



2024

User manual

Property Manager



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Introduction

Welcome to the Square Sense platform, your gateway to comprehensive and integrated building data. Our platform is designed to collect, process, and present data for efficient decision-making.

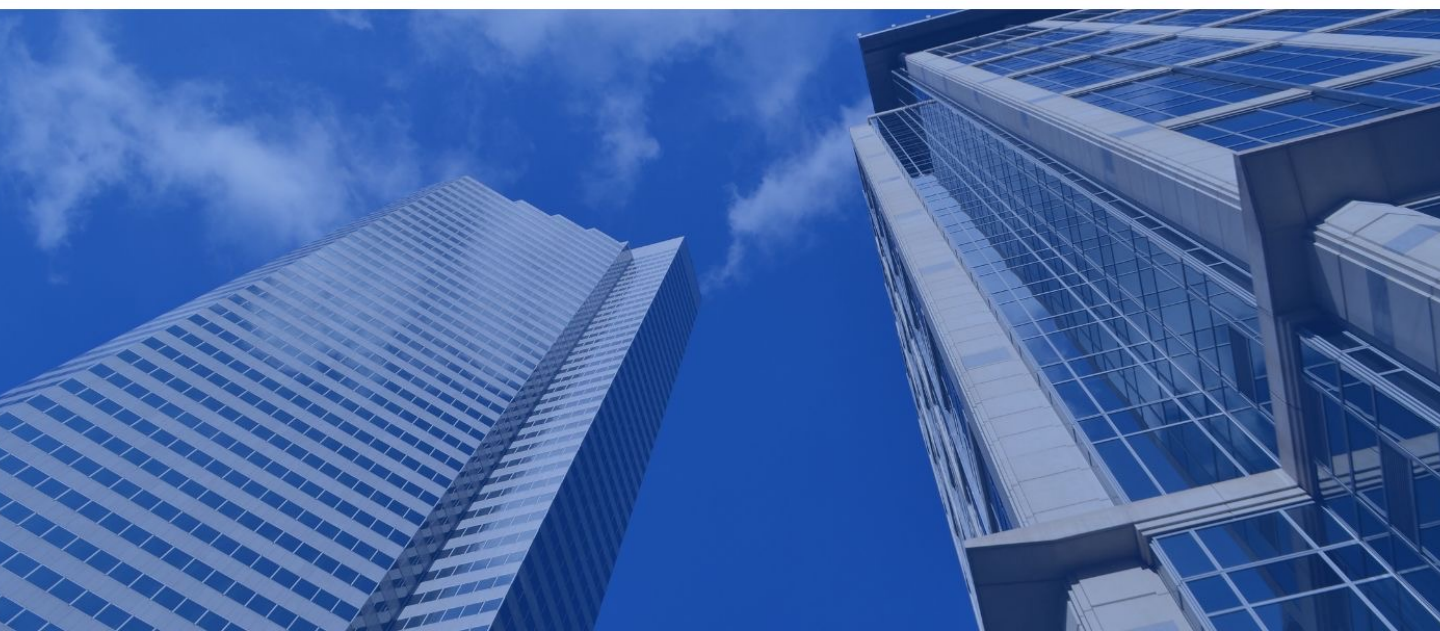
Square Sense gathers data from various sources, including:

- Building Data : Occupancy information from people-counting sensors ; Tenant applications via APIs.
- Technical Data : Energy usage from electricity meters ; Environmental conditions such as air quality, temperature, and humidity from air sensors and Building Management Systems (BMS).

Our platform provides data at multiple levels of detail:

- Asset Level : Overall building performance and metrics.
- Office or Retail Level : Insights into individual offices or retail spaces.
- Floor Level : Data specific to each floor.
- Specific Zone Level : Information for specific zones, tenants, units, or common areas.

The Square Sense platform allows you to access both recent and historical data easily, enabling informed, data-driven decisions. Experience the convenience and precision of the Square Sense platform, where building data is readily available and easy to use.



Login and navigation

Learn how to enter the platform and navigate its basic elements

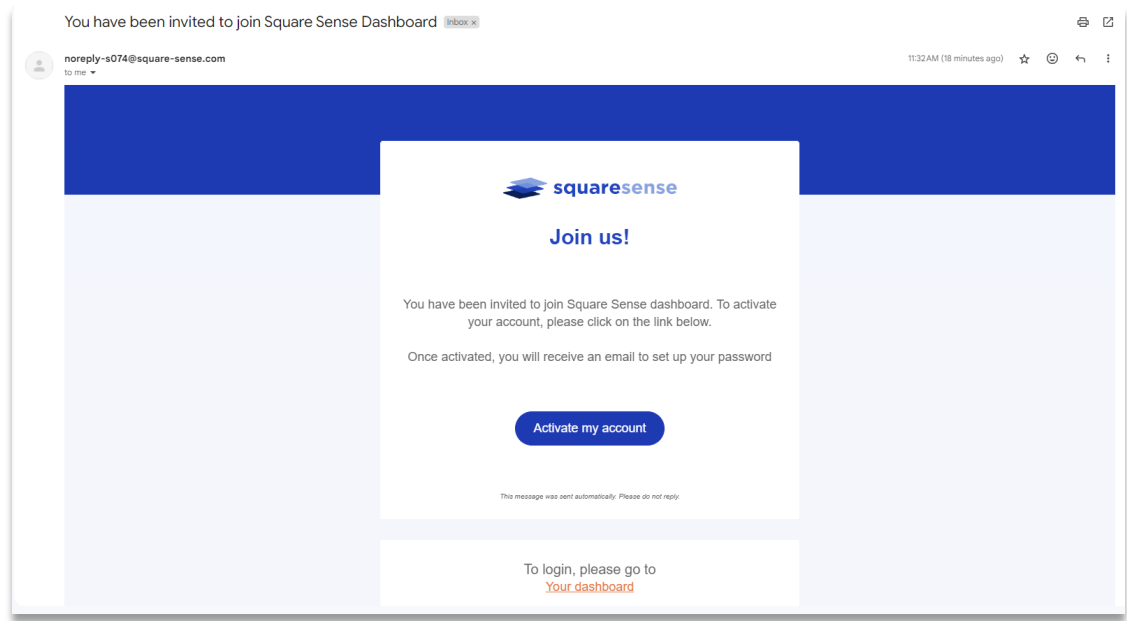


Account activation – Part I

To initiate your first-time login, please follow these steps:

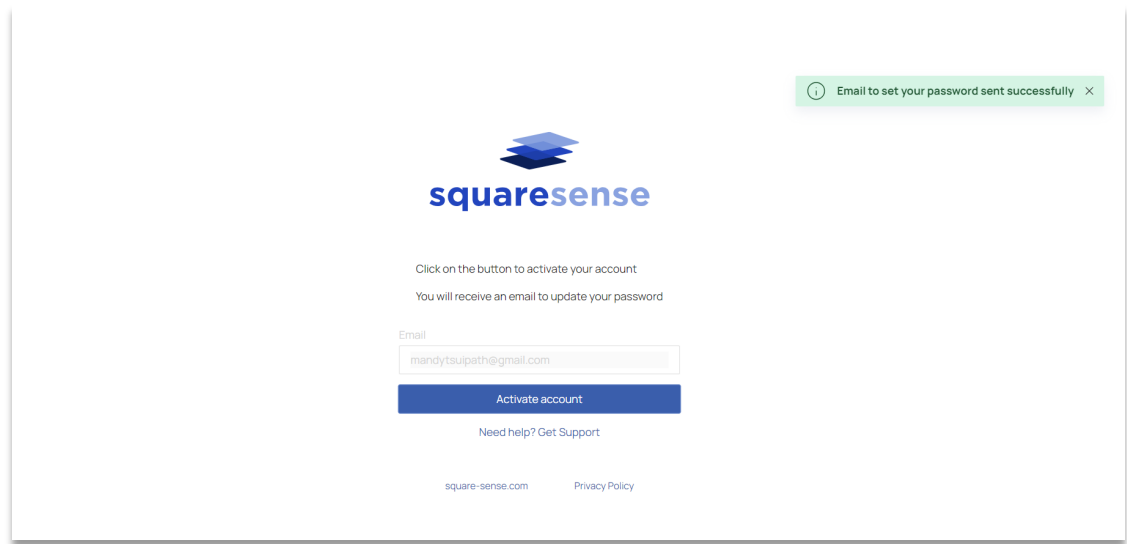
Step 1: Invitation Email

Check your email inbox for an invitation from Square Sense. Click on the "Activate My Account" button to begin the activation process.



Step 2: Activate my account

Upon clicking the activation link, you'll be redirected to the Square Sense webpage. Here, you'll need to click the activate button once more. A notification will appear confirming the successful sending of the email containing instructions to set your password.



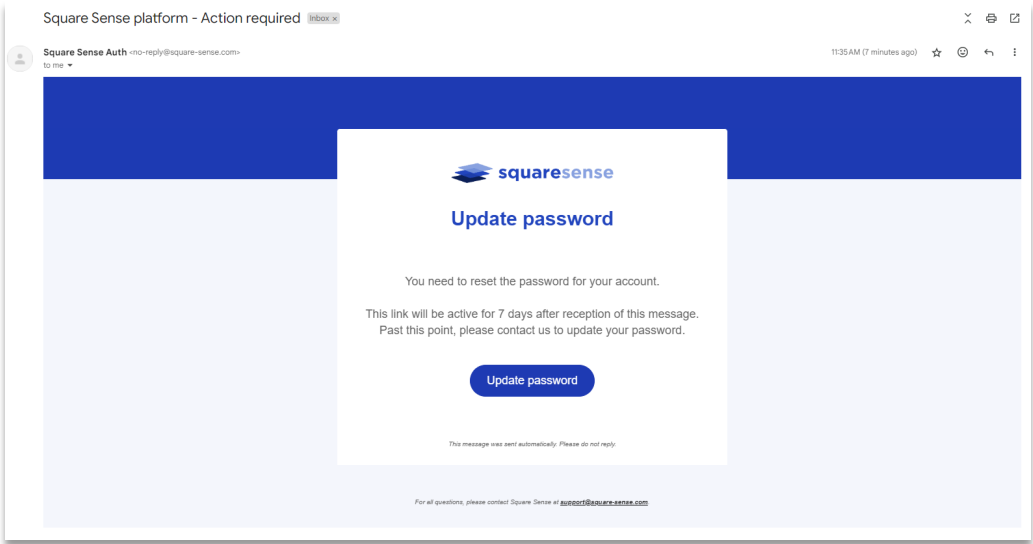
Account activation – Part II

Step 3: Update password

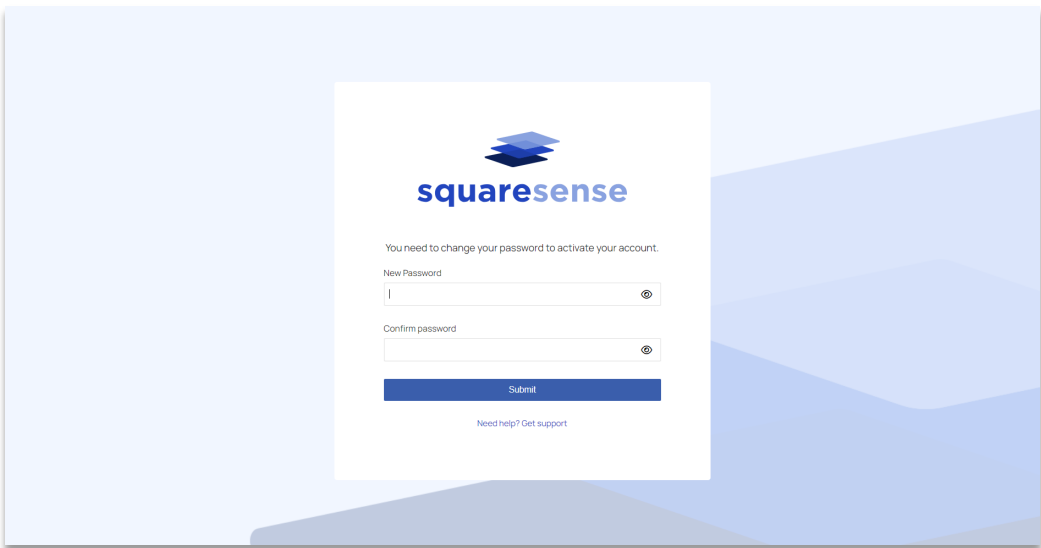
Next, navigate to your email inbox and locate the email with instructions to update your password.

Click on the "Update Password" button within the email to reset your account password. Please note that the link to reset your password will remain active for 7 days after you receive the email.

Should you encounter any issues beyond this timeframe, kindly reach out to us at support@square-sense.com for further assistance.



Please note that password length needs to be at least 14 characters.

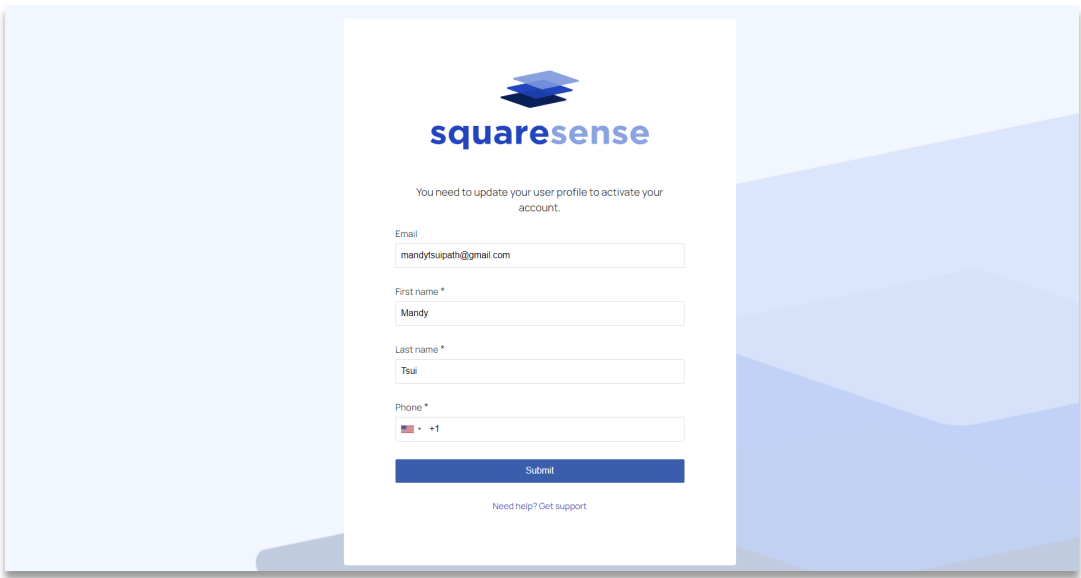


Account activation – Part III

Step 4: Setting Up User Profile

Once you have set up your password, the next step involves updating your user profile to activate your account.

Ensure that your email, first name, and last name are accurate. Type in your phone number in the designated field.

A screenshot of a web form for updating a user profile. The form is centered on a light blue background with a subtle geometric pattern. At the top of the form is the Square Sense logo, which consists of a blue icon of three stacked squares above the text "squaresense" in a blue sans-serif font. Below the logo, a message states: "You need to update your user profile to activate your account." The form contains four input fields: "Email" with the value "mandytsui@path@gmail.com", "First name *" with the value "Mandy", "Last name *" with the value "Tsui", and "Phone *" with a dropdown menu showing a flag and "+1". A blue "Submit" button is located below the phone field. At the bottom of the form, there is a link that says "Need help? Get support".

squaresense

You need to update your user profile to activate your account.

Email
mandytsui@path@gmail.com

First name *
Mandy

Last name *
Tsui

Phone *
+1

Submit

[Need help? Get support](#)

Step 5: Login to Your Account

Congratulations! You've successfully activated your Square Sense account.

You will now be redirected to the login page. From here, you can log in for the first time using your email address and the password you have just set up.

Each time you log in, a security code will be sent to your phone number via text message for authentication.

Accessing your account

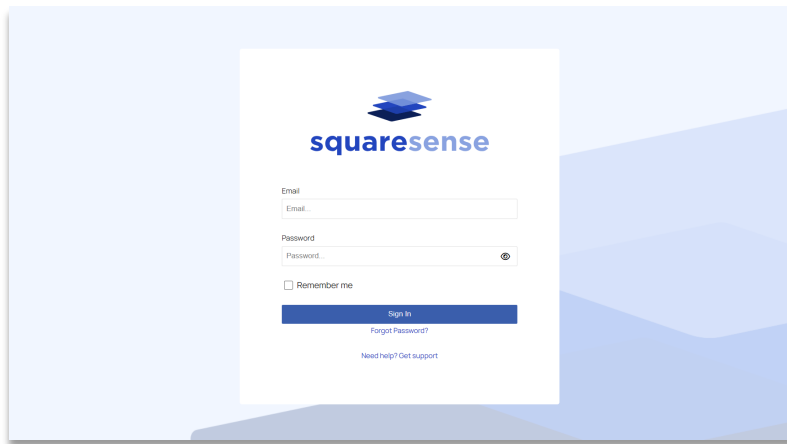
To log in to your account, follow these steps:

Step 1: Email Link

Locate the email received from Square Sense and click on the provided link. This will direct you to the login page. Bookmark the URL for quick access in the future.

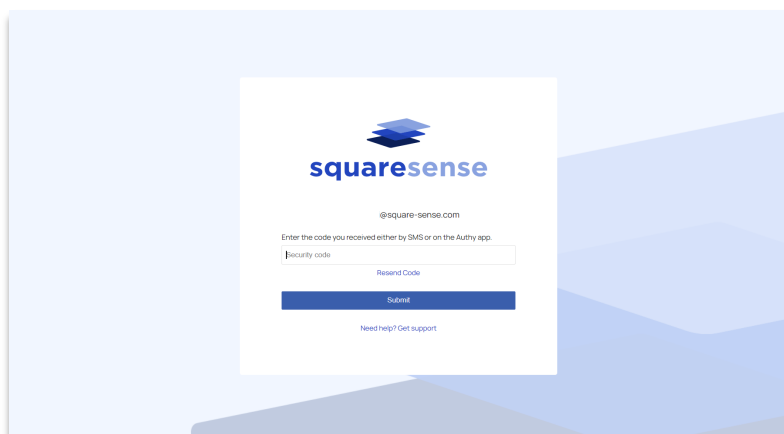
Step 2: Enter Credentials

On the login page, input your registered email address and password. Click the "Sign In" button to proceed. Opt for "Remember Me" to save your login details for future use.



Step 3: Two-Factor Authentication:

For added security, a two-factor authentication (2FA) code will be sent to your registered phone. Enter the code when prompted to complete the login process.



You are now successfully logged in! If encountering any difficulties or having questions, please contact the support team at support@square-sense.com.

Dashboards

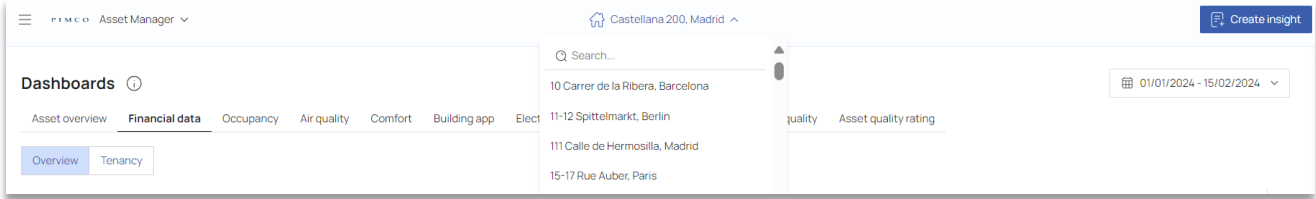
Mine the insights from the data from a wide range of sources



Dashboard navigation – Part I

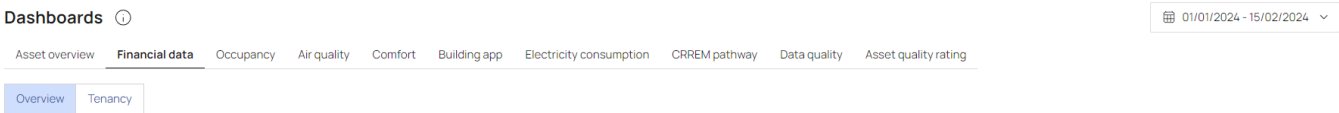
Asset selection

Search for and select your asset in the drop-down button at the top of the page to analyze the data.



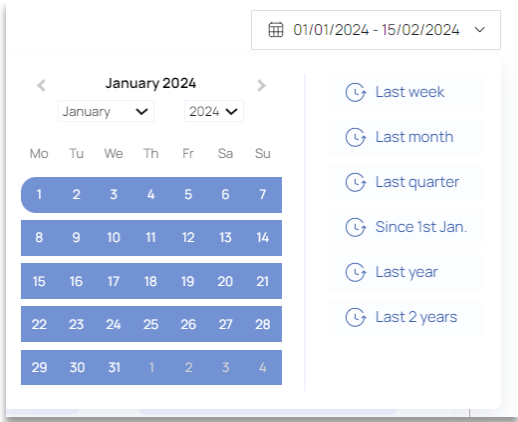
Dashboard selection

View KPIs through interactive dashboards to track asset metrics and gain insights into performance and efficiency. Navigate through different dashboards on the bar for analysis. Under each dashboard, there could be subpages.



Date selection

Select the beginning and ending dates and click apply to view your desired data range for analysis.



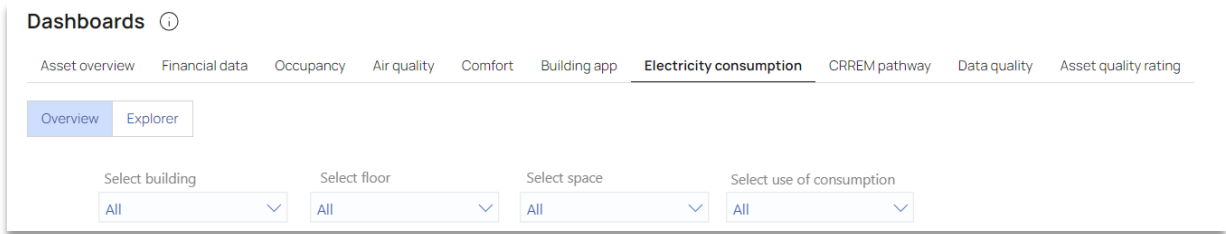
You have the option to select dates directly from the calendar or choose from pre-defined periods.

The terms 'Last week/month/quarter/year/2 years' refer to the most recently concluded week, month, quarter, year, or two years.

By default, the displayed date period is from the 1st day of the year until yesterday.

Main filters

Filters are located beneath the dashboard selection bar. These filters apply to all sections in the dashboard and allow you to focus on specific space levels, floor, building, day type, etc.



Dashboard navigation – Part II

Main filters (continued)

Selections made in the main filters will apply to the data displayed across the entire dashboard.

Main filters typically include:

- Buildings
- Area types (Common Areas/Private Leased/Private Vacant)
- Floors
- Spaces

Additional filters could include:

- Data Filtered (All Data /Business Hours /Occupied Hours) - Business hours refer to the operational times , while occupied hours are when the space is actively engaged.
- Selection of Weekdays/Weekends

Graph filters

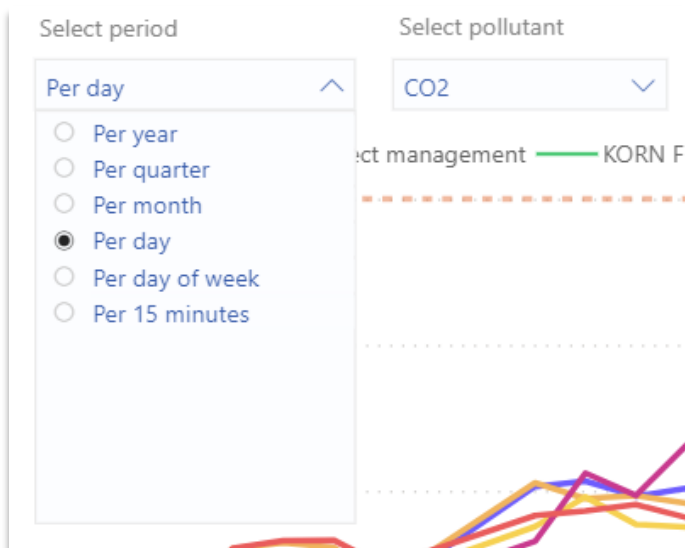
In certain dashboards, there are filters tailored to specific sections, allowing for focused analysis. section. These filters aim to facilitate seamless comparison and KPI analysis switching.

Blue switch buttons enable toggling between different KPIs or distinct variables for the respective section.

Concentration levels

Threshold breakdown

Dropdown selection buttons facilitate switching between periods or units.



Asset overview



1. Asset occupancy : Choose a specific period or week to display in the bar graph. View occupancy trends for each asset and the number of office occupiers during the selected timeframe.
2. Occupancy : Compare occupancy rates between office and retail spaces.
3. Quick look : Show gross area (m²), vacant area (m²), weighted average lease length (WALB), and number of tenants.
4. Office key metrics cards : Display key indicators with arrows showing trends (increase or decrease) compared to the previous month. Hover over arrows to see percentage changes.
 - Average monthly contractual rent (per m² or per occupier) : Annual rent is prorated based on the selected day type filter (weekdays, weekends, or both). Hover over values to view annual metrics.
 - Density : Space utilization per occupier.,
 - Tenant application : The total number of subscribers and active users
 - Air quality : Current air quality levels and CO2 comfort ratios.
5. Building key metrics
 - Electricity consumption in kWh/m² and per occupier.
 - Greenhouse gas emissions in kgCO₂e/m² and kgCO₂e per occupier.

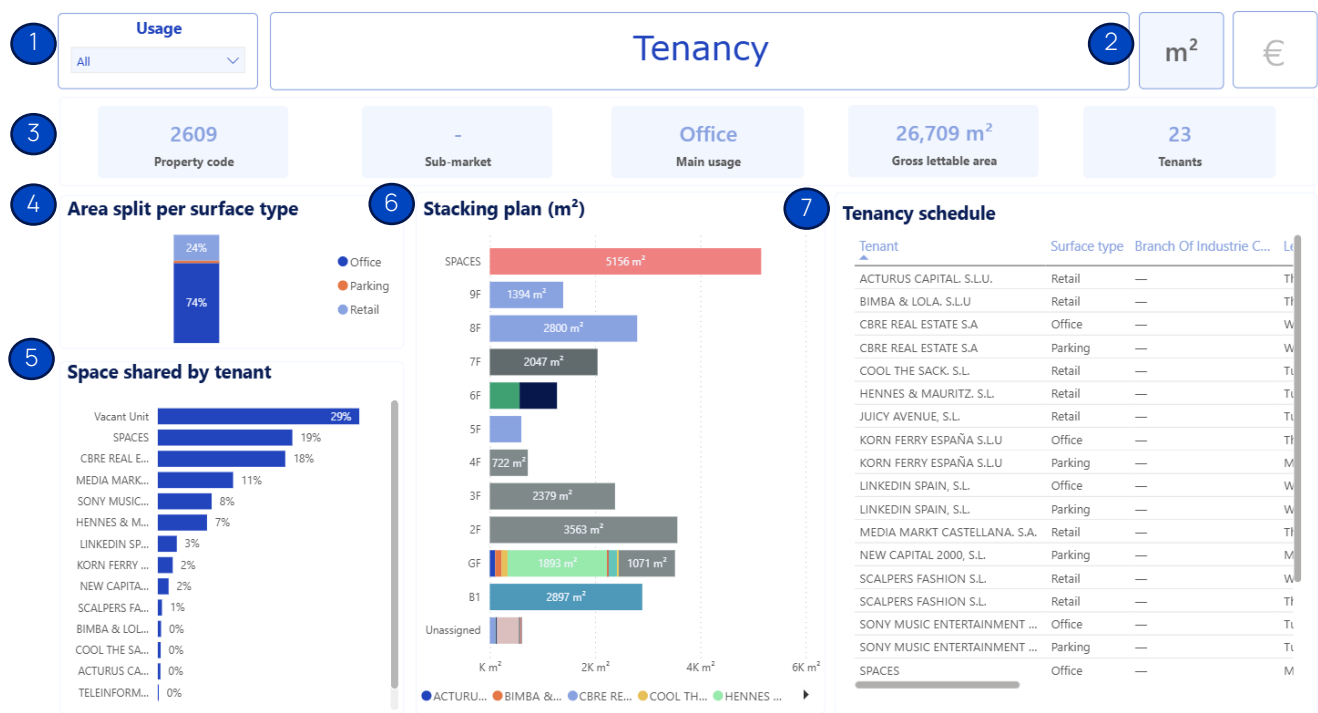
Financial – Part I

Use cases

- Which tenants have an upcoming break option?
- For each tenant, what is the contractual rent per average real occupier?

Tenancy

Visualize the tenant stacking plan and tenancy schedule, reviewing area distribution by tenant or surface type. Monitor upcoming tenant break options, engage tenants nearing break dates to assess satisfaction, and take actions like contract renegotiation.



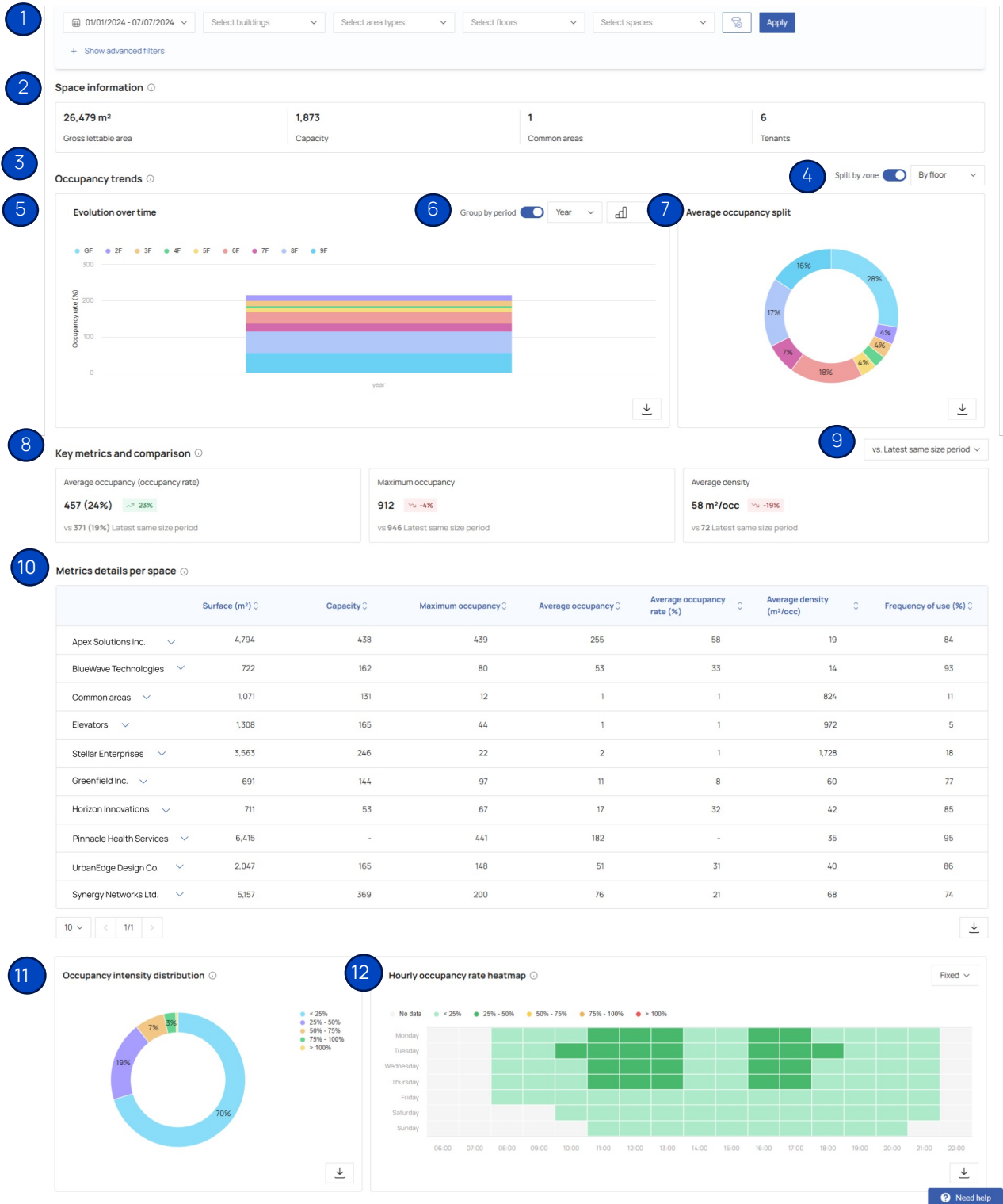
Financial – Part II

1. Usage: Select office, parking, or retail.
2. Select measurement unit : View data in square meters (sqm) or euros in the dashboard.
3. Examine key details including:
 - Property code : The unique identifier for the property.
 - Sub-market : The specific market segment or region where the property is located.
 - Main usage : The primary use of the property (ex : residential, commercial).
 - Gross Lettable Area : The total area available for lease.
 - Tenants : Number of current tenants.
4. Area split / Contractual rent by surface type : Vertical bar graph showing the percentage split of office, parking, and retail areas.
5. Space shared / Contractual rent split by tenant : horizontal bar graph displaying space / rent distribution by tenant.
6. Stacking plan : horizontal bar graph per floor showing sqm / rental income per tenant, with each tenant color-coded for easy comparison.
7. Tenancy schedule : table showing surface type, industry branch of the contractual partner, lease start date, next break date, total area (sqm), number of parking spaces, and contractual rental income.

Occupancy – Part I

Use cases

- Post-pandemic return-to-office: What is the behavior trend of each tenant? Does their office capacity match their need?
- Who has low occupancy and thus a higher chance of downsizing or departure?
- Who is operating close to capacity and may need more space?



Occupancy – Part II

1. Main filters : The main filters apply to the entire dashboard. All items in the main filters are pre-selected. Adjust and analyze your data by resetting or applying different filters as needed.
2. Space information : View metadata pertaining to your filter selection and understand what factors are utilized in metric computations in terms of gross lettable area, capacity, common areas, and tenants.
3. Occupancy trends : Gain insight into occupancy trends through below graph displaying evolution over time and pie chart illustrating the average occupancy distribution.
4. Split by zone : Utilize the 'split by zone' toggle to seamlessly switch between total and grouped views. This toggle impacts both the graph and pie chart for evolution over time and average occupancy distribution.
 - When the toggle is off, view total occupancy data trends in the evolution over time graph.
 - When the toggle is activated, choose the grouping for both the evolution over time and the split charts. Grouping options include by floor, by space, or by area type.
5. Evolution over time: Track occupancy evolution over time.
6. Group by period : When toggled on, enables grouping by hour, day, month, quarter, or year. when off, displays unaggregated data by day, month, quarter, or year. Note that the selection only affects the grouping of data and does not impact data computation. Example :

When the toggle is off and applied to the Month setting:

 - This indicates displaying one data point per month for the selected period.
 - Ex : a bar for January 2022 would show the average of daily maximum occupiers for that month, such as 50 occupiers. This pattern continues for each month in the specified period, with individual bars representing each month average occupancy.

When the toggle is switched on and applied to the Month setting:

 - This means calculating the average occupancy across all individual months, spanning different years selected in the main date filter.
 - Ex : a bar for January would now display the average value for both January 2022 (50) and January 2023 (60), resulting in a combined average of 55 occupants, calculated as $(50 + 60)/2$.

Graph types : Customize your data presentation with different graph types using the dropdown button on the top right, including bar, area, and line graphs.
7. Average occupancy split : Gain a comprehensive view of the data split in the pie chart.
8. Key metrics and comparison : View occupancy key metrics and growth rate comparison to year-over-year or the latest same size period.

Occupancy – Part III

9. Period comparison : Compare key metrics by choosing between two options.
 - “Vs. Year-over-year” : Compares the current selected timeframe with the equivalent period from the previous year.
 - “Vs. Latest same size period” : Compares the current selected timeframe with the most recent equivalent period.
10. Metrics details per space: View detailed information for each space. Sort each column in descending or ascending order and find the average of each metric at the bottom.
10. Occupancy intensity distribution : Visualize the distribution of occupancy rates in the pie chart.
11. Hourly occupancy rate heatmap : Switch between two scales to understand the hourly occupancy rates. The dynamic scale adjusts based on the data range, while the fixed scale remains constant regardless of the data values.

Air quality – Part I

Use cases

- Are there any air quality conditions (CO2, humidity, PM 2.5, temperature) that are out of the recommended ranges during occupied hours?
- To which factors may this be correlated to (occupancy patterns, ventilation failure, outdoor pollution) and how can air quality be improved to ensure optimum productivity when the spaces are in use?
- How does the air quality change with the seasons?
- Are there particular floors, zones or tenants where the situation is concerning?

1

2

3



Concentration levels per pollutant

Floor

Space

Threshold breakdown

Select period

Per day

Select pollutant

CO2

GF

Hall

2F

3F

4F

5F

6F

7F

8F

9F

1000 ppm

800 ppm

600 ppm

400 ppm

Jan 2024

Feb 2024

Mar 2024

Apr 2024

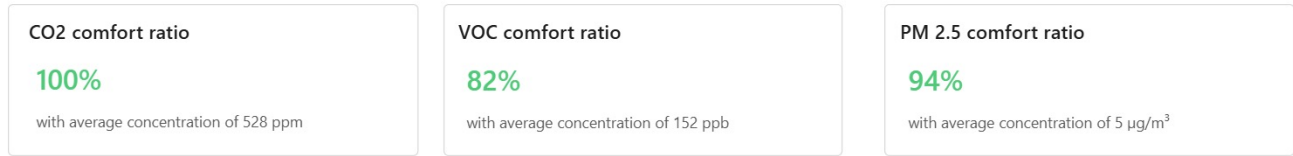
May 2024

Jun 2024

Jul 2024

Comfort threshold: 1000 ppm

4



Source of data: air quality sensors

Air quality – Part II

1. Main filters : The main filters apply to the entire dashboard. All items in the main filters are pre-selected. Adjust and analyze your data by resetting or applying different filters as needed.
2. Concentration levels per pollutant : This section presents graphical representations of concentration levels and threshold breakdowns per pollutant per different periods.
 - Floor : View pollutant levels per floor on the line graph for the selected time frame, grouped by the chosen period and comfort variable.
 - Space : View pollutant levels per space on the line graph for the selected time frame, grouped by the chosen period and comfort variable.
 - Threshold Breakdown : Use the stacked bar graph to understand the proportion of different pollutant levels for the selected variable within the specified period
3. Select period : Select your desired time frame for analysis: per year/quarter/month/day/day of week/ 15 minutes.

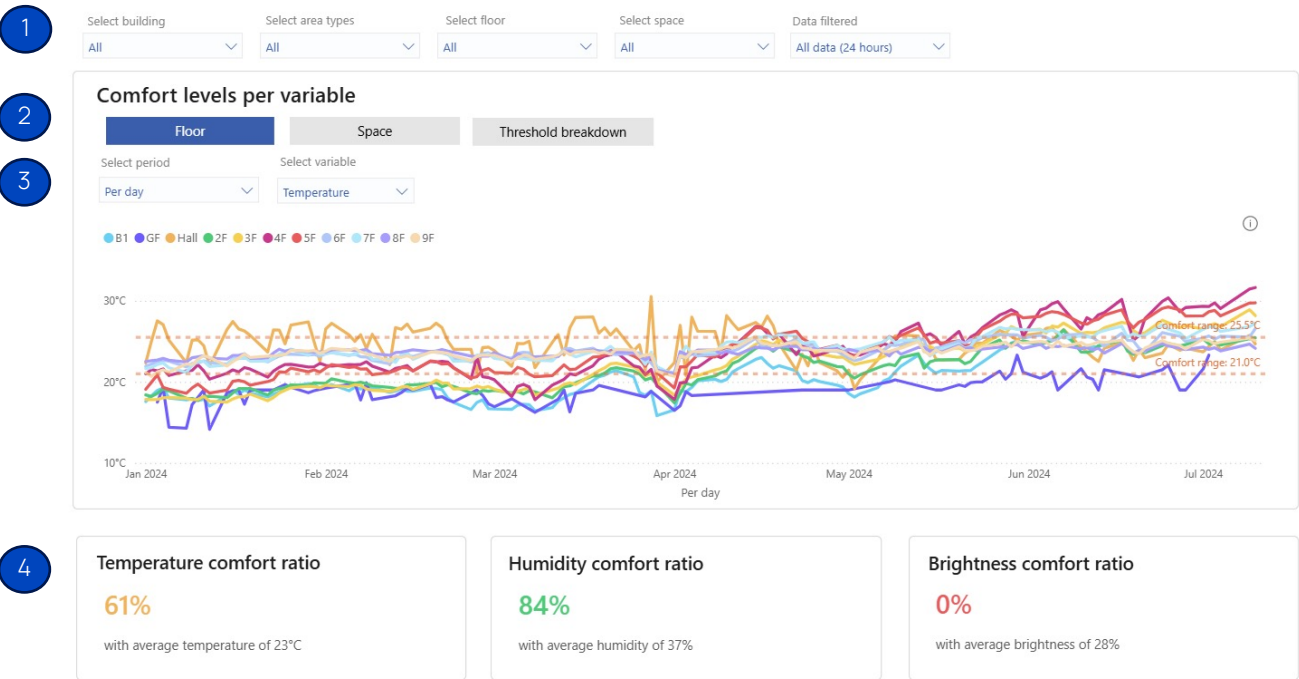
Select pollutant : Switch between variables: CO2/VOC/PM 2.5. View breakdown of the selected pollutant measures per threshold in the selected period.

- Source of CO2 thresholds: European standard on the energy performance of buildings, EN 16798-1, page 52
 - Source of VOC thresholds: European standard on the energy performance of buildings, EN16798-1, page 56
 - Source of PM2.5 thresholds : The WELL Building Standard version 2, Q4 2022, Enhanced air quality
4. Comfort ratios for CO2, VOC, and PM 2.5 are displayed, indicating the ratio of time spent within the comfort threshold.
 - The data used to calculate these ratios corresponds to the selected time frame in the main filters.
 - Color coding is utilized to represent different percentages: red for less than 50%, yellow for 50% to 80%, and green for over 80%.
 - The average concentration is displayed at the bottom of each card for quick reference.

Comfort – Part I

Use cases

- In which offices are the comfort conditions outside the recommended ranges during occupied hours?
- What factors might contribute to this, and how can we improve comfort to ensure optimum productivity when the spaces are in use?
- How does comfort vary with the seasons? Are there specific floors, zones, or tenants where the situation is particularly concerning?
- I believe the settings are correct, but I have received a tenant complaint regarding temperature. What objective evidence supports this claim?



Comfort – Part II

1. Main filters : The main filters apply to the entire dashboard. All items in the main filters are pre-selected. Adjust and analyze your data by resetting or applying different filters as needed.
2. Comfort levels per variable : This section displays comfort levels and threshold breakdown in graph form. Switch between a line graph for comfort levels or a stacked bar graph for threshold breakdown to view comfort levels trend for each variable.
 - Floor : View comfort levels per floor on the line graph for the selected time frame, grouped by the chosen period and comfort variable.
 - Space : View comfort levels per space on the line graph for the selected time frame, grouped by the chosen period and comfort variable.
 - Threshold Breakdown : Use the stacked bar graph to understand the proportion of different comfort levels for the selected variable within the specified period.
3. Select period : Select your desired time frame for analysis: per year / quarter / month / day / day of week / 15 minutes.

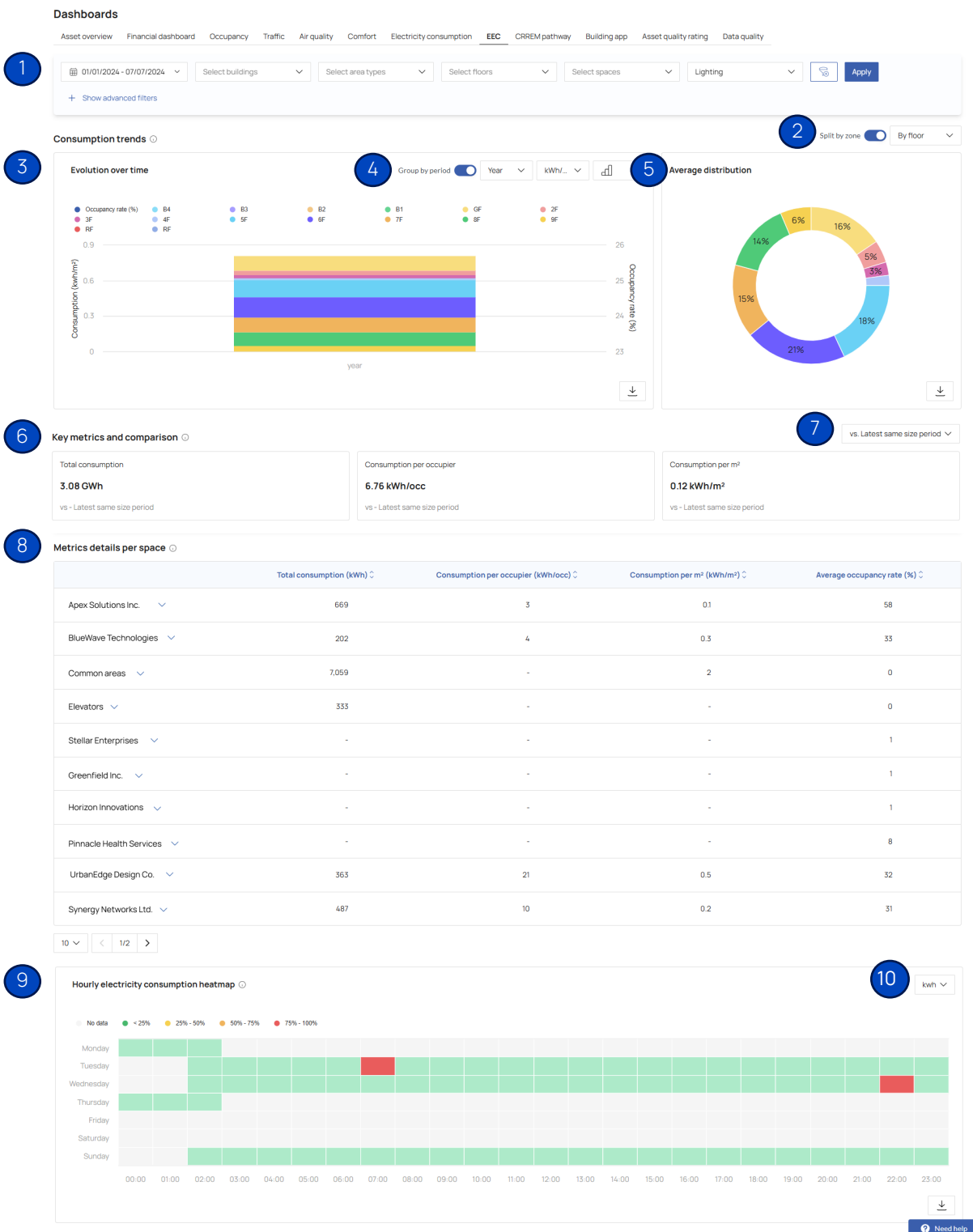
Switch between variables: Temperature/ Humidity/ Brightness. View breakdown of the selected pollutant measures per threshold in the selected period.

 - Source of temperature thresholds: European standard on the energy performance of buildings, EN 16798-1, page 50
 - Source of temperature thresholds: European standard on the energy performance of buildings, EN 16798-1, page 56
4. Comfort ratios of temperature, humidity, and brightness are displayed. Comfort ratios refers to the ratio of the period within the comfort threshold.
 - The data used to calculate these ratios corresponds to the selected time frame in the main filters.
 - Color coding is utilized to represent different percentages: red for less than 50%, yellow for 50% to 80%, and green for over 80%.
 - The average is displayed at the bottom of each card for quick reference.

Electricity consumption – Part I

Use cases

- Is electricity consumption highly correlated with occupancy? Any opportunity for cost reduction?
- What is the most common use of consumption in the building throughout the day? Do the patterns, peaks and lows make sense? Are there optimization opportunities?
- How did the consumption breakdown by source evolve through the seasons?



Electricity consumption – Part II

1. Main filters : The main filters apply to the entire dashboard. All items in the main filters are pre-selected. Adjust and analyze your data by resetting or applying different filters as needed.
2. Split by zone : Utilize the 'split by zone' toggle to seamlessly switch between total and grouped views. This toggle impacts both the graph and pie chart for evolution over time and average occupancy distribution.
 - When the toggle is off, view total occupancy data trends in the evolution over time graph.
 - When the toggle is activated, choose the grouping for both the evolution over time and the split charts. Grouping options include by floor, by space, by area type, by usage.
3. Evolution over time: Track electricity consumption evolution over time.
4. Group by period : When toggled on, enables grouping by hour, day, month, quarter, or year. when off, displays unaggregated data by day, month, quarter, or year. Note that the selection only affects the grouping of data and does not impact data computation. Example :

When the toggle is off and applied to the Month setting:

 - This indicates displaying one data point per month for the selected period.
 - Ex : a bar for January 2022 would show the average of daily maximum occupiers for that month, such as 50 occupiers. This pattern continues for each month in the specified period, with individual bars representing each month average occupancy.

When the toggle is switched on and applied to the Month setting:

 - This means calculating the average occupancy across all individual months, spanning different years selected in the main date filter.
 - Ex : a bar for January would now display the average value for both January 2022 (50) and January 2023 (60), resulting in a combined average of 55 occupants, calculated as $(50 + 60)/2$.

Graph types : Customize your data presentation with different graph types using the dropdown button on the top right, including bar, area, and line graphs.
5. Average distribution : Gain a comprehensive view of the data split in the pie chart.
6. Key metrics and comparison : : View key metrics (includes total consumption, consumption per occupier, and consumption per square meter) and growth rate comparison to year-over-year or the latest same size period.

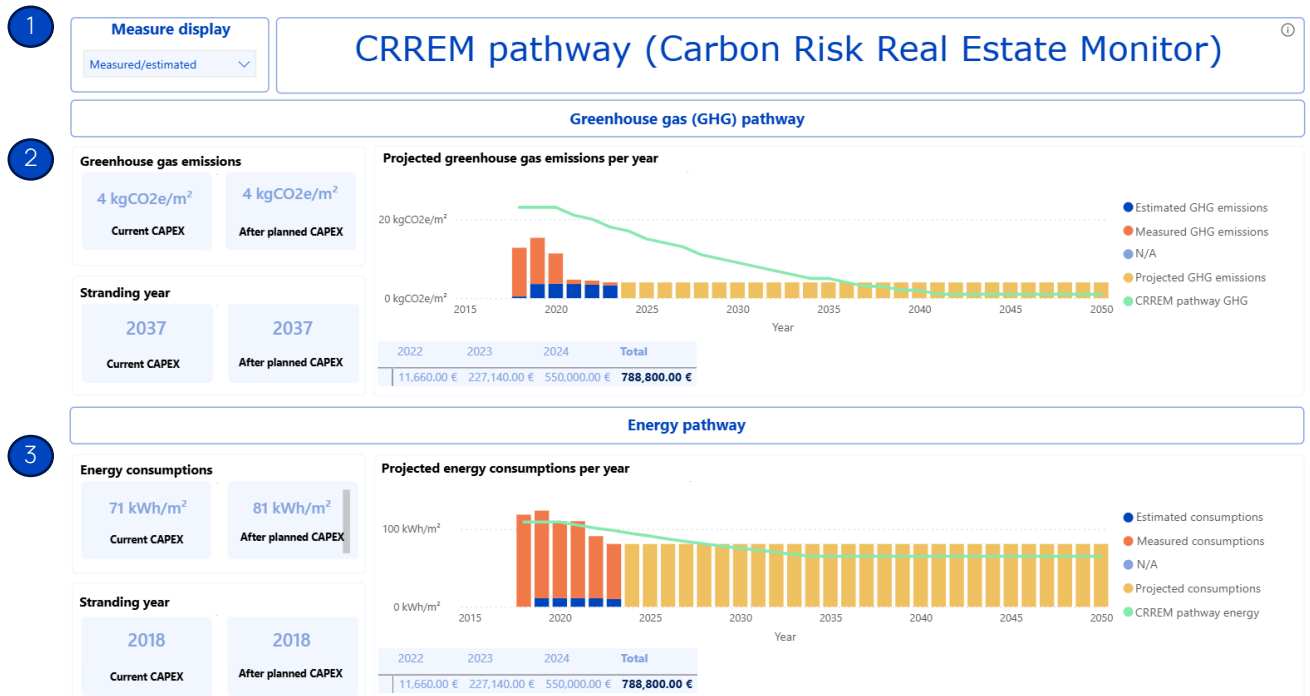
Electricity consumption – Part II

7. Period comparison : Compare key metrics by choosing between two options.
 - "Vs. Year-over-year" : Compares the current selected timeframe with the equivalent period from the previous year. Ex : if the selected period in the main filter is April to June 2023, the "year-over-year" metric compares the data to April to June 2022.
 - "Vs. Latest same size period" : Compares the current selected timeframe with the most recent equivalent period. Ex : If the selected period in the main filter is April to June 2023, the "latest same size period" key metric compares the data to January to March 2023.
8. Metrics details per space: View detailed information for each space. Sort each column in descending or ascending order and find the average of each metric at the bottom.
9. Hourly electricity consumption heatmap : View hourly electricity consumption patterns.
10. Unit switch : toggle between kWh, kWh/occupier, and kWh/m² units for the heatmap.

CRREM pathway

Use cases

- Are any of my buildings exceeding the CRREM carbon intensity thresholds?
- What are the projected carbon emissions for my properties over the next 5, 10, and 20 years?



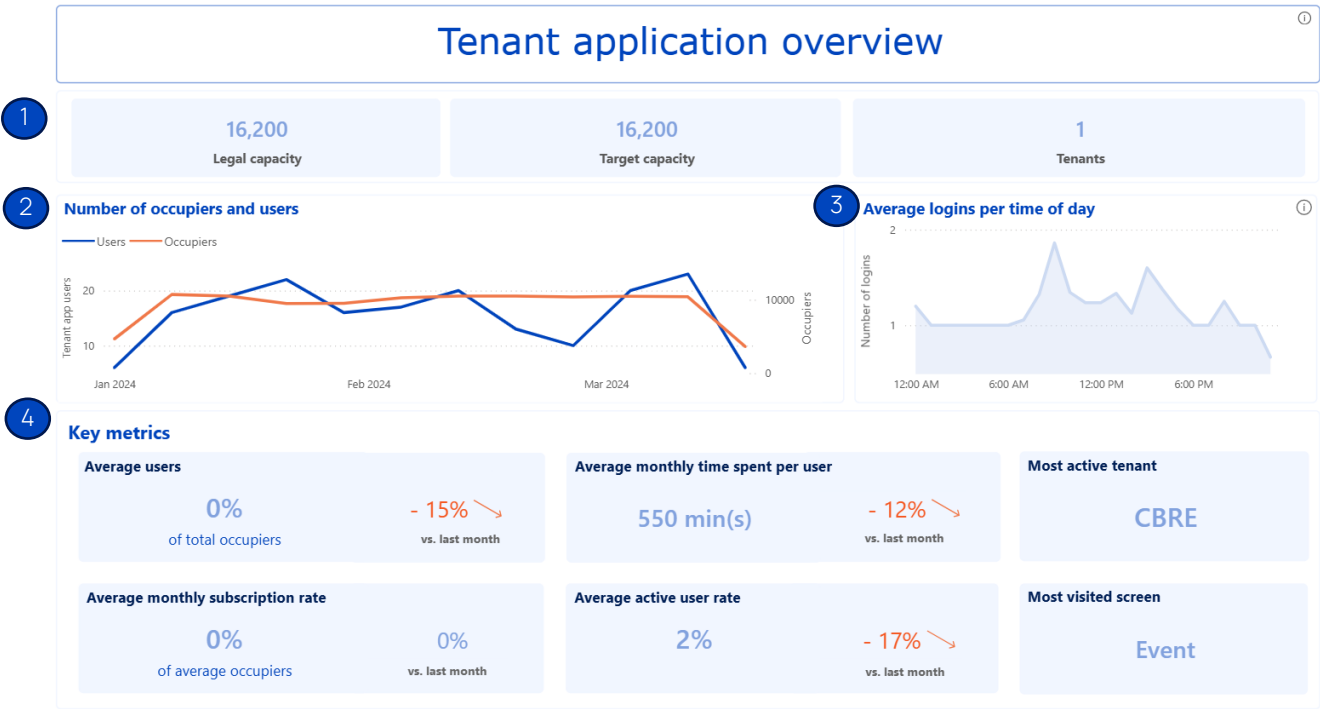
1. Measure display : drop down to select data displayed
 - Measured/ estimated: actual or estimated data
 - Landlord/tenants
 - Energy Sources: Breakdown of data by different energy sources
2. Greenhouse gas (GHG) pathway :
 - GHG : Displays a comparison of current and planned capital expenditures in terms of kgCO₂e/m².
 - Stranding year: Shows the year in which assets will become stranded under current and planned capital expenditures.
 - Projected GHG Emissions per year : Illustrates the projected GHG emissions per year. A green line represents the CRREM (Carbon Risk Real Estate Monitor) pathway for GHG emissions, providing a benchmark for comparison.
3. Energy pathway
 - Energy consumption : Compares current and projected energy consumption after planned capital expenditures, measured in kWh/m².
 - Stranding year : Indicates the year when assets will become stranded based on current and planned capital expenditures.
 - Projected energy consumptions per year : Displays projected energy consumption per year. A green line on the graph shows the CRREM pathway for energy consumption.

Building app – Part I

Use cases

- How engaged are office tenants with building services? What is their satisfaction level with existing services?
- Which new services could enhance revenue streams while meeting tenants' community expectations?

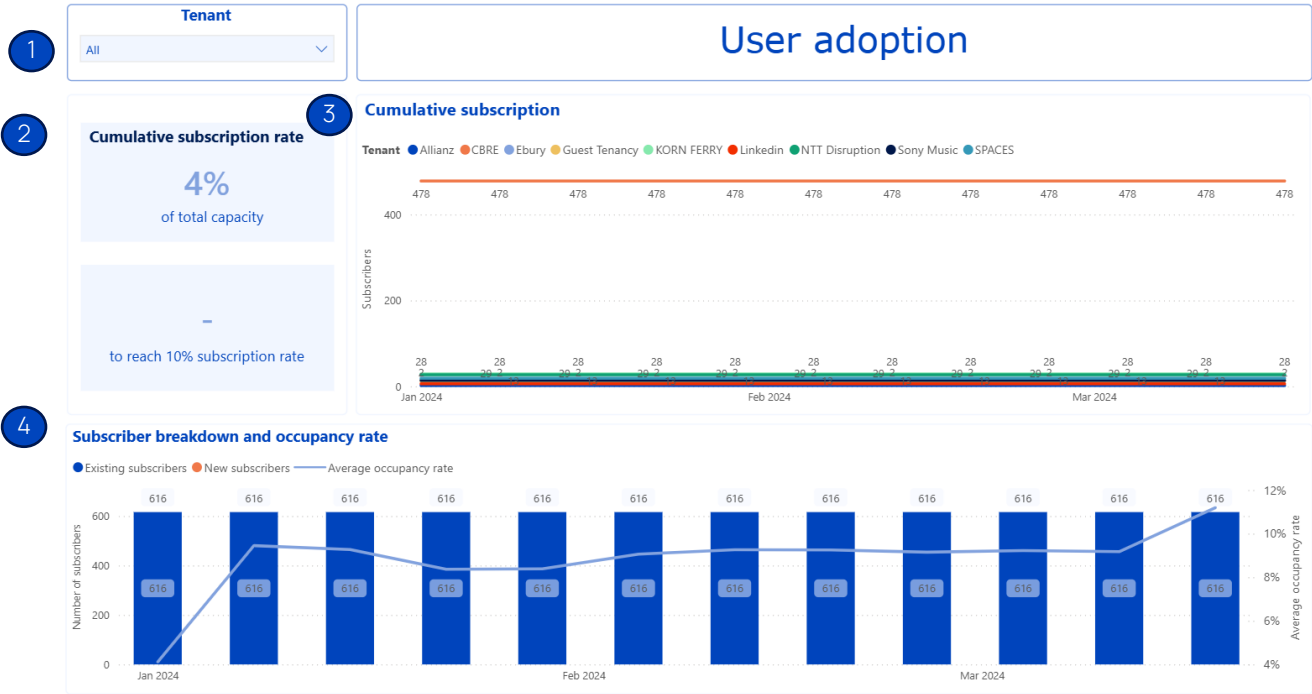
Tenant application overview



Building app – Part II

User adoption

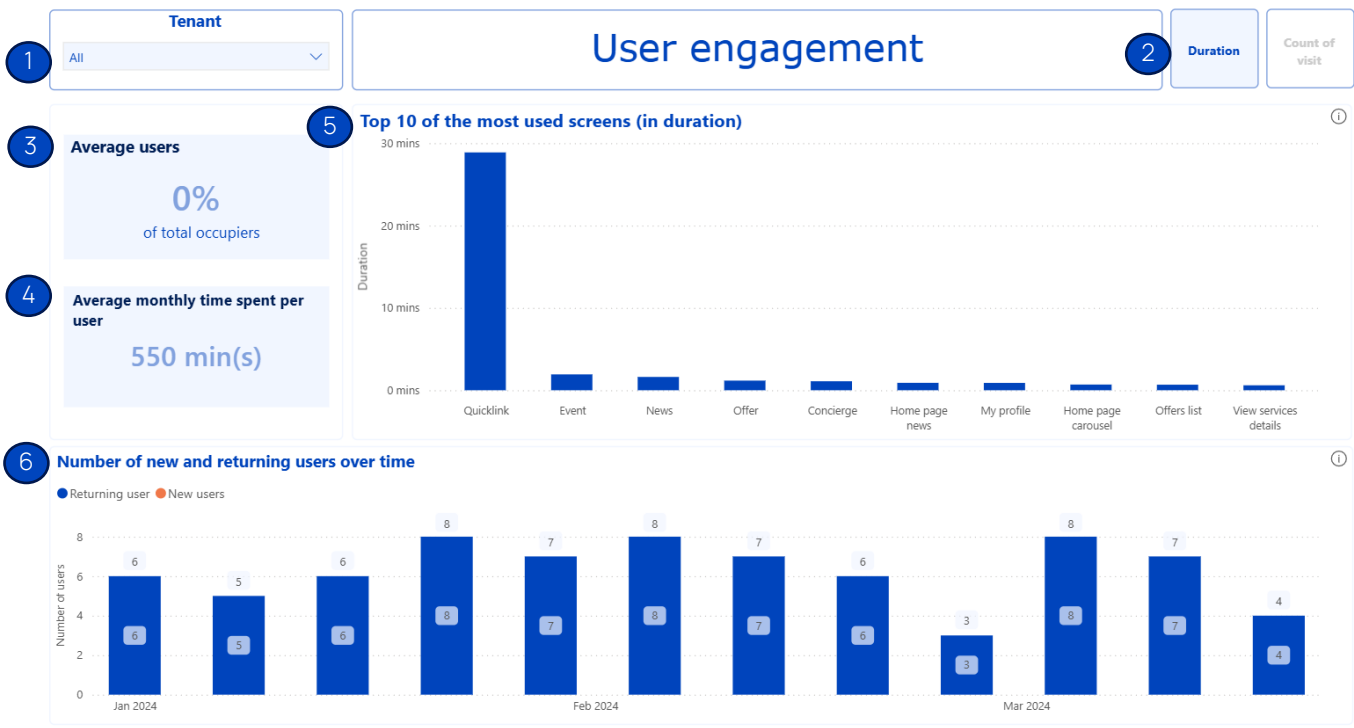
- Check how many of your occupiers are using the app and take action if usage is low.
- Identify which tenants have the lowest and highest numbers of subscribers to evaluate their engagement with building services. Develop customized strategies to attract and retain these tenants based on their engagement levels.
- Monitor the weekly change in building app subscribers and evaluate if this correlates with building occupancy or if your advertising campaign has influenced the subscription rate.



1. Dropdown to choose tenants : Select tenants from a dropdown menu.
2. Cumulative subscription rate : Percentage of total capacity and the additional percentage needed to reach a 10% subscription rate.
3. Cumulative subscription : Line graph displaying subscription growth over time.
4. Subscriber breakdown : Bar graph showing the number of existing and new subscribers, with a line indicating the occupancy rate.

Building app – Part III

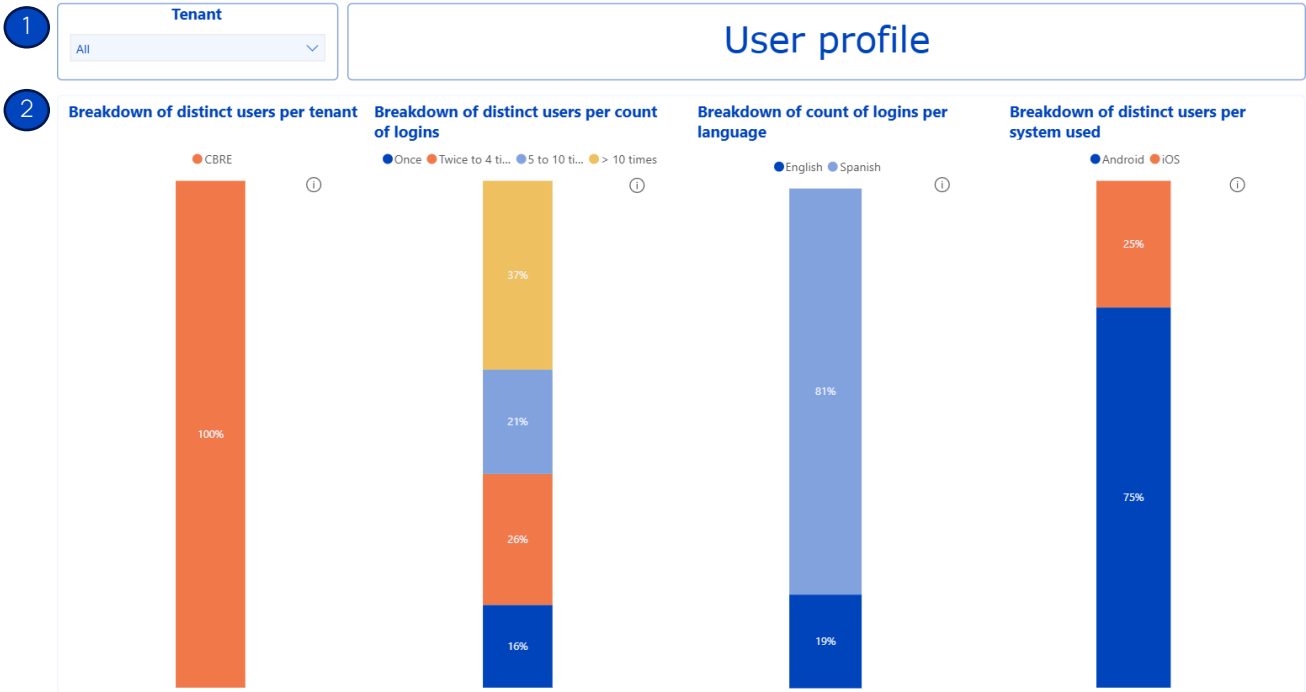
User engagement



1. Select tenants from a dropdown menu for detailed analysis
2. Option to display data based on either the duration of visits or the number of visits
3. Average users : percentage of total occupiers using the app compared to the previous month
4. Average monthly time spent per user: average time in minutes that users spend on the app each month
5. Top 10 most used screens (by duration or count of visits): bar graph showing the top 10 screens or features used, measured by either the total duration or the number of visits
6. Number of new and returning users over time : bar graph displaying the number of new users and returning users over a selected period.

Building app – Part IV

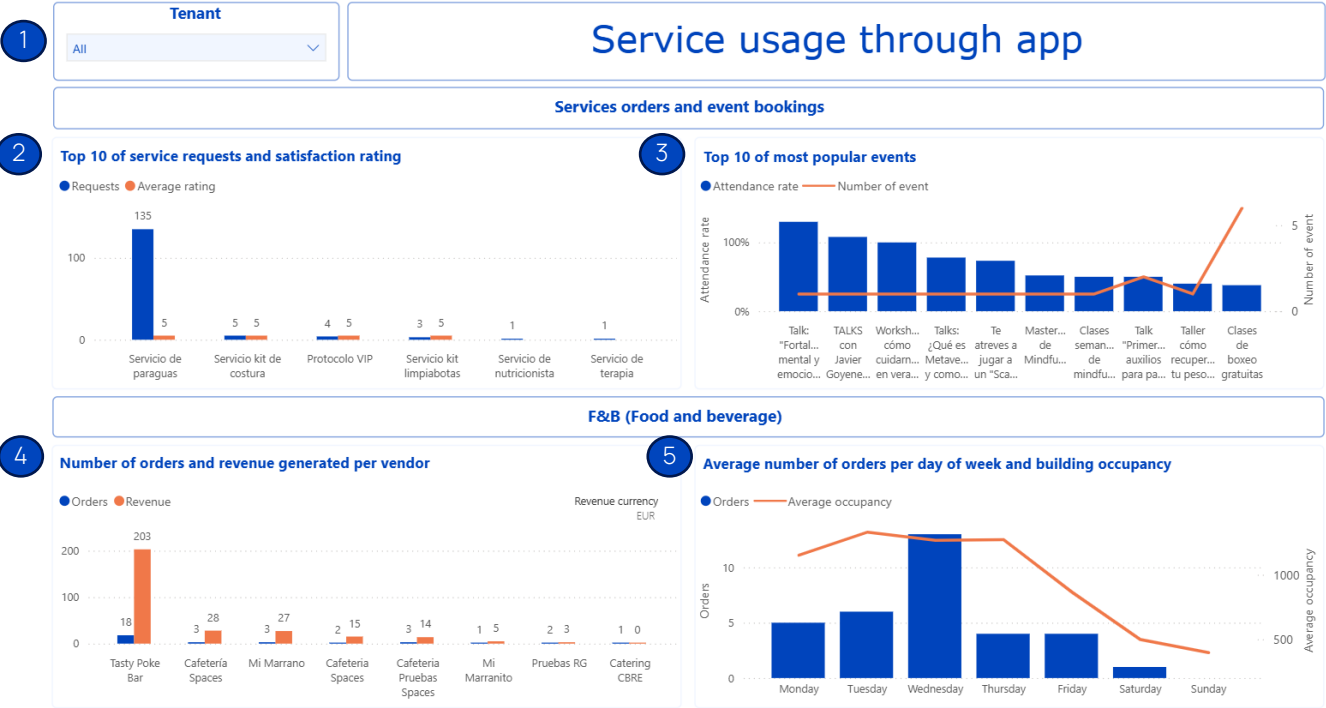
User profile



1. Select tenants from a dropdown menu for detailed analysis
2. Vertical bar graphs :
 - Breakdown of distinct users per tenant : shows the number of distinct users per tenant over the selected period
 - Breakdown of distinct users per count of logins : shows the number of distinct users based on their login frequency over the selected period
 - Breakdown of count of logins per language : shows the number of logins categorized by the language used over the selected period
 - Breakdown of distinct users per system used : shows the number of distinct users categorized by the operating system used over the selected period

Building app – Part V

Service usage through app



1. Select tenants from a dropdown menu for detailed analysis
2. Service orders and event bookings:
 - Top 10 service requests and satisfaction rating: bar graph showing the top 10 service requests and their corresponding satisfaction ratings
 - Top 10 most popular events: bar graph showing the most popular events, with a line indicating the trend in the number of events
3. F&B (food and beverage):
 - Number of orders and revenue generated per vendor: bar graph showing the number of orders and revenue generated for each vendor
 - Average number of orders per day of the week and building occupancy: bar graph showing the average number of orders per day of the week, with a line indicating average building occupancy

Glossary and KPIs

See the definitions for the terms and abbreviations, and the ways KPIs are computed on the platform



Glossary

AI	Artificial intelligence is intelligence demonstrated by machines, as opposed to the natural intelligence displayed by humans.
Business hours	The designated operational hours are from 08:00 to 20:00.
CO2	Carbon dioxide (chemical formula CO₂) is a chemical compound occurring as a colorless gas. The indoor CO₂ thresholds in EU standard EN 16798-1 are set for 1000 ppm or 550 ppm above outdoors, 1250 ppm or 800 ppm above outdoors, and 1800 ppm or 1350 ppm above outdoors, for categories 1, 2, and 3 respectively. CO₂ is the main greenhouse gas causing the global climate crisis
CRREM Pathway	Carbon Risk Real Estate Monitor (CRREM) is a set of pathways for the real estate industry in the EU, which aim is to provide clear benchmarks for the achievement of the goal of limiting global warming to 1.5 degrees Celsius by 2050.
Dynamic scale/fixed scale (heatmap)	Dynamic Scale : Each variable is assigned its own color, with color intensity varying continuously between the highest and lowest values. This reflects the full range of data. Fixed Scale : Each color represents a specific range of values (e.g., 0-20%, 20-40%, etc.). This approach uses predefined intervals to categorize the data, making it easier to compare against fixed benchmarks.
ESG	Environmental, social, and corporate governance (ESG) is an approach to evaluating the extent to which a corporation works on behalf of social goals that go beyond the role of a corporation to maximize shareholder profits.
ERV	The current rent at which space within a property could reasonably be expected to be let, given current market conditions.
Footfall	Number of people visiting a store, commercial or common area at a given time.
GHG	A greenhouse gas (GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor (H ₂ O), carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), and ozone (O ₃).
Legal capacity	Maximum number of people, allowed to occupy the building at the same time according to asset documentation legislation.
PM 2.5	Atmospheric aerosol particles/particulate matter (PM) are microscopic particles of solid or liquid matter, suspended in the air. 2.5 refers to the size – diameter of 2.5 micrometers or less. WELL certification provides thresholds for the indoor PM 2.5 levels at 10, 12, 15, and 25 µg/m³ for categories 1, 2, 3, and 4 respectively
VOC	Volatile Organic Compounds can be found in the air and are responsible for scents, perfumes, and pollutants. Certain VOCs can cause harm to human health. The indoor VOC thresholds in EU standard EN 16798-1 are set for 300 µg/m³ and 1000 µg/m³ for categories 1 and 2 respectively.

Occupancy

Daily occupancy	• Every 15 mins, occupiers from all the tenants' zones are summed up (all sensors included). • KPI: Maximum value registered over the day
Hourly occupancy	• Every 15mins, occupiers from all the tenants' zones are summed up. Values are then grouped by 1-hour time slots. • KPI for a specific slot: Average of all the values for this slot from all the days included in the period selected (weekends excluded).
Average occupancy	• Average of all daily occupancy values (cf. above) over the period selected (weekends excluded).
Average occupancy rate	• Average occupancy value (cf. above), divided by the capacity of the building (sum of the capacity of all tenants' zones)
Average density	• Sum of tenants' areas (in sqm), divided by average occupancy value (cf. above) over the period selected (weekends excluded).
Space use intensity	• Every 15 mins, occupiers from all the tenants' zones are summed up. • KPI: The average of all 15-min values over business hours (8:00 - 20:00) is computed for each tenant.

Air quality

CO2 / PM 2.5 / VOC comfort ratios	• Every 15 minutes, the level of CO2/PM 2.5/VOC is measured by building sensors. For each type of pollutant, a comfort range was defined as the recommended values between which comfort conditions are ensured. • CO2 and VOC comfort ratios are based on the EU standard EN 16798-1, PM 2.5 comfort ratio relates to WELL certification. • For each sensor, the comfort ratio is: (Number of 15-minute slots over the period selected where the pollutant value measures are inside the comfort ratio, divided by the total number of 15-minute slots over the period selected)*100 • KPI: Average of the comfort ratios of all sensors located in the zone selected (tenants, floors, assets) • In the cards, for each type of pollutant, the level of comfort is split into three ranges: - o green = recommended range; - o yellow = medium comfort conditions; - o red = bad comfort conditions (cf. Glossary)
Hourly CO2 / PM 2.5 / VOC concentration	• Every 15 minutes, the level of CO2/PM 2.5/VOC is measured by building sensors. Values are grouped and summed per 1-hour time slot. • KPI for a specific time slot: Average of all the values of this time slot from all the days included in the period selected
Daily average of discomfort	• KPI: Time of the day over the period selected with the average lowest proportion of values in the recommended range (green)

Comfort

Daily temperature/humidity/brightness	• Every 15 minutes, temperature (in °C), air humidity (in %), and brightness (in lux or %) are measured by building sensors. • KPI (for temperature): Average of all the 15-min slots measures of all sensors located in the zone selected (tenants, floors, assets) over the whole day
Average temperature/humidity/brightness	• Average of all the daily temperature (humidity or brightness) values (cf. above) over the period selected (weekends excluded)
Temperature/humidity/brightness comfort ratio	• Every 15mins, temperature (in °C), air humidity (in %), and brightness (in lux or %) are measured by building sensors. For each type of property (temperature/humidity/brightness), a comfort range was defined as the recommended values between which comfort conditions are ensured (cf. glossary). • For each sensor, the comfort ratio is: (Number of 15-minute slots over the period selected where the property value measures are inside the comfort ratio divided by the total number of 15-minute slots over the period selected) multiplied by 100 • KPI: Average of the comfort ratios of all sensors located in the zone selected (tenants, floors, assets)
Hourly temperature/humidity/brightness	• Every 15 minutes, temperature (in °C), air humidity (in %), and brightness (in lux or %) are measured by building sensors. Values are grouped and summed per 1-hour time slot. • KPI for a specific time slot and property: Average of all the property values for this time slot from all the days included in the period selected
Daily temperature/humidity/brightness level	• For each property (temperature/humidity/brightness), the level of comfort is split into three ranges: ◦ green = recommended range; ◦ yellow = medium comfort conditions; ◦ red = bad comfort conditions (cf. Glossary) • KPI for a specific range: Number of all the 15-minute time slots values inside the range divided by the total number of 15mins time slots over the whole day multiplied by 100
Hourly temperature/humidity/brightness level	• For each property (temperature/humidity/brightness), the level of comfort is split into three ranges: • green = recommended range; • yellow = medium comfort conditions; • red = bad comfort conditions (cf. Glossary) • KPI for a specific range of a given 15min slot: Number of all the values in (or equal) this range divided by the total number of 15mins time slots over the period selected

Electricity consumption

Total electricity consumption	• Every 15mins, consumption from all the building electricity meters is summed up. This includes all the uses of consumption (A/C, elevators, lighting, power outlets) from the office, technical and common zones. • KPI: Sum of all the 15-min values over the period selected (weekends included)
Hourly electricity consumption	• Consumption is summed up per 1-hour time slot. • KPI for a 1-hour slot: Average of all the values for this slot from all the days included in the period selected (weekends included)
Electricity consumption (per m ²)	• Total electricity consumption (cf. above) over the period selected, divided by the sum of the areas of the measured zones (offices, technical rooms, and common areas).
Electricity consumption (per occupier)	• Total electricity consumption (cf. above) over the period selected (weekends included), divided by the average occupancy of all the zones measured over the same period.
Average monthly electricity consumption	• Total electricity consumption over the period selected, divided by the number of days in this period, multiplied by 30.33 (number of days in a month, on average).
Total CO2 emissions	• Total electricity consumption (cf. above) over the period selected, multiplied by the emissions factor to convert consumption (in kWh) into Greenhouse gas emissions (CO2e).
CO2 emissions per occupier	• Total emissions (cf. above) over the period selected, divided by the average occupancy of the zones measured over the same period.
Consumption intensity (kWh/person-hour)	• Every 15 mins, occupiers and electricity from all the tenants' zones are summed up. • KPI: For each tenant, the average of all the 15-min consumption values is divided by the average of the 15-min occupancy values over business hours (8:00 - 20:00).
Hourly electricity consumption per occupier	• For each 2-hour time slot and day of the week, hourly electricity consumption (cf. above) is divided by the hourly occupancy (cf. above).

Building application

The system identifies distinct users daily by summing up unique IDs of those who visited the app through any screen at least once during the day.

- *Computation:* The Weekly Users KPI is derived by summing all the daily values within a given week (Monday to Sunday).
- *NB:* "Distinct" users ensure that if a user visits the app multiple times in a day, they are counted only once.

Logins from all users are recorded throughout the day, timestamped and grouped into 1-hour time slots.

- *Computation:* The Average Logins per Time of Day KPI is the average of all logins within a specific time slot, considering all days within the selected period (excluding weekends).
- *NB:* Unlike the Weekly Users KPI, logins are considered instead of distinct users. If a user logs in multiple times within a given time slot, each login is counted.

- *Computation:* Each user has a unique ID. The number of distinct users are computed daily. KPI is then calculated by summing these daily values over the selected period (including weekends) and dividing by the sum of all occupiers over the same period.
- *NB:* "Distinct" users are counted once per day, regardless of multiple visits. The ratio is calculated to provide insights into user engagement relative to the total occupiers.

A new subscriber is identified as any person who registers on the app for the first time during a specified period.

- *Computation:* The Average Monthly Subscription Rate of Average Occupiers is determined by summing all new subscribers over the selected period. This value is then divided by the average occupancy of the building, as indicated by the Occupancy KPI, for the same timeframe.
- *NB:* This KPI offers a perspective on the rate of new subscriptions in relation to the average building occupancy, providing valuable insights into the growth dynamics of your user base.

A session is considered the duration starting from when a user opens the application on any screen until they exit.

- *Computation:* The Average Time Spent per User on the App is computed by summing the durations of all recorded sessions over the selected period. This sum is then divided by the total number of distinct users within the same timeframe.
- *NB:* "Distinct" users ensure that if a user visits the app multiple times in a day, their contribution to the average time spent is considered only once.

- *Computation:* The Average Active User Rate is determined by summing all distinct users over the selected period. This sum is then divided by the cumulative number of subscribers.

- *NB:* "Distinct" users ensure that each user is counted only once, even if they visit the app multiple times in a day.

- *Computation:* For each tenant, the average number of users of office occupiers is computed, as indicated by the KPI "Average Users of Total Occupiers." The Most Active Tenant KPI refers to the tenant with the highest value.

- *Computation:* Each screen is assigned a unique ID, and user visits to these screens are recorded. For each screen ID, the total number of visits is divided by the overall number of visits on all screens over the selected period. The Most Visited Screen KPI is assigned to the screen ID with the highest value.

Building application

Cumulative subscriptions

A new subscriber is identified as any person who registers on the app for the first time during a specified period.

- Computation; The Cumulative Subscriptions KPI is the sum of all new subscribers from the first day of app launch until the end of the specified period.

Cumulative subscription rate of total capacity

- Computation: The Cumulative Subscription Rate of Total Capacity is computed by dividing the cumulative subscriptions (as defined above) by the building capacity (sum of all tenant zones capacities) and multiplying the result by 100.

Tenant application

Weekly new subscribers Weekly existing subscribers	• KPI 1: Sum of all people who registered on the app for the first time in a given week N (Monday - Sunday) • KPI 2: Sum of all people who registered on the app for the first time in week N-1 and before
Top 10 screen activities by duration Top 10 screen activities by the count of visits	• Each screen has a unique ID. Anytime a user logs into the app, the screens IDs visited are recorded. • For each screen, the following metrics are computed over the period: ◦ Total number of visits ◦ Total duration (the sum of the duration of each session) • KPI: Top 10 screen IDs with the highest duration/count of visits value
Weekly new users Weekly returning users	• Each user has a unique ID. Every day, the number of distinct users (i.e: the sum of unique IDs who visited the app - any screen - at least once over the day) is computed. • KPI 1: Sum of all the distinct persons who use the app for the first time on a given week N (Monday - Sunday) • KPI 2: Sum of all the distinct persons who use the app on a given week N (Monday - Sunday) minus the sum of all the new users of the same given week
Breakdown of distinct users per tenant	• KPI for a specific tenant: total number of distinct users of this given tenant, divided by the total number of distinct users (all tenants included), multiplied by 100, over the period selected. • NB: "Distinct" users means that if user_1 visited the app twice over the day, he will still be counted as 1
Breakdown of distinct users per count of logins	• Over the period selected, distinct users are recorded. For those users, the number of logins over the selected month is counted. Then users are grouped into frequency ranges described above. • The frequency of logins into 4 ranges: ◦ Once a month ◦ 2 to 4 times a month ◦ 5 to 10 times a month ◦ > 10 times a month • KPI for a specific frequency range: total number of distinct users visiting the app as often as described in this given frequency range, divided by the total number of distinct users over the period selected (all ranges)
Breakdown of logins per languages	• KPI for a specific language: total number of visits on the app with this given language, divided by the total number of visits over the period selected. • NB: Here, logins are taken into consideration. ie: If user_1 visited the app twice at 2:15 pm and 2:45 pm, both visits are counted.
Breakdown of distinct users per system used	• KPI for a specific system: total number of distinct users of this given system (IOS and Android, divided by the total number of distinct users (all systems included), multiplied by 100, over the period selected. • NB: "Distinct" users means that if user_1 visited the app twice over the day, he will still be counted as 1



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User manual

Property managers
