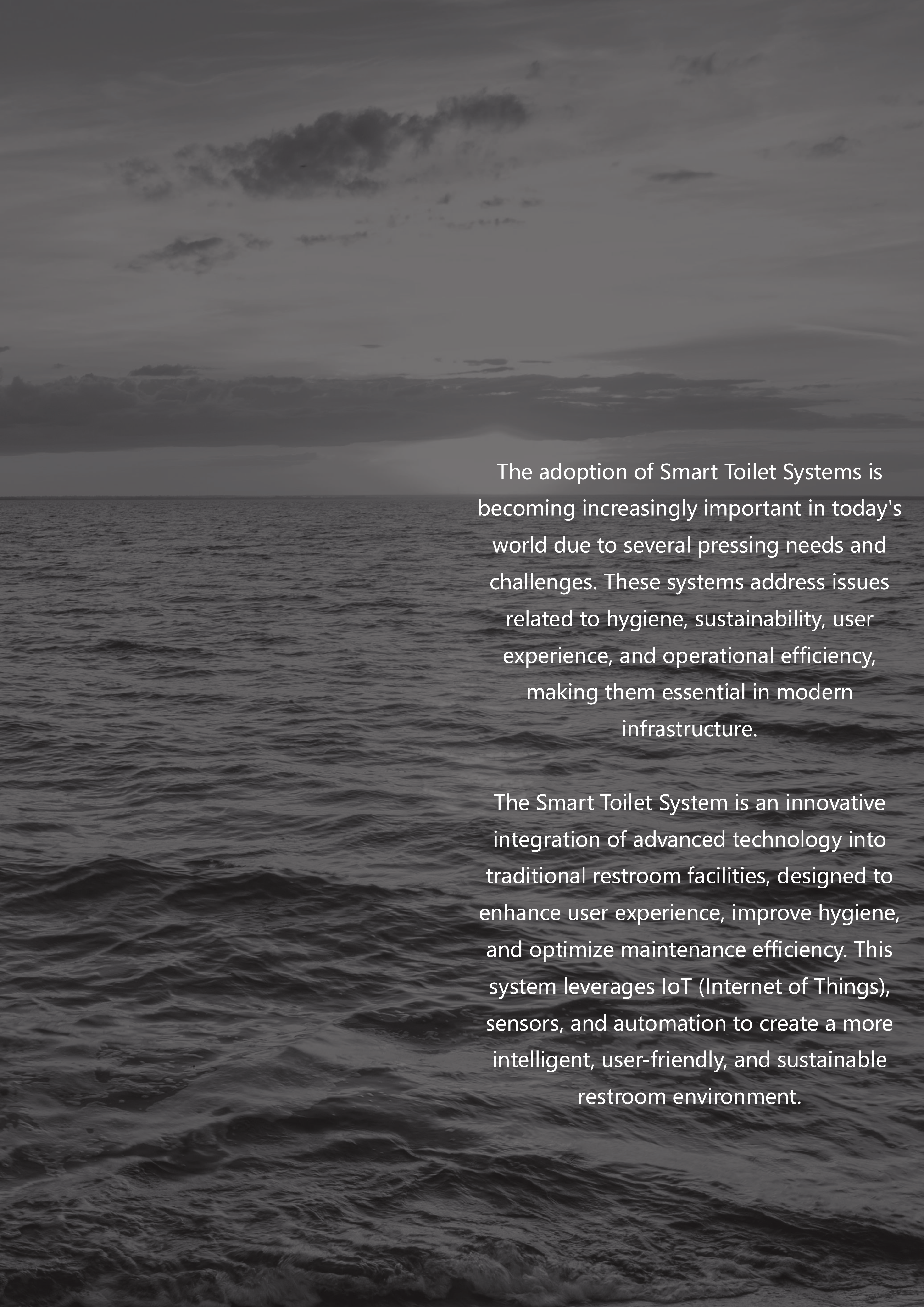


Smart Toilet System

SHINE UNION LIMITED



The adoption of Smart Toilet Systems is becoming increasingly important in today's world due to several pressing needs and challenges. These systems address issues related to hygiene, sustainability, user experience, and operational efficiency, making them essential in modern infrastructure.

The Smart Toilet System is an innovative integration of advanced technology into traditional restroom facilities, designed to enhance user experience, improve hygiene, and optimize maintenance efficiency. This system leverages IoT (Internet of Things), sensors, and automation to create a more intelligent, user-friendly, and sustainable restroom environment.



Hygiene and Cleanliness

Real- time monitoring of odour levels ensures a fresh and clean environment.

Automatic activation of air fresheners maintains a pleasant atmosphere.

Data-Driven Maintenance

Real- time data logging and analytics enable proactive maintenance.

Integration with building management systems allows for efficient resource allocation.

Efficiency and User Experience

Accurate occupancy detection and vacancy display reduce waiting times.

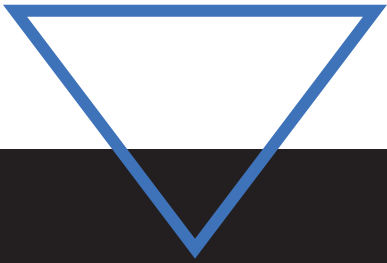
High- resolution touchscreen display provides easy access to information.

Operational Costs Reduced

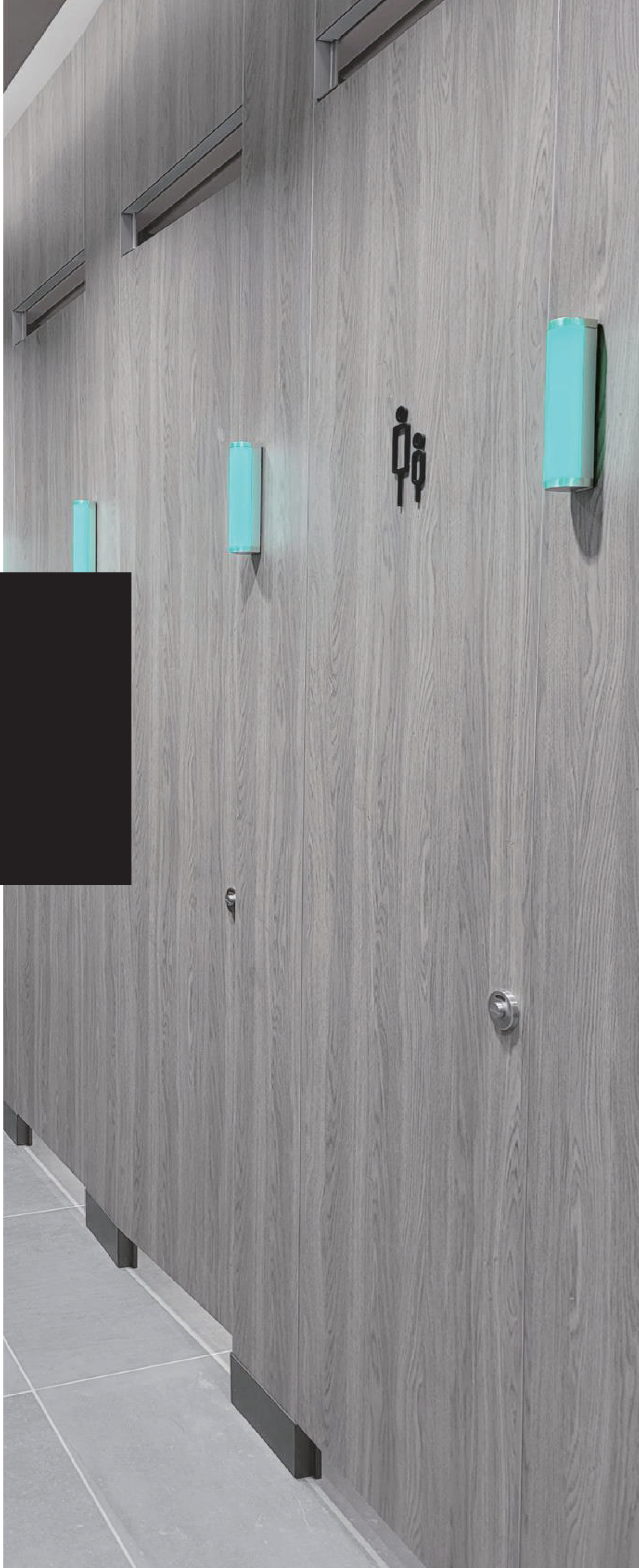
The precise monitoring and automated control of sensors and smart devices reduce the need for manual inspections and prevent equipment malfunctions, cutting labor and equipment maintenance costs.



Smart Toilets, Smarter Spaces:
Clean, Efficient, Connected

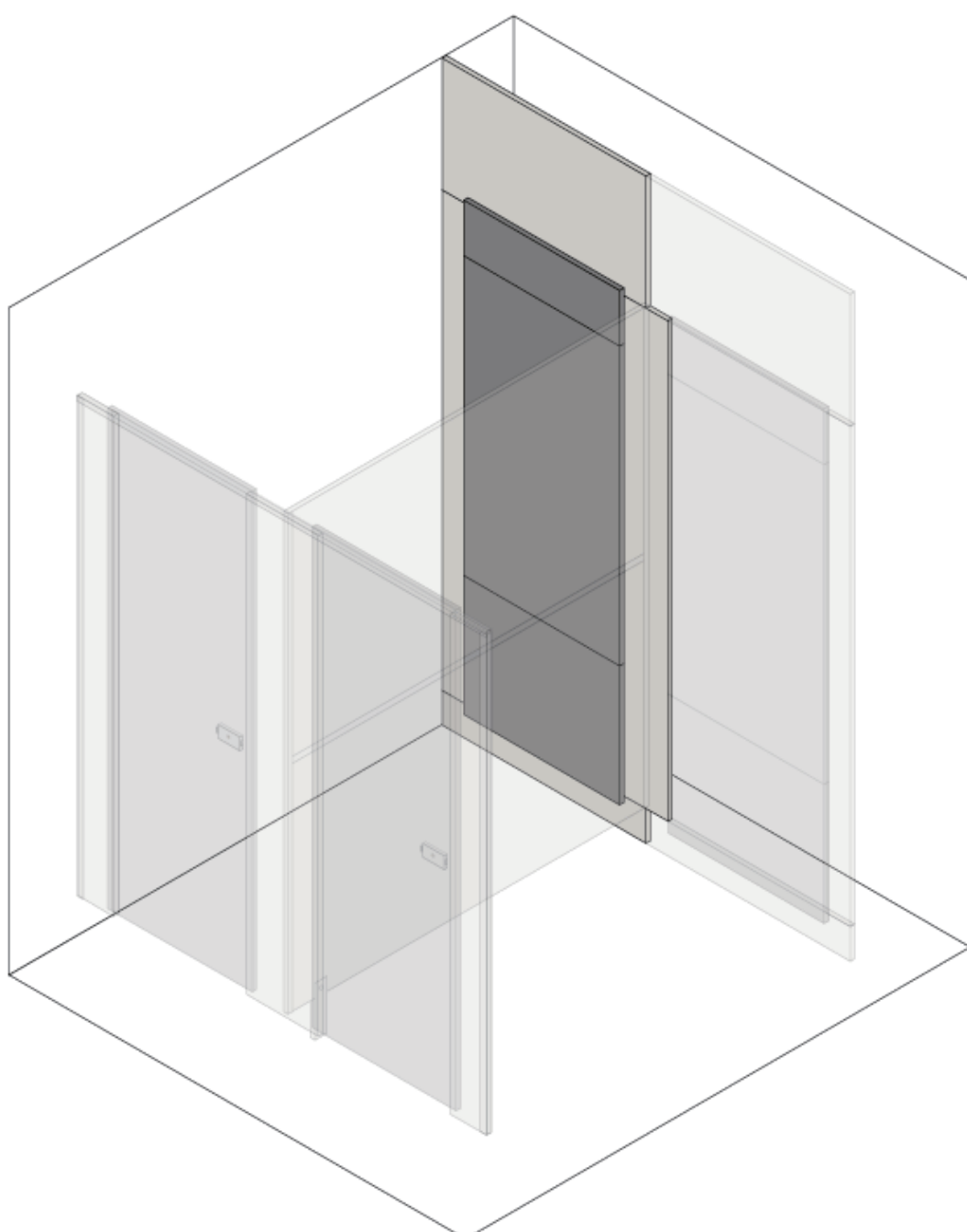


Key Components





People Counting Sensor



- ▶ The people counting sensor uses binocular vision or thermal imaging technology to accurately count the number of people entering or exiting the restroom by capturing body contours or heat distribution. The counting accuracy can reach over 95%.
- ▶ This technology is unaffected by lighting, crowd density, or other factors, ensuring stable operation even during peak times, providing reliable data support for restroom management.



Occupation Sensor & Vacancy Light

About

Detects occupancy and displays vacancy status via LED lights. Provides real- time information to users and maintenance staff.

Features

Accurate occupancy detection ensures reliable status updates.
Energy- efficient LED lights reduce power consumption.
Easy installation for seamless integration into existing cubicles.

Technical Specifications

Sensor type: Infrared or ultrasonic for precise detection.
Light color options: Red for occupied and green for vacant.
Power consumption: Low voltage for energy efficiency.

Eco-Friendly, High-Tech, and Luxurious
The Ultimate Bathroom Upgrade

Odour Sensor

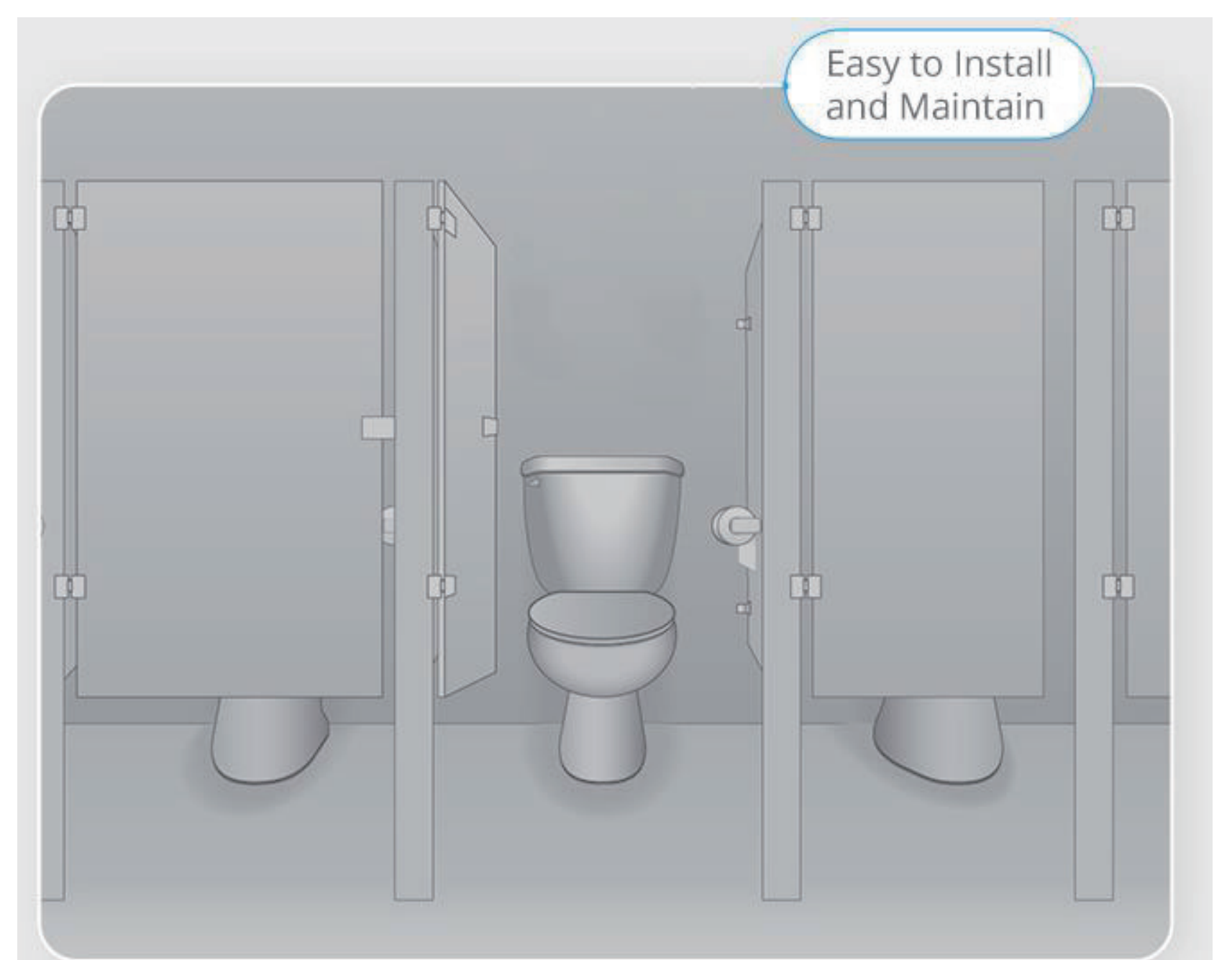
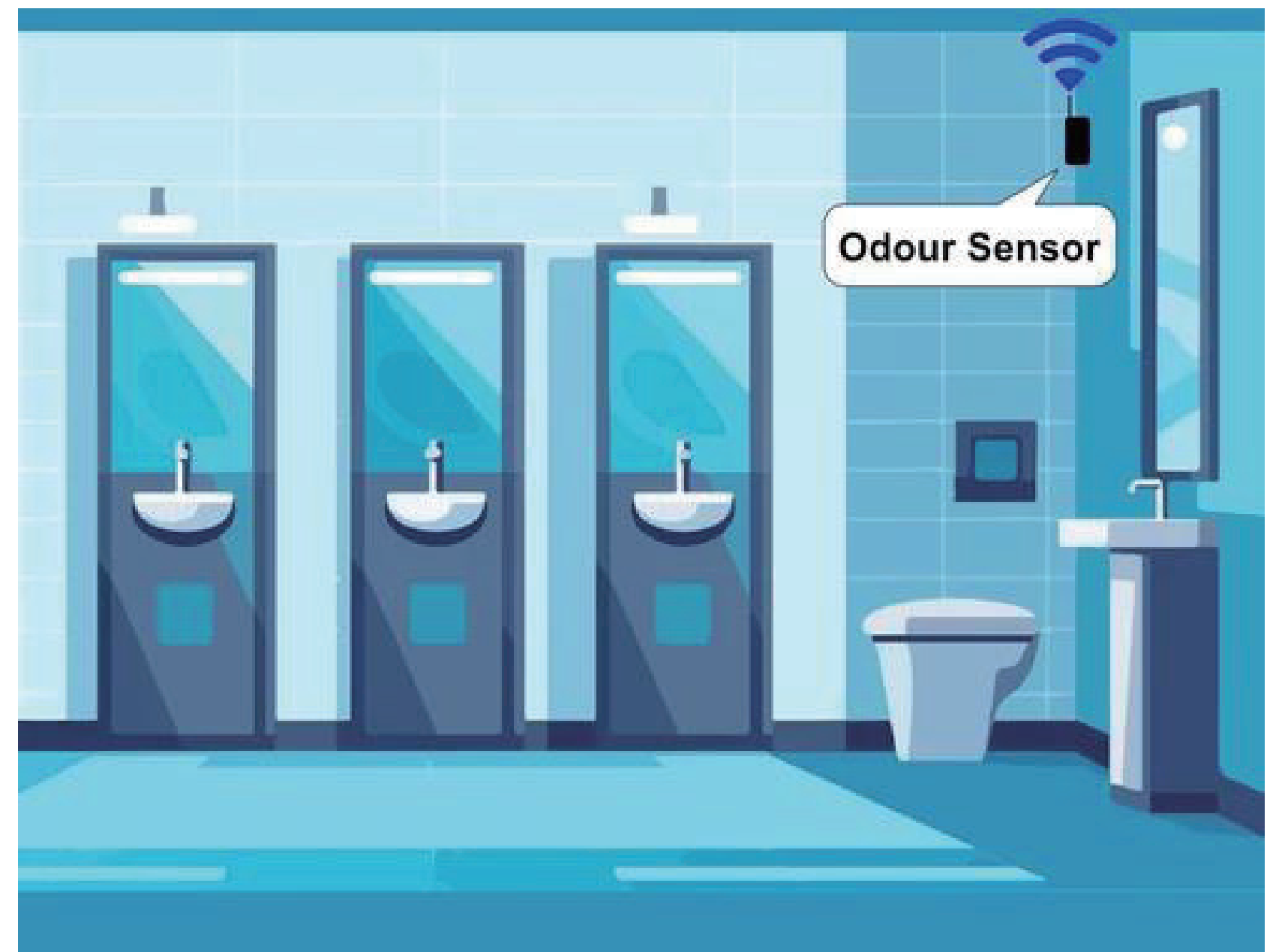
Detection Principle and Scope

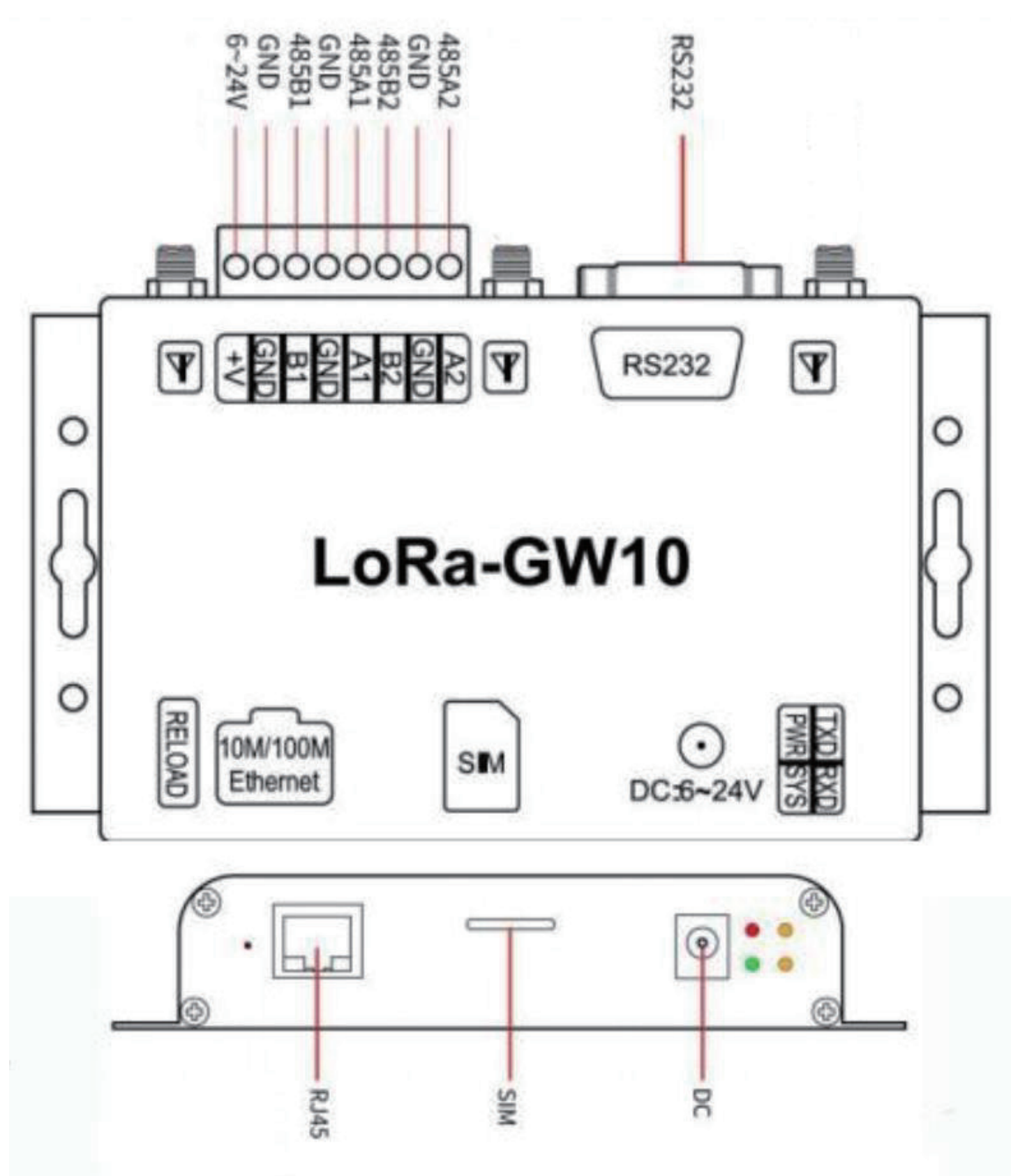
Odor sensors operate based on the principles of gas molecule adsorption and electrochemical reactions. They are capable of accurately detecting the concentration of common malodorous gases in restrooms, such as ammonia (NH_3) and hydrogen sulfide (H_2S). The typical detection range for these sensors is **0-100 ppm (parts per million)**.

Integration with Other Devices

When the odor sensor detects that the gas concentration exceeds the threshold, it can automatically trigger the ventilation system to accelerate air exchange, while activating the deodorizing equipment to release fragrance or deodorants, quickly improving the air quality in the restroom.

The system can also send real-time notifications about the odor threshold breach to the management's mobile phone or control terminal, allowing for timely manual intervention to ensure the restroom environment remains in optimal condition.



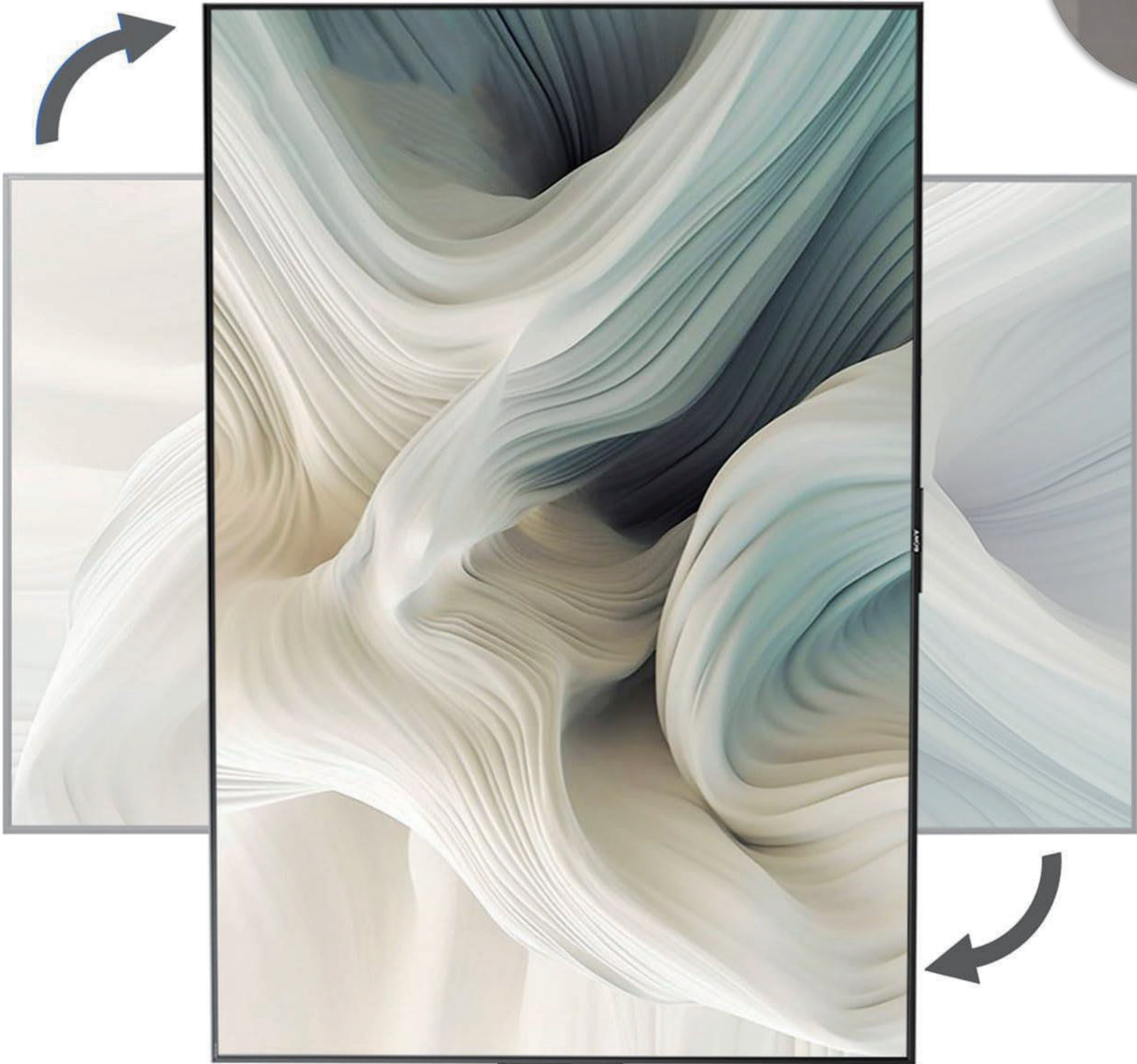


Wire & Wireless Interconnection

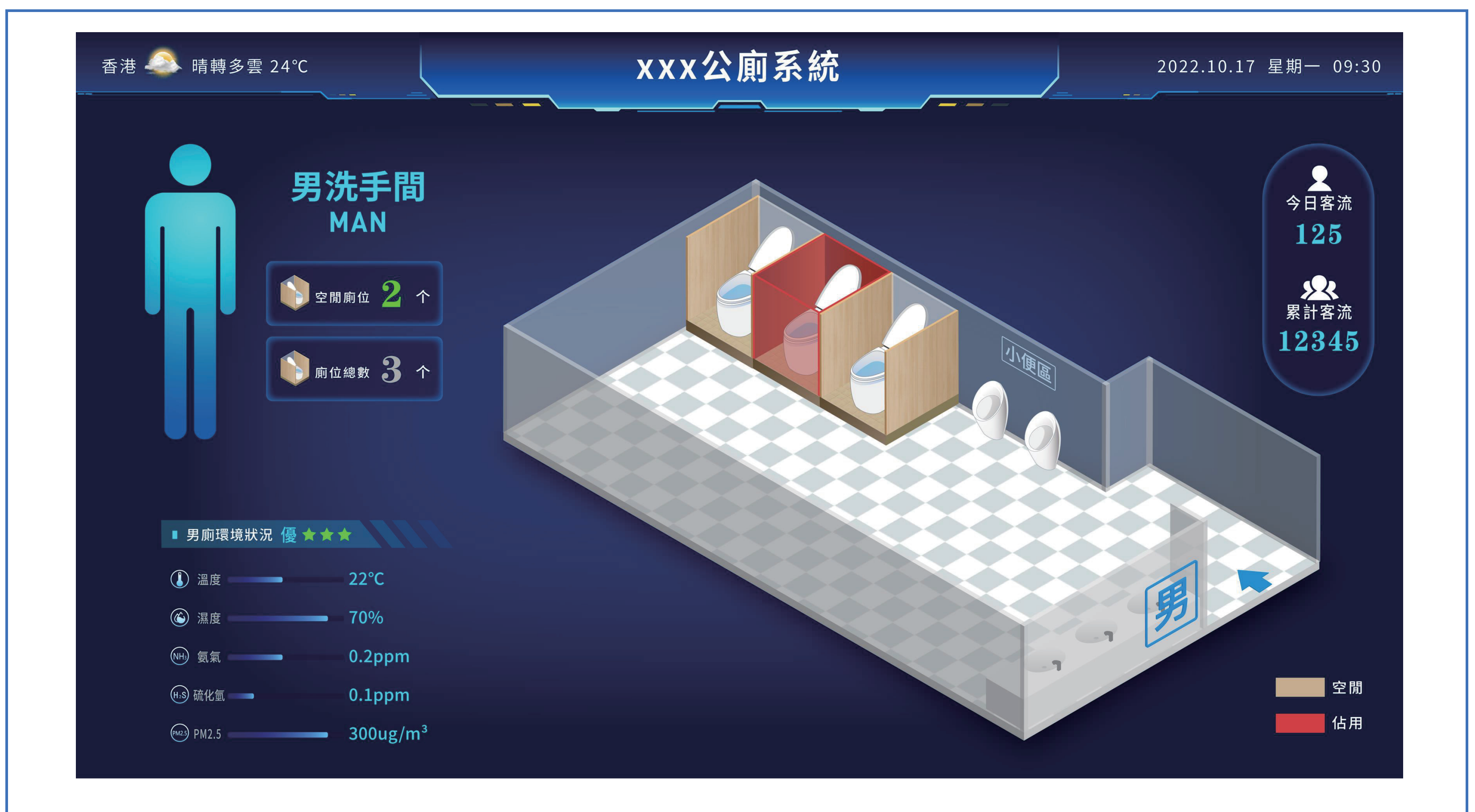
Enable seamless communication and control between various components. Wired connections ensure stable, high-speed data transfer for critical functions like sensors and actuators, while wireless connectivity (e.g., Wi-Fi, Bluetooth) allows for remote monitoring, and integration with smart toilet cubicle systems. This hybrid approach ensures reliability, flexibility, and enhanced user experience in managing hygiene, lighting, ventilation, and other smart features.



Large Screen Guidance Display (All-in-One Machine)



A large screen, such as a TV or all-in-one device, is used to display real-time guidance and information. It shows key data such as restroom status, occupancy, weather updates, foot traffic, and promotional content, providing clear and accessible information for users.



Front-End Guidance Software (UI Interface Design)

LCD Displays for Restroom Doors: Each restroom door has an LCD screen showing real-time data from the main unit. The data includes restroom layout, squat position occupancy, date/time, weather, environmental data, satisfaction ratings, foot traffic, and promotional videos. The software is easy to install and can be remotely updated.

Interface Design: The interface is customized based on the floor plan and hardware functions, with flexible design styles to choose from.

Read

Process

Display

A row of dark wooden lockers with a central text overlay. The lockers are arranged in a row, with a central locker slightly wider than the others. The text is centered over the lockers.

Hygiene, Comfort, and
Convenience
All in One Smart Solution



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