



Ferbos Smart Building

Digitalizing Building for a Sustainable Future



Urgency of Smart Building Adoption for Sustainability and Efficiency

Building as a Major Energy Consumer

35%

of global energy consumption

40%

of carbon emissions

Affect to Globally & Nationally Mandate:



New Conservation Mandates & Compliance



Rising Operational Costs vs. Limited Budgets

The Solutions: Smart & Connected Building



Digitally connected building that uses automation to monitor, optimize, and control in real time – improving efficiency and enhancing sustainability

The Obstacle: High CapEx & Technical Complexity



High Upfront Cost

Retrofitting requires expensive hardware and new chillers



Skill Gap

Facility teams are experts in mechanics, not cloud software



Risk

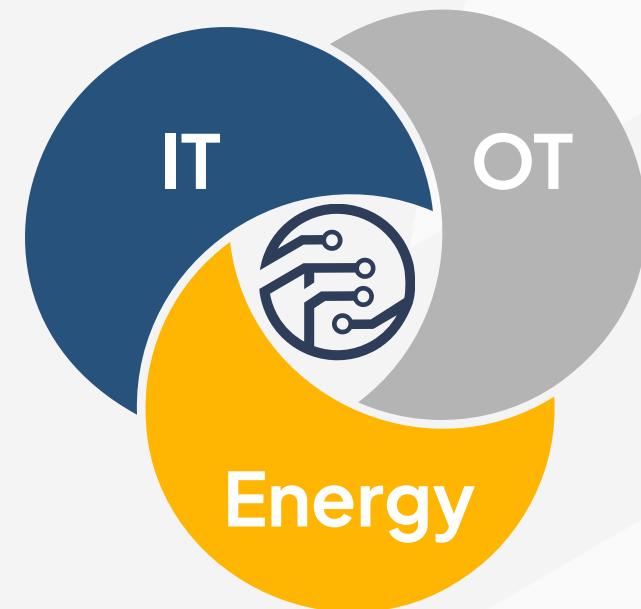
Fear of technology becoming obsolete in 3 years



Introducing Ferbos: Driving the Digital Transformation of Buildings

Digitalizing Building for a Sustainable Future

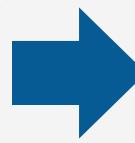
Who We Are?



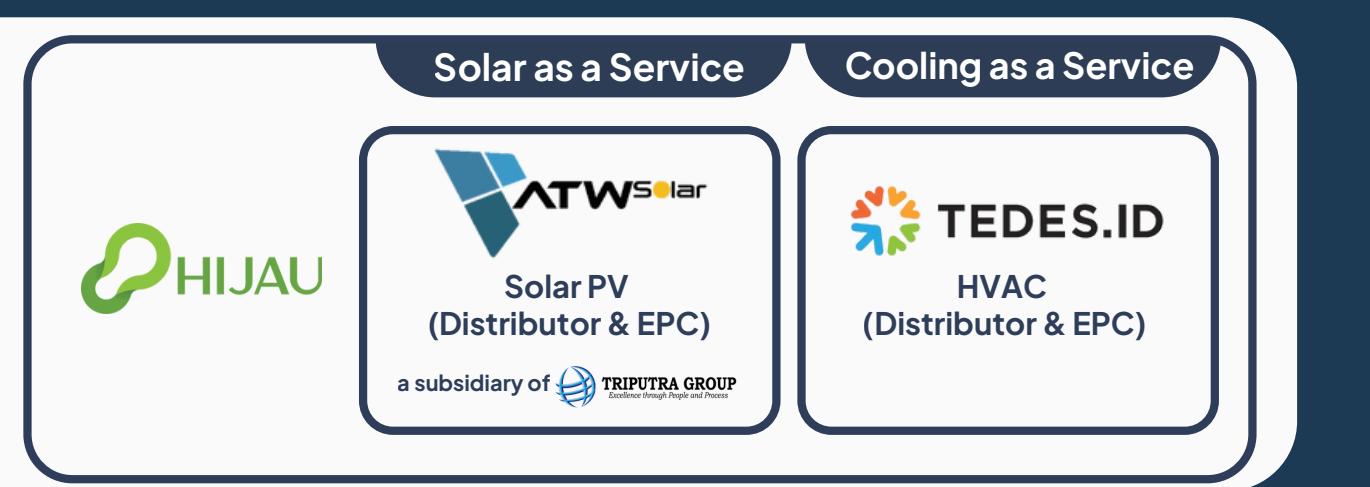
Technology company specializing in **Smart Building** and **Energy Management Solutions**

We help building owners and operators transform their assets:

Manual
Disconnected
Inefficienct



Smart
Connected
Data-driven



A diagram showing Ferbos integrated with various partners. At the top, 'Solar as a Service' and 'Cooling as a Service' are listed. Below them are three boxes: 'HIJAU' (with a green leaf icon) and 'ATWSolar' (with a blue and white logo) under 'Solar as a Service', and 'TEDES.ID' (with a colorful gear icon) and 'HVAC (Distributor & EPC)' under 'Cooling as a Service'. A note at the bottom states 'a subsidiary of TRIPUTRA GROUP Excellence through People and Process'.

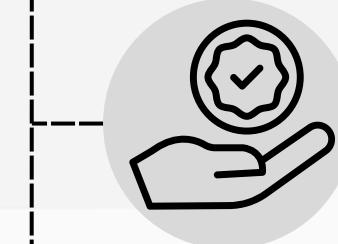
Why Ferbos?

OPEX
Model

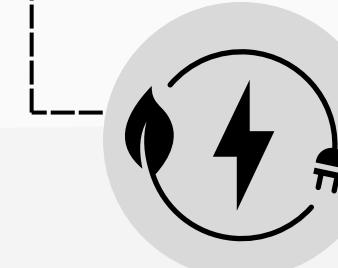
ZERO Upfront Investment



Edge computing
for data security



Full-service: install,
monitor, maintain



Backed by a **Strong Green Energy Ecosystem**

The Smarter Way to a Smart Building: Ferbos Vs. Others BMS

FEATURE

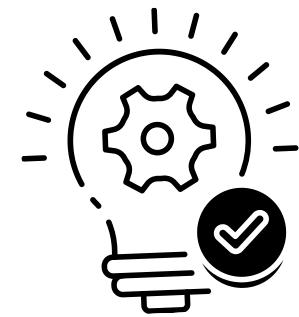
BMS (CAPEX System)

Integration	✓ Multi-protocol
Support	✓ International
Business Model	✗ CAPEX + OPEX
Technology Stack	✗ Proprietary systems
Hardware	✗ Limited Warranty
Analytics	✗ Additional Cost
Customization	✗ Limited
Green Ecosystem	✗ Subcontractors



Ferbos

- ✓ Multi-protocol + Zigbee
- ✓ Local Indonesian team + Green Building Expert
- ✓ **OPEX Model**
- ✓ Open Technology
- ✓ Replacement Included in the Subscription
- ✓ Included
- ✓ Highly flexible
- ✓ Hijau, ATW Solar, Tedes



Ferbos Helps to Provide Meaningful Insight



Smart Monitoring

An end-to-end solution for real-time energy monitoring across building systems.

- Centralized dashboard for real-time energy visibility
- Detection of inefficiencies and anomalies across systems
- Reporting and data-driven insights to improve energy performance



Smart Optimization

A service that transforms energy insights into automated efficiency improvements

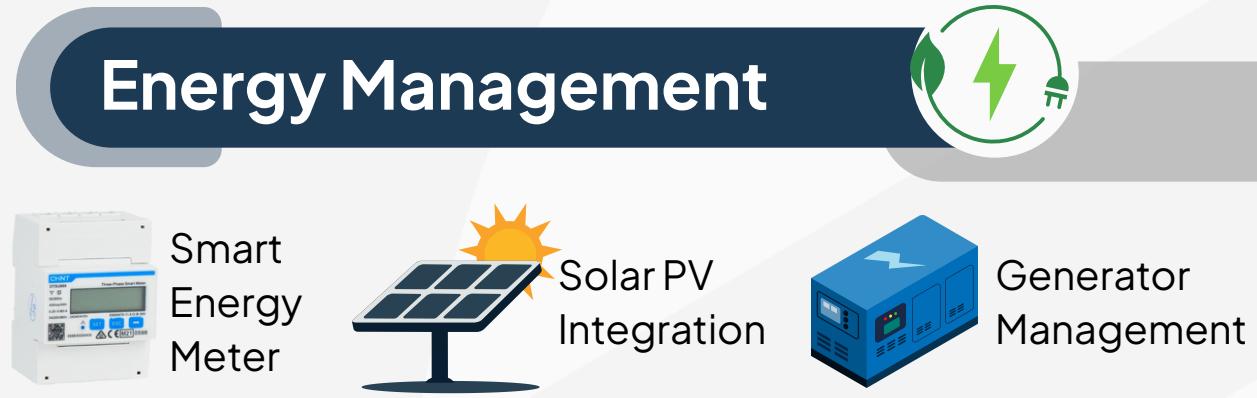
- Continuous optimization of building operations
- AI-driven adjustments that adapt to building behavior
- Automated control for peak efficiency and reduced energy waste



Ferbos Smart Building Solution

Smart, Greener, Sustainable

Energy Management



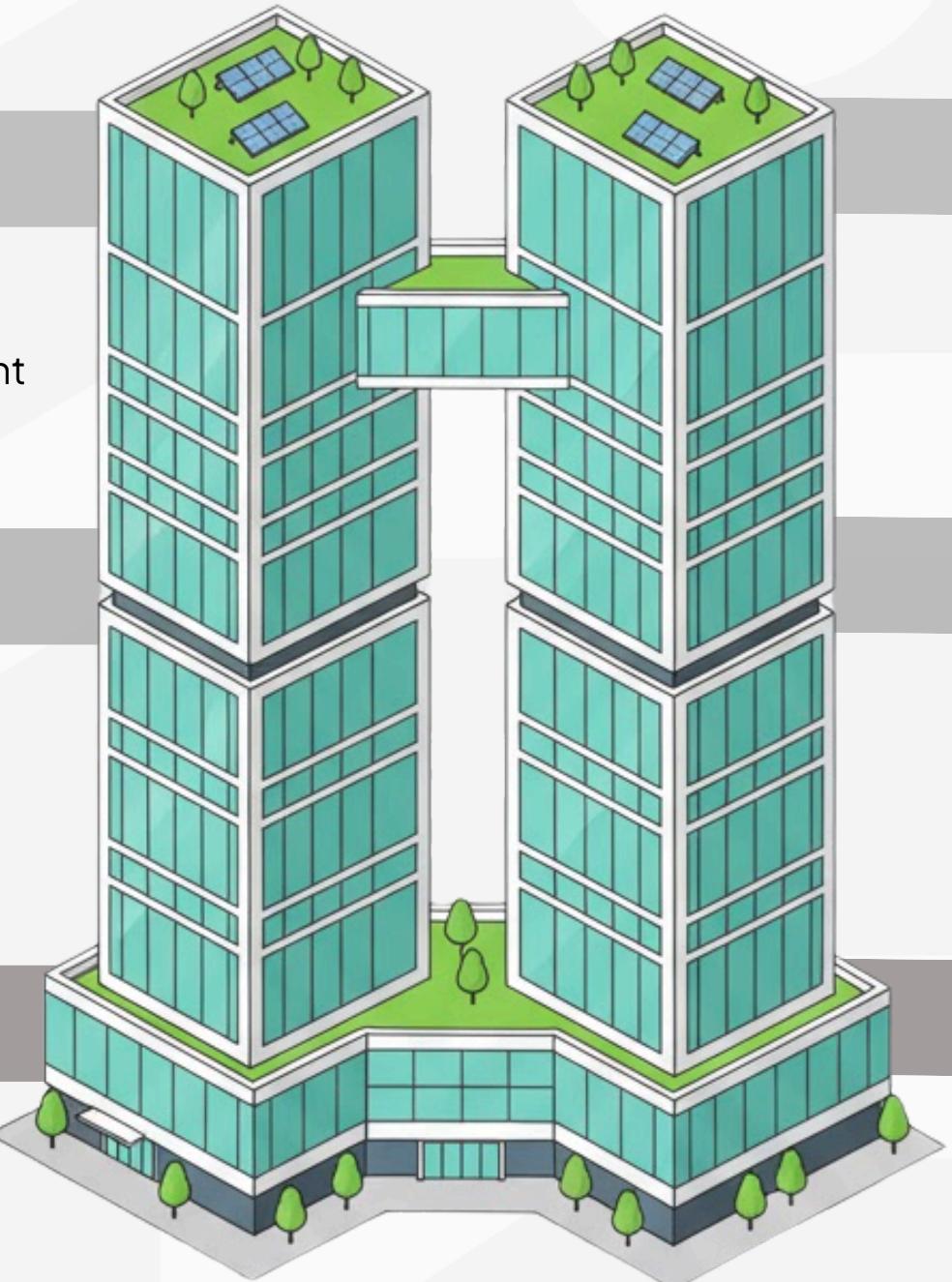
Smart Energy Meter



Solar PV Integration



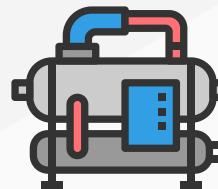
Generator Management



HVAC Optimization



HVAC System Management



Chiller & AHU Management

Environmental Monitoring



Indoor Environment Monitoring & Control



Water Management



Smart Water Meter



Water Leak Detector



Water Quality Monitoring



Building Automation



Lighting Control



Third Party System Integration



Equipment Health Monitoring



Vibration Monitoring



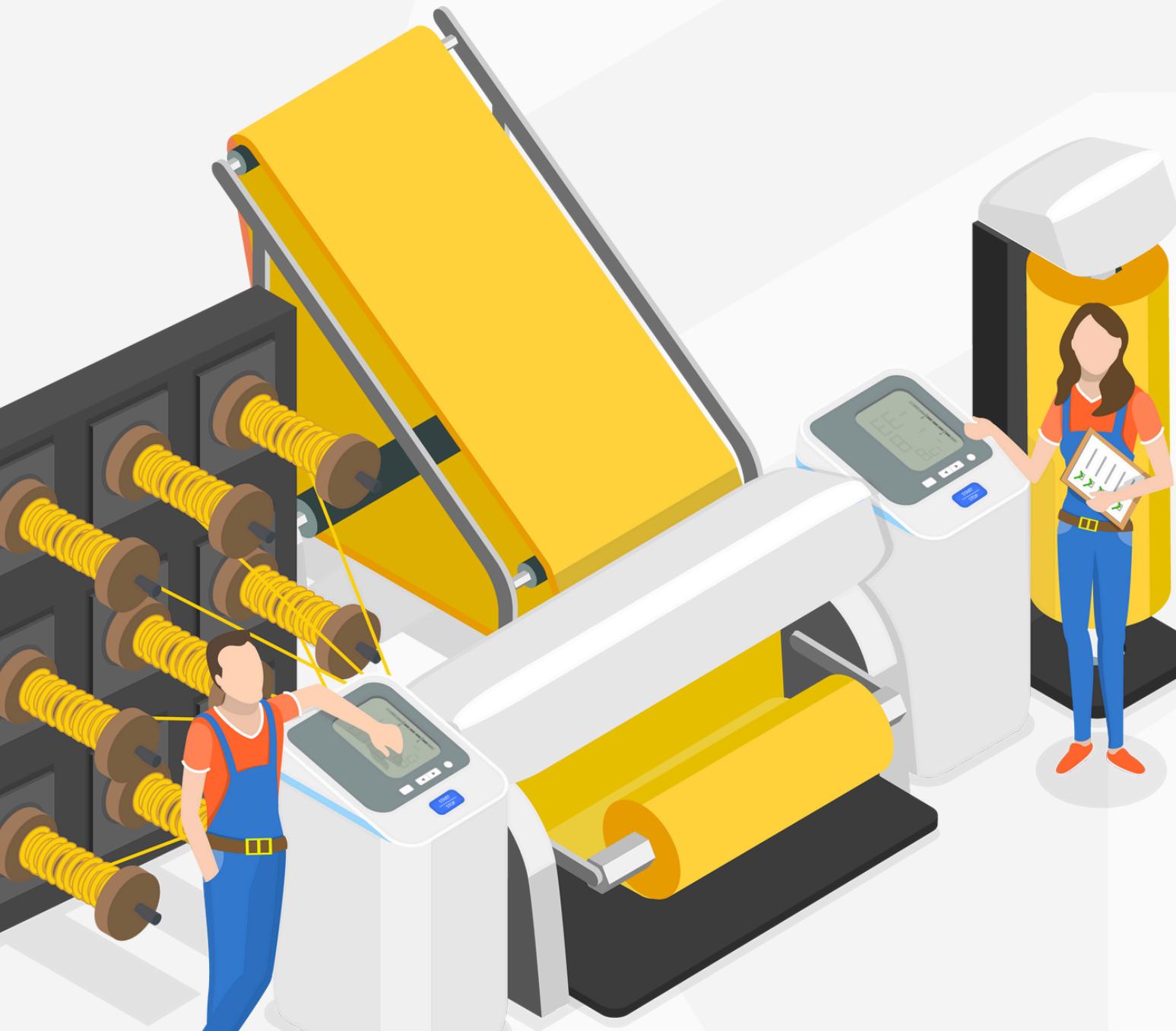
Running Hour Monitoring

Ferbos Implementation Methodology

From assessment to continuous improvement



Optimizing Motor Performance: Energy Efficiency in Yarn Spinning Industry



Project Highlight: Smart Motor

Type: Yarn Spinning Manufacture

Objective: Optimize the fan system to maintain a pressure differential

Smart Optimization-as-a-Service (SOaaS)

IoT Sensors Devices

- Monitored energy usage for chiller and filtration systems
- Differential pressure monitoring for filtration

Automation

- Installed Variable Speed Drive (VSD) to control filtration fan speed according to required load

The Result

Reduced fan motor speed: from 1500 RPM to 1380 RPM



Energy consumption reduction: 20%

Optimizing AC Performance: Low-Rise Office Buildings



Project Highlight: HVAC Optimization

- 💡 Type: Low-Rise Office Buildings
- 🎯 Objective: Reduce energy consumption, improve comfort, and streamline operations through HVAC Optimization

IoT Sensors Devices

- Monitored energy usage for AC
- Smart IR for AC
- Human Presence
- Temperature and Humidity

The Result

from 115 kWh
to 66 kWh

Energy
consumption
reduction:

42%

A real-time Intelligent Dashboard

Captures and visualizes live data across your building – including power consumption, equipment performance, occupancy levels, and indoor environmental conditions.



*) The Dashboard can be customized

Our Core Team & Expert Collaboration

At Ferbos, we combine IT, OT, and integration capabilities to deliver impactful solutions.

To ensure high-quality execution, **we collaborate with trusted experts** in each key efficiency domains.



Totok Sulistiyanto

33+ years in energy audit and conservation. Director of Institutional Relations of GBCI, Deputy Head of Sector 2 Building and Household of MASKEEI.



Chandra Hertyasning

Specialist in HVAC, thermodynamic energy, water filtration, and project management for sustainable systems.



DR. Andriew Lim

PhD in Technology Management from TU/e. Renowned for research in innovation, strategic management, and digital transformation.



Ferbos



IT

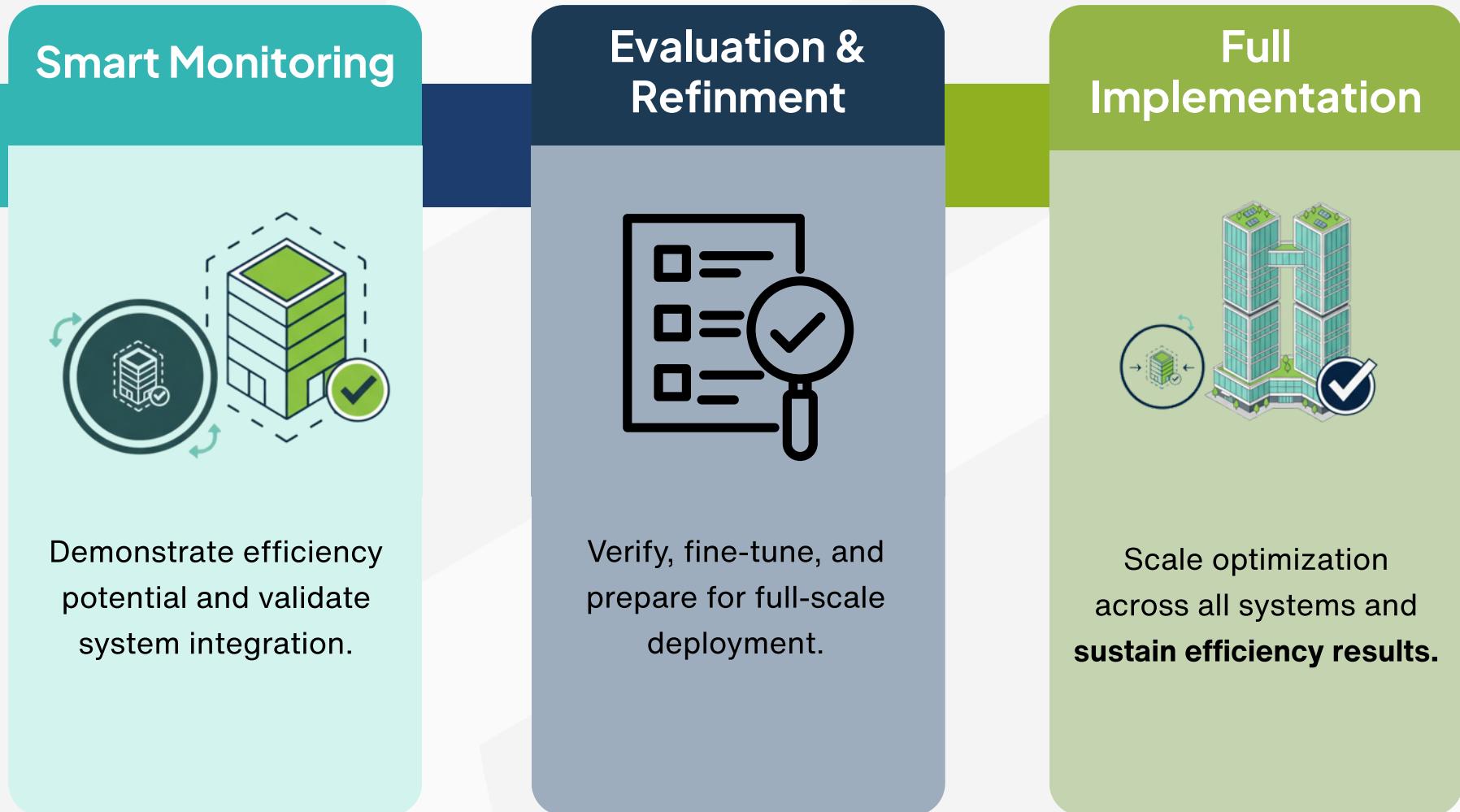


**Solution
Integration**



OT

How can Ferbos support You to run more efficiently?



Smart Monitoring serves as the foundation to validate performance improvements before scaling to full implementation. The following scope summarizes our approach.



10% – 30% Reduction in Energy Use

Smart systems predict and optimize HVAC & lighting, significantly cutting utility costs.

Key Outcome



Predictive Maintenance Cuts Repair Costs

Smart sensors analyze equipment data to predict failures before they happen, reducing downtime.

Increasing Property Value & Tenant Satisfaction

Smart buildings attract premium tenants, commanding higher rents and improving retention rates.

Thank You!

✉ info@ferbos.co.id
🌐 ferbos.co.id



Your Partner in Sustainable Digital Transformation

