



# AI-enabled Operational Intelligence

eSmart Facility Management System  
Solutions for Modern Facility Operations



# Solutions by Industry Sector

EF Software provides an intelligent facility management platform that is designed to adapt to the unique risks, standards and operational priorities of different industries.

Select your sector to explore solutions tailored to your environment.

SELECT A SECTOR

1 Grade A Commercial Buildings

2 Healthcare & Nursing Homes

3 Pharmaceutical

4 Manufacturing Semi Conductors

5 Hotels & Hospitality

6 Apartment & Condominiums

7 Transportation (MRO)

8 Data Centres

9 Education

# Solutions by Operational Responsibility



## 1 Grade A Commercial Buildings

### 1.1 M&E

### 1.2 Environmental Services

### 1.3 Security

### 1.4 Pests

### 1.5 Landscape

Each department manages different risks, service standards and performance outcomes within the industry.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Grade A Commercial Case Studies




# Transforming Facility Management into Measurable Performance

Transition from manual labour-intensive and reactive operations to a data-driven, accountable and automated operating model—where performance is visible, measurable, and optimised in real time.

By combining Artificial Intelligence (AI), Internet of Things (IoT) sensors, robotics, automation, digitalisation, and workforce intelligence, management gains continuous oversight of facility conditions, KPIs, Environment, Social and Governance (ESG) compliance, manpower deployment, and service quality.

## The Challenge

Most facilities operate with limited real-time visibility. Issues are discovered late, manpower is deployed evenly rather than intelligently, and performance is often measured after problems occur.

## Strategic Benefits

Operations shift from reactive responses to predictive preventions, prioritising regular inspections. Issues are detected earlier, tasks are validated digitally, and resources are deployed based on actual demand rather than assumptions.

## Proven Business Outcomes

Organisations typically achieve:

- 20–30% reduction in manpower = reduction in operational cost
- 40–50% improvement in workforce productivity
- 30–50% faster response times to environmental triggers
- 10–15% reduction in energy consumption

Leveraging on technology allows for higher service quality, lower operational risk and improved ROI, all supported by auditable digital records.

# Systems Powering Your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

## M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.



iSnapReport with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTaskConnect with IoT Sensors

A central task and work order system integrated with IoT sensors that automatically detects issues, triggers tasks and validates completion – ensuring work is executed on time, at the right location, with proof.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



AI Analytics Engine

An intelligence that analyses inspection, task and sensor data to prioritise issues, optimise manpower deployment and reduce operational wastage.



Management Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and open maintenance issues – enabling faster coordination, prioritised response and improved asset uptime.

## Environmental Services

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



iSnapReport with AI

AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



ePeriodic

An adaptive scheduling engine that automatically increases or reduces service frequency based on traffic, severity and risk – maximising productivity without increasing headcount.



eSmart Feedback with IoT Sensors

A real-time service feedback platform integrated with IoT sensors that correlates user experience with actual facility conditions – enabling faster response, objective validation and smarter service decisions.



eTMS

A verified attendance and workforce tracking system using image capture, GPS and QR or RFID – improving attendance accuracy, employee productivity visibility and manpower control.

## Security & Risk Management

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and operations in real time.



iSnapReport  
with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time—with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS  
(Security Workforce  
Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.



Security  
Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

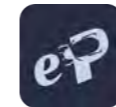
## Pest Management & Compliance Control

Effective pest management requires early detection, structured inspections and auditable compliance. The systems enable teams to identify risks early, validate treatments and reduce recurrence through digital inspections and data-driven insights.



iSnapReport  
with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



ePest

A central pest management platform that manages inspections, treatments, trends and compliance records – providing a single source of truth for pest operations.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



Sensors

Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.



Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

## Landscape

Indoor landscaping allows for decorative plants to be grown in controlled environments, allowing for a pop of vibrance in shared spaces. Intelligent technologies can help the upkeep of these plants by monitoring water quality, tracking plant health (humidity, soil moisture, nutrient levels) and providing real-time alerts for imbalances.



iSnapReport  
with AI

AI-enabled iSnapReport, helps teams quickly identify hazards that may affect the plants and escalate them to technicians, reducing downtime and improving safety across parks, gardens, and green spaces.



eHydro

eHydro intelligently manages plant hydration by monitoring water levels, scheduling irrigation, and providing checklists for plant care, detecting pests and alerting teams to potential risks, ensuring healthier plants and optimising water usage across large areas, prevents over or under-watering.



Technicians  
Dashboard

The Technicians Dashboard delivers a real-time command centre for landscape teams – managing and tracking plant water levels, irrigation schedules, and pest activity. It empowers technicians with actionable insights for faster decision-making and operational assurance.

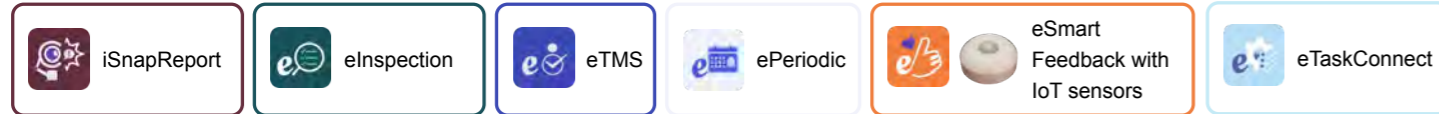
# Case Studies



# Case Study 1. Marina Bay Financial Centre (MBFC)



## Systems Used



## Challenges

1. Limited Visibility and Compliance Risks
2. Labor-Intensive Facility Operations
3. Budget Justification & ROI Visibility
4. Reactive vs. Proactive Management



## How We Help Improve



Track and meet KPIs and other assigned goals, such as ESG



Manpower reassigned to high-impact tasks.



Prove their ROI, analyse and use their data to justify budgets.



Shift to proactive management that uses data and workflows.

## Results, Impact & Innovation

### RESULTS

**~100 - 200**  
man hours saved per month

### IMPACT

**~2 FTE**  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



Hand Soap / Toilet Paper Sensor



Bin Sensor



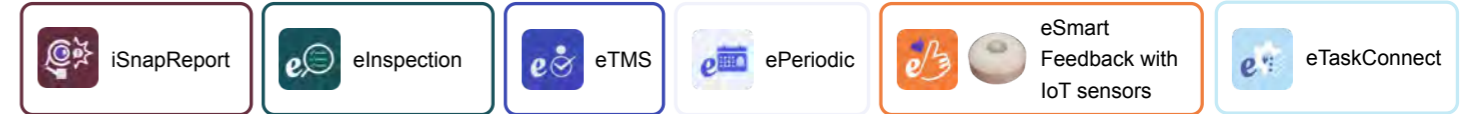
LoRaWAN Gateway

Use of IoT Sensors to track the condition of deployed area, leading to improved response times and service conditions.

# Case Study 2. Suntec City



## Systems Used



## Challenges

1. Shift from Input-Based to Output Based
2. Energy Management & Sustainability
3. Compliance and Accountability
4. Maintenance & Equipment Reliability



## How We Help Improve



Enhance productivity adjusting deployment to demand and moving manpower to key areas.



Forecast demand and optimise energy consumption to necessary systems.



Online records are kept and checked during inspections.



Predictive maintenance allows for equipment to be monitored and repaired before failure.

## Results, Impact & Innovation

### RESULTS

**~150 - 250**  
man hours saved per month

### IMPACT

**~5 FTE**  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



Hand Soap / Toilet Paper Sensor



Bin Sensor



LoRaWAN Gateway

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Healthcare Type



Hospitals may share a common range of services, but public hospitals, private hospitals and polyclinics remain distinct in their approaches to procedures and in the outcomes they deliver.

Select your Sector of Facility type, or a Case Study to explore solutions that are better suited to how your team works.

- 2 Healthcare & Nursing Homes
- 2.1 M&E
- 2.2 Environmental Services
- 2.3 General Services
- 2.4 Security
- 2.5 Pests
- 2.6 Landscape

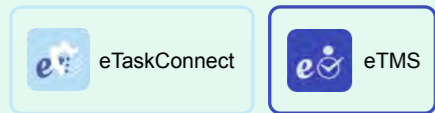
# Healthcare Case Studies



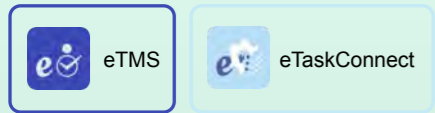
iSnapReport with Robotics	eTMS	eInspection	ePeriodic	National Neuroscience Institute SingHealth  Singapore General Hospital SingHealth
eSmart Feedback with IoT sensors	eAudit	eCallConnect with Robotics		
eReporting	eCurtain	eWaste	ePorter	
eTaskConnect	eHydro	eStaffPortal	ePest	
eTMS	eInspection	eSmart Feedback with IoT sensors	National Cancer Centre Singapore SingHealth	National Dental Centre Singapore SingHealth
eStaffPortal	eTaskConnect	eAudit	Singapore National Eye Centre SingHealth	National Heart Centre Singapore SingHealth
eInspection	eTMS	ePeriodic	Woodlands Health NHG Health	
eSmart Feedback with IoT sensors	eLinen	eAudit	INSTITUTE of MENTAL HEALTH National Healthcare Group	
eInspection	eTMS	eSmart Feedback with IoT sensors	Jurong Community Hospital	
eLinen Tracking System	eAudit	ePorter	eCurtain	National University Hospital

# Healthcare Case Studies

SELECT A CASE STUDY



· Bukit Batok · Bukit Panjang · Choa Chu Kang  
· Clementi · Jurong · Pioneer · Queenstown · Tengah



Healthcare & Nursing Home



# Removing Healthcare Facility Strains To Focus On Patient Outcomes

## Systems Powering your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

### M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.

Delivering exceptional patient outcomes while maintaining operational excellence and regulatory compliance is one of the most demanding responsibilities that the healthcare industry faces. Concerns can also be compounded when patient care isn't a one-time intervention.

The transformation of facilities with the use of smart devices like the IoT Sensors, robotics and automation can help enhance clinical environments, allowing management to gain continuous oversight of facility conditions, patient environments, ESG compliance, manpower deployment, and care service standards.

### The Challenge

With the pressure of operational excellence, healthcare facilities often face rising operational costs, workforce shortages and compliance with strict regulations. All of which can impact the patient and staff experience.

### Strategic Benefits

Operations shift from reactive responses to predictive preventions, prioritising regular inspections. Issues are detected earlier, tasks are validated digitally, and resources are deployed based on actual demand rather than assumptions. Ensuring safer environments, higher service quality, and improved staff efficiency.

### Proven Business Outcomes

Organisations typically achieve:

- 25–35% reduction in manpower = reduction in operational cost
- 30% improvement in hospital cleanliness and safety ratings
- 30–45% reduction in unplanned downtime
- 40–55% faster response times to environmental triggers

Leveraging on technology allows for higher service quality, lower operational risk and improved ROI, all supported by auditable digital records.



iSnapReport with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTaskConnect with IoT Sensors

A central task and work order system integrated with IoT sensors that automatically detects issues, triggers tasks and validates completion – ensuring work is executed on time, at the right location, with proof.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



AI Analytics Engine

An intelligence that analyses inspection, task and sensor data to prioritise issues, optimise manpower deployment and reduce operational wastage.



Management Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and open maintenance issues – enabling faster coordination, prioritised response and improved asset uptime.

## Environmental Services

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



iSnapReport  
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AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



eCallConnect  
with Robotics

Works together with iSnapReport where information of the location of a spill or mess is taken and sent to eCallConnect. The system schedules the task in and the robot heads to the mapped location of the spill, freeing valuable manpower for higher impact tasks.



eWaste

Turns waste disposal into a measurable, accountable, and sustainable process. By recording the weight and type of waste and providing real-time data that helps managers understand waste generation patterns and areas for improvement.



eSmart Feedback  
with IoT Sensors

A real-time service feedback platform integrated with IoT sensors that correlates user experience with actual facility conditions – enabling faster response, objective validation and smarter service decisions.



eLinen

eLinen tags linen items with RFIDs, allowing for the tracking and quick identification of items, preventing shortages by tracking linen distribution across wards.

## General Services

A variety of other essential services are required to help healthcare run smoothly in the facility. With the constant manpower shortage present in healthcare facilities, these systems are integral in allowing smooth operations across different departments.



ePorter

Hospitals often require porters to help in the delivery of equipment, documents and lab samples – all while having strict regulations in the issuing the delivery orders. Throughout these processes, ePorter grants oversight of the delivery and eases the delivery procedures with digital forms and the monitoring, tracking and assigning of porter tasks.



eInventory

Registers item stock and allows for demand-based replenishment of medical supplies, consumables and equipment. Simplifies the ordering process of medical supplies from the main warehouse / storage to specific pharmacies and creates logged transactions.



eTMS

A verified attendance tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control. The system enables rostering and flags if any deviation exists.



Robotics

Third-party robotics can be integrated into the systems, reducing the manpower load on menial tasks such as routine cleaning and simple portering, allowing for employees to do higher-impact tasks.

## Security & Risk Management

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and operations in real time.



iSnapReport  
with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time—with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS  
(Security Workforce  
Management)

A workforce and shift management system that ensures security is deployed as planned, supporting attendance validation and improving manpower coverage across locations.



Security  
Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

## Pest Management & Compliance Control

Effective pest management requires early detection, structured inspections and auditable compliance. The systems enable teams to identify risks early, validate treatments and reduce recurrence through digital inspections and data-driven insights.



iSnapReport  
with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



ePest

A central pest management platform that manages inspections, treatments, trends and compliance records—providing insight into any pests that may enter the premises, tracking if any pest control measures has been put into place, and the effectiveness of the measures in place.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID—improving attendance accuracy, productivity visibility and manpower control.



Sensors

Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.



Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

## Landscape

Create a welcoming atmosphere that alleviates mental fatigue for patients and staff through proper maintenance of indoor landscaping. Intelligent technologies can help the upkeep of plants by monitoring water quality, tracking plant health (humidity, soil moisture, nutrient levels) and providing real-time alerts for imbalances. Allowing for more comfort, less stress, and a healthier space.



iSnapReport  
with AI

AI-enabled iSnapReport, helps teams quickly identify hazards that may affect the plants and escalate them to technicians, reducing downtime and improving safety across parks, gardens, and green spaces.



eHydro

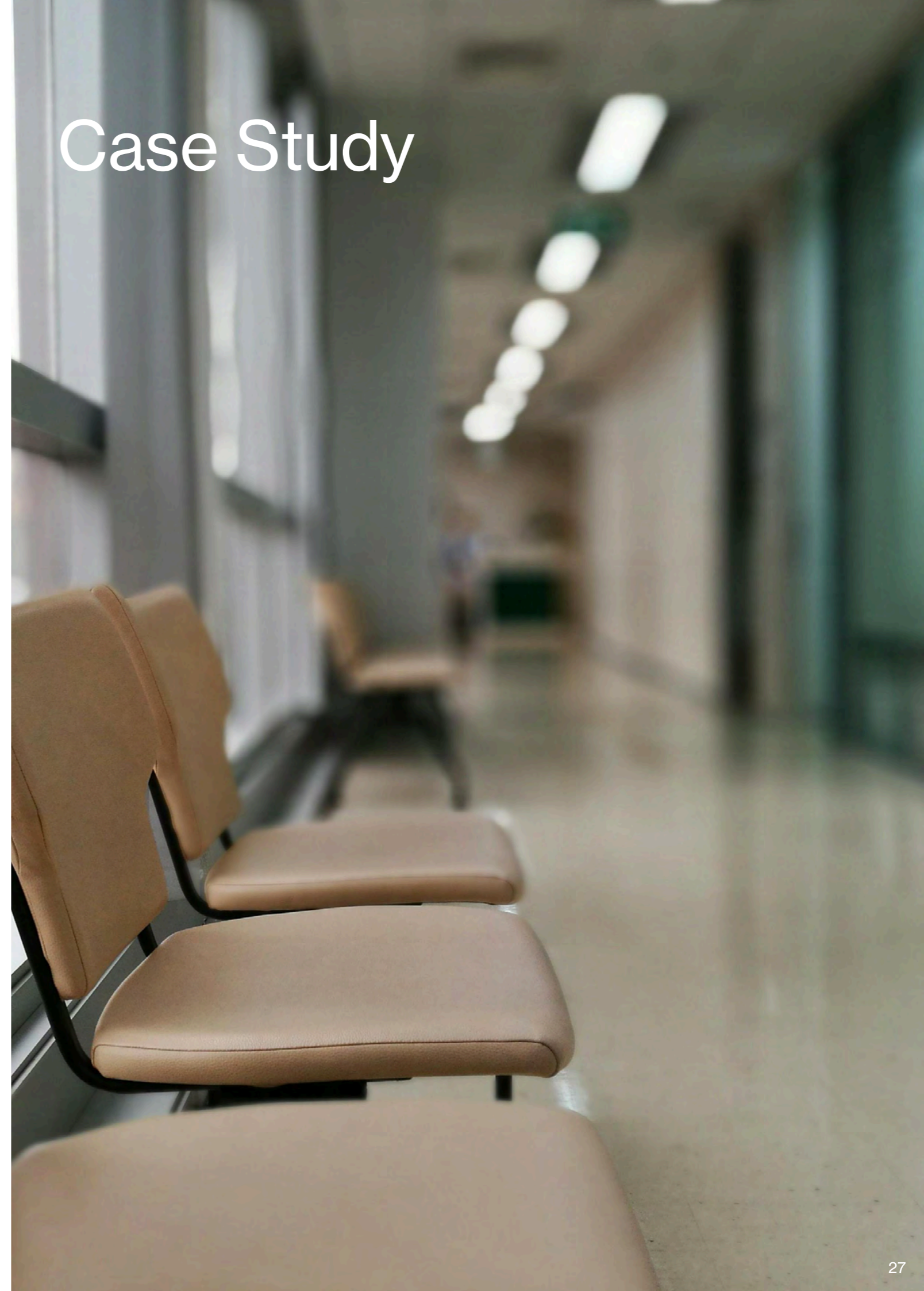
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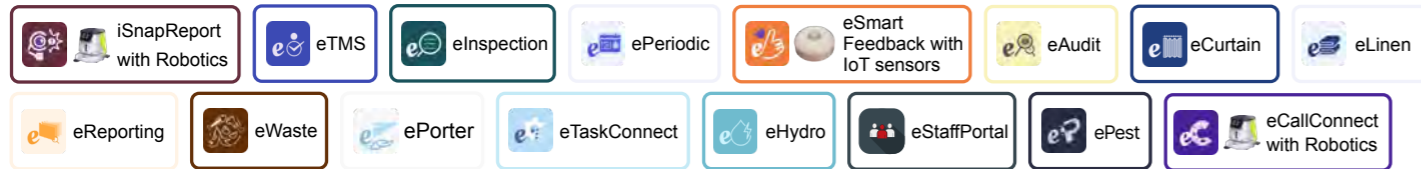
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The Technicians Dashboard delivers a real-time command centre for landscape teams – managing and tracking plant water levels, irrigation schedules, and pest activity. It empowers technicians with actionable insights for faster decision-making and operational assurance.

## Case Study



## Systems Used



## Challenges

1. Lack of Manpower
2. Budget Justification
3. Energy Management
4. Limited Visibility and Compliance Risks

## How We Help Improve



Smart solutions offload manpower from repetitive workload, allowing manpower optimisation



Prove their ROI, analyse and use their data to justify budgets.



Forecast demand and optimise energy consumption to necessary systems.



Track and meet KPIs and other assigned goals, such as ESG

## Results, Impact & Innovation

### RESULTS

**~150 - 250**  
man hours saved per month

### IMPACT

**~3 - 3.5 FTE**  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



Fall Detector



Rodent Sensor



LoRaWAN Gateway



Robots

IoT Sensors help track and monitor traffic flow and well-being of the people within the healthcare facility. They cut down response time should there be any emergency, while allowing for the visualisation of traffic trends and the optimisation of energy and resource.

## Systems Used



## Challenges

1. Lack of Manpower
2. Shift from Input-Based to Output-Based
3. Energy Management
4. Compliance and Accountability

## How We Help Improve



Smart solutions offload manpower from repetitive workload, allowing manpower optimisation



Output-based shift focuses on results delivered ensuring that uptime and efficiency are met



Allow inefficiencies to be rooted out with the monitoring of high consumption zones



Audit-ready records are kept and checked during inspections.

## Results, Impact & Innovation

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### INNOVATION



Ammonia Sensor



Traffic Sensor



LoRaWAN Gateway

IoT Sensors track traffic trends in real time, significantly cutting consumption. Sensors track occupancy and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Operational Responsibility



- 3 Pharmaceutical
- 3.1 M&E
- 3.2 Environmental Services
- 3.3 Security
- 3.4 Pests

# Pharmaceutical Case Studies



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iSnapReport

eInspection

eSmart Feedback with IoT sensors

ePeriodic

eTMS



The different sectors for pharmaceuticals play their own critical role in safeguarding product integrity and patient safety.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Operations that Turn Precision into Productivity

Pharmaceutical companies operate under strict standards for the storage, organisation and transportation of its products. Many regulatory standards have to be in place to protect product integrity and patient safety while ensuring that audit and compliance is met.

To aid continuous service, tools such as AI, IoT sensors, automation and digitalisation gives oversight for facility conditions, manpower deployment, equipment uptime and regulatory compliance. Elevates facility and resource management while ensuring seamless operations across manufacturing and research facilities.

## The Challenge

Many pharmaceutical facilities operate with limited real-time visibility. Deviations in environmental conditions or equipment performance are detected late, manpower is deployed uniformly rather than strategically, and compliance reporting is often reactive, triggered only after audits or incidents.

## Strategic Benefits

Operations shift from reactive responses to predictive and preventive management. Environmental triggers are detected earlier, tasks are digitally validated, and resources are deployed based on actual demand. Compliance records are automatically generated, ensuring readiness for audits and regulatory inspections.

## Proven Business Outcomes

Organisations typically achieve:

- 25–35% reduction in manpower requirements = lower operational cost
- 40–55% improvement in workforce productivity
- 40–50% faster response times to environmental or equipment triggers
- 10–15% reduction in energy and utility consumption

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eTaskConnect with IoT Sensors

A centralised task and work order system, integrated with IoT sensors, detects anomalies in real time, triggers corrective tasks, and validates completion – ensuring maintenance is executed promptly, at the right location, with auditable proof for compliance.



eTMS

A verified attendance and workforce tracking solution using image capture, GPS, and QR/RFID improves accuracy, enhances visibility into productivity, and strengthens manpower control.



AI Analytics Engine

Intelligent analytics consolidate inspection, task, and sensor data to prioritise issues, optimise manpower deployment, and reduce operational inefficiencies – supporting continuous improvement and regulatory readiness.



Management Dashboard

A real-time operational dashboard displays technician deployment across facilities, last recorded activity, and open maintenance issues. Improves coordination and prioritised responses in production-critical environments.

## Environmental Services

Environmental services are vital to pharmaceutical operations because they directly safeguard product integrity, regulatory compliance, and patient safety. Cleanliness standards have to be maintained – including controlled air quality, sanitation, and waste handling. Ensuring that cleanrooms, laboratories, and common spaces remain sterile and compliant with Good Manufacturing Practices (GMP) and other regulatory frameworks.



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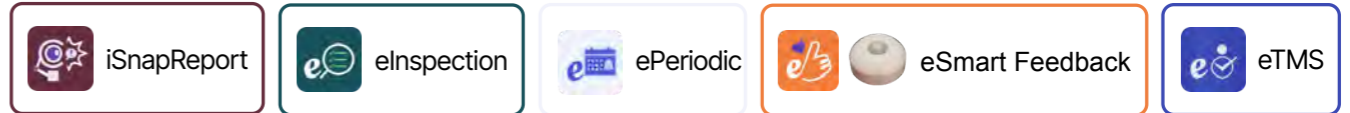
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# Case Study

## Case Study Roche



### Systems Used



### Challenges

1. Lack of real time visibility
2. Shift from Input-Based to Output-Based
3. Energy Management
4. Compliance and Accountability

### How We Help Improve



Implementation of Real-time visibility with tracked records and dashboards



Output-based shift focuses on results delivered ensuring that uptime and efficiency are met



Forecast demand and optimise energy consumption to necessary systems.



Audit-ready records are kept and checked during inspections.

### Results, Impact & Innovation

#### RESULTS

~80 - 100  
man hours saved per month

#### IMPACT

~1 - 1.5 FTE  
worth of effort and efficiency

#### INNOVATION



AI



Dashboard

IoT Sensors track traffic trends in real time, significantly cutting consumption. Sensors track occupancy and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Operational Responsibility



4 Manufacturing Semi Conductors

4.1 M&E

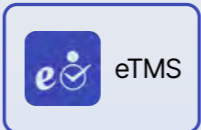
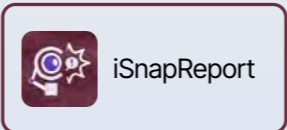
4.2 Environmental Services

4.3 Gowning Operations

4.4 Security

4.5 Pests

# Manufacturing Semi Conductors Case Studies



Each sector plays a vital role in safeguarding compliance, reducing downtime, and enabling the innovation pace that semiconductors demand.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Turning Micro Manufacturing into Major Outcomes

Semiconductor manufacturing require highly specialised environments where microchips are created through intricate processes that demand extreme precision, consistency, and control. Cleanroom conditions, advanced robotics, and automated systems are essential to prevent contamination and ensure product reliability.

Tools such as AI, IoT sensors, automation and digitalisation give oversight for facility conditions, manpower deployment, equipment uptime and regulatory compliance.

## | The Challenge

Semiconductor facilities often operate with limited visibility into equipment performance and environmental conditions. Issues are detected late, downtime is prolonged, and manpower is deployed uniformly rather than based on actual demand. Performance metrics are also often reviewed only after production losses occur.

## | Strategic Benefits

Operations shift from reactive maintenance to predictive and preventive strategies. Equipment anomalies are detected earlier, tasks are validated digitally, and resources are deployed intelligently to maintain yield and reduce downtime.

## | Proven Business Outcomes

Organisations typically achieve:

- 10–20% reduction in manpower = reduction in operational cost
- 15–25% boost in workforce productivity
- 25–35% faster response times to environmental triggers
- 20–30% reduction in human error with digital validation workflows
- 20–30% reduced downtime with predictive maintenance

Better facility management helps facilitate manufacturing in cleanrooms with lower risk of disruptions and contamination.

# Systems Powering Your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

## M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.



iSnapReport with AI

AI-enabled iSnapReport empowers teams to visually capture on-site defects, automatically categorise issues, and trigger corrective actions – minimising downtime and safeguarding production reliability in regulated environments.



eTaskConnect with IoT Sensors

A centralised task and work order system, integrated with IoT sensors, detects anomalies in real time, triggers corrective tasks, and validates completion – ensuring maintenance is executed promptly, at the right location, with auditable proof for compliance.



eInspection

A digital inspection system that enhances routine inspections and sets the standard of checks across all staff. It also allows for the validation of inspections when they are completed and automatically creates time-stamped, audit-ready records.



ePeriodic

An adaptive scheduling engine that automatically increases or reduces service frequency based on maintenance severity and risk – maximising productivity without increasing headcount.



AI Analytics Engine

Intelligent analytics consolidate inspection, task, and sensor data to prioritise issues, optimise manpower deployment, and reduce operational inefficiencies – supporting continuous improvement and regulatory readiness.

# Environmental Services

Semiconductor plants operate in ultra-clean environments with strict facility controls, as even microscopic particles can disrupt production. Automated systems and digitalised records help ensure consistency, reliability, and compliance with global standards. While facility management safeguards the sterile conditions required for chip fabrication.



iSnapReport with AI

AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



ePeriodic

An adaptive scheduling engine that automatically increases or reduces service frequency based on traffic, severity and risk – maximising productivity without increasing headcount.



eSmart Feedback with IoT Sensors

A real-time service feedback platform integrated with IoT sensors that correlates user experience with actual facility conditions – enabling faster response, objective validation and smarter service decisions.

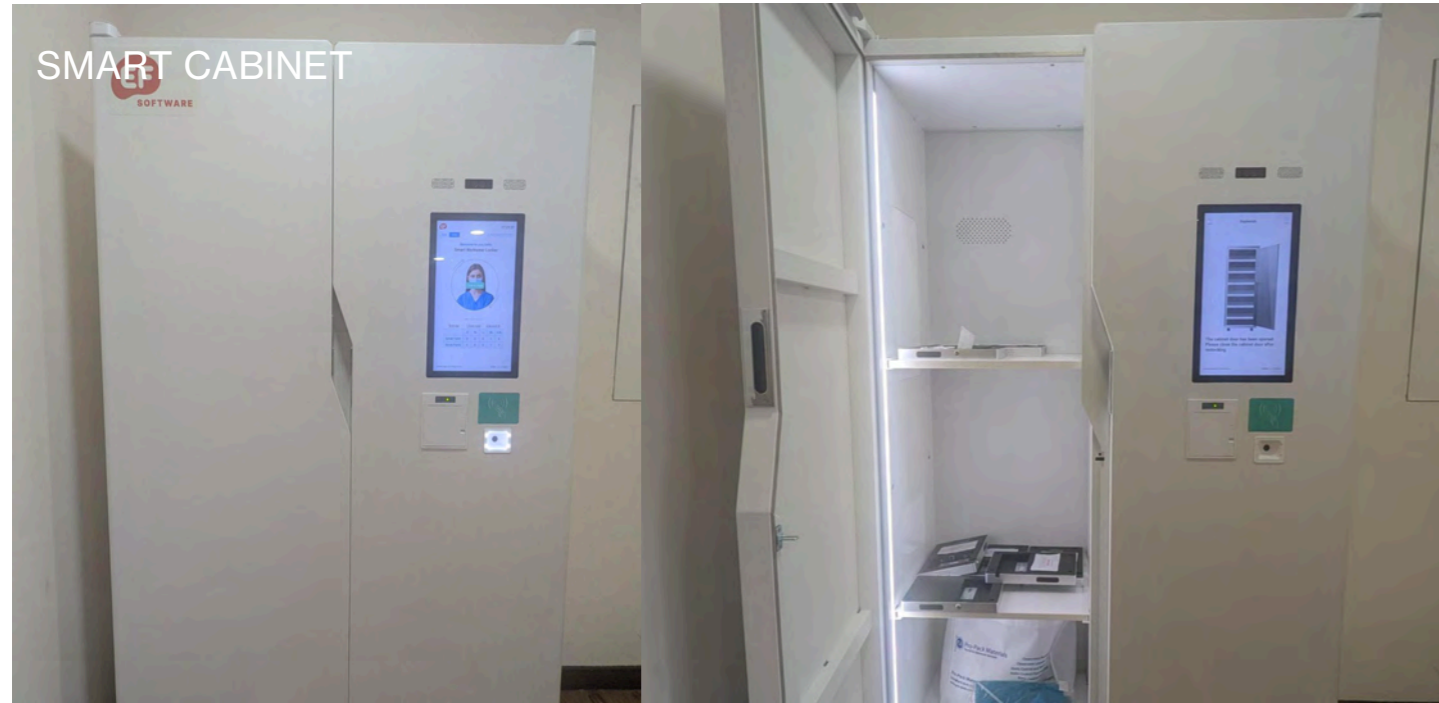


eTMS

A verified attendance and workforce tracking system using image capture, GPS and QR or RFID – improving attendance accuracy, employee productivity visibility and manpower control.

# Gowning Operations

Gowning operations maintain the integrity of cleanrooms used in semiconductor manufacturing. Proper gowning reinforces compliance with industry standards, ensuring that every technician contributes to a sterile, controlled environment for precision manufacturing.



iSnapReport with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



eLinen Tracking System

By tracking linens efficiently with RFID, hotels can ensure clean sheets, towels, and uniforms are always available, reducing losses from misplacement and maintaining high standards of cleanliness, guest satisfaction and brand reputation.



Face Recognition

Facial recognition tied to the smart cabinet allows for security, accountability, and efficiency in gowning operations as personnel will only be able to access their own set of items. Maintains strict control on each user's items and eliminates misuse, theft or human error for both personal items and gowning equipment.



RFID

RFID enhances inventory visibility, where stock levels are updated instantly, reducing the risk of shortages or overstocking. It helps speed up access compared to manual logging or key-based systems while still maintaining control over sensitive materials.



Management Dashboard

A real-time operational view showing stock count and access count. Recording last activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

# Security

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and operations in real time.



iSnapReport with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time – with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS (Security Workforce Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.



Smart CCTV

Unlike regular CCTV, which passively captures footage for later review, smart CCTV uses AI-driven analytics, real-time monitoring, and intelligent alerts to actively prevent and respond to threats.



Security Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

# Pest Management & Compliance Control

Pests such as rodents, ants and cockroaches can pose as risks to the sterile environments in precision manufacturing. Particulate contaminations and chemical interactions possibly can cause contamination, damage and ultimately yield losses.



iSnapReport  
with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



ePest

A central pest management platform that manages inspections, treatments, monitors trends and compliance records – providing a single source of truth for pest operations.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



Sensors

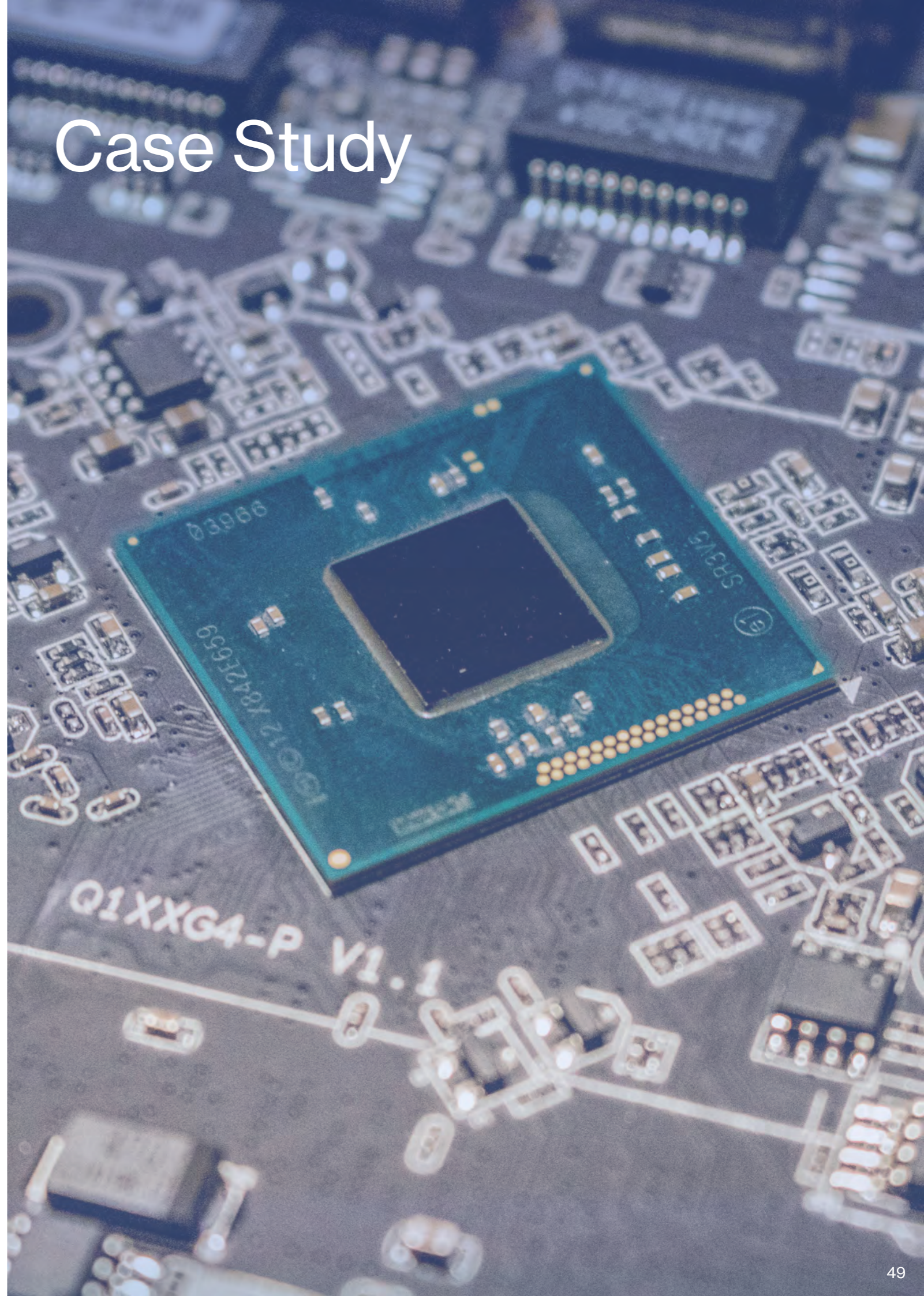
Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.



Technicians  
Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

# Case Study





### Systems Used



### Challenges

1. Shift from Input-Based to Output Based
2. Maintenance & Equipment Reliability
3. Energy Consumption & Sustainability
4. Compliance and Accountability

### How We Help Improve



Output-based shift focuses on results delivered ensuring that uptime and efficiency are met



Allow inefficiencies to be rooted out with the monitoring of high consumption zones



Online records are kept and checked during inspections.



Predictive maintenance allows for equipment to be monitored and repaired before failure.

### Results, Impact & Innovation

#### RESULTS

**~100 - 200**  
man hours saved per month

#### IMPACT

**~2 - 2.5 FTE**  
worth of effort and efficiency

#### INNOVATION



Traffic Sensor



LoRaWAN Gateway



AI



Dashboard

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Operational Responsibility

SELECT A  
USE CASE

**5** Hotels & Hospitality

**5.1** M&E

**5.2** Environmental Services

**5.3** Laundry Operations

**5.4** Security

**5.5** Pests










**5.6** Landscape

A diverse industry made up of several interconnected sectors, these solutions each play a unique role in delivering memorable guest experiences within the Hotels & Hospitality Sector.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Hotels & Hospitality Case Studies

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 iSnapReport	 eSmart Feedback with IoT sensors	 eInspection
 eLinen Tracking System	 eTaskConnect with IoT Sensors	 eTMS
 ePeriodic	 ePest	 Security

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## Hotels & Hospitality



# Hospitality Reimagined – Smart Tools, For Future-Ready Hotels.

## Systems Powering Your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

### M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.

Hotels and hospitality businesses thrive on guest satisfaction, seamless service, and operational efficiency. Housing guest rooms, event spaces, and supporting infrastructure such as kitchens, HVAC systems, and service facilities. Facility management is critical in ensuring that each stay is comfortable, safe, and memorable.

To aid continuous service and operational excellence, tools such as AI, IoT sensors, robotics, and automation can be deployed. Achieving better oversight for facility conditions, energy efficiency and resource management while ensuring seamless operations and elevated guest satisfaction.

### The Challenge

Traditional facility operations often run with a lack of manpower, yet are often required to rely on manual checks, fragmented systems, usually resulting in a waste of resources. This leads to inefficiencies, higher costs, and risks of service disruptions directly impacting guest experience and brand reputation.

### Strategic Benefits

Operations shift from reactive responses to predictive preventions, prioritising regular inspections. Issues are detected earlier, tasks are validated digitally, and resources are deployed based on actual demand rather than assumptions.

### Proven Business Outcomes

Organisations typically achieve:

- 40–50% improvement in productivity through offloading of routine tasks
- 20–35% reduction in operational costs and energy usage
- 25–35% faster response times to guest-related facility issues
- 20-25% reduced resource wastage

Leveraging on technology allows for higher service quality, better guest satisfaction and improved ROI, all supported by auditable digital records.



iSnapReport with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTaskConnect with IoT Sensors

A central task and work order system integrated with IoT sensors that automatically detects issues, triggers tasks and validates completion – ensuring work is executed on time, at the right location, with proof.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



AI Analytics Engine

An intelligence that analyses inspection, task and sensor data to prioritise issues, optimise manpower deployment and reduce operational wastage.

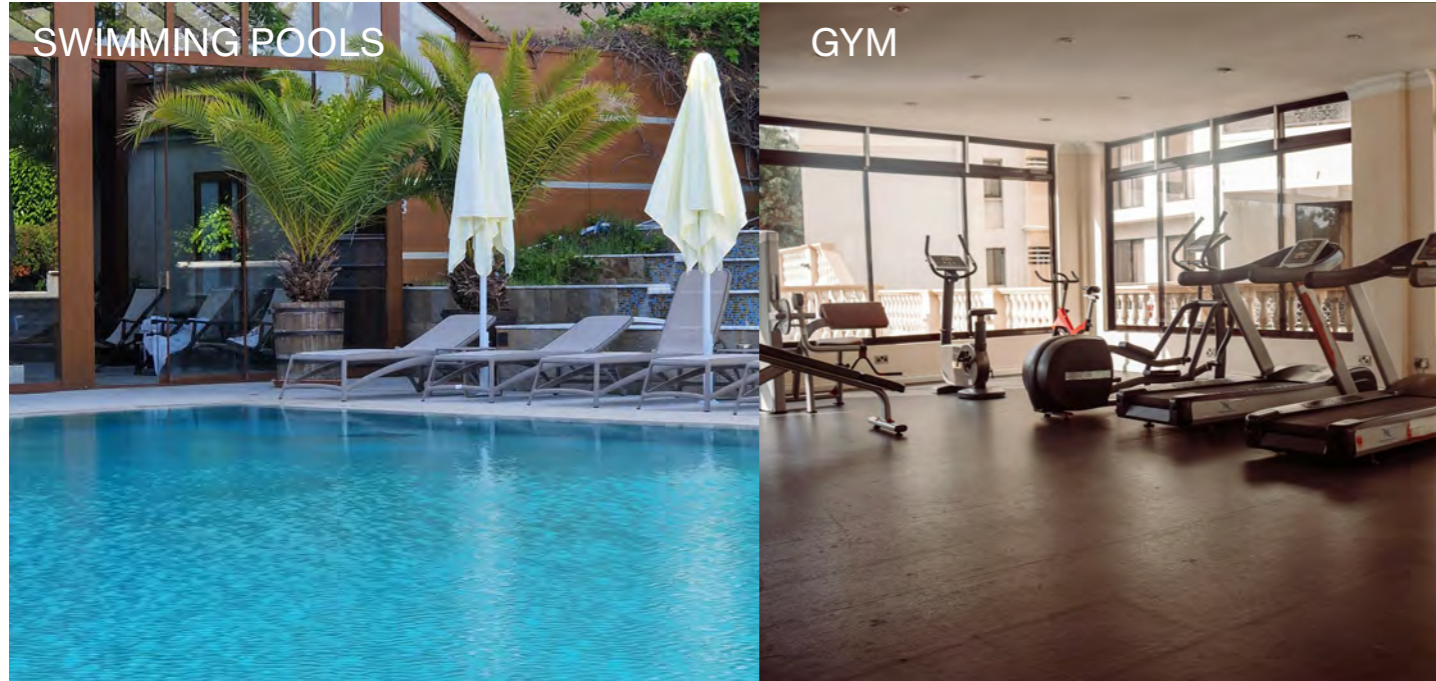


Management Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and open maintenance issues – enabling faster coordination, prioritised response and improved asset uptime.

## Environmental Services

Ensures that common areas in hotels such as lobbies, gyms, pools, and event spaces remain spotless, safe, and well-managed at all times. This enhances the hotel's image, protects guest's health and safety, extends the life of facilities and creates a positive impression that drives satisfaction and repeat visits.



iSnapReport with AI

AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eLinens

By tracking linens efficiently with RFID, hotels can ensure clean sheets, towels, and uniforms are always available, reducing losses from misplacement and maintaining high standards of cleanliness, guest satisfaction and brand reputation.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



ePeriodic

An adaptive scheduling engine that automatically increases or reduces service frequency based on traffic, severity and risk – maximising productivity without increasing headcount.



eTMS

A verified attendance and workforce tracking system using image capture, GPS and QR or RFID – improving attendance accuracy, employee productivity visibility and manpower control.

## Laundry Operations

Laundry Operations are vital in hotel environments because it directly impacts guest comfort, hygiene, and service quality. With efficient operations, cleanliness and comfort are always ensured while reducing any loss from misplacement or theft.



iSnapReport with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



eLinens

By tracking linens efficiently with RFID, hotels can ensure clean sheets, towels, and uniforms are always available, reducing losses from misplacement and maintaining high standards of cleanliness, guest satisfaction and brand reputation.



Smart Cabinet with RFID

Transforms laundry operations in hotels by automating the tracking and management of linens, uniforms, and guest laundry items. Each piece is tagged with an RFID chip, allowing the cabinet to instantly record when items are deposited, retrieved, or replenished. Reduces manual counting, prevents losses, and ensures accurate inventory levels at all times.

## Security

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and operations in real time.



iSnapReport  
with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time—with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS  
(Security Workforce  
Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.



Security  
Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

## Pest Management & Compliance Control

Maintain a safe, hygienic, and welcoming environment for guests with effective pest management. By implementing preventive measures such as regular inspections, sanitation practices, and monitoring systems, hotels can minimize the risk of infestations in sensitive areas like kitchens, dining spaces, and guest rooms.



iSnapReport  
with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



ePest

A central pest management platform that manages inspections, treatments, monitors trends and compliance records – providing a single source of truth for pest operations.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



Sensors

Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.

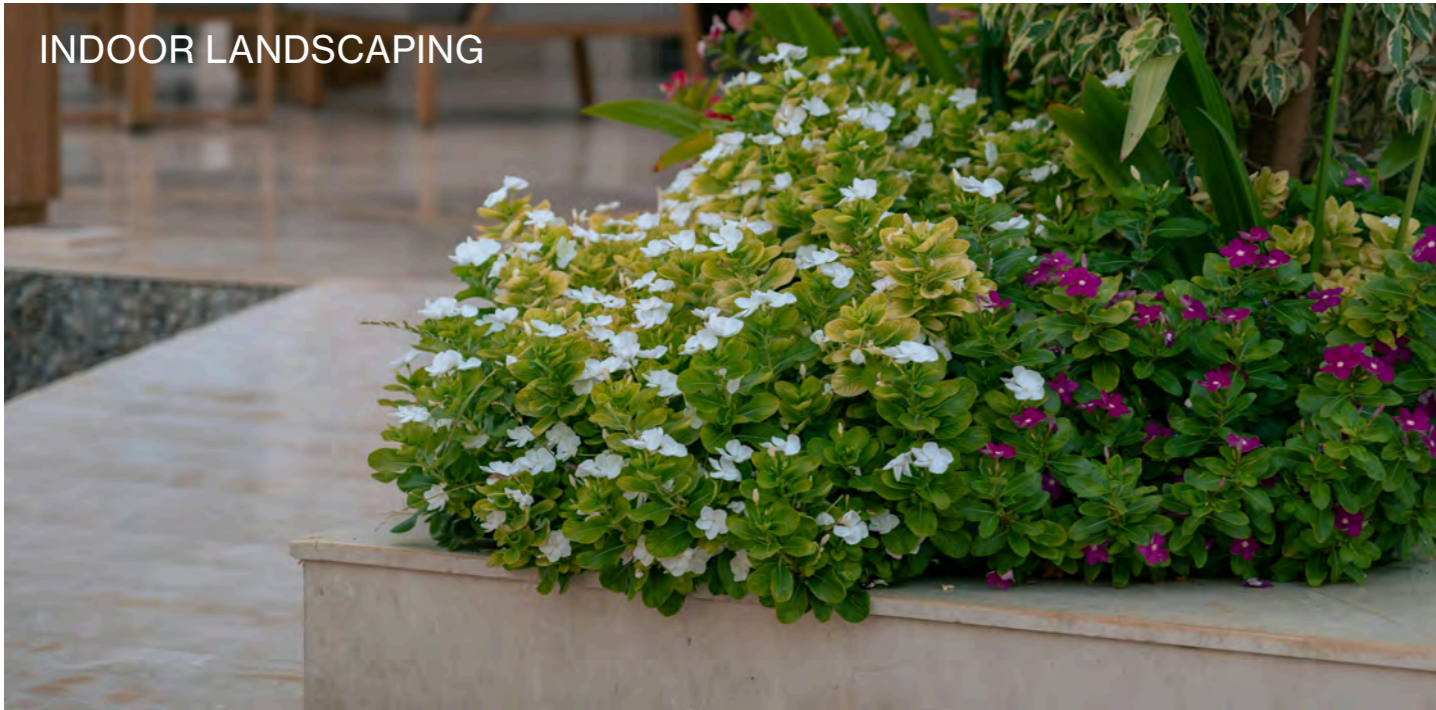


Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

## Landscape

Create a welcoming and refreshing atmosphere for guests with proper maintenance of indoor landscaping. Intelligent technologies can help the upkeep of these plants by monitoring water quality, tracking plant health (humidity, soil moisture, nutrient levels) and providing real-time alerts for imbalances. Ensuring a welcoming and refreshing atmosphere for guest.



INDOOR LANDSCAPING



iSnapReport  
with AI

AI-enabled iSnapReport, helps teams quickly identify hazards that may affect the plants and escalate them to technicians, reducing downtime and improving safety across parks, gardens, and green spaces.



eHydro

eHydro intelligently manages plant hydration by monitoring water levels, scheduling irrigation, and providing checklists for plant care, detecting pests and alerting teams to potential risks, ensuring healthier plants and optimising water usage across large areas, prevents over or under-watering.



Technicians  
Dashboard

The Technicians Dashboard delivers a real-time command centre for landscape teams – managing and tracking plant water levels, irrigation schedules, and pest activity. It empowers technicians with actionable insights for faster decision-making and operational assurance.

## Case Study



## Case Study

### Systems Used



### Challenges

1. Lack of Manpower
2. Inefficiency Resulting in Waste of Resources
3. Energy Management & Sustainability
4. Compliance and Accountability

### How We Help Improve



Smart solutions offload manpower from repetitive workload, allowing manpower optimisation



Reduced resource wastage with transparent trend data, maximising use of resources.



Forecast demand and optimise energy consumption to necessary systems.



Online records are kept and checked during inspections.

### Results, Impact & Innovation

#### RESULTS

**~150 - 250**  
man hours saved per month

#### IMPACT

**~2 - 2.5 FTE**  
worth of effort and efficiency

#### INNOVATION



Smart Cabinet



LoRaWAN Gateway



Rodent Sensor



Traffic Sensor



Ammonia Sensor

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Operational Responsibility

SELECT A  
USE CASE

6 Apartment & Condominiums

6.1 M&E

6.2 Environmental Services

6.3 Security

6.4 Pests

6.5 Landscape

Apartments and condominiums are more than residential spaces – they are dynamic communities where diverse facility management sectors must work together to ensure comfort, safety, and value.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Apartment & Condos. Case Studies

SELECT A  
CASE STUDY

iSnapReport	eInspection	ePeriodic
eSmart Feedback with IoT sensors	eTMS	ePest
eTaskConnect with IoT Sensors	Security	

d'Leedon  
THE  
Metropolitan  
*Parc Riviera*  
**CARIBBEAN**  
AT KEPPEL BAY

The Rochester Residences

ePest

**LAKEPOINT**  
CONDOMINIUM

LAKEHOLMZ

NYON  
 12 AMBER

ROYALGREEN

**PARC OASIS**

SUNDANCE SUITES

Apartment & Condos.



# Smart Living, Seamless Services, Future-Ready Communities.

Resident condominiums are more than just living spaces – they are communities that depend on well-managed facilities to ensure safety, comfort, and long-term value. Facility management covers a wide range of services, from maintaining shared amenities to overseeing essential systems and energy efficiency.

By integrating smart technologies and proactive maintenance practices, property managers can deliver seamless services, reduce operational costs and enhance resident satisfaction.

## The Challenge

Manual tracking of maintenance requests, inventory, and environmental conditions often results in delayed responses, higher costs, and resident dissatisfaction. Together with low manpower, fragmented systems make it difficult for property managers to maintain transparency and accountability.

## Strategic Benefits

Digital facility management solutions integrate IoT sensors, centralized work order systems, and automated reporting to ensure proactive maintenance and efficient resource allocation. Property managers can monitor energy use, track service completion, and provide residents with proof of execution, building trust and satisfaction with residents.

## Proven Business Outcomes

Organisations typically achieve:

- 15–25% reduction in manpower requirements through predictive maintenance
- 20–30% faster issue resolution
- 15–25% reduction in maintenance-related downtime across shared facilities
- 10–20% savings in energy and utility costs with smart monitoring

Leveraging on technology allows for higher service quality, lower operational risk and improved ROI, all supported by auditable digital records.

## Systems Powering Your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

### M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.



iSnapReport with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTaskConnect with IoT Sensors

A central task and work order system integrated with IoT sensors that automatically detects issues, triggers tasks and validates completion – ensuring work is executed on time, at the right location, with proof.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



AI Analytics Engine

An intelligence that analyses inspection, task and sensor data to prioritise issues, optimise manpower deployment and reduce operational waste.



Management Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and open maintenance issues – enabling faster coordination, prioritised response and improved asset uptime.

## Environmental Services

Ensures that common areas such as lobbies, gym, pools, and event spaces remain spotless, safe, and well-kept at all times. This enhances the image of the property, protects the trust between the resident and their environment, extends the life of facilities and creates a positive impression that drives satisfaction and facility usage.



iSnapReport  
with AI

AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



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eTMS

A verified attendance and workforce tracking system using image capture, GPS and QR or RFID – improving attendance accuracy, employee productivity visibility and manpower control.

## Security & Risk Management

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and operations in real time.



iSnapReport  
with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time – with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS  
(Security Workforce  
Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.




Security  
Dashboard


A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.


# Pest Management & Compliance Control


Effective pest management requires early detection, structured inspections and auditable compliance. The systems enable teams to identify risks early, validate treatments and reduce recurrence through digital inspections and data-driven insights.




- 

**iSnapReport with AI**  
AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.
- 

**ePest**  
A central pest management platform that manages inspections, treatments, trends and compliance records – providing a single source of truth for pest operations.
- 

**eTMS**  
A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.
- 


**Sensors**  
Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.
- 


**Management Dashboard**  
A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.


# Landscape

Indoor landscaping allows for decorative plants to be grown in controlled environments, allowing for a pop of vibrance in shared spaces. Intelligent technologies can help the upkeep of these plants by monitoring water quality, tracking plant health (humidity, soil moisture, nutrient levels) and providing real-time alerts for imbalances.



- 

**iSnapReport with AI**  
AI-enabled iSnapReport, helps teams quickly identify hazards that may affect the plants and escalate them to technicians, reducing downtime and improving safety across parks, gardens, and green spaces.
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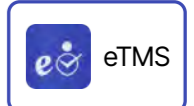
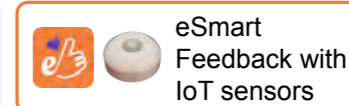
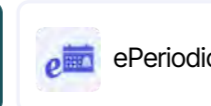
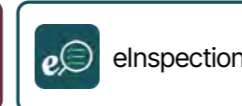
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- 

**Technicians Dashboard**  
The Technicians Dashboard delivers a real-time command centre for landscape teams – managing and tracking plant water levels, irrigation schedules, and pest activity. It empowers technicians with actionable insights for faster decision-making and operational assurance.

# Case Study

## Case Study 1: The Rochester Residences

### Systems Used



### Challenges

1. Lack of Manpower
2. Budget Justification and ROI Management
3. Energy Management & Sustainability
4. Compliance and Accountability

### How We Help Improve



Smart solutions offload manpower from repetitive workload, allowing manpower optimisation



Prove their ROI, analyse and use their data to justify budgets.



Forecast demand and optimise energy consumption to necessary systems.



Online records are kept and checked during inspections.

### Results, Impact & Innovation

#### RESULTS

**~100 - 200**  
man hours saved per month

#### IMPACT

**3 FTE**  
worth of effort and efficiency

#### INNOVATION



Ammonia Sensor



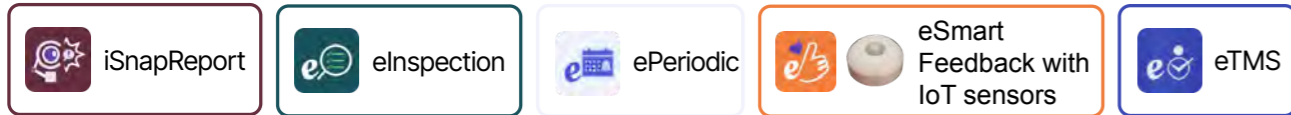
Traffic Sensor



LoRaWAN Gateway

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

## Systems Used



## Challenges

1. Lack of Manpower
2. Limited Visibility and Compliance Risks
3. Energy Management & Sustainability
4. Compliance and Accountability

## How We Help Improve



Smart solutions offload manpower from manual labour and physical checks, allowing manpower optimisation



Track and meet KPIs and other assigned goals, such as ESG



Forecast demand and optimise energy consumption to necessary systems.



Online records are kept and checked during inspections.

## Results, Impact & Innovation

### RESULTS

**~78 - 150**  
man hours saved per month

### IMPACT

**~2 FTE**  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



Bin Sensor



LoRaWAN Gateway

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Operational Responsibility

SELECT A  
USE CASE

7 Transportation (MRO)

7.1 M&E

7.2 Environmental Services

7.3 Security

7.4 Pests

Transportation MRO (Maintenance, Repair, and Overhaul) covers everything from routine inspections and servicing to complex repairs, ensuring that buses, trains, aircraft, and logistics vehicles remain operational and compliant with safety standards.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Transportation (MRO) Case Studies

---

 iSnapReport    eInspection    ePeriodic    eSmart Feedback with IoT sensors

 eTaskConnect with IoT Sensors    ePest    Security

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## Transportation (MRO)



# Driving Consistent Reliability Through Smart Facility-powered MRO.

## Systems Powering Your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

### M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.

Transportation especially Maintenance, Repair, and Overhaul (MRO) – keeps fleets, vehicles, and infrastructure safe, reliable, and efficient. MRO covers everything from routine inspections and servicing to complex repairs, ensuring that transportation remains operational and compliant with safety standards.

Good facility management plays a crucial role by providing the structured systems, digital oversight, and resource coordination needed to support MRO activities. With smart scheduling, IoT-enabled monitoring, and streamlined workflows, facility management helps reduce downtime, optimise manpower, and ensure that maintenance tasks are completed on time and with proof of compliance.

### The Challenge

Many MRO operations lack real-time visibility into asset health. Issues are discovered late, manpower is deployed evenly rather than strategically, and performance is measured only after service delays or failures occur.

### Strategic Benefits

Operations shift from reactive repairs to predictive maintenance. Faults are detected earlier, inspections are digitally validated, and manpower is deployed based on actual asset condition and demand.

### Proven Business Outcomes

Organisations typically achieve:

- 20–30% reduction in manpower requirements = lower operational cost
- 30–40% improvement in workforce productivity
- 30–40% faster turnaround times for maintenance tasks
- 10–15% reduction in energy and resource consumption

Leveraging on technology allows for efficiency together with service quality, allowing for a better commute for the general populace.



iSnapReport  
with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTaskConnect  
with IoT Sensors

A central task and work order system integrated with IoT sensors that automatically detects issues, triggers tasks and validates completion – ensuring work is executed on time, at the right location, with proof.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



AI Analytics  
Engine

An intelligence that analyses inspection, task and sensor data to prioritise issues, optimise manpower deployment and reduce operational waste.



Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and open maintenance issues – enabling faster coordination, prioritised response and improved asset uptime.

## Environmental Services

Semiconductor plants operate in ultra-clean environments with strict facility controls, as even microscopic particles can disrupt production. Automated systems and digitalised records help ensure consistency, reliability, and compliance with global standards. While facility management safeguards the sterile conditions required for chip fabrication.



iSnapReport with AI

AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



ePeriodic

An adaptive scheduling engine that automatically increases or reduces service frequency based on traffic, severity and risk – maximising productivity without increasing headcount.



eSmart Feedback with IoT Sensors

A real-time service feedback platform integrated with IoT sensors that correlates user experience with actual facility conditions – enabling faster response, objective validation and smarter service decisions.



eAttendance Tracking with RFID

A verified attendance and workforce tracking system using image capture, GPS and QR or RFID – improving attendance accuracy, employee productivity visibility and manpower control.

## Security & Risk Management

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and operations in real time.



iSnapReport with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time – with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS (Security Workforce Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.



Security Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

# Pest Management & Compliance Control

Effective pest management requires early detection, structured inspections and auditable compliance. The systems enable teams to identify risks early, validate treatments and reduce recurrence through digital inspections and data-driven insights.



iSnapReport with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



ePest

A central pest management platform that manages inspections, treatments, trends and compliance records – providing a single source of truth for pest operations.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



Sensors

Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.



Management Dashboard

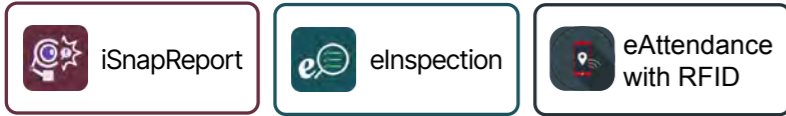
A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

# Case Study



# Case Study 1 Bus Stops

## Systems Used



## Challenges

1. Limited Visibility and Compliance Risks
2. Labor-Intensive Facility Operations
3. Budget Justification & ROI Visibility
4. Compliance and Accountability

## How We Help Improve



Transparent usage trend data, shows when equipment require maintenance, and allows for preventive measure to take place.



Track and meet KPIs and other assigned goals, such as ESG



Prove their ROI, analyse and use their data to justify budgets.



Online records are kept and checked during inspections.

## Results, Impact & Innovation

### RESULTS

**~100 - 200**  
man hours saved per month

### IMPACT

**~3 FTE**  
worth of effort and efficiency

### INNOVATION



AI



RFID

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

# Case Study 2 SBS Transit



33 MRT Stations

## Systems Used



## Challenges

1. Limited Visibility and Compliance Risks
2. Shift from Input-Based to Output Based
3. Maintenance & Equipment Reliability
4. Energy Consumption and Sustainability

## How We Help Improve



Implementation of Real-time visibility with tracked records and dashboards



Output-based shift focuses on results delivered ensuring that uptime and efficiency are met



Predictive maintenance allows for equipment to be monitored and repaired before failure.



Track and meet KPIs and other assigned goals, such as ESG

## Results, Impact & Innovation

### RESULTS

**~200 - 250**  
man hours saved per month

### IMPACT

**~4 FTE**  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



LoRaWAN Gateway



AI

IoT to monitor and automate energy systems in real time, significantly cutting consumption. Sensors track occupancy, temperature, and usage patterns, while connected devices adjust operations dynamically.

# Solutions by Operational Responsibility



- 8 Data Centres
- 8.1 M&E
- 8.2 Environmental Services
- 8.3 Security
- 8.4 Pests

# Data Centres Case Studies

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- iSnapReport
- eTaskConnect with IoT Sensors
- elnspection
- eTMS
- ePeriodic
- ePest
- Security

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Backbones of the digital economy, data centres are specialised facilities supporting everything from online banking and healthcare records to streaming services and social media.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Efficiency at Scale: The Future of Data Centres

Data centres house computer systems and supporting infrastructure such as servers, storage, and networking equipment. They provide secure, reliable environments for organisations to store, process, and manage large volumes of data.

To aid their continuous service and digital infrastructure, technological tools such as AI, IoT sensors, robotics and automation. Better oversight can be achieved for facility conditions, together with energy and resource management.

## The Challenge

Unexpected equipment failures can still occur between scheduled maintenance checks, possibly resulting in further asset damage and significant downtime with damage to servers and IT equipment. The facility's environment, including temperature and humidity levels also need to be monitored closely to ensure that systems run optimally.

## Strategic Benefits

By adopting smart facility management data centres can transform operations with real-time monitoring - ensuring faster detection of anomalies, predictive analytics to reduce unplanned downtime, and energy usage can be optimised through smart cooling systems, with robotics and dashboards streamlining other routine tasks.

## Proven Business Outcomes

Organisations typically achieve:

- 10–20% reduction in manpower = reduction in operational cost
- 15–25% boost in workforce productivity
- 25–35% faster response times to environmental triggers
- 20–30% reduction in human error with digital validation workflows
- 20–30% reduced downtime with predictive maintenance

Better facility management gives data centre managers a lower risk of outages and mitigate environmental risks, safeguarding itself from any disruptions or failures.

# Systems Powering Your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

## M&E and Intelligent Asset Management

Smart asset management and robust M&E are what turn data centres from just buildings with servers into resilient, efficient, and future-ready digital hubs. Guaranteeing continuous uptime, energy efficiency, compliance with ESG goals, and cost control.



iSnapReport with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTaskConnect with IoT Sensors

A central task and work order system integrated with IoT sensors automatically detects anomalies in mechanical and electrical assets, triggers maintenance tasks, and validates completion – ensuring equipment is serviced proactively, at the right location, with proof of execution.



eInspection

Digitising and streamlining the way inspections, audits and maintenance checks are carried out. Faster issue detection, real-time data capture and allows for a centralised asset records.



ePeriodic

A periodic scheduler allows for consistent monitoring, automated preventive maintenance and lifestyle optimisation that works together with data-driven insights. Facility operations can be transformed, allowing assets to be maintained on time, efficiently and sustainability.



AI Analytics Engine

Intelligence that analyses inspection, task and sensor data to prioritise issues, optimise manpower deployment and reduces downtime and energy consumption.

## Environmental Services

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



NETWORK ROOMS



iSnapReport with AI

AI-powered iSnapReport captures cleanliness conditions visually, flags deviations in cleanliness or mess automatically, and supports faster rectification – improving productivity while maintaining service quality.



eTaskConnect with IoT Sensors

The task and work order system can be integrated with IoT sensors identifying environmental issues such as leaks, humidity changes, or improper door closures, triggers cleaning or corrective tasks, and validates completion – ensuring services are delivered on time, where needed, with documented proof.



eInspection

Digitises environmental checks (air quality, humidity, cleanliness levels) with real-time reporting. Ensures that the environment always reaches certain consistent standard that allow for facilities to keep working.



ePeriodic

Automate cleaning schedules to ensure consistency in cleaning and allow for clean environments where dust and containment will not damage servers, cooling units and electrical systems.



eTMS

A verified attendance and workforce tracking system using image capture, GPS and QR or RFID – improving attendance accuracy, employee productivity visibility and manpower control.

## Security & Risk Management

Surveillance and inspections that can log and reduce unauthorised access incidents, allowing for disaster preparedness, compliance and audit-ready logs.



iSnapReport  
with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time—with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eTaskConnect  
with IoT Sensors

The IoT Sensors equipped with the central task and work order system detects security breaches or risk events, automatically triggers response tasks, and validates completion – ensuring incidents are addressed quickly, at the correct location, with auditable proof.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS  
(Security Workforce  
Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.



Security  
Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

## Pest Management & Compliance Control

Pest control in data centres involves preventive and monitoring measures to keep rodents, insects, and other pests from entering or damaging critical infrastructure. It protects critical equipment and the uptime of digital infrastructure.



iSnapReport  
with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



eTaskConnect  
with IoT Sensors

The IoT Sensors equipped with the central task and work order system monitors conditions that may attract pests, triggers inspection or treatment tasks, and validates completion – ensuring pest control measures are executed promptly, at the right site, with compliance-ready proof.



ePest

A central pest management platform that manages inspections, treatments, trends and compliance records – providing a single source of truth for pest operations.



Sensors

Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.



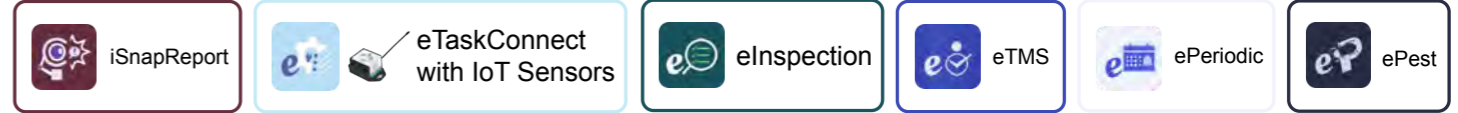
Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

# Case Study

## Case Study

### Systems Used



### Challenges

1. Shift from Input-Based to Output Based
2. Maintenance & Equipment Reliability
3. Energy Consumption & Sustainability
4. Compliance and Accountability

### How We Help Improve



Output-based shift focuses on results delivered ensuring that uptime and efficiency are met



Allow inefficiencies to be rooted out with the monitoring of high consumption zones



Online records are kept and checked during inspections.



Predictive maintenance allows for equipment to be monitored and repaired before failure.

### Results, Impact & Innovation

#### RESULTS

~100 - 200  
man hours saved per month

#### IMPACT

~2 - 2.5 FTE  
worth of effort and efficiency

#### INNOVATION



Rodent Sensor



Water Detection Sensor



Standard & Digital  
Temperature Sensor



Humidity Sensor



LoRaWAN Gateway

Smart thermostats and HVAC controllers optimise heating, ventilation, and cooling by responding to occupancy, weather, and usage patterns, often saving 20-30% on total building energy.

# Solutions by Operational Responsibility



- 9 Education
- 9.1 M&E
- 9.2 Environmental Services
- 9.3 Security
- 9.4 Pests
- 9.5 Landscape

Each department manages different risks, service standards and performance outcomes within the industry.

Select your Operational Responsibility or a Case Study to explore solutions that are designed for how your team works.

# Education Case Studies



iSnapReport

eInspection

ePeriodic

eSmart Feedback with IoT sensors

eTMS

iSnapReport

ePest

eSmart Feedback with IoT sensors

eHydro

DOVER COURT INTERNATIONAL SCHOOL  
A NORD ANGLIA EDUCATION SCHOOL

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iSnapReport

ePest

CHIJ (Katong) Primary
   
 CHIJ (Katong) Convent
   
 Chung Cheng High School
   
 Dunman High School
   
 Tampines Meridian Junior College
   
 Temasek Junior College
   
 Victoria Junior College

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eSmart Feedback with IoT sensors

eHydro

# Facility Management that Transforms Spaces to Fuel Lifelong Learning

Education is the foundation of social and economic progress, shaping future generations with knowledge and values. Schools are not only places of learning but serve as community hubs that must provide safe, clean, and well-maintained environments to support student success.

Effective facility management with preventive maintenance, AI, and IoT Sensors help create a better environment that supports quality education. This ensures students experience fewer disruptions, healthier surroundings, and engaging learning spaces.

## The Challenge

Many campuses operate with limited real-time visibility. With issues such as resource shortages and maintenance backlogs, often discovered late. Staff are deployed uniformly rather than based on student demand, and performance is measured only after complaints or disruptions occur.

## Strategic Benefits

Operations shift from reactive fixes to proactive and predictive management. Facility issues are detected earlier. Cleaning and maintenance tasks are digitally scheduled and validated. Manpower can also be deployed intelligently to match student and staff needs. This ensures safer, healthier, and more conducive learning environments.

## Proven Business Outcomes

Organisations typically achieve:

- 5–25% reduction in manpower requirements = lower operational cost
- 30–40% improvement in workforce productivity
- 25–35% faster response times to facility issues
- 10–15% reduction in energy consumption across campuses

Leveraging technology enhances learning environments, improves safety and sustainability, and delivers higher service quality with auditable digital records.

# Systems Powering your Department

Each system addresses a specific operational challenge while working together as a single, intelligent platform. Individually powerful, collectively transformative.

## M&E and Intelligent Asset Management

Move beyond reactive maintenance. Intelligent asset monitoring detects issues early, prioritises critical faults and prevents downtime before it impacts operations.



iSnapReport with AI

AI-enabled iSnapReport allows teams to visually capture defects on site, automatically categorise issues and trigger corrective actions – reducing downtime and improving asset reliability.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



AI Analytics Engine

Intelligence that analyses inspection, task and sensor data to prioritise issues and push them to relevant operations, optimising manpower deployment and reducing operational wastage.



Management Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and open maintenance issues – enabling faster coordination, prioritised response and improved asset uptime.

## Environmental Services

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



iSnapReport with AI

AI-powered iSnapReport enables users to capture cleanliness conditions visually, and flag deviations in cleanliness or mess automatically. AI supports faster rectification – promptly pushing out issues to the relevant staff.



eInspection

Cleaning operations shift from fixed schedules to usage-driven execution. AI analyses traffic, inspection results and feedback trends to dynamically adjust cleaning frequency – improving productivity without increasing manpower.



ePeriodic

An adaptive scheduling engine that automatically increases or reduces service frequency based on traffic, severity and risk – maximising productivity without increasing headcount.



eSmart Feedback

A real-time service feedback platform that allows for any user to submit instant feedback and fault reporting of environmental conditions – enabling faster response, objective validation and smarter service decisions. Helps track the condition of an area over a period of time.



eTMS

A verified attendance tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control. The system logs and flags if any deviation exists.

## Security & Risk Management

Intelligent monitoring that reduces manual oversight by detecting anomalies early, manages risk proactively and safeguards people, assets and education in real time.



iSnapReport  
with AI

With AI-enabled iSnapReport, incidents are visually recorded, classified and escalated in real time—with AI detecting issues captured in the image and enhancing response readiness and risk visibility.



eInspection

A digital inspection system that enhances patrolling and standardises security checks across all security staff, validating patrol execution and producing time-stamped, audit-ready records.



eTMS  
(Security Workforce  
Management)

A workforce and shift management system that ensures security guards are deployed as planned, supports attendance validation and improves coverage across locations.

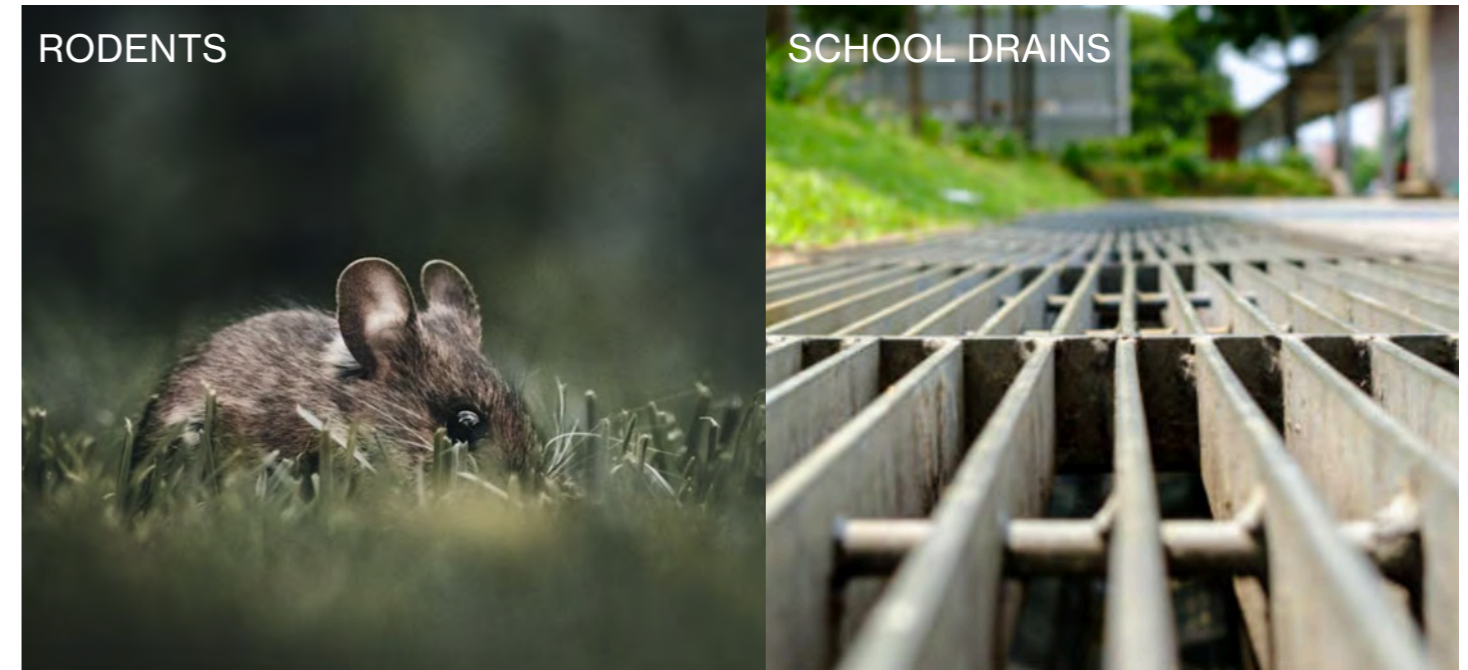


Security  
Dashboard

A real-time command view showing patrol status, incidents and workforce coverage by location – supporting faster decision-making and operational assurance.

## Pest Management & Compliance Control

Effective pest management requires early detection, structured inspections and auditable compliance. The systems enable teams to identify risks early, validate treatments and reduce recurrence of pests through digital inspections and data-driven insights.



iSnapReport  
with AI

AI-driven iSnapReport enables staff and technicians to visually document and allow AI to classify any suspected pest activity, identify trends and support regulatory reporting to specialists – further reducing infestation risk and audit exposure.



ePest

A central pest management platform that manages inspections, pest treatments, trends and compliance records – combating the presence of pest before they stay rooted in the space.



eTMS

A verified attendance and workforce tracking system that uses image capture, GPS and QR or RFID – improving attendance accuracy, productivity visibility and manpower control.



Sensors

Discrete sensors that detect rodent activity in high-risk zones 24/7, even in blind spots where they are hard to detect. These sensors provide early alerts before infestations become visible or service complaints arise.



Management  
Dashboard

A real-time operational view showing technician deployment across locations, last recorded activity and asset status recorded activity – providing operational visibility, faster coordination and improved response control.

## Landscape

Landscaping plays a vital role in enhancing educational environments. Rooted in the biophilia hypothesis – which links human well-being to nature – studies show that greenery and plant life help calm minds, reduce stress, and improve focus. In urban settings such as Singapore, where exposure to nature is limited, thoughtfully designed landscaping provides students with restorative spaces that support mental health and learning outcomes.



iSnapReport  
with AI

AI-enabled iSnapReport, helps staff quickly identify hazards that may affect the plants and escalate them to technicians, reducing downtime and improving safety across parks, gardens, and green spaces.



eHydro

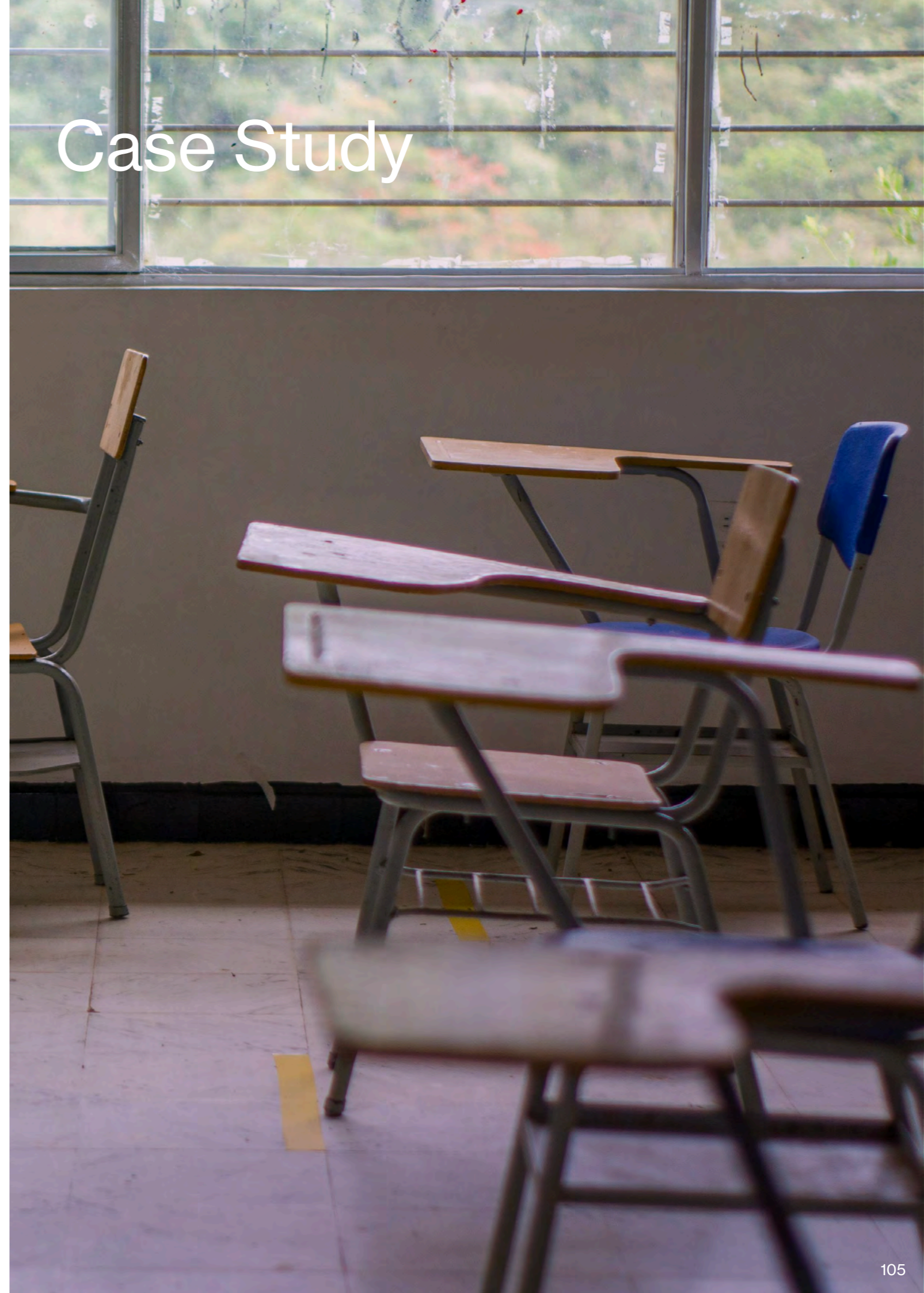
eHydro intelligently manages plant hydration by monitoring water levels, scheduling irrigation, and providing checklists for plant care, detecting pests and alerting teams to potential risks, ensuring healthier plants and optimising water usage across large areas, prevents over or under-watering.



Technicians  
Dashboard

The Technicians Dashboard delivers a real-time command centre for landscape teams – managing and tracking plant water levels, irrigation schedules, and pest activity. It empowers technicians with actionable insights for faster decision-making and operational assurance.

## Case Study



## Systems Used



## Challenges

1. Shift from Input-Based to Output Based
2. Lack of real-time visibility
3. Energy Consumption & Sustainability
4. Compliance and Accountability

## How We Help Improve



Output-based shift focuses on results delivered ensuring that uptime and efficiency are met



Implementation of Real-time visibility with tracked records and dashboards



Forecast demand and optimise energy consumption to necessary systems.



Audit-ready records are kept and checked during inspections.

## Results, Impact & Innovation

### RESULTS

~80 - 100  
man hours saved per month

### IMPACT

~2 FTE  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



LoRaWAN Gateway

IoT monitors energy systems in real time, constantly providing feedback and significantly cutting manpower consumption. Sensors track ammonia and traffic, while connected devices adjust operations dynamically and allow for data to be captured and analysed.

## Systems Used



## Challenges

1. Shift from Input-Based to Output Based
2. Maintenance & Equipment Reliability
3. Inefficiency Resulting in Waste of Resources
4. Budget Justification and ROI Management

## How We Help Improve



Smart solutions allow for simpler processes and optimisation with data obtained.



Transparent usage trend data, shows when equipment require maintenance, and allows for preventive measure to take place.



Allow inefficiencies to be rooted out with the monitoring of high consumption zones



Prove their ROI, analyse and use their data to justify budgets.

## Results, Impact & Innovation

### RESULTS

~80 - 150  
man hours saved per month

### IMPACT

~2 FTE  
worth of effort and efficiency

### INNOVATION



Ammonia Sensor



Traffic Sensor



LoRaWAN Gateway

IoT monitors energy systems in real time, constantly providing feedback and significantly cutting manpower consumption. Sensors track ammonia and traffic, while connected devices adjust operations dynamically and allow for data to be captured and analysed.