To achieve ZEB

Carbon Neutral Asset Management System

KOUNOSoft

The huge wave of Change

ZEB

A zero-energy building

A building that minimizes energy usage by maximizing insulation performance and utilizes renewable energy sources such as solar power to minimize energy consumption.

ZERO certified CHECK

Allsense sensors, consist of the dust sensor, temperature sensor, humidity sensor, CO2 sensor, formaldehyde sensor, and ozone sensor are related to carbon neutrality and zero-energy buildings.

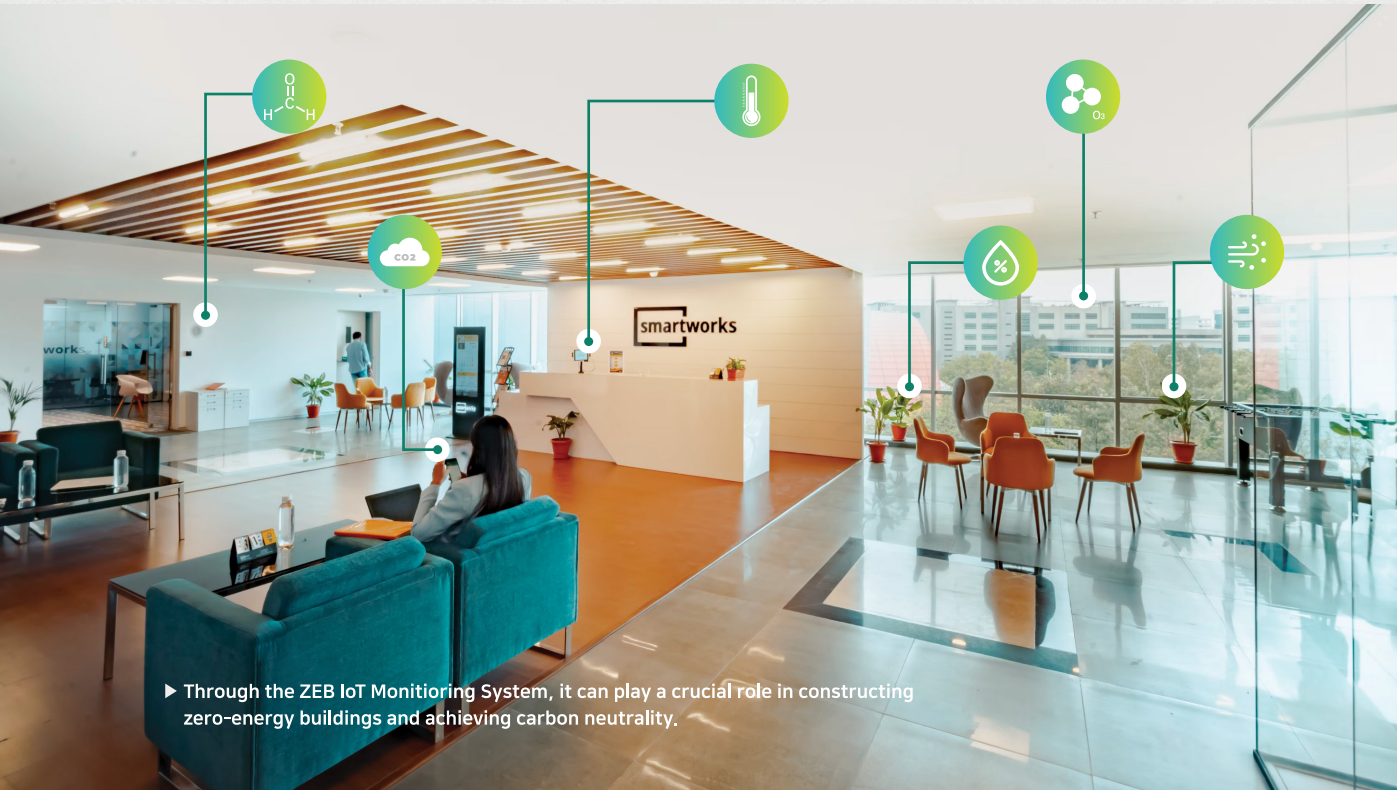
- The dust sensor is used to detect fine dust particles to improve indoor air quality.
- The temperature and humidity sensors measure the temperature and humidity inside the building to enhance energy efficiency.
- Air quality sensors and CO2 sensors monitor indoor air quality, and control ventilation systems when CO2 levels rise to minimize energy consumption while maintaining indoor air quality.
- Formaldehyde and ozone sensors are used to monitor the concentration of harmful substances inside the building to maintain a healthy indoor environment.

ZEB IoT Monitoring System

- Collect and monitor data on temperature, humidity, fine dust, CO2, formaldehyde, and ozone.
- Control and monitor functions.

Collect spatial data using **various sensors.**

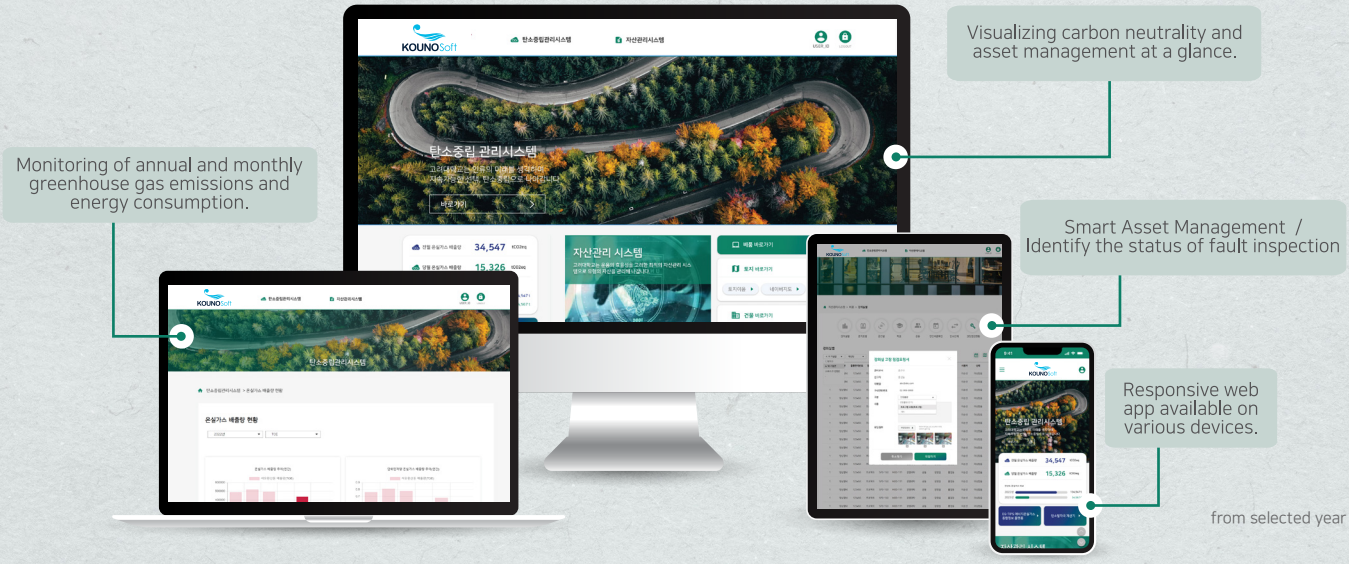
Monitor spatial data.



▶ Through the ZEB IoT Monitioring System, it can play a crucial role in constructing zero-energy buildings and achieving carbon neutrality.

Carbon Neutral Asset Management System

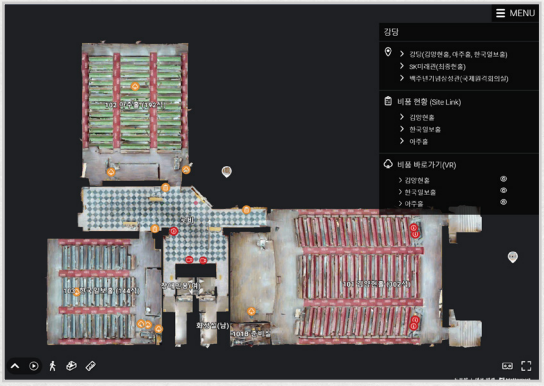
Carbon-neutral asset management systems are systems for asset management that consider environmental issues, reduce carbon emissions, achieve carbon neutrality, and generate revenue.



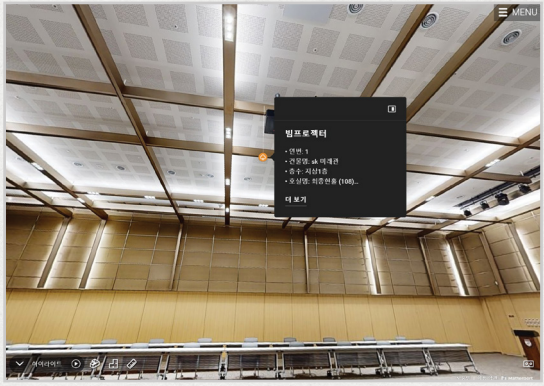
Asset Management Using Digital Twin

Asset management utilizing **digital twin** involves real-time monitoring of asset conditions and establishing long-term management and maintenance strategies through predictive analysis. This approach proves highly beneficial for reducing asset management costs and enhancing productivity for enterprises, public institutions, schools, and similar entities.

| Space management using floor plans.



| Asset management using digital twins.



Carbon Neutral Asset Management System Website IA Structure

Carbon Neutral Management System

Greenhouse Gas Emissions Status

- Greenhouse Gas Emissions

Yearly Selection

Inquiry on the last five years of emissions from selected year, emissions per unit area, emissions compared to research results, monthly emissions for the relevant year

- Greenhouse gas emissions by building

Yearly Selection

Inquiry on emission by building as of the year of selection, rate of increase and decrease, and table of emission per unit area of building

Energy Sector

- Energy usage comparison

Selection by year(Mar. to Feb. or Jan. to Dec.)

Compare the monthly consumption of electricity, gas, and water for the past three years from selected year

- Trends in usage by energy

Yearly Selection

Compare the monthly consumption and trends over the past five years for electricity, gas, and water from selected year

- Comparison of charges by energy

Selection by year(Mar. to Feb. or Jan. to Dec.)

Comparison of three-year monthly rates by electricity, gas and water selection year

- Changes in charges by energy

Selection by year(Mar. to Feb. or Jan. to Dec.)

Comparison of monthly usage and trends in usage over the past five years from selected year of electricity, gas, and water supply

Renewable energy generation

- solar power generation

Yearly Selection

Inquiry on the status of solar power generation and power generation by building for the last 5 years from selected year

- Geothermal and hydrothermal power generation

Yearly Selection

Inquiry on geothermal/hydrothermal power generation and power generation status by building for the last 5 year from selected year

the tangible assets sector

- List Chart

Manage greenhouse gas emissions by type by charting carbon emissions by the university's holdings (land, buildings, fixtures, etc.)

Status by university

Monitor usage through energy usage statistics by college and understand the current status and trend of greenhouse gas emissions by college

Asset Management System

Equipment Management

- Equipment Lookup

Detailed menu

Lookup items by individual, shared, department, space, or lecture room. Report malfunctions, view inspection status, handle transfers, and conduct inventory checks.

- Reuse Market

Search, item tab inquiry

Registration of reusable goods, registration of sharing goods, inquiry of registration/application, and list of (manager) commodities transactions

Land Information Management

- Campus Land Management Status

status table

- Inquiry of status table

  Inquiry of detailed information when selecting (purchase, occupancy, litigation, etc.)
- Enter detailed information (manager)

  add images, satellite maps, photos, and official land prices.

Building Information

- Managing School Building Information

Check the drawing

- Management and inquiry of drawings by building and floor

VR Space Lookup - Select space to view (50 spaces)

- View space list by building category
- View captured space images

Space Registered Item Labeling

Brief information popup on mouse over.

Item information inquiry

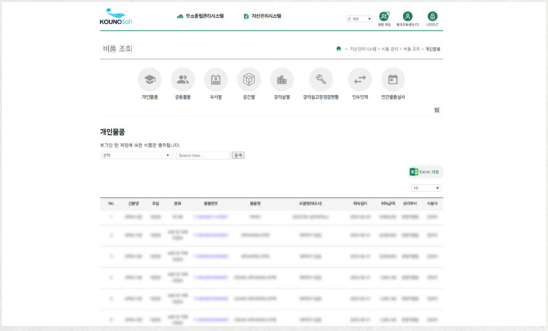
Item details when clicking on an item

Click to move space

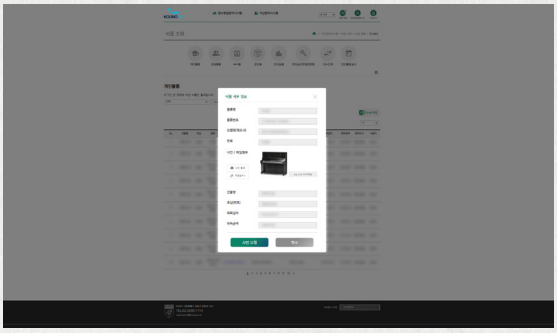
Implementation of the ability to navigate to different filming points registered in the same room via the click interface

Carbon neutral asset management system web screen

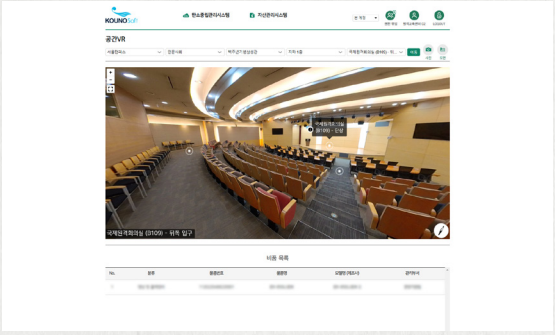
Item lookup list



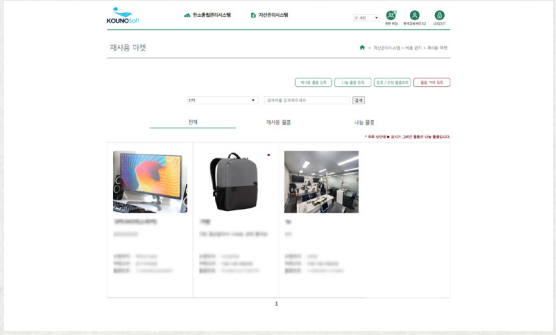
Item details



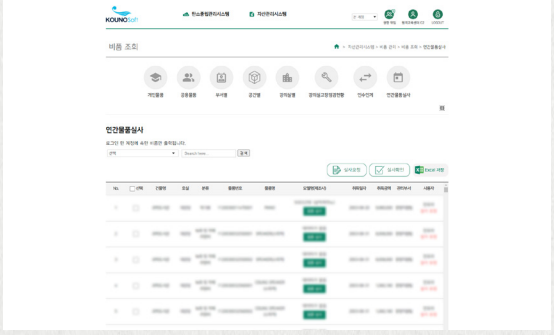
Space VR



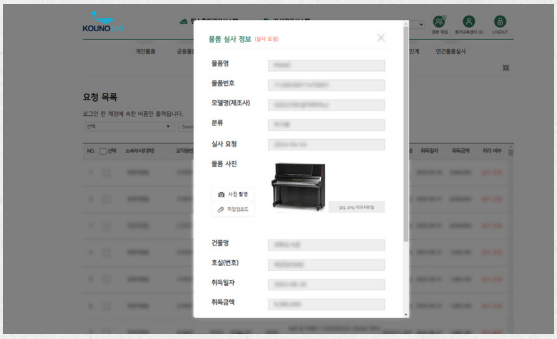
reuse market



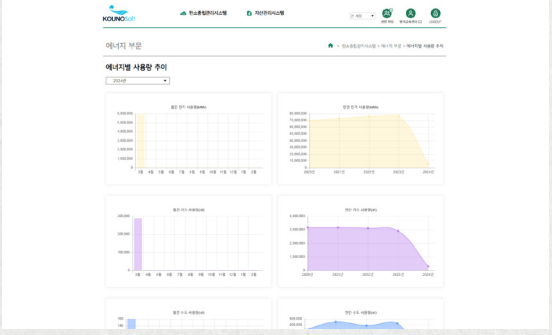
Annual Item Inspection



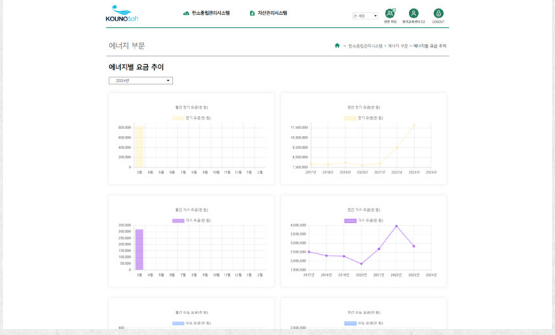
Verification of due diligence (Information on due diligence of asset)



Carbon Neutrality Management System - Usage Trends by Energy



Carbon Neutrality Management System - Rate Trends by Energy



What is carbon neutral?

Carbon neutrality refers to reducing the emissions of carbon dioxide into the atmosphere, and offsetting the remaining emissions by absorption through plants, soil, oceans, etc., ultimately reducing them to zero. The goal is to mitigate climate change and prevent global warming.

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