CORVALENT™

SMART BUILDING CORVALENT CORPORATION

Turning Corvalent's Own Facility into a Connected, Intelligent, and Demonstration-Ready Environment

PREPARED FOR: ED TREVIS, CEO | COMPANY: CORVALENT CORPORATION

Giovanna Lopes

Lead Responsible — Smart Building Vertical (CorGrid)

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Introduction Letter

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INTERNAL STRATEGIC PROPOSAL — SMART BUILDING VERTICAL

To

Ed Trevis

Chief Executive Officer, Corvalent Corporation

Dear Ed,

Corvalent has a unique opportunity to apply its own IoT technology internally and transform its facility into a fully connected, intelligent, and data-driven environment.

By deploying the CorGrid platform across Corvalent's building infrastructure, the company can centralize the monitoring of energy consumption, environmental conditions, critical equipment, occupancy, security, and facility performance. The initiative can improve operational visibility, reduce waste, support proactive maintenance, and create a stronger foundation for sustainability and future growth.

The project can also serve a broader strategic purpose. Corvalent's facility can become a live Smart Building demonstration center where customers, partners, and prospects experience CorGrid operating in a real environment rather than through simulations or presentations alone. This material outlines how Corvalent can use its own technology to optimize its operations, validate new capabilities, accelerate product development, and strengthen its commercial demonstrations.

We propose beginning with a Discovery & Technical Alignment session to identify existing infrastructure, priority use cases, available integrations, and the most valuable scope for an initial proof of concept.

Sincerely,

Giovanna Lopes

Lead Responsible — Smart Building Vertical

CORVALENT CORPORATION

CORVALENT

Understanding Corvalent Corporation

Corvalent Corporation develops industrial computing and intelligent technology solutions for demanding commercial, industrial, and mission-critical applications. Its capabilities combine industrial hardware, IoT infrastructure, Edge Computing, connectivity, software, automation, and real-time data intelligence.

As the developer of the CorGrid platform, Corvalent is particularly well positioned to demonstrate the value of its technology within its own operation. An internal Smart Building implementation would allow the company to become both the solution provider and a reference customer.

The opportunity extends beyond traditional building automation. The facility can become a continuously operating environment for:

- Monitoring and optimizing building performance.
- Testing sensors, gateways, communications, and integrations.
- Validating new CorGrid features under real operating conditions.
- Training technical, commercial, and partner teams.
- Demonstrating measurable use cases to prospective customers.
- Producing operational data for product development and analytics.

SOURCE — DELOITTE: *Smart buildings are environments that generate continuous operational data and can sense demand, rebalance energy consumption, anticipate maintenance requirements, and optimize occupancy and performance — an approach closely aligned with the opportunity available to Corvalent through CorGrid.*

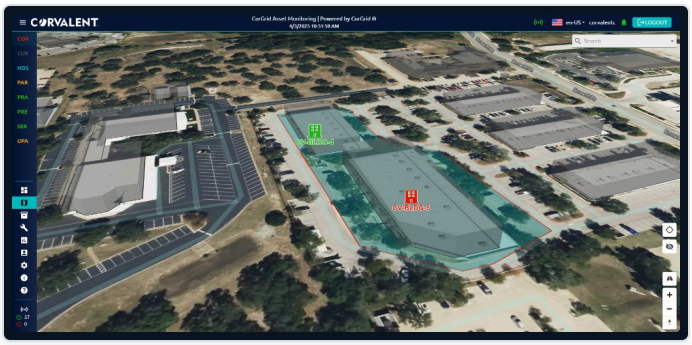
About Corvalent

Corvalent is an American technology company with more than three decades of experience and an international presence, specializing in the development and integration of advanced IoT, AIoT, Edge Computing, and industrial technology solutions.

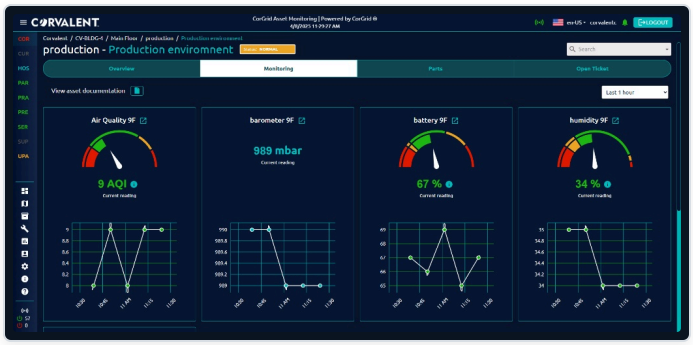
Its key differentiator is the ability to combine industrial hardware and software within integrated intelligent ecosystems. These solutions address complex challenges involving automation, connectivity, real-time monitoring, operational visibility, and data management.

Corvalent's portfolio allows the company to connect physical infrastructure with digital intelligence through industrial computers, edge devices, sensors, gateways, communication technologies, cloud services, analytics, and customizable applications.

This integrated approach enables Corvalent to address complete operational environments rather than isolated devices or standalone software requirements.



CorGrid® — Asset Monitoring, 3D building & facility visualization



CorGrid® — Real-time production environment monitoring dashboard

About the CorGrid Platform

CorGrid is Corvalent's central IoT platform, designed as a modular, scalable, and data-driven foundation for Smart Solutions. The platform acts as the intelligence layer connecting sensors, equipment, buildings, infrastructure, users, and operational systems.

It supports real-time monitoring of distributed assets and enables automation through advanced rules, alerts, workflows, and Artificial Intelligence models. CorGrid provides customizable dashboards aligned with technical and business KPIs, allowing information to be presented appropriately for executives, facility managers, engineers, maintenance teams, IT personnel, and security professionals.

CorGrid's Vertical Structure

Smart Building
Primary focus of this proposal.

Smart Energy
Energy monitoring and optimization.

Smart Machines
Equipment health and reliability.

Smart Process
Operational process intelligence.

Smart Cities
Urban and public infrastructure.

Special Projects
Custom vertical deployments.

CorGrid supports SaaS, TaaS, On-Premises, and hybrid deployment models. Its flexible and technology-agnostic architecture allows it to integrate with legacy infrastructure, third-party systems, industrial protocols, building systems, and equipment from multiple manufacturers.

SOURCE — MCKINSEY & COMPANY: *Successful IoT initiatives require more than connected devices. Organizations must align strategy, architecture, platforms, infrastructure, operations, analytics, and implementation around clearly defined use cases — CorGrid gives Corvalent an internal environment where that full stack can be demonstrated and continuously improved.*

How the Smart Building Solution Can Create Value

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EIGHT PRIORITY USE CASES FOR CORVALENT'S OWN FACILITY

The following use cases illustrate how CorGrid can be applied inside Corvalent's own facility to generate measurable operational, commercial, and product value.

5.1 Real-Time Energy Monitoring and Optimization

THE CHALLENGE

Energy consumption may be distributed across offices, laboratories, server infrastructure, production areas, HVAC equipment, lighting, charging systems, and other electrical loads. Without centralized submetering and analytics, it can be difficult to determine which areas consume the most energy, when demand peaks occur, whether equipment operates outside expected schedules, where energy is wasted, and whether efficiency initiatives produce measurable results.

CORGRID APPLICATION

Smart electrical meters, current transformers, circuit-level sensors, and connected power-monitoring devices can collect consumption and demand data from selected areas and equipment. CorGrid can consolidate this information into dashboards showing real-time power demand, consumption by area or equipment, daily/weekly/monthly trends, peak-demand events, after-hours consumption, historical baselines, energy cost estimates, and alerts for unusual loads or operating patterns. Automated rules can notify the appropriate team when consumption exceeds defined thresholds or when equipment remains active outside normal schedules.

EXPECTED RESULTS

- Greater visibility into energy usage.
- Identification of inefficient equipment or operating patterns.
- Reduced after-hours energy waste.
- Better demand management.
- Measurable verification of energy-saving projects.
- Improved sustainability and ESG reporting.

5.2 HVAC and Indoor Environmental Quality Monitoring

THE CHALLENGE

Temperature, humidity, air quality, and HVAC performance influence employee comfort, equipment reliability, energy use, and productivity. Environmental conditions can vary significantly across offices, meeting rooms, laboratories, server and network rooms, storage areas, demonstration spaces, and production or testing areas. Without continuous environmental data, facilities teams may only become aware of problems after occupants complain or equipment is affected.

CORGRID APPLICATION

Connected environmental sensors can monitor temperature, relative humidity, carbon dioxide, particulate matter, volatile organic compounds, air pressure, occupancy, and HVAC operating status. CorGrid can correlate environmental measurements with occupancy, schedules, outdoor conditions, and energy consumption, and rules can generate alerts when conditions move outside acceptable ranges. Where compatible control systems are available, the platform can also support automated HVAC adjustments based on demand and occupancy.

EXPECTED RESULTS

- Improved workplace comfort.
- Better indoor air quality.
- Reduced unnecessary HVAC operation.
- Faster identification of cooling or ventilation issues.
- Protection of temperature-sensitive equipment.
- Historical environmental records.
- More effective balancing of comfort and energy performance.

SOURCE — MCKINSEY & COMPANY: *Connected buildings can adjust climate control according to occupancy and environmental conditions, while intelligent lighting and power systems can dynamically optimize building performance.*

5.3 Condition-Based and Predictive Maintenance

THE CHALLENGE

Unexpected failures involving HVAC systems, fans, pumps, server-room cooling, electrical panels, laboratory equipment, or network infrastructure can cause operational disruption and emergency maintenance costs. Traditional calendar-based maintenance may also lead to unnecessary interventions on healthy equipment while failing to detect developing problems between scheduled inspections.

CORGRID APPLICATION

Sensors can collect operating data such as vibration, temperature, electrical current, runtime, pressure, flow, equipment status, alarm frequency, and start-and-stop cycles. CorGrid can identify abnormal behavior, track condition trends, calculate asset health indicators, and notify maintenance teams when equipment performance begins to deteriorate. The initial implementation should prioritize condition-based monitoring and targeted predictive maintenance for assets where failure risk and downtime justify the investment.

EXPECTED RESULTS

- Earlier detection of equipment degradation.
- Fewer unexpected failures.
- Improved equipment availability.
- Reduced emergency maintenance.
- Better maintenance scheduling.
- Longer useful asset life.
- Improved technical history for root-cause analysis.

SOURCE — DELOITTE & MCKINSEY: *IoT-enabled predictive maintenance can provide real-time operational insight and extend useful asset life; however, it should not be applied indiscriminately — depending on the asset, condition-based maintenance or advanced troubleshooting may generate better value, selected asset by asset during discovery.*

5.4 Intelligent Occupancy and Workspace Management

THE CHALLENGE

Meeting rooms, offices, shared workspaces, demonstration areas, and other spaces may have changing patterns of use throughout the day. Without reliable occupancy data, lighting and HVAC may operate in empty spaces, meeting rooms may appear unavailable even when unused, cleaning and facilities schedules may not reflect actual demand, and space-planning decisions may rely on estimates instead of evidence.

CORGRID APPLICATION

Privacy-conscious occupancy and presence sensors can provide utilization data without requiring personal identification. CorGrid can display current occupancy status, utilization by room or zone, peak-use periods, historical occupancy trends, frequently underused spaces, and correlations between occupancy and energy use. The information can also trigger automated lighting, HVAC, or ventilation responses.

EXPECTED RESULTS

- Improved use of available space.
- Reduced energy use in vacant areas.
- Better meeting-room management.
- Demand-based facility services.
- Data-supported workspace planning.
- Improved employee and visitor experience.

SOURCE — DELOITTE: *Smart buildings can continuously optimize occupancy and performance by using operational data as a strategic asset rather than treating building systems as isolated infrastructure.*

5.5 Integrated Security and Facility Event Monitoring

THE CHALLENGE

Security and facility events may originate from separate systems, including access control, cameras, doors, environmental sensors, alarms, and networked equipment. When these systems operate independently, teams may lack the context needed to identify and respond quickly to abnormal situations.

CORGRID APPLICATION

CorGrid can integrate data from door and window sensors, access-control systems, motion and occupancy sensors, cameras and video analytics, environmental alarms, equipment-status signals, water-leak sensors, smoke or air-quality devices, and emergency notification systems. Rules can identify combinations of events such as movement in a restricted area outside business hours, a door remaining open beyond an approved period, environmental changes in a server or equipment room, access activity associated with abnormal equipment operation, and water detection near critical infrastructure.

EXPECTED RESULTS

- Centralized visibility of security and facility events.
- Faster incident response.
- Improved protection of critical areas.
- Better event correlation.
- Historical records for investigation and auditing.
- More consistent escalation procedures.

5.6 Water-Leak Detection and Infrastructure Protection

THE CHALLENGE

Leaks near server rooms, electrical equipment, laboratories, HVAC systems, or stored inventory can result in costly damage and operational interruption. Small leaks may remain undetected until visible damage occurs.

CORGRID APPLICATION

Water-presence sensors can be installed near HVAC equipment, water heaters, restrooms, mechanical rooms, server rooms, electrical infrastructure, roof drainage areas, and plumbing connections. CorGrid can issue immediate alerts, identify the affected zone, escalate notifications, and record the duration of each incident. Where controllable valves are available, rules may also support automatic water shutoff.

EXPECTED RESULTS

- Faster detection of water incidents.
- Reduced risk of property and equipment damage.
- Improved response time.
- Better documentation of recurring problem areas.
- Greater protection of critical infrastructure.

5.7 CorGrid Living Lab and Customer Demonstration Center

THE CHALLENGE

Commercial presentations based only on slides, videos, or simulated dashboards may not communicate the full value of a connected IoT ecosystem. Customers often understand the solution more clearly when they can see physical devices, live data, alerts, automations, analytics, and dashboards working together.

CORGRID APPLICATION

Corvalent's facility can become a permanent CorGrid Living Lab, featuring selected use cases across the building. A live demonstration could show sensors collecting real-world data, gateways processing and transmitting information, CorGrid displaying assets and readings in real time, rules detecting abnormal conditions, alerts reaching users, dashboards presenting technical and executive KPIs, building systems responding to automation commands, and historical data supporting analysis and reporting. Different demonstration journeys can be created for customers interested in Smart Building, Smart Energy, industrial hardware, Edge Computing, analytics, or broader IoT infrastructure.

EXPECTED RESULTS

- Stronger and more credible customer demonstrations.
- Reduced preparation time for sales demos.
- Faster validation of new devices and integrations.
- A practical environment for employee and partner training.
- Continuous testing of CorGrid releases.
- Better commercial storytelling supported by live evidence.
- Greater differentiation from software-only competitors.

SOURCE — DELOITTE: *Smart and sustainable buildings are interactive environments that connect occupants, services, infrastructure, and information — a principle a CorGrid Living Lab would apply directly to Corvalent's customer and employee experience.*

5.8 Product Development and Integration Test Environment

THE CHALLENGE

IoT products must operate across different devices, networks, protocols, data conditions, failure scenarios, and user workflows. Simulated environments are useful, but they may not reproduce the variability of a continuously operating physical facility.

CORGRID APPLICATION

The Smart Building deployment can provide an internal environment for testing sensor onboarding, gateway connectivity, device health monitoring, alerting behavior, Rules Engine workflows, dashboard performance, historical data retention, offline and reconnect scenarios, firmware changes, edge-processing functions, third-party integrations, and security and access-control policies. The facility can generate realistic, long-term datasets that support software testing, analytics development, KPI validation, and AI model experimentation.

EXPECTED RESULTS

- Faster validation of new functionality.
- Earlier identification of integration problems.
- Better-quality product releases.
- Realistic datasets for analytics development.
- Reduced dependence on simulated demonstrations.
- Stronger coordination between engineering, product, and sales teams.

Key Technologies for Efficiency and Sustainability

Smart Energy Meters and Electrical Submetering:
Measure consumption, demand, power quality, and operating patterns by circuit, area, or equipment, creating the data foundation for energy optimization and cost allocation.

Environmental Sensors:
Temperature, humidity, carbon dioxide, particulate matter, and air-quality sensors provide continuous visibility into workplace conditions and HVAC performance.

Occupancy and Presence Sensors:
Enable demand-based operation of lighting, HVAC, ventilation, cleaning, and shared-space management.

Asset Condition Sensors:
Vibration, temperature, current, runtime, pressure, and flow data help teams identify equipment deterioration before failure occurs.

Edge Gateways:
Connect sensors and legacy equipment, translate protocols, process local data, and maintain continuity when cloud connectivity is interrupted.

Artificial Intelligence and Advanced Rules:
Analytics and automated rules detect anomalies, prioritize events, calculate performance indicators, and initiate operational responses.

Digital Twins and Unified Asset Models:
A digital representation of the facility connecting location, equipment, sensor, condition, maintenance, and energy data within one operational model.

KPI-Oriented Dashboards:
Translate raw sensor data into business indicators such as energy intensity, asset health, occupancy utilization, alert frequency, environmental compliance, and operational savings.

Legacy and Third-Party System Integration:
CorGrid's agnostic architecture connects existing building equipment, industrial systems, APIs, databases, protocols, and devices from multiple manufacturers.

SOURCE — DELOITTE: *Digital twins, IoT, and Artificial Intelligence are important technologies for improving energy efficiency, supporting regulatory compliance, and advancing building decarbonization.*

Expected Benefits

Operational Efficiency

A unified view of energy, environment, occupancy, assets, alarms, and facility activity enables faster and more informed decisions.

Predictive & Condition-Based Maintenance

Equipment condition data helps Corvalent intervene before failures occur while avoiding unnecessary calendar-based maintenance.

More Efficient Facilities Management

Facilities teams can manage conditions, equipment, energy, occupancy, and incidents through one connected environment.

Resource Optimization

Automation and analytics can reduce unnecessary consumption of energy, maintenance labor, space, and operating time.

Sustainability & ESG Visibility

Establishes measurable baselines and tracks progress related to energy, emissions, resource efficiency, and environmental performance.

Safety and Compliance

Continuous monitoring, automated alerts, and historical records improve traceability and support internal procedures.

Product Innovation

The facility becomes a continuously available test environment for CorGrid, hardware, gateways, sensors, integrations, and analytics.

Sales Enablement

Live use cases allow prospective customers to experience the complete Corvalent technology stack operating under real conditions.

Customer Confidence

Using CorGrid internally demonstrates that Corvalent trusts its own platform and applies the same principles it recommends to customers.

Together, these benefits position Corvalent's own facility at the intersection of operational efficiency, product innovation, and commercial demonstration — a differentiated combination that few IoT providers can offer their customers.

Strategic Potential and Recommended Next Steps

DISCOVERY & TECHNICAL ALIGNMENT WORKSHOP

Deploying CorGrid within Corvalent's own facility represents more than a building-automation initiative. It creates a strategic intersection between operational efficiency, product development, customer experience, sustainability, and commercial growth. The recommended first step is a Discovery & Technical Alignment workshop involving representatives from across the organization.

WORKSHOP PARTICIPANTS

- Executive leadership.
- Facilities.
- Engineering.
- Information Technology.
- Product development.
- Sales and marketing.
- Security.
- Finance or operations.

THE WORKSHOP SHOULD DOCUMENT

- Existing building systems and infrastructure.
- Current energy-monitoring capabilities.
- Critical equipment and areas.
- Available network and connectivity infrastructure.
- Existing sensors, controllers, and protocols.
- Operational problems and recurring incidents.
- Desired executive and technical KPIs.
- Demonstration use cases for customers.
- Integration and cybersecurity requirements.
- Candidate scope for a proof of concept.

Phased Implementation Roadmap

Following the workshop, Corvalent can develop a phased roadmap:

01

PHASE 1 — BASELINE AND VISIBILITY

Connect a limited set of energy, environmental, occupancy, and equipment sensors to establish baseline data and demonstrate real-time dashboards.

02

PHASE 2 — ALERTS AND AUTOMATION

Implement thresholds, anomaly alerts, maintenance workflows, and selected automated building responses.

03

PHASE 3 — ANALYTICS AND OPTIMIZATION

Introduce asset-health indicators, energy-performance analytics, occupancy optimization, and executive KPIs.

04

PHASE 4 — LIVING LAB AND COMMERCIAL DEMONSTRATION

Develop customer demonstration journeys, presentation dashboards, guided facility tours, and reusable proof-of-concept templates.

05

PHASE 5 — CONTINUOUS INNOVATION

Use the environment to validate new CorGrid capabilities, hardware, integrations, AI models, and partner technologies.

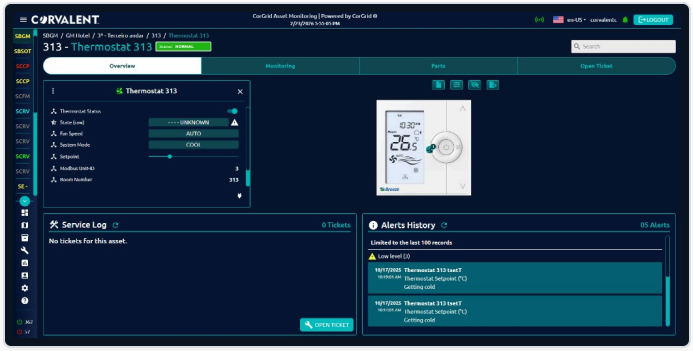
SOURCE — MCKINSEY & COMPANY: *IoT initiatives create the strongest value when companies move beyond isolated pilots and connect technology deployment to operating processes, infrastructure, user adoption, and measurable business outcomes.*

CORVALENT POWERED BY CORGRID

Our technology. Our facility. Real operational intelligence.

By transforming its own facility into a connected Smart Building and customer-facing Living Lab, Corvalent can demonstrate how industrial hardware, IoT connectivity, Edge Computing, automation, Artificial Intelligence, and real-time analytics work together to create measurable business value.

CorGrid® — Mechanical asset overview with live alerts and service log



CorGrid® — Connected thermostat asset overview and alert history

Next Steps

We believe Corvalent has a unique opportunity to become both the provider and the reference customer of its own Smart Building technology — validating CorGrid internally while building a permanent, live demonstration environment for customers and partners.

The next step is to schedule a Discovery & Technical Alignment workshop with Ed Trevis and key stakeholders across Facilities, Engineering, IT, Product, Sales, Security, and Finance to define the scope of an initial proof of concept.

What would be the best date and time to schedule the Discovery & Technical Alignment workshop?

Giovanna Lopes

Lead Responsible — Smart Building Vertical

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Research Sources

The recommendations in this proposal are supported by research and perspectives from:

- **Deloitte — Smart Building Solutions:** Smart buildings use operational data to sense demand, optimize energy, anticipate maintenance needs, and improve occupancy and performance.
- **Deloitte — Smart Energy Management for Industrials:** Connected energy-management systems support monitoring, optimization, cost reduction, resilience, and sustainability objectives.
- **Deloitte — Predictive Maintenance and the Smart Factory:** IoT-based monitoring can improve operational insight, asset utilization, efficiency, and downtime management.
- **Deloitte — Digital Twins in Building Management:** Digital twins, IoT, and AI can support energy efficiency, compliance, sustainability, and building performance.
- **McKinsey & Company — Connected Buildings:** Intelligent buildings can adapt climate control, lighting, and energy systems according to environmental conditions and occupancy.
- **McKinsey & Company — Analytics-Based Maintenance:** Organizations should select predictive, condition-based, and troubleshooting strategies according to each asset and business case.
- **McKinsey & Company — Industrial IoT at Scale:** Capturing value from IoT requires alignment between business strategy, operating processes, technology architecture, data, and organizational capabilities.
- **McKinsey & Company — Digital Maintenance and Reliability:** Successful implementations combine technology with workflows, infrastructure, measurement, and user adoption.