

Koolmesh BMS

Stop heating and cooling empty rooms.

BMS

For Facility Managers and Building Owners

A practical route to smarter HVAC control, better comfort, lower energy waste and clearer building visibility — without starting from a full BMS replacement project.





Koolmesh BMS

Smart Building Intelligence for Every Building
From a single room to a full estate

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The Problem:

1

Empty Rooms Still Consume Energy

Meeting rooms, classrooms, offices, shared areas and even whole floors can still be heated or cooled simply because the system follows a timetable.

Fixed Schedules



Unnecessary Heating & Cooling



Energy with No Value



That means you may be paying for energy that delivers no comfort, no productivity and no value.

Why This Matters Now

2

Three questions about your building:

Q1

Do you know which rooms are actually occupied?

If not, HVAC cannot make good decisions. It follows schedules instead of real building usage.

A1

Q2

Where is HVAC energy being wasted?

Empty meeting rooms, low-use floors, weekend zones and after-hours spaces without room-level intelligence.

A2

Q3

What would a 15-25% reduction in your HVAC energy bill mean to your annual budget?

For a 2,000 m² office, a 15–25% HVAC energy reduction can yield significant savings, typically paying for a Koolmesh BMS in 18–30 months.

A3

subject to building-specific validation and reference-site confirmation

Why now?



Changing Occupancy

Hybrid working challenges fixed schedules.



Rising Costs

Energy waste becomes more expensive.



Legacy Systems

BMS upgrades can be costly and disruptive.



Data Gaps

Limited visibility into energy and comfort.



Smarter Starting Point

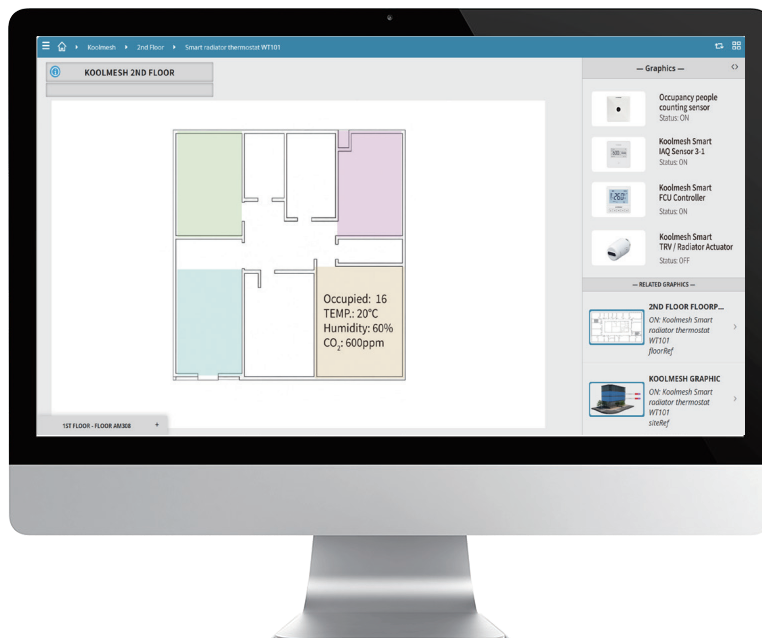
Begin with room-level intelligence.

What Building Owners Can Gain

3

Real-time Building Visibility

See every zone on a simple dashboard — occupied, empty, temperature, CO₂, air quality



HVAC Energy Saving

15~25%

Reduce unnecessary heating and cooling costs by running HVAC only when people are present.



Low-risk Retrofit Faster Deployment

Start with room-level improvements instead of a full BMS replacement, with minimal disruption to building operations.

18~30

Months

Clear ROI

Typical payback for a mid-sized office, subject to building-specific validation and reference-site confirmation.

How Koolmesh BMS Helps

Turning Room-Level Intelligence into Practical BMS Action

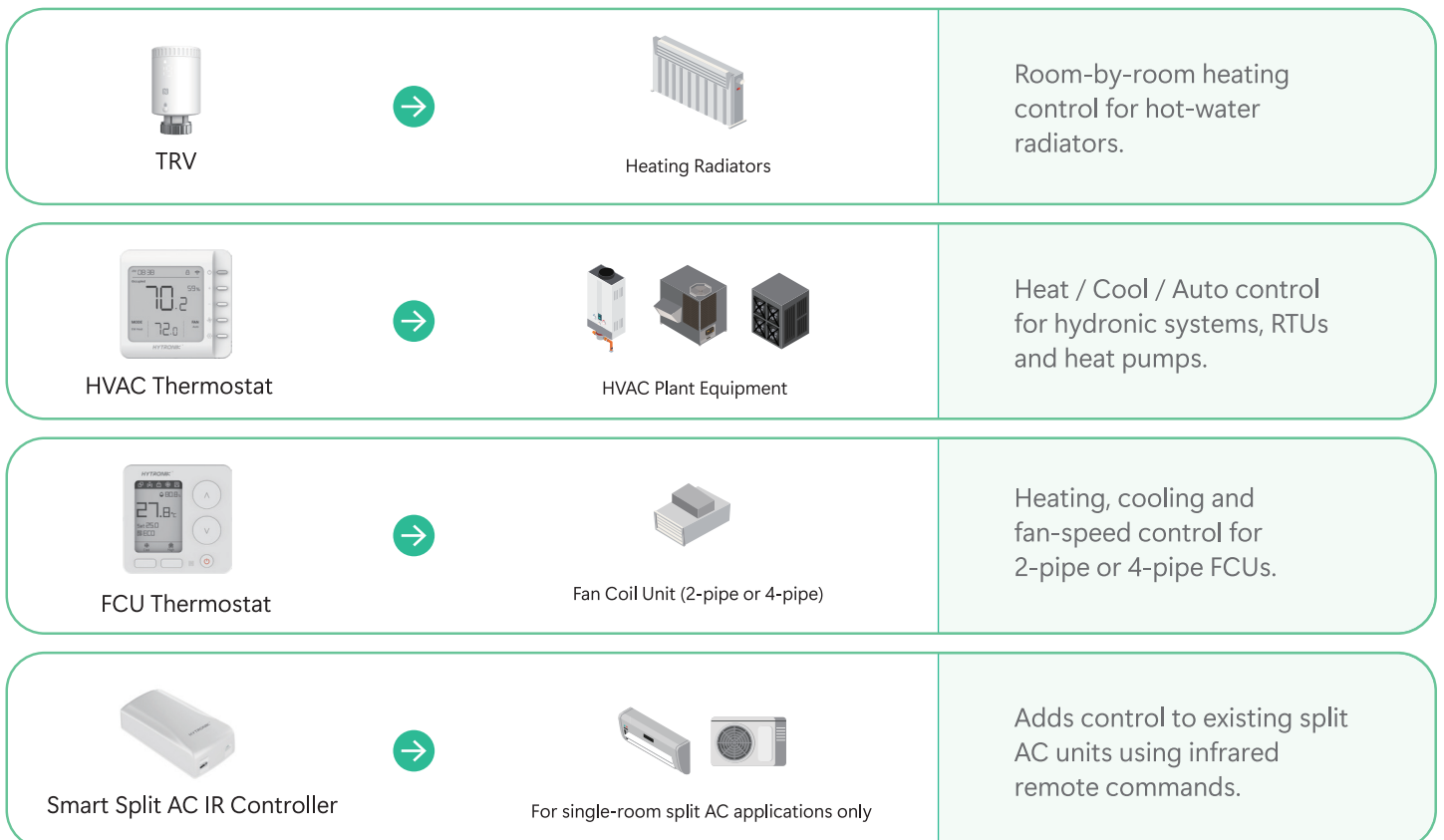
Example HVAC operating modes

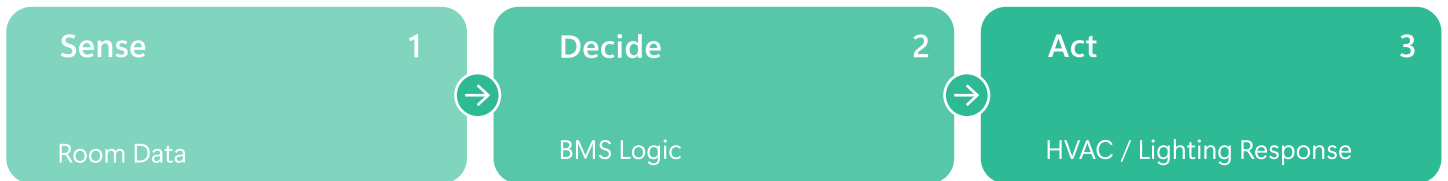
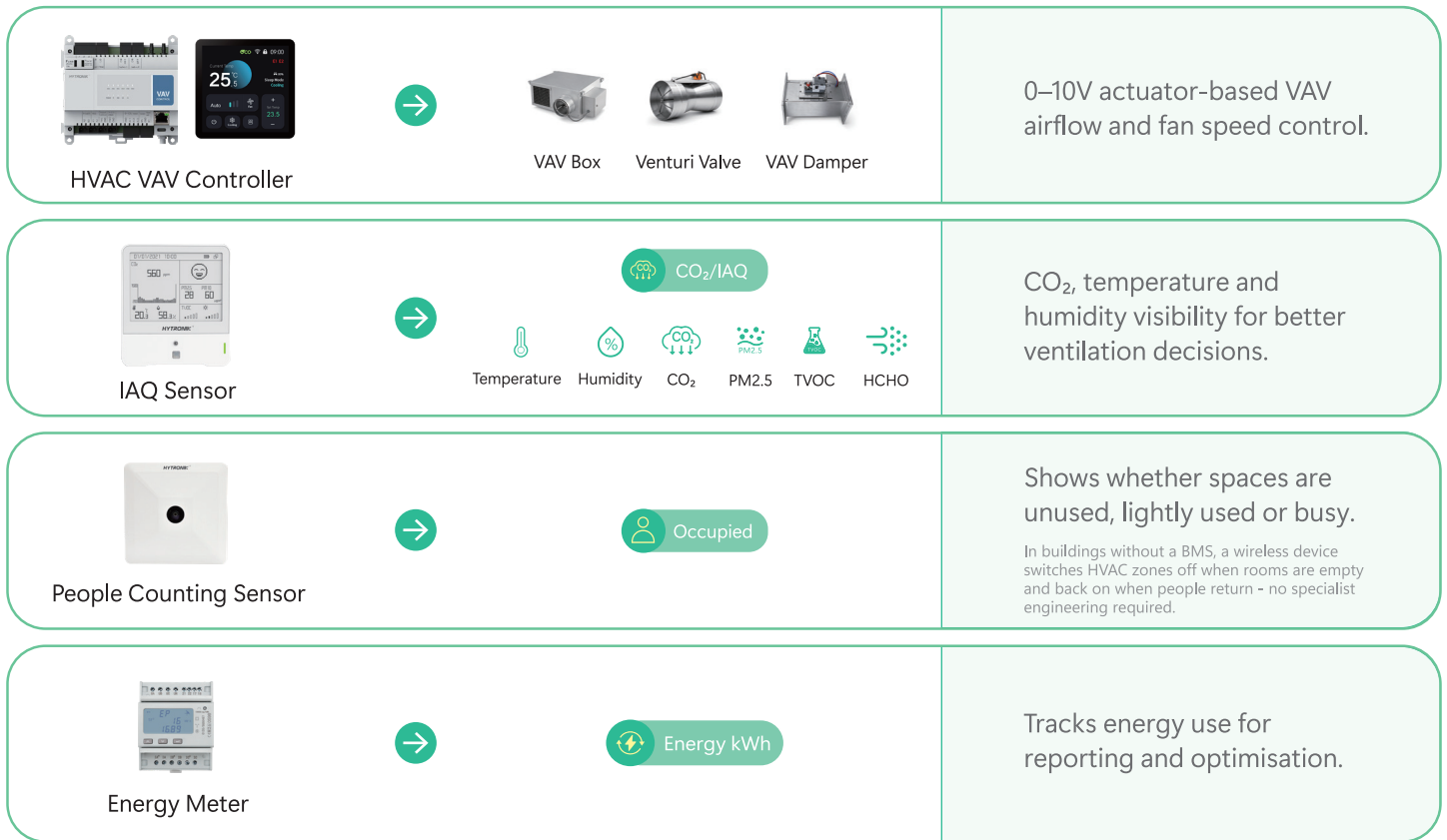


*Example control modes. Actual configuration depends on project requirements.

What can Koolmesh BMS connect to?

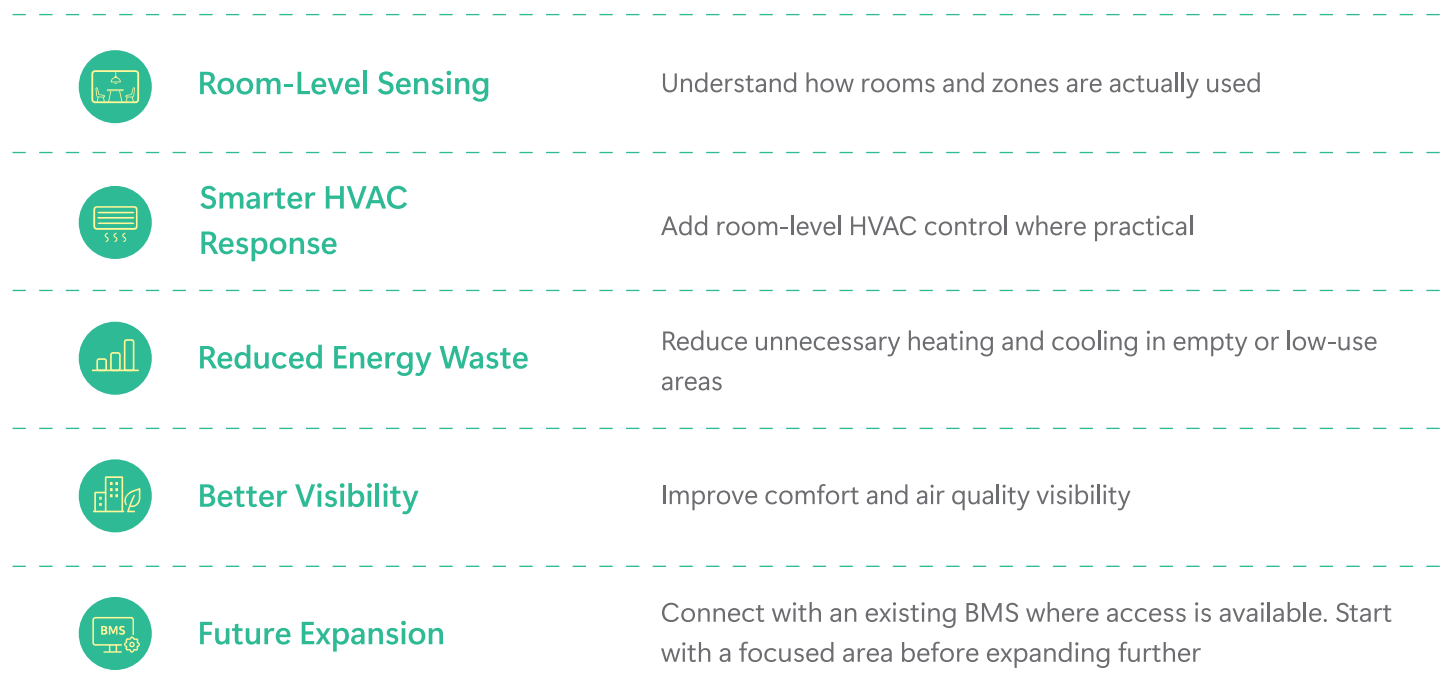
Simple product-to-equipment view for building owners





What This Means for the Building

Koolmesh BMS turns room-level signals into actions that are easier for owners and facility teams to understand.



Smarter Room Control in Practice

Room Data That Supports Better Decisions

Occupancy-Ratio Based Ventilation & HVAC Control

Use people counting data and occupancy ratio to support fresh-air start-up timing, ventilation demand, heating response or AC fan-speed adjustment.

>8 People	Start immediately
4-8 People	Start after 5 min
<4 People	Start after 10 min
0 People+ >5 min	Turn off or return on standby

IAQ-Based Alert & Ventilation Support

Use CO₂, temperature, humidity, PM2.5, TVOC or other IAQ data to trigger alarms, ventilation actions or operator notifications.

≥ 1 Person	+	Alarm / FAU Control
CO ₂ >1000 ppm		

Energy Monitoring & Optimisation Support

Use metering data to support energy dashboards, consumption review, savings analysis and optimisation strategies.

Room-Level Automation & O&M Supervision

Combine device status, alarms, setpoints and operating data for monitoring, diagnostics and basic O&M supervision.

Clear Priorities, Predictable Control

When everything acts on one room, who wins?

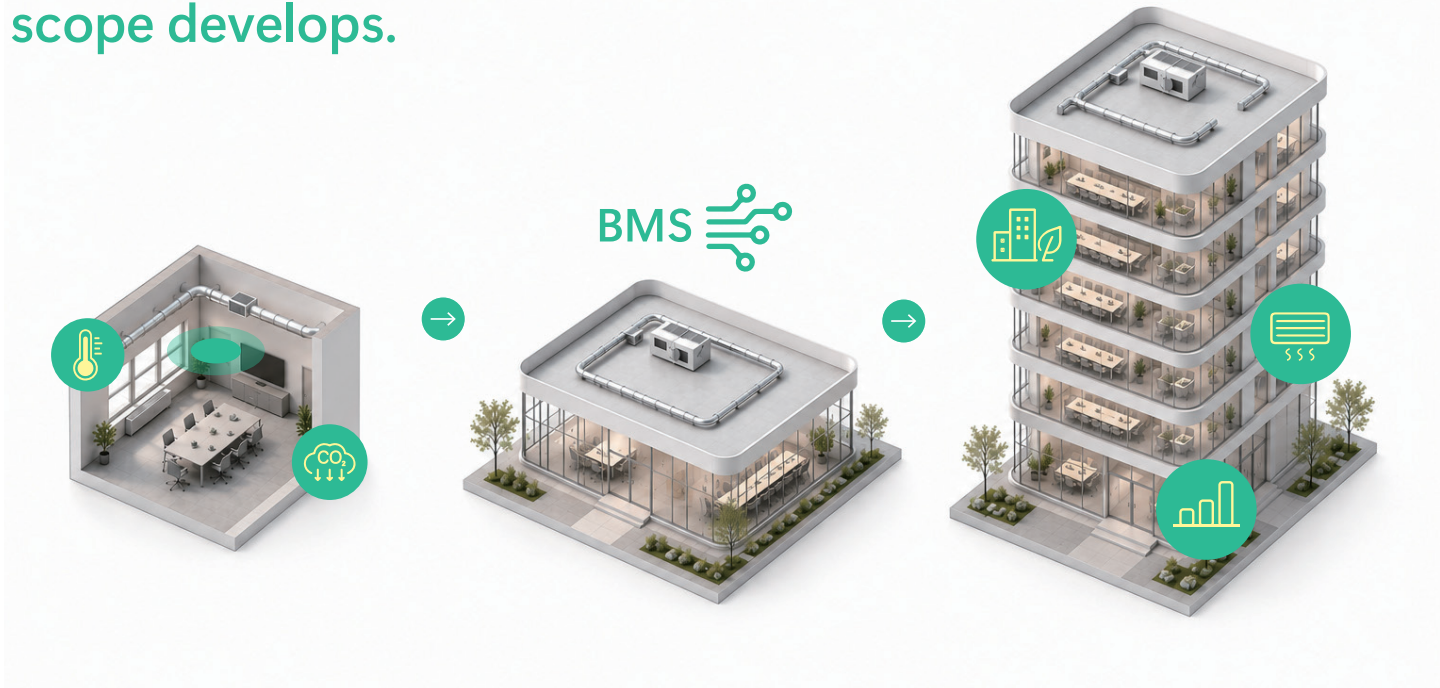
Operator Override	Time-limited Manual Control	ALWAYS WINS Level 1
Schedule	Calendar / Operating Hours	Level 2
IAQ & CO ₂	Air-quality Alert & Environmental Monitoring	Level 3
Occupancy	Presence Detection	Level 4
Local User	Panel / App Adjust	Level 5

Note:
Control logic and priority levels can be configured according to project requirements and BMS strategy.

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Start Small, Prove Savings, Expand Later

You can start with a focused room-level improvement and expand later as the building, budget or project scope develops.



	Phase 1	Phase 2	Phase 3
	Entry Tier Room Intelligence	Standard Tier BMS Integration	Full Tier Analytics & Optimisation
Solution	Occupancy + IAQ sensors Real-time dashboard No BMS required Wireless, minimal disruption	Devices in phase 1 Hardware reuse FCU / TRV / VAV control BACnet / Modbus integration Supports EPBD compliance reporting	Devices in phase 1 & 2 Hardware reuse Multi-floor / multi-site Full BMS overlay or replacement Custom dashboards + reports Dedicated account support
Investment	Typical project value: £8,000–18,000 Investment varies by building size, device quantity and project scope. Payback subject to building-specific validation.	Typical project value: £3,000–12,000 Indicative investment depends on integration scope. Typical payback: 18–30 months	Project-specific Contact us for a scoped quote
Outcome	Visibility and control where it matters most.	Bring room data into your existing BMS environment.	Turn building data into operational decisions.

Note: Typical investment ranges and payback estimates are based on comparable project deployments. Final investment and actual results depend on building size, energy usage, device quantity and integration scope. Please contact us for a specific building estimation.

Choose the Right Starting Route

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Find your building condition. Choose your starting point.



Existing Building with Locked Legacy BMS

Parallel Retrofit Route / Entry Tier

Add room-level intelligence without changing the existing BMS when modification is difficult, costly or risky.

Phase 1



Existing Building with No BMS

Entry Tier

Add room-level sensing and HVAC control without installing a full BMS.

Phase 1



Existing Building with Open BMS Access

Standard Tier

Add room-level data and selected control points to the existing BMS using BACnet or Modbus where practical.

Phase 2



New Build / Major Refurbishment

Standard Tier or Full Tier

Plan room-level sensing, HVAC, IAQ and BMS integration from the start for smarter building operation.

Phase 2 and Phase 3



Not sure which route applies? Hytronik can review the existing BMS access, HVAC type and target area before recommending a starting point.

Where It Works Well

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Commercial Offices



Schools & Education



Healthcare Clinics



Retail & Hospitality



Existing Buildings

Typical Applications



Commercial offices with hybrid or flexible working patterns



Schools and education buildings where classroom occupancy and air quality matter



Healthcare clinics and day centres with changing room usage during the day



Retail and hospitality spaces with variable occupancy



Existing buildings where a full BMS replacement is not the preferred starting point

Regulation is Moving in the Same Direction

Energy performance regulation in Europe and the UK is moving towards better monitoring, automation, indoor environmental quality and lower-carbon building operation.



EPBD

Mandatory BACS compliance
≥290 kW from 2024
≥70 kW from 2029
Indoor environmental quality monitoring Required for new non-residential buildings and major renovations



BREEAM

Energy, comfort and indoor environment credits



WELL

Air quality, thermal comfort and occupant wellbeing



LEED

Energy performance and sustainable building operation



UK Future Buildings Standard

UK net zero trajectory for new and retrofitted buildings

Koolmesh BMS can support regulatory readiness by improving room-level visibility, HVAC optimisation and reporting capability.



Room-Level
Visibility



HVAC
Optimisation



Reporting
Readiness



SMART BUILDING OPERATION

Service, Warranty & Ongoing Support

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INCLUDED AS STANDARD	WHAT IT MEANS
 Product Warranty	5-year warranty for Hytronik-supplied hardware under normal use.
 Remote Technical Support	Timely response - full SLA terms available on request

ONE-TIME PROJECT COST

Item	Budget Guidance
Field devices, Gateways and BMS integration and handover	Project-based
FIN NEXIO controller and licence (where required)	Project-based, based on required software points
Site survey and system design	£750–£1,500 / site or £650–£950 / day
Deployment and commissioning	12–18% of hardware value or £750–£950 / engineer-day

OPTIONAL ONGOING SERVICES

Service	Budget Guidance
Cloud monitoring	£0.40–£0.60 / FIN point / month
Analytics and reporting	£0.65–£0.90 / FIN point / month or £6,000–£12,000 / building / year
Annual maintenance	10–15% of installed value / year

Note: Final pricing and service scope are confirmed project by project. Advanced cloud services, analytics and reporting are optional paid services. For details, please contact Hytronik or your approved Koolmesh BMS partner.

Next Steps

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To discuss whether Koolmesh BMS is suitable for your building, contact Hytronik with the following information:



Building type and approximate size



Whether you have an existing BMS



HVAC system type, such as FCU, radiators, AHU, underfloor or split units



Areas where heating or cooling waste is most visible



Whether the existing BMS is open, accessible or difficult to change



Whether you want to start with one zone, one floor or the full building



Scan to explore whether Koolmesh BMS could be suitable for your building





For more information,
please contact:

Technical

info@koolmesh.com

Sales

sales@hytronik.com