

**INNOVATE
INTEGRATE
ELEVATE**

Driving the Future of
Industry with Digital
Transformation

**SMARTER SOLUTIONS FOR
A BETTER TOMORROW**

COMPANY PROFILE

**SMART MANUFACTURING
INDUSTRY 4.0**

-  **DIGITAL TWIN**
-  **IoT**
-  **SCADA**
-  **AUTOMATION**
-  **PLANT INDUSTRIAL**
-  **BUILDING MANAGEMENT SYSTEM**

Integrated Solutions for
Smarter, Safer, and Sustainable Operations

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-  **Real-time
Monitoring**
-  **Operational
Excellence**
-  **Data-Driven
Decision**
-  **Sustainability
Focus**
-  **Future Ready
Technology**



BUILDING MANAGEMENT SYSTEM (BMS)

ARCHITECTURE TOPOLOGY

An integrated and intelligent system that monitors, controls, and optimizes building operations in real-time for safety, comfort, efficiency, and sustainability.

01 CONTROL

- Equipment Control (On/Off, Start/Stop)
- Setpoint & Mode Management
- Interlock Logic & Alarm

02 SCHEDULING

- Time Based Scheduling
- Holiday & Special Event
- Optimal Operation

03 MONITORING

- Real-time Monitoring
- Alarm & Notification
- Trend & Analysis
- KPI Dashboard

04 ANALYTICS & REPORT

- Energy Analytics
- Operational Report
- Alarm Report
- Compliance Report

HVAC
Air Handling Unit, Chiller, FCU, AHU

LIGHTING
Indoor & Outdoor

ELECTRICAL
Power Monitoring

FIRE ALARM
Fire Detection & Notification

SECURITY
Access Control, CCTV Integration

PLUMBING
Water Supply & Drainage

ELEVATOR
Lift Monitoring



ANYWHERE, ANYTIME ACCESS



Web Dashboard



Mobile App



Email / SMS

BMS SERVER ROOM



- BMS Application Server
- Database Server
- File Server
- Historian Server

NETWORK INFRASTRUCTURE



- Core Switch
- Network Switch
- Firewall
- VPN Router

BMS CONTROLLERS



- BMS Controller
- I/O Module
- Local Panel
- Edge Gateway



FIELD DEVICES & EQUIPMENT

KEY BENEFITS

- Real-time Monitoring & Control
- Energy Efficiency & Cost Saving
- Predictive Maintenance
- Safety & Compliance
- Data-driven Decision Making
- Improved Comfort & Productivity

DATA FLOW & PROCESS



3D Architecture & Topology Building Management System

Solusi Terintegrasi untuk Gedung, Pabrik, Data Centre, Apartement, Hotel, dan Hospital

1. Gedung / Office Building

- Lighting
- HVAC
- Pompa
- Genset
- Fire Suppression
- Smart Meter



2. Pabrik / Factory

- Production Area
- HVAC
- Pompa
- Genset
- Fire Suppression
- Smart Meter



3. Data Centre

- Precision Cooling
- UPS & Genset
- Fire Suppression
- Power Monitoring
- Environment Sensor
- Smart Meter



4. Apartement

- Lighting
- HVAC
- Pompa
- Fire Suppression
- Smart Meter
- Access Control



5. Hotel

- Lighting
- HVAC
- Pompa
- Genset
- Fire Suppression
- Smart Meter
- Guest Comfort



6. Hospital

- HVAC (Clean Room)
- Medical Gas
- Pompa
- Genset
- Fire Suppression
- Smart Meter
- Environment Sensor



BMS mengintegrasikan otomatisasi bangunan, utilitas energi, dan monitoring sensor ke dalam satu platform terpusat untuk memudahkan pengawasan, pengendalian, efisiensi energi, dan respon cepat terhadap alarm.

1. Building Automation System

- Lighting
- Genset
- Fire Suppression
- HVAC
- Pompa



Mengontrol dan mengotomasi sistem mekanikal, elektrik, dan safety untuk kenyamanan, keamanan, dan efisiensi operasional gedung.

2. Energy Management System

- Gas
- Water
- Electrical
- Carbon Emission
- Carbon Footprint



Pemantauan Gas, Air, dan Listrik secara realtime untuk efisiensi biaya serta pelacakan Carbon Emission dan Carbon Footprint.

3. Saving Energy

- Optimasi konsumsi energi
- Efisiensi operasional
- Pengurangan biaya utilitas



Strategi penghematan energi dilakukan melalui optimasi beban, penjadwalan peralatan, dan analisis performa gedung.

Efisiensi hingga 30%

4. Monitoring Sensor

- Leak Detection
- Fuel Sensor
- Pressure Sensor



Sensor mendeteksi kebocoran, level bahan bakar, dan tekanan untuk meningkatkan keamanan dan keandalan operasional.



ENERGY MANAGEMENT SYSTEM ARCHITECTURE & TOPOLOGY

Smart Energy | Sustainable Future | ISO 50001



Energy Management Systems
Requirements with Guidance for Use



Continuous
Improvement
for a Sustainable
Tomorrow

KEY BENEFITS



Pengurangan Emisi Karbon

Menekan jejak karbon perusahaan agar sesuai dengan target lingkungan dan komitmen ESG.



Kepatuhan Regulasi

Memastikan perusahaan mematuhi aturan pemerintah mengenai efisiensi energi dan pelaporan lingkungan (seperti PROPER).



Efisiensi Biaya Operasional

Menurunkan pemborosan energi pada fasilitas atau mesin yang tidak efisien.



Integrasi Manajemen Risiko

Menggabungkan risiko energi ke dalam sistem manajemen K3 dan lingkungan yang sudah ada (seperti ISO 14001).



KOMPONEN UTAMA PENERAPAN



Kebijakan Energi

Komitmen manajemen puncak untuk terus meningkatkan kinerja energi.



Baseline & Target

Menetapkan titik awal konsumsi energi dan sasaran penghematan.



Pemantauan & Pengukuran (M&V)

Memakai perangkat lunak atau alat ukur untuk melacak penggunaan energi secara real-time.



Audit & Evaluasi

Meninjau efektivitas sistem secara berkala melalui audit internal maupun eksternal.

ARCHITECTURE SISTEM



ISO 50001 & PDCA CYCLE





INDRA JAYA SMART TOWER

Advanced Building Management System (BMS) | PT Indra Jaya Digital

Smart Monitoring, Smarter Building

Real-Time Dashboard for Energy, Water, HVAC, and More

Indra Jaya Smart Tower is an integrated Building Management System (BMS) with real-time monitoring, analytics, and control for a smarter, more efficient and sustainable building operation.



Energy Efficiency
Save Energy, Reduce Cost



Operational Excellence
Real-Time Control & Monitoring



Sustainability
Lower Carbon Footprint



Smart Future
Integrated, Connected, Intelligent



Key Performance Overview

Menampilkan total penggunaan energi, aliran air, efisiensi energi, dan jejak karbon secara real-time.



Floor Matrix

Status setiap lantai dan area gedung secara lengkap, memudahkan monitoring dan kontrol peralatan.



HVAC
(Temperature, Humidity, Air Quality)



Lighting
(ON/OFF, Energy)



Security
(CCTV, Access Control, Fire Alarm)



Electricity
(KWh, Voltage, Current, Frequency, THD)



Water
(Flow, Pressure, Consumption)



Gas
(Flow, Pressure, Consumption)



Parameter & ESG

Grafik tren energi, air, dan parameter lingkungan dengan data logger lengkap dan pelaporan ESG.

Fitur:

- ✓ Export PDF / CSV
- ✓ Analisa tren jangka panjang
- ✓ Monitoring parameter lingkungan
- ✓ Ranking ESG otomatis

Detail Dashboard Fitur

1. Overview

Ringkasan kondisi seluruh sistem dalam satu tampilan.



- ✓ Total Power Usage
- ✓ Water Flow
- ✓ Energy Efficiency Gain
- ✓ ESG Carbon Footprint
- ✓ Floor Matrix Status

2. Scheduling

Atur jadwal operasional peralatan otomatis dan efisien.

Equipment	Status	Next Event	Event Time	Event Type
Lighting	On	2023-10-27 10:00:00	2023-10-27 10:00:00	On/Off
HVAC	On	2023-10-27 10:00:00	2023-10-27 10:00:00	On/Off
Pump	On	2023-10-27 10:00:00	2023-10-27 10:00:00	On/Off
Fire Alarm	On	2023-10-27 10:00:00	2023-10-27 10:00:00	On/Off

- ✓ Jadwal Lighting, HVAC, Pompa, dll
- ✓ On/Off otomatis
- ✓ Manajemen waktu & event

3. Parameters & ESG

Monitoring parameter teknis dan nilai ESG secara real-time.



- ✓ Parameter teknis (flow, pressure, temp, dll)
- ✓ Konversi karbon & ESG
- ✓ Estimasi biaya energi

4. Elevators & EWS

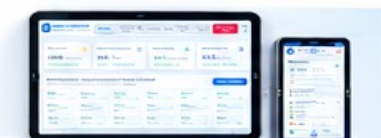
Monitoring lift, emergency system, dan alarm.



- ✓ Status lift (up/down, error)
- ✓ EWS & AI Buzzer
- ✓ Notifikasi alarm real-time
- ✓ Grafik energi & air
- ✓ Data logger kronologis
- ✓ Export PDF / CSV

5. Logs & Trends

Data historis, grafik tren, dan laporan detaili saji.



- ✓ PC / Tablet / Mobile
- ✓ Tampilan responsif
- ✓ Akses multi-user & multi-level



Provide by PT Indra Jaya Digital



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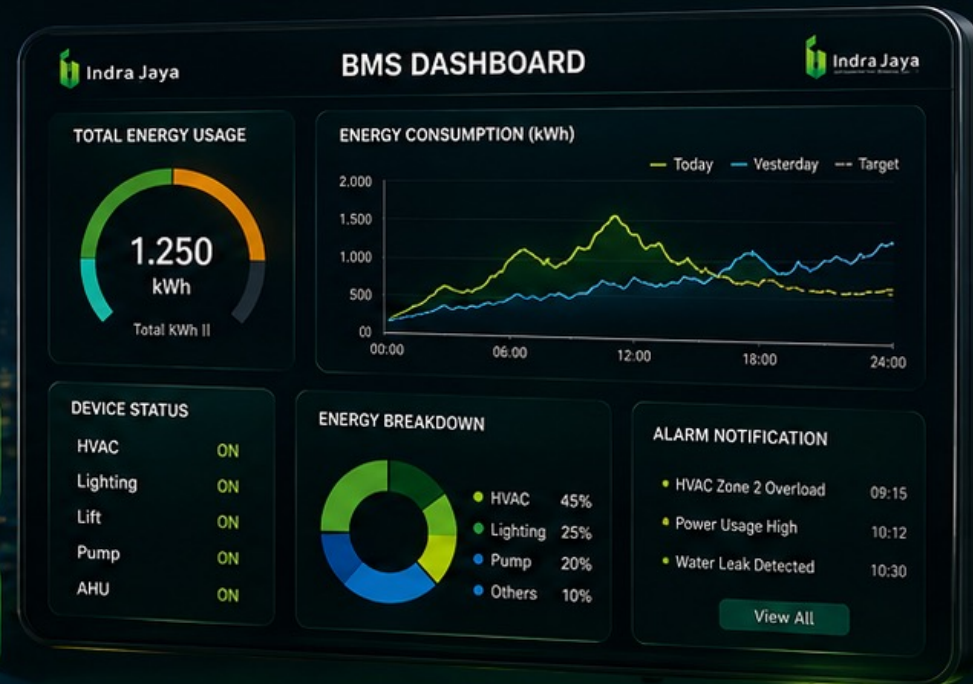
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Smart Building • Efficient Energy • Sustainable Future

IoT BUILDING MANAGEMENT SYSTEM

Smart Control, Better Efficiency, Sustainable Future

Integrated system for data-driven monitoring, control, and optimization of electrical energy in real-time across the entire building.



ENERGY SAVING
Up to 15 - 20%



 Real-time Monitoring

 Automated Control

 Optimization Analysis

 Energy Saving 15 - 20%

 NOTIFICATION (EMAIL & APPS)

-  Lower Operational Costs
-  Improve Energy Efficiency
-  Extend Equipment Life
-  Real-time Visibility
-  Sustainable Building

Provide By
PT Indra Jaya Digital
Smart Solution for Better Life

Indra Jaya SMART TOWER

Architecture Topology Digital Twin Building Management System

Provide Solutions for Better Life

- REAL-TIME MONITORING
- SMART AUTOMATION
- ENERGY EFFICIENCY
- PREDICTIVE MAINTENANCE
- DIGITAL TWIN
- INTEGRATED SYSTEM



- HVAC AHU
- LIGHTING SYSTEM
- ENERGY METER
- SECURITY SYSTEM
- FIRE ALARM
- ELEVATOR SYSTEM
- WATER MANAGEMENT
- PARKING SYSTEM

DIGITAL TWIN 3D VISUALIZATION



ARCHITECTURE BUILDING MANAGEMENT SYSTEM

MANAGEMENT LEVEL



PC WORKSTATION
DASHBOARD
MONITOR CONTROL

SWITCH ETHERNET

AUTOMATION LEVEL



PROGRAM LOGIC
CONTROL



MODBUS
GATEWAY

CAT 6 CABLE

SENSOR LEVEL



PIR
SENSOR



FLOW
METER



TEMPERATURE
SENSOR



PRESSURE
SENSOR



GAS
METER



KWH
METER



SPVH

FIELD DEVICE LEVEL



LIGHTING



CHILLER



HVAC



AHU



COMPRESSOR



GAS VALVE



L VMDP



GENSET



REAL-TIME
MONITORING



CENTRALIZED
CONTROL



ENERGY
OPTIMIZATION



PREDICTIVE
ANALYTICS



ALARM &
NOTIFICATION



REPORT &
ANALYTICS



SCALABLE &
FUTURE READY



SECURE &
RELIABLE

Thank You

Company Profile | Industry 4.0

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Indra Jaya

Provide Solutions for Better Life

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AUTOMATION

INDUSTRY 4.0
IoT | AUTOMATION | SMART FACTORY

INDUSTRY 4.0

