.g. in a foyer). The same holds for video walls, which are similarly easy to control.

### Unmanned Console configuration

Such a workstation (usually with only the screens publicly visible) is configured to start up an unattended version of G-SIM when it boots up. The initial layout and content is configured, so no user intervention is required. Such consoles can be configured as remote display monitors throughout your installation to display any combination of maps, live or pre-recorded video, guard tours, or even external video feeds e.g. news or stock reports.

### Sending viewer content to other users

Users may quickly send the contents of a local viewer to any other logged-in user's screen. The rights both for sending content to other users as well as the receiving of content may be assigned to, or blocked, for any user or work station. The latter is important to allow only some users to put video on a video wall, for example.

### Sending content to Unmanned Consoles

Any user with the correct privilege can send content such as live or paused video footage to an Unmanned Console, or even replay cued footage, send camera sequences or maps.

### Groups of Unmanned Consoles

Any number of such consoles may be grouped. Groups can then be updated simultaneous or individually. Groups may optionally be configured as synchronised, which limits the updating to the whole group at once only — ensuring that the contents of such synchronised consoles always remain the same.

### Changing the screen layout of Unmanned Consoles

The number of viewers in a screen and the layout of each screen may be changed remotely to any of a number of pre-configured layouts.

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## Redundancy Options

G-SIM has a range of options available to support corporate and enterprise customers. While we do support various flavours of commercial fail-over (from modular servers to data base clustering), we have developed our own redundancy and associated fail-over. This allows an unplanned server fail-over to take less than one second, with no discernible user impact. For all of our redundancy models, operators need not have any knowledge of either the fact that fail-over occurred, nor where to find footage (if recorded onto another NVR than default) G-SIM deals transparently with all of that.

### Server redundancy

This can either be with or without load distribution. Load distribution is when normal operations are spread across multiple servers, with a server failure causing its load to be taken up by another server. More often, redundancy is on a hot stand-by basis, where one server gets all necessary state updates, and is ready to step in at a moment's notice.

### NVR redundancy

We have a number of models which relate to how the NVR channels are mapped for fail-over:

- | **1:1 redundancy** is when every NVR has a "shadow" NVR to which it fails over
- | **Many: 1 redundancy** is when one "shadow" NVR is used as target for more than one operational NVR. Clearly no more than one NVR in a group linked to a single shadow can be in fail-over at a time.
- | **Channel redundancy** is when individual channels of an NVR are mapped to different target NVRs. These target NVRs could be "live", and only keep a few channels open for fail-over. This is the method which reduces risk the most, and utilises equipment the best.

### Camera redundancy

This is a special case for extremely high security installations, where there are two complete sets of infrastructure, and two cameras view the same scene.

Technical alterations reserved

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