

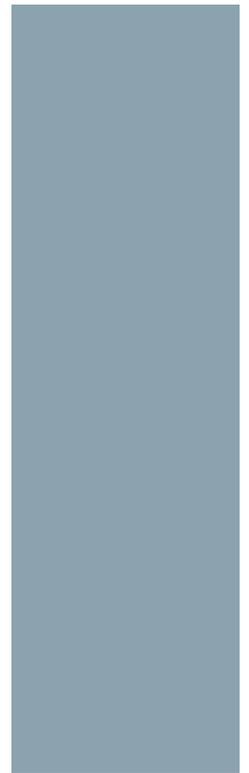
**Are your dearests  
always in safe hands?**



Our RFID tracing solution monitors in real time the location of people and assets.

Answers for infrastructure.

**SIEMENS**



## Intelligent tracing systems for enhanced security and process efficiency

Faced with an increase of in- and outpatients as well as having to cut staff and budgets, healthcare personnel find it increasingly difficult to maintain high-quality care around the clock while keeping a constant eye on dementia patients leaving the ward; facing aggressive patients or relatives under stress; or making sure that neither helpless newborns nor expensive medical equipment leave the ward in the wrong hands.

Modern wireless technology allows to determine the position of any object or person in real time and to analyze and optimize patient flows. In hospitals or other healthcare facilities, this technology can be used for purposes such as support system against wandering patients, infant abduction, baby mix-ups or the theft of mobile equipment. By pressing a button, nurses or patients can also send a wireless distress signal including name and current position: appropriate help can then be sent to the right place, immediately.

With the people and asset tracing solution from Siemens hospital authorities benefit not only from increased safety of their patients or staff, but also from fewer liability risks and improved operating efficiency.

# One system for a host of applications

## Patient walk-out detection



Dementia patients wear a small wristband transmitter. Staff members are alerted as soon as a monitored patient attempts to leave the protected area. Alert messages may be sent to care givers through nurse call, wireless DECT phones, pager, sirens etc. It is thus possible to keep doors open for visitors without having disoriented people leaving specified areas. Benefits for the patients and the institution include:

- Provide greater mobility for wandering patients without needing to lock-down the site
- Early notification eliminate bothersome search actions
- Increase peace of mind for relatives knowing that their loved ones are protected



## Infant protection



Newborn babies are equipped with a tamper-proof miniature transmitter which is worn around their ankle. If the baby is carried away by an unauthorized person, the transmitter will trigger an alarm. Baby mix-up is also no longer possible since the transmitter of both the mother and baby are linked and a match test can be performed. Escort functions or multiple births can be easily configured in the system.

- Protection from abductions
- Freedom of movement for mothers, visitors, and nursing staff is not unnecessarily restricted
- Protection from baby mix-up and from transfer of diseases through breastfeeding (hepatitis)



## Panic button: more safety for staff



Staff wear a personal badge with an emergency button. On pressing the button, different types of alarms can be triggered, depending on the requirements (DECT, pager, nurse call, siren, security staff etc.). Location and name of the person in need are transmitted with the alarm. This system is especially well-suited for use in emergency wards, psychiatric clinics or isolation wards.

- Quick and targeted help for staff in case of workplace violence
- Button is more discrete and easier to reach than conventional alarm buttons on the wall
- Exterior coverage possible (park, parking lot)



## Nurse call: quick help for patients



Using the wireless, portable nurse call, patients or elderly people can press a button and ask for help from any part of the building at any time. Since the alarm is personal, staff can bring along colleagues, drugs or equipment, if needed (e.g. in the case of epileptic patients or patients suffering from heart diseases).

- Patients and elderly people enjoy both a greater security while maintaining their mobility
- Patients feel well looked after and their relatives can be confident
- Staff can locate patients to administrate medication
- Flexible and also suitable for use outside the wards (e.g. in hallways or the cafeteria)



## Asset tracking: greater business efficiency

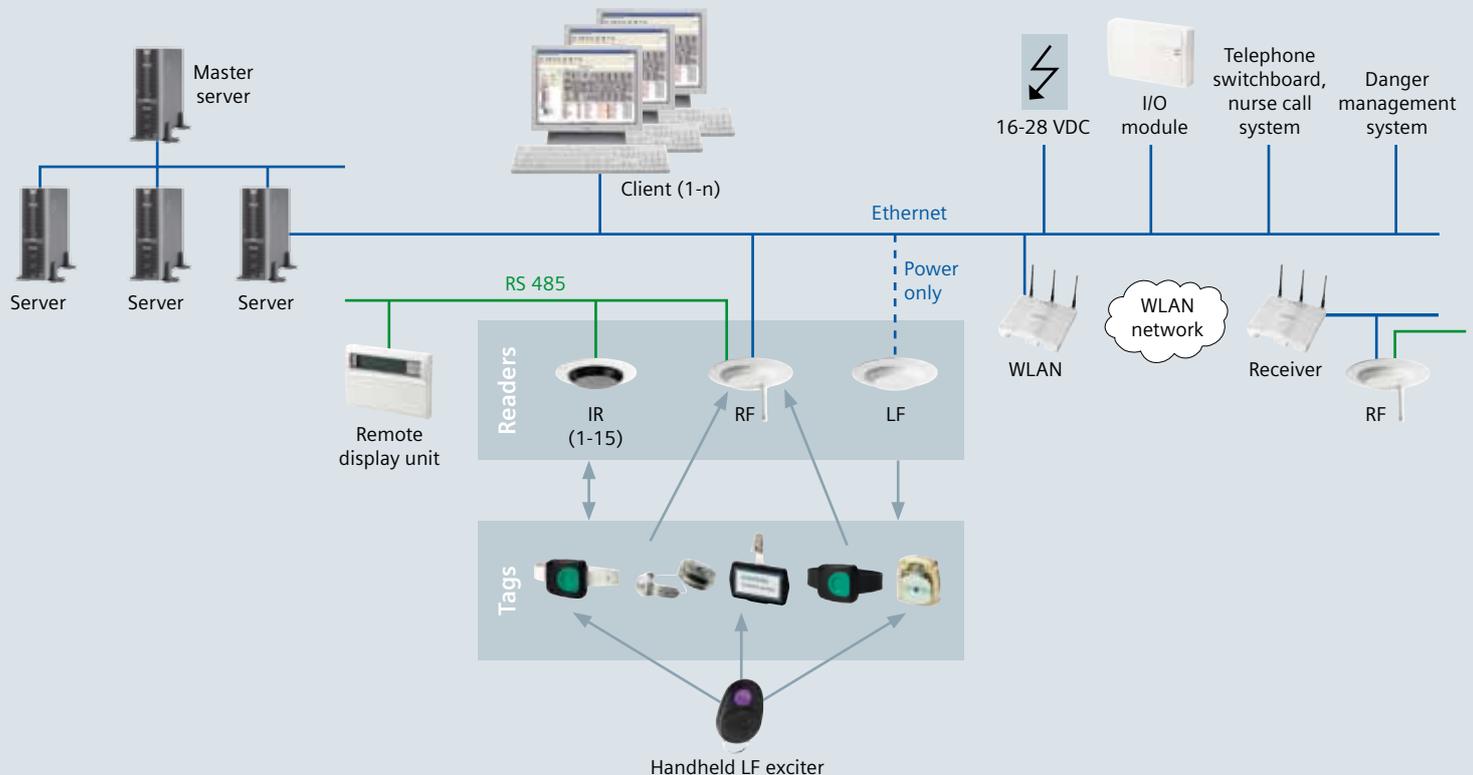


The transmitter secured to mobile hospital equipment triggers an alarm as soon as the equipment leaves the area to which it is assigned without authorization. This prevents theft or misuse. Also, the hospital's biomedical maintenance department can save time looking for a certain piece of equipment when scheduled maintenance is due. Usage statistics for equipment (e.g. bed management) or billing based on effective effort are also possible.

- Quick location of equipment in emergencies and for maintenance
- Protection from theft or misuse
- Automatic usage statistics allow for an optimization of rental and leasing contracts



# Technical solution



## ■ Transmitters/tags

- The triple technology employed by the transmitters (infrared, long-range radio and low frequency receiver) allows for full coverage of your premises and delivers unambiguous positioning in real time
- Active RFID badges can be neither sabotaged nor shielded, damaged nor deactivated without triggering an alarm since they are continuously monitored by the system
- The tags are equipped with a long lasting battery that can be easily replaced
- Constant monitoring of the battery charge and subsequent early warnings ensure operational continuity of transmitter/tag
- No false alarms
- Countless installations around the globe and the use of the ISM radio band (Industrial, Scientific and Medical Band) guarantee absolute compatibility in the medical field

## ■ Readers

- Radio Frequency (RF) IP reader with a radius of 20 meters for active positioning and monitoring
- Infrared (IR) for precise room location
- Low Frequency (LF) exciters with an adjustable radius of up to 3 meters to monitor entries and exits
- Designed to be mounted on ceilings or walls
- Easy operation possible with remote display units – no PC knowledge required
- Ethernet technology leverages existing enterprise networks and allows for a simplified installation and integration. Single cabling for data and power
- Simple integration at field level with the help of IP input/output modules (lifts, fire safety system etc.)
- Handheld LF exciter allowing for nurse call cancellation and match test between baby and mother by pressing a button

## ■ Server

- Manages system logic, floor plans, zones, rights etc.
- Alarm standby management and transmission (horn, text messages on DECT phones, nurse call etc.)
- Client/server architecture based on Microsoft® Windows™
- Featuring multi-site application for e.g. large campuses or multi-building hospital
- OPC interface for integration into third-party systems (danger management station, access control, building automation, etc.)
- Versatile, scalable server software with many options and special applications modules

# RFID people and asset tracing

Due to higher life expectancy, our society is increasingly faced with an ageing population. At the same time, healthcare costs are constantly rising. Because staffing is at best frozen, at worse cut, it is becoming crucial to optimize the performance within the nursing sector to ensure comprehensive patient care. Siemens offers a real-time indoor tracing system for people and assets to help you achieve this objective.

## ■ Today's challenges

- Elderly residents and dementia patients who either get lost or wander off the premises unattended (e.g. Alzheimer cases)
- Babies who must be protected from abduction
- Infant-mother mismatches
- Assaults on staff by people under the influence of alcohol or drugs in emergency wards
- Patients (e.g. in the psychiatric unit) or relatives becoming increasingly aggressive
- Expensive medical assets are becoming more and more mobile, i.e. easier to steal by organized crime (e.g. ultrasound, cardiology or gastroenterology equipment)

## ■ And the solution

Using state-of-the-art wireless tracing systems, the location of persons or objects can be determined quickly and precisely. Active RFID and infrared transmitters are carried by persons or secured to objects. Readers placed on the ceiling or above a door forward the position and identity of the transmitter to a central server, which

reacts intelligently according to preset rules. In an emergency, the server will immediately deliver this information to the nursing staff in charge.

## ■ Tracing systems offer extra benefits

- Enhanced comfort and more safety for patients, residents, and relatives
- Improved image and increased competitiveness of the hospital, clinic or nursing institution
- Increased staff safety and efficiency (relief from door duty and search actions)
- Streamlined inventory – no need to overstock equipment to insure availability
- Reduced shrinkage of highly mobile assets
- Elimination of time spent searching for assets for maintenance
- Lower cost for security staff, recourse or legal cases
- Potentially lower insurance premiums
- Increased compliance with regulations and standards

## ■ Siemens: high level of competence in all safety-related fields

In the area of building security, Siemens offers innovative tracing systems – in addition to a host of solutions for fire protection, video surveillance, access control and intrusion detection. These systems are specifically matched to the needs of hospitals and nursing institutions. Worldwide experience and reference projects around the world reinforces our guarantee to you of quality, reliability, and sustainability.

## Highlights

- Pro-active security management to increase security of patients and staff and ensure customer satisfaction
- Complete situational awareness and efficient handling of patients, staff and assets
- Identification of bottlenecks and optimization of processes
- Siemens offers outstanding technologies and extensive experience in providing security for healthcare facilities



# Answers for infrastructure.

## ■ Megatrends driving the future

The megatrends – demographic change, urbanization, climate change, and globalization – are shaping the world today. These have an unprecedented impact on our lives and on vital sectors of our economy.

## ■ Innovative technologies to answer the associated toughest questions

Throughout a 160-year history of proven research and engineering talent, with more than 50,000 active patents, Siemens has continuously provided its customers with innovations in the areas of healthcare, energy, industry, and infrastructure – globally and locally.

## ■ Increase productivity and efficiency through complete building life cycle management

Building Technologies offers intelligent integrated solutions for industry, commercial and residential buildings, and public infrastructure. Over the entire facility's life cycle, our comprehensive and environmentally conscious portfolio of products, systems, solutions, and services for low voltage power distribution and electrical installation technology, building automation, fire safety and security ensures the:

- optimum comfort and highest energy efficiency in buildings,
- safety and security for people, processes, and assets,
- increased business productivity.



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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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