CyRIC IoT

Internet-of-Things (IoT) end-to-end Solutions

Based on our more than 8 years of experience in the IoT domain.

We provide holistic remote sensing & control solutions.

Giorgos Tsapparellas
Senior Pre-Sales IoT Engineer

ICA-Edu Special Interest Group 2025 Webinar
Generative AI for Sustainable Entrepreneurship

CyRIC IoT

Bio

Internet-of-Things (IoT) end-to-end Solutions

Giorgos Tsapparellas
Senior Pre-Sales IoT Engineer

Giorgos Tsapparellas is Senior Pre-Sales IoT Engineer at CyRIC IoT, specializing in sensing solutions, IoT platforms, cloud integration, and data analytics. He designs and implements innovative IoT architectures and projects that enhance efficiency and sustainability across sectors such as smart cities, agriculture, industry, and hospitality. He holds an MSc in Advanced Computer Science and IT Management from the University of Manchester and a BSc in Computer Science from Northumbria University. Beyond his professional role, he serves as Vice-President of Deryneia Youth Community, Secretary of the IEEE Systematic Innovation Group, Ambassador for IEEE Region 8 Entrepreneurship, and member of the Next Generation Internet Community. His passion lies in leveraging IoT to address global challenges in sustainability, climate action, and public health, in alignment with the UN Sustainable Development Goals (SDGs).

CyRIC IoT is a technology solution provider in the domain of Remote Sensing, Control and Automation.

We provide end-to-end solutions for several market segments like Agriculture, Building Management, Farming, Hospitality etc.
Our solutions are based on the LoRaWAN Wireless Communication Protocol which offer us several advantages:

1. Wireless Battery powered sensors with long battery life (3-10 years based on application)
2. Cost efficiency
3. Low operation and maintenance cost
4. Fast deployment

8

Years Experience in IoT Deployments

>800

LoRaWAN® Gateways Deployed

>200,000

IoT Devices Deployed

Cold Chain Monitoring

Real-time monitoring of refrigeration units' temperature.

Electricity Monitoring

Real-time monitoring of electrical energy consumption

Water Monitoring

Real-time monitoring of water consumption

Smart Buildings

Real-time monitoring & control of buildings' systems

Smart Retail Analytics

Real-time monitoring and analysis of retail analytics parameters

Smart Irrigation

Real-time monitoring, automation & control of irrigation systems

Environment Monitoring

Real-time monitoring of indoor & outdoor environment parameters

Forest Fire Detection

Forest Management and early forest fire detection

SOLUTION BENEFITS

- Prevent refrigeration units faults & malfunctions
- Prevent product damages
- Monitor your refrigeration units performance
- Immediate access to measurement logs and reporting
- Reduce personnel operational cost

WEB & MOBILE APP FEATURES

- Data Monitoring Dashboard
- Graphs
- Email & Mobile App Notifications
- Data Logging & Reporting

SENSOR FEATURES

- IP67 Waterproof
- LoRaWAN® Wireless
- Up to 10 Years Battery Life
- Temperature Measuring Range: -200°C to 800°C
- Temperature Measuring Accuracy: ±0.3℃ to ±0.6℃
- Humidity Measuring Range: 0% to 100% RH
- Humidity Measuring Accuracy: ±3% RH

SOLUTION BENEFITS

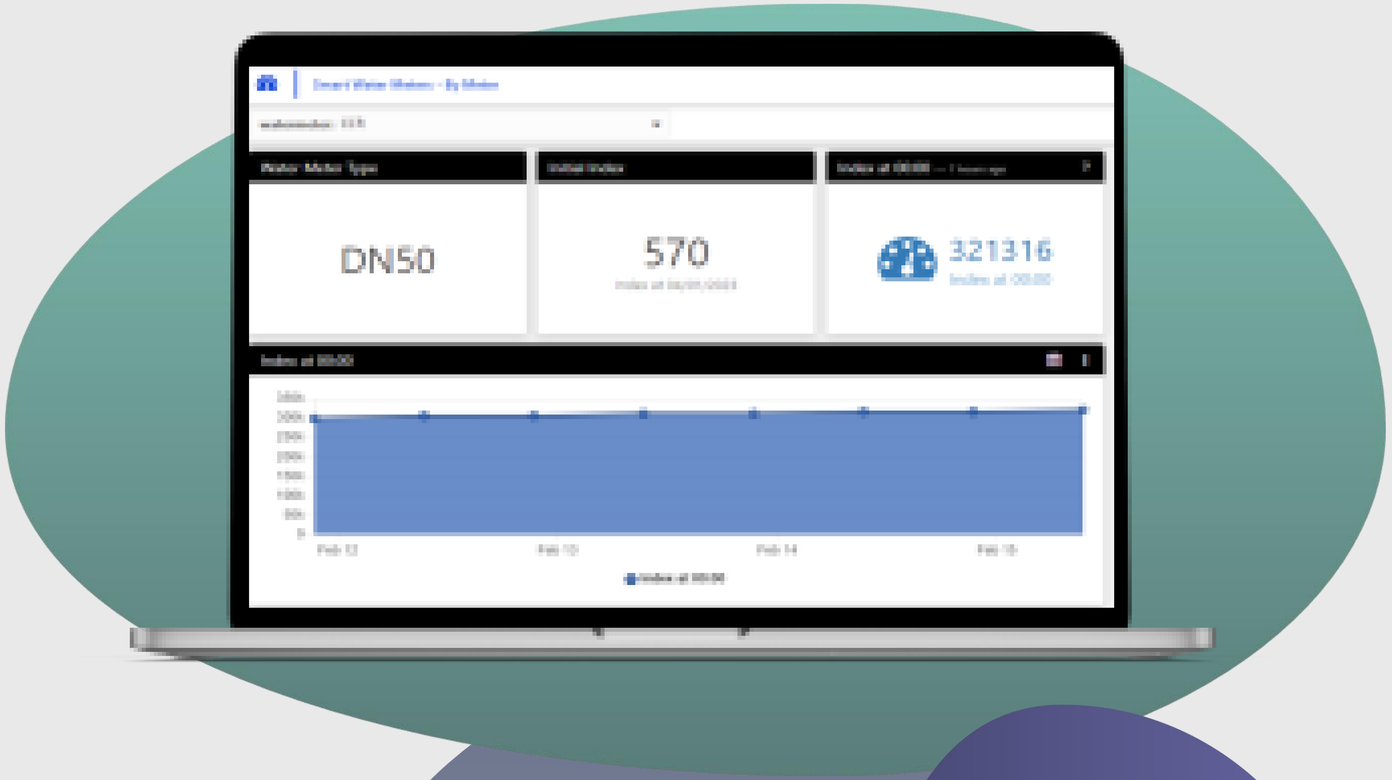
- Monitor electricity consumption
- Monitor several parameters that affect your equipment and machinery operation i.e. Power Factor, reactive energy etc.
- Estimate electrical energy cost
- Identify early problem in your machinery operation

WEB & MOBILE APP FEATURES

- Data Monitoring Dashboard
- Graphs
- Email & Mobile App Notifications
- Data Logging & Reporting

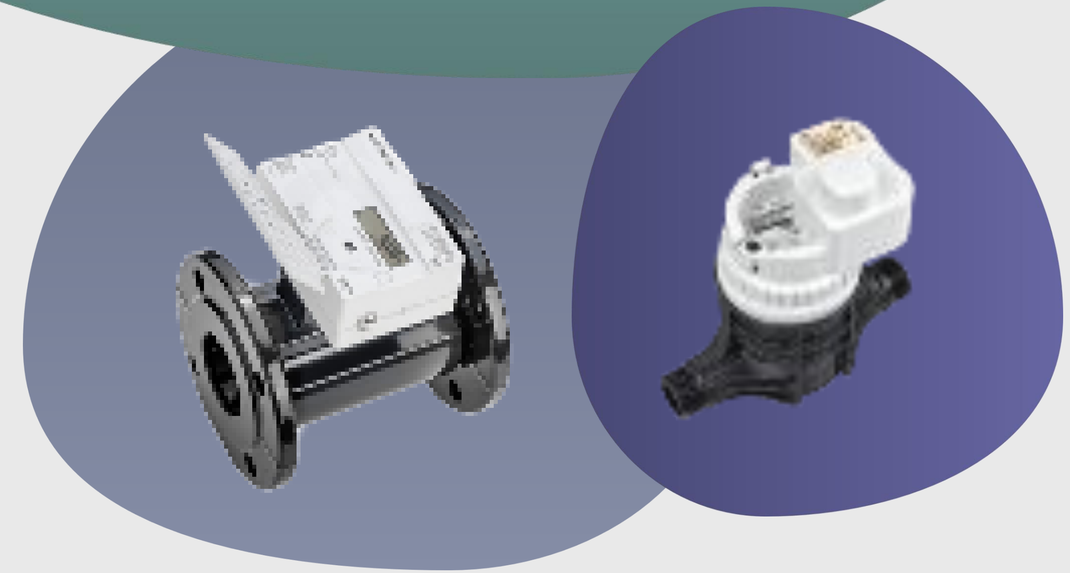
SOLUTION BENEFITS

- Monitor water consumption
- Monitor and identify possible leaks in you water distribution network
- Estimate water consumption cost



WEB & MOBILE APP FEATURES

- Data Monitoring Dashboard
- Graphs
- Email & Mobile App Notifications
- Data Logging & Reporting



Indoor Environment Monitoring

Motion and Light Sensors Sensors

Occupancy Monitoring - People Counter

Sound/Noise Level Monitoring

Magnetic Contact Switch

Controller

Smart Light Switch

Smart Light Controller

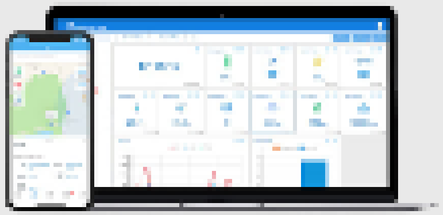
Smart Button

Smart Scene Panel

Smart Power Plug

Smart Screeen

LoRaWAN



SOLUTION BENEFITS

- Optimized and automated control of lights
- Control of HVAC & Ventilation systems
- Automated control and monitoring of restrooms
- Optimized space control based on space usage and occupancy
- Monitoring of indoor environment monitoring

WEB & MOBILE APP FEATURES

- Data Monitoring Dashboard
- Graphs
- Email & Mobile App Notifications
- Data Logging & Reporting

Smart Restroom

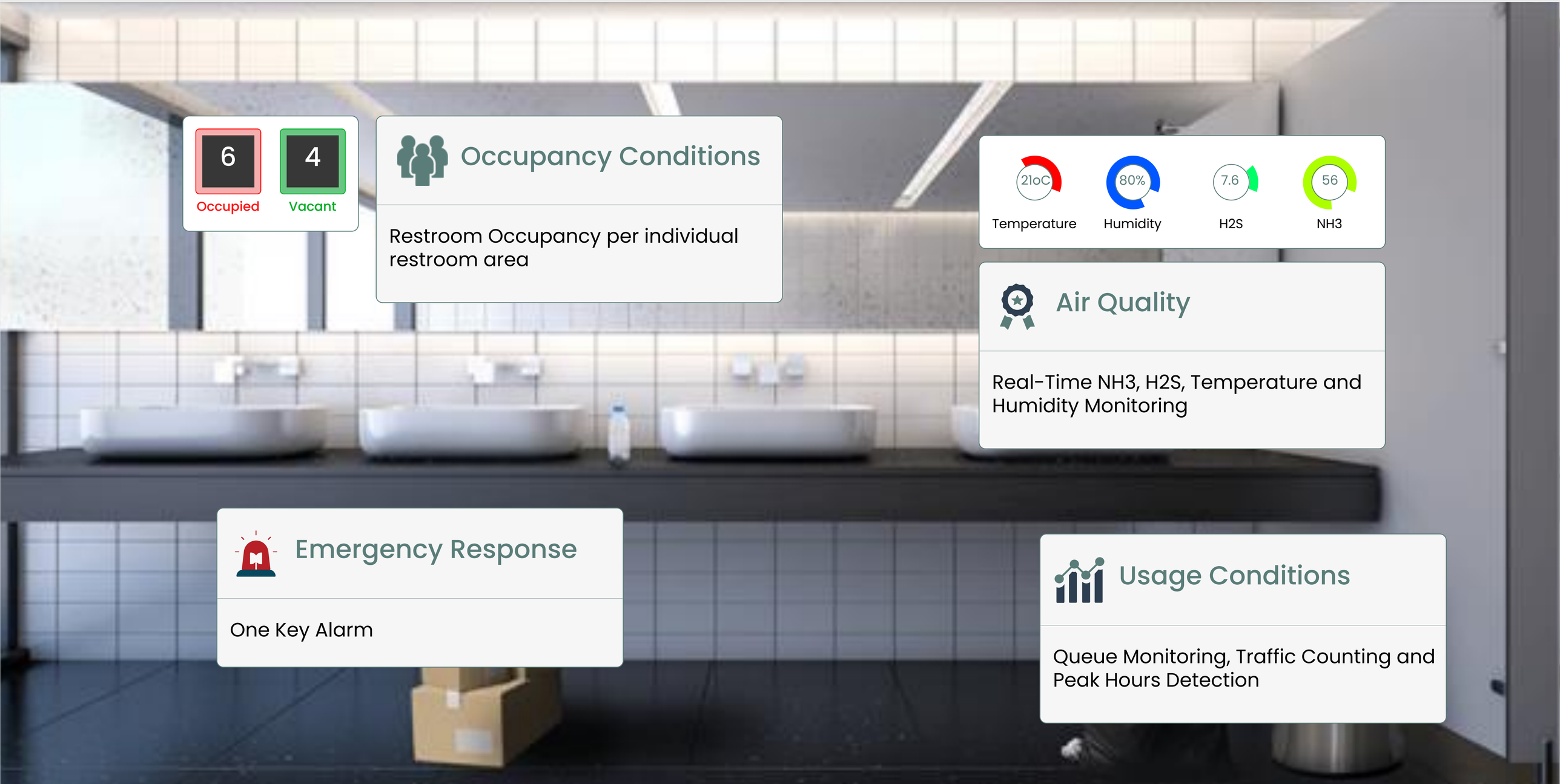
Smart Restroom Solution seamlessly integrates advanced operational and environmental sensors and IoT technologies breaking the limitations of traditional restrooms. It intelligently replaces the sensory systems of manpower to convert what is supposed to be “detected”, “smelled”, “touched”, “connected” and “told” into visible and easy-to-get information, realizing real-time monitoring and quick response for supreme user experience and the most efficient management.

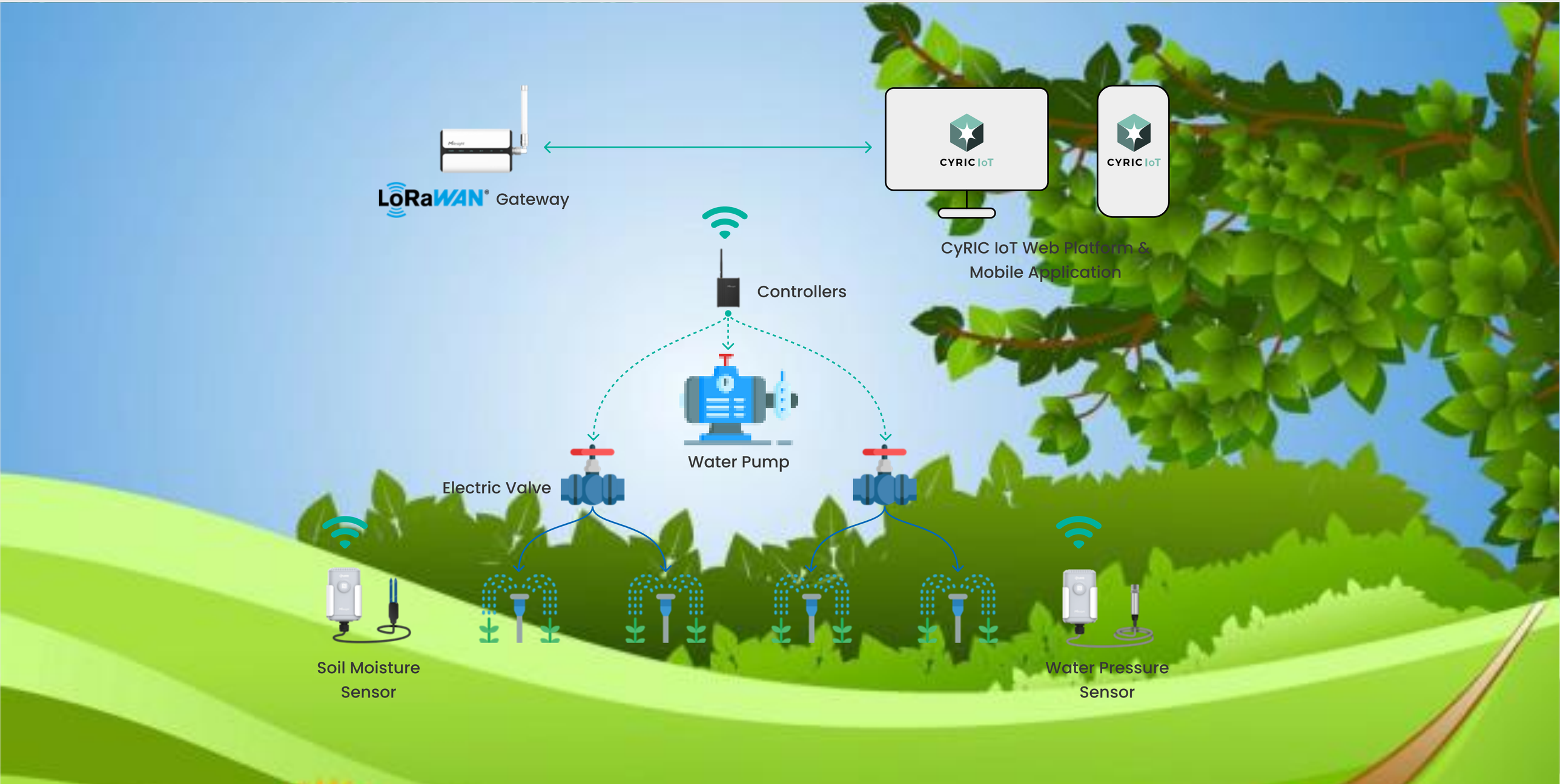
- People Counting
- Number of people in
- Number of people out
- Number of people in the facility at any given time

- People counting
- Space occupancy with 95% accuracy

- People Counting
- People movement monitoring
- People behavior monitoring

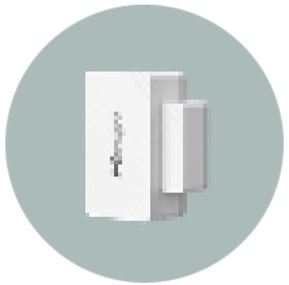
- Digital signage
- NFC monitoring
- Access control


6
Occupied
4
Vacant
Occupancy Conditions
Restroom Occupancy per individual restroom area
21oC
Temperature
80%
Humidity
7.6
H2S
56
NH3
Air Quality
Real-Time NH3, H2S, Temperature and Humidity Monitoring
Emergency Response
One Key Alarm
Usage Conditions
Queue Monitoring, Traffic Counting and Peak Hours Detection

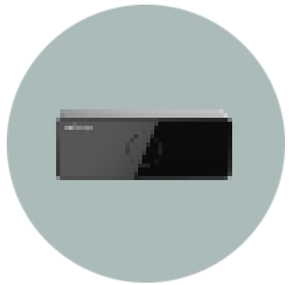

LoRaWAN® Gateway
CYRIC IoT
CYRIC IoT
CyRIC IoT Web Platform &
Mobile Application
Controllers
Water Pump
Electric Valve
Soil Moisture
Sensor
Water Pressure
Sensor

- Temperature
- Humidity
- CO2
- TVOC
- Light Level
- PIR/Motion
- O3
- Formaldehyde

- Light Level Level
- PIR/Motion



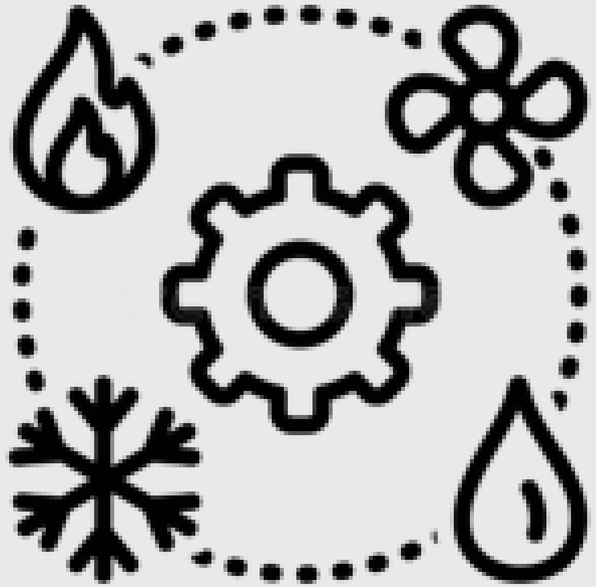
- Open/Close



- People Counting Counting
- Area Occupancy

The system provides advanced control and automation of HVAC systems based on real-time time environmental conditions monitoring, area occupancy and usage to optimize people comfort, people comfort, health, well-being and reduce operating and energy expenditure.

- Controller

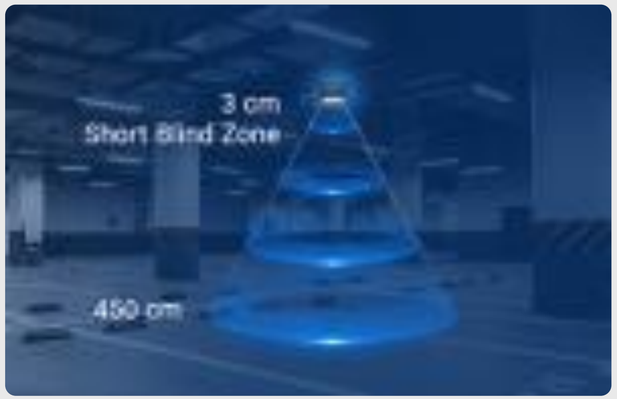


- Heating
- Cooling
- Ventilation


On-edge AI LPR Camera
Best Quality AI LPR Camera
for Entrance & Exit
LoRaWAN® Gateway for
Data Transmission
LoRaWAN® Gateway
LoRaWAN® Ultrasonic
LoRaWAN® Sensor for
Occupancy Detection
Covering Signal Blind Spot with Mini
LoRaWAN® Gateway
LoRaWAN® Gateway

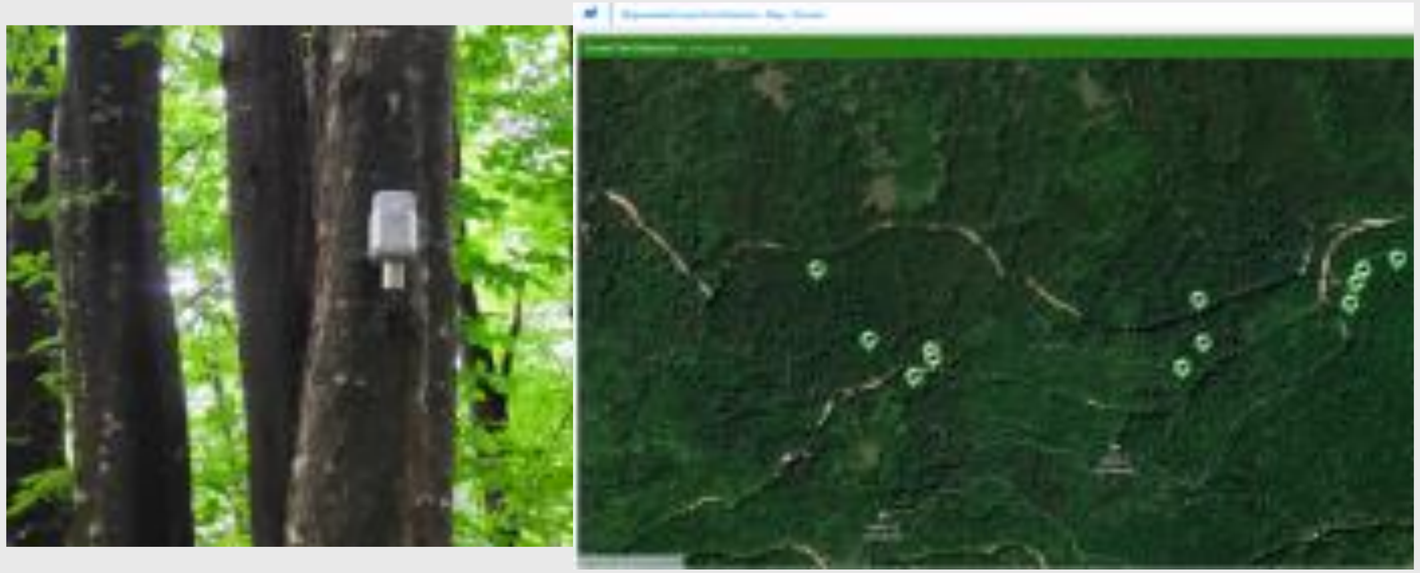

ABC1234
Vehicle Color: Black
Plate: ABC1234
Plate Color: White
Count: +1


Supplement
Light
LPR
LPR
Image Mode
24/7
Monitoring


3 cm
Short Blind Zone
450 cm

SOLUTION FEATURES

- Continuous monitoring of forest environmental parameters
- Temperature, Humidity, Pressure, CO2
- Live monitoring through web platform and mobile applications
- Instant alerts when forest fire is detected



SOLUTION BENEFITS

- Real time alerting
- Forest environmental reports

Generative AIoT for Sustainable Entrepreneurship

Exploiting opportunities that weren't possible before

Using Artificial Intelligence in our existing IoT solutions to:

- **Smart Agriculture:** Every yield crop is different. Knowing the alarm thresholds for each of them requires specific knowledge and experience. Using "AI Agronomist" we are adding the value at a reduced cost and time for the farmer.

- **Cold Chain Monitoring:** We have incorporated a Machine Learning model into our existing solutions which can forecast potential temperature drop or increase before it happens. Historical data from sensors is not enough. Generative AI to simulate and generate data and patterns brings one step closer to the accurate prediction model.

- **Support:** People would take some rest during the night. Sensors and systems would not. Hence, our technical support team is using Generative AI to create an automatic ticket support system to serve the clients needs.

- And the Generative AI development pipeline is being extended…