



iBeacon Solutions

SAFETY, HEALTH AND OFFICE.

iBeacon Safety

SAFETY FOR POWER PLANTS OPERATORS



IBEACON SAFETY

Safety for power plants operators



The iBeacon safety system was developed with the goal of localizing an individual, whether it is a worker or a visitor inside the enclosed spaces, like for instance in an underground power station or along the tunnels that lead to the dams reservoirs where it's very hard to communicate with the outside world especially during an emergency. This could allow the execution of round-the-clock checks or daily inspections - which are expected by the "operating and maintenance condition sheet" - with the possibility of adopting a single operator ensuring him/her compliance with safety standards and granting important savings relating to personnel costs.

IBEACON SAFETY

Safety for power plants operators



By accessing the app at any time and anywhere, from a smartphone or PC, it is possible to have the following information in real-time:

Operator location.

Heartbeat measurement.

Body temperature.

Environmental temperature.

Radeon gas concentration.

Man-down signal with consequent automatic alert to the outside.

IBEACON SAFETY

Safety for power plants operators



The touch surface of the sensors makes it possible to instantly launch a signal from the inside to the outside in case of an emergency.

By accessing the app it is also possible to check - at any time - the location of a possible fire, the location of the operator and his/her health conditions. This is to make sure that any external aid is more effective.





FOR ASSISTED LIVING
iBeacon Health



IBEACON HEALTH

Intelligent ecosystem at the service of the community



SmartBug is an innovative system of intelligent devices developed for the automatic control of buildings and advanced monitoring of the environment, objects, and people. The devices of which it is made of, **perfectly integrate in every electrical system - new or old - replacing the regular wall switches without the need to change anything in the system itself.** Once installed in a building, SmartBugs communicate among each other in an automatic and wireless way, thus creating an intelligent, robust

Use cases in field of healthcare



LOCALIZATION OF OBJECTS

such as Defibrillators or other portable devices

By using the BLE beacon (whose dimensions resemble the one of a small button) and installing it on the object to be monitored, it is possible to **track its location and always know in which area or room it is located.**



ACTIVE TRACKING OF THE VITALS IN INDEPENDENT PATIENTS

With early warning in case of anomalies or decline of the vitals

By using special wristbands, it is possible to **collect parameters on the patient's vitals received by the sensors.** This occurs in real time, in every room and without the aid of the caregiver. It is also possible to be notified in the event of a patient falling or if he or she leaves certain areas of the building (E-Fencing)
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LOCALIZATION OF PATIENTS, OPERATORS, AND PERSONAL VISITORS

Covid19

By using a smartband or other wearable devices, it is possible to **discover the location of the patients and operators in real time**, and where they're headed. This also helps collecting data on the interactions for the applications of the procedures against COVID-19.

Use cases in field of healthcare



TRACKING OF THE POWER USAGE

Once the SmartBugs are all connected to the power of the devices they control (e.g. lights, heaters, etc.) it is possible to **know the exact power used by every application** that is connected, also detecting the possible power inefficiency of specific devices.



SMART CONTROL OF THE AIR CONDITIONING

Every SmartBug device is equipped of an IR blaster just like the one in remote controls. This can **directly control appliances like ACs, heat pumps, etc.** The presence of an integrated temperature sensor also allows to schedule the on/off and adjustment of the ACs in an automatic and intelligent way. This helps save energy and detect any open window to avoid the waste of heat.



SMART LIGHT CONTROL

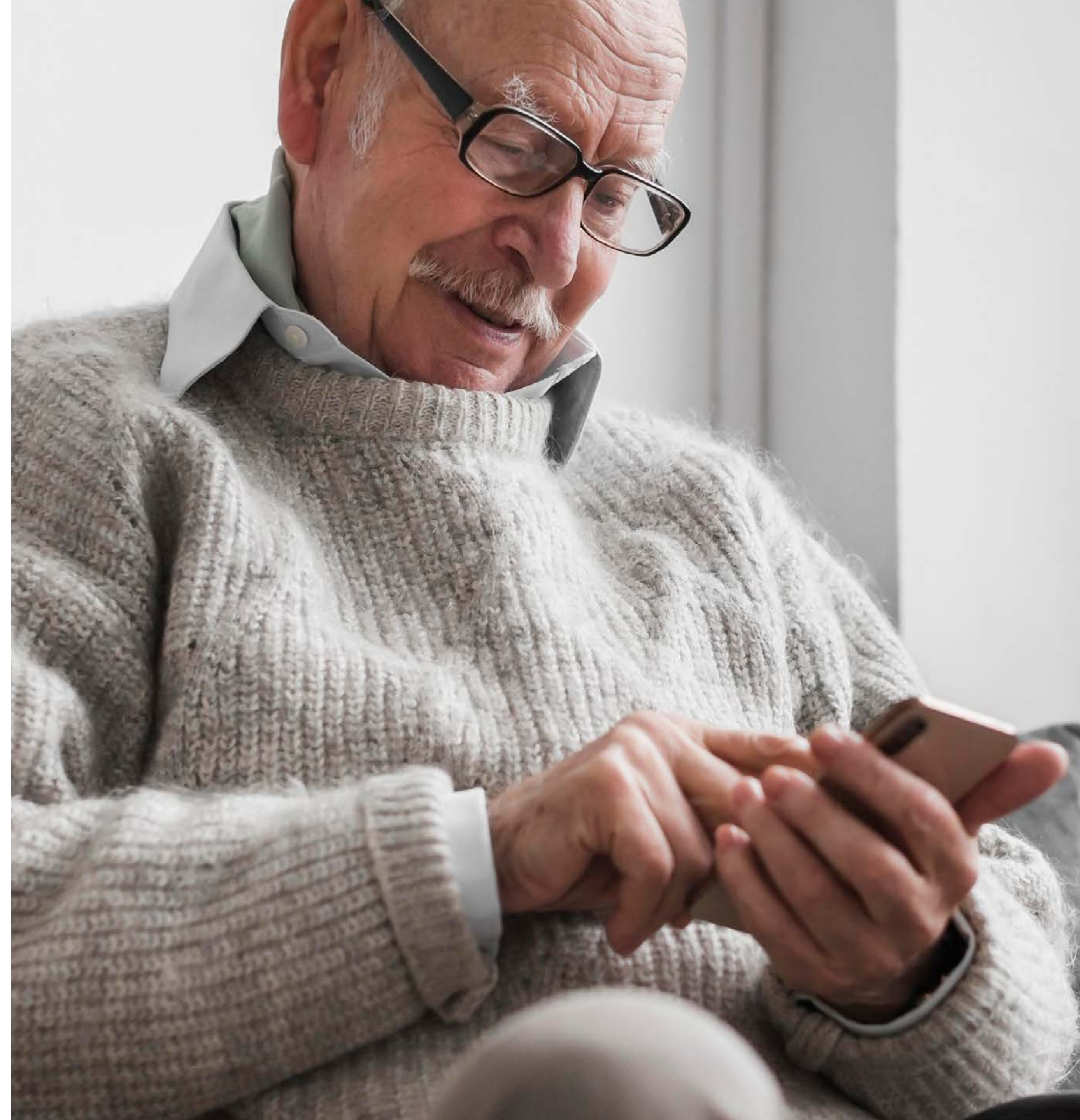
Every SmartBug device can be connected to one or more lights. This way it can **directly or indirectly control any other load on the same system**: this allows to create smart scenarios and behaviours by scheduling and monitoring from a random switch any kind of light source that is connected.

IBEACON HEALTH

An effective solution for AL

The Assisted Living (AL) approach develops advanced technologies to support the **independence of weak users**, such as the elderly and people with disabilities, in their living environments. These technologies proved to be a great tool to improve and facilitate ordinary daily activities.

SmartBug's technology adapts to AL solutions: the diversity of the components and services that together make up an AL system, the development of **effective solutions for their integration and interoperability** allows the specialist use of SmartBug that can involve assistive robotic systems, wearable systems, adaptive interfaces, up to the development of non-invasive sensor technologies.

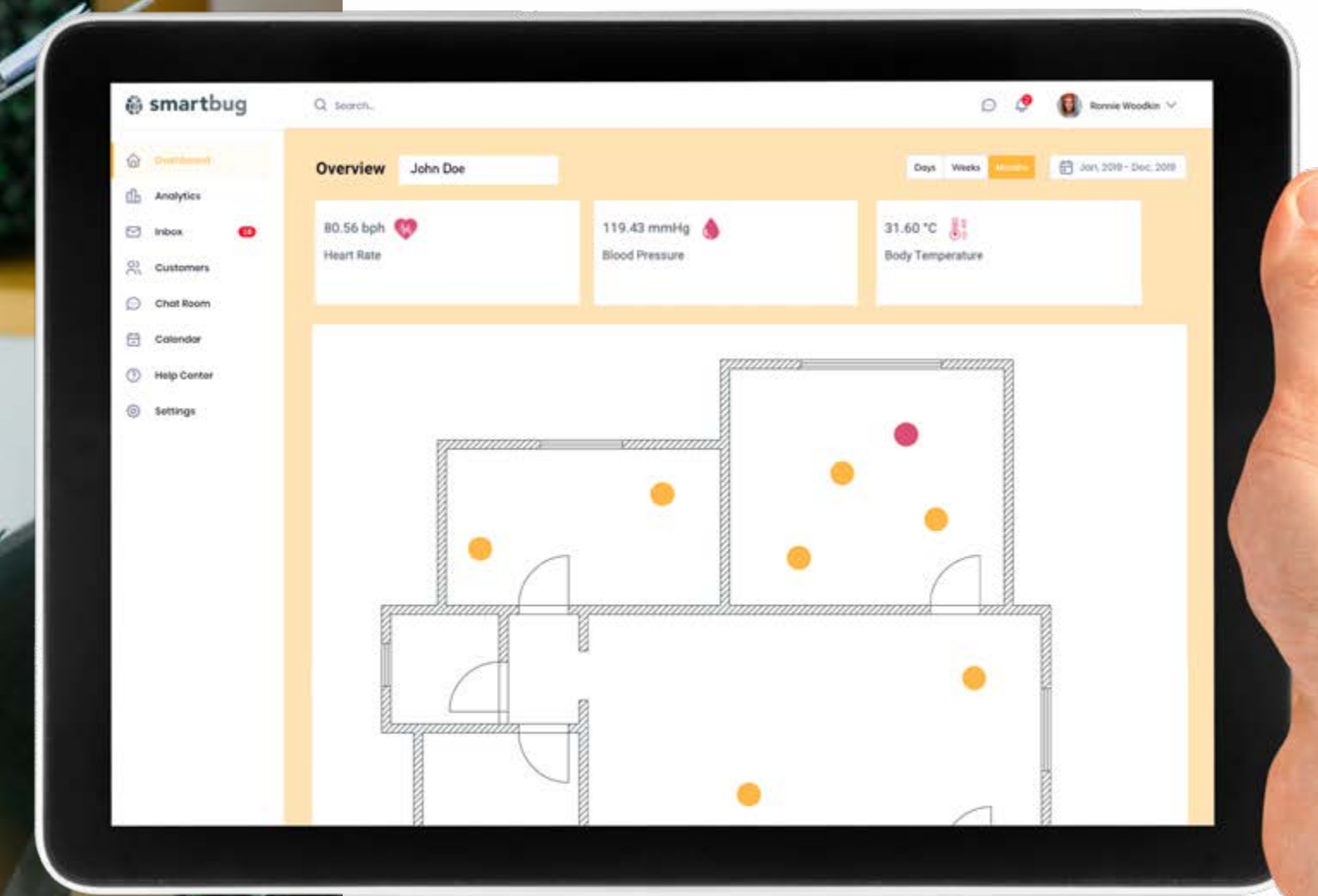


IBEACON HEALTH

Intelligent controls in one single dashboard



In a building equipped with SmartBug devices it is possible to **intelligently control lights, air conditioning and monitor the power usage**. It is also possible to know the location and movement of certain objects and people within the building. The devices also allow to gather information tracked by the wearable sensors, such as vitals (heart rate, temperature, oxygen saturation, etc.) and accidental falls.





SMARTBUG FOR ENTERPRISES
iBeacon Office



IBEACON OFFICE

Automated controls to better manage your office



SmartBug is an innovative system of intelligent devices developed for the automatic control of buildings and advanced monitoring of the environment, objects, and people. The devices of which it is made of, perfectly integrate in every electrical system - new or old - replacing the regular wall switches without the need to change anything in the system itself. Once installed in an office, SmartBugs communicate between each other in an automatic and wireless way, thus creating an intelligent, robust and integrated ecosystem.

SmartBug's benefits



Use cases in office environments



FLOW OF PEOPLE

SmartBug can detect presence within a certain enclosed space. With the device, it is possible to always keep track of the people entering and exiting an office and therefore keep track of the flow.

POWER MANAGEMENT

By connecting SmartBug to the power of the devices it will control (e.g. ACs, heaters, lights) it will register the exact power used by every device connected, also detecting any possible power inefficiency of specific devices and possible hazards.

Use cases in office environments



SMART CONTROL OF THE AIR CONDITIONING

Every SmartBug device is equipped with an IR blaster just like the one in remote controls. This can directly control appliances like ACs. The presence of an integrated temperature sensor also allows to schedule the on/off and adjustment of the ACs in an automatic and intelligent way. This helps save energy and detect any open window around the office.



SMART LIGHT CONTROL

Every SmartBug device can be connected to one or more lights. This way it can directly or indirectly control any other load on the same system: this allows the creation of smart scenarios and behaviours by scheduling and monitoring from a random switch any kind of light source that is connected.

IBEACON OFFICE

Safety for your employees



The iBeacon office system was developed with the goal of localizing an individual, whether it is a worker or a visitor inside an enclosed space, such as an office. By accessing the app at any time and anywhere, from a smartphone or PC, it is possible to have the following information in real-time:

- Employee location.
- Environmental temperature.
- Warning in case of malfunctioning of a device.
- Warning in case of excessive power usage

IBEACON OFFICE

The touch panel – a life saver

The touch surface of the sensors makes it possible to instantly launch a signal from the inside to the outside in case of an emergency.

By accessing the app it is also possible to check - at any time - the location of a possible fire, the location of the employee and his/her health conditions. This is to make sure that any external aid is more effective.



SmartBug

Technical specs

Power supply

- Mains power supply between 90VAC and 240VAC, 50/60 Hz.

Temperature

- Usage: -10 / +45.
- Storage: -20 / +60.

Wi-Fi radio transmission

- Frequency: 2.4 GHz to 2.5 GHz
- Protocol: 802.11 b/g/n
- Speed: 150 Mb/s

Bluetooth radio transmission

- Protocol: Bluetooth v4.2 BR/EDR, BLE specification.
- Radio: Class-1, class-2 and class-3 transmitter.

Microprocessor

- Type: dual-core Xtensa® 32-bit LX6 MCU, 40MHz
- ROM: 448 KB of ROM for booting and core functions.
- SRAM: 520 KB of on-chip SRAM for data and instructions
- External flash memory: 8MB

Electric sensors

- Load voltage sensor connected to the relay with 12BIT resolution. (0.00015Volt/BIT).
- Load current sensor connected to the relay with Hall technology.

Environmental sensors

- Full Range Microphone 10Hz-10kHz.
- Temperature sensor accuracy: ± 0.2 ° C.
- Humidity sensor accuracy: $\pm 2\%$ RH.

Reports

- 80mA RGB LED for light signals.
- 85dB buzzer

Command devices

- 490nm IR LED for remote control of infrared remote control equipment.
- 10 Ampere relay.

SmartBug srl

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