

Critical communication, security  
and multimedia systems for  
non-residential buildings



Solutions for  
**HEALTHCARE  
FACILITIES**

# ALCAD Facility

## MANUFACTURERS WITH MORE THAN 30 YEARS OF EXPERIENCE

We are specialists in **critical communication, security and multimedia systems** for hospitals

**A**t ALCAD Electronics we are **#signal\_hunters**: we capture, treat and bring signals from life to the digital world to improve people's health, safety and entertainment.

**ALCAD Facility** is the business unit focused on designing and manufacturing **reliable, agile, robust and innovative solutions** to improve people's well-being.

Our solid and highly competitive infrastructure allows us to offer **European quality products and technological systems**.

In addition to having a technologically advanced R&D area, we are one of the few manufacturers in Spain to have **our own testing & certification laboratory**, which gives us great flexibility when designing and launching new products.

### IN FIGURES

100

staff members

10 %

of annual turnover invested in R&D

4

commercial subsidiaries worldwide

60

countries on 5 continents receive our exports



### We can draw on:



30 years of experience



A team of the first rank



European design and manufacturing



Our diversification



Personalised customer service



Our own laboratory: quality assurance and reliability



A wide sales network





**MADE IN  
SPAIN**

COLOMBIA

IRUN  
(SPAIN)

TURKEY

PAKISTAN

U.A.E.

We export to  
**more than  
60 countries**  
worldwide



*We are an international company with headquarters and factory in Irún (Spain), as well as own subsidiaries in the United Arab Emirates, Turkey, Pakistan and Colombia*



## ■ IDEATION

Whether it is a closed project or simply an idea in development, our pre-sales team is in charge of carrying out all the preliminary studies to guarantee its viability.

## ■ DESIGN

Our engineering team is specialized in working on system blueprint design and proper collaboration with architectural firms, engineering firms and hospital staff.

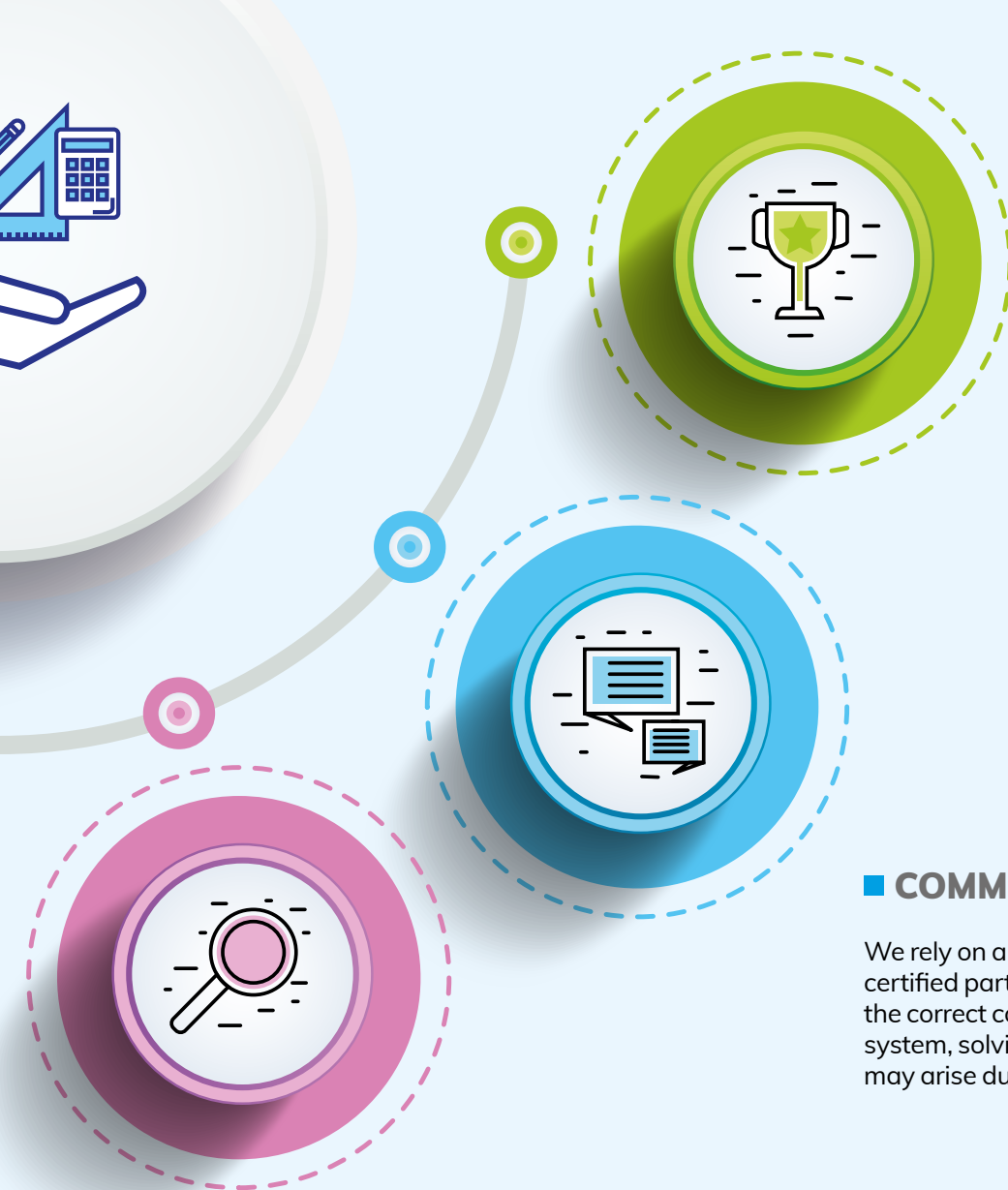
# WE ACCOMPANY YOU THROUGHOUT THE ENTIRE LIFE CYCLE OF YOUR PROJECT AND SYSTEM

From the creation of your idea or concept to the maintenance of the system to **maximise its useful life** and keep it always “alive”

## ■ MANUFACTURING

Once all the elements have been approved, including their personalisation, the order is processed and manufactured at our headquarters in Irún (Spain).





## ■ MAINTENANCE

We offer two types of maintenance services: preventive (aimed at the conservation of equipment or installations) and corrective (an on-site or remote service aimed to correct any faults).

## ■ COMMISSIONING

We rely on a wide network of certified partners to guarantee the correct commissioning of the system, solving any concern that may arise during the T&C period.

## ■ ADVICE

The order is dispatched by our logistics department and received by the installer / integrator, to whom we provide full support and advice.



## ACCURO: LEADING TECHNOLOGICAL CHANGE

We design **innovative, reliable, robust and agile solutions** to improve the wellbeing of the patients and facilitate the tasks of the medical team

**A**s a manufacturer of critical communication, security and entertainment solutions, at ALCAD Facility we strive every day to lead technological changes with solutions designed to **contribute to the well-being of people:**

■ **ACCURO:** 100% IP telecommunications and security platform. It is a real IP solution, modular and scalable that can be integrated with other ALCAD systems.

Features:

- > Web-based.
- > Secure.
- > Traceable.
- > Intelligent.

■ **IPTV Healthcare:** multimedia system designed for **patient entertainment**, as well as physical, cognitive and social stimulation. With a powerful and agile software. Easy to use, intuitive, fast and very reliable, it can be operated independently or integrated along with ACCURO as ACCUROmultimedia.



No costly maintenance or endless installation processes



We provide a 100% IP-based solution to capture important signals



Robust and reliable solutions, without experiments

page 8



**ACCURO**  
NCS

Nurse-call system

page 24



**ACCURO**  
multimedia

Patient entertainment multimedia system

page 18



**ACCURO**  
RTLS

Wandering patient and asset tracking solution

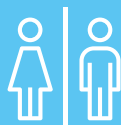


page 22



**ACCURO**  
refugium

Intercommunication  
in areas of refuge



Emergency calls  
in toilets and  
common areas

page 23



**ACCURO**  
access

Access control  
with traceability

**ACCURO**  
**AL**

## Our **systems:**

- Nurse call communication system.
- Real-time location of assets and people (RTLS).
- Wandering control.
- Access control.
- Emergency intercommunication for areas of refuge.
- Disabled toilet alarm communication system.
- Fall detection and prevention.
- IPTV: patient entertainment multimedia system.

**100% IP**



*EN-54 integration:  
ACCURO can also be integrated  
with fire alarm systems and  
evacuation PA systems*

**HOSPITAL**







## A ROBUST AND VERSATILE TOOL

The nurse call system is the heart of ACCURO: a tool with multiple installation options and a wide range of devices, made of premium materials and a **flat, antimicrobial design**

ACCURO's nurse call system offers the hospital a robust and versatile communication tool, designed to assist in the **digitisation of the care plan and scheduled tasks of the facility** by allowing a record of actions, among other benefits.

Our system offers a wide range of devices, manufactured with **top quality materials and with a flat antimicrobial design**, specifically conceived for intensive use in sensitive environments:

- > Room terminals.
- > Mechanisms.
- > Nurse stations.
- > Corridor sign boards.



Optimises timings



Records actions



Calms the patient



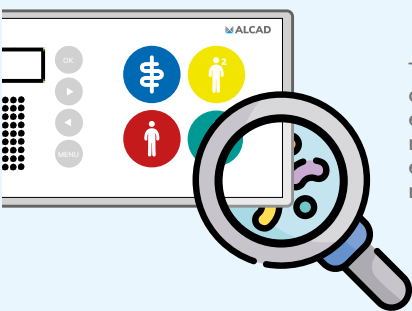
Reduces costs

We comply with the recommendations of the DIN VDE-0834 standard

#1

We were the first manufacturer worldwide that launched a 100% IP nurse call communication system





The antimicrobial coating of our elements allows to maintain a sterile environment free of microbes.

## Key advantages:

- **Full IP** (Poe / 24 VOC, existing or dedicated Ethernet network)
- **VoIP**. Asterisk compatible. Can be integrated with PBX.
- **Made in Spain** manufacture and design, with top quality materials and the possibility of customisation.
- **Antimicrobial** flat design.
- **Wide range** of devices and installation options.
- **Integration with HIS** and third-party systems.
- **Patient safety and entertainment:** possibility of integration with our ACCURO and IPTV systems.
- **Fixed and mobile** nurse stations.



## Fall detection and prevention

OUR TECHNOLOGY PROVIDES AN ENTIRELY NEW LEVEL OF PROTECTION:

### 4D radar technology

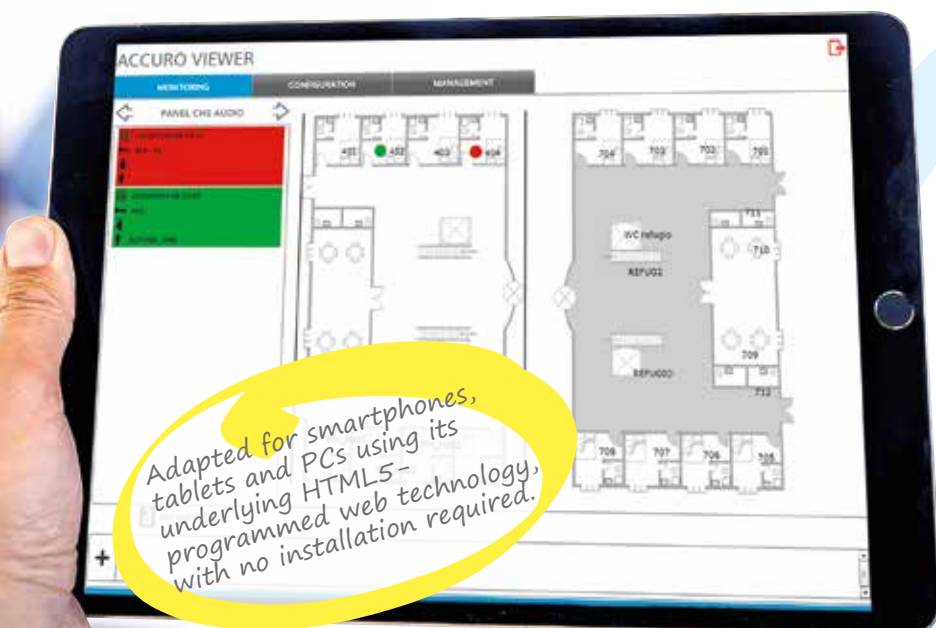
- 100% discreet.
- Zero stigma.
- 100% immersive.
- Secure.
- No cameras.

### Fall detection

- Stand-alone.
- Integrated with ACCURO or other systems.

### Fall prevention

- Integrated with ACCURO.AI.
- Bed presence / absence.
- Nocturnal wandering.
- Sitting up in bed.



Adapted for smartphones, tablets and PCs using its underlying HTML5 - programmed web technology, with no installation required.

## A 100% traceable system

ACCUROviewer is responsible for the monitoring and management of patients by healthcare personnel. Among other features, its traceability makes it possible to obtain reports / statistics on patient monitoring and workflow / workload management (in a personalised manner if RFID readers are included).

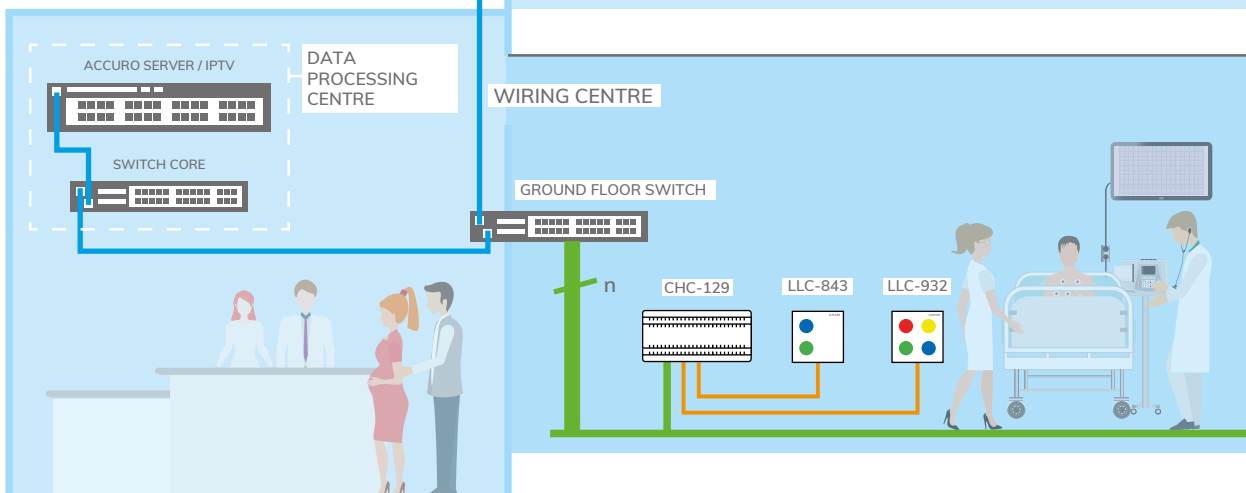
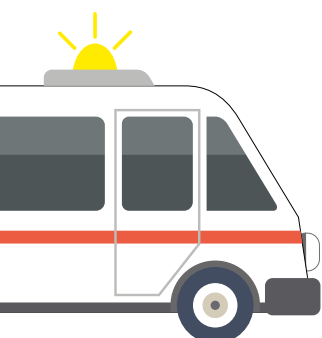
The image shows an example of display of calls and alarms in blueprint format via ACCUROviewer, with indication of alarm levels and patient presence in the room.

## AN “IP BRAIN” REACHING EVERY ROOM

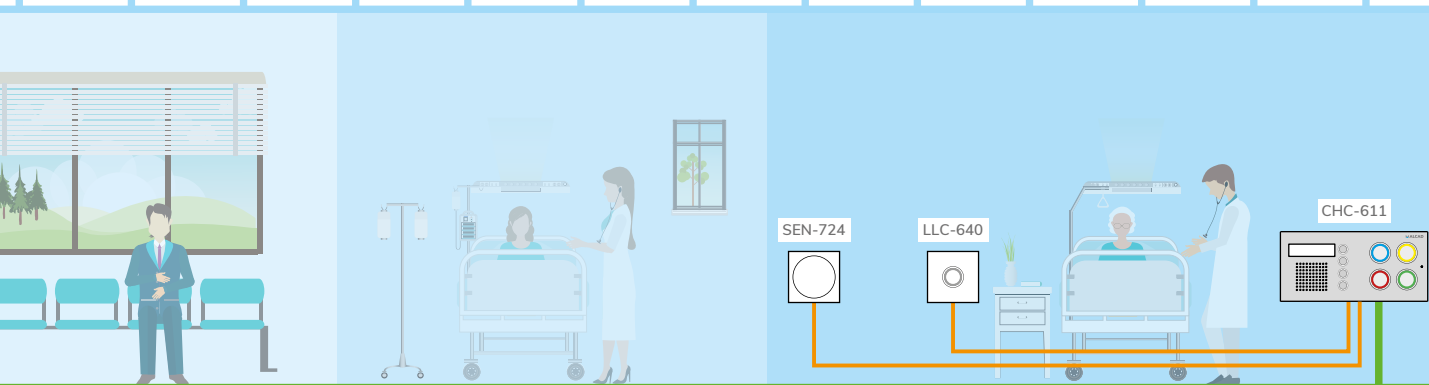
ACCURO is installed over IP networks with no intermediate elements needed. It is ready to be integrated with **any third-party IP and future system** that makes use of ACCURO

ts configuration **guarantees the transmission of warnings to the healthcare team**, whether they come from a patient's request (by pressing a button) or from other types of sensors: windows, doors, thermostats, presence, intrusion, etc. And last but not least, from sensors adapted for people with reduced mobility.

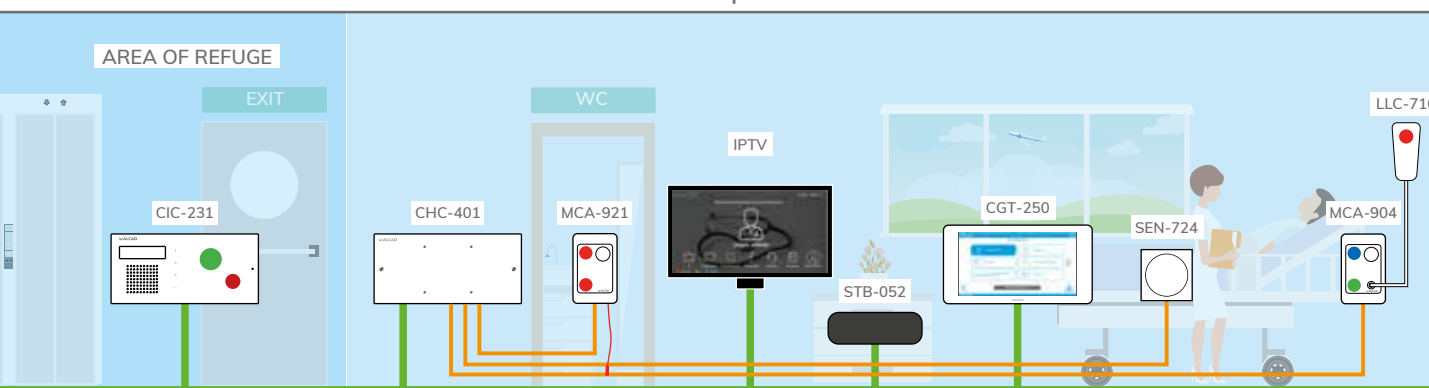
- ETHERNET NETWORK / FIBER OPTIC
- ETHERNET NETWORK (CAT.5 UTP CABLE or superior)
- CAT.5 UTP CABLE or superior



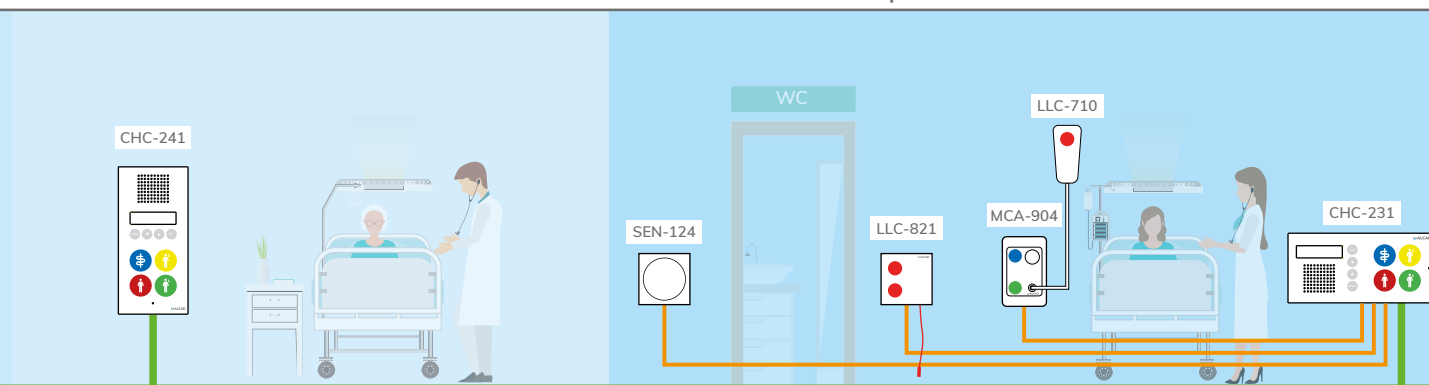
# HOSPITAL



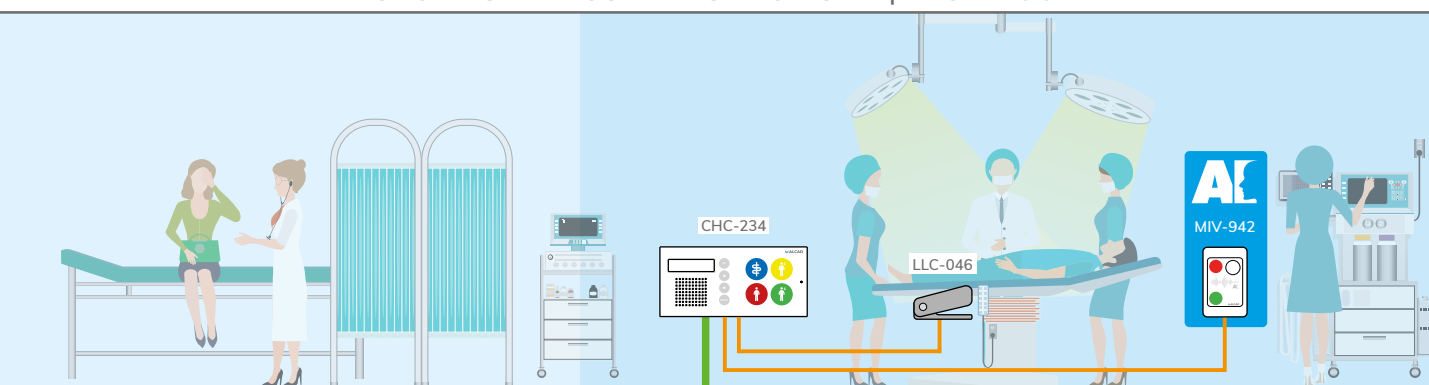
PSYCHIATRY | 3RD FLOOR



LONG-STAY HOSPITALISATION UNIT | 2ND FLOOR



SHORT-STAY HOSPITALISATION UNIT | FIRST FLOOR



OPERATING THEATRES - ICU - PACU - EMERGENCIES | GROUND FLOOR

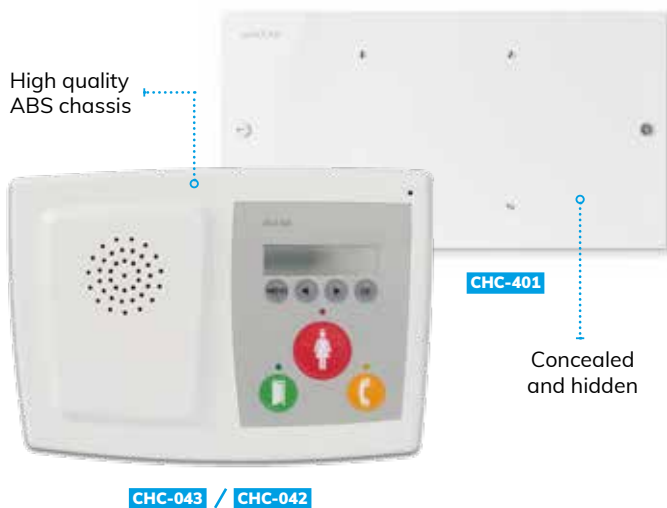
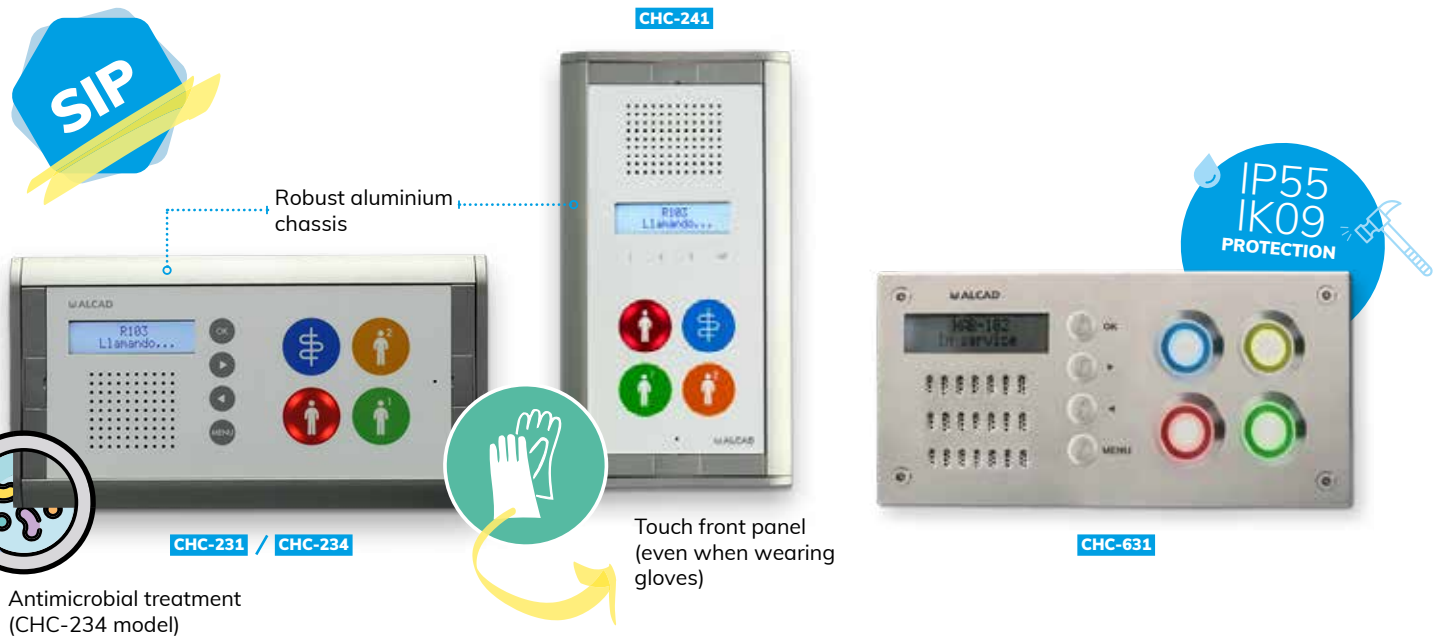


## THE WIDEST CATALOGUE

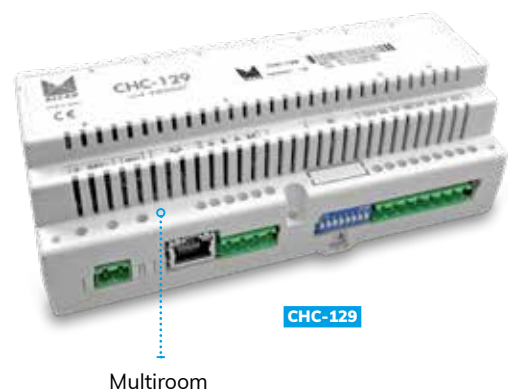
Premium  
quality  
materials

ALCAD manufactures its entire range of room terminals and mechanisms in Spain. Providing you with the **most extensive and complete range of room elements** on the market (see terms and conditions)

### Room terminals **with audio**



### Room terminal **without audio**



# Call mechanisms

## AUDIO



MCA-90X

Individual audio in bed and bathroom



MCA-921



MCA-94X

ACCURO  
AI

Thanks to Artificial Intelligence, the mechanism goes into listening mode when it hears "ACCURO"

## HANDSETS



LLC-71X



LLC-75X



IP67

## WITHOUT AUDIO

Wide range



LLC-84X / LLC-94X



LLC-80X / LLC-90X



LLC-40X

## BATHROOM PULL-CORDS

LLC-82X / LLC-92X



IPx5

LLC-421



## ANTI-VANDAL

IK10



LLC-6XX

## WIRELESS - SENSORS



SNI-310



SNI-312



LLC-046

Pedal



SNS-020

## CORRIDOR WARNING-LAMPS

SEN-724

Bus



LLC-1XX / LLC-4XX

## ACCUROviewer: AN ALLY OF THE NURSING TEAM

The possibility offered by our system to combine fixed and portable elements allows the creation of a **more efficient working environment**, with the aim of facilitating, as much as possible, the work of the healthcare staff

Nurse stations are one of the key elements of the nurse call system. To facilitate the work of healthcare personnel as much as possible and adapt to the specific needs of each centre, ACCURO offers the **possibility of combining fixed and portable elements in the control stations**.

ACCUROviewer is the software responsible for the **monitoring and management of patients** by healthcare staff. Among other features, thanks to its traceability it is possible to obtain reports / statistics on patient monitoring and workflow and workload management (in a personalised manner if RFID readers are included).

In this sense, the possibility of entering and updating information remotely makes it possible to reduce timings, as it is no longer necessary to do it at the nurse station. Thus, **the workload of the team is optimised**.

On the other hand, ACCUROviewer **offers the visualisation of calls and alarms in 'map' format**, indicating alarm levels and the presence of the patient in the room, or the automatic and configurable call escalation depending on the zones and shift changes (which have been determined in advance).





## Portable elements:

**Smartphones and tablets** can receive calls, as well as host ACCURIOviewer thanks to its web technology base programmed in HTML5, without the need of additional software installation.

**DECT cordless telephones** allow identification of the calling number, type and origin of the call. The TFD-422 model has an antimicrobial treatment.



## Fixed elements:

The **10" touch screen control panel with RFID reader** is mounted on the wall of the room (model CGT-250). There is also a desktop version for the nurse station (CGT-150).

The **IP phones** receive calls and alerts generated from rooms, areas of refuge or adapted bathrooms / changing rooms. The system is compatible and can be integrated with other SIP and PBX terminals.

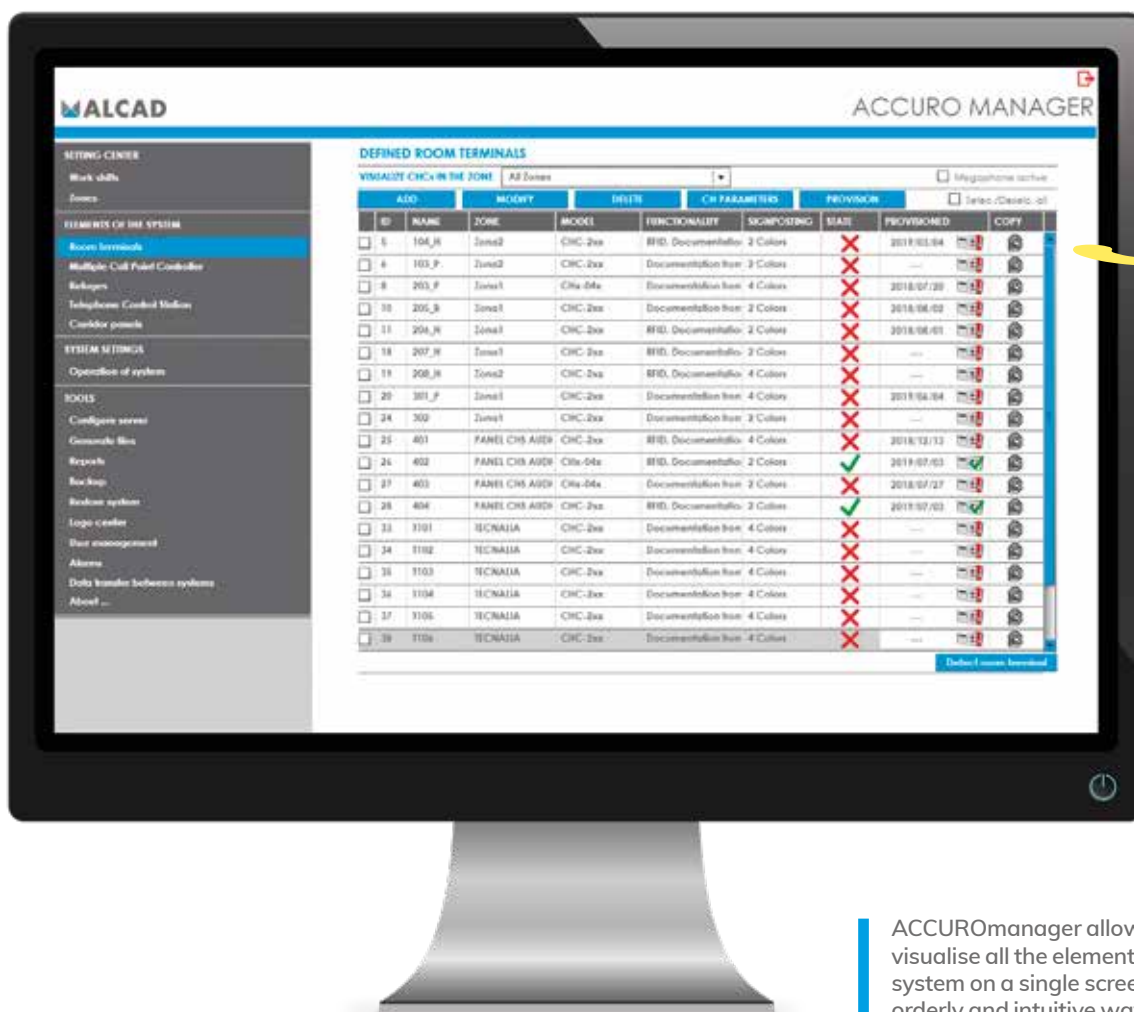
In common areas (corridors, rest rooms...) calls can be displayed on **led panels** (SEN-343 model) or by type / colour and origin on **screens** (STB-052 model).

# ACCURManager: CONTROL THE ENTIRE SYSTEM REMOTELY OR VIA THE LOCAL NETWORK

ACCURManager is a **web-based application**. Does not require any further installations, thus providing the system a guaranteed future and continuity

Fully developed by ALCAD, ACCURManager is the **system maintenance and management tool** and the **key to the flexibility and robustness** of a **fully customisable system**.

The maintenance and configuration of the system can be monitored through the local network or even, if necessary, remotely, **allowing a centralised support** to **several locations**.

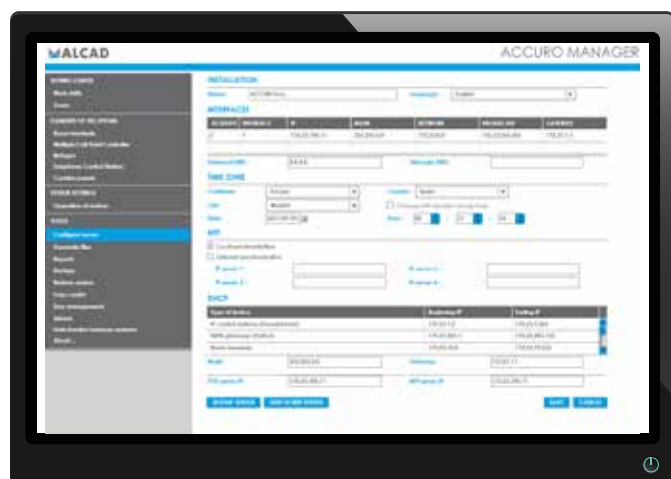


ACCURManager allows you to visualise all the elements of the system on a single screen, in an orderly and intuitive way.

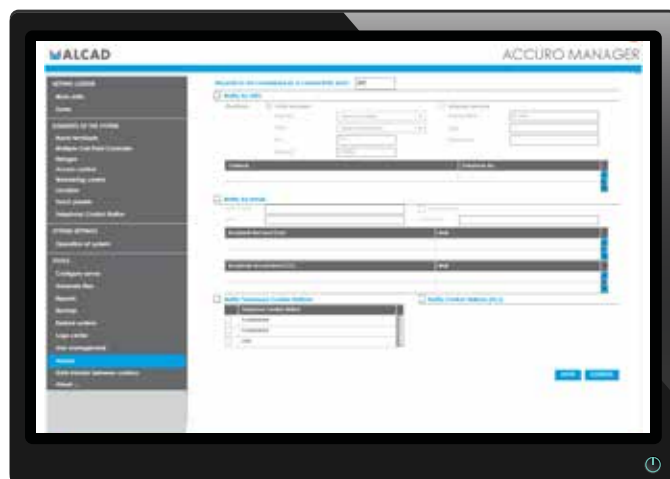
# Main functionalities:

Can be **integrated into the centre's HIS**, allowing, for example:

- Its **connection** with the hospital management systems by means of XML files, APIrest, WebSockets, HL7 or others.
- **Analysis** of all system elements.
- **Customisable error notification**.
- **Configuration and customisation** of the system to the requirement and specifications of the centre.
- Knowing the **status** of all elements of the system.
- Performing **backups and software updates**.



Using the Tools menu, it is possible to configure the server, generate files, manage users, make a backup copy or transfer information.



Automatic alerts can also be programmed (via SMS or email, for example) and are sent as soon as the system detects a problem.



## Redundant servers

Optionally, in order to increase the security of the system, it is possible to configure the servers and the system in high availability (redundant servers).





## LOCALISATION OF PEOPLE AND ASSETS WITH ALARMS

ACCURORTLS is the indoor location system to **identify, track, protect and manage** a wide variety of objects (assets, medical equipment...) and people

**T**he Real Time Location System (RTLS) is the ultimate positioning solution to **identify, track, protect and manage objects and people** in facilities where there are many aspects to control, and where security is vital. Especially those where there is a growing need to optimise resources, both human and material (such as hospitals).

For management, keeping track of both personnel and asset flows is vital. For the healthcare team, the focus is on patient tracking, especially when it comes to wandering patients management systems.

### 100% configurable

Because the RTLS system is a native part of ACCURO, the platform allows you to **configure alerts, warnings and calls to IP phones and terminals connected to the system.**

For example, if we want to prevent medical equipment (such as a biometric measurement trolley) from leaving a specific area or a floor or door. In this case, we can **configure a warning call to be executed in the ACCUROviewer software and at the same time to one or more DECT terminals, room terminals or IP telephones** so that security personnel can prevent its theft or similar. The same example could be applied to patients or even staff.



## Protection against cyber-attacks

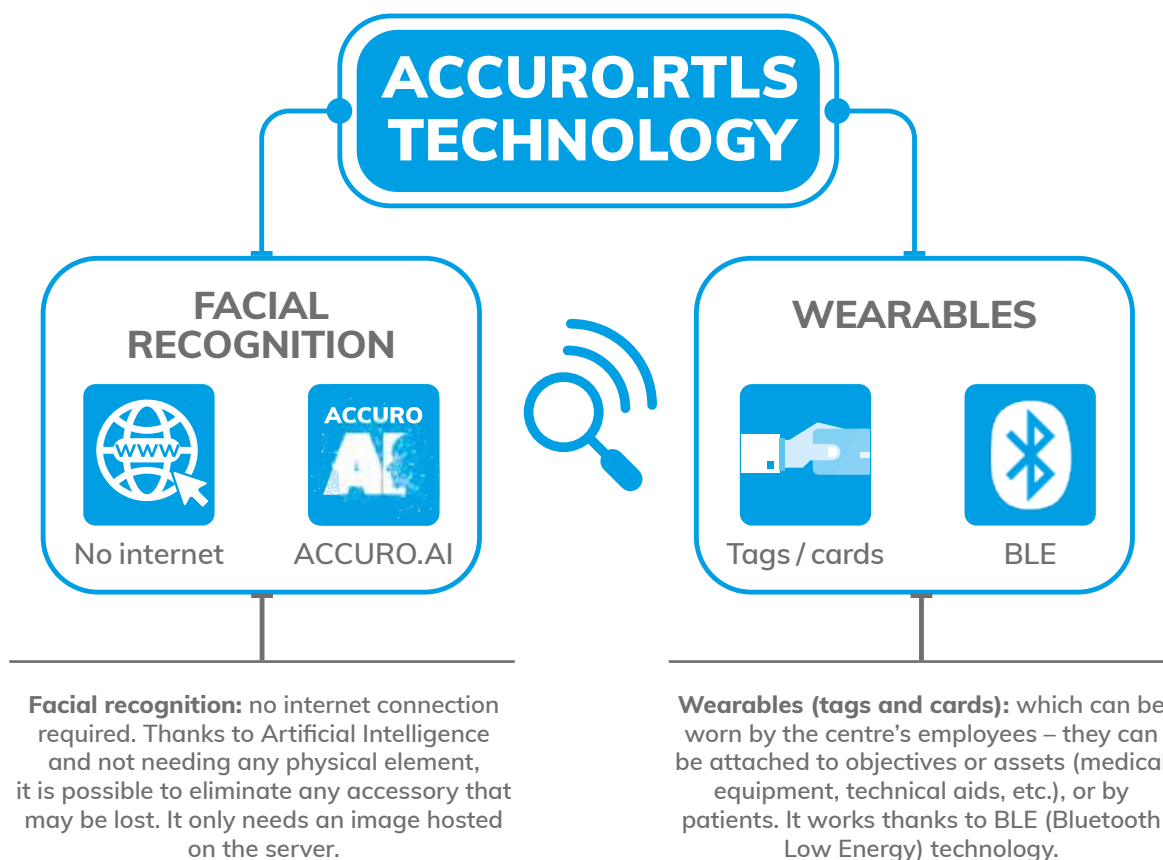
ACCURORTLS is a proprietary system of the client, installed on its own server, so it does not require an internet connection or, therefore, the contracting of cloud services (Azure, DataFlow, AWS, etc.). This is a decisive advantage, as it protects the centre from possible cyber-attacks from the outside, making it possible to create a 100% secure working environment.



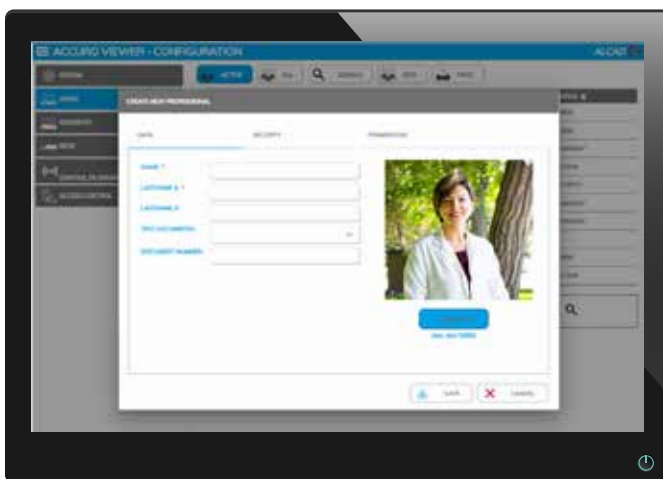


## Main advantages:

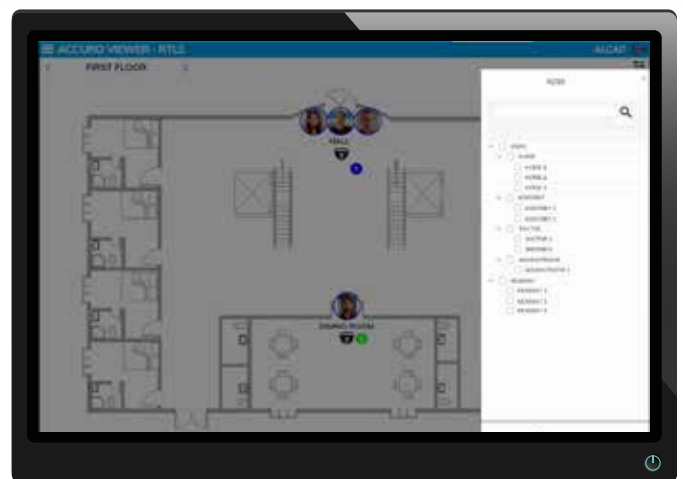
- Increased cost **efficiency**.
- **Optimisation** of material and human resources.
- Improved **attention to patients**.
- **Native integration** with ACCURO and LIVERO platforms for reporting alerts and calls.
- Creation of **preventive maintenance** based on data.
- **Location of assets**, avoiding theft and wasted time in fruitless searches.
- **Location of patients** with a “disorientation” tendency, reducing staff search time.
- **Location of colleagues**. A solution that locates team members without causing any sort of duty interruption.
- **Prevention** of possible escapes.
- **Analysis** of staff workflow and workload.
- No need for **internet connection**.
- No recurring subscriptions.



## AN INTUITIVE INTERFACE



As it is not connected to the Internet and the user will have given express consent to the use of their photo, data protection laws are granted by the system.



The ACCUROrtls floating menu greatly facilitates the management task. Its filtering tool allows this operation to be carried out under different parameters.



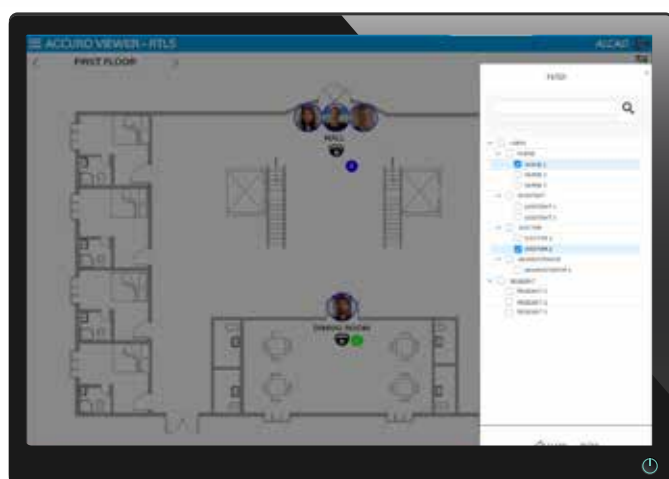


## ■ REAL-TIME INFORMATION

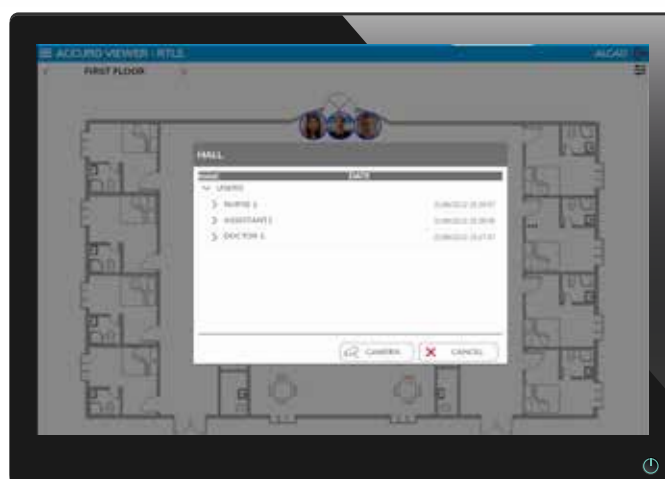
ACCURORTLS has a highly visual and intuitive interface. At a glance, the user can check the status of each critical zone in real time, while accessing the different functions of the system at the click of a button.

### Alert call

When the system detects the presence of a person or object in an unauthorised area, it immediately triggers an alert call to warn of this situation.



It is possible to search by name or select a specific group of people to find their location within the facility.



Similarly, when selecting a point in the facility, the system provides information about who has been there and their last location.



## SAFETY IN AREAS OF REFUGE AND ADAPTED TOILETS AND CHANGING ROOMS

ACCUROrefugium is the **first complete solution on the market** that complies with international regulations concerning fire evacuation procedures in non-residential buildings, as regards intercom systems with a local room terminal



Ultra-slim and robust design



Centralised alarm and warning system



Compatible with ACCURO viewer



Communication with other room terminals

ACCUROrefugium includes a CIC-231 or CIC-611 (vandal-proof model, see picture) intercom point in each area of refuge and a software package (installed on a server / PC and compatible with the ACCUROviewer software).

The system also allows the installation of bathroom warning pull-cords as well as door-top warning-lamps for communal areas or bathrooms. All of this is **centralised and managed from one or more control points**, which may be assigned by area as needed.

If required, the system allows the addition of **DECT-type wireless phones, IP phones or even smartphones**, to increase the mobility of security personnel.

From these terminals, the source of the call can be identified and it will be possible to conduct **two-way communication in real time** with the person requesting help.

ACCUROrefugium is the first complete solution on the market that complies with international regulations concerning **fire evacuation procedures in non-residential buildings**, as regards intercom systems with a local room terminal.



# THE IP DOOR AND ACCESS CONTROL SYSTEM

The possibility of creating **up to 6 levels of permissions**, even with door-to-door permission control, multiplies its possibilities, adapting to the needs of each hospital

**A**CCUROaccess has all the advantages of an access control centre and IP doors with traceability, offering the possibility of **registering and generating reports, carrying out a variety of queries...**

Its integration in ACCURO offers the centre the **fusion, on the same platform, of a nurse call communication system with an access control system and doors with traceability**, being able to confirm presence in the room while opening the door.

## Main advantages:

- **For the healthcare personnel:** who will be able to make presence in each room, opening the door with traceability and confirming presence simultaneously.
- **For management:** by adapting to the particular needs of each centre. In this sense, permissions can be customized: up to 6 types of users can be created, with different permissions and even with door-to-door permission control.
- **For patients:** their experience also improves, getting closer to the concept of a "guest": their stay will be more pleasant.





Compatible with other 15" and larger displays



## A PERSONALISED EXPERIENCE

By means of an articulating or fixed arm, the 10-inch CGT-250 touch panel can be placed at the bedside, allowing the patient to enjoy a more personalised experience of all-in-one care and entertainment.



## PATIENT ENTERTAINMENT AND SAFETY ON A SINGLE SCREEN

**Digitalisation of tasks according to medical guidelines.** Through the RFID reader, it gives the healthcare team access to the recorded actions and tasks prescribed, as well as an access to the patient's Electronical Medical Record (EMR).

ACCUROmultimedia brings together all the functions that will allow patients to enjoy a **safer and more comfortable admission**

**A** ACCUROmultimedia's graphic interface offers all the multimedia options to make the patient's stay more comfortable and safe: **information about the health centre, daily menu selection, rehabilitation videos...**

Its integration with ACCURO allows **a call to be made to the nursing staff from the main screen**, selecting the reason for the alert: pain, thirst, discomfort, cold... offering the patient a feeling of greater security and allowing the healthcare personnel to prioritise their interventions.

The staff can identify themselves with their RFID badge and **access the integrated care plan or the ACCUROviewer software** to record the reasons for the call and the actions taken in the room.

An added value to the nurse call communication system



More than 30 years facilitating people's entertainment



No costly maintenance or endless installation processes



End to end solution, starting with the signal reception and ending with the image broadcast



Compatible over networks such as Ethernet and GPON





## ■ SMART-TV: A PERFECT ALTERNATIVE

ACCUROmultipedia is compatible with the range of smart TVs on the market. Navigation of its interface is done through the TV remote control, with a comfortable and simple user experience.



## ALCAD DS: the simplest way to broadcast your message

The **ALCAD DS** (Digital Signage) platform is a centralised web management tool that provides dynamic, effective and adapted communication.

It is very simple to use: the management software creates and distributes content. It also enables the creation of sequences and schedules: videos of the centre, specific rehabilitation exercises, etc.

**Where?** It is ideal for the centre's reception, visitor areas or communal rest rooms.

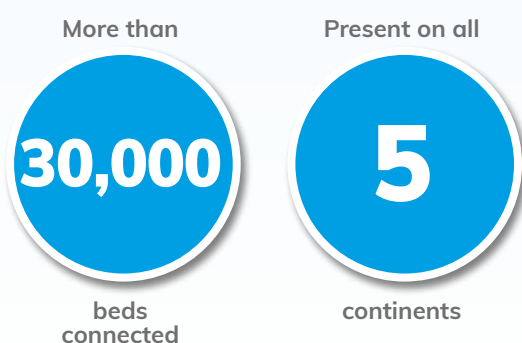
# CASE STUDIES

## THE RESULT OF WORKING AS A TEAM

We like to **call each project by its name**, understanding the particular needs of each case.

We like to sit down and debate ideas, working as a team and **sharing our more than 30 years of experience**.

We like to know that we have covered a **need** in a professional and efficient way. We like things **well done**.



### New projects in the Middle East

Our efforts in this part of the world are resulting in exciting new projects. These include, among others, **Korean Hospital (Iraq)** and **University Specialized Hospital (Iraq)**. Both projects will facilitate the provision of excellent medical services to Iraqi people.



### ■ Hospital Álvaro Cunqueiro

Vigo (Pontevedra, Spain)

- This public hospital, owned by the Regional Government of Galicia, managed privately and built in 2015, is without a doubt one of the largest benchmarks in hospital care.
- It provides 845 beds, with 24 operating rooms and 12 Radiation Protection Technical Units. ACCURO is present through CHC-231 touch room terminals and bathroom pull-cords with IP65-level watertightness.



### ■ Hosp. Univ. Quirónsalud Madrid

Pozuelo de Alarcón (Madrid, Spain)

- A benchmark hospital for private healthcare in the region. It has more than 60,000 m<sup>2</sup> of hospital surface area, 39 medical-surgical specialities, 235 individual exterior rooms, 13 operating theatres...
- Our solutions improve the daily life of professionals and patients at the Oncology Day Hospital (5 boxes + 18 treatment positions).



### ■ Ciudad de la Salud

Panama City (Panama)

- It will have the most modern healthcare facilities in Central America, making it the largest hospital city in this part of the continent, with a built-up area of 219,000 m<sup>2</sup>.
- ACCURO will serve 43 operating theatres, more than 284 consulting rooms and 1,235 beds.



## ■ Doctors Hospital

Nassau (The Bahamas)

- Doctors Hospital has provided Bahamians with quality private health care for more than 50 years.
- Our solutions will help this 72-bed facility, the most modern acute care privately owned health care facility in the country, with over 400 employees.



## ■ Buch International Hospital

Multan (Pakistan)

- BIH established as a 250-bedded state-of-the-art facility, and is a multidisciplinary institute providing comprehensive medical and surgical care under one roof.
- ACCURO will help BIH providing high-quality and most compassionate care to each and every patient, fostering a culture of innovation and sustainability.



## ■ Yopougon University Hospital

Abidjan (Republic of Côte d'Ivoire)

- This 450-bed hospital has selected ACCURO to ensure communication between nursing staff and patients.
- Staff will receive calls on fixed or mobile (smart) phones. In corridors, calls will be reported and displayed on large screens. The CHU will also have intercom panels in Areas of Refuge.



## ■ Rīgas Austrumu klīniskā universitātes slimnīca (Rakus)

Riga (Latvia)

- RIGA EAST UNIVERSITY HOSPITAL is a multidisciplinary medical treatment institution. It has almost 5,000 employees, 2,000 beds, and 55,000 inpatients and 840,000 outpatients per year. ACCURO is a key element in the nursing call management of this institution.



## ■ Lösev Hospital

Ankara (Turkey)

- It specialises in oncology and has 300 rooms. It was built in 2015.
- ACCURO is present in this hospital with a total of 212 customised CHC-234 antimicrobial touch room terminals built into the headboard, with bathroom pull-cords and door-top warning-lamps.



## ■ Internal Medicine Hospital

Tirana (Albania)

- The new Hospital of Internal Diseases at QSUT, an ultra-modern infrastructure of the highest contemporary standards, will have 271 beds and a day ward with 60 beds.
- Our nurse call system will serve 150 beds, with CHC-129 multi-room units (including presence buttons and nurse call & cancellation buttons), bathroom call units and door-top warning-lamps.



## ACCURO

100% IP  
Nurse call system

## LIVERO

100% IP security  
intercom system

## IPTV

Multimedia solutions for  
hospitals/nursing homes

## ATTENDO

Emergency call system  
for public toilets



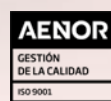
UNIÓN EUROPEA

Fondo Europeo de Desarrollo Regional  
Una manera de hacer Europa



[www.alcadelectronics.com/alcad-facility](http://www.alcadelectronics.com/alcad-facility)

ALCAD Electronics, S.L.  
Pol. Ind. Arreche-Ugalde, 1  
Apdo. 455  
20305 IRUN - Spain  
Tél. (+34) 943 63 96 60  
[info@alcad.net](mailto:info@alcad.net)



EXPORT - Pauline Marty  
[pauline.marty@alcad.net](mailto:pauline.marty@alcad.net)  
Tel. (+34) 686 304 743  
UNITED ARAB EMIRATES  
Tél. (+971) 4 214 61 40  
TURKEY  
Tél. (+90) 212 295 97 00  
PAKISTAN  
Tél. (+92) 0333-3343391