

A man in a grey shirt and dark trousers is walking on a modern staircase. The staircase has a metal railing with a glass panel. The background shows a building with a grid-like structure.

SIEMENS

Granta

Security systems you can count on

Answers for infrastructure.



Granta: tried, tested and true

In order to efficiently run any organisation today it is necessary to ensure the security of staff, property and assets. To achieve this, you need a security system that can meet your security and building management requirements both now and in the future. Granta has the flexibility required to change and grow with your business.

Since the first version of Granta was launched in 1992, it has been installed in a wide variety of environments that require both a high level of security and control as well as convenience and ease of access for system users. More than 50,000 controllers have been installed around the world securing more than 250,000 doors. Typical applications include hospitals, universities, airports, ports and government buildings.



Security & freedom in perfect harmony

■ Full protection 24/7

Granta can support up to 4,096 doors and 100,000 cardholders. Regardless of system size, it provides round-the-clock protection, enabling you to control personnel and vehicles, manage visitors, control and monitor CCTV systems, protect staff, assets and even remotely administer and secure sister sites around the world. Granta is designed for use by security staff, not IT specialists. Training staff to use the full range of features is a quick and easy process.

■ Flexible, powerful and secure

Based on Microsoft SQL databases, the Granta system structure is modular at all levels, which enables configurations for applications of all sizes and degrees of complexity. Software elements can be installed as required in different locations on a network to suit the needs of different operators. Software and hardware can support multiple levels of local systems and remote sites.

■ Convenient and cost-efficient

From simple systems for small buildings and remote sites to fully integrated networks at headquarters, Granta can provide a cost-effective solution, particularly when Cotag hands-free cards and tags are used. While the initial cost for the cards is higher, Cotag hands-free cards and tags last much longer than proximity or magnetic stripe cards. They can also aid in ensuring compliance to disability discrimination legislation.

■ Wide range of supported reading technologies

Granta supports not only Cotag, but also proximity, Smart Card, magnetic stripe and biometric reading technologies. The system can also integrate with other reading technologies, which makes it possible to upgrade pre-existing systems to into a new Granta system with minimal disruption to day-to-day operations.

■ Integration with CCTV, intrusion and other systems

Granta enables you to manage and control your security solutions from a single source by integrating digital video management systems, CCTV, intruder alarms and other systems.

■ Scalable and easy to upgrade

The modular concept of Granta for both hardware and software makes it possible to tailor the system to current needs, but also allow for future expansion. As your business grows, additional modules and controllers can easily be added to meet new demands. A process of continual development has provided an upgrade path for Granta users since 1992. Systems installed then are still running smoothly today with upgraded modern features and performance enhancements provided by Microsoft SQL database.

Highlights

- Modular access control for up to 4,096 doors and 100,000 cardholders
- Supports Cotag hands-free technology as well as a broad range of other reading technologies
- Cost-efficient and easy to use
- Multi-site management capability
- Easy to integrate with CCTV, intrusion and other systems
- Flexible, powerful and secure



Granta system architecture



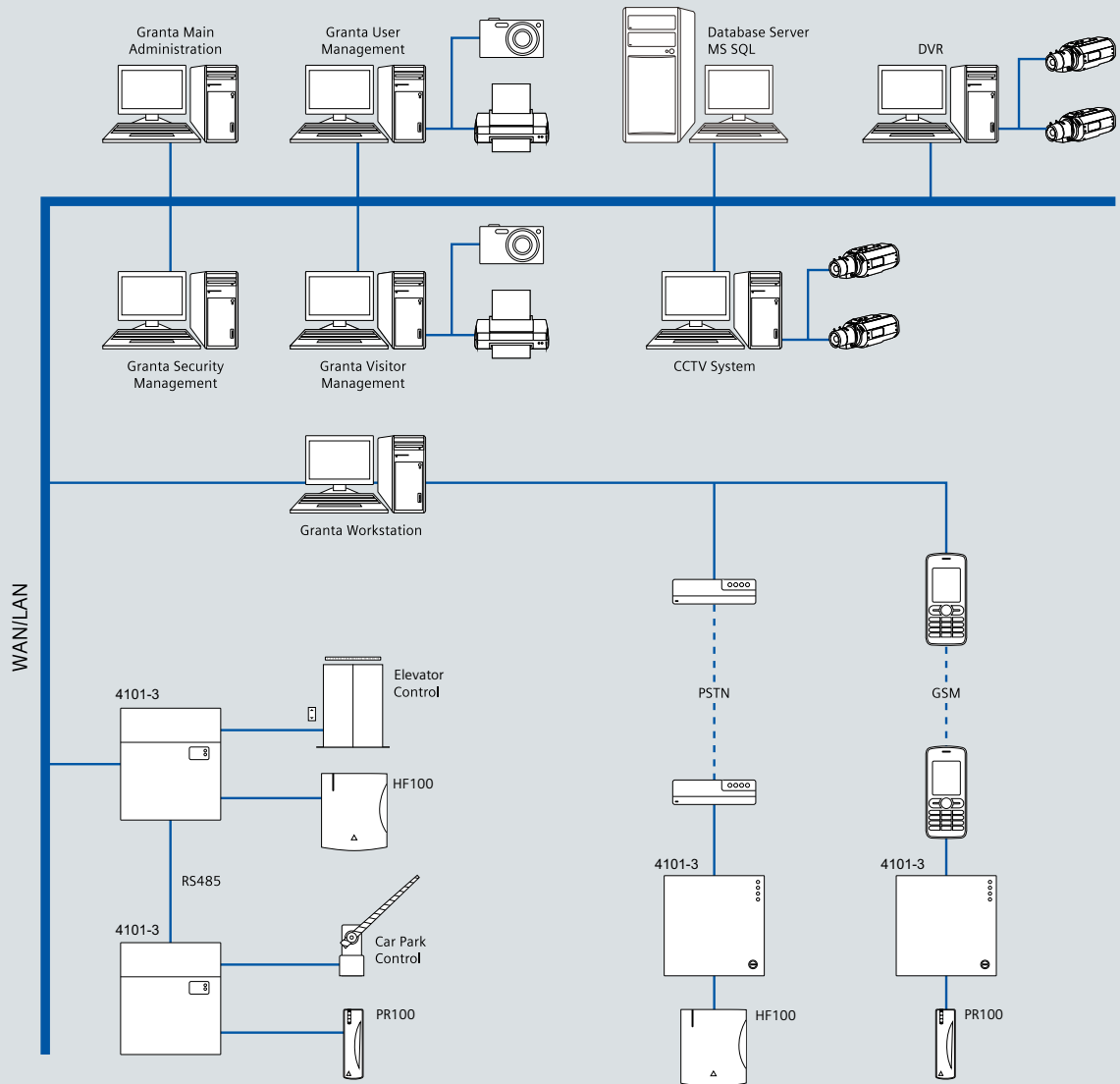
Security Controller



System Administration



Visitor Management



Core software

Granta core software provides a full suite of security management tools based on the industry standard Microsoft SQL database. It can be complemented with separately licensable application software to meet specific user needs. The software is available in multiple languages and is fully password protected to allow the system to be used by operators with many different privilege levels, set according to their function and seniority. With Granta core software you can connect multiple PC workstations via your network, to enable distributed monitoring and control of the system across thousands of remote sites. Granta software also provides comprehensive reports to facilitate full management control and informed decision-making.



Controllers

Granta offers a completely new 8-door controller. Specific application modules allow Cotag cards, tags and reading heads or any industry-standard cards and readers to be used. The system's shared RF design integrates the reading head technology into the controller itself. The integrated Cotag technology enables the most cost-effective hands-free solution on the market, with a proximity reading range of up to 40 cm and a hands-free reading range of up to 100 cm.

Granta also provides a powerful, integrated input/output functionality called CLIC (Configurable, Logical, Input/Output Control). CLIC enables intelligent monitoring and control of third-party systems and goes far beyond the simple alarm-handling features of many other systems.

Granta hardware employs a robust RS485 communication protocol to ensure the integrity of data from the software to the control panels and from the panels to the software for accurate commands and transaction reporting. Alternatively, Granta systems can be built using the built-in TCP/IP module, dial-up modems (including GSM) or via a combination of all three communication methods within the same system for complete flexibility.





Optional software modules

■ Alarm Graphics

The Alarm Graphics module provides graphical control and representation of alarm events. It's easy to design graphical site plans that are then used to identify and process system alarm events. In the case of an alarm, the software provides both an audible warning and a visual indication of where the alarm is occurring so that the operator can immediately take action. System control functions are also available, which make it possible to manually override doors, turn on security lights, and so on.

■ Image Monitor

When a card is read at a specific access point, this software module will display the stored image of its registered owner. This gives the system operator the opportunity to verify the identity of the person using the card directly or via a CCTV camera.

■ Video Badging

The Video Badging module makes it possible to produce integrated photo ID badges. Cardholder photos can either come directly from a connected digital camera or from a database of electronically stored images. The badge design software enables you

to combine the cardholder photo with the company logo, as well as text and database fields. This data can then be added to ISO standard cards or adhesive labels via a dye sublimation printer. The Video Badging Module is also available in packages with Camera and Video Badging printer equipment.

■ X-Link

X-Link is an event-processing tool for integrating third-party systems. It can transfer events from the Granta system to other applications in real time via various communications media such as e-mail, SMS or paging, for example.

■ CCTV Manager

The CCTV Manager module provides CCTV system control directly from within Granta via a virtual keyboard. Further, as Granta monitors events within the access control system it can send commands via RS232 directly to the CCTV system without operator intervention, which is very useful for alarm events.

■ DVR Manager

Granta's DVR Manager module provides integration with the Mirasys Eventys digital video management system. It is used to trigger digital video recording (and pre-recording) of events such as the use of valid or invalid cards, door alarms, etc. Recorded sequences can be played back through the main access control screens (including Alarm Graphics).

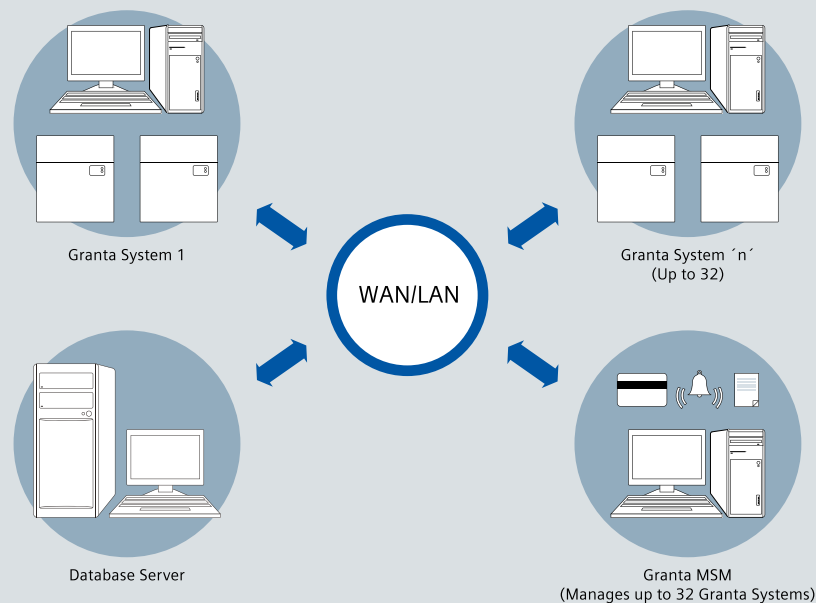
■ Visitor Manager

The Visitor Manager module makes it possible to log visitors into the system in advance and then simply print their badges upon arrival. Access levels within the system can be restricted as required and validated to hourly intervals. A monitor screen shows who is due to arrive, who is on site, the name of each visitor's host and who has logged out. This option can also deliver a complete range of management reports.

■ Database Partitioning Basic

The Database Partitioning module controls the separation of data for use by different companies on the same system, which makes it ideal for multi-tenanted buildings. Partitions can be grouped together to provide higher levels of administrative control.

Granta MSM architecture



Granta Multi System Manager – centralised control and reporting for multiple Granta systems

Granta Multi System Manager (MSM) has been designed with the needs of modern, multi-site organisations in mind. It offers a centralised database for easy IT support, centralised services including monitoring and reporting, as well as management for alarms, users and visitors. Granta MSM connects as a central control workstation to each of the client systems simultaneously, which minimises workload across the whole system.

Granta MSM can connect and manage up to 32 client Granta systems. It is very easy to upload each site's complete database to the fully partitioned central SQL database in Granta MSM. Each of the client systems operates completely independently of each other, which provides administrators with all the independence

and regional security that was previously ensured by having their own local database. Each client system retains its full suite of system capabilities, including the rights to set access levels, holidays, and so on.

Transactions from all the client systems can be monitored in Granta MSM as a group or on individual on-screen monitors. It is also possible to monitor, acknowledge and clear alarms from all client systems in Granta MSM, with the same functionality as at the client system. Regardless of where these actions are performed, they are fully visible both in Granta MSM and in the individual client system. Similar functionality is also available for Card Image Monitor and Alarm Graphics on the MSM station.

The user management functionality in Granta MSM provides full visibility and creates a common, centralised card population of up to 100,000 cardholders. Granta MSM can be used to administer users' access levels and validation for any of the client systems. The functionality in Granta MSM is extended beyond what it is at the client systems in that Granta MSM can display and administer a user's data for all client systems at the same time.

Granta MSM includes reporting functionality that includes a suite of comprehensive global and local reports for all of the client systems.



Reading technologies

Granta offers the broadest range of reading heads and cards on the market and can therefore satisfy the requirements of most environments. It is also possible to integrate existing readers and cards into a new Granta system, which makes it very economical to upgrade to Granta from third-party systems.

There are many factors to consider when deciding which type of reading technology best suits a particular facility. Four of the most popular options are Cotag, Smart Card proximity, and magnetic stripe.

■ Cotag

The main advantage of using Cotag reading heads is their ability to read both “active” and passive cards and tags. This means that you can create a tailor-made access control system in which only certain users have active cards or tags, and all the rest have passive ones, which are less expensive.

Active cards and tags provide truly hands-free access control, which is ideal in environments such as hospitals where staff are often pushing carts, wheelchairs, gurneys, etc., or carrying equipment.

When Cotag hands-free reading heads are used in combination with Cotag “active” cards and/or tags, the reading range is up to 100 cm. These reading heads can be installed inside a wall or behind a glass partition to reduce the risk of interference and vandalism.

■ Smart Card

The main advantage of Smart Card readers is that they enable the use of multi-purpose cards, which are often used for both access control and for cashless vending, for example. Many users find it very convenient to only have one multi-purpose card instead of two or three single-purpose cards.















■ Proximity

The main advantage of using proximity card readers, compared with magnetic stripe card readers, is that the cards only need to be held near the reader in order to be read (typical range 5-30cm). This means less wear and tear on cards, reduced risk of manual interference and more convenience for system users.

■ Magnetic stripe

The main advantage of magnetic stripe card readers is that the cards they read are very inexpensive. Today magnetic stripe readers are most often used to expand existing systems based on magnetic stripe technology. When magnetic stripe readers are used, the user simply swipes a valid card through the slot in the reader to gain access.

Granta cards, tags and reading heads

0911 	The 0911 is a battery-powered “active” tag that can be attached to the user’s keyring.	PM100-Cotag 	The PM100-Cotag is a panel-mounted proximity reading head that fits into third-party enclosures such as door entry phones, barriers or turnstiles. It has a reading range of up to 28 cm.
0928-0 	The 0928-0 is an active card that includes a lithium battery which enables it to provide hands-free functionality when it is used together with Cotag hands-free readers. When it is used with a Cotag hands-free reader, the reading range is up to 1 metre. With Cotag proximity readers, the reading range is up to 30 cm. 0928-0 tags are particularly useful in environments where some cardholders are disabled or often have their hands full (i.e. a hospital or warehouse).	PR100-Cotag 	The PR100 is a mullion proximity reading head that is narrow enough to mount on any door frame and has a reading range of up to 30 cm.
0940 	Active wrist/ankle tag used for wanderer control and access control applications. FDA approved for continuous skin contact.	SP100-Cotag 	The SP100-Cotag is a switch-plate proximity reading head that is designed for mounting in a single-gang flush-mounted electrical backbox. It has a reading range of up to 30 cm.
0958-101 	The 0958-101 is a factory-encoded ISO laminated passive card that does not include a battery. It is ideal for photo ID applications as it can be custom-printed. When it is used with a Cotag hands-free reader, the reading range is approximately 33 cm. With Cotag proximity readers, the reading range with the 0958-101 varies between 3 and 10 cm.	HD100-2 	The HD100-2 is a heavy-duty proximity reading head that is ideal for locations that are vulnerable to physical attack. It is impact and fire resistant and has a reading range of up to 30 cm.
0970 		0970 	The 0970 is a non-encoded active tag that includes a lithium battery which enables it to be read by the BC5516-Cotag loop reader from distances of up to three meters (depending on loop construction). It is designed to be attached to the underside of motor vehicles, but it is also frequently mounted under wheelchairs in hospitals and care facilities. Please keep in mind that it is not recommended to use the 0970 with any readers other than the BC5516-Cotag loop reader.
0981 	The 0981 is a factory-encoded passive tag that does not include a battery. It can be used in combination with any Cotag reader. When it is used with a Cotag hands-free reader, the reading range is approximately 29 cm. With Cotag proximity readers, the reading range is up to 10 cm.	HF100-Cotag 	The HF100-Cotag is a hands-free Cotag reading head that provides a reading range of up to 100 cm. It is the ideal choice for doors with very high throughput, doors intended for disabled access, parking barriers and doors in warehouses.
0968-0 	The 0968-0 is a factory-encoded passive card that does not include a battery. It can be used in combination with any Cotag reader. When it is used with a Cotag hands-free reader, the reading range is approximately 34 cm. With Cotag proximity readers, the reading range is up to 11 cm.	0270 	The 0270 loop coupler is a simple wire loop that uses Cotag hands-free technology to provide a reading range of up to 200 cm when used together with Cotag “active” cards and tags. It is the ideal choice for healthcare facilities and asset management.



Granta applications

Thanks to its flexibility and scalability, Granta is favoured by organisations in both the public and private sectors including manufacturing and distribution companies, educational facilities, hospitals, banks and airports. Granta is as good at protecting one door as it is at protecting 4,096 and when a small organisation gets bigger and/or spreads to multiple sites, Granta's modular structure makes it easy for the system to grow to meet the new needs.

■ Airports

For airports, striking the right balance between security and accessibility is truly business critical. But it's no simple task – an average sized international airport might have more than 1,000 access points and tens of thousands of cardholders ranging from temporary contractors to baggage handlers to the chief executive. Granta can make the job much easier because it offers top-of-the-line access control functionality plus easy integration to CCTV systems and other airport infrastructure, as well as the advantages provided by Cotag hands-free technology.

■ Distribution centres

Distribution centres are often large and busy places with lots of goods, vehicles and people on the move day and night. They tend to be quite large facilities with a lot of different access points, and at least a few dozen employees working on site every day. These facilities must function as a secure place to store goods and protect them from theft. Granta is a sophisticated security system that can control vast volumes of products being shifted on a daily basis. It can easily maintain and control security in a multi-user environment, while allowing operations to run smoothly and quickly.

■ Hospitals

The large traffic flow typically associated with a hospital and the combination of low-security and high-security areas makes a flexible and user-friendly access control system like Granta the obvious choice in health-care environments. Cotag hands-free technology is also very useful in environments like these, where staff often have their hands full.

■ Educational facilities

Granta can store and process large amounts of cardholder data, which is a key requirement in a university or college campus environment.

■ Multi-tenanted buildings

Granta's optional software module called Database Partitioning makes Granta the ideal choice for multi-tenanted buildings. When it is used, it's possible for a number of companies in the same building to use the Granta access control system completely independently of one another. Granta ensures that the data for each company is stored separately and cannot be accessed by anyone other than the authorised individuals within each separate company. Partitions can be grouped together to provide higher levels of administrative control.

Technical data

System	
Number of doors	Up to 4,096
Number of cardholders	Up to 100,000
Number of access levels	Up to 2,048
Number of time frames	64 (including 10 time zones per time frame)
Multiple-site code management	8 per system
Personal 24-hour access points	16 per cardholder
Reading technologies	Mix and match any of the following: Cotag, Mifare, Smart Card, proximity, magnetic stripe or biometric
Multi-tenant application support	32 partitions per system
Multiple workstations	Typically 5
PIN functions	4-6 digit configurable including duress PIN function
Software features	
Operators and security levels	Virtually unlimited no. of operators with individual comprehensive configurable rights and languages
Remote sites	Via dial-up, direct line or TCP/IP connection
Operator interface	Simple intuitive Windows graphical user interface
Onscreen help function	Multiple language, supported by comprehensive online manuals
Languages	English, French, German and Spanish supplied as standard. Translation tool for other languages. Multiple language operation on same system per operator.
Reports	More than 60 including automatic roll-call reports
Automatic system configuration	Configurable installation wizard
I/O configuration	Comprehensive dedicated module (CLIC - fully programmable interlinked events)
Time and Attendance	48-hour basic time on site (individual time plans)
Optional software modules	Alarm Graphics, Video Badging, Multiple Hardware Systems, X-Link, Image Monitor, Database Partitioning, Visitor Manager, CCTV Manager, DVR Manager
MSM (Multi System Manager)	
Number of systems	Up to 32 connected systems (as above) via LAN/WAN
Centralised functions	Cardholder management, fully partitioned SQL database, global reporting, real-time bi-directional alarm management
Optional software modules	Image Monitor, Alarm Graphics



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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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Answers for infrastructure.

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming, and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly

growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

“We are the preferred partner for energy-efficient, safe, and secure buildings and infrastructure.”