

Silvair

Occupancy Monitoring

Description

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SILVAIR

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1. Introduction


The Silvair Occupancy Monitoring service uses occupancy sensor data collected by a gateway to calculate the occupancy of a zone over a 15-minute period. The occupancy data can be visualized in the Silvair web app or downloaded via API.

The occupancy of the zone is calculated based on the collection of the sensor state over a 15-minute period. In zones with more than one occupancy sensor, the zone is considered to be occupied if any one of the sensors in the zone reports a presence.

To start using occupancy monitoring in your project, contact your Silvair account manager for more information.

For the service to work correctly, the following are necessary:

- The project has been commissioned using the Silvair Commissioning tools.
- At least one Silvair Gateway has been added to the project.

 Occupancy data will be available only for zones that contain at least one occupancy sensor.

2. Occupancy calculation

Occupancy for a zone or area is calculated on the basis of the sensor status reported each minute by each sensor in a zone or area. The sensor statuses are sent to the Silvair cloud where they are aggregated over a 15-minute period to calculate the occupancy rate. If any sensor detects motion, then the whole zone or area is considered to be occupied (see example below for the calculation).

The occupancy data is aggregated over 15-minute periods and stored per zone and per area for a maximum of three months. If you require real-time data or more frequent sampling, use the Monitoring API.

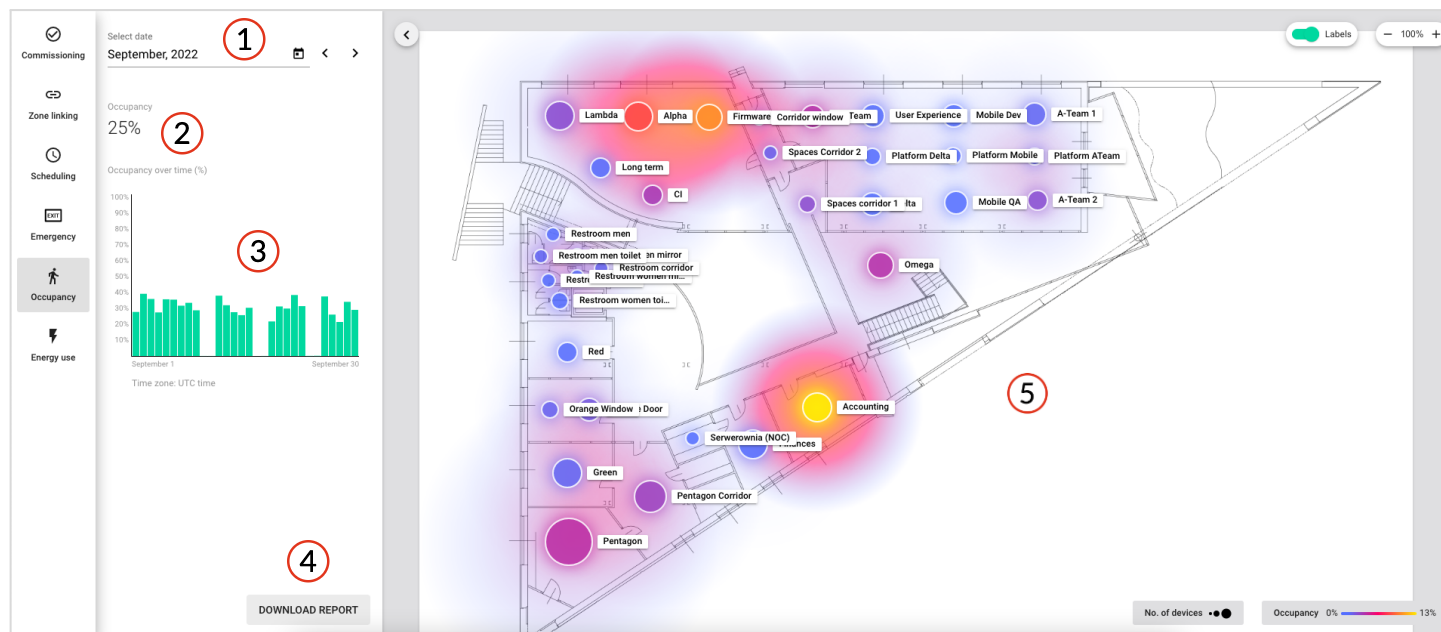
Example:

A zone contains three occupancy sensors that detect people three times during the 15-minute period.

Minute	Sensor 1	Sensor 2	Sensor 3	Zone status
1	ON	ON	ON	OCCUPIED
2	ON	ON	ON	OCCUPIED
3	ON	ON	OFF	OCCUPIED
4	ON	OFF	OFF	OCCUPIED
5	ON	OFF	OFF	OCCUPIED
6	OFF	OFF	OFF	UNOCCUPIED
7	OFF	OFF	OFF	UNOCCUPIED
8	OFF	OFF	OFF	UNOCCUPIED
9	OFF	OFF	OFF	UNOCCUPIED
10	OFF	OFF	OFF	UNOCCUPIED
11	ON	OFF	OFF	OCCUPIED
12	ON	ON	OFF	OCCUPIED
13	OFF	OFF	ON	OCCUPIED
14	OFF	OFF	OFF	UNOCCUPIED
15	ON	OFF	OFF	OCCUPIED
Calculated occupancy for the zone:				60% (9/15)

3. Visualization

To view the occupancy report, open the [Silvair web app](#). Then, go to your project and area, and click **Occupancy**.



1. Date picker – selected month/day of your occupancy report.
2. Occupancy – average occupancy for the selected month/day in the area.
3. Bar chart – occupancy in the area per day in the selected month, or per 15-minute time period in the selected day.
4. Download report – downloads a CSV file with occupancy data aggregated over 15-minute time periods for each zone in the project over the calendar month.
5. Heatmap – average occupancy for the selected month/day for each zone in the area. The larger the circle, the more devices are in the zone. The color indicates the occupancy level.

i To see the number of devices and average occupancy per device, move the cursor over the zone icon.

i The CSV file contains only those time periods where occupancy was detected. If there was no occupancy for some time period, the file contains no data for that period.

4. Frequently asked questions

The zone was occupied and then a power failure occurred. After the power is restored, will the occupancy monitoring data show that there was occupancy during the failure?

The data will show zero occupancy for that period. It will not show that the power was lost.

If the gateway did not send the occupancy data to the cloud before a power failure, is that data lost or is it retained in the gateway memory and sent to the cloud when power is restored?

There is no mechanism to store any data on the gateway, so data is lost on power loss.

If the gateway stops working (fails or is unplugged) but the devices are working, will all the occupancy data be lost? That is, isn't data stored in the devices? After the gateway is powered will the data show that there was occupancy while the gateway was off?

If the gateway stops working, occupancy data for that period is lost, even if the sensors are still working.

If there is a problem with the internet connection, will the gateway store the occupancy data locally and send it to the cloud when the connection is restored?

The gateway does not store any occupancy data locally, so if the internet connection goes down the data will be lost.

5. Document revisions

Revision	Date	Editor	Changes
2.0	25 October 2022	ES, GM	Added that occupancy can be shown for a specific day per 15-minute time period. Redrafted the document. Implemented template v. 1.2.
1.0	26 January 2022	ES	Initial release.

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