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FCEDC Syncromesh Proposal

WIRELESS, SECURE, SCALABLE BUILDING INTELLIGENCE
FOR FCEDC'S FLAGSHIP FACILITY

April 2026

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FCEDC Flagship Facility 611 Russell Street Fayetteville, NC

Executive Summary

H4 Enterprises is pleased to present a phased building-performance and smart-facility strategy for the Fayetteville Cumberland Economic Development Corporation's flagship facility at 611 Russell Street in Fayetteville, North Carolina. For a multi-functional, approximately 36,000-square-foot environment that will continue to evolve through phased interior build-out, FCEDC needs an approach that improves operating visibility and facility readiness immediately while preserving flexibility for future expansion and long-term stewardship. The recommended strategy is designed to align with that reality: begin with a disciplined understanding of how the building performs today, then scale improvements in step with how the space is actually built out and used over time.

Rather than forcing premature capital decisions before the facility's operating profile is fully understood, H4 recommends a measured first phase centered on **baseline monitoring and building-performance assessment**. This initial effort establishes a quantified view of current energy use, HVAC performance, indoor environmental quality, lighting conditions, and the **precision energy monitoring** foundation that can support future tenant submetering, stronger operational accountability, and more accurate cost allocation as additional spaces and operational phases come online. That matters because meaningful energy savings and conservation outcomes will depend heavily on improving the building's existing lighting and related operational conditions, and replacing approximately 200 fixtures is a material capital effort that should be prioritized and sequenced based on evidence, not assumption. By first documenting current performance, FCEDC gains the data needed to justify future investments, target the highest-impact areas, and build internal confidence around a phased capital plan.

This **baseline-first approach** does not replace the broader smart-building vision; it strengthens it. As FCEDC advances its interior build-out in stages, the technology roadmap can advance in the same rhythm. Initial findings from the baseline phase inform where lighting upgrades, controls, environmental monitoring, and future Syncromesh capabilities will create the most value. From there, FCEDC can activate smart-building functions in a practical sequence, whether through priority lighting improvements, targeted controls, precision metering, or later deployment of a building-wide wireless Syncromesh canopy and standardized room-level packages as offices, conference areas, classrooms, support spaces, and future specialized environments come online. This preserves the core benefit of the phased model already envisioned for the facility: lower disruption, better sequencing, smoother expansion, and a cleaner path to long-term operational intelligence.

The result is an approach that balances ambition with discipline. FCEDC receives a lower-risk starting point, a defensible basis for future capex, and a roadmap that ties investment directly to measured building needs, occupant experience, and operational outcomes. Over time, this creates more than a better-run facility. It creates a flagship environment that reflects readiness, innovation, and responsible stewardship; supports staff, partners, and visitors with healthier and more comfortable spaces; and **strengthens FCEDC's ability to showcase Fayetteville and Cumberland County as a forward-looking place to invest, grow, and thrive.**

Executive Summary Snapshot

Category	Summary
Facility Vision	Create a flagship innovation and economic-development facility that operates efficiently from day one, showcases modern infrastructure, and scales smart capabilities in step with phased interior build-out.
Proposed Approach	Begin with a baseline monitoring and building-performance assessment, then phase in lighting upgrades, precision energy monitoring, controls, and Syncromesh capabilities as data, funding, and interior build-out progress.
Deployment Model	Baseline phase: low-risk assessment of energy use, HVAC performance, indoor environmental quality, and lighting in the current facility; subsequent phases: sequenced lighting improvements, precision metering, and smart-building activation aligned to each operational phase of interior construction and space activation.
Primary Use Cases	Baseline phase: quantify current operating conditions, identify high-value lighting and comfort improvements, and create evidence to support stewardship reporting and funding requests; operational phases: enable space and tenant-level insight, comfort and IAQ monitoring, precision energy monitoring that can support future tenant submetering, and showcase-ready smart spaces for offices, conference rooms, classrooms, and support areas.
Business Value	Lower capex risk through evidence-based decisions, clearer justification for lighting and other upgrades, stronger operating visibility, healthier and more comfortable spaces, fairer allocation of future energy costs, and a repeatable smart-building model that grows with FCEDC's mission.
Next Step	Confirm baseline phase scope, assumptions, and pricing for monitoring and assessment, and outline indicative phasing and budget ranges for subsequent lighting, precision metering, and Syncromesh deployments informed by baseline findings.

Facility Needs

FCEDC's new flagship facility configuration, occupancy patterns, and room-by-room operational requirements will mature in phases. The building therefore needs a solution that supports not only what is known today, but also how FCEDC will operate tomorrow.

A conventional hard-wired approach can force early space-by-space decisions and create disruption when layouts change or new functions come online. Syncromesh provides a flexible operational foundation that accommodates change while preserving continuity, governance, and long-term value.

- A scalable building-intelligence foundation that supports immediate use and future expansion.
- A flexible approach that activates spaces consistently without repeated redesign.
- A platform that supports visibility, control, and disciplined operational management from the outset.
- A modern environment that functions efficiently while showcasing innovation and readiness.
- A facility experience that reinforces confidence in the region as a smart, future-ready place to invest and grow.

The flagship facility supports both internal operations and external stakeholder engagement. As FCEDC uses the space to host partners, prospects, and regional stakeholders, the building itself becomes part of the story.

FCEDC Flagship Facility Current & End State

Proposed Solution

The proposed solution begins with a baseline monitoring and building-performance assessment that establishes how the facility is performing in its current state and identifies where future investment will create the greatest value. Following that baseline phase, H4 applies a two-layer Syncromesh deployment model tailored to FCEDC's phased facility strategy. This approach allows FCEDC to move forward in a disciplined sequence: first understand current energy use, HVAC performance, indoor environmental quality, lighting conditions, and precision metering opportunities; then phase in lighting improvements, controls, and broader smart-building capabilities in alignment with interior build-out, operational priorities, and available capital.

Layer One: Building-Wide Canopy

The first Syncromesh deployment layer establishes a building-wide wireless canopy across the facility as broader smart-building activation becomes appropriate. Once FCEDC has baseline performance data and is ready to expand beyond initial targeted improvements, this canopy can serve as the facility's core digital infrastructure and create resilient wireless coverage that remains valuable as the physical layout continues to evolve.

By deploying the canopy in alignment with measured needs and phased interior build-out, FCEDC gains a stable foundation for future connected devices, controls, sensors, analytics, and precision energy monitoring without forcing premature investment in areas that are not yet ready for activation. This preserves flexibility, reduces retrofit friction, and supports smarter sequencing of future scope.

Layer Two: Standard Room Packages

The second Syncromesh deployment layer uses standardized room-level smart packages aligned to the planned uses of the building as spaces are activated over time. Rather than designing each room from scratch or deploying full smart-room capability before the facility's operating patterns are clear, FCEDC can apply repeatable packages by room type in the phases where those capabilities will deliver the most practical value.

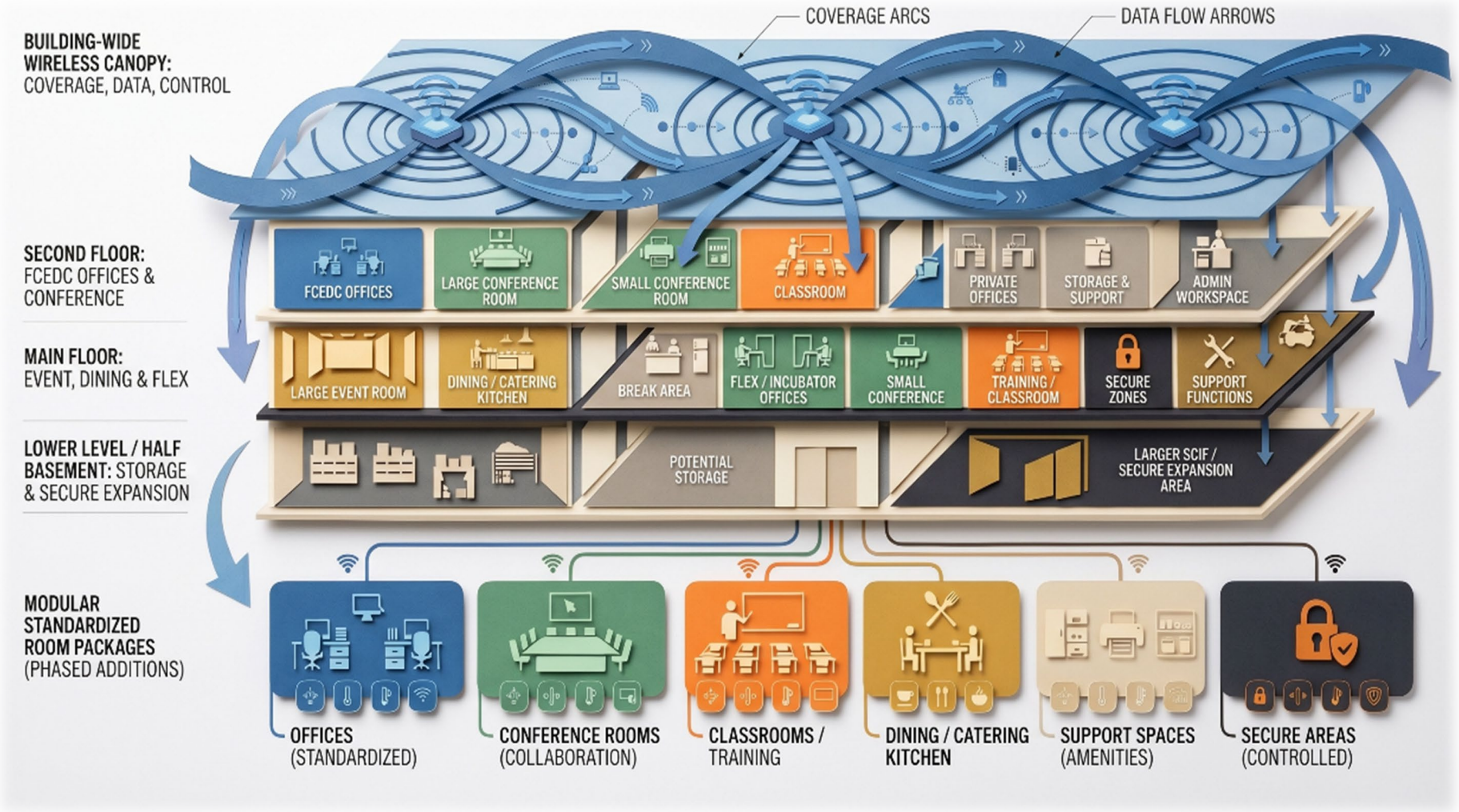
Illustrative room packages may include:

- Flex and incubator offices with lighting control, occupancy sensing, temperature monitoring, and optional indoor air quality monitoring.

- FCEDC offices with comfort monitoring, utilization insight, and day-to-day operational visibility.
- Conference and classroom spaces with enhanced occupancy awareness, scheduling-aligned controls, and showcase-ready analytics.
- Support spaces with efficient low-touch controls for restrooms, storage, janitorial, and operational support uses.
- Future tenant or program spaces with precision energy monitoring and submeter-ready configurations, where appropriate.
- Future secure-adjacent spaces with perimeter-based design, while wired-only strategies remain in place inside any required secure envelope.

This deployment model aligns well with a building that will continue to evolve after the initial baseline and early improvement phases. It supports phased construction, reduces retrofit friction, and gives FCEDC a clean path to expand smart-building capabilities over time while preserving future flexibility.

The Syncromesh Building Intelligence Environment



Technical Architecture

Syncromesh provides a layered building intelligence system suited to a facility that includes both standard and secure-adjacent environments.

Device Layer

Smart luminaires, sensors, and room controllers in offices, conference rooms, classrooms, and support spaces form Syncromesh-enabled endpoints throughout the facility.

Mesh Canopy Layer

These endpoints form a time-synchronized, frequency-hopping, multi-hop wireless network that covers all three floors and stays resilient as the layout evolves.

Gateway and Edge Layer

Syncromesh gateways terminate the wireless canopy, manage encryption keys, enforce policy, and expose controlled interfaces into FCEDC's OT and IT environments.

Application Layer

FCEDC can operate an on-premises dashboard and BMS environment for operations, while leadership can use an executive view during tours, briefings, and stakeholder engagement.

Security Approach

Syncromesh uses encryption, authenticated provisioning, auditable commissioning, and a perimeter-based design approach for secure-adjacent areas. Wireless coverage can remain outside any secure envelope while wired-only strategies remain in place inside, preserving building-wide continuity without compromising specialized requirements.

Scope of Work

H4 will deliver a structured sequence of workstreams spanning discovery, phased assessment, prioritized improvements, smart-building expansion, training, and optimization.

Workstream	Activities	Deliverables
Discovery & Alignment	Stakeholder sessions, facility review, floor plan review, use-case validation, success criteria definition	Discovery summary, assumptions log, initial success metrics
Phase 1: Baseline Monitoring & Building Performance Assessment	Conduct targeted site validation and confirm monitoring objectives; deploy limited monitoring devices and sensors to establish baseline whole-building and representative end-use energy consumption; monitor indoor environmental quality in representative zones, including temperature, humidity, particulate levels, and VOC conditions as applicable; document existing lighting inventory, fixture condition, and priority replacement areas; estimate lighting-related energy use and operating hours by space type; analyze data over the agreed monitoring period to identify operational patterns, comfort issues, indoor air quality concerns, and likely energy-waste drivers; develop prioritized findings and a phased improvement roadmap.	Baseline Building Performance Report; monitored energy-use and environmental-condition summary; preliminary HVAC and lighting findings; lighting condition and prioritization matrix with estimated energy and operating-hour profiles; prioritized issue log; recommended phased improvement roadmap, including near-term lighting priorities and future Syncromesh deployment options; updated scope, sequencing, and budget guidance for subsequent phases.
Phase 2: Priority Improvements & Near-Term Activation	Translate Phase 1 findings into a prioritized set of corrective actions; plan and execute phased lighting improvements in the highest-impact areas; implement selected controls and operational changes that can be delivered with limited disruption; validate comfort and indoor environmental quality improvements in targeted zones; refine subsequent-phase scope based on actual benefits and FCEDC's interior build-out plans.	Implemented priority improvements; updated performance snapshots for treated areas; refined phased roadmap for future lighting, precision metering, and smart-building expansion; lessons-learned summary to inform subsequent phases.

Phase 3: Precision Metering & Initial Smart-Building Expansion	Design and implement precision energy monitoring to enable more granular visibility into key loads and spaces; establish submeter-ready infrastructure for selected tenant or program areas; extend environmental sensing and controls into priority spaces; integrate metering data into dashboards and reporting tools where applicable; coordinate deployment with ongoing interior build-out.	Precision metering plan and implemented metering infrastructure; submeter-ready configuration for selected spaces; initial smart-building dashboards or views; operational playbook for using metering and sensing data in daily management and reporting.
Phase 4: Expanded Syncromesh Deployment & Ongoing Build-Out Support	Install building-wide Syncromesh canopy and mesh nodes as approved; coordinate network integration and validate coverage; deploy standardized room packages for offices, conference rooms, classrooms, and support spaces as they come online; add room packages as construction progresses; update documentation; coordinate with project stakeholders to keep technology activation aligned with interior build-out.	Operational building-wide Syncromesh backbone; activated smart spaces per approved scope; updated activation plans; commissioning documentation; expansion support and revised phasing documents.
Training & Enablement	Admin training, dashboard orientation, reporting support, and handoff documentation for each approved phase	User guidance, handoff materials, showcase talking points
Optimization & Future Replication Planning	Tune performance, refine use cases, support future replication planning	Optimization recommendations, future expansion framework

Implementation Plan

The implementation plan is designed to mirror the evolution of the facility itself while reducing decision risk at each step. Rather than requiring FCEDC to commit to full smart-building deployment before the building's operating profile is understood, the project begins with a focused baseline phase that establishes how the facility is performing in its current state. This gives FCEDC a disciplined starting point, creates immediate operational visibility, and provides the evidence needed to prioritize future investments with confidence.

Phase 1: Baseline Monitoring & Building Performance Assessment

The first phase establishes the performance baseline for the building as it exists today. H4 will validate existing conditions, deploy targeted monitoring, and collect data on energy use, HVAC performance, indoor environmental quality, lighting conditions, and precision energy monitoring opportunities that can support future tenant submetering and more accurate cost allocation. This phase answers the key questions that should be resolved before larger capital commitments are made: how the building is consuming energy now, where operational inefficiencies are occurring, which lighting and environmental issues are most urgent, and where future controls or automation will create the greatest return.

Phase 2: Priority Improvements & Near-Term Activation

Using the findings from Phase 1, FCEDC can move into the first round of targeted improvements. This phase prioritizes the areas most likely to produce measurable gains in energy performance, comfort, safety, and operational control. For FCEDC, that is expected to include phased lighting improvements in the highest-impact areas, selected controls, and other corrective actions that can be implemented without overwhelming the organization with an unsupportable capital event. The emphasis is on sequencing improvements in a way that aligns investment with evidence, near-term operational priorities, and readiness for subsequent interior build-out.

Phase 3: Precision Metering & Initial Smart-Building Expansion

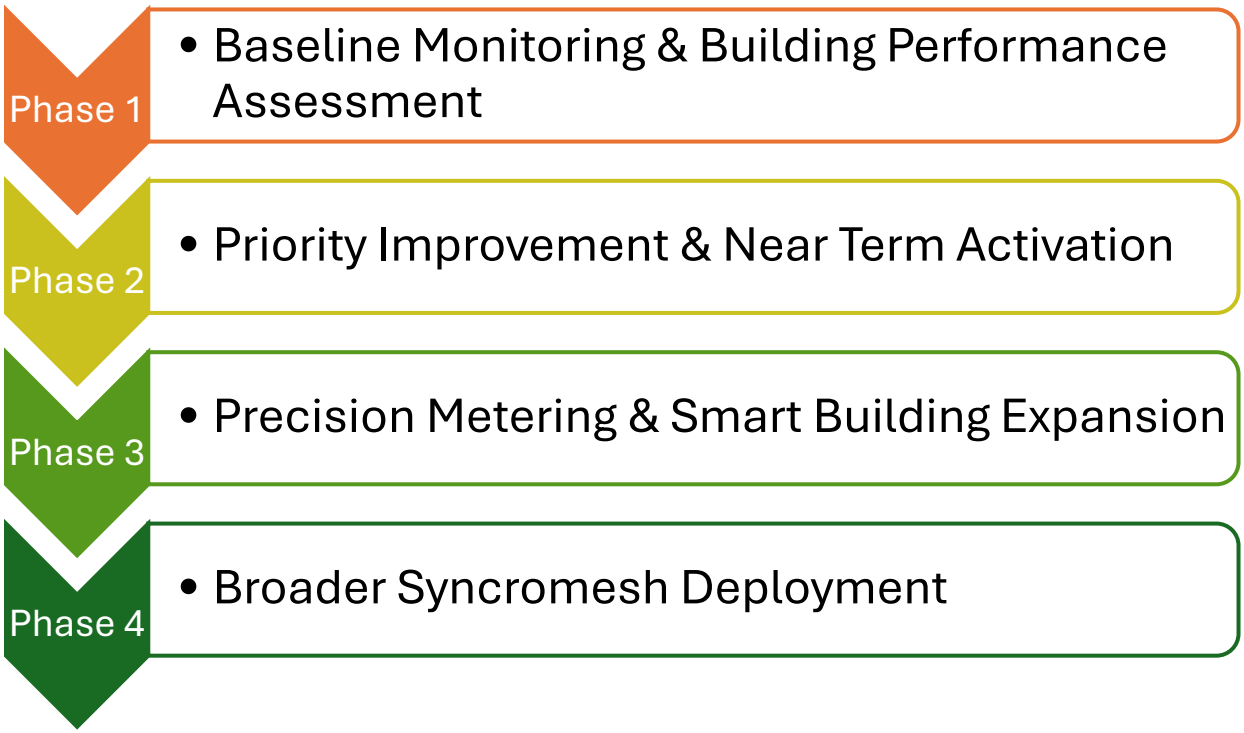
As interior spaces continue to come online, FCEDC can expand from baseline visibility into more refined operational control. This phase may include precision energy monitoring, submeter-ready infrastructure for selected tenant or program spaces, expanded environmental sensing, and initial Syncromesh-enabled controls in priority areas. By this point, the roadmap is no longer based on assumptions; it is informed by measured building performance, actual usage patterns, and the operational needs of the spaces being activated.

Phase 4: Broader Syncromesh Deployment Aligned to Build-Out

As FCEDC completes additional interior build-out, the smart-building environment can expand in the same rhythm. A broader wireless Syncromesh canopy, standardized room-level packages, dashboards, and analytics can be deployed in alignment with the activation of offices, conference rooms, classrooms, support spaces, and future specialized areas. This preserves the original value of the phased Syncromesh strategy: reduced retrofit friction, cleaner sequencing, better scalability, and a more consistent facility experience as the building matures.

This implementation structure gives FCEDC a practical path from current-state understanding to long-term building intelligence without forcing premature decisions about every future space configuration. It creates a repeatable rhythm for assessment, prioritization, activation, and expansion that supports stewardship, cost justification, occupant experience, and showcase readiness as the facility and its mission continue to grow.

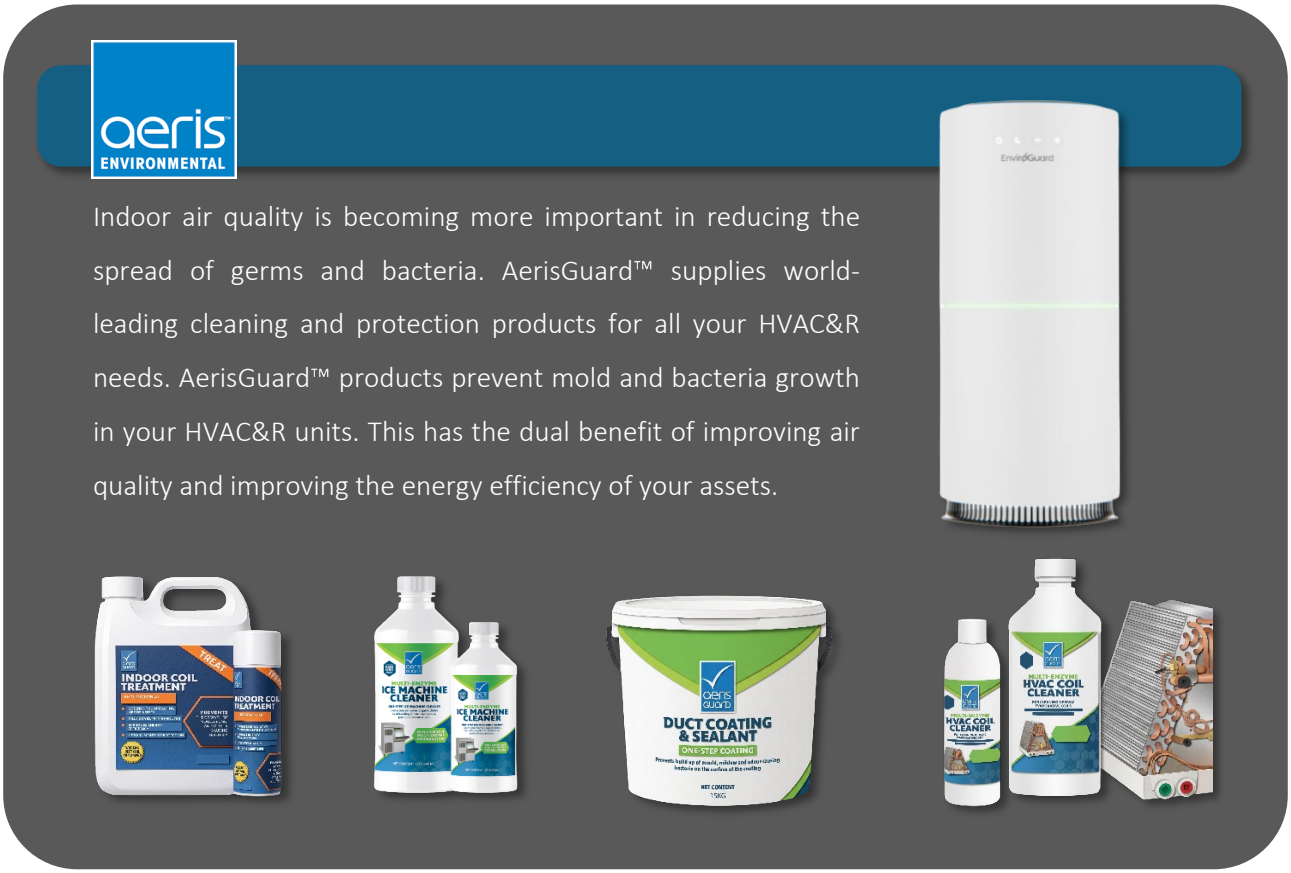
Figure 3 Implementation Plan Phases



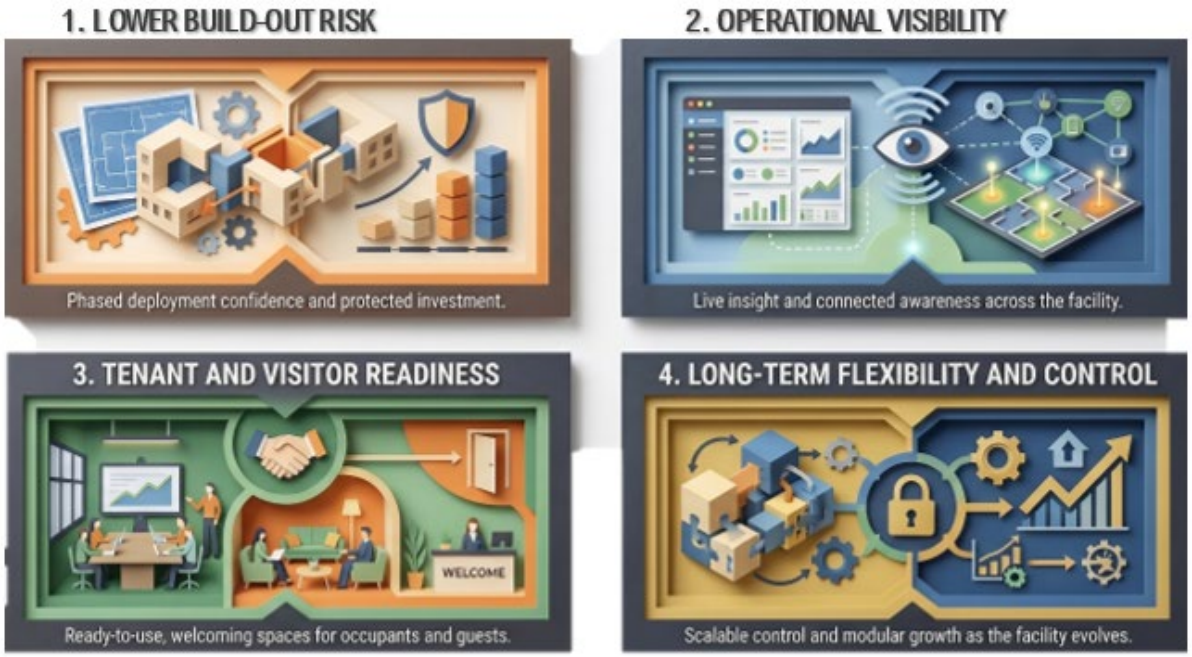
AerisGuard Integration

AerisGuard products can complement the Syncromesh deployment by supporting HVAC cleanliness, hygiene, and performance at key mechanical system touchpoints. For FCEDC, this creates a practical opportunity to align building intelligence with healthier, better-maintained air-handling infrastructure.

Together, these capabilities support a more complete facility story around comfort, indoor environmental quality, readiness, and long-term stewardship.



Business Value



Lower Build-Out Risk

The proposed phased approach reduces build-out risk by improving decision quality before larger capital commitments are made. The baseline phase gives FCEDC a quantified understanding of current energy use, HVAC performance, indoor environmental quality, lighting conditions, and priority improvement areas, allowing future investments to be guided by measured building conditions rather than assumptions. This lowers the risk of misaligned scope, premature spending, and avoidable rework.

As FCEDC advances its interior build-out, Syncromesh capabilities can then be deployed in alignment with each operational phase of space activation. This sequencing reduces retrofit friction, limits disruption, and supports a cleaner path for adding precision metering, controls, and standardized smart-room packages as offices, conference rooms, classrooms, and support spaces come online. The result is a more disciplined, adaptable implementation path that protects flexibility while improving long-term facility performance.

Better Operational Visibility

Syncromesh provides visibility into occupancy, environmental conditions, comfort, and other building-performance factors that can improve day-to-day management. Baseline monitoring and subsequent precision metering extend that visibility into how specific spaces and loads

perform over time, including lighting and other major contributors to energy use. That information supports informed decisions about space use, scheduling, maintenance, and stewardship, and it gives FCEDC the tools to track whether improvements are delivering the expected outcomes.

Stronger Tenant and Visitor Readiness

For incubator users, tenants, partners, and visitors, a well-instrumented facility presents as modern, intentional, and professionally managed. As FCEDC brings additional spaces online, phased smart-building activation supports reliable comfort, safer and more attractive lighting, and improved indoor environmental quality. Over time, precision energy monitoring and potential tenant submetering capabilities can also support clearer communication about cost and value, reinforcing the perception of FCEDC as a transparent, future-ready partner.

Long-Term Flexibility and Control

Because the Syncromesh platform is open, secure, and vendor-agnostic, FCEDC retains greater flexibility over future integrations, data use, and expansion decisions. The baseline-first, phased deployment model further protects that flexibility by avoiding overcommitment to a fixed design before the building's operating profile is well understood. As needs evolve, FCEDC can add capabilities, integrate additional systems, or replicate successful patterns in future facilities without being constrained by a closed or overly rigid technology environment.

Stewardship, Reporting, and Funding Support

As FCEDC uses the flagship facility to represent the region, the combined baseline monitoring, precision metering, and Syncromesh capabilities provide data that shows how the building is being operated and managed. Occupancy, runtime, comfort, indoor environmental quality, and energy-use trends can support stewardship reporting, ESG-aligned narratives, and grant or federal funding applications that ask for evidence of efficient, healthy, and well-managed space. The same dashboards and reports that support daily operations can also generate clear charts and summaries for leadership, visitors, grant reviewers, and external stakeholders.

Dashboard and Showcase Option

A flagship dashboard and digital showcase can extend the value of the core deployment and tie building performance directly to the FCEDC facility story. This option turns the building into a living demonstration asset for internal operations, leadership briefings, and external stakeholder engagement.

Potential dashboard elements may include:

- Whole-building performance overview.
- Key performance indicators and trend lines.
- Zone-specific performance views by floor and space type.
- Energy use and stewardship indicators.
- Indoor environmental quality metrics.
- Space utilization and occupancy insight.
- Alerts and operational notifications.

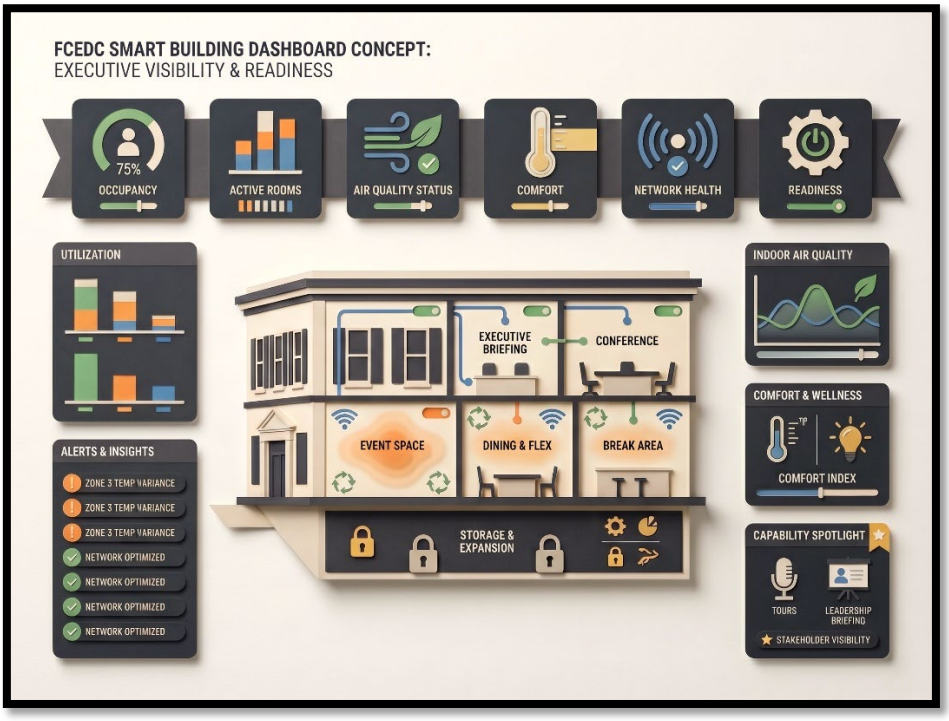


Figure 4 Syncromesh provides a Common Operational Picture in one comprehensive dashboard that provide near real-time data and remote monitoring access.

Investment Considerations

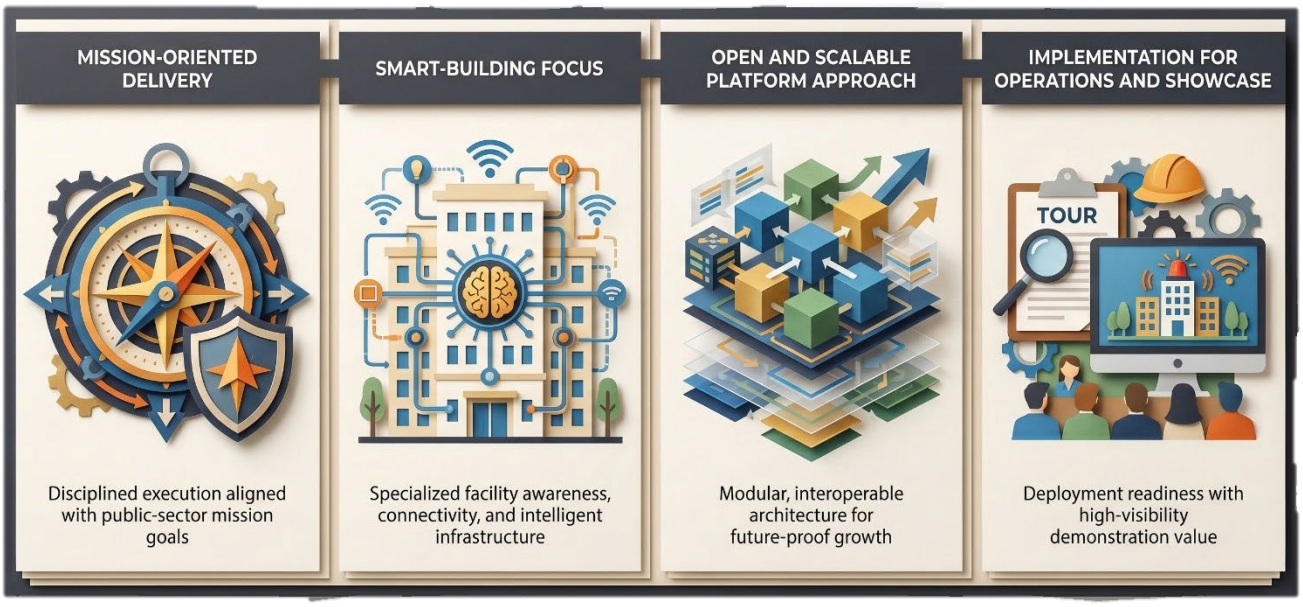
H4 has intentionally not included pricing or a ROM estimate at this stage because doing so before completing a technical site survey and initiating baseline monitoring for the M&V component would be premature and potentially misleading. The final Syncromesh scope must be based on verified field conditions, existing infrastructure, integration requirements, operational priorities, and the reporting framework needed to support future performance measurement.

For that reason, H4 recommends an assessment-first approach. Following notice to proceed, H4 would complete the site survey, validate system conditions, and establish the baseline monitoring required for future reporting. Once that work is complete, H4 will be able to provide a refined scope, implementation plan, and formal commercial proposal that is accurate, defensible, and aligned with the client's operating environment.

Commercial input	***How it informs future pricing and scope***
Technical site survey findings	Confirms actual field conditions, device placement constraints, infrastructure readiness, and deployment complexity
Infrastructure and systems assessment	Clarifies integration requirements, interoperability considerations, and dependencies with existing systems
Baseline monitoring results	Establishes current operating conditions and the measurement basis for future reporting
M&V framework definition	Identifies performance metrics, data quality requirements, reporting cadence, and verification logic
Deployment sequencing	Determines phased rollout logic, resource needs, and potential operational constraints
Stakeholder priorities	Aligns commercial structure to the client's decision criteria, risk posture, and implementation objectives

Why H4 Enterprises

H4 Enterprises combines facilities experience, operational discipline, and intelligent-building innovation through Syncromesh and related solution partnerships. For FCEDC, that means working with a delivery partner that aligns technical execution with operational value, stakeholder communication, and long-term facility evolution.



Key differentiators include:

- Mission-oriented delivery that supports accountability, execution, and stakeholder alignment.
- Smart-building and facilities focus that connects technology decisions to real building performance and business outcomes.
- An open, secure, scalable platform approach that supports future flexibility and enterprise suitability.
- Integration-minded delivery that helps FCEDC build on existing infrastructure instead of starting over.
- Strategic storytelling capability that helps the flagship function as both an operating environment and a recruitment asset.

Next Steps

Upon approval, H4 will confirm the final scope, validate project assumptions, and initiate discovery, site review, baseline planning, and precise pricing aligned to the approved Phase 1 assessment.

Near-term actions:

- Confirm Phase 1 baseline monitoring and assessment scope.
- Validate assumptions, site access, and scheduling preferences.
- Finalize Phase 1 commercial terms and authorization.
- Establish target start date and initial coordination cadence.

FCEDC has an opportunity to shape this flagship facility in a way that reflects both innovation and responsible stewardship. By beginning with a clear understanding of current building performance and then phasing improvements in alignment with operational priorities and interior build-out, FCEDC can make smarter investment decisions while steadily creating a more efficient, comfortable, and future-ready environment. H4 Enterprises appreciates the opportunity to support that vision and stands ready to help FCEDC move forward with a practical, phased approach to long-term building intelligence and operational excellence.

APPENDIX A — Business Case and Strategic Value

Why This Investment Makes Sense for FCEDC and Cumberland County

The FCEDC flagship facility at 611 Russell Street is a public asset. It will be used to host employers, support entrepreneurs, recruit investment, and represent Cumberland County to the organizations and agencies that shape its economic future. How the building performs — and how FCEDC is seen to manage it — is part of that story.

The recommendation from H4 Enterprises is not to buy a technology system. It is to give FCEDC a disciplined, evidence-based path to a better-performing, better-managed, and more credible public facility — one that grows smarter as it grows more fully occupied.

That distinction matters because it changes the nature of the decision. This is not a question of whether FCEDC wants smart-building features. It is a question of whether FCEDC wants to operate its flagship with the same standard of accountability and visibility it would expect from any well-run public asset. The proposed approach makes that possible without requiring FCEDC to overcommit before it understands what the building actually needs.

The Case for Starting with Evidence

The facility is not yet fully built out. Rooms, suites, classrooms, and common areas will come online in phases. That reality is not a complication — it is an opportunity to make better decisions than a conventional all-at-once deployment would allow.

H4's recommended starting point is a baseline monitoring and building performance assessment. Before recommending where to invest in lighting upgrades, controls, or expanded technology capabilities, H4 will document how the facility is actually performing today — energy use, HVAC conditions, indoor air quality, and lighting inventory across the building.

That first phase does two things at once. It gives FCEDC immediate, actionable visibility into its own facility. And it creates the evidence base that justifies every subsequent decision with data rather than assumptions.

For a public organization accountable to a board and to the community it serves, that sequence is not just practical — it is the right governance posture.

What This Approach Delivers Over Time

Public Value Dimension	Near-Term	Over Time
Responsible capital stewardship	Avoids premature spending before building conditions are understood	Ensures future investments are targeted, justified, and documented
Operating cost control	Establishes baseline energy and HVAC visibility	Enables ongoing monitoring, reporting, and efficiency improvement
Occupant and tenant experience	Identifies comfort and air quality issues early	Creates healthier, more adaptable spaces that support recruitment and retention
Space utilization and planning	Reveals how rooms are actually used	Improves scheduling, fit-out decisions, and future investment sequencing
Public accountability and reporting	Produces documented performance data from day one	Supports stewardship reporting, grant applications, and stakeholder briefings

Why This Model Protects Public Investment

Three characteristics of the proposed approach are directly relevant to elected officials and public board members.

It phases spending with evidence. Rather than committing to full smart-building deployment before the building's operating profile is understood, FCEDC can authorize one phase at a time. Each phase produces findings that inform the next. That structure keeps capital decisions transparent and defensible.

It avoids vendor lock-in. Syncromesh is an open, standards-based platform. FCEDC is not committing to a single proprietary vendor for every future technology decision in the building. As needs evolve, the platform can accommodate new applications, new integrations, and new priorities without requiring a full rebuild.

It creates replicable value. A flagship that demonstrates measurably better building performance — with documented data to support that claim — becomes a model for how

FCEDC and Cumberland County approach public asset management more broadly. That has value beyond this building.

What Leadership Can Say With Confidence

When asked to explain this investment, FCEDC leadership can point to a straightforward and defensible rationale:

We are starting by understanding what our building actually needs. We are phasing our investments so that each one is justified by evidence, not by assumption. We are using a platform that keeps us in control of our technology future. And we are creating the kind of environment — efficient, healthy, well-documented, and adaptable — that reflects the standard of stewardship this community deserves from its flagship economic development facility.

That is not a technology argument. It is a public accountability argument. And it is one that holds up in front of a board, a commission, or a community.

APPENDIX B — How the Building Works for FCEDC

What Syncromesh Does, in Plain Terms

A modern building generates a constant stream of information — how much energy is being used, whether rooms are occupied, whether the air is healthy, whether lighting is working efficiently. In most buildings, that information is either not captured at all, or it lives in disconnected systems that no one has time to reconcile.

Syncromesh changes that by creating a single, building-wide operating layer — a digital canopy — that connects lighting, sensors, environmental monitoring, occupancy insight, and controls through one common framework. Instead of managing a collection of unrelated systems, FCEDC can manage one coherent environment.

That matters most for a facility that will evolve over time. As FCEDC activates new spaces, brings in tenants, and expands its programming, the same infrastructure supports each new phase without requiring the building to be rewired or redesigned from scratch.

What the Building Can Do

Once the Syncromesh canopy is established, FCEDC can activate capabilities by space type as each area comes online. The same infrastructure supports all of them.

Capability	What It Means in Practice
Lighting control	Spaces adjust automatically to occupancy and daylight, reducing waste and improving comfort
Occupancy monitoring	FCEDC knows which rooms are in use, when, and for how long — supporting better scheduling and space planning
Indoor air quality	Temperature, humidity, CO_2, and particulate levels are monitored continuously, with alerts when conditions fall outside acceptable ranges
Energy monitoring	Consumption data is available by floor, zone, or space — supporting stewardship reporting and future tenant cost allocation
Dashboard and reporting	Building performance is visible in real time and can be displayed for leadership briefings, grant reviewers, and public stakeholders

None of these capabilities require FCEDC to commit to all of them on day one. They become available progressively, as the building and its operating needs mature.

How the System Is Organized

Understanding how Syncromesh is structured helps explain why it stays manageable as the building grows.

Layer	What It Does
Field devices and room controls	Sensors, luminaires, and controls inside each space — the points where the building's activity is measured and managed
Wireless mesh canopy	The building-wide communication fabric that connects all devices without requiring control cabling through walls and ceilings
Gateways	The managed boundary between the building network and external systems — controlling what information flows where and under what rules
Dashboards and analytics	The interface through which FCEDC staff and leadership see what the building is doing and act on that information

This layered structure is important because it separates functions cleanly. The building can grow — new rooms, new sensors, new capabilities — without disrupting what is already working. And because each layer has defined responsibilities, the system remains governable rather than becoming a complex tangle that no one fully understands.

Staying in Control

For a public facility with no dedicated facilities staff, the most important question is not *what can this system do* — it is *who is in control of it, and how?*

Syncromesh is designed to answer that question clearly. Administrative actions require authentication. Changes to the system are logged. Firmware updates are signed and verified before deployment. Devices can be added, moved, or removed through defined processes rather than informal workarounds.

In practical terms, this means FCEDC does not need a full-time technology team to keep the building operating correctly. The system is designed to surface problems before they become crises, to support straightforward daily management, and to give leadership the information they need without requiring them to interpret raw technical data.

The building's operational story — how it is performing, where it is improving, what it costs to run — is available in plain language through dashboards and reports designed for non-technical users.

The Flexibility Advantage

The strongest operational argument for this approach is what it protects against: the need to start over.

Conventional building technology decisions can lock a facility into a specific configuration. When needs change — a new tenant, a new program, a new compliance requirement — the result is often expensive rework, disruption, and lost time.

Syncromesh is built on open standards and a vendor-agnostic platform model. FCEDC is not dependent on a single proprietary supplier for every future technology decision. The building can accommodate new applications, new integrations, and new operational priorities without requiring a new technical foundation each time.

For a facility expected to serve FCEDC and Cumberland County for decades, that flexibility is not a minor convenience. It is a meaningful protection of the public investment.

APPENDIX C — Cybersecurity, Governance, and Sensitive-Space Readiness

The Question Every Public Official Should Ask

When a public organization installs networked technology in a building, the right question is not *does it work* — it is *can it be compromised, and what happens if it is?*

For FCEDC, that question carries additional weight. The flagship facility will host elected officials, economic development partners, prospective employers, and community stakeholders. It will eventually include spaces that may sit adjacent to more sensitive functions. The building's technology infrastructure must be trustworthy — not just capable.

Syncromesh was designed with that standard in mind. Security is not an add-on feature. It is built into the architecture from the ground up.

How the System Is Secured

Syncromesh protects the building network through multiple reinforcing layers, each of which addresses a specific class of risk.

Every device has a unique identity. Each node in the Syncromesh network is assigned individual encryption and authentication keys. Devices cannot impersonate one another, and a problem with one device cannot automatically spread to others. If a device is compromised, it can be isolated and removed without disrupting the rest of the network.

All communications are encrypted and authenticated. Messages between devices and the gateway use AES-128 encryption with authenticated integrity checks. The system is designed to detect and reject unauthorized messages — including attempts to intercept, modify, or replay commands. An attacker who captures network traffic cannot use it to manipulate the building's systems.

Commissioning is a controlled, auditable process. Installing a device on the Syncromesh network is not as simple as plugging it in. Commissioning requires certified integrators, physical security tokens, and documented workflows. Every action taken during commissioning is logged. FCEDC receives an auditable record of who did what, when, and where.

Changes to the system are governed, not improvised. Firmware updates are cryptographically signed before deployment. Configuration changes follow defined

procedures. Devices that are moved, retired, or replaced go through a formal process that includes key revocation and audit trail maintenance.

What This Means If Something Goes Wrong

No networked system is immune to all threats. What distinguishes a well-designed system is how it behaves when something unexpected occurs.

Threat Scenario	How Syncromesh Responds
A device is physically tampered with	Tampering can be detected and reported; the device can be isolated without affecting the rest of the network
An unauthorized device attempts to join the network	The system cryptographically rejects it; the attempt is logged and can trigger an alert
A communication is intercepted	Encrypted and authenticated messages cannot be read or replayed by an unauthorized party
A firmware update is attempted without authorization	Unsigned firmware is rejected before it can be installed
A gateway loses connectivity	The mesh network continues operating locally; the failure is detected and reported

For FCEDC leadership, the practical implication is straightforward: the building's technology infrastructure is designed to stay under FCEDC's control, to surface problems before they become serious, and to contain any issue that does arise rather than allowing it to cascade.

Alignment with Federal Standards

Because FCEDC's facility may interact with federal programs, host federal agency partners, or eventually seek federal certification for certain spaces, the platform's alignment with federal security frameworks is relevant.

Syncromesh's security architecture aligns with:

- **NIST SP 800-53** — the security control framework for federal information systems, including access control, authentication, system integrity, and communications protection
- **NIST SP 800-82** — guidance for industrial control system security, including network segmentation, restricted logical access, and anomaly detection
- **FIPS-approved cryptographic standards** — AES encryption and CMAC authentication consistent with Federal Information Processing Standards
- **Risk Management Framework (RMF)** — the platform supports the documentation, continuous monitoring, and audit trail capabilities that federal RMF processes require

This alignment does not mean FCEDC is committing to a federal certification process. It means the platform is architected in a way that would support that process if FCEDC's needs or partnerships ever require it — and that the security posture is credible in front of federal reviewers, auditors, and agency partners.

Sensitive-Space Considerations

The FCEDC facility concept includes the possibility of spaces that may eventually sit adjacent to more sensitive or secure functions. The Syncromesh approach handles this through a clear and honest design principle: wireless coverage is appropriate outside any secure envelope, and wired-only strategies remain in place inside.

That is not a limitation — it is the correct answer. Any technology partner that claims wireless IoT is appropriate inside a classified environment without extensive additional review and certification should not be trusted. Syncromesh does not make that claim. Instead, it offers:

- A perimeter-based design that keeps building-wide wireless coverage outside secure boundaries
- Clear documentation of where wireless systems operate and where they stop
- An architecture that preserves full building continuity for non-secure spaces while respecting the requirements of spaces that need different treatment

- Support for the documentation processes that adjacent or future secure-space certifications would require

For a board or commission member asked about security, this is the right posture to be able to describe: the system knows where its boundaries are, respects them by design, and is honest about what it does and does not do.

The Governance Summary

FCEDC does not need a cybersecurity team to operate Syncromesh responsibly. The system is designed to support accountable, disciplined operation by an organization whose strength is economic development — not IT management.

What FCEDC gets is a building network that:

- Cannot be joined by unauthorized devices
- Logs every administrative action for accountability
- Contains problems rather than allowing them to spread
- Aligns with the security standards that federal partners and reviewers recognize
- Respects the boundaries of any sensitive spaces that may be part of the facility's future

That is a security story that can be told plainly, defended publicly, and trusted to hold up under scrutiny.

APPENDIX D — Deployment, Validation, and Operating Model

A Plan That Earns Authorization at Each Step

Large technology investments in public facilities often fail not because the technology is wrong, but because the rollout asks leadership to approve everything at once, before anyone has seen how the building actually performs. The result is either scope creep, cost overruns, or buyer's remorse when the final product does not match the original promise.

H4's deployment model is built around a different philosophy: earn the next phase. Each stage produces documented findings that inform and justify what follows. FCEDC never has to commit to the full roadmap on day one. It commits to what is in front of it, reviews the results, and approves the next step with better information than it had before.

That is responsible public stewardship — and it is how this project is designed to work.

The Four Phases

Phase 1 — Baseline Monitoring and Building Performance Assessment

Before any technology is deployed at scale, H4 establishes a factual picture of how the building is performing today. This is the foundation for everything that follows.

What happens in this phase:

- Targeted monitoring devices are deployed to capture whole-building energy consumption and representative end-use patterns
- HVAC operating conditions are measured and documented
- Indoor environmental quality is monitored in representative zones — temperature, humidity, CO_2, particulates, and VOCs as applicable
- The existing lighting inventory is documented, including fixture condition, estimated energy use, and priority replacement areas
- Data is collected over an agreed monitoring period and analyzed to identify operational patterns, comfort issues, and energy waste

What FCEDC receives:

- A Baseline Building Performance Report with a plain-language summary of current conditions

- A prioritized issue log identifying where problems exist and how significant they are
- A phased improvement roadmap with recommended sequencing for lighting, controls, precision metering, and Syncromesh expansion
- Updated scope and budget guidance for subsequent phases, grounded in measured data rather than assumptions

Why this phase matters: FCEDC will not be asked to approve a lighting replacement project or a building-wide technology deployment without first knowing what the building actually needs. This phase creates that knowledge — and with it, the basis for every future capital decision to be defensible to a board, a commission, and the public.

Phase 2 — Priority Improvements and Near-Term Activation

Using Phase 1 findings, H4 translates the most important issues into a targeted set of corrective actions. This phase focuses on the highest-impact improvements — those most likely to produce visible, measurable gains in energy performance, occupant comfort, and operating reliability.

What happens in this phase:

- Priority lighting improvements are implemented in the areas identified by Phase 1 as most in need
- Selected controls and operational changes are made where they can be delivered without disruption
- Comfort and indoor air quality improvements are validated in treated zones
- The roadmap for subsequent phases is refined based on actual results and FCEDC's current build-out progress

What FCEDC receives:

- Completed priority improvements with documentation
- Updated performance snapshots showing before-and-after conditions in treated areas
- A refined phased roadmap for precision metering, smart-building expansion, and Syncromesh deployment
- A lessons-learned summary that improves the quality of subsequent phases

Why this phase matters: Rather than waiting until the full building is built out to see any benefit, FCEDC begins realizing operational value in its highest-priority spaces. These early results also provide concrete evidence — in the form of documented improvements — that can support grant applications, stewardship reporting, and stakeholder communication.

Phase 3 — Precision Metering and Initial Smart-Building Expansion

As interior spaces continue to come online, FCEDC can extend from baseline visibility into more refined operational control. This phase activates the capabilities that make the building genuinely useful as a managed, intelligent environment.

What happens in this phase:

- Precision energy monitoring is designed and implemented, providing granular visibility into key loads and spaces
- Submeter-ready infrastructure is established for selected tenant or program areas, supporting future cost allocation
- Environmental sensing and controls are extended into priority spaces
- Metering and sensing data is integrated into dashboards and reporting tools

What FCEDC receives:

- Precision metering infrastructure with documentation
- Submeter-ready configuration for applicable spaces
- Initial smart-building dashboards or views available to operations staff and leadership
- An operational playbook for using metering and sensing data in daily management and stewardship reporting

Why this phase matters: This is where the building starts to tell its own story. Energy use, occupancy, environmental conditions, and space utilization become visible in real time — not as raw data, but as clear, actionable information for the people responsible for running the facility and reporting to its stakeholders.

Phase 4 — Broader Syncromesh Deployment Aligned to Build-Out

As FCEDC completes its interior build-out, the full Syncromesh canopy and standardized room packages are deployed in alignment with each space as it comes online. This phase delivers the complete smart-building environment envisioned for the flagship facility.

What happens in this phase:

- The building-wide Syncromesh wireless canopy is installed and validated across all three floors
- Standardized room packages are activated by space type — offices, conference rooms, classrooms, support spaces, and future specialized areas
- Network integration is confirmed and coverage is validated
- Dashboards, analytics, and showcase capabilities are brought fully online
- Documentation is updated and commissioning records are formalized

What FCEDC receives:

- A fully operational Syncromesh backbone across the building
- Activated smart spaces per approved scope, with commissioning documentation
- A showcase-ready dashboard environment suitable for leadership briefings and stakeholder tours
- An expansion framework that supports future replication in other FCEDC or county facilities

Why this phase matters: The building arrives at its intended end state — not because it was forced there on day one, but because each phase built toward it deliberately, with evidence, with governance, and with results that justified each subsequent step.

How Commissioning Keeps FCEDC in Control

One of the most important governance features of the Syncromesh platform is how it handles commissioning — the process of activating and configuring devices on the network.

Commissioning is not informal. It requires:

- Certified integrators who have undergone background checks.

- Physical security tokens that must be present at the time of device activation
- Documented workflows that log every action taken during provisioning
- Formal handover processes that transfer accountability clearly at the conclusion of each phase

For FCEDC, this means that every device in the building has a documented history: who installed it, when, and under what authorization. That record supports both operational continuity and public accountability.

Validation Before Scaling

H4's model includes a deliberate validation step before expanding to the next phase. This means:

- Findings from each phase are reviewed and confirmed before new scope is authorized
- Pilot spaces can be tested before room packages are rolled out broadly
- Anomaly response and failover behavior can be exercised in a controlled environment
- Documentation generated during validation can support any governance or compliance review FCEDC may need to conduct

This validation posture is specifically designed for organizations that need to defend their decisions to oversight bodies. FCEDC will always be able to point to what was tested, what was found, and what was authorized as a result.

After the Build: Ongoing Operations

Once deployment is complete, FCEDC's ongoing operating model is straightforward by design.

- **Dashboard monitoring** provides continuous visibility into building performance without requiring dedicated facilities staff
- **Alert-based management** means issues surface proactively rather than waiting to be discovered

- **Defined change processes** ensure that adding, moving, or retiring devices happens through documented procedures rather than informal workarounds
- **Recurring optimization** allows the building to be tuned as actual usage patterns become clearer over time
- **Replication support** means that what FCEDC learns from this facility can be applied efficiently to future projects — reducing the cost and uncertainty of the next deployment

Summary: A Model Built for Public Accountability

Control Point	What It Provides
Phase 1 baseline before any major commitment	Ensures investment is grounded in measured reality, not assumptions
Phase-by-phase authorization	Keeps decision-making transparent and gives leadership meaningful oversight
Auditable commissioning	Creates a documented record of every device activation and system change
Validation before scaling	Confirms results before expanding scope
Ongoing dashboard and alert monitoring	Supports accountable day-to-day management without a dedicated facilities team
Formal lifecycle procedures	Ensures the system remains governable as it grows

The deployment model is not just a project plan. It is a governance framework — one that allows FCEDC's leadership, its board, and the broader community to know that the flagship facility is being built, activated, and operated with the discipline that public investment deserves.

APPENDIX E — Room Intelligence Packages: What Goes Into a Smart Space

How Room Packages Work

The Syncromesh platform is not a one-size-fits-all system, and it is not a collection of disconnected point solutions. It is a common operating layer — a digital canopy — that supports standardized, repeatable room-level packages tailored to how each space is actually used.

Think of it this way: the building-wide canopy is the foundation. Room packages are what get built on top of it, space by space, as each area comes online. Every package draws from the same open, vendor-agnostic infrastructure, which means FCEDC is never locked into a single manufacturer for sensors, luminaires, or controls. Best-available components from the broader market can be integrated as technology evolves and as FCEDC's needs become clearer.

This appendix describes what each room package monitors, what it controls, and what components make it work — in plain terms, for a leadership audience that needs to understand what the building will be capable of doing and why each capability was included.

The Base Package — Building-Wide Foundation

Before any room package is activated, the building-wide canopy establishes the shared infrastructure that all room packages depend on. This is not a room kit — it is the prerequisite that makes all room kits possible.

What it provides:

- Wireless mesh coverage across all three floors, allowing devices in any room to communicate through the canopy without dedicated control cabling
- Gateway equipment that manages the boundary between the building network and FCEDC's broader IT environment and dashboards
- The security backbone — authenticated communications, encrypted data transmission, and centralized key management — that governs every device on the network

- The platform connection point for dashboards, analytics, building management integration, and future enterprise applications

Key components:

Component	Plain-Language Function
Wireless mesh nodes (infrastructure)	Create the building-wide communication fabric across floors and zones
Syncromesh gateway	Manages network security, data flow, and connection to dashboards and external systems
Dashboard and reporting platform	The interface through which staff and leadership see building performance in real time
Commissioning and management tools	Secure software used by certified integrators to activate, document, and manage devices

Once the canopy is in place, any room package below can be added, expanded, or reconfigured without rebuilding the foundation.

Room Package 1 — Standard Office and Flex Workspace

Designed for: FCEDC staff offices, flex suites, incubator workspaces, and general-purpose work areas

What this space needs to do:
An office or flex workspace should be comfortable, energy-efficient, and easy to manage without anyone having to think about it. Lights should respond to whether people are present. The environment should stay within comfortable ranges for temperature and air quality. And FCEDC should know — without walking the floor — which spaces are being used and when.

What this package monitors:

- Occupancy — is the room in use, and for how long
- Lighting levels — is the space appropriately lit relative to daylight and activity
- Temperature — is the space within a comfortable and efficient range
- Humidity — is the environment within healthy parameters
- Carbon dioxide (CO_2) — an indicator of ventilation quality and occupant density
- Energy consumption — how much energy is this space using over time

What this package controls:

- Lighting on/off and dimming, responsive to occupancy and available daylight
- Integration with HVAC scheduling based on actual occupancy rather than fixed time schedules

Standard components:

Component	Function
Wireless lighting control node	Connects standard or dimmable luminaires to the Syncromesh canopy without control cabling
Occupancy sensor	Detects presence using passive infrared, microwave, or ultrasonic technology — open standard, multiple manufacturer options
Indoor environment sensor	Monitors temperature, humidity, and CO_2 in a single compact device
Wireless switch or scene controller	Allows occupants to adjust lighting without hardwired control panels

Modular add-ons available for this space type:

- Particulate matter (PM2.5) and VOC monitoring for enhanced air quality visibility
- Energy monitoring at the circuit or fixture level for precision consumption tracking
- Asset location tags for equipment, furniture, or devices that move between spaces

Room Package 2 — Conference Room and Meeting Space

Designed for: Boardrooms, conference rooms, and multi-purpose meeting areas

What this space needs to do:
A conference room used for stakeholder briefings, partner meetings, and board sessions needs to present well, perform reliably, and provide FCEDC with insight into how heavily it is actually being used. Lighting should be controllable for different meeting formats. Air quality should remain comfortable even when the room is at capacity. And utilization data should help FCEDC make informed decisions about scheduling and space allocation.

What this package monitors:

- Occupancy and people count — how many people are in the room, not just whether it is occupied
- Temperature and humidity
- CO_2 levels, which rise quickly in enclosed rooms at capacity and directly affect occupant comfort and alertness
- Particulate matter (PM2.5) for air quality assurance during high-occupancy events
- Lighting levels and energy consumption
- Room utilization patterns over time — bookings versus actual use

What this package controls:

- Lighting scenes — adjustable presets for presentations, meetings, and room-vacant states
- Automated lighting shutoff when the room is unoccupied after a defined period
- Optional integration with room booking and scheduling platforms

Standard components:

Component	Function
Wireless DALI lighting control node	Supports dimmable, tunable lighting compatible with a wide range of commercial luminaire manufacturers
People-counting sensor	Measures actual occupancy density, not just presence — supports utilization reporting

Component	Function
Enhanced indoor air quality sensor	Monitors temperature, humidity, CO_2, and PM2.5 in a single device
Wireless scene controller or touch panel	Allows meeting organizers to select lighting presets without hardwired controls
Room display or booking label (optional)	Shows room availability and current booking at the door

Modular add-ons available for this space type:

- VOC monitoring for chemical air quality indicators
- Executive dashboard view showing real-time room conditions during leadership tours and briefings
- Energy submetering for meeting spaces used by tenants or external partners

Room Package 3 — Classroom and Training Space

Designed for: Workforce development classrooms, training rooms, and educational program spaces

What this space needs to do:
A classroom or training environment serves learners and instructors across varied session types and group sizes. The environment needs to be actively managed — air quality and temperature directly affect focus and performance, particularly in longer sessions. Utilization data helps FCEDC understand how programming demand is evolving and where additional investment may be warranted.

What this package monitors:

- Occupancy and people count — session attendance and density over time
- CO_2 levels — a critical indicator in classroom settings where elevated levels measurably reduce cognitive performance
- Temperature and humidity — comfort directly affects learning outcomes

- Particulate matter (PM2.5) and VOCs — for comprehensive air quality assurance
- Lighting levels calibrated to instructional and presentation modes
- Energy consumption by session and by time of day
- What this package controls:
- Lighting scenes for instruction, presentation, independent work, and room-vacant states
- Automated environmental alerts when CO_2 or temperature levels exceed defined thresholds
- Optional integration with ventilation systems to trigger increased fresh air delivery based on occupancy

Standard components:

Component	Function
Wireless DALI lighting control node	Full dimming and tunable white lighting for varied instructional formats
High-sensitivity people-counting sensor	Accurately measures attendance in larger or open-plan training environments
Comprehensive IAQ sensor	Monitors CO_2, temperature, humidity, PM2.5, and VOCs
Wireless multi-scene controller	Instructor-controlled presets for different session formats
Motorized blind or shading controller (where applicable)	Manages daylight for presentation visibility and glare reduction

Modular add-ons available for this space type:

- Air purification unit integration, allowing the building system to trigger purification in response to monitored air quality conditions

- Occupancy-based HVAC scheduling to pre-condition the room before sessions begin
- Utilization dashboards showing session frequency, peak usage periods, and environmental performance trends

Room Package 4 — Support, Utility, and Common Areas

Designed for: Restrooms, storage areas, janitorial spaces, corridors, and building support zones

What this space needs to do:
Support spaces are often the most energy-wasteful areas in a building — lights left on in empty storage rooms, HVAC running in unoccupied corridors. A lightweight, low-touch package for these areas can capture meaningful energy savings and operational efficiency without complexity.

What this package monitors:

- Occupancy — is anyone present
- Lighting status — are lights on when no one is there
- Basic temperature — for HVAC efficiency in unconditioned or lightly conditioned areas
- What this package controls:
- Automatic lighting on/off based solely on occupancy
- Optional low-level lighting maintained for safety when spaces are unoccupied

Standard components:

Component	Function
Wireless relay or switch node	Controls standard fixtures without requiring DALI-compatible luminaires
Compact occupancy sensor	Simple presence detection for low-activity areas

Component	Function
Basic temperature sensor (where applicable)	Supports HVAC efficiency monitoring in utility zones

Modular add-ons available for this space type:

- Door and entry sensors for storerooms, fire escapes, and restricted access areas
- Water leak detection for utility and mechanical spaces
- Energy monitoring for high-consumption support equipment such as HVAC units, water heaters, or refrigeration

Room Package 5 — Future Tenant and Program Spaces

Designed for: Spaces reserved for future tenants, incubator participants, or partner organizations

What this space needs to do:
Spaces that are not yet fully defined need infrastructure that does not prejudge how they will be used. The canopy-first approach means these spaces can be connected before their final purpose is determined, then activated with the appropriate package once that purpose becomes clear. Where tenants will occupy and pay for dedicated space, the package includes submeter-ready energy monitoring to support transparent, defensible cost allocation.

What this package monitors:

- Whole-space energy consumption at the circuit level — the foundation for future submetering
- Occupancy and utilization — when the space is in use and at what intensity
- Temperature and basic environmental conditions
- What this package controls:
- Lighting responsive to occupancy
- Energy monitoring data routed to tenant-accessible or management dashboards

Standard components:

Component	Function
Energy monitoring node with current transformers	Captures circuit-level energy data without requiring panel replacement or utility-grade meter installation
Wireless lighting control node	Basic occupancy-responsive lighting compatible with standard commercial fixtures
Occupancy sensor	Presence detection for utilization tracking
Submeter-ready gateway configuration	Enables energy data to be separated and reported by tenant space when billing or allocation is required

Modular add-ons available for this space type:

- Full IAQ package when tenant type or program requirements call for enhanced environmental monitoring
- Room booking and display integration as tenants define their scheduling needs
- Expanded energy monitoring for tenant-specific equipment loads

Room Package 6 — Secure-Adjacent and Perimeter Spaces

Designed for: Areas surrounding any future sensitive or restricted-use environments within the facility

What this space needs to do:
If the FCEDC facility ultimately includes spaces that require heightened physical or operational security — including areas adjacent to future sensitive-use environments — the building's technology infrastructure must respect those boundaries by design, not as an afterthought. The Syncromesh perimeter approach keeps wireless monitoring and control active in surrounding areas while maintaining a clear, documented boundary at the

edge of any secure envelope. No wireless devices operate inside that boundary. Wired-only strategies remain in place where required.

What this package monitors:

- Perimeter occupancy — who is approaching or present near access-controlled areas
- Entry and door status — are access points to restricted areas in expected states
- Environmental conditions in adjacent spaces — temperature and air quality outside the secure boundary
- Physical security events — unexpected access, after-hours activity, or anomalous conditions at the perimeter

What this package controls:

- Perimeter lighting responsive to occupancy and time-of-day schedules
- Alert generation for door status anomalies or unexpected access events
- Integration with physical access control systems where those systems are present

Standard components:

Component	Function
Perimeter occupancy sensor	Detects presence in corridors and transition spaces outside the secure boundary
Door and entry contact sensor	Monitors open/closed status of access-controlled doors and adjacent entry points
Wireless lighting control node	Perimeter lighting management responsive to occupancy and security schedules
Gateway with segmented network configuration	Enforces the boundary between the building's general OT network and any systems operating closer to the secure environment

Modular add-ons available for this space type:

- Physical access control system integration for unified alerting and event logging

- Camera or intrusion detection system coordination where those systems exist
- Enhanced audit logging for all device events in the perimeter zone, supporting future compliance or certification documentation

Summary: The Room Package Framework at a Glance

Space Type	Key Parameters Monitored	Primary Controls	Submeter Ready
Standard Office / Flex Workspace	Occupancy, lighting, temperature, humidity, CO_2, energy	Lighting, HVAC scheduling	Optional
Conference and Meeting Room	People count, CO_2, temperature, humidity, PM2.5, utilization	Lighting scenes, auto-shutoff	Optional
Classroom and Training Space	People count, CO_2, temperature, humidity, PM2.5, VOCs, energy	Lighting scenes, environmental alerts	Optional
Support and Common Areas	Occupancy, lighting status, basic temperature	Auto on/off lighting	No
Future Tenant / Program Space	Circuit-level energy, occupancy, temperature	Lighting, energy reporting	Yes
Secure-Adjacent / Perimeter	Perimeter occupancy, door status, environmental, access events	Perimeter lighting, alert generation	No

What This Framework Means for FCEDC

Every room package in this appendix is built on the same open, vendor-agnostic canopy. No single manufacturer controls the sensors, luminaires, or controls in any package. As better technology becomes available — or as FCEDC's operating needs evolve — individual components can be updated or replaced without rebuilding the underlying infrastructure.

The packages are also additive. FCEDC does not have to decide today which spaces will eventually need enhanced air quality monitoring, submetering, or access integration. The

canopy is already in place. The add-ons can follow when the need is clear and the evidence supports the investment.

That is what a well-designed room intelligence framework looks like — not a fixed specification locked in before the building is fully understood, but a structured, scalable set of options that grows with the facility and the mission it serves.