

Smart Building & Smart Campus Solutions

Fully integrated smart building & smart campus solutions that used to be COST PROHIBITIVE & TECHNICALLY INFEASIBLE are now FULLY ACHIEVABLE with IoT83's Smart Building & Campus Solutions. The IoT83 Application Enablement Platform's (AEP's) layered approach to solution creation streamlines integration of existing BMS systems, new cost-effective IoT systems, and even with external municipal services for transformational value creation for building owners, occupants, and city planners.



A full visibility, optimization & service engine with ONE PANE OF GLASS



From the World Economic Forum:

8 Business Drivers for Smart Buildings

1 PROFIT

- Increased Efficiency and Cost Reductions: New operational efficiencies preserve and improve margins.
- Revenue Risk Reduction:
 Visibility & control enables
 risk mitigation strategies for
 all financial exposures.

7 VALUE

- Brand Recognition & User Loyalty: Greater demand & business generation with higher customer loyalty.
- Data Aggregation:
 High-quality, reliable data to
 supports business goals, new
 services & smart decisions.

3 USERS

- Health and Wellbeing: improve the overall physical, mental and social wellbeing of building occupants.
- Occupant Satisfaction: improve tenant experience, and enhance safety, comfort, and convenience.

4. GREEN

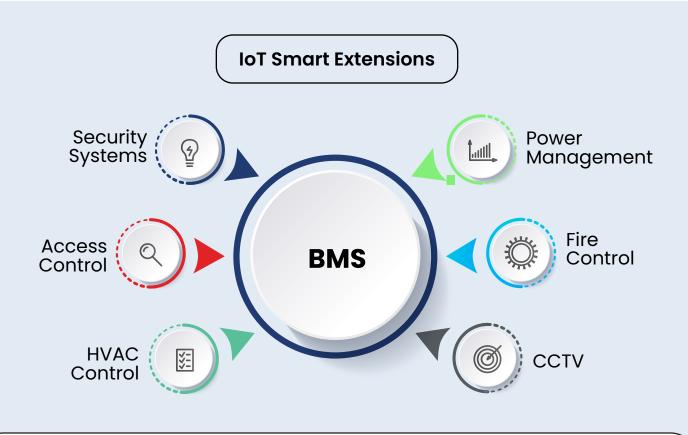
- Regulatory Compliance
 Achievement: solutions to
 meet multiple meet
 environmental targets.
- Better Space Utilization:
 Optimize space utilization
 & create space for
 collaboration and innovation.

Smart Building & Smart Campus Solution Brief

.. with IoT capabilities we are going far beyond BMS

A BMS enables the automatic control and optimizations of core facility systems.

But with IoT83's Application Enablement Platform (AEP), new smart building and campus optimization takes place on a much faster rate. IoT sensors and sub, systems can be innovatively implemented for new value creating use-cases. Monitor at granular level's - Collect data from multiple sources - And control virtually anything to enhance the building and campus operations and enhanced services.



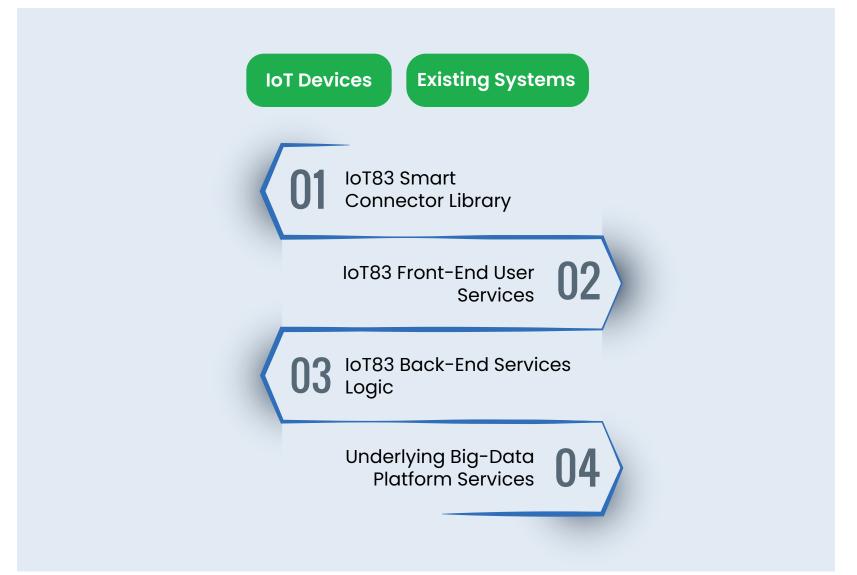
Smart Parking Occupant Sensing Preventative Maint.

User Services Water Leakage Smart Signage User Services Office Bookings Air Quality MGT

Enhanced Security On-Demand Maint. Municipal Svc.

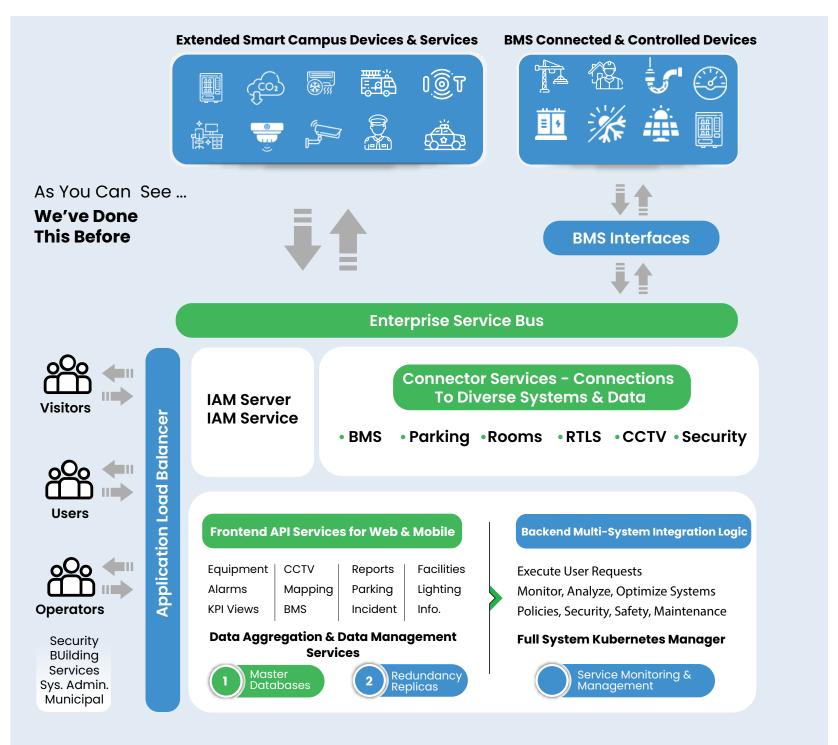
loT83's Application Enablement Platform (AEP) is the Framework for Extended Smart Building Integrations

loT83 unfolds the complexity of rich Smart Building & Campus solutions with a layered architecture approach. Connectors interwork with edge sensors, devices, and legacy applications. Service interfaces provide users with access to all resources. And the back-end multi-function service logic brings the edge-devices, data transformations, analytics, and multi-faceted smart-system intelligence together as a reliable, expansive, and flexible system



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IoT83's Application Enablement Platform (AEP) is the Foundation of Smart Building Integration Services



Experiance Matters Back-Logic & Services Connector Studio & Framework Enterprise Service Bus Connector Services - Connections To Diverse Systems & Data **Application Load Balancer Service** Parking •Rooms •RTLS •CCTV •Security BMS Frontend API Services for Web & Mobile **Backend Multi-System Integration Logic CCTV** Equipment | Reports **Facilities Execute User Requests** Lighting Alarms Mapping Parking Monitor, Analyze, Optimize Systems **KPI Views** BMS Incident Info. Policies, Security, Safety, Maintenance **Data Aggrgation & Data Management Services Full System Kubernetes Manager** Service Monitoring & Master Databases Redundancy Management Replicas **Smart Building Application Framework**

Data Structures & Design

Licensed Application Enablement Platform (API) Layer

Identity Access Mgmt. Connector Service Container Mgmt. Service

Key Management Service Data Ingestion & Streaming Service API Gateway Service

Device Management Service Data Analytics Service Lambda Service

Entity Creation & Mapping Service Notification Service AI / ML Service

Rule Engine Service Simulation Service Rich Media Service

Centralized Data Lake

Secure | Cloud-Agnostic | Elastic | Portable | Highly Available | Fault Tolerant

Underlying IoT83 AEP Micro Services

The Benefits of EXPERIENCE

- Smart Building & Campus solutions are diverse, custom, and complex. The IoT83 platform is a well established & flexible solution with the custom logic creation workflows to dramatically accelerate success.
- Operators, End-Users, and Visitors need intuitive, responsive, and easy to navigate web & mobile access to the benefits of Smart Building & Campus solutions. This is essential to a program's success.
- Smart Solutions evolve. They must easily integrate new devices, logic, and workflows for operational efficiency or new services as they are envisioned. loT83's Application Enablement Platform (AEP) easily enables new service enhancements.
- Smart Building program costs, risks, and time-to-market are a direct function of EXPERIENCE in simplifying device connections, user interaction, data management, and platform scalability and reliability.

