# EOS

# Powered by the INTEREL OS and connected with WiFi, 2xBLE, and Zigbee*

reddot winner 2021

EOS is the most integrated IoT thermostat for smart buildings.

## Fusion sensor

Combining data from 6 sensors for presence and activity sensing

## INTEREL OS

Track record of improving hardware OTA software updates over the course of a decade

## Global fit

Built to fit the diverse requirements of global HVAC applications and MEP standards

## Built for scale

Using technology to reduce total cost of ownership and achieve scale in the select service tier

*for all standard and non-standard protocols.

Partners in success

HYATT    ROSEWOOD    Marriott    Palazzo Versace    IHG    Kempinski    Hilton    ACCOR HOTELS

## Sensors

**Pressure**    **Motion**    **Luminosity**

**Acoustic**    **Humidity**    **Temperature**

## Actuators

**Valves**    **Lights**    **Relays**

## Radios

**Bluetooth**

**ZigBee**

**WiFi**

OFF

AUTO

23°
C

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# A thermostat, but also an environmental fusion sensor and IoT hub
for endless app opportunities delivering future growth.

# Target markets in hospitality

## Ratios

| 100 | : | 1 |
|---|---|---|
| 3+4 ★ | | 5 ★ |

| 10 | : | 1 |
|---|---|---|
| Retrofit | | New build |

**Retrofit pyramid:**
- 5 ★
- 4 ★
- 3 ★

**New build pyramid:**
- 5 ★
- 4 ★
- 3 ★

2054

## GRMS

Guest Room Management System for Luxury hospitality

- Highly customizable
- Full featured room controls
- Advanced lighting controls

## EOS

Enterprise-grade WiFi thermostat, IoT hub and environmental fusion sensor

- Single component solution
- Integrated sensors and I/O reduce total hardware and project costs
- Cloud connected & OTA updates
- Mobile app enabled deployment
- Virtualized hardware
- INTEREL app store for IaaS and SaaS applications
- Built-in multi-radio/standard IoT infrastructure
- Fusion sensing for presence and activity sensing

# Built-in IoT infrastructure

connect smart ©

**INTEREL**
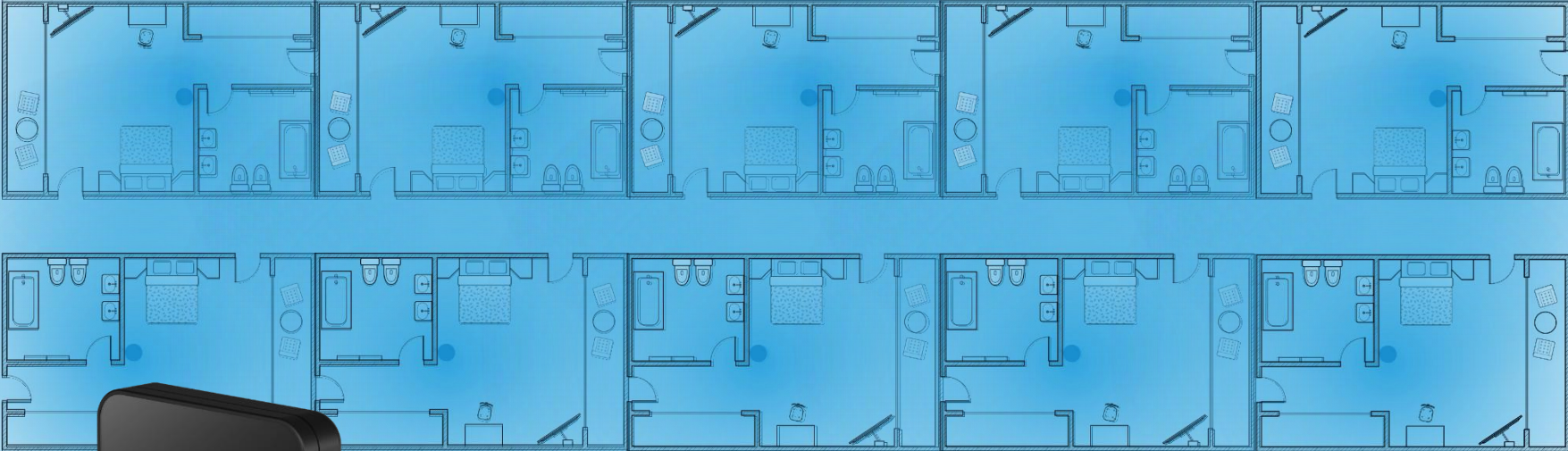


**Built-in by default**

ZigBee

connect **B** smart ™

## Infrastructure as a Service (IaaS)

Making an entire building IoT-ready requires a digital infrastructure that allows smart devices to communicate wirelessly with each other.

With connectBsmart, hotels do not need to install a dedicated BLE infrastructure. INTEREL devices with connectBsmart technology can not only communicate with, but also bring online, other devices over Bluetooth and ZigBee.

Since connectBsmart is a technology that is built into powered, online devices, it overcomes all traditional limitations of BLE beacons.

# Proven use case:
# Networking of guest room door locks

## Delivered in thousands of rooms with the leading door lock vendors

### Traditional door lock network
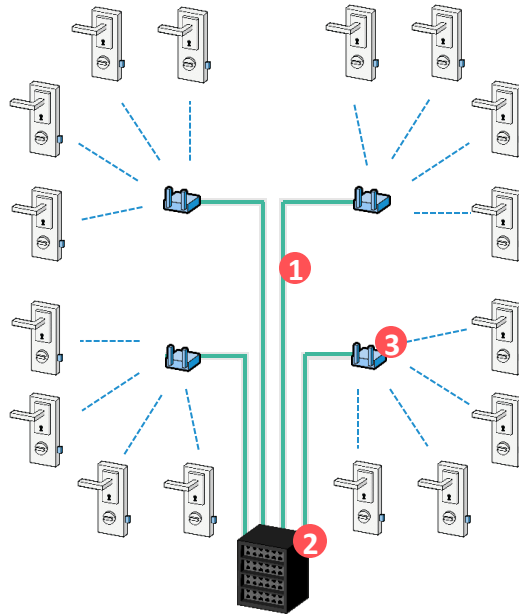
**Cost for Passive items**
**1** Cable & conduit

**Cost for Active items**
**2** Switches
**3** Routers *(maximum 4 locks per access point)*

**Cost of Installation & ongoing maintenance**

### Built in IoT infrastructure for IaaS and SaaS applications

ZigBee

connect smart®

- No single point of failure
- Advanced real time event exchange
- No additional wiring for door lock system
- Eliminate ZigBee mesh networks
- Most cost effective way to network door locks

HÄFELE    Onity    KABA®    VingCard    SALTO

# Apps for service delivery optimization

**Extending guest convenience and staff workflow efficiency to select service properties.**
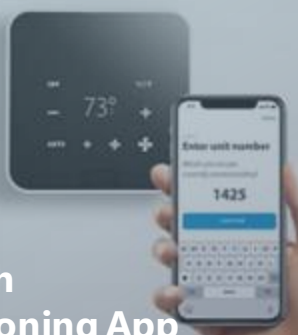
## Room Services & Express checkout

- Hardware features built in, but dormant at launch
- Activated by OTA update
- Leveraging existing partnerships and proven integrations to market leading service optimization solutions
- EOS extends UI to become the guest service panel
- Guestroom status is communicated to all hotel systems, along with guest presence in room

Utilities are 2nd highest cost in hotel, Staff are the **highest** cost

## One Touch Commissioning App

## EOS

INTEREL

## Energy Management

Bathroom Motion Sensor

Window Contact

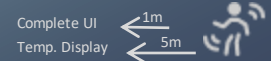Room Loads Contactor

Door Contact

Built-in Motion Sensor

## HVAC Multitalent

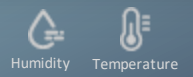**Compatible with most HVAC Types**

**HVAC Integrations**

BMS

Johnson Controls · TRANE · SIEMENS · Schneider · Honeywell

VRV / VRF

Carrier · DB · DAIKIN · TRANE · FUJITSU · LG · TOSHIBA · SAMSUNG · MITSUBISHI ELECTRIC

## Global Player

**Electrical standards**

High and Low Voltage

**Back box standards**

USA

Southern Europe

UK, APAC, Middle East

West & Central Europe

## Adaptive UI

Number of Fan speeds — 0-3

Service Functions — Privacy · Service · Check out

Progressive Disclosure — Complete UI Temp. Display — 1m — 5m

## IoT Hub / IaaS

Asset Tracking

Employee Safety Devices

Door Lock Integration

Door Contact

Motion Sensor

Staff Tracking

Indoor Beaconing

SALTO · HÄFELE · dormakaba · ASSA ABLOY · Onity

Light Switches

Curtain Control

## Fusion Sensor

Safety & Security — Humidity · Temperature

Activity Sensing — Pressure · Motion · Luminosity

Presence Sensing — Proximity · Acoustic

## Building Management Systems

Leverage our real-time data to manage your central equipment and plant more efficiently. Centralize alarms and gain deeper insights on how your building operates.

Johnson Controls · Honeywell · SIEMENS

## Property Management Systems

Sold out or not so busy? Make your rooms aware of occupancy status and drop your energy consumption without lifting a finger.

ORACLE · protel · par · SIHOT · AMADEUS

## Workflow Management Systems

Increase your team's efficiency and automate common workflows across systems - from cleaning requests to do not disturb and less traditional chores.

FCS · KNOWCROSS · AMADEUS

## Voice Assistants

Supercharge your voice assistant and enable temperature, lighting control and more. Just say the word.

Angie · smartbeings

## WORKS WITH INTEREL

Enabling the INTEREL App Store

## Lighting and power

Retrofit? Wireless light switches and outlets can be controlled by our thermostats. New build? We have all the options for your lighting design, from dimming to DALI and DMX.

legrand · GIRA · VIMAR · JASCO

## Door Locks

Intelligent online access control, and advanced energy management - without additional infrastructure.

SALTO · dorma kaba · Onity · HÄFELE · ASSA ABLOY

## Mobile apps

Drive usage of your smartphone and tablet solutions. Advanced room control at the tap of a finger.

crave · m·com · Sprngpod · SuitePad · digivalet · iRiS · INTELITY
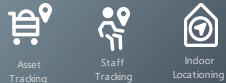
## IPTV

Cinema atmosphere for your guests without touching a light switch - set the mood from the TV.

InnSpire · digivalet · exterity

# INTEREL App Store

| Location aware building | Building Systems | Management Systems and Platforms | Smart technology | IoT Hub | WiFi Quality |
|---|---|---|---|---|---|
| Asset Tracking, Staff Tracking, Indoor Locationing | BMS, FLS | PMS | IP TV, Voice, Mobile | Employee Safety Devices, Door Lock Integration, Light Switches, Door Contact, Motion Sensor, Curtain Control | Wi Fi |

## SaaS

## IaaS

Common Software platform with open APIs

# INTEREL<sup>OS</sup>

based on Free RTOS™

free RTOS

**EOS**      **EMS**      **GRMS**

Hardware platforms

## Energy Management

We built a very powerful state machine into INTEREL OS. This state machine allows our energy management to be adjusted to the specific requirements of your property, while still benefiting from our vast experience in energy management.

## Lighting Control

Whether your property has simple on-off lighting or the most complex lighting scenes designed by a lighting consultant, INTEREL OS can control it. Plenty of options for dimming including technologies like DALI and DMX satisfy even the most challenging requirements.

## Cloud updates

In our latest release we have now included over-the-air update functionality in INTEREL OS. This opens up a world of feature growth not only to INTEREL OS but to all our submodules and radios. A monumental step for INTEREL OS and the future capabilities of our hardware.

# INTEREL<sup>OS</sup>

Common software platform

based on Free RTOS™
with open APIs

**free RTOS**

## Process automation

Automation is our proprietary automation tools and paired with INTEREL OS it became a very fast and powerful tool for our logic programmers to meet our customer's requirements without having to go back to R&D for firmware development.

## Smart Building Infrastructure

What you see are sleek, minimalistic switches and thermostats. But it's what's hidden inside that's even more beautiful: INTEREL's award-winning connectBsmart IoT infrastructure can connect the countless devices your property has today, and more importantly, the ones of tomorrow.

## Smart Lock Interfaces

While they all open doors, every smart lock supports a distinct set of features that makes them different to their competitors. We support the varying and nuanced requirements of each brand resulting in powerful integrations.

## Hardware, Software, Services

We engineer our hardware and software to work together seamlessly. This allows INTEREL OS to utilize the physical resources of our products to the fullest extent and it allows us to constantly deliver more value to our customers on the same hardware.

## HVAC Expertise

HVAC is at the core of what we do. This is why we built a very powerful HVAC engine into INTEREL OS, that can deal with the many HVAC environments we find across the world.

| Guest Tracking | Staff Tracking | Asset Tracking | Door locks | Sensors | Room Automation | Virtual WiFi probe | Mobile app, Voice Control, IPTV | Workflow Management Systems | Property Management Systems | Community Management Systems | Facility Management Platforms | Building Management Systems | HVAC Systems |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location aware building | | | | IoT Hub | | WiFi Quality | Guest room technology | Management Systems and Platforms | | | | Building Systems | |

**Infrastructure as a Service** connectBsmart - wireless framework

**Software as a Service** Hotel of Things API with on premise and cloud server application

### All Hardware powered by INTEREL OS as common platform

| GRMS | EOS | EMS |
|---|---|---|

### INTEREL App Store

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**Cloud**

**INTEREL API**

**One Touch Commissioning App**

**Core Integrations**
ORACLE, Opera, FIDELIO, AMADEUS, par Springer-Miller, protel, IRECKONU, HotSOS, FCS, infraCROSS

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### HVAC Types

| HVAC Types | C = Cooling, H = Heating<br>1 = single stage,<br>2 = 2 stage, V = variable,<br>O = On/Off | Fan Speeds<br>V = Variable |
|---|---|---|
| 4 pipe FCU | C1 - O/V & H1 -O/V | 3 |
| 2 Pipe FCU | C1 - O/V | 3 / V |
| Heat Pump | C1- O & H2 -O | 2 |
| Heat Pump | C1- O & H1 -O | 3 |
| PTAC, with Heat Strip | C1- O & H1 -O | 2 |
| 2 stage heat-2 stage cool | C2 - O/V & H2-O | 1 |
| 2 stage heat pump (B/O, Y1, Y2) | C1- O & H2 -O | 2 |
| Digital heat, modulating cool (0-10VDC) | C1- V & H2 -O | 3 |
| Heat, cool, VFD (variable fan drive) 0-10VDC | C1 - O & H1 -O | 3 / V |

**HVAC Options**

**HVAC Integrations**

Johnson Controls, TRANE, SIEMENS, Schneider Electric, Honeywell — BMS

Carrier, DB, DAIKIN, TRANE, fujitsu, LG, TOSHIBA, samsung, MITSUBISHI ELECTRIC — VRV / VRF

**HVAC Multitalent**

**Global Player**

| US S | BS | AUS |
|---|---|---|
| US D | GER | ITA |
| 24V | 220V | |
| 110V | 277V | |

**Back box standards**

**Electrical standards**

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**EOS**

interel.com  |  info@interel.com

PRIVACY  GOODNIGHT  SERVICE  OFF  AUTO  23°C  °C|°F

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### IoT Hub / IaaS

- Asset Tracking
- Employee Safety Devices
- Door Lock Integration
- Door Contact
- Motion Sensor
- Staff Tracking
- Indoor Locationing
- Light Switches
- Curtain Control

ASSA ABLOY, dormakaba, HÄFELE, Onity, SALTO

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### Energy Management

- Built-in Motion Sensor
- Room loads contactor
- Door Contact
- Window Contact
- Bathroom Motion Sensor

### Adaptive UI

- Number of Fan speeds: 0-3
- Service Functions: Privacy, Service, Check out
- Progressive Disclosure: Complete UI 1m, Temperature Display 5m

### Fusion Sensor

- Presence Sensing
- Activity Sensing
- Safety & Security

Humidity, Temperature, Pressure, Motion, Luminosity, Proximity, Acoustic

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**Stakeholder Color Key**  | MEP Engineering | IT

© INTEREL
Rev1 –20/07

# Powerful API

**INTEREL**

Allow our Hotel partners to monitor and control the thermostat and individual equipment readings or features through their own:

Workflow Staff Optimization Systems

Property Management Systems

IPTV Systems and Guest Mobile Apps

API supports remote control of all common and more advanced functions through tenant app and platform:

Read temperature
Set temperature

Set fan mode (auto/off)
Set fan speed (1-2-3)

# Shipping now



Housing Color
**White**

Voltage
**24 V**

- 2 pipe, 3 fan, heat/cool FCU
- 4 pipe, 3 fan, heat/cool FCU
- Heat pump, 3 fan, cool only
- Heat pump, 2 fan, reverse valve heat
- PTAC, 2 fan, heat strip

Energy Saving Features

- Built-in motion sensor
- Interfaced to 3rd party wired devices
- Preset welcome temperature
- Preset room empty temperature
- Dead band management of HVAC
- PMS integrations

# Door Lock integrations
## Coming soon

Smart thermostat and smart lock – integrated on the same infrastructure

Some of our current smart lock partners

dorma kaba

HÄFELE

ASSA ABLOY

Onity

Powered by

connect smart®

Monitor battery life in locks and replace proactively

No additional wiring or infrastructure for smart lock

Delete lost master keys from all locks in seconds

Occupancy based energy management using egress events

No application specific siloed infrastructures

Most cost-effective way to network door locks

No single point of failure

Advanced real time event exchange

One-way and two-way interfaces

Enabling remote move-in/out

Advanced lock management functions without depending on mobile phone/app being present

# IoT hub
## Coming soon

**Software as a Service**

**Infrastructure as a Service**

Light switches

Panic buttons

External Motion Sensors

Door Contact

ΞOS

Thermostat, IoT Hub, Fusion sensor

Bring online other devices and enable fusion sensor

OFF          °C|°F

— 23℃ +

AUTO

end2end
process
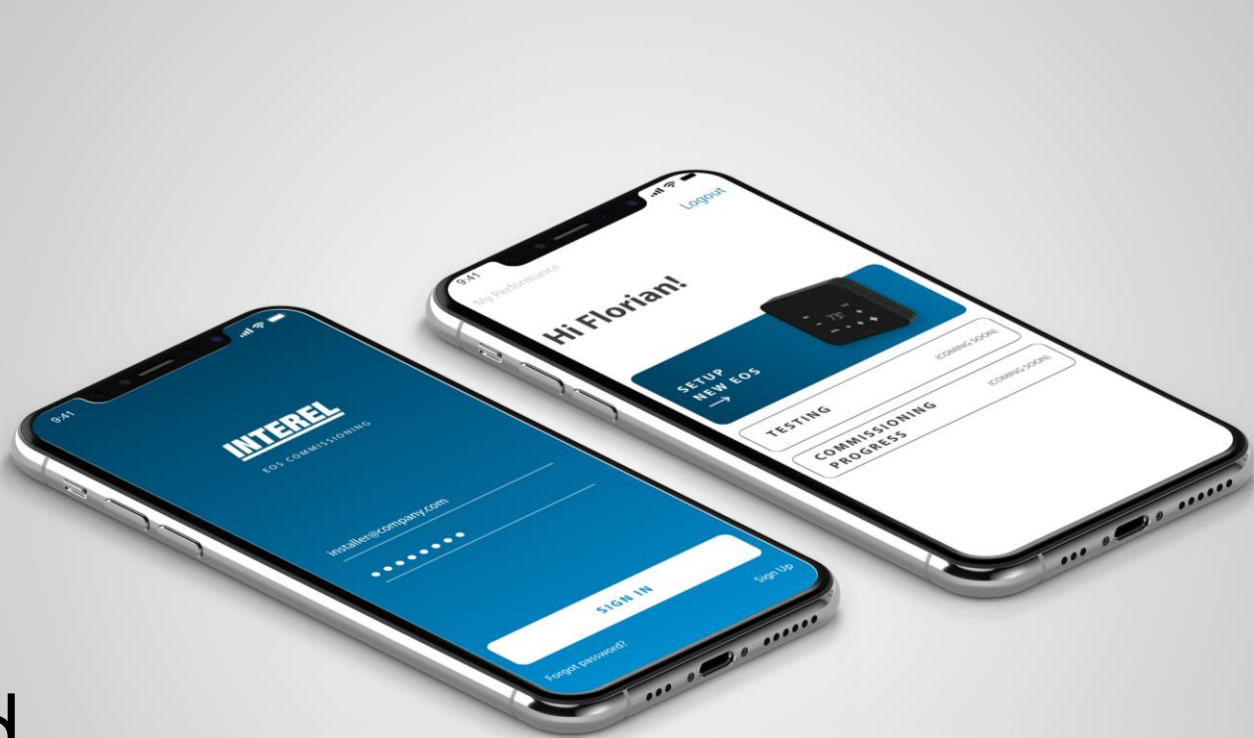
# A data collection process that results in less complexity for the field technician

Collect data about the HVAC system in the online quotation (1) and post purchase (2) forms.

Upload correct firmware and configuration settings for EOS to online file repository.

Field technician can commission EOS by simply entering the unit number, "one touch".

# The commissioning process packaged into a simple app

INTEREL cloud

The **unit number** acts as the only identifier in the INTEREL cloud to access and upload the correct files and settings to EOS.

**All the field technician needs to know is the unit number for successful commissioning.**

Drastically reduce commissioning errors on site.

Doesn't depend on skill level of field technicians.

# An app as the commissioning tool

The field technician connects to EOS through his/her phone.

EOS goes online through the phone.

No extra hardware required

No separate infrastructure required

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73°F

AUTO

New EOS discovery successful. Please proceed to commissioning.

CONTINUE