LTIM's Smart Spaces

The journey towards Smart building transformation

What are we solving?

Challenges

- Need for a single window to smartly connect, manage the single and multiple buildings
- Smart and secure connectivity from multiple sensors, buildings to central platform
- Lack of central system for Facility ground team for operations
- Enable Leadership with business intelligence driven by data for actionable insights with functional, operational data at single platform
- Need for improvement in Building performance
- Energy goals towards achieving Energy efficiency and savings energy and cost
- Global Urge towards climate change, international building compliance codes to operate sustainably by managed energy, water and other resource demands, emissions

Focus Areas

User Experience

- Connected buildings
- Enhanced occupant experience
- Comfort at optimum cost
- Secure campus

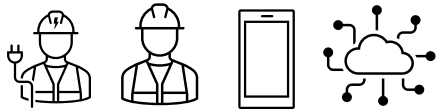
Sustainability & Performance

- Enable sustainable environment
- Optimize energy, water consumption, waste management
- Balance between renewable and fossil fuel-based energy
- Energy efficient assets

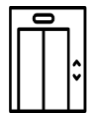
Operations & Management

- Improve field service response
- Improve asset performance
- Eliminate recurring incidents
- Reduce cost of operations

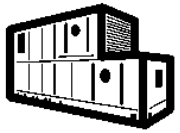
Leverage investment in systems like BMS, CCTV, Access control, BIM 360



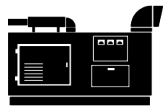
Better collaborate using Cloud, Mobility, IoT Sensors, AR/VR Technologies



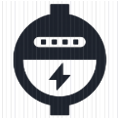
Elevator



AHUs

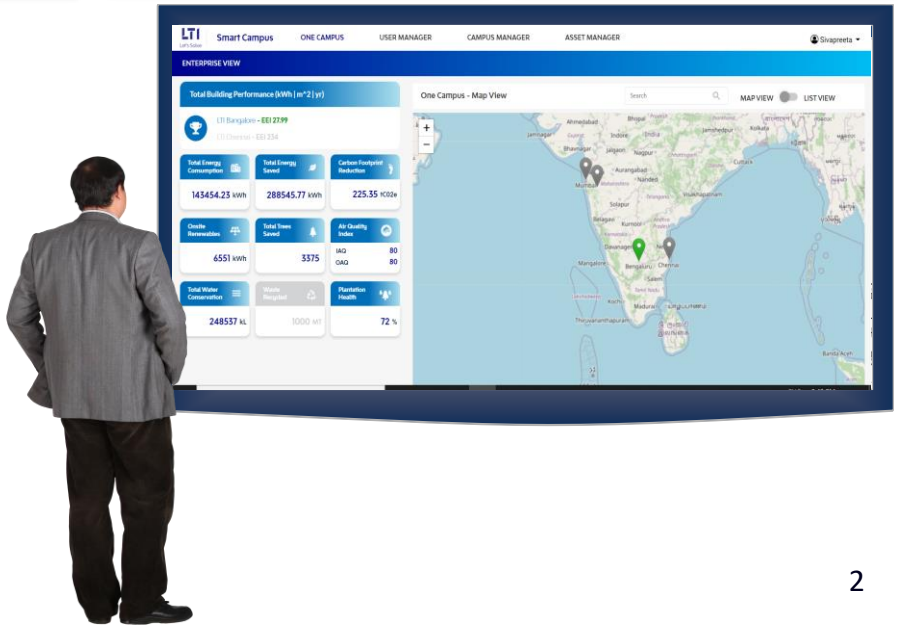


Diesel Engines



Energy Meters

Chillers



Smart Spaces Solution Accelerator

User Persona

Leadership | Facility Manager | Facility Admin | Facility Operators | Housekeeping Staff | Service Staff | Visitors | Employee | .....

Business Processes Use Cases

Air Quality Index | Sustainability Window | Building Performance intelligence | Smart HVAC | Space Manager | Smart Toilets | Waste Manager | Smart Water | Smart Parking | Traffic Management | Wayfinder | Smart Lighting

This is for illustration purpose

Applications

Digital Platform | Internal Applications | 3rd Party Applications

Sub-Systems

Sensors

- Air Quality sensors
- Toilet sanitation
- Occupancy sensors
- Smart Lobby Sensor
- RFID tracking systems
- Geofencing sensor
- Ultrasonic parking sensors
- Temp, RH Sensor
- IP camera, CCTVV feeds
- Emission sensors & control

BMS Information

- Energy
- Water
- Lighting
- HVAC
- DG
- UPS

Telemetry Device Data

Amenities

- Smart Locker
- Smart Gym
- Smart Cafeteria
- Amenities Booking

Local Systems

- Local System
- HR Systems
- Content Management
- O365

Smart Campus and components

- LTI Smart Campus program's vision is to modernize the campus experience while leveraging it to drive Energy and operational efficiency
- Bringing all functional, operational systems, Business analytics into one platform with next-gen technologies
- Key focal point is to deliver an amazing, intuitive user experience that is innate and persona-centric
- The solution is built to be Modular, adaptive, Flexible and intelligent
- In a broad horizon, we have classified the solution into 3 components based on the user group and services as Smart Facility, Smart Habitat, Smart Factory.

Smart Facility

Enabling Intelligent Building Systems that are connected and operate at optimal Energy Efficiency, ensuring highest reliability with real-time monitoring and advanced analytics

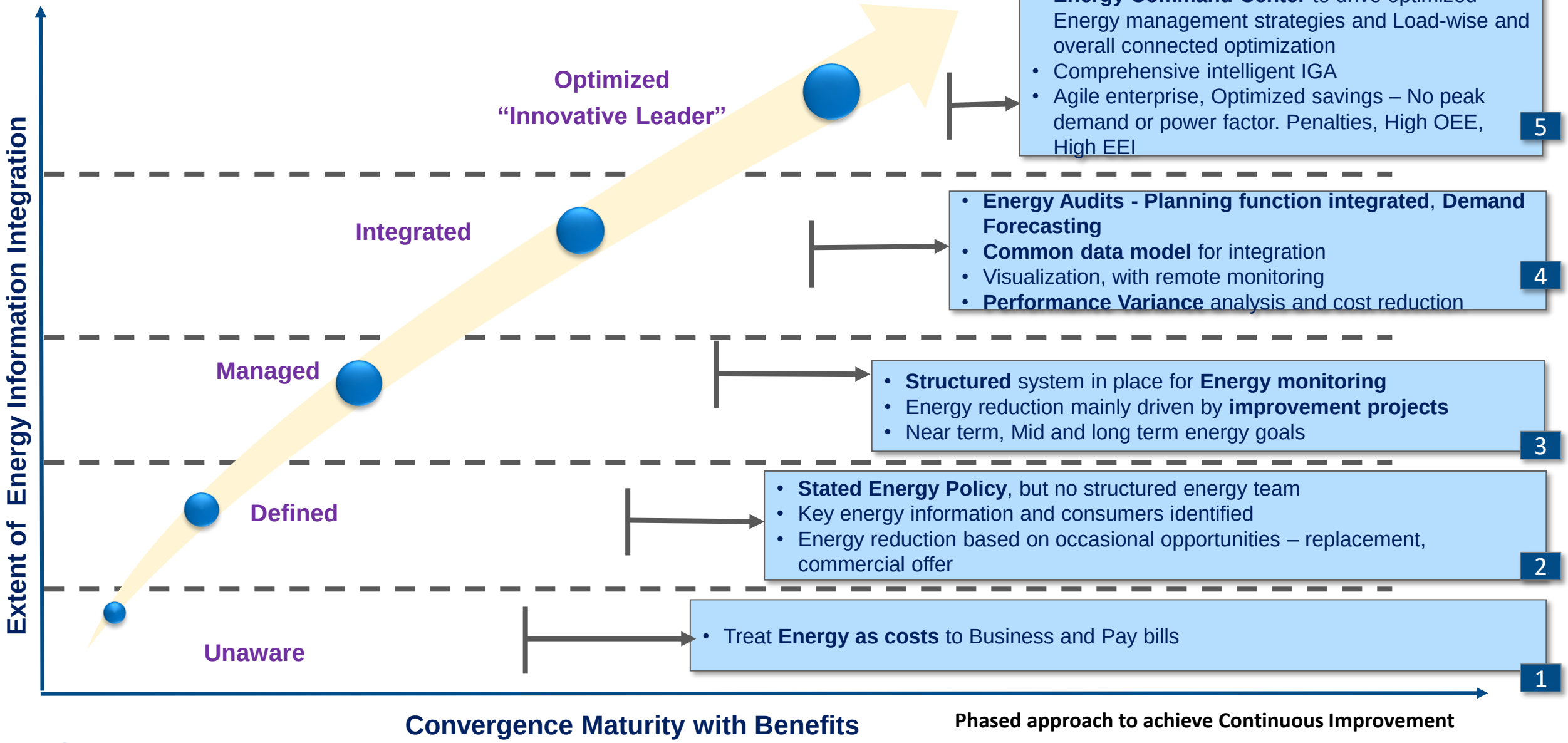
Smart Habitat

Transforming User experience to serve the needs of today's and tomorrow's campuses. It can improve three important factors: experience, efficiency, and Productivity.

Smart Industry

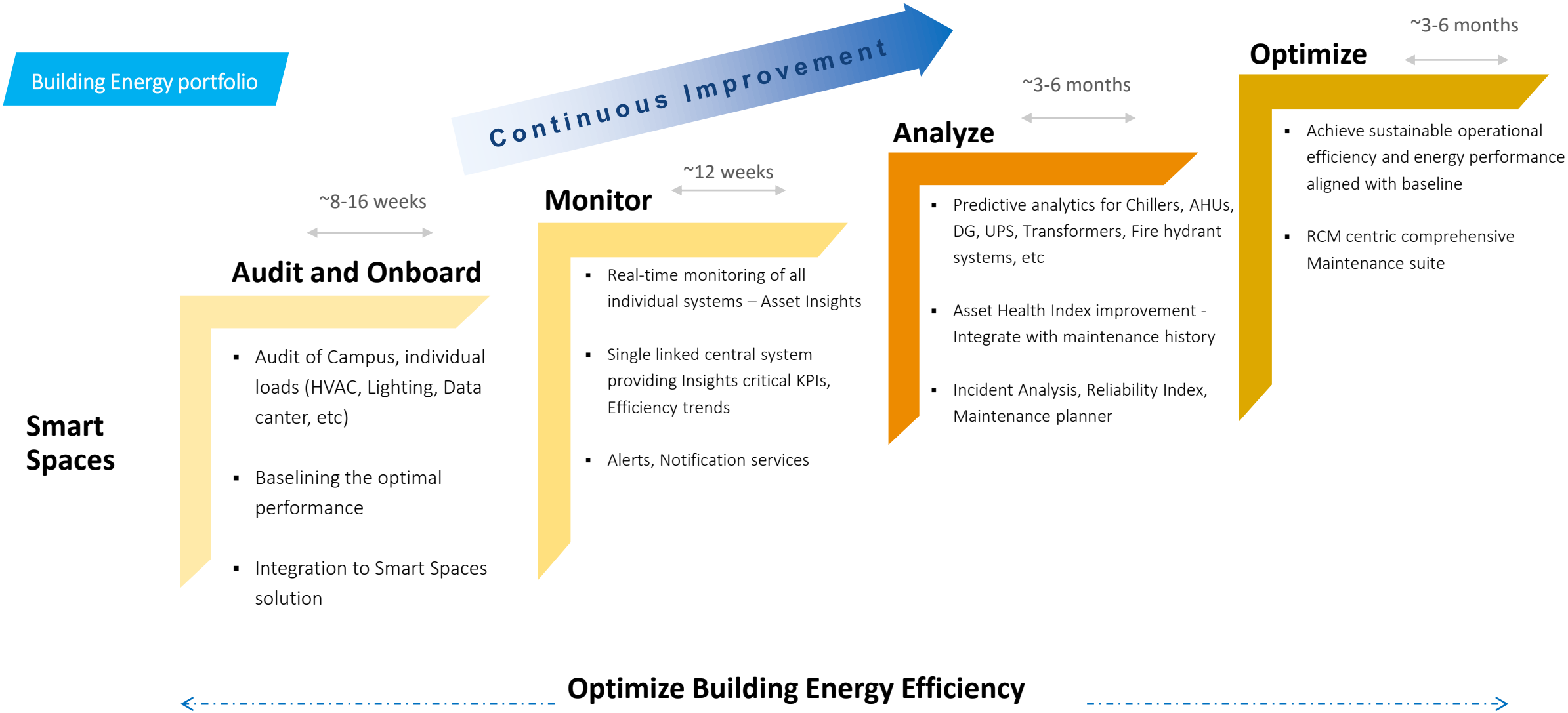
With the advent of Industry 4.0, design of future-proof solution visualize and realize the automated processes, monitor, optimize and initiate workflows and offer many more innovative practices that digital natives are accustomed to.

Energy Efficiency - Approach and Maturity Level

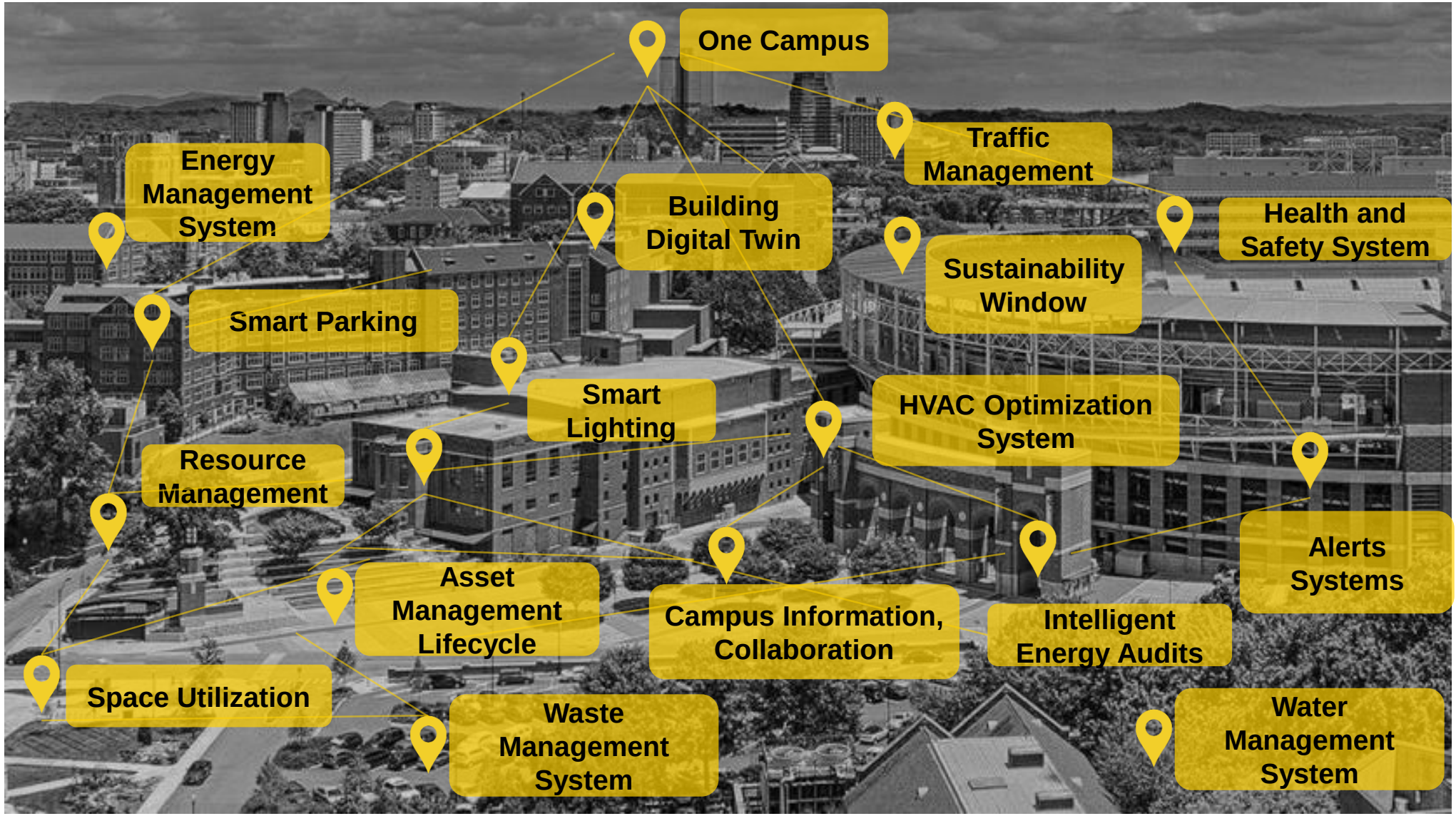


How : Operationalize continuous optimization of energy

Approach, Framework, Tools & Accelerators



LTI “Smart Facility” – Enhanced Energy Efficiency



Reference Architecture