

Future-Ready Healthcare Facilities

A controls-first retrofit pathway to visibility, resilience and lower-carbon operations

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DISTECH CONTROLS

DISTECH CONTROLS™



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Acuity

Healthcare cannot pause modernisation

WHY RETROFIT NOW

The estate must keep serving patients while infrastructure, controls and data mature around it.

43%

of the estate was built before 2000

NHS Property and Estates, Naylor Review

2040

target for NHS direct emissions

+ 2045 target for emissions it can influence

24/7

operational reality

Clinical services and critical environmental conditions cannot simply be switched off.

The opportunity: improve the performance of buildings already in service — then use better data to target deeper capital investment.



The rip-and-replace paradox

LIVE ESTATE REALITY

The highest-need buildings are often the least able to tolerate disruptive work.

Clinical continuity

Works must fit around patients, staff, infection controls and access windows.

Multi-generation systems

Different manufacturers, protocols, front ends and levels of support coexist.

Constrained capital

Funding is staged; risk and operational priority must drive sequence.

Conventional replacement

Disruption • Rewiring • Significant funding • Higher transition risk

VS

Controls-first retrofit

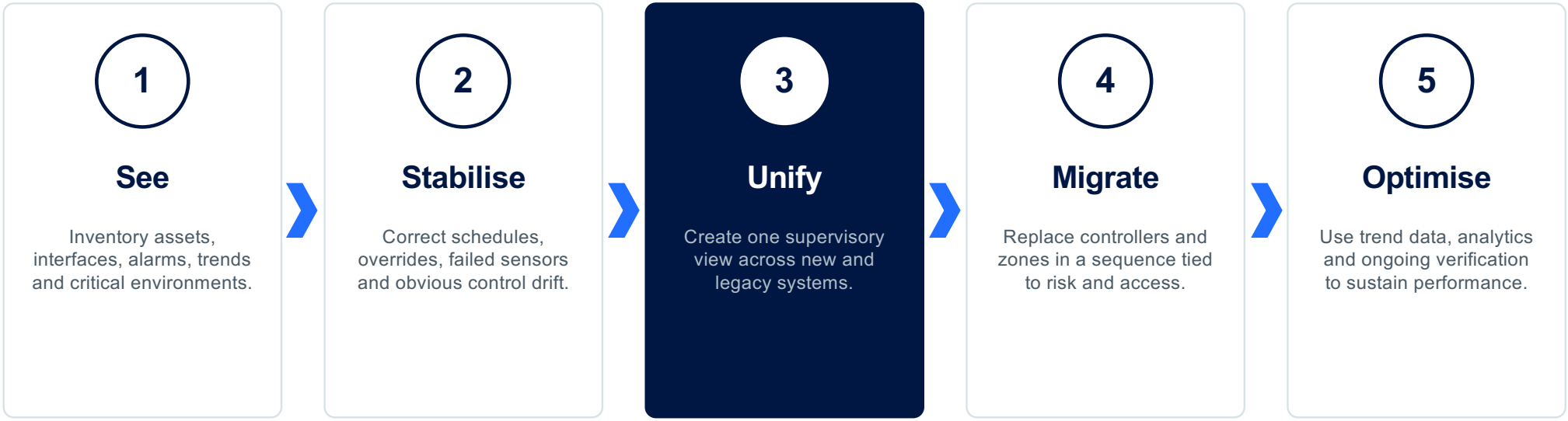
Unify visibility • Upgrade by risk • Reuse viable assets • Learn as you go



Start with outcomes, not boxes

CONTROLS-FIRST

A controls-first programme creates visibility, strategically sequences risk and builds a scalable migration path.

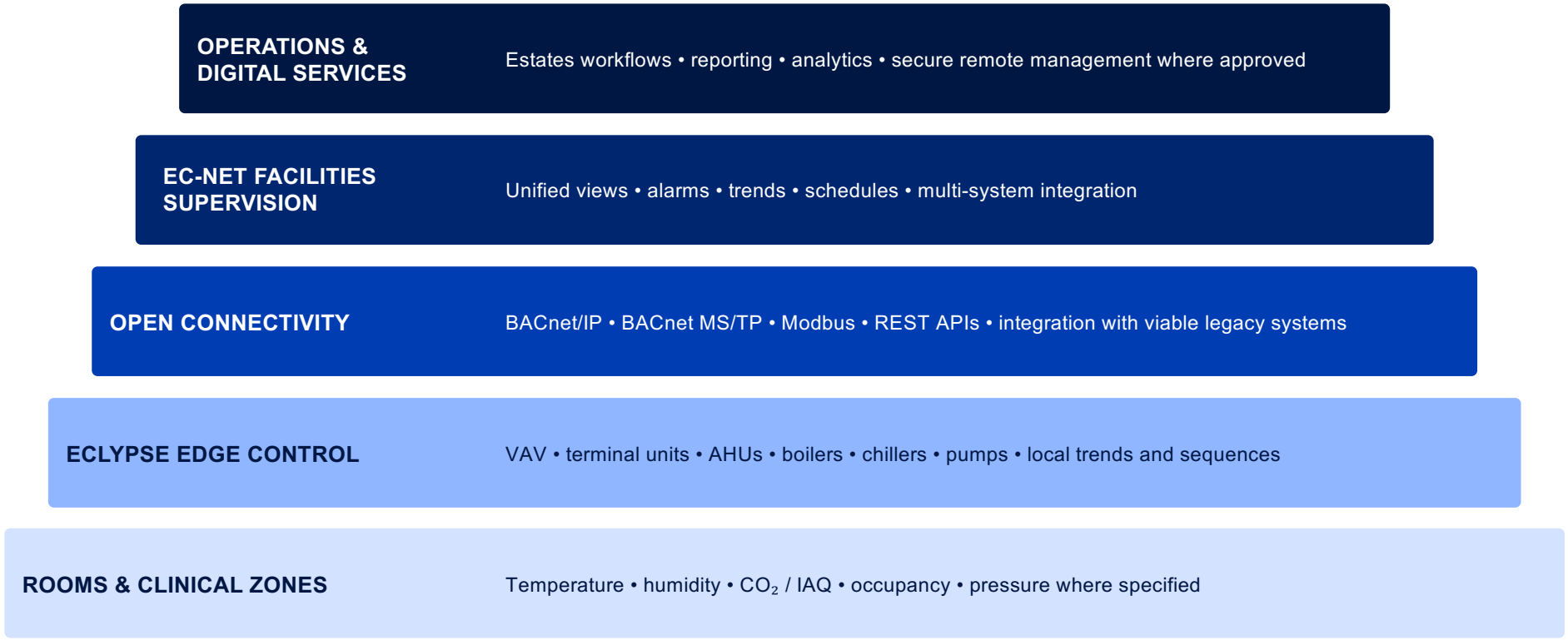


Governance thread: estates + IT + clinical stakeholders + delivery partner

Open at every layer. Intelligent at the edge.

REFERENCE ARCHITECTURE

Local control remains close to equipment; supervisory and digital services add estate-wide insight.



Distributed control reduces dependence on the supervisory layer for day-to-day equipment operation.

Match the product to the retrofit decision

DISTECH CONTROLS SOLUTIONS

A portfolio for plant, equipment, rooms, sensing and supervision — assembled around the estate roadmap.

MAIN PLANT AND TERMINAL UNIT CONTROL



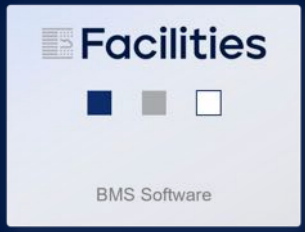
Central plant, air-handling and larger mechanical applications. VAV, fan coil, chilled beam and other zone applications.

ROOM & SENSING



Local experience and the data needed for responsive control.

SUPERVISION



Integration, visualisation, alarms, trends and consistent operation.

OPEN PROTOCOLS | EDGE TRENDS | SECURE DEPLOYMENT | PARTNER CHOICE | PHASED MIGRATION

Use the right protocol at the right layer

INTEROPERABILITY

An open architecture does not mean one protocol. It means governed exchange across layers.

ENTERPRISE & APPLICATIONS	Analytics • digital twin • reporting • work orders
DATA EXCHANGE	MQTT for publish/subscribe • REST API for discoverable integration
BUILDING & EQUIPMENT	BACnet for building automation • Modbus for equipment and meters
IP / ETHERNET FOUNDATION	Standard switching, addressing, identity and segmentation

DESIGN PRINCIPLE

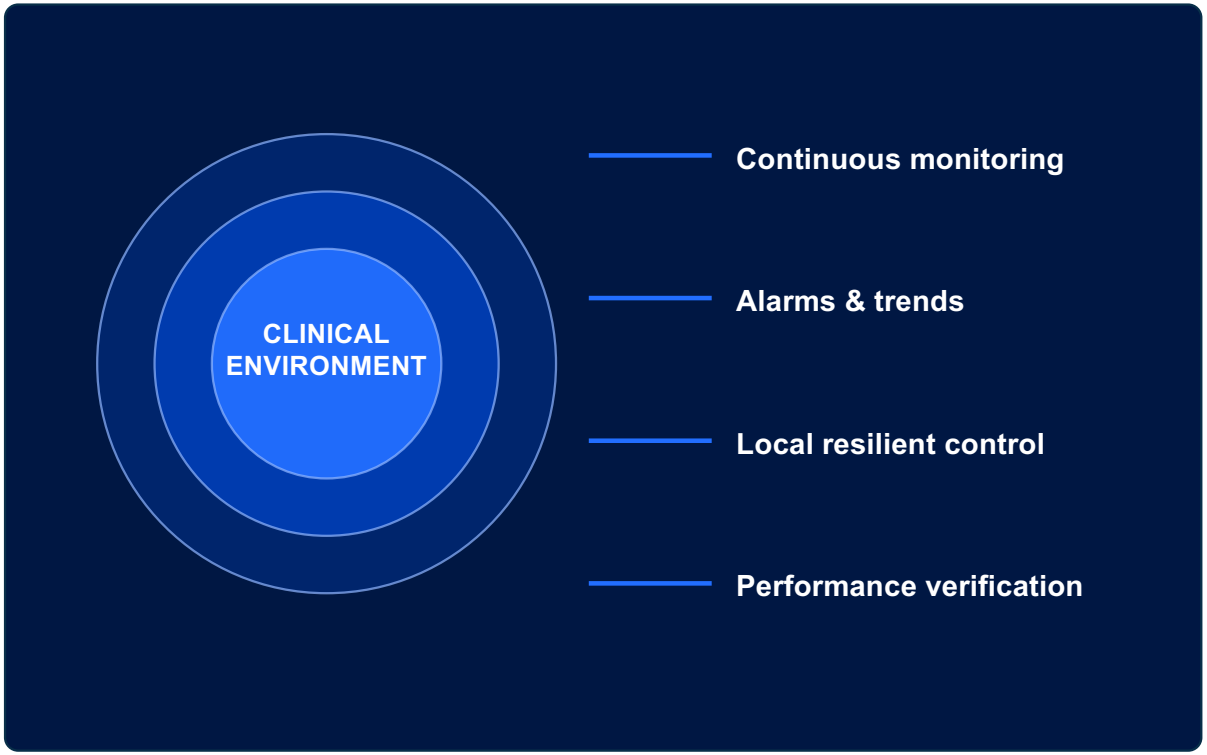
Communication Layer + clear context + governed access

Avoid protocol silos and preserve local control when higher layers are unavailable.

Better evidence for critical conditions

HTM 03-01 CONTEXT

Controls can support monitoring, alarming and verification — but engineering design and HTM process remain critical.



Control

Distributed Eclypse controllers execute plant and room sequences locally.

Sense

Appropriate sensors provide the environmental data needed by the control strategy.

Evidence

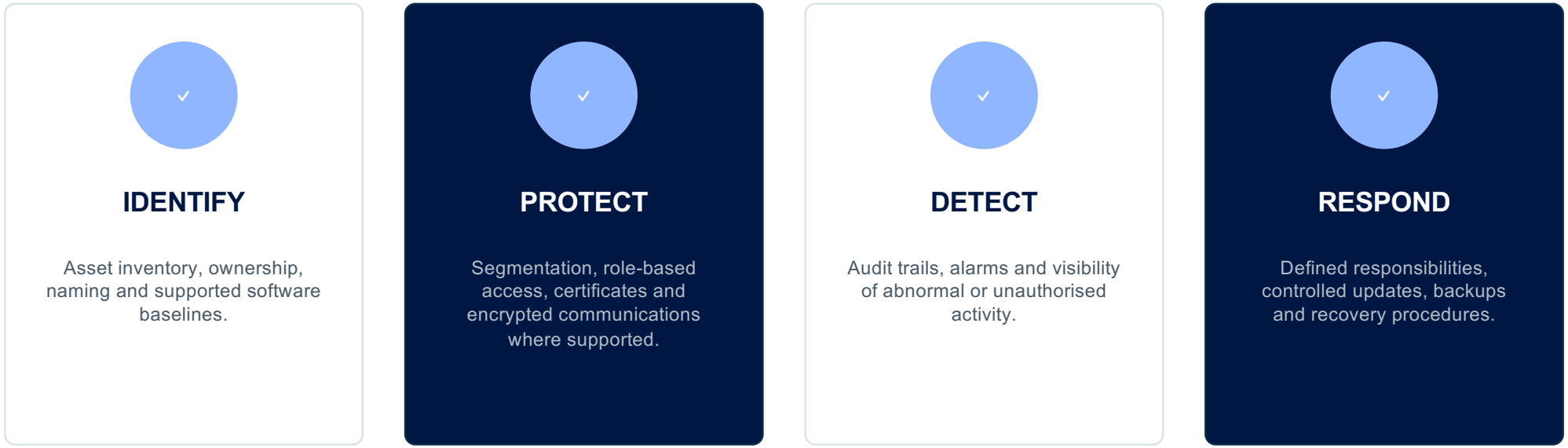
EC-Net trends, alarms and dashboards support review and operational assurance.

BMS supports compliance and assurance; it does not replace validation, maintenance or clinical governance.

Modernisation must improve the security posture

SECURE-BY-DESIGN

Connectivity should be designed with IT governance — not bolted on after commissioning.



Practical rule: connect estates, IT and the integration partner before architecture and remote-access decisions are fixed.

DC

A phased programme for a live estate

PRACTICAL ROADMAP

Sequence investment around risk, access, refurbishment and lifecycle replacement.



Every wave should leave the estate easier to operate, easier to secure and easier to upgrade next time.

Birmingham Women's and Children NHS Foundation Trust

CASE STUDY

A phased, open-platform route away from multiple ageing BMS environments.

THE CHALLENGE

Multiple failing legacy systems

Across three hospital sites, from different manufacturers, with limited annual capital and a requirement to minimise disruption.

"A short, medium and long-term strategy…"

— Dan Sexton, Head of Sustainability

1. **Single central control solution**

   Interfaces with existing legacy infrastructure.

2. **Open, scalable platform**

   Supports staged hardware upgrades over time.

3. **Risk-led roadmap**

   Priorities can reflect operational risk and available budget.

4. **Future-ready foundation**

   Improved visibility and a basis for sustainability and integration.

DELIVERY MODEL

Trust
+
ADI Intelligent Buildings
+
Distech Controls

From visibility to verified improvement

WHY RETROFIT NOW

One retrofit example shows how open supervision and edge control can expose and correct hidden waste.

BEFORE

Plant controls unresponsive to the BMS; equipment and terminal units operating manually or inefficiently.

After

Eclypse controllers + EC-Net supervision + open Niagara integration across the campus.

System integrator: RGBS

26% annual energy reduction

325,000 kWh lower annual consumption

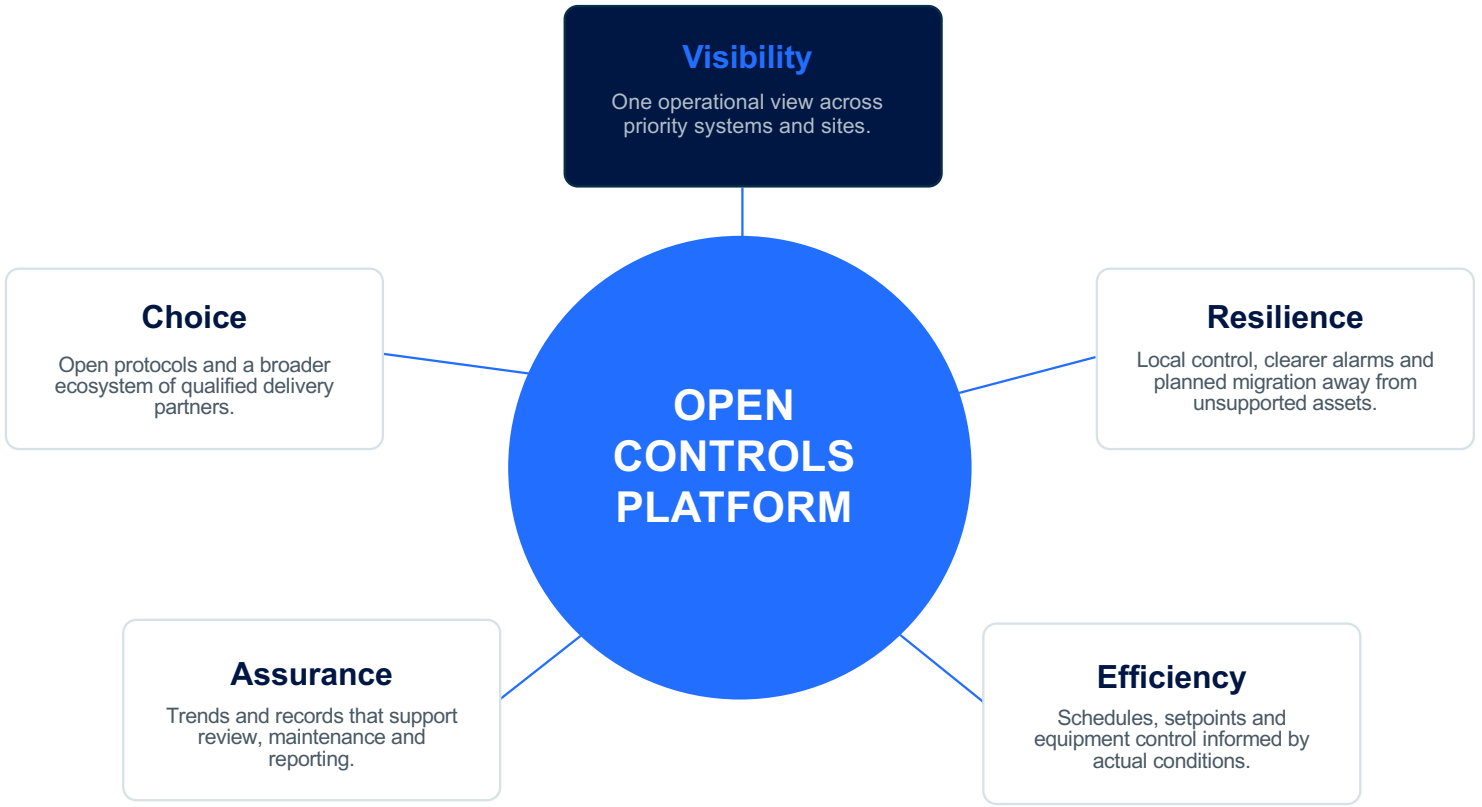
£44,500 reported annual utility savings

Results are project-specific and are not a guarantee of equivalent savings elsewhere.

The destination is an intelligent estate

TARGET OUTCOMES

An intuitive platform helping to increase visibility, ease of use and security.



WHAT BECOMES EASIER

- Report trends and operating hours
- Compare expected vs. actual behaviour
- Find simultaneous heating and cooling
- Identify unstable or inefficient devices
- Verify savings after corrective action

Upgrade capability without full redevelopment

Sequence the change so the building continues to operate while value is added.



Guiding rule: preserve what still creates value, replace what blocks openness, visibility or security.

Retrofit before you replace.

1. Create visibility across legacy and modern systems.
2. Upgrade by clinical risk, energy opportunity and access window.
3. Use open, IP-native controls to keep the next change manageable.

QUESTIONS

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Thank you!

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