Good Buildings

THE GOOD BUILDINGS SHORT GUIDE

A practical brief for building technology

Start with the decision.
Make the connections explicit.
Prepare for everyday operation.

Decisions, connections and operation

For owners, occupiers and project teams

November 2026

HOW TO USE THIS GUIDE

Prepare for the project discussion.

Bring a building decision into focus: what needs to change, which connections it depends on and how the service will run.

This guide is for owners, occupiers, facilities teams and project teams shaping technology for commercial buildings and workplaces. Use the questions to prepare a brief, assess supplier proposals and plan the route into operation.

The worked scenarios are illustrative. They are not client projects or measured Good Buildings results. The linked sources explain the concepts and methods behind the discussion.

Three chapters

01 / Start with the decision

Define what the building needs to enable before selecting the technologies that might support it.

02 / Make the connections explicit

A connected experience depends on interfaces, permissions and responsibilities that are often invisible to the person using it.

03 / Prepare for everyday operation

The handover should explain how people will use, support and evaluate the service after the project team leaves.

Use the stages the appointment needs

Qualification / Discovery / Feasibility / Design / Procurement / Validation / Handover / Operation.

Initial workshops establish priorities and agree the outcomes to pursue. Later work is scoped to those needs. Select the stages that support the client's decision.

Good Buildings supports technology decisions, requirements, coordination and evidence review. Detailed engineering, installation, specialist commissioning and operation sit with the appointed teams.

Start with the decision

Define what the building needs to enable before selecting the technologies that might support it.

Find the decision owner.

Before choosing technology, name the decision: what must change, who will approve it and when? A refurbishment tender, a workplace move and an investigation into overnight electricity use need different briefs.

That may be an owner deciding what to provide in a refurbishment, an occupier choosing workplace services, or an operator trying to understand a recurring problem. The same building can contain all three perspectives. A useful brief brings them together without assuming that their priorities are identical.

Make the decision precise enough to assign. “We need a smart building” has no clear end point. “We need an agreed technology scope before the refurbishment tender is issued” does. Record the decision date, the approver and the people who can explain the operating consequences. A facilities manager may understand the support burden; an occupier may control a booking system; the landlord may control access to building data.

Bring together the people who can approve the investment, explain day-to-day operation and confirm access to existing systems. Ask what each person needs to decide and which commitments they can make. Record unresolved ownership so it can be settled before procurement.

If a wider construction programme already has decision gates, put the technology decisions on that programme. RIBA's Plan of Work and Smart Building Overlay provide a reference for aligning the brief, specialist inputs and information exchanges with project stages. The client should be able to see when a late technology decision will affect procurement or occupation.

Describe the outcome in ordinary language.

Begin with a sentence someone can act on. A visitor should receive consistent instructions from invitation to meeting room. The facilities team should be able to investigate electricity demand outside occupied hours. The workplace team should understand the difference between reserved and used rooms.

Then identify the actors, scope and relevant conditions. Which visitors, which floors, which hours and which sources of information are involved? What happens when a routine step fails? These details turn a general ambition into a use case that can guide selection and delivery.

For an arrival experience, describe an invited visitor, an early arrival, a visitor without a working phone and a host who is unavailable. For operating information, name the question and the intended response: an operator sees persistent overnight demand, checks whether the data is current and investigates the relevant schedules with the responsible team. A feature list becomes much more useful when it describes a complete task.

Product pages can help identify possibilities. Smart Spaces: Smart Workplace features describes access, bookings and visitor services. That is a starting point for questions about the client's required journey; it does not establish which features, integrations or licences suit a particular appointment.

Understand the starting point.

Existing systems, licences, networks and operating arrangements shape the available options. Some information may be well documented; other capabilities may be asserted but untested. Record what is known, who supplied it and what needs verification.

This assessment should be proportionate to the decision. It may be a bounded review of one service or a broader examination of several systems. State the limit so the recommendation is not mistaken for a complete engineering survey.

Use a short evidence register: the fact or claim, its source and date, its confidence, and what would resolve the uncertainty. An equipment schedule, a recent export, a witnessed demonstration and a supplier's verbal assurance are different kinds of evidence. A missing interface licence may change the preferred option more than an attractive application screen.

Identify personal information early. Is the question about a count of people in a room, a named person's movements or the validity of a visitor credential? These are different requirements. ICO: Data protection by design and by default explains the need to consider privacy throughout the lifecycle. The brief should identify the client's privacy approver and the information actually needed, before selection narrows the options.

Ask whether the question needs a named individual at all. A count may answer a space-planning question while a visitor invitation needs an identity. The ICO's data-minimisation guidance makes purpose central to deciding what personal information to collect. Agree the privacy decision before adding identity to an otherwise anonymous measurement.

Set acceptance criteria.

Describe how the proposed outcome could be evaluated. A journey may be demonstrated through agreed scenarios. A dashboard may need specified coverage and data completeness. An operational service may require a named owner and a tested fallback.

Intended outcomes and acceptance requirements are related but distinct. The project may demonstrate that a system behaves as specified before there is enough operating evidence to establish an environmental or workplace benefit.

Write acceptance requirements as observable behaviour: the agreed room identifier appears consistently in the booking application and operating view; an unavailable source is marked as unavailable; an operator can trace a displayed value to its source and time. Let the client and appointed technical teams agree the relevant tolerances, test conditions and specialist criteria.

Do not turn a launch demonstration into a claim of improvement. Showing a connected view is one result. Establishing that it changed resource use or everyday experience requires a suitable period, reliable evidence and an agreed evaluation method.

Compare the routes to the outcome.

Keep an option to improve what is already there. Alongside a new platform, consider better configuration, a targeted connection or a limited measurement exercise. Compare each route against the same question, period and operating responsibility.

For after-hours electricity, a current meter export and an operator's schedule may answer the first question. For an arrival journey, the obstacle may be a visitor policy or a missing host response rather than a reader. Establish which part of the problem a technology purchase would actually resolve.

Put the continuing commitment beside the purchase: subscriptions, interface licences, configuration changes, sensor maintenance, support and the time needed to investigate findings. BSRIA's life-cycle costing guidance considers capital, operating and end-of-life costs. For the client, the question is whether the chosen route remains worthwhile when those responsibilities are included.

Before proceeding, ask: what evidence would make us choose a smaller intervention, defer the purchase or decide that the existing service is sufficient? Put that test in the brief while the alternatives are still open.

Leave the workshop with a return brief.

A practical return brief records the decision, priorities, boundaries, key use cases, evidence gaps and next actions. It identifies the people who approve the requirements and those who must contribute specialist advice.

This gives the project a reference against which to assess proposals and changes. It also makes it possible to decline a feature that adds complexity without helping the agreed purpose.

Keep priorities visible: essential for the agreed outcome, useful if affordable, and outside the current appointment. Record the next uncertainty to resolve, not every technology the market can supply. The return brief should make it possible to explain both why a feature is included and why another can wait.

A worked brief: understanding electricity after hours.

Illustrative scenario: an occupier wants to understand why a floor appears to use electricity after most people have left. The first decision is whether the existing information is sufficient to investigate, or whether limited additional measurement is justified. It is not yet a decision to replace the building platform.

The brief records the floor and meter boundary, the available time interval, operating hours, the distinction between observed presence and access events, and the person who will review the findings. It asks which systems remain legitimately active and which team can explain their schedules. A first output could be a data-availability review and a plan for a representative comparison.

Check whether the meter includes other floors or occupancy measurement covers only selected rooms. Resolve those boundaries before procuring another dashboard. The next appointment can then establish the investigation plan and any additional information required.

Questions to take into the first workshop.

- What decision must be made, by whom and by when?

- Which experience or operating task should improve?

- What is the building doing today, and what evidence describes it?

- Which systems and teams sit inside the appointment boundary?

- What evidence would let the client accept the service?

- What information or specialist input is needed before proceeding?

Sources and further reading.

RIBA: Plan of Work and Smart Building Overlay - Relates briefing, technology decisions and information exchanges to the wider project programme.
https://www.riba.org/work/insights-and-resources/riba-plan-of-work/

BSRIA: Life cycle costing - A basis for comparing capital, operating and end-of-life commitments.
https://www.bsria.com/uk/consultancy/project-improvement/life-cycle-costing/

ICO: Data protection by design and by default - Privacy decisions belong in the brief and throughout delivery.
https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/accountability-and-governance/guide-to-accountability-and-governance/data-protection-by-design-and-by-default

ICO: Data minimisation - Helps challenge whether the proposed purpose needs identifiable information.
https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/data-protection-principles/a-guide-to-the-data-protection-principles/data-minimisation/

Smart Spaces: Smart Workplace features - Examples of access, booking and visitor services to test against a client journey.
https://www.smartspaces.app/your-workspace/

Sources reviewed 10 November 2026.

Make the connections explicit

A connected experience depends on interfaces, permissions and responsibilities that are often invisible to the person using it.

Follow one use case from end to end.

Consider an occupier who wants to show room availability in a workplace application. The reservation may live in one system, a presence signal in another and the room name in a third. The apparent simplicity of the screen depends on agreement between those sources.

Draw the path from the user's question to the information source and back to the displayed result. Identify the application, interface, network and source system involved. Include the team that manages each element.

For room availability, define what each state means. "Booked" describes a reservation. "Occupied" describes a measurement under the sensor's rules. "Available" is a service decision which may depend on both. Agree whether the display informs people, releases reservations or controls something; each creates a different responsibility and consequence.

Sketch the normal path and one exception before discussing screen design. Who provides the room identifier? How does an update reach the application? What does a user see if the feed is stale? What does the operating team see if the connector fails? These questions often reveal the important work hidden behind a simple user journey.

Give the information a shared meaning.

The receiving application needs to know what each value means. Agree units, timestamps, room identifiers and status definitions, then specify how missing, delayed and duplicate records are handled.

The same principle applies to resource reporting. An electricity meter, an occupancy sensor and a workplace application may describe different boundaries. Before drawing a relationship, establish the places and periods each source represents.

The points schedule records the point and asset identifiers, source object or register, location, definition, unit, interval, timestamp convention, expected freshness and quality status. Distinguish zero, not measured and unavailable. Specify whether a value is an instant reading, an interval average or a cumulative total before combining it with another source.

These definitions should travel with the interface brief. A shared room name in a spreadsheet is insufficient if it changes when a tenant renames a meeting room. Decide which identifier remains stable, who maintains the mapping and how changes are communicated.

Separate identity, meaning and transport.

A name, a model and a message format solve different problems. The asset register identifies the thing. A semantic model describes what it is and how it relates to a room, system or point. A protocol carries messages; the payload defines the fields in those messages.

Decide whether an identifier names a physical device, a function or a location. A replacement device needs its own physical identity, while the room or measurement function may continue. Keep the visible asset label and any QR or barcode linked to the maintained register. A tenant's display name should be able to change without breaking the underlying mapping.

Brick can link a modelled point to an external BACnet object or time-series reference. Project Haystack defines entities, identifiers, tags and relationships. Digital Buildings provides an ontology with configuration and validation tools. Select and pilot the model against the client's required queries, receiving systems and ability to maintain it.

The MQTT specification leaves payload content open. Saying that two products support MQTT therefore leaves the data agreement unfinished. Specify the topic and access rules, field names, units, timestamps, schema version, stale-data treatment and delivery behaviour. For BACnet or another source protocol, record the exact object or address and the supported functions as well.

Take a representative example through the whole chain: a labelled device, its register entry, the points schedule, an actual payload and the value shown to an operator. Ask the receiving supplier to demonstrate how an unknown point, a changed unit and an outdated reading are treated. This exposes gaps before they are repeated across a building.

Compare options against the complete service.

A product's advertised integration is evidence of a potential route. Ask which model, version, licence and configuration are required. Establish whether the connection is already demonstrated in the relevant conditions or still needs development and testing.

Compare an equivalent scope: source-system participation, gateways and networks, licences, mapping, configuration, testing, training and ongoing support. Check which responsibilities are included in each proposal and which remain with the client or another supplier.

Protocol or platform support is worth checking at the relevant level. The BACnet Testing Laboratories: tested product listings identifies tested products and their supported BACnet

functionality. That evidence can inform selection; the client's complete service still needs a project-specific demonstration across the actual interfaces.

Ask for an example export and a change scenario. If the client changes platform, can it retain its asset register, configuration, history and agreed data meanings? If a sensor is replaced or a floor changes tenant, who updates the mapping and what is retested?

Name the owner at each boundary.

An interface often sits between supplier scopes. Record who provides the source information, who maps it, who configures the receiving service, who approves network access and who resolves an operating fault.

An item assigned to "others" is only a workable dependency when the other party has accepted it. Decisions about permissions, privacy and security belong to the authorised client and specialist teams. The integration plan should identify the required decisions and their timing.

Use a responsibility record with a named party for provision, approval, configuration, demonstration and operational support. Include landlord-occupier boundaries and the point at which a supplier hands over to an integrator. An escalation route should work even when both parties believe the other system is at fault.

The NCSC: Creating and maintaining a definitive view of your OT architecture addresses records of assets, connectivity and third-party dependencies in operational technology. For an advisory appointment, the practical question is whether authorised IT/OT teams have enough information to assess the proposed connection and maintain it. The consultant's integration brief does not replace their security design or approval.

Ask for evidence that resolves the uncertainty.

A demonstration or pilot should follow the client's scenario. Record what is connected, which information is used and what the operator can see when the source becomes unavailable. Keep the successful behaviour and the limits of the demonstration together.

Carry the same integration plan into procurement, implementation and acceptance. It should identify the intended service, each dependency and the evidence required to close an open question.

Make a demonstration script from the brief: initial state, trigger, expected behaviour, evidence to capture and who will witness it. Include loss of a source, delayed updates, an expired permission where appropriate and recovery. Agree how test data will be distinguished from actual operating information.

A pilot should resolve a specific uncertainty. A room trial may test coverage and the application flow. It does not automatically prove performance on every floor, a different network or another tenant's system. Record the conditions under which the result can be used for the next decision.

An interface record the team can use.

An interface record for room availability can cover the following:

- Purpose: show an agreed room status to occupants and the workplace team.
- Sources: reservation system, presence source and the maintained room register.
- Meaning: state definitions, update rules and the display when a source is unavailable.
- Ownership: source administrator, connector supplier, application owner and client approver.
- Proof: agreed occupied, reserved, unoccupied and unavailable scenarios using the relevant versions.
- Operation: monitoring, support route, change control and access renewal.

The record should be short enough to use in a coordination meeting and precise enough to expose a gap. Link it to the requirement, supplier proposal and later test evidence, so a change can be assessed against the same purpose.

Questions to ask before committing.

- Which exact capability has been demonstrated?
- What data definitions and update requirements apply?
- Which licences, permissions and prerequisites are included?
- Who owns each interface during delivery and operation?
- What happens when a source or connection is unavailable?
- How can configuration and useful information be retained if the service changes?

Sources and further reading.

BACnet Testing Laboratories: tested product listings - Check the exact product and supported BACnet functionality, then test the proposed service.
https://www.bacnetinternational.net/btl/index.php

NCSC: A definitive view of OT architecture - A reference for maintaining assets, connections and third-party dependencies with IT/OT teams.
https://www.ncsc.gov.uk/collection/operational-technology/definitive-architecture-view

Brick: External representations - Links modelled points to BACnet objects and time-series references.
https://docs.brickschema.org/metadata/external-representations.html

Project Haystack: Ontology - Explains entity identity, display names, tags and relationships.
https://www.project-haystack.org/doc/docHaystack/Ontology

Google: Digital Buildings ontology - Describes the model, building configurations and validation workflow.
https://google.github.io/digitalbuildings/ontology/

OASIS: MQTT 5.0 specification - Defines transport behaviour while leaving the application payload to be agreed.
https://docs.oasis-open.org/mqtt/mqtt/v5.0/mqtt-v5.0.html

Sources reviewed 10 November 2026.

Prepare for everyday operation

The handover should explain how people will use, support and evaluate the service after the project team leaves.

Describe the service being handed over.

Handover needs to leave the operating team ready to run the service. They need to know what was delivered, which requirements were demonstrated, what remains open and how to obtain help.

Define the service owner, system administrator, supplier support and information owner. Record the operating hours, support arrangements, licence renewals and maintenance requirements. Supplier warranty and ongoing operational support should not be treated as the same commitment.

Invite operators into the work before the service is considered finished. Ask who checks the information, which decisions they can make, which tasks require another team and how support is obtained outside normal hours. A sophisticated view can create work without helping anyone if investigation and response are unassigned.

Plan for use from the start. BSRIA's Soft Landings approach connects project decisions with operation and aftercare. The Department for Education's Soft Landings Guide shows a sector-specific application. Agree the appropriate training, support and review activities in the client's own appointment and delivery programme.

Prepare for the ordinary exceptions.

A sensor may stop reporting. An integration credential may expire. An application may be unavailable when a visitor arrives. A gateway may need to be restarted. Decide how the team will detect the issue, continue the relevant service and obtain help.

The agreed acceptance approach should include appropriate failure and recovery scenarios. Evidence should show the expected behaviour and the information available to the operator. The responsible teams determine any safety, security or specialist control requirements.

Rehearse an exception with the people expected to deal with it. For an unavailable room-occupancy feed, can they distinguish a sensor fault from a connector problem? Does the application show “unknown” rather than confidently presenting an old value? Can the service continue under an agreed fallback while the responsible team investigates?

Agree failure and recovery tests with the appointed specialists, including their authorisation, operating impact and evidence requirements. Tests affecting security, life-safety or building control belong within the responsible teams' approved procedures.

Make the handover usable.

The operating team needs current system and interface records, configuration information, authorised access arrangements, support contacts, training and relevant test evidence. Keep passwords and other credentials in the approved secure system, with custody recorded separately.

Outstanding defects need owners, treatment and review dates. A decision to accept a service with known limitations should be explicit and made by the authorised party. Readiness advice should make the evidence and boundary of the review clear.

Organise handover around tasks rather than a folder of files: how to add an approved user, recognise stale information, locate an interface record, report a fault and understand a limitation. Training should use the configuration being handed over, with concise reference material that remains available afterwards.

A readiness record should separate demonstrated requirements, open defects, accepted limitations and actions still due. Each open item needs an owner and a review date. Licences, support periods and renewal responsibilities should be visible to the client; credentials remain in the approved secure system, not a handover appendix.

Plan the first performance review.

Before claiming improvement, agree the measure, source, baseline, period and interpretation. A change in operating hours or occupancy may affect resource use. A reporting gap may reflect coverage rather than actual activity.

Review technical evidence alongside the experience of the people using and supporting the service. Check whether people understand the information, trust it and have the authority to act on it. Include those findings in the improvement plan.

Set a review question and a suitable period before collecting more data. For overnight electricity demand, check the operating schedule, meter boundary, missing readings and whether cleaning, equipment or occupancy changed. A single quieter day is not a reliable measure of the effect of a technology decision.

The US Department of Energy: Measurement and Verification Options describes approaches that account for relevant changes when assessing savings. The method must suit the actual project; this guide does not prescribe a savings calculation. Where formal verification is required, agree the scope and competent specialist input before making a performance claim.

Connect reporting with its evidence.

Building and portfolio assessments can require different information and boundaries. Confirm the applicable scheme, route and assessment team before organising the evidence. Technology can support the process, but a product claim does not establish a building's rating.

The same discipline makes ordinary management reporting more credible. Explain what the information covers, how it was gathered and where gaps remain. Give the next action an owner and a date.

Separate viewing information from improving performance. The US Department of Energy: Energy Management Information System Capabilities describes capabilities including interval analysis, fault investigation and measurement and verification. A useful view supports an operating process; it does not itself establish that a fault was corrected or a saving achieved.

Retain enough information to explain a reported number: source and coverage, reporting period, exclusions, quality checks, known gaps and the person who approved its use. If a certification or assessment is intended, confirm the scheme and assessor's evidence requirements rather than assuming one dashboard meets every scheme.

Give each alert a response.

A dashboard should make the next action clearer. For an unusual water pattern, name who checks the reading, who investigates the location and how an urgent issue is escalated. For persistent electricity demand, identify the operator who can explain the schedule and the team authorised to make a change.

Indoor conditions need the same discipline. If a room's CO_2 reading rises, check the occupied period, the sensor's position, calibration requirements and data freshness before interpreting the pattern. HSE guidance explains why monitor location and repeated observations matter. NIST's work on indoor CO_2 metrics explains the limitations of a single concentration as an overall measure of ventilation or indoor air quality.

Agree who interprets each measurement and the response expected within the client's operating process. CO_2, particles, VOCs, temperature and humidity describe different conditions. Keep them distinguishable rather than turning them into an unexplained all-purpose score.

At the first review, ask which alerts led to an investigation, which remained unanswered and which were caused by missing or stale information. The next investment may be better coverage, a clearer response procedure or revised alert logic. The decision should follow the finding.

A first review that leads to action.

Illustrative scenario: an operating team receives a new occupancy-and-electricity view. The first review finds a persistent evening load, a gap in one data feed and a dashboard account with no clear owner. These are three separate actions: investigate the load with the relevant technical team, resolve the information gap and assign service ownership.

Record what was observed, how reliable the evidence is, who will act and when the decision will be revisited. At the next review, distinguish “investigation completed”, “configuration changed” and “improvement evidenced”, with the supporting record for each.

Good Buildings’ role is agreed in the appointment: clarify requirements, coordinate the evidence and help the client make the next decision. Detailed engineering, installation, specialist commissioning, security approvals and operation remain with the appointed responsible parties.

Questions before service entry.

- Who owns the service, information and support arrangements?
- Which requirements have been demonstrated, and what remains unresolved?
- Can the team recognise a fault and use an agreed fallback?
- Are training, licences and current records available?
- Which baseline and review method will support performance claims?
- Who will prioritise the improvements identified in early operation?

Sources and further reading.

BSRIA: Soft Landings - Connects briefing and delivery decisions with operation and aftercare.
https://www.bsria.com/uk/consultancy/project-improvement/soft-landings/

Department for Education: Soft Landings Guide, January 2026 - A sector-specific example of preparing operators, handover and post-completion support.
https://assets.publishing.service.gov.uk/media/69663fc099fbdc498faecd8d/ER-DFE-XX-XX-T-X-0601-Soft_Landings_Guide-A-C01.pdf

US Department of Energy: Measurement and Verification Options - Introduces methods and measurement boundaries for assessing energy and water savings.
https://www.energy.gov/cmei/femp/measurement-and-verification-options-federal-energy-and-water-saving-projects

US Department of Energy: EMIS capabilities - Distinguishes information displays, investigation, operating responses and measurement and verification.
https://www.energy.gov/cmei/femp/energy-management-information-system-capabilities

HSE: Using CO_2 monitors - Covers placement, repeat readings, occupancy and limits of ventilation indicators.
https://www.hse.gov.uk/ventilation/using-co2-monitors.htm

NIST: Indoor Carbon Dioxide Metric Analysis Tool - Explains why CO_2 interpretation depends on the space and its use.
https://www.nist.gov/publications/indoor-carbon-dioxide-metric-analysis-tool

Sources reviewed 10 November 2026.