CORVALENT | Larson Engineering

SMART BUILDING LARSON 4.0

SMART IOT SOLUTIONS FOR BUILDING SYSTEMS ENGINEERING

Brandon Jones

Lead, Smart Building Opportunity

2026

Introduction Letter

2026

To

Larson Engineering

Attn: Mark Larson

Dear Mark Larson,

I hope you are doing well.

My name is Brandon Jones, and I am the lead responsible for this opportunity. Based on our review of Larson Engineering's expertise in HVAC, plumbing, lighting design, and building systems engineering, Corvalent has prepared this introductory material to present a strategic opportunity around Smart Building transformation.

We understand that one of the most relevant concerns for building owners, operators, and engineering leaders today is **vendor lock-in**: the risk of becoming dependent on proprietary hardware, proprietary software, and long-term service contracts dictated by large OEM platforms. This creates a direct executive-level concern: *"Why should my business depend on a single vendor's roadmap, pricing, and technology stack?"*

Corvalent's Smart IoT Solution, powered by the **CorGrid platform**, is designed to address this challenge through an open, modular, and vendor-agnostic architecture. Our goal is to help Larson Engineering and its clients gain greater control over building data, automation logic, equipment interoperability, and long-term operational costs.

I would welcome the opportunity to schedule a Discovery & Technical Alignment meeting to explore how CorGrid can support Larson Engineering's smart building strategy and create new value for your customers.

Sincerely,

Brandon Jones

Lead, Smart Building Opportunity

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Understanding Larson Engineering

Larson Engineering is positioned in a highly relevant part of the built environment value chain, offering technical design services across core building systems such as HVAC, plumbing, and lighting. These systems are increasingly becoming data-driven, connected, and performance-oriented, especially as building owners seek better energy efficiency, operational visibility, occupant comfort, and long-term asset optimization.

The smart building market is moving beyond isolated automation systems. Deloitte notes that smart buildings use sensors, AI, and IoT-driven capabilities to improve efficiency, effectiveness, safety, and user experience. For an engineering firm like Larson Engineering, this shift creates an opportunity to move from traditional system design toward intelligent, connected, and lifecycle-oriented building infrastructure.

At the same time, **vendor lock-in remains a major barrier**. In IoT environments, proprietary architectures can make it difficult to migrate between platforms, while integration complexity can increase when connecting legacy systems and heterogeneous devices. For customers investing in HVAC, lighting, energy management, access control, and building automation, this means that initial platform decisions can shape years of operating costs, upgrade flexibility, service options, and data ownership.

McKinsey has also emphasized that connected-building improvements are increasingly supported by digital tools and energy intelligence, which bring new visibility into building efficiency. This aligns closely with Larson Engineering's domain expertise: building systems are no longer only mechanical or electrical assets. They are becoming **strategic data sources** that can improve performance, reduce operating expenses, and enable smarter facilities management.

30%
Reduction in Operational Costs via Smart Building Integration

25%
Energy Savings Through IoT-Driven HVAC Optimization

40%
Reduction in Unplanned Maintenance with Predictive Analytics

SOURCES: Deloitte Smart Building Report 2025, McKinsey Connected Buildings Study, World Economic Forum: Future of Built Environment

Who We Are and What We Do

Corvalent is a U.S.-based technology company with 32 years of experience and international presence, specialized in the development and integration of advanced solutions in IoT, AIoT, and Edge Computing.

Our key differentiator is the ability to integrate hardware and software under a **Technology-as-a-Service model**, creating intelligent ecosystems that solve complex challenges in automation, monitoring, and real-time data management.

For Smart Building initiatives, Corvalent helps organizations connect building assets, collect operational data, apply automation logic, and transform fragmented systems into unified, measurable, and scalable digital infrastructure.

Corvalent's approach is structured by vertical specialization, including Smart Machines, Smart Process, **Smart Building**, Smart Energy, Smart Cities, and Special Projects. This ensures operational fit, technical depth, and measurable value in each use case.

With a flexible and agnostic architecture supporting TaaS, SaaS, On-Premises, and Hybrid deployment models, CorGrid integrates with legacy systems and existing technology ecosystems, providing a robust foundation for digital transformation while reducing dependency on proprietary platforms.

Corvalent headquarters — 32 years of technology innovation in IoT, AIoT, and Edge Computing solutions for intelligent infrastructure

About the CorGrid Platform

05

CorGrid is Corvalent's core IoT platform, designed as a modular, scalable, and data-oriented system that acts as the "brain" of our Smart Solutions. The platform enables real-time monitoring of thousands of sensors, assets, and distributed operations, allowing intelligent automation based on advanced rules, AI models, and fully customizable dashboards aligned with business KPIs.

01

VENDOR-AGNOSTIC BUILDING INTEGRATION

CorGrid acts as an open integration layer between HVAC, lighting, metering, sensors, controllers, and building management systems, connecting and normalizing data across different equipment brands and communication protocols without replacing existing assets.

02

HVAC PERFORMANCE MONITORING AND OPTIMIZATION

Sensors and edge devices monitor temperature, humidity, occupancy, air quality, equipment runtime, pressure, and energy consumption. CorGrid consolidates this data into dashboards and triggers alerts when systems operate outside expected performance ranges.

03

PREDICTIVE MAINTENANCE FOR CRITICAL BUILDING ASSETS

CorGrid monitors real-time operating conditions for pumps, fans, compressors, air handlers, lighting panels, and other key building assets. AI-based models and rule-based alerts identify abnormal patterns before they become failures.

04

SMART LIGHTING AND OCCUPANCY-BASED AUTOMATION

Occupancy sensors, daylight sensors, and lighting control systems connect to CorGrid to automate lighting based on space usage, daylight availability, schedules, and user-defined rules, reducing electricity consumption and improving occupant experience.

03

ENERGY INTELLIGENCE AND CLIENT-FACING DASHBOARDS

CorGrid aggregates energy data from meters, submeters, equipment sensors, and building systems into a single analytics interface, configured by building, floor, system, equipment type, or KPI, enabling better decision-making and measurable savings opportunities.

Key Technologies for Sustainability and Efficiency

06

Energy Consumption Sensors:
Enable real-time tracking of electricity usage across HVAC, lighting, and major equipment loads, helping customers identify waste and prioritize optimization across building systems.

Occupancy and Environmental Sensors:
Monitor actual space utilization, temperature, humidity, CO_2, and indoor air quality to support comfort, safety, and energy-efficient automation aligned with occupancy patterns.

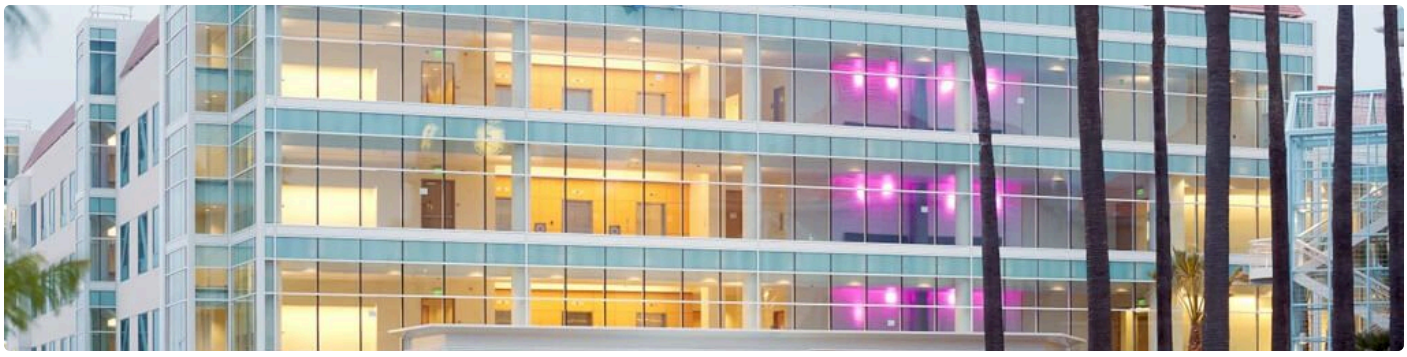
Edge Computing Gateways:
Process data locally, reduce cloud dependency, improve response time, and allow hybrid architectures that are less dependent on a single vendor's cloud platform, directly addressing the vendor lock-in challenge.

AI-Based Predictive Analytics:
Identify abnormal equipment behavior, predict maintenance needs, and support more proactive facility operations, reducing unplanned downtime and optimizing resource allocation across building assets.

Open Integration Layer:
Connects multiple vendors, protocols, systems, and devices into one operational data layer, directly addressing the vendor lock-in challenge and enabling true interoperability across building systems.

Custom KPI Dashboards:
Provide building owners, engineers, and facility managers with performance visibility across energy, comfort, maintenance, uptime, and sustainability indicators, configurable by building, floor, system, or asset.

PROTOCOLS: BACnet, Modbus, MQTT, OPC-UA, LoRaWAN, WiFi 6, KNX, REST APIs, Edge Computing, TensorFlow ML



Connected building infrastructure ready for intelligent monitoring, energy optimization, and vendor-agnostic integration powered by CorGrid®

Expected Benefits

07

Operational Efficiency

Unifies building data and automation logic across HVAC, lighting, energy, and facilities systems, allowing Larson Engineering's clients to operate buildings with greater visibility and control.

Predictive Maintenance

Reduces unplanned downtime by identifying abnormal equipment behavior before failures occur, lowering emergency repair costs and improving asset reliability.

Efficient Facilities Management

Enables centralized monitoring of multiple systems, locations, and assets through configurable dashboards and automated alerts for proactive facility operations.

Resource Optimization

Improves energy usage, equipment runtime, and space utilization through data-driven automation and occupancy-based controls across building systems.

Sustainability and ESG

Supports measurable reductions in energy waste and provides structured data for sustainability reporting, performance benchmarking, and ESG compliance initiatives.

Reduced Vendor Lock-In

Creates a more open, flexible, and future-ready technology architecture, giving customers greater control over pricing, roadmap decisions, and system evolution.

Beyond direct operational benefits, CorGrid positions Larson Engineering's clients as leaders in intelligent facility management. Building owners gain the ability to select best-in-class solutions, negotiate more effectively with vendors, and adapt their technology stack as requirements evolve, free from proprietary roadmap constraints.

Security and Compliance is also a key pillar: CorGrid improves governance over building data, system access, operational records, and maintenance traceability, delivering the audit trails increasingly required by insurance providers, regulators, and institutional building owners.

Modern commercial building infrastructure, the foundation for intelligent, connected, and vendor-agnostic Smart Building solutions powered by CorGrid®

Evidence & Global Benchmarks

08

The implementation of Smart IoT Solutions in commercial building management has demonstrated consistent and measurable results globally. Building owners adopting vendor-agnostic IoT platforms report improved negotiating power, reduced switching costs, and a faster path to innovation, directly addressing the vendor lock-in concern that affects HVAC, lighting, and building automation procurement.

Deloitte describes smart and sustainable buildings as part of a broader movement toward integrated, intelligent infrastructure. CorGrid provides the technology foundation to transform building systems into connected, measurable, and adaptable infrastructure, enabling Larson Engineering's clients to future-proof their facilities while maintaining full control over their technology stack.

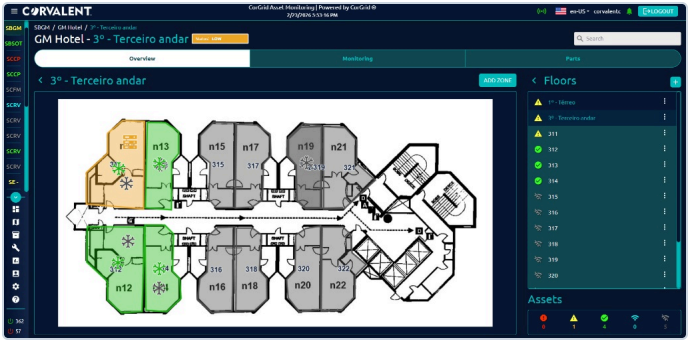
20–30%
Energy Savings via HVAC Monitoring and Automation

35–50%
Reduction in Unplanned Equipment Downtime

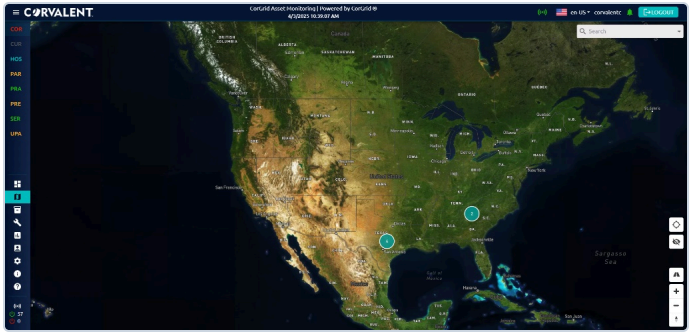
25–40%
Reduction in Corrective Maintenance Costs

APPLICABLE INSIGHT: *Larson Engineering's expertise in HVAC, plumbing, and lighting design creates a direct entry point for CorGrid integration, enabling clients to move from static system design toward continuously optimized, data-driven building performance.*

SOURCES: Deloitte Smart Building Report 2025, McKinsey Connected Buildings Study, Gartner IoT in Commercial Real Estate, World Economic Forum: Future of Built Environment.



CorGrid® — real-time floor plan asset monitoring with zone status and HVAC visibility



CorGrid® — geographic asset monitoring across multiple buildings and locations

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How Smart IoT Solution Increases Value for Larson Engineering

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We propose a structured, phased approach that allows Larson Engineering and its clients to validate results, manage investment, and build operational confidence before expanding CorGrid across the full building portfolio.

01

PHASE 1: DISCOVERY & TECHNICAL ALIGNMENT (4–6 Weeks)

Technical review of Larson Engineering's current smart building priorities, identification of where vendor lock-in is creating friction for clients, and definition of a potential proof of concept around HVAC monitoring, lighting automation, energy intelligence, or multi-vendor building integration.

02

PHASE 2: PROOF OF CONCEPT IN TARGET BUILDING (6–10 Weeks)

Full implementation in one building or system area of greatest impact, including sensor deployment, CorGrid® platform configuration, integration with existing building management systems, team training, and functional validation with measurable KPIs defined upfront.

03

PHASE 3: VALIDATION, OPTIMIZATION AND LEARNING (8–12 Weeks)

Performance monitoring, model adjustments, operational feedback collection, documentation of measurable gains, and preparation for portfolio expansion. Refinement of dashboards, alerts, and automation rules based on real-world usage by Larson Engineering's facility teams and clients.

04

PHASE 4: SCALE-UP ACROSS CLIENT PORTFOLIO (Joint Planning)

Expansion of the validated model across additional buildings, systems, and client accounts, with a timeline and priority roadmap defined jointly based on PoC results, ROI demonstrated, and Larson Engineering's strategic smart building objectives.

Innovation Potential and Next Steps

We believe that the convergence between Larson Engineering's challenges around vendor lock-in and open building integration, and Corvalent's expertise in Smart IoT Solutions, represents a concrete opportunity to evolve toward a data-driven Intelligent Building model.

Larson Engineering's deep expertise in HVAC, plumbing, and lighting design is precisely where CorGrid delivers the most immediate value, transforming engineered systems into continuously monitored, optimized, and measurable assets. Together, we can help building owners move beyond proprietary, closed automation environments and toward open, intelligent, vendor-agnostic infrastructure that they control.

We would like to propose a **Discovery & Technical Alignment meeting**, where we can explore Larson Engineering's critical operational assets in greater depth, identify quick wins across HVAC monitoring, lighting automation, or energy intelligence, and structure a potential Proof of Concept (PoC) that demonstrates measurable ROI for a key client or building in your portfolio.

What would be the best day and time next week to move this conversation forward and begin our Discovery & Technical Alignment?

Brandon Jones

Lead — Smart Building Opportunity

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