# Amusement Park

Located in Bangalore, India, the water-cum-amusement park is a multipurpose leisure center that boasts a wide range of amenities and activities for its guests. The establishment features numerous sections, such as an amusement park, a water park, a wave park, water features, and a river, as well as halls, activity rooms, party areas, a bowling alley, bars, restaurants, and banquet facilities. Given the size of its operations and the significant resources required to maintain its various processes, the facility requires a robust and efficient management system to optimize resource consumption, ensure safety and security, and control costs.

## Aim:

- Evaluate the operational infrastructure's electrical, mechanical, safety, and security aspects.
- Benchmark the current condition of the facility's operational infrastructure.
- Provide recommendations for optimizing operations and improving efficiency.
- Identify potential risks and suggest measures to mitigate them.
- Highlight opportunities to reduce costs and increase safety and security.
- Enhance the facility's overall safety, security, and cost-efficiency.

## Challenges:

- Addressing loose wiring, insecure electrical boards, and unrestricted access
- The facility is struggling with high energy costs and potential equipment failures because they haven't prioritized energy efficiency, power quality, and preventative maintenance.
- Blind Dosing: Manual water dosing risk inaccurate treatment, jeopardizing visitor health.
- Upgrade from reactive maintenance to predictive. Implement sensor-driven AI for real-time equipment monitoring and failure prediction.

## Solution:

- Comprehensive Documentation: Implement a system for site diagrams, wiring layouts, SLDs, and equipment manuals to streamline maintenance and future upgrades.
- Smart Metering: Install smart meters to track energy usage in real-time, identify energy-saving opportunities, and justify the investment with quick cost reductions.
- Enhanced Security: Upgrade to high-resolution, PTZ, wireless digital CCTV cameras for improved visitor safety and clear incident capture.
- Automated Water Management: Transition pump stations to automated water quality monitoring and dosing for consistent and reliable health & safety for all guests.

## Network:

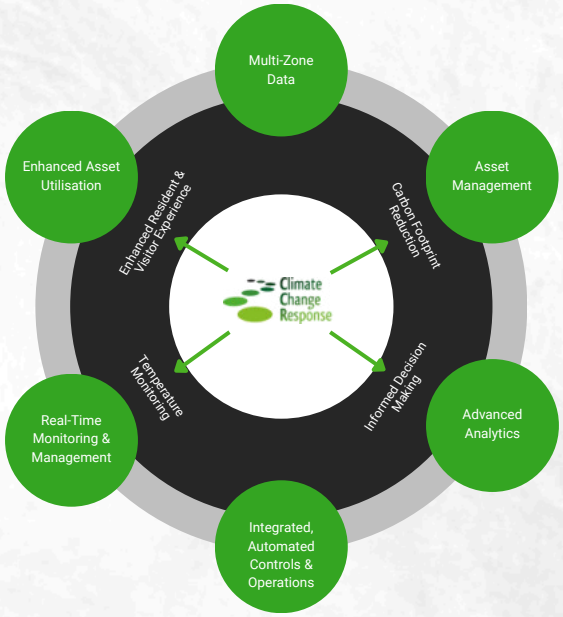
Modbus, Bacnet, 4GLte, LoRa, LoRaWAN, Ble

## Scope of Expansion:

- Pumps: Install Variable Frequency Drives VFDs for optimized energy use, stable flow.
- Renewable Energy: Explore solar power (Bangalore's climate!) for cost reduction and sustainability.
- AI Security: Implement AI-based video analytics for proactive security.
- Smart Lights: Deploy smart light poles with environmental sensors for better lighting & air quality monitoring.

## Success Criteria:

- Achieve significant cost savings.
- Achieve the project objectives within specified time and budget constraints.
- Implemented a complete system with smart monitoring, control, and analytics.
- Provided value in alignment with project goals.





## Key Outcomes

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| Energy Efficiency | Improved Health of Visitors |
| Real-time Monitoring & Management | Reduced Energy Costs |