HIOTRON Custom IOT Solution Development

[Make your device smart,but not expensive]

CONTENT OVERVIEW

1. Who we are
2. hIOTron Generic IOT Solution Architecture
3. hIOTron Solution/Offerings
4. hIOTron Smart hotel architecture
5. Communication Process Flow
6. Project features
7. Other IOT solutions/Case studies
8. hIOTron Key advantage or why hIOTron
9. How can we start?

About us

hIOTron is the leading custom IOT solution provider in APAC [Asia-Pacific] region which provide ready to market IOT enabled products in shortest period of time with 100% customer satisfaction.

We are IOT experts providing End-To-End IOT solutions that improve processes, differentiate products and services, and create new revenue streams.

Currently, Very Few companies have the in-house skills and tools to build IOT solutions quickly and cost-effectively whereas our in-house development team is very much expertise in all the major vertical of IOT technology such as custom pcb design/hardware development, embedded software development, device-cloud/network integration, communication/web protocols & IT experts, front-end/mobile app or web-App development & big-data analyst.

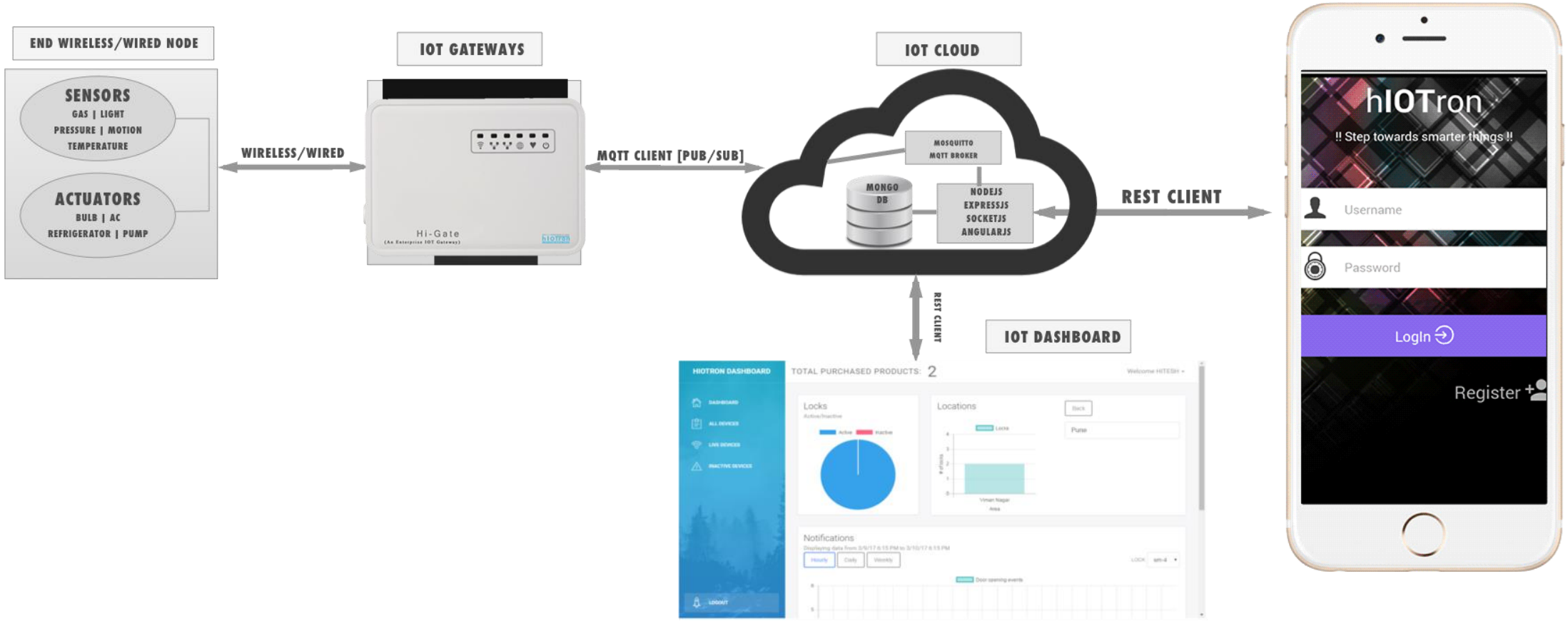
INTERNET OF THINGS
hIOTron
A STEP TOWARD SMARTER THINGS

SMART HOTEL MANAGEMENT SYSTEM

EXPERTIZATION

- ✓ Connectivity: Wi-Fi, ZigBee (Star/Mesh), Z-wave, sub-1, Bluetooth, BLE 4.0, IR, NFC, RFID
- ✓ Semiconductor: Freescale, Marvell, Atmel, TI, Microchip & Many more
- ✓ Communication Channel: Wi-Fi, Ethernet, GSM/GPRS, GNSS, LTE.
- ✓ Cloud Platforms: AWS, IBM Blue-mix Watson, xively, Thing-Worx, hIOTron & Private.
- ✓ Communication & Queuing Protocols: MQTT, REST, Web-sockets, COAP, XMPP, AMQP
- ✓ Databases: Cassandra, MongoDB, Raven DB, MySQL, Oracle, MS-SQL
- ✓ Mobile: Android, iOS, Windows 10
- ✓ Standards: OPENIoT, HomeKit, Thread, Nest, Alljoyn, Brillo & Weave

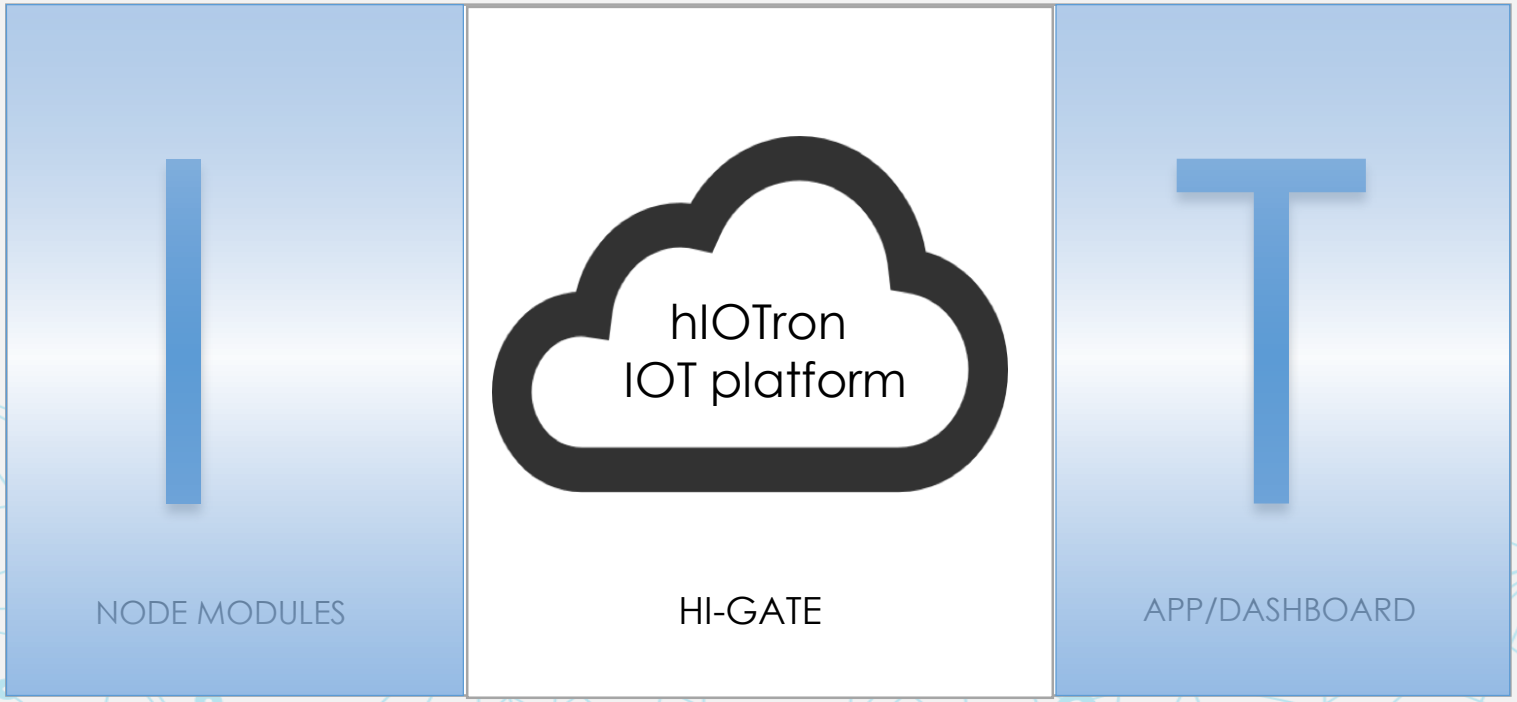
hIOTron Generic IOT Solution Architecture



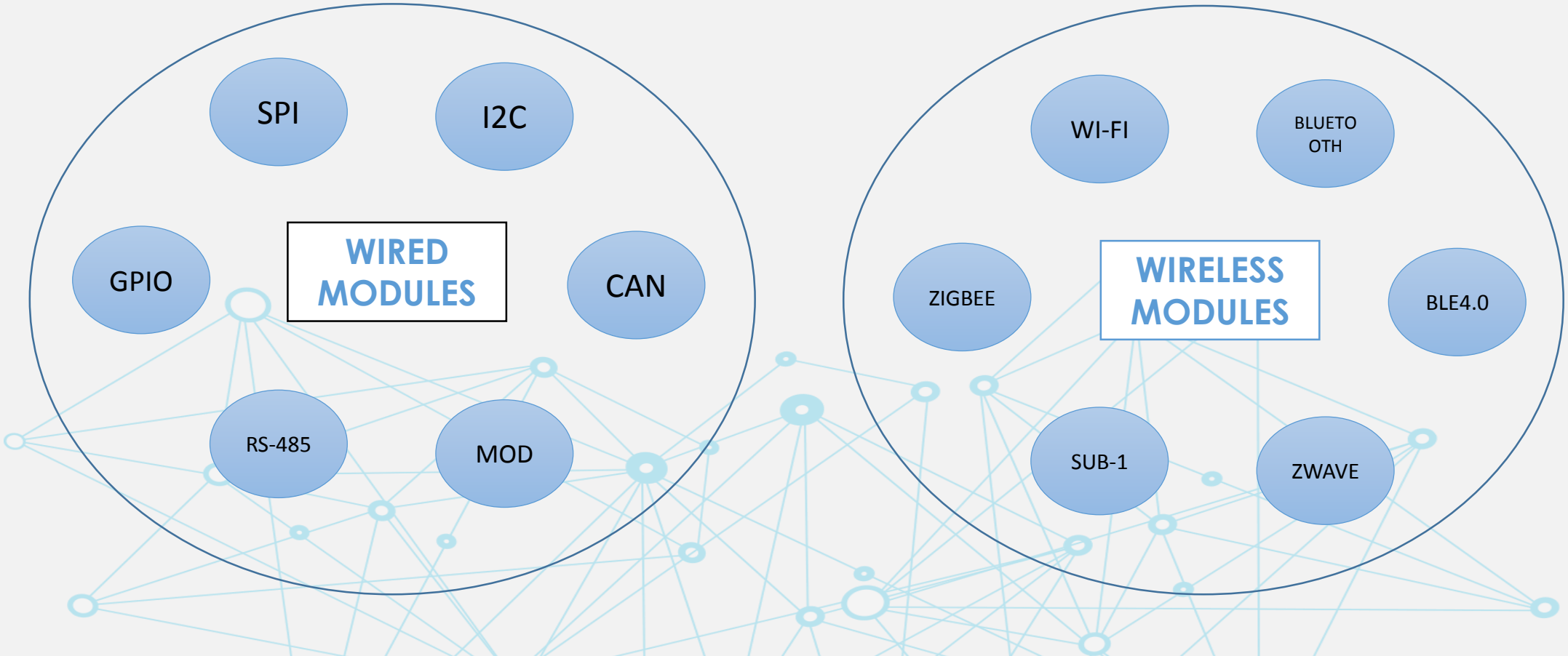
OUR SOLUTION COMPRISED OF

APPLICATION DEPENDENT

GENERIC FOR ALL APPLICATION



1. End Node Modules



2. Hi-Gate [An Enterprise IOT Gateway]

Hi-Gate is simple RF2MQTT Translator.
[It has capability to take data from any RF communication Protocol and forward it to cloud via MQTT protocol.]

2. Hi-Gate [IOT Features]

1. Based on Texas Instruments CC3200 Dual core MCU : An ARM Cortex-M4 core at 80 MHz for application and a dedicated ARM core for Wi-Fi Network Processing.

2. Supports multiple RF connectivity/communication protocols
   Wired - GPIO,I2C,SPI,CAN,MOD Bus,RS-485.
   Wireless – WI-FI,ZIGBEE,BLE4.0,SUB-1,BLUETOOTH.

3. Easily Manageable & Configurable through Local & global hIOTron platform.

4. Any 2 combination of RF connectivity protocols support simultaneously.

5. Powerful Crypto Engine for Fast, Secure Wi-Fi and Internet Connections with 256-Bit AES Encryption for TLS and SSL connections

6. Over The Air (OTA) download application firmware from other Wi-Fi device or Internet.

2. Hi-Gate [Technical Features]

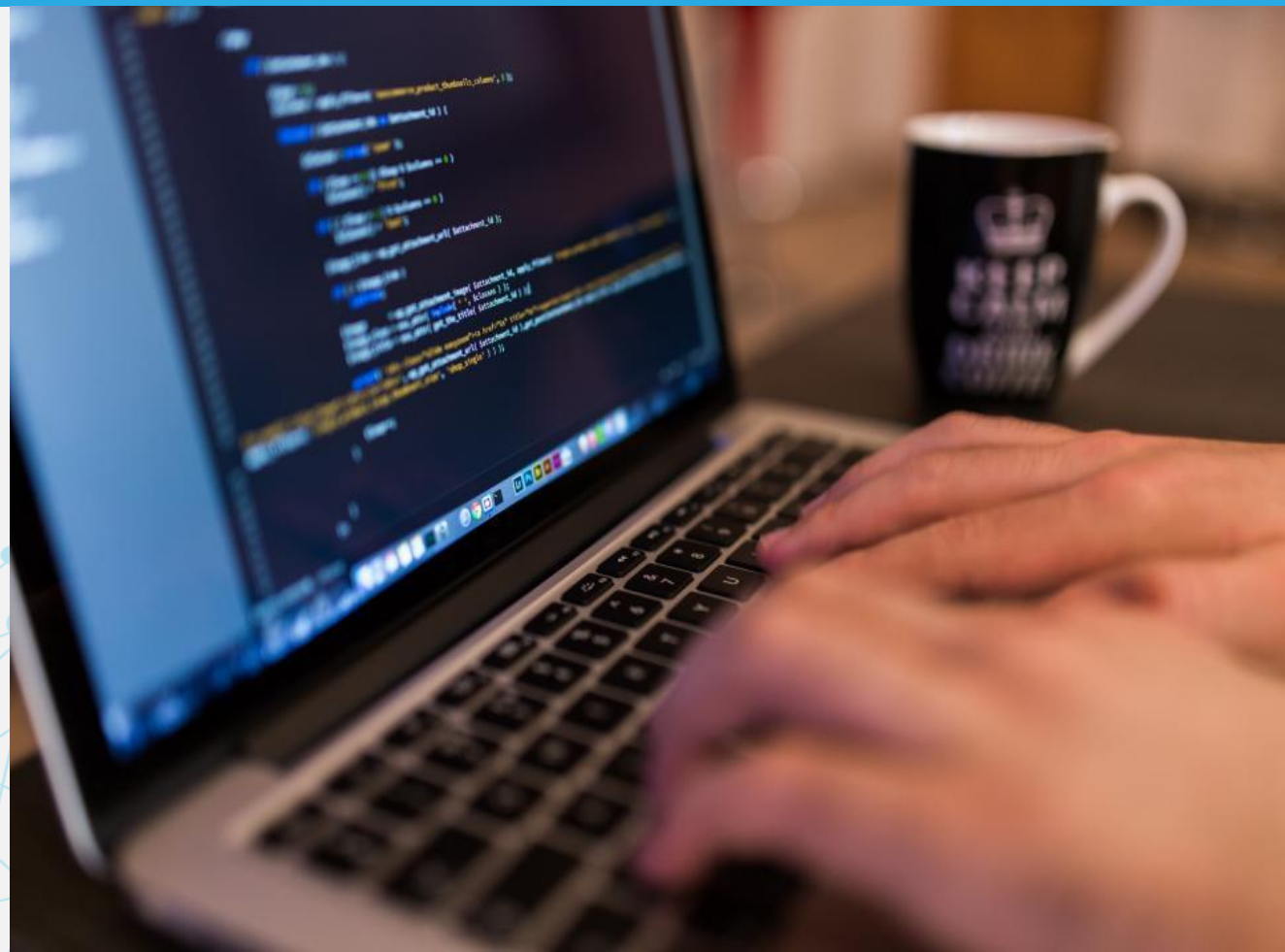
1. Ultra Low Power Consumption: Active mode: min 3.5ma, Deep sleep mode: min25ua, hibernate mode: 4ua.
2. Ambient Temperature Range: - 40°c to 85°c
3. Minimum supply voltage requirement 3.7volt.
4. 1sd/mmc interface | 2 universal asynchronous receivers & transmitters (UARTS).
5. 1 serial Peripheral interface (SPI) & 1 inter-integrated interface (i2c).
6. 4 general-purpose timers with 16-bit pulse-width modulation (PWM) mode.
7. 1 watchdog timer | 4-channel 12-bit analog-to-digital converters (ADCs) | Up-to 27 individually programmable, multiplexed GPIO pins | dedicated external SPI interface for serial flash.

3. Mobile App/Dashboard

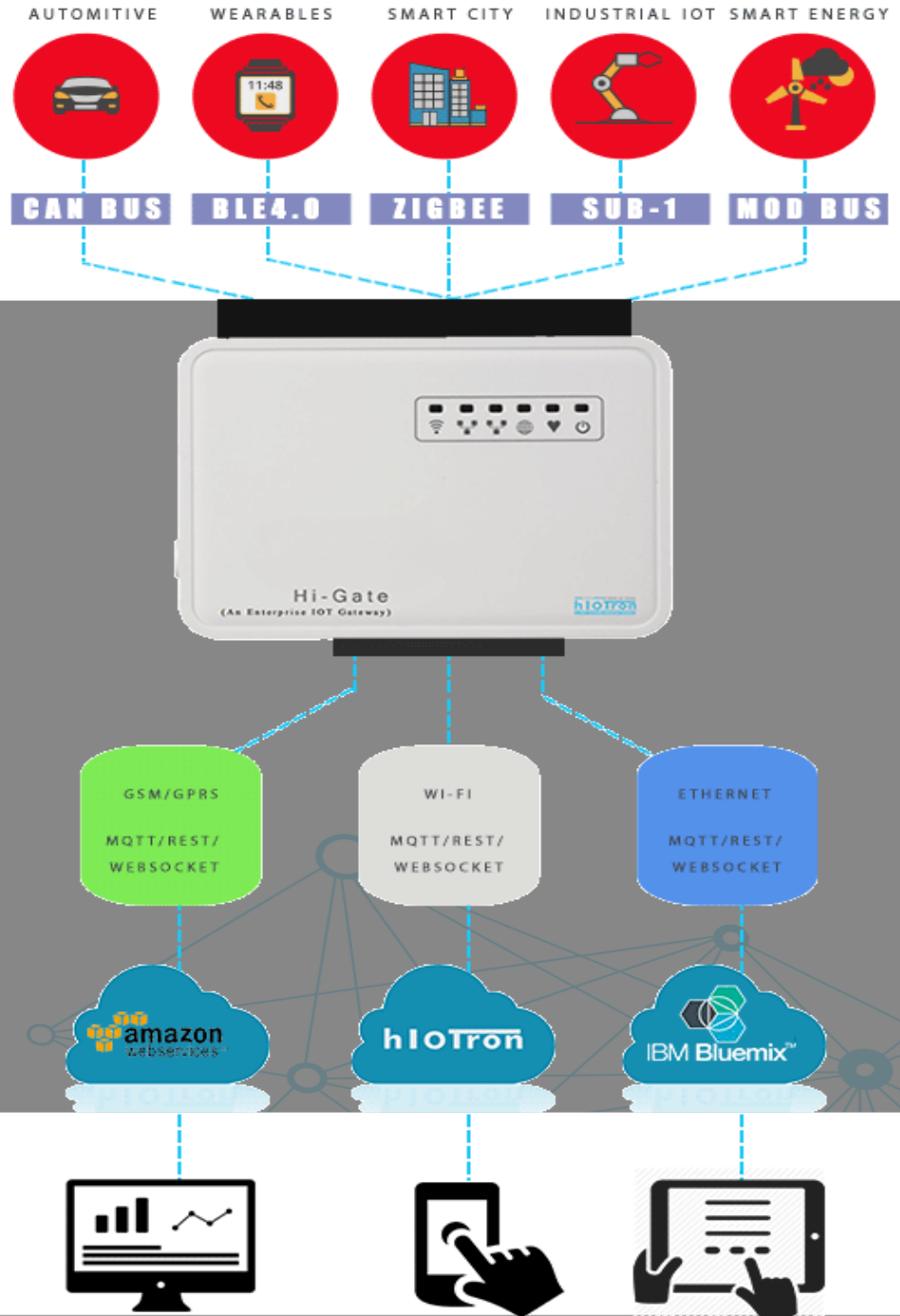
1. Android/iOS/Windows Native & Hybrid App Development

2. BLE/Wi-Fi native plugin development [Mobile-Device Local communication]

3. Angular/Node CMS Web-APP/Dashboard development



HOW TO INTEGRATE ALL THESE TO WORK ?



hIOTron IOT platform provides you an easy way of Integration between Any End node modules & mobile App/Dashboard through Hi-Gate [IOT Gateway]

INTERNET OF THINGS
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A STEP TOWARD SMARTER THINGS

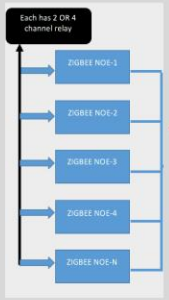
SMART HOTEL MANAGEMENT SYSTEM

SMART INN HOTEL PROJECT FLOW

AC & TV Control

Zig-Bee - Wireless IR Transmitter Convertor

Other Hotel Room Appliances



Wireless End Nodes in Mesh Network

HI-GATE
[An Enterprise IOT Gateway with ZigBee]

hIOTRon Desktop IOT Cloud

BACKEND DEVICE INTEGRATION DASHBOARD

INTEGRATION LAYER

IOT SERVICES

Node API's

Lock API's

Smart Hotel Management Software API's

GUEST MANAGMENT

HOTEL MANAGMENT

USER MOBILE APP

WEB DASHBOARD

INTERNET OF THINGS
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SMART HOTEL MANAGEMENT SYSTEM

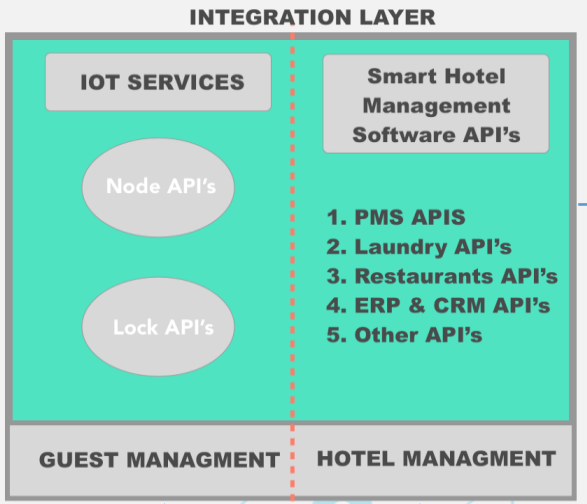
STEP-1

Booking Done

STEP-2

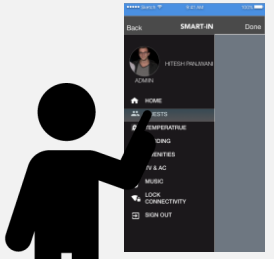
Kiosk Verification

STEP-3



Get PMS Update

STEP-4



Start using

Hotel Management System Description

1. The system shall be an integrated solution that combines access control with guest room management (lighting control, thermo-regulation control, curtain control, and room services) all in one system.

2. The system should make it possible to improve customer service by providing a complete and varied range of functions for monitoring and optimizing services to ensure the highest levels of comfort and safety.(Minimal: MUR, DND, Pick Laundry) with optional additional Services like: (Clean Shoes, Take Back Plates, Re-Fill Mini-Bar, Prepare Bed for sleeping, Maintenance Needed, SOS, Please wait++• At the same time, it should help to save energy and considerably reduce operating costs.

3. **On check-in the Hotel Management system issues the guest virtual id that gives access to the assigned room until the guest checks out again. The Room Management System registers all room access events centrally in the front office system, and can distinguish whether a guest or a member of the service staff or hotel management entered the room.**

4. The Hotel Management System shall provide extensive supervisory functions to increase the security of the guest in the room. Unauthorized door opening, and an emergency assistance alarm in the room can be connected to the Room Management System.

5. The various Hotel Management System functions shall be merged with the hotel room data in the front office software and shall be processed in the background. All functions of the Room Management System shall be operated via the front office system and can be evaluated offline at a later time if required

6. Each component of the system should be based on the concept of distributed intelligence, giving management the possibility of managing the complex problems of a hotel from one central control station.• The system must be easily upgradable to add or modify functionality of hardware without removing nor changing any of the hardware installed

7. The system main server proposed should consist of a server that will be accessed through separate workstations. The server should host the core of the application with the database and communication engine, while the workstations should run as thin-clients.

8. The proposed system should open protocol, and can be seamlessly integrated to the PMS (property management system) preferred by the operator for minimal functions like: (Room & card#, Check in, check Out date time). Such integration must be enabled using either of: RS-232, RS485, TCPIP, ODBC..etc.

Key Features

1. Lock/Unlock Door Remotely & Many more
2. Monitor Real time devices data or Set alarms/Notifications
3. Control Fan/AC, Light or Curtain etc.
4. Advanced energy saving in the guestrooms
5. the advanced control of the HVAC according to room status
6. Open Protocol with integration ability to Property Management System
7. bathroom lighting control based on PIR
8. automation of guestroom lighting
9. centralized room status monitoring and override control
10. report generation on various room status
11. all components of the system shall be online/offline, with central online.
12. Ability to be logged and controlled by a central server and monitored by multiple workstation clients & Many more

hIOTron have covered more than 7 Major IOT Domain such as

1. Energy & Industrial: Zig-Bee Based Smart Energy & Power management system.
2. Automobiles : (Can + Wi-Fi) Based Connected car systems
3. Home & Hotel automation: (Zig-Bee + BLE + SUB1 or Z-Wave) Based Smart Home/Building/Lighting/Hotel automation system
4. Retails & Consumer IOT products (Keypad + BLE+ Wi-Fi) Based Smart Locks
5. Healthcare: Bluetooth Based WSBN (Wireless Sensor Body Network)
6. Environmental application : Weather & Fish Pond monitoring system
7. Security: (RFID + BLE) Based IOT enabled child tracking system

Why hIOTron ?

1. Customized IOT solution Development
2. Handles thousands of devices and scales elastically
3. Straightforward hardware & Software integration procedure
4. Reduces time to market from months to weeks
5. 100% support from solution conceptualization to final product launch
6. Minimizes the cost and risk of Application
7. Dedicated Team of Core Hardware, Network and Software developers
8. Both community and commercial support
9. Easily tailored for any business applications

How to Start ?

Are you looking for this solution or have any IOT project/Idea or want us to lay out your existing IOT project into 3 simple steps solution ?

Click here to talk our IOT expert to learn how we can help to accelerate your IOT journey