**IPAS**

IPAS AXESSO
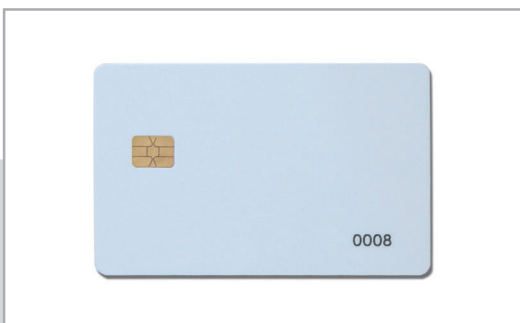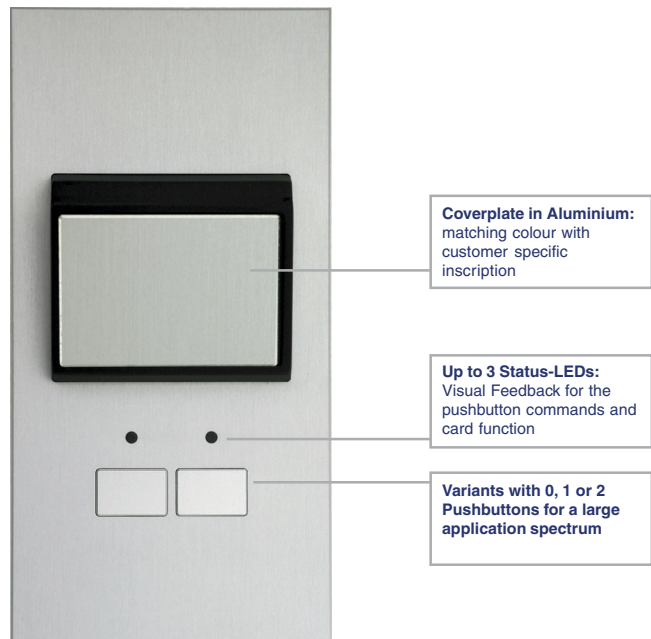### Access Control
Time Management

Raum 232
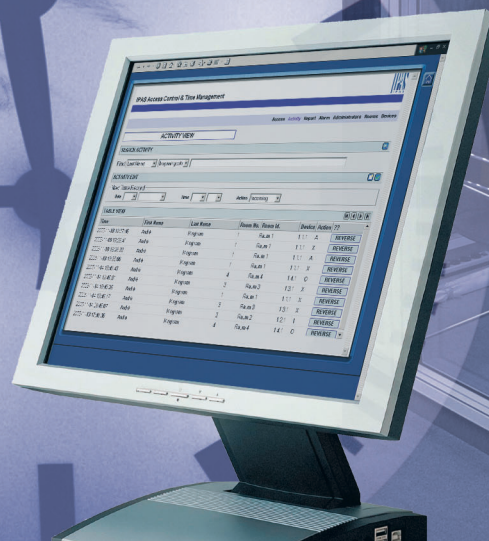
EIB/KNX Access Control System
for chip and transponder cards
with web based administration,
alarming and time reporting

With the rising use of the EIB/KNX System throughout the world more and more projects integrating all aspects of technical building equipment are coming to life. Extending the use of this universal infrastructure to englobe the area of access control and time management lies at hand: the system advantages, namely ease of installation, manufacturer independence, simple wiring, and widespread knowledge among professionals, that have ensured its success up to date, apply to this application area in the same manner.
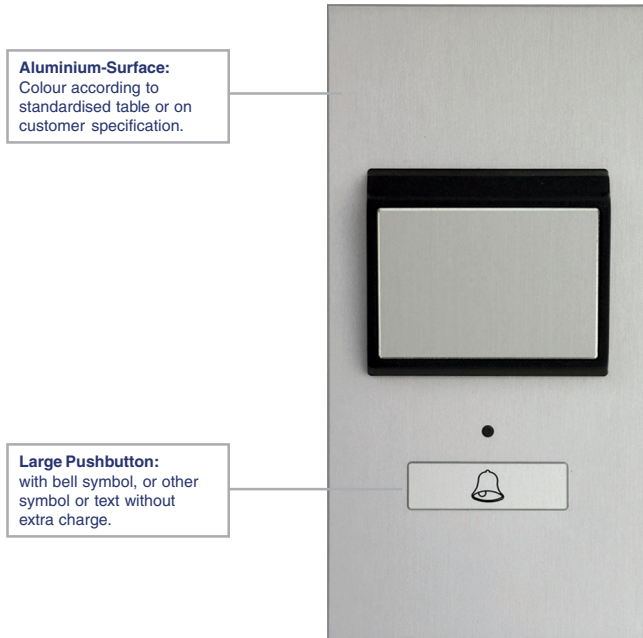
How much easier would it be the obtain within the same environment not only important information from the electrical installation and heating/airconditioning system, but also alarms and events from the access control system? All messages that require a specific action could be captured in a homogeneous manner, and dispatched centrally to the personnel in charge.

Combining the Axesso System with IPAS ComBridge Studio gets the best of a fully web based building management system together with an equally web based and user friendly management and reporting software for the access control and time system. Single logon and user management allows to navigate from one to the other without leaving the web browser.

Aluminium-Surface:
Colour according to standardised table or on customer specification.

Large Pushbutton:
with bell symbol, or other symbol or text without extra charge.

Coverplate in Aluminium:
matching colour with customer specific inscription

Up to 3 Status-LEDs:
Visual Feedback for the pushbutton commands and card function

Variants with 0, 1 or 2 Pushbuttons for a large application spectrum

0008

1 Insert card into writer

2 Enter or modify Card Holder's details

3 Grant or revoke access to zones

4 Remove card

Creating access cards quickly and easily

The person and rights management is performed within an intuitive web application which can be invoked from any computer in the network.

Any Microsoft Windows based PC in the network can be equipped with a card writer, turning that PC instantly in a Card Emission workstation. The PC browser then connects to the central Axesso server, and the user can start working with the application if he has sufficient authority. The Axesso server itself can be placed in a secured server room. For the reception area of a hotel that means for instance, that most of the times it is not necessary to invest in new front desk PC equipment.

To create a new access card or to modify the rights for an existing access card, it is sufficient to insert that card in the writer, having logged on successfully to the system.

If the card already assigned to a person, his details will automatically appear on the screen. Otherwise the field are blank and personal details of the card holder can be filled in. The next step is to select the zones or rooms that are accessible to the card holder, by simply clicking on them.

Saving the card details also perfoms all necessary steps to update the connected card readers automatically - a process that is completely transparent to the user.
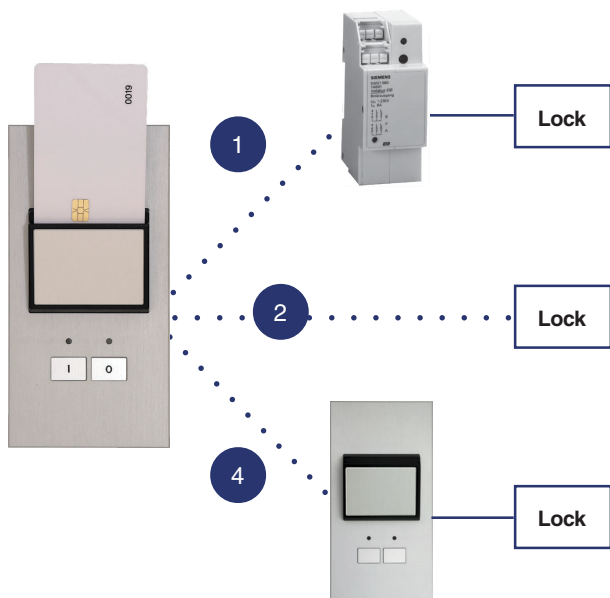
Multi-level Security Concept:

Authorisations are saved within the card reader. The reader works autonomously based on the last available authorization codes.

If the card is recognized by the reader, the lock is opened. Locks can be operated in one of the following modes:

1) Switching a group address
2) Switching its own relay
3) Switching its own relay as well as sending a group address tele-gram. The simultaneous group address telegram can be used to perform many functions: trigger a base lighting, trigger a comfort lighting scene, or simply transmit the information via the EIB to the building management system.
4) Remote control of the relay of a second Axesso card reader via encrypted protocol. This is the preferred operation mode for external readers, since any attempt to manipulate or dismantle the reader is doomed for failure from the start.
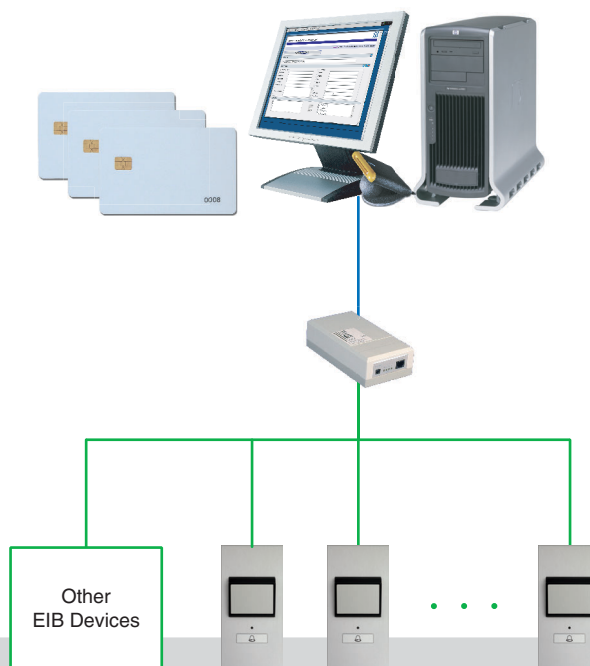
Attempts to manipulate or dismantle the reader are detected and visualisation or email alerts can be issued automatically with ComBridge Studio, allowing for immediate intervention.

Full Flexibility - the installation grows with your need.

Already as a stand alone item, the axesso card reader is a fully functional device participating to the EIB/KNX bus. For this minimal installation, a pre-programmed device is delivered together with the number of required access cards. All authorisations are saved to permanent memory, so that it keeps the information during transport and any bus voltage failure.

If by contrast, it is more important to have the flexibility to add to and remove cardholders from the access list or to modify individual access rights, it is possible to extend the the system by one Axesso Server PC and one or more IPAS ComBridge EIB/IP Gateways. The gateway is needed to connect the EIB system to the PC network. This means that a laptop with a crosslink ethernet cable connected to the gateway would be sufficient.

As soon as the server software is installed and the server PC connected to the EIB, it is possible to use the time management, activity and alarm reporting features of the system. Larger installations may therefore benefit from a dedicated PC that is connected to the network via a standard switch or router, in order to permanently trace alerts and activities. It is possible to get a preconfigured Axesso Server, but it is also possible to install the server software onto an existing PC or laptop featuring Microsoft Windows 2000 or XP.
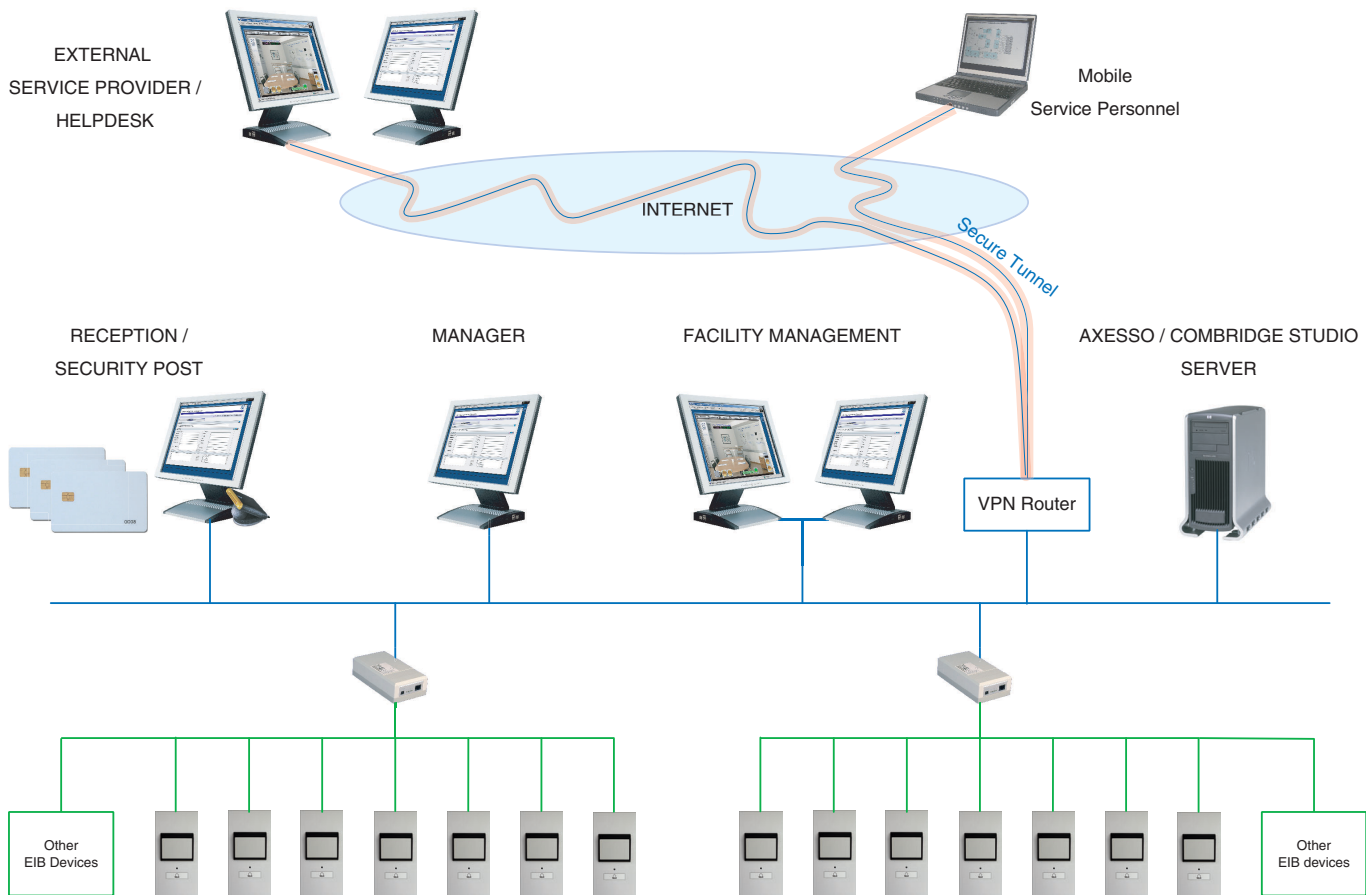

Axesso Alarm View

Alarm View:

Every attempt to enter a zone with an unauthorized card will immediately send an alert to the alarm page. The list of alarms is always refreshed and up to date.

Date, Time, Card Reader and Zone/Room are shown for each alert. If the card is associated with a person, the person's name is also shown on the screen.

The list can be limited to only show alerts between a selectable start and end date. Predefined buttons immediately show the list for the current day, the previous day, the current or previous week, the current or previous month.

Reports can be exported to spreadsheets such as Microsoft Excel bysimply clicking on the corresponding export button.

EXTERNAL SERVICE PROVIDER / HELPDESK

Mobile Service Personnel

INTERNET

Secure Tunnel

RECEPTION / SECURITY POST

MANAGER

FACILITY MANAGEMENT

AXESSO / COMBRIDGE STUDIO SERVER

VPN Router

Other EIB Devices

Other EIB devices

Axesso System with possible configuration

Axesso Card Readers can be added like any other EIB device at any given point of the bus. If the card readers are added to an existing bus system, it is thus possible to use the same existing infrastructure, within the usual EIB bus topology specification. Card readers have their physical address and get their communication objects connected to group addresses using the ETS software.

The Axesso System is able to span many bus installations, even if these remote sites were not networked or connected before. Each island gets connected using an EIB/IP Gateway with the central server. The system can handle differing different group addresses without any problem, if no common set can be identified. This means that the card holder could use his card in several subsidiaries as well, for instance.

The application features a multi-level user concept distinguishing the permissions for each user: it is possible to grant access or not to modifications to the installation, to the cutting of cards, to the reports of activities and alarms, to the report of time balance and history, etc.

Thanks to the use of modern web technology the information is accessible everywhere at any time, given the correct credentials, for example within the company intranet, as report on the manager's desk, as an alarm on the mobile phone, or mobile devices such as palmtop or Tablet PC with the security services, or even as alarm and event lists via encrypted tunnel (VPN) through the Internet with an external security agency or with remote service personnel. Because the Axesso System is using industry standards wherever possible, the required investment for such functionality is minimized.

Activity View:

All captured events are published in the activity view.

Date, Time, Card Reader, Zone/Room Nr. and Card owner are shown on screen.

List items can be filtered by name, first name, room nr. in order to restrict the list of items.

For the time management system, manual corrections to the entries are possible in this view. It is possible to withdraw the entry from the time calculation for someone badging out , for example for a business trip. manual entries can be added to as well to correct the balance if required.

Axesso Activity View

Mounting

The card reader snaps into its wall box using the metal spring blades which hold the reader firmly in place. This permits a lean surface without apparent screws. This type of installation is without security risk, if the reader is made to interact via encrypted protocol with a peer activating the lock. The wall box is equipped with a magnetic contact for detecting any manipulation attempt.

Alternatively, it is possible to fix the card reader with security screws, which do show on the surface. An finally, it is possible to fix the reader from the rear with nuts onto the bolts that are firmly soldered to the front plate.

Installation

The relays are connected to the door lock and to the door contact. The EIB bus connector is pushed onto the pins.

Programming

The physical address of the device and its group addresses are assigned using ETS. All other aspects are configured and commissioned using the Axesso Server web application.

Within the server application, one starts by defining names and numbers for the zones / rooms, then all readers belonging to a zone are assigned to the zone with its physical address. And finally, cards can be created by simply clicking on the zones the card holder has access to.
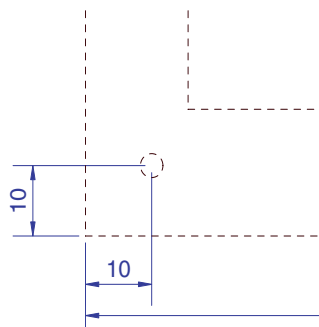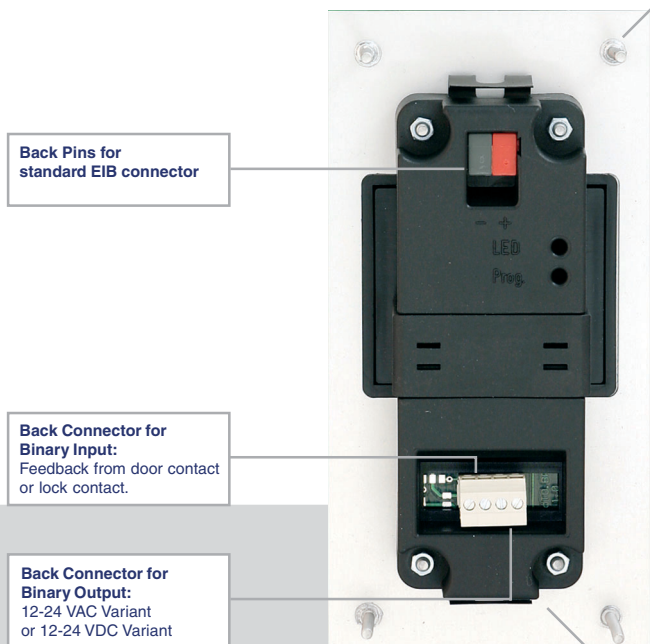
Mounting Variant with nuts and bolts for rear fixing.
The surface gets cut out to the shape of the reader's casing, with holes for the bolts. The reader then gets fixed from the rear with nuts.

Back Pins for standard EIB connector

Back Connector for Binary Input:
Feedback from door contact or lock contact.

Back Connector for Binary Output:
12-24 VAC Variant
or 12-24 VDC Variant

Mounting Variant with Security Screws:
Fixed through the front plate, the screws will be level with the surface, requiring a special tool for dismantling, complemented through the wall box manipulation alarm.

Mounting Variant with spring blades:
screwless mounting - reader snaps into wall box which is equipped with a magnetic manipulation alarm. Variant specifically suited for remote operation of a peer's relay.
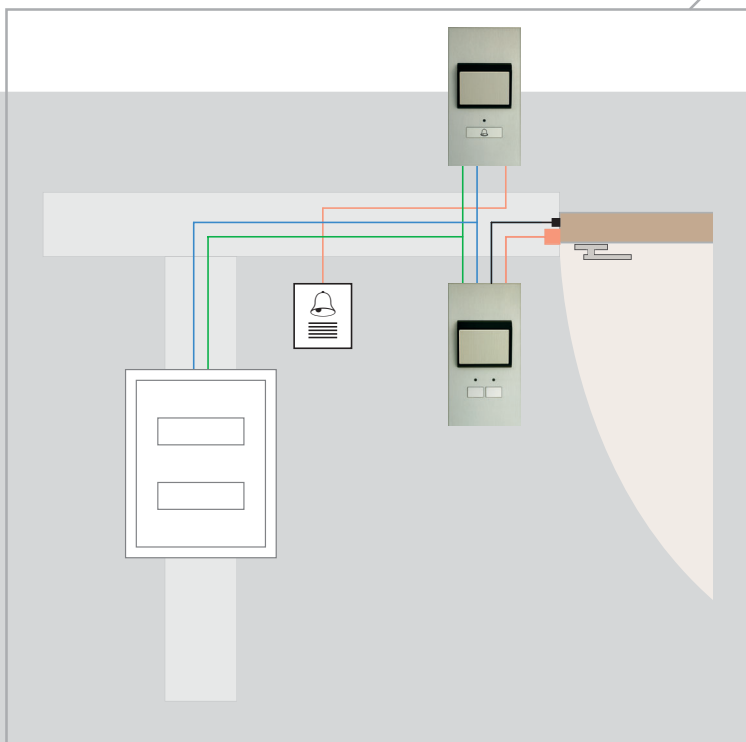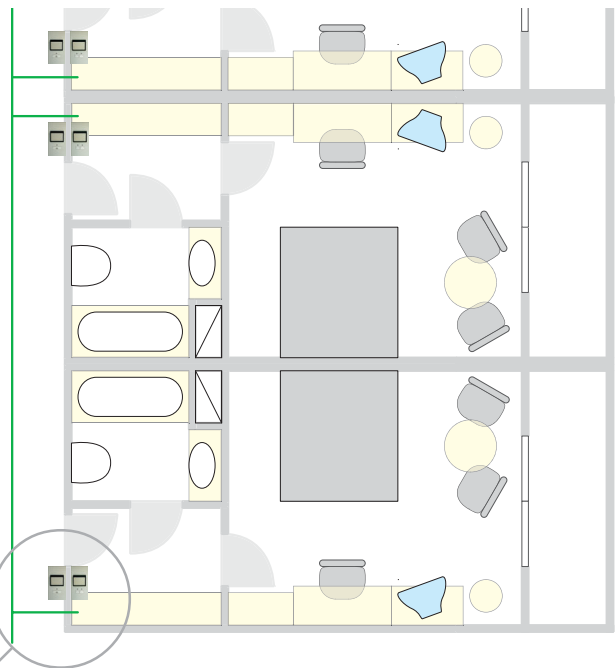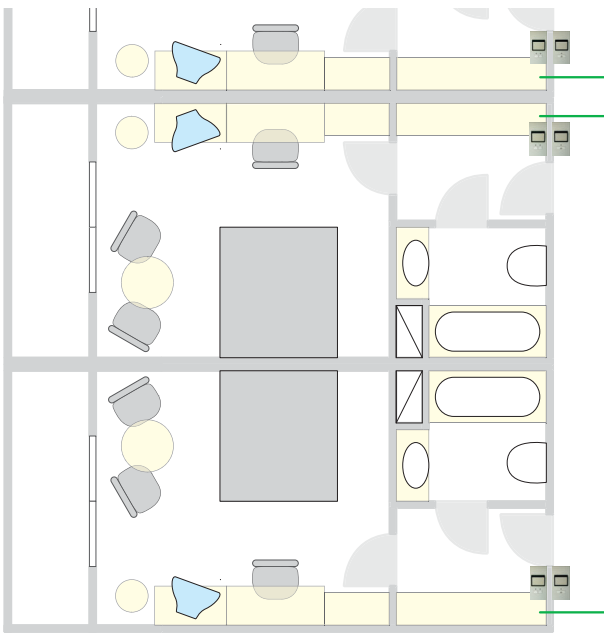
Application Example Hotel Room Control

in the area of hotel management, the Axesso System offers particularly suited characteristics: same bus wiring used for access control as well as for the lighting, the shutters, the airconditioning of the rooms. The Axesso System can be used for staff and guests equally: for guests to get access to their room as well as to shared facilities such as breakfast area, gym or swimming pool, etc. Comfort settings of the rooms are only enabled once the card is inserted into the inside reader - not just a contact mechanism that can be triggered by any business card - the actual matching keycard is required.

Personnel gets selective access to guest suites, conference rooms, and hotel staff rooms or off public areas. At the same time, it is possible to use the cards for time management of staff.

The front desk and the back office get an overview of the status of each suite and zone of the building.

IPAS ComBridge Studio Visual Director

My Hotel

Overview Building A - 5th Floor   15.06.2003

Room	Active Pool	In Room	Don't Disturb	Make up Room	Status Cleaning	Comfort Level	Room Temp^	User Adjust.	Fan Coil Unit	Window
501		♟	⊖		ok	max	21.8	2	A - O	closed
502					requested	pre	20.0	0	A - O	closed
503		♟			ok	protection	20.5	-1	M - II	open
504		♟			ok	max	20.3	0	A - O	closed
505					in progress	protection	10.9	0	A - O	open
506		♟	⊖		ok	max	17.8	3	A - III	closed
507					ok	pre	18.2	0	A - O	closed
508					ok	pre	18.0	0	A - O	closed
509					ok	min	12.4	0	A - O	closed
510					ok	min	12.8	0	A - O	closed
511					ok	min	11.8	0	A - I	closed

Hotelroom Management Scenario
in Detail

External Reader: Access with Chip or Transponder Card
- Red (continuous) - Do not disturb
- Green (continuous) - Please make up room
- Yellow (continuous) - Normal
- Card Operation after showing / inserting card:
  red (blinking): access denied
  green (blinking): access allowed - lock active
- Large pushbutton with bell symbol
- Relay for bell signal
- Binary Input: not used

Internal Reader for Comfort Setting:
- Card inserted: Comfort enabled
- Left Pushbutton: Do not disturb
- Right Pushbutton: Make up room
- Status Display: Do not disturb
- Status Display: Make up room
- Binary output: door lock
- Binary input: door lock contact
- Door bell disabled, when „do not disturb" active

**Application Example
Manufacturing Industry**

On the periphery, the transponder card readers are defined with time function, so that badging only effects the time balance when entering or leaving the site.
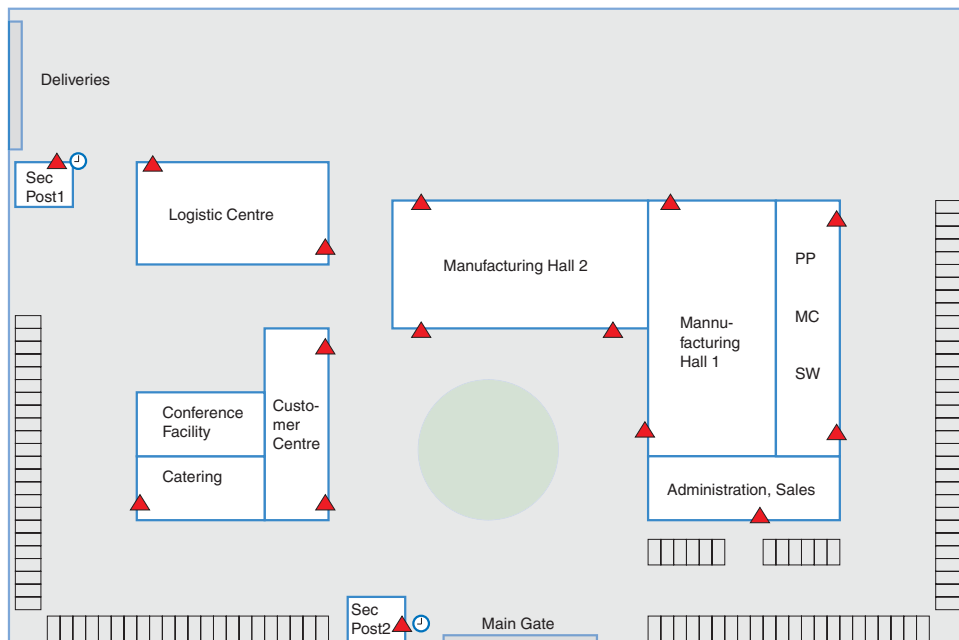
Particularly important or valuable areas or assets are secured separately again.

From the customer's standpoint:

Markus P. Keller, Chairman of the Board
NetCommunications AG, Zürich

„There are a number of aspects we value about the system - the design, the ease of installation, the simple infrastructure, the mouting options such as in door frames to secure individual rooms. However, since we are the leading Swiss provider of VPN and networking solutions, we are particularly enthousiastic about the IPAS web technology, because information on the security of our premises as well as the time management reports and other alerts from our EIB installation are now available at all times from anywhere, via internet and via GPRS on the mobile PocketPC devices of our executives - needless to say - all protected with VPN encryption. We are very satisfied with the solution."

IPAS