ASHRAE BACnet® INTEREST GROUP EUROPE

KNX NATIONAL U.K.

enocean® alliance



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Collaboration for Secure, Future-Ready Buildings



Why do we need open protocols for buildings?

What problem are you trying to solve?

- Interoperability & collaboration
- Cyber Security & Data Protection
- Resilient and Future-Ready Buildings

Interoperability & Collaboration

- Why is this important?
- Ethical choices
- Dynamic adaptable spaces
- Occupant wellbeing
- Developer/contractor benefits



CYBER SECURITY & DATA PROTECTION

Cyber risk in building operations

Connected building systems influence real operations

Heating, cooling, ventilation, lighting, access, energy

Unprotected traffic can expose data and control commands

Readable with network access – and easier to alter without authentication

Remote access and maintenance connections increase exposure

Every external path needs to be controlled

Three different protections

Encryption
keeps traffic private

Authentication
proves who is communicating

Integrity
detects changed messages

CYBER SECURITY & DATA PROTECTION

UK and EU cybersecurity requirements

United Kingdom	
NIS Regulations 2018	Operators of essential services and relevant digital service providers
UK GDPR / Data Protection Act 2018	Wherever personal data is processed
PSTI product security regime	Consumer connectable products – not every commercial BMS component
Cyber Security and Resilience Bill	*Still before Parliament – not yet law*

European Union – relevant for UK businesses	
NIS2 Directive	In-scope entities under national laws; reaches UK firms through EU activities and supply chains
Cyber Resilience Act	Products with digital elements on the EU market – including those of UK suppliers. Reporting duties apply now; most obligations from Dec 2027

Laws only – standards and guidance (e.g. IEC 62443, NCSC) are not legal obligations. None of these texts prescribes a specific protocol.

Legal status: 5 October 2026

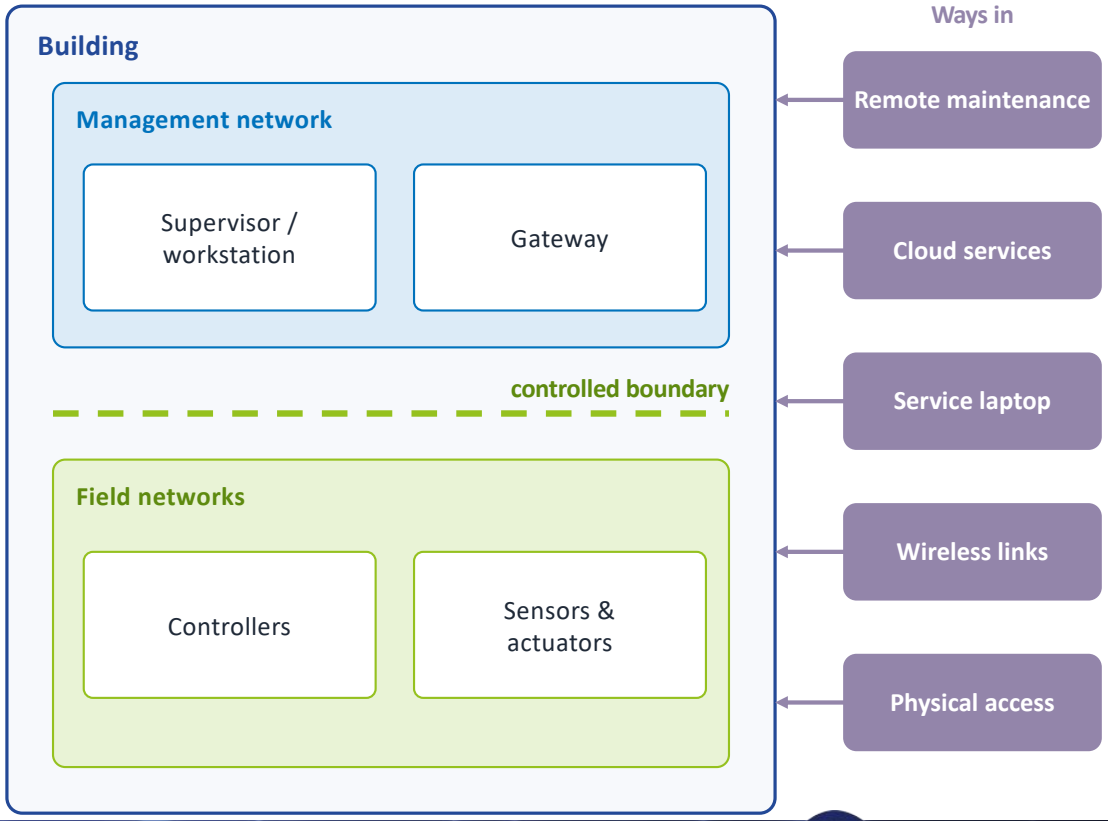
Applicability depends on the organisation, product and use case

CYBER SECURITY & DATA PROTECTION

Security across the whole building

- Identify assets, connections and responsibilities
- Control remote access and communication between zones
- Maintain devices, monitor changes and prepare recovery

The protocol is one part of the security concept.

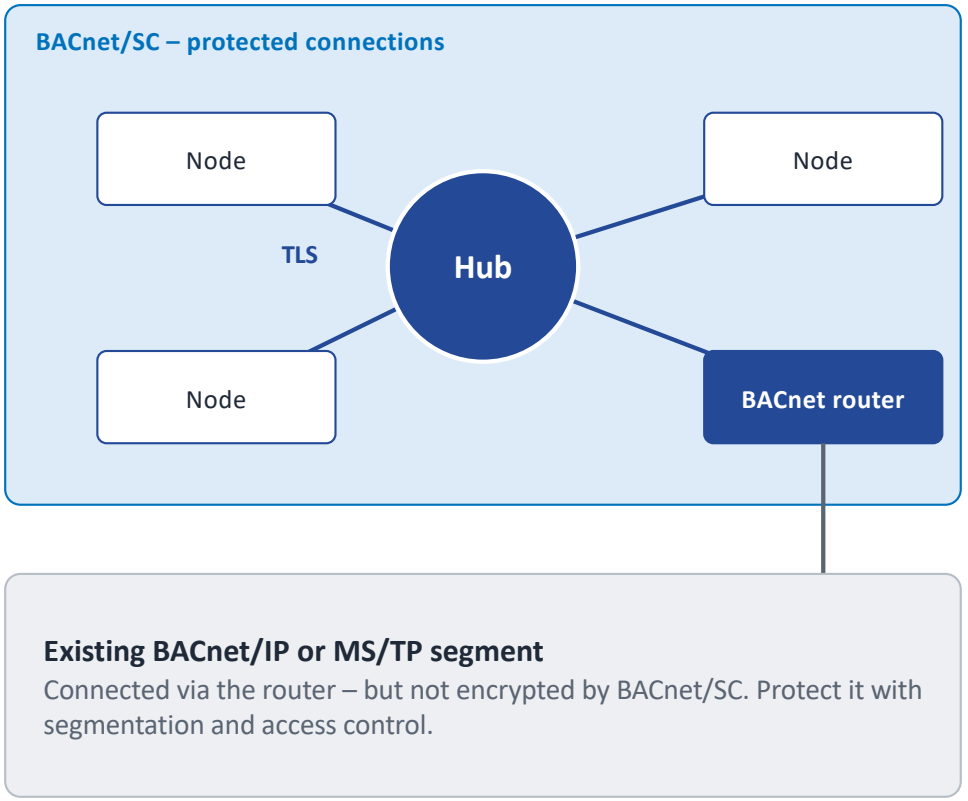


CYBER SECURITY & DATA PROTECTION

BACnet Secure Connect

- Encrypted communication using established TLS technology
- Certificate-based authentication of communication peers
- Protection against undetected changes in transit
- Integration with existing BACnet networks through suitable routers

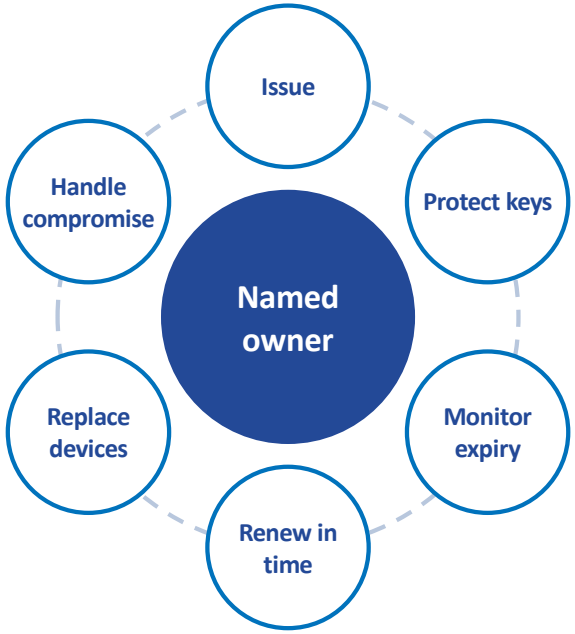
Runs on site – no cloud service required.



CYBER SECURITY & DATA PROTECTION

Certificate management brings IT and OT together

- Familiar security methods, new operational responsibilities
- Certificates need managed issuance, renewal and replacement
- Ownership must continue throughout the building’s life



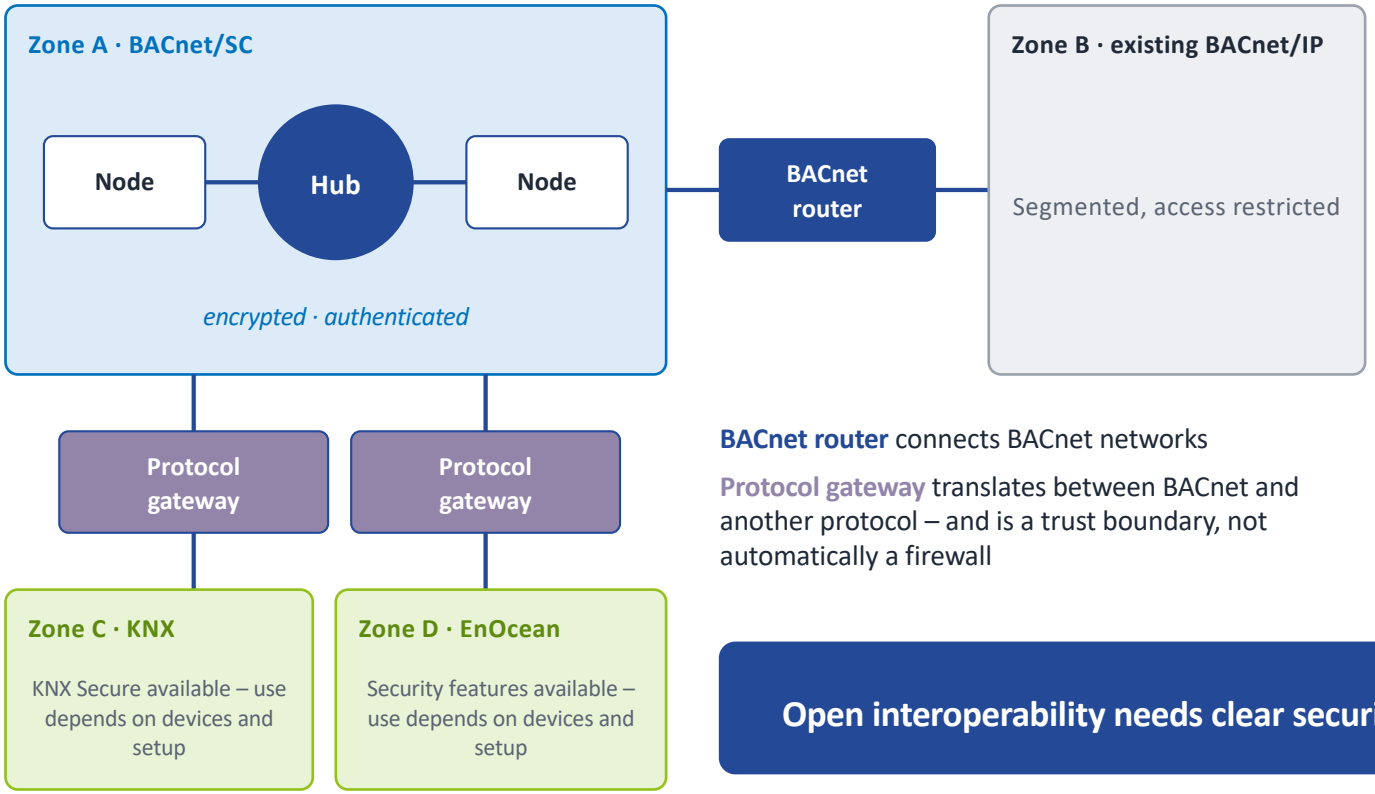
IT brings
identities, trust structures, certificate management

OT brings
availability, long lifetimes, maintenance windows

Who renews the certificates after the installer has left?

CYBER SECURITY & DATA PROTECTION

Interoperability across security zones



BACnet router connects BACnet networks

Protocol gateway translates between BACnet and another protocol – and is a trust boundary, not automatically a firewall

- BACnet, KNX and EnOcean can work together
- Gateways connect protocols and create trust boundaries
- Protection follows exposure and operational impact

Open interoperability needs clear security boundaries and shared responsibility

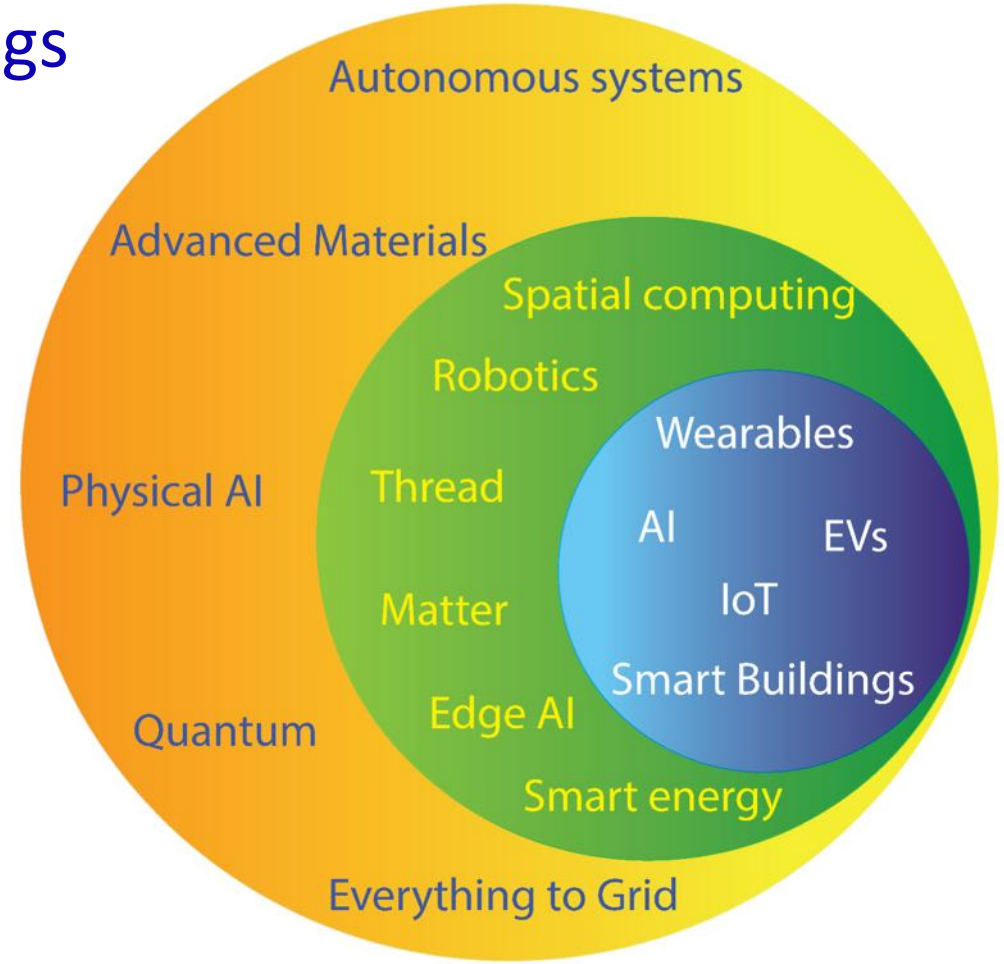
Any building - Anywhere

- Heritage & listed
- Retrofit & sustainability
- Energy Efficiency for all
- Cyber Secure



Resilient and Future-Ready Buildings

- Sustainability, futureproofing & resource management
- Change of use, dynamic spaces & flexibility
- Ageing population, ageing building stock
- Cyber Security & Regulations
- New Build & Retrofit
- Compatibility, adaptability & resilience
- Responsible ownership & occupant wellbeing



Interoperability & Connectivity

- Why interoperability is important
- Who is it important for?
- Climate crisis & resource management
- Shared goals & emerging technology





Collaborating for Secure, Future-Ready Buildings

Building Automation Pavilion
Stand A30

www.big-eu.org
www.knxuk.org
www.enocean-alliance.org