



smartⁱ

Security. Control. Comfort.

access control
time & attendance
building management

based on multimodal biometrics using facial and voice recognition

Samples of use:

**Building
development
projects**

INTRODUCTION

The smarti is great for differentiating hi end building development projects and attracting buyers. It is a great choice for any hi end residential block units such as apartments, condominiums, private villas, private homes, hotels, resorts...

When prospective buyers are shopping for their home security and home automation needs, they are all looking for basically the same things. They want cutting edge technology that makes life safer and easier for their family, that adds to the aesthetics of their home rather than detracts from it and that will seamlessly integrate with any of the major systems of their home. They want a system that will adapt with their changing needs; a system that will be prepared to handle even those eventualities that they have not yet thought about.

Having identified the problem, we have the solution ... **smarti**. **smarti**'s multimodal biometric home security and automation system is simply unsurpassed in terms of flexibility, functionality and connectivity in the industry.

It is all about Control and Comfort!

smarti allows you to connect and control many of the functions and systems in a home from one, easy to use interface. Lighting, heating and cooling, blinds, electrical devices, and communications can be put together in a way that makes life more comfortable and convenient.

Controlling the **lighting** conditions is a way of maximizing the comfort and economy of a home. People want a different ambience when they are watching a movie, having dinner or throwing a party for their friends. It is important that the atmosphere of a home adapts to its owners mood.

Controlling the electric **blinds** with **smarti**, allows users to adapt their electric lights to the natural lighting conditions and ensures privacy at those times they need it.

Energy Management – Why should people pay to light and heat their home when they are not present? **smarti** can control lighting, heating and cooling to affect maximum efficiency and comfort, and also help save the environment.

The built-in **video intercom** means that residents will never have to open the door to see who is there, and allow potential intruders access to their home. **smarti** helps keep unwanted visitors out and it allows users to easily see and communicate with those they do wish to speak with.

The built-in **IP Phone** even allows users to answer the door from their mobile phone! Whether on a business trip hundreds of miles away, or on a beach halfway around the world, they can always know who is knocking on their door.

In effect, **smarti** acts as a **universal remote control for a home!** **smarti** is set up in a centralized location in a home to control it, and is also accessible from anywhere – inside or out via the internet or mobile phone. The touch screen user interface is easy to use and customizable to suit anyone's needs.

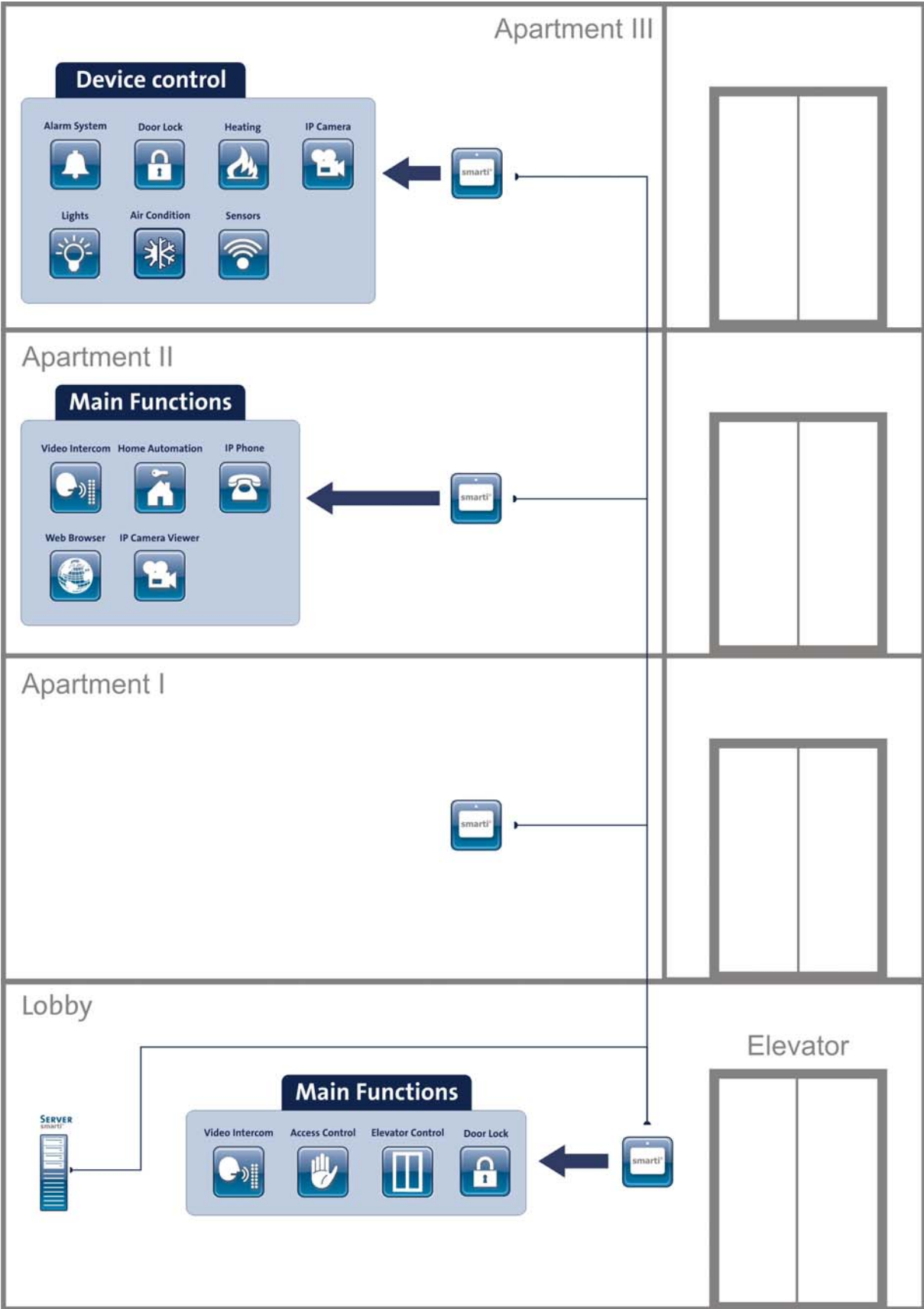


Figure 1

CASE 1

The Situation

A company involved in a large building development project which included the building of multiple residential block units containing high end apartments decided to equip the habitation units with a touch screen system which would include a Video intercom function integrated with some form of control over the major systems of a home (lighting, blinds, cooling/heating...).

The solution

The company decided to use the **smarti** system because it answered all their needs for access control, video intercom and building automation in one system and even surpassed them. See **Figure 1** where you will find an example of how the company used the **smarti** system.

In each apartment building the company mounted 1 **smarti** server to act as the central controller of the system, 1 **smarti** Diadem unit in the lobby besides the elevators and one **smarti** Electra unit in each apartment's main living room. In the reception the receptionist has a computer which is connected to the **smarti** system. The receptionist can use the computer to make a video intercom call to any of the apartments or to call the elevators.

The Diadem unit in the lobby:

This unit's main role is to control access to the elevator/main doors. To call the elevator/ open main doors the user first needs to identify himself using a PIN code and then facial recognition. After positive identification the user gains access to the elevator/main doors. But the user can only access floors with the elevator to which he has been given access to.

The second role of this unit is to enable visitors to call the people they wish to visit. After the visitor presses the button for video intercom a list of all of the tenants is displayed. The visitor chooses the person he wishes to contact from the list and waits for contact to be established. If the called person chooses to answer the call he or she will be able to talk to and see the caller. The called person can open the main door or send the elevator to pick up the caller and bring him to the floor the called persons apartment is located on. If the call is not answered a video message can also be left for the called person.

The unit also gives residents and visitors the option to call reception, concierge or other services.

The Electra units in the apartments:

The units in the apartments have two main functions the first is video intercom and the second is home automation.

When a visitor calls from the **smarti** unit located in the lobby, the call can be answered from the **smarti** unit in the apartment. The resident can see the visitor talk to him and open the main door/ send the elevator to pick the visitor up. If the called person is not at home the **smarti** can forward the call to his mobile phone, notebook or to reception.

When the visitor comes to apartment doors, he can use a button which serves as a door bell. This button is connected to the **smarti** unit in the apartment. When this button is pressed a notification is displayed together with an audio queue on the **smarti** unit which gives the resident an option to open the door.

Through RS232 and TCP/IP based relays different sensors (light, motion, smoke, door/window open/closed), lights, blinds, alarm system and other electronic devices are connected to the unit. All this devices can be controlled through the **smarti's** touch screen interface, remotely by email or from a notebook. The connected devices can also be controlled automatically based on inputs from different sensors (temperature, light etc.) or by predefined schedule.

smarti can notify residents of the apartments about unexpected events in their homes by sending an SMS or an e-mail.

The **smarti** units in the apartments can even be used by the residents to view live video streams from the IP cameras mounted in their garage (to check up on their car) in the corridor in front of the doors of their apartment on their balcony etc.

For even more benefits of using **smarti** for building development projects please consult the next chapter.

BENEFITS FOR BUILDING DEVELOPMENT PROJECTS

The use of the **smarti** system offers many potential benefits for the Condominium development projects which are detailed below.

Benefits for developer

- Revenue from advertisements
Each **smarti** unit can display advertisements. For example, at the lift lobby area (both for the office tower and the condominium), advertisements can be played (audio and video). Within each unit, video advertisement can be displayed. As well as providing advertising space for the shops and restaurants in the commercial part of the building project or the mall, this would also provide an attractive well defined audience for other advertisers such as airlines, banks etc.
The revenue from advertising could be considerable
- Directory list for shops in mall
Shops and restaurants in the mall could be charged a fee to be listed in a directory available to all the apartments. For example, a resident could be looking for an item and can get a list of the shops that might sell such items.
- Maintain the current selling price
Not all the units have been sold. Rather than reducing the selling price of the units to clear them, it would be more cost effective to retain the price but offer many new benefits to the potential owners (see later section for potential benefits).
It may also be possible to upgrade the existing owners with the new benefits.
- More features to sell
The additional features available would make the sales more attractive as there are many new benefits, not just for the current project but for future developments as well.
- Integrity of security systems
The use of **smarti** facial recognition will enhance the building security. Clear images of all visitors can be captured as well as the date and time of the visit. It reduces the risks of a security guard abusing his position by allowing unauthorized visitors to access the buildings.
- Cost savings
The **smarti** can take the place of several other systems providing cost benefits. The units can replace the video intercom in every apartment, can control access to the lifts, can control access through the car park etc

Benefits for the owners

- **Advanced AV Intercom**
The **smarti** unit works as a video intercom allowing the unit owners to see and communicate with visitors.
If the owner is not at home, the visitor can leave a video message. Alternatively, the **smarti** can dial the owner's mobile phone allowing the owner to talk to the visitor by phone.
- **Alarm system**
The **smarti** unit can provide a cheap yet effective alarm system. Passive Infra-red motion detectors can be installed in the apartment. If motion is detected the **smarti** can automatically and silently advise the concierge and/or the owner via mobile phone, email and/or SMS.
- **Viewing of CCTV cameras**
The **smarti** unit can be connected to certain cameras within the building CCTV system. For example, this would allow families to see/monitor their children at swimming pools or other common areas within the complex.
- **Lift call**
When leaving the apartment the owners can use the **smarti** to call the lift, thus ensuring a shorter wait time at the lift lobby.
- **Driver call**
For owners with drivers, the **smarti** could be linked to the driver call system, automatically calling the driver to be waiting in the drop off area when the owners come out of the lift.
- **Monitoring of children**
The **smarti** can monitor the arrival of children into the complex giving parents peace of mind (for example to confirm children arrive home from school on time). An email or SMS can be sent.
- **Panic Button (wireless)**
The **smarti** can be linked to wireless panic buttons which could be used by elderly and/or disabled people to call for assistance in emergency.
- **Booking facilities**
The **smarti** system could include a facility booking system (for example to book tennis courts or other common shared facilities in the complex).
- **Maintenance announcements**
The **smarti** can be used to advise tenants of maintenance issues, such as lift maintenance, fire inspections etc. These announcements can be cascaded, for example providing the information on the **smarti** screen one week before, the day before and on the day of the event. The messages can be customized to only appear on the **smarti** units of those apartments that will be affected.
- **Language specific**
The **smarti** can provide different languages for different apartments, so an owner can select which language to receive messages in.
- **Alarm information**
In the event of an emergency such as the fire alarm sounding, the **smarti** can provide pre-recorded instructions in various languages to give owners clear instructions such as to leave the building by staircase, and to confirm that the alarm is real and not a practice.

- Lighting AC control
The **smarti** unit can be used to control various items inside the apartment such as air-conditioning, lighting, curtains/blinds etc. The basic unit can control The number of devices a unit can control depends on the model. Additional controls can be easily added.
- Device monitoring
The **smarti** can be set up to monitor critical items within the apartment such as computer, UPS, wine cooler or even medical equipment and provide an alarm in the event of a failure.
- Telecontrol
Owners can control devices in their apartments from their mobile phones or computers via the **smarti**.
- Video Messaging
The **smarti** unit can be used to leave video messages for known visitors, friends or family members as well as between owners and occupants.
- Video
The inbuilt video can be monitored via the internet or mobile phone allowing owners to see what is happening in their apartment in the event of an alarm, or to check on elderly or young occupants. In addition wireless cameras can be linked to the **smarti** to allow owners to monitor throughout the apartment.
- Future easy expansion of Biometric Access Control
If owners need advanced access control or locking system the **Smarti** can control this.

Benefits for property management

- Maintenance Announcements via system
Announcements can be made to tenants about maintenance and other events. These can be customized for the affected apartments.
- Equipment monitoring
The **smarti** units can be used to monitor critical equipment in the condominium.
- Time and attendance
The **smarti** can be used to monitor the time and attendance of the guards and/or other staff.
- Contractor Management
The **smarti** can control and monitor the presence of contractors and other visitors to the buildings.