

## HVAC CHALLENGES IN HOTEL BUILDINGS



### Mixed HVAC Brands & Types

Hotels often host a variety of HVAC systems: split ACs, VRFs, heat-pumps, IR-based units, from different brands. This fragmentation makes unified control and BMS integration complex and inconsistent.



### Room-by-Room Comfort Control

Guests expect individualized comfort (temperature, fan speed, mode) per room or suite. Without proper integration, reliable central control is not possible, resulting in HVAC energy use in unoccupied spaces and the need to optimize costs without compromising guest comfort.



### Legacy or Back of House AC Units' Integration

Many older or budget units rely on infrared (IR) controls. Its integration into the BMS or hotel control systems, especially in a secure and bidirectional manner, is often a task that facility managers cannot achieve.



### Energy & Efficiency Management

Several hotel-energy studies show HVAC consumes between 40 % and 60 % of a hotel's total energy use. Without full visibility and control over all units, optimizing energy use and reducing operational costs is challenging.



Explore all  
Hotel solutions

# 2 Million AC units connected AROUND THE WORLD

## +340m CO2 TONS SAVED

## +1.153GWh ENERGY SAVED

WHICH IS EQUIVALENT TO



CO2 SAVED BY  
13.608.146  
TREES IN 1 YEAR



CO2 GENERATED BY  
50.777 EU PEOPLE  
IN A YEAR



CO2 GENERATED BY  
1.064.809.275  
PC WORKING 1H



CO2 GENERATED BY  
520.986 FLIGHTS  
LONDON - NEW YORK



## HOTEL

*Optimize energy and comfort*  
Integrate HVAC variables into the BMS

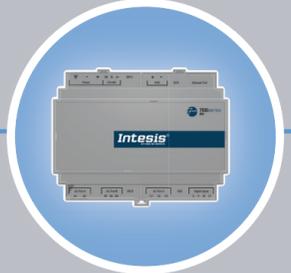
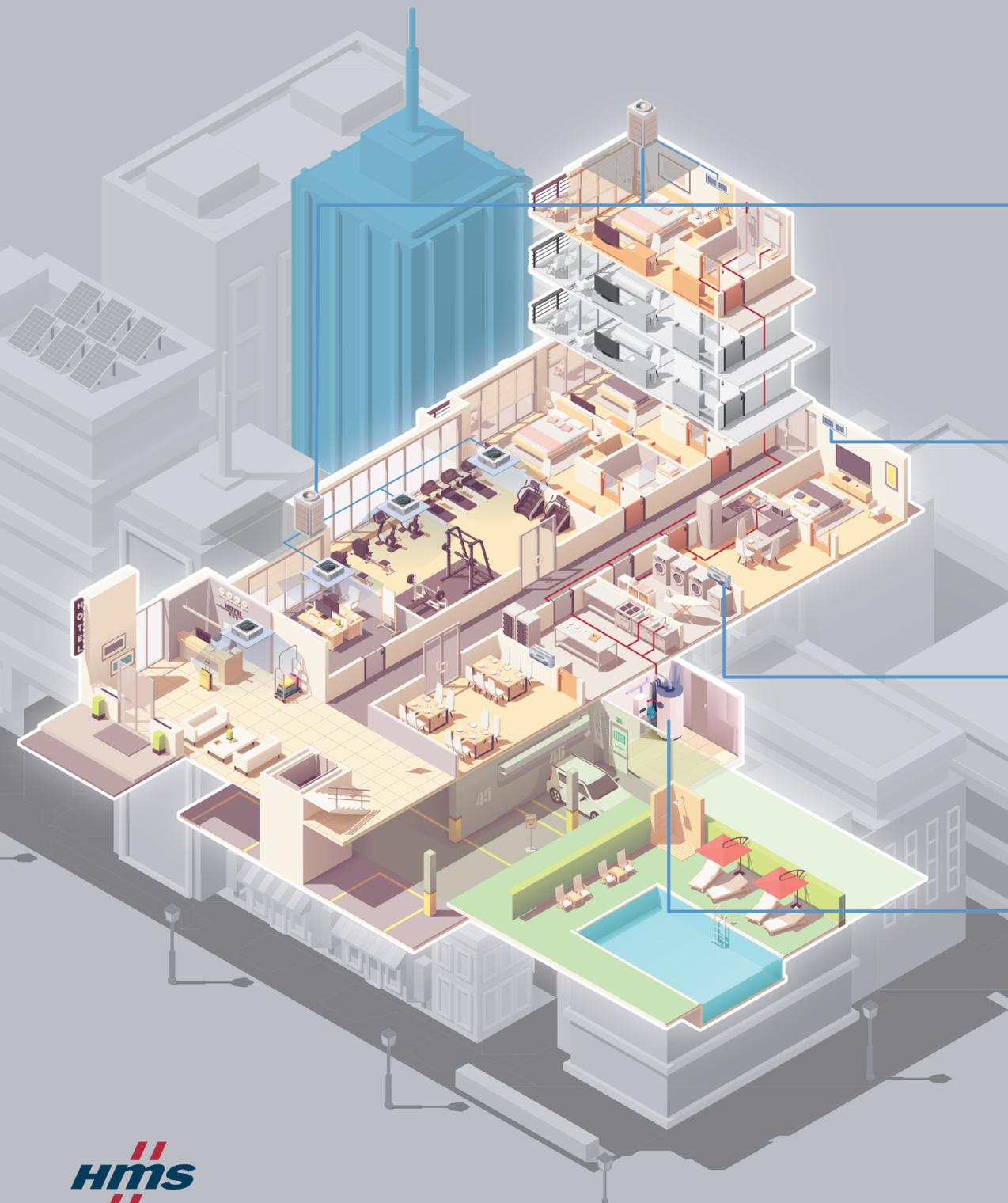
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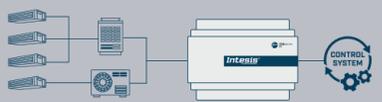
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### 700 Series Air Multi-Indoor Unit Gateways



### Intesis Gateways for HVAC control

The Intesis 700 Series Air gateways provide centralized bidirectional integration of multi-indoor HVAC systems. Supports up to 64 indoor units and connects them to standard BMS protocols such as BACnet, KNX, Modbus, or Home Automation ecosystems

### Key Features

- Supports VRF/VRV, multi-split, commercial, and air-to-water systems
- Multi-indoor, multi-brand, and multi-protocol compatibility
- Automatic indoor unit discovery and mapping for a faster commissioning
- Native communication with proprietary HVAC communication protocols
- Direct interface to the outdoor unit's communication bus

### Benefits for Hotel Buildings

- Consolidated control of multiple rooms from a single gateway
- Reduced installation & wiring effort in large buildings
- Enables energy usage estimation and monitoring per room/unit
- Licenses available from 4 up to 128 indoor units
- Facilitates centralized HVAC scheduling, mode control, and maintenance



### 1x1 Brand-Specific Gateways



Brand-specific Intesis gateways connect hotels' indoor units (from a given manufacturer) directly to the BMS, allowing full monitoring and control of each unit via standard protocols such as BACnet, KNX, Modbus, or Home Automation ecosystems.

- Supports VRF/VRV, single or multi-split, commercial, or wall-mounted indoor units.
- Common data model across brands, for brand-agnostic integration on the BMS side.
- Energy savings through the window contact or room occupancy functions.
- Direct access to the remote controller bus or the logic control card of the indoor unit.
- Powered directly from the AC unit, no external power supply is required.

- Error codes with descriptions will reduce maintenance costs
- Enables per-room monitoring (status, faults, runtime)
- Supports BMS-based HVAC scheduling (e.g., check-in / check-out)
- Simplifies maintenance and guest comfort management
- Full integration with any room controller



### 1x1 Universal IR Gateways



Intesis Universal IR gateways allow IR-controlled AC units to join a BMS. Using an IR receiver and auto-learn database, they offer bidirectional control and feedback even on legacy or IR-only systems.

- Built-in room temperature and humidity sensors
- AC unit control by both the IR remote and the BMS
- Automatic IR remote configuration via auto-learn
- Remote and setpoint restriction to ensure the AC behavior follows hotel policies and energy rules.
- Binary inputs for occupancy sensors, window contacts, or any digital input to reduce energy waste.

- Integrate legacy AC units into any BMS
- Avoid full replacement of IR-based units
- Gain remote control and status feedback, not only manual remote control
- Enable uniform HVAC control even in older rooms
- Secure, encrypted communication and compliance with cybersecurity standards.



### Air-to-Water Heat Pump Gateways



Intesis Air-to-Water heat pump gateways provide bidirectional integration of heat pump systems with building automation networks. Enable detailed control and monitoring of hot water production, energy use, and system status for efficient hotel HVAC management.

- Full BMS integration for read/write control of heat pump operation and hot-water production.
- Access to detailed telemetry, including temperatures, modes, errors, and energy-related variables.
- Support for optimized heating curves and DHW control.
- Built-in diagnostics and alarms, enabling predictive maintenance through the BMS.
- Simple installation and configuration

- Unified BMS control of heating and hot-water systems across all hotel zones.
- Lower energy consumption thanks to precise monitoring and optimization of heat-pump performance.
- Reduced downtime through early error detection and proactive maintenance.
- Consistent guest comfort with stable hot-water supply and optimized heating control.
- Lower integration and commissioning costs due to easy setup and standardized data access.

Certified gateways for all major BAS protocols



Developed in collaboration with all major HVAC brands

