



IoT Wireless (LoRa) cloud  
based healthcare solution

For elderly homes

## Mission

**Improve caring service  
of elderly homes**

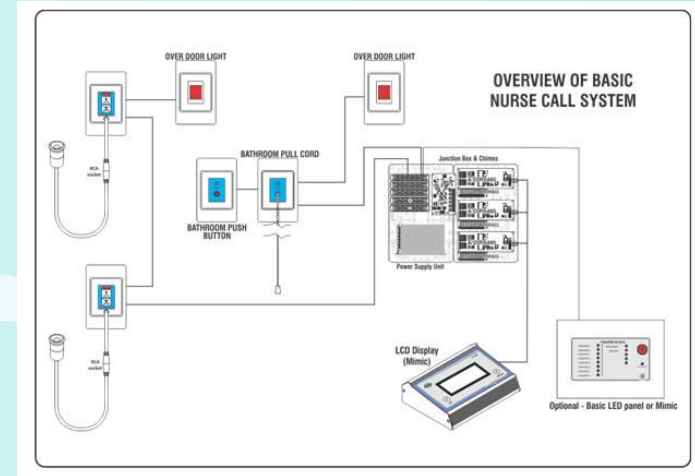
## Vision

**Centered on the  
wellness and dignity  
of older adults**



# Pain Point for wiring nurse call system of elderly homes

Automation is incredible. Traditional nurse call system is much less exceptional when it goes wrong due to things like poorly integrated sub systems, inconvenient wired cabling, inadequate functionality, and installation delays, automation problems can arise.



# HKC propose Wireless (LoRa) Cloud based healthcare solution

We offer a flexible and intuitive wireless health care solution backed by a range of patient monitoring devices and linked with our health care platform – **CICS, stands for Communication Integrated Caring System (CICS)** to improve quality of elderly care, safety and service delivery for elderly homes.

\*Existing organizations can also upgrade easily with subscription model

# Buy or Lease Nursing Care Products as you need



Wireless Nurse Call /  
Bathroom Call Unit



Wheelchair / Bed Exit  
Alarm with robot  
assistant



Room & Bedhead -  
Display & Control



Vital Sign Monitoring



Real Time Location  
Tracking



Fall Detection Sensor



Smart Elderly Exercising  
Mirror

# Operation Work Flow

3. The notification will include
- the elapsed time,
  - floor and room number,
  - and the status on screen will appear to be 'Alarm'.



| Name  | Location | Device            | Elapsed Time | Status   | Staff |
|-------|----------|-------------------|--------------|----------|-------|
| User1 | 1A       | Bedside Call Unit | 11:34:16     | Active   |       |
| User2 | 1B       | Bedside Call Unit | 11:35:16     | Active   |       |
| User3 | 1C       | Bedside Call Unit | 11:36:16     | Complete |       |
| User4 | 1D       | Bedside Call Unit | 11:45:16     | Complete |       |
| User5 | 1E       | Bedside Call Unit | 12:00:16     | Complete |       |
| User6 | 1F       | Bedside Call Unit | 12:13:16     | Complete |       |
| User7 | 1G       | Bedside Call Unit | 12:30:16     | Complete |       |
| User8 | 1H       | Bedside Call Unit | 12:45:16     | Complete |       |

1. Press Call Button



6. Press the reset button to complete the emergency call

2. Emergency alarm to security office

4. Tap the access card and intercom to call back



5. Immediate assistant

7. Update records in cloud server for report and statistics

# Wireless (Wi-Fi) Bedside Call Unit (With Voice Call Version)



## Functional Features:

- One large round button for nurse call with nurse symbol on both panel and call cord
- Contain build-in speaker on panel and microphone on both panel and call cord for patient and staff active communications
- Call unit will send out alert signal to the Cloud-based Central Control and Monitoring System for real time record
- Wi-Fi Connection to Cloud

## Optional Module :

- Integration with Seat & Bed Pad Sensor \*\*Bedside Call Unit is able to give reminder messages to elderly by voice recording to remind them stop their leaving action and stay on bed or chair.
- Integration with smoke alarm



Wireless Bed / Seat pad sensor



# Wireless (LoRa) Bedside Call Unit (Without Voice Call Version)



張婆婆您好呀，請不要離開輪椅，請等姑娘過來幫你



Wireless Bed / Seat pad sensor



## Functional Features:

- Large Call buttons for Bedside Call Unit and Emergency Call Cord
- Bedside call unit will send out alert signal to the Cloud-based Central Control and Monitoring System for real time record
- Three Colors Indication Lamp :
  - Red for call alarm
  - Green for reset alarm
  - Orange for no battery
- Can provide reset function
- LoRa Connection to Cloud

## Optional Module :

- Integration with Seat & Bed Pad Sensor \*\*Bedside Call Unit is able to give reminder messages to elderly by voice recording to remind them stop their leaving action and stay on bed or chair.
- Integration with smoke alarm

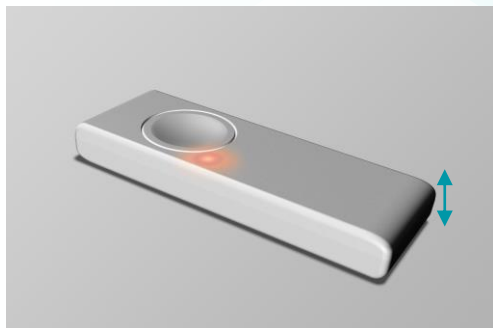


# Wireless Portable Emergency Call Button



81mm

29.5mm



12mm

## Specification :

### Specification

- Portable Model : TC-D3
- Color : White.
- Size : 29.5 x 12 x 81mm (Width x Height x Depth).
- Power: Replaceable batteries
- Buttons and Connectors : Emergency Button
- Light : Red
- Environmental Requirement
  - Operating ambient temperature : 0 to 50C
  - Relative humidity: 5% to 93% noncondensing
  - Water-proof IP68
- Certification : CE
- LoRa Connection to Cloud

# Wireless (Wi-Fi / LoRa) Bedside Call Unit

## Specification for Wireless Bedside Call Unit:

- Model : NBDR - D1 / D2
- Color : White
- Size and Weight :  
With voice call version : 190.8 x 86 x 15mm (W x H x D), 120g approx.  
Without voice call version : 88 x 88 x 16.4mm (W x H x D), 90g approx.
- Panic button size : 25mm X 25mm
- Buttons and Connectors
- Emergency Button
- 3.5 mm jack for Call Cord Connection
- Light - 3 Colors : Red, green and orange
- Power Replaceable batteries
- Environmental Requirement
  - Operating ambient temperature : 0 to 35C
  - Relative humidity: 5% to 93% noncondensing
- Certification : CE
- Call and reset buttons 2-in-1
- Wi-Fi or LoRa Connection to Cloud



NBDR - D1



NBDR - D2

# Wireless (LoRa) Bathroom/Toilet Call Unit



## Functional Features:

Resident push the alarm for emergency

Location information report to the central control office

Three Colors Indication Lamp :

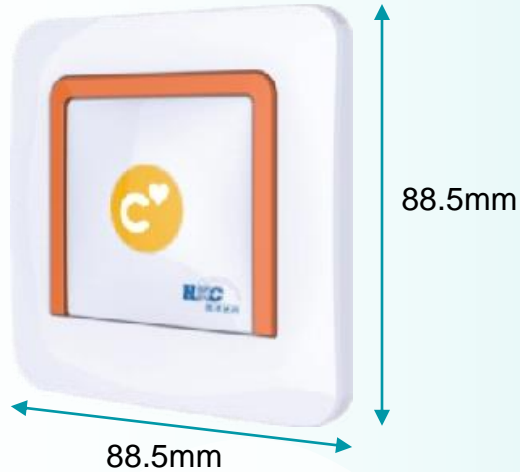
- Red for call alarm
- Green for reset alarm
- Orange for no battery

Water-proofed

Can provide reset function

LoRa Connection to Cloud

# Wireless (LoRa) Bathroom/Toilet Call Unit



## Specification :

### Specification

- Model : TC-D2
- Color : White.
- Size : 88.5 x 88.5 x 16.4mm (Width x Height x Depth).
- Power: Replaceable batteries
- Buttons and Connectors : Emergency Button
- Light : 3 Colors : Red, green and orange
- Environmental Requirement
  - Operating ambient temperature : 0 to 50C
  - Relative humidity: 5% to 93% noncondensing
  - Water-proof IP65
- Certification : CE
- LoRa Connection to Cloud


## Service Robot integration with Seat & Bed Pad Alarm

Service Robot will be alerted if the elderly tries to leave the bed or wheelchair, our service robot will be able to provide timely assistance automatically upon receiving a digital signal generated from the alarm



Seat Pad with wireless Transmitter

The service robot is able to give reminder messages to elderly by speech or recordings to remind them to stop their leaving action and stay on bed or chair.



張婆婆您好呀，請不要  
離開輪椅，請等姑娘  
過來幫你

# Video communication with caretakers

The service robot is built with telepresence function which enables users to perform video communication with caretakers or family members



## Smart Talk , elderlies' buddies

Directly asks the chatbot in Cantonese for service related questions is a fast and pleasant experience. Customized smart talk service saves lots of time for caretakers.

我可以幫您查詢, 請稍等...

我可以講個笑話您聽

我可以帶您去洗手間

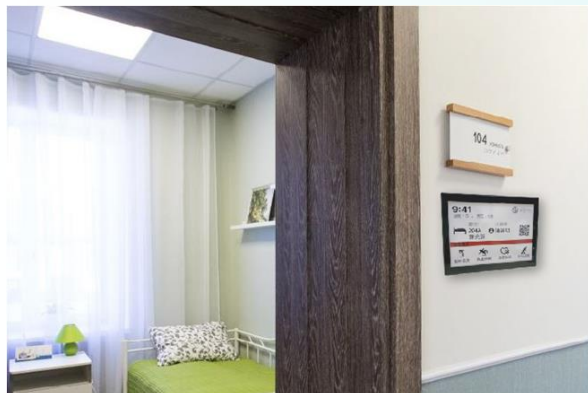
我可以幫您叫姑娘, 請稍等...

今日係12月2號星期五



# Patient Room Door Sign

- Show patient names and bed location
- Alert visitor restriction, allergies or medical precautions to clinicians and visitors
- Patient care team information
- Easy to read
- Easy installation
- Long battery life. Information always on, even during power outage
- No light pollution to disturb patients



# Patient Care Sign

- Connect wirelessly to HER and EMR system for real-time update
- Show patient alerts: visitor restrictions, allergies, medical precautions
- Medical conditions
- Medications prescribed and schedule
- Optional nurse call button and response time stamp



# Vital Sign Monitoring



- Cloud-based service analytics
- Health-data Collection System which can be integrated with personal electronic health records.
- For health profession remote and long-term monitoring
- Abnormal data alert to caretakers

# UWB PRECISE POSITIONING

Locate patient and device with accuracy of centimeter level



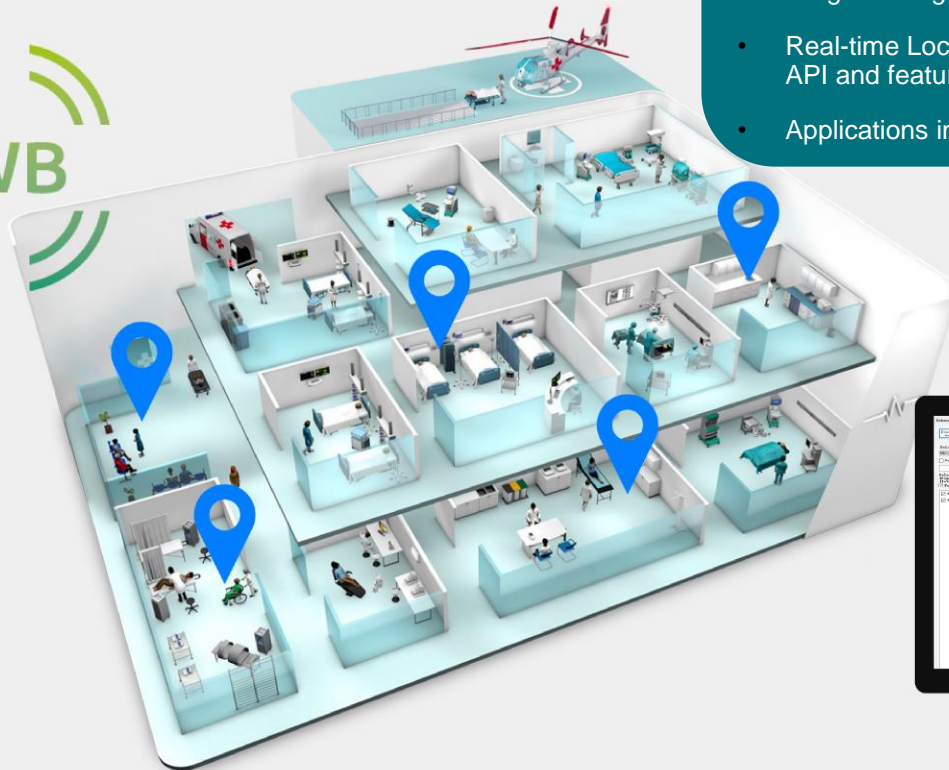
- Armband, lanyard, wristband
- Long battery life
- Li-ion battery
- Programmable buttons

UWB Tag



- UWB Anchors
- Line of sight triangulation
- 3 or more required per space

UWB Anchor



- High precision to centimeter level Ultra Wideband (UWB)
- 3 Anchors for accurate triangulation of position
- Long battery life. Adjustable update frequency
- Panic button built into the tag
- Programming input buttons for advance application
- Real-time Location System (RTLS) Server with powerful API and features
- Applications include contact tracing, alarm location



Real time location system

# BLUETOOTH BEACON PRECISE POSITIONING



Wristband BLE Tag



BLE Gateway

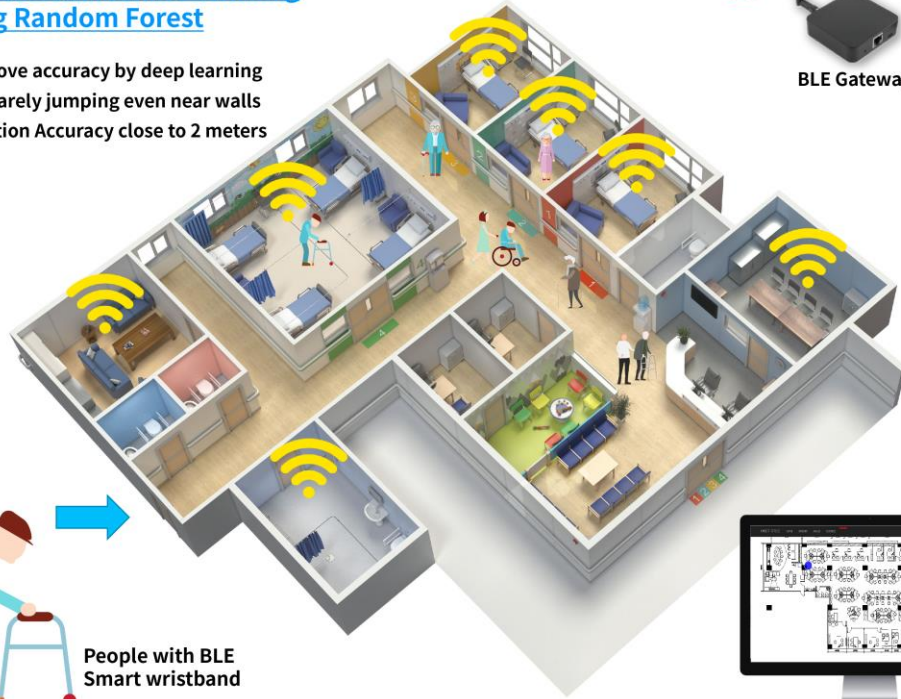
## AI assisted Machine Learning using Random Forest

- \* Improve accuracy by deep learning
- \* It is rarely jumping even near walls
- \* Location Accuracy close to 2 meters

1



People with BLE Smart wristband



- Zone-based Indoor positioning
- Very long battery life. Low battery indicator
- Electronic key for smart locks
- Waterproof, high quality silicone

2



BLE Gateway

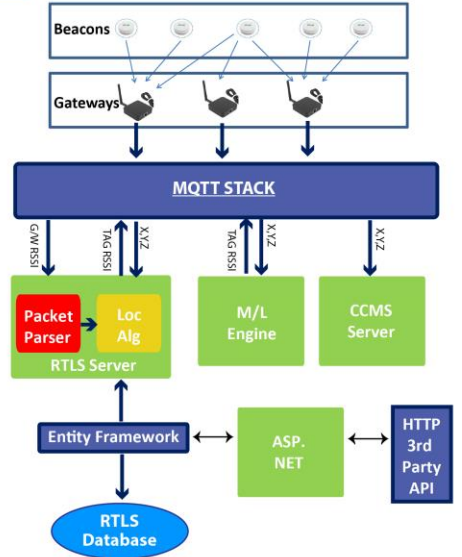


Wi-fi

3



Server



RTLS System

# Fall Detection Sensor

**Motion detection sensor** is one of an intelligent smart washroom management equipment. It can prevent accidents caused by accidental faint in toilet compartment. If dynamic sensors are installed in each toilet compartment, once it detected the user does not move in the toilet for more than 10 minutes, the sensor will automatically notify the management staff and issue an abnormal alarm, so that the administrator can call the ambulance for immediate rescue.



- ✓ Easy to use
- ✓ Easy installation
- ✓ Battery powered
- ✓ 10 mins (adjustable) for abnormal alarm
- ✓ Siren can be connected
- ✓ Mobile APP/web base alarm system (optional)
- ✓ Low-power LoRaWAN remote network connection (optional)
- ✓ Connect door contact sensor (optional)

# Smart Elderly Exercising Mirror



- Exercise at home prevents disease
- Lower risk of falls
- Improve mental health and well-being
- Strengthen social ties
- Smart Mirror application provide instruction videos and AI body tracking



# IoT Wireless (LoRa) cloud based healthcare solution

A subscription base service provided by HKC for elderly homes

## Why Choose Us?



### SIMPLICITY

User Friendly. No specialized training required



### RELIABILITY

Years of experience and valued customers



### CONNECTIVITY

LoRa wireless technology offers reliable coverage of larger size residential buildings



### CAPABILITY

Integrated all-in one smart healthcare devices

# THANKS!

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