SIEMENS

Data Sheet

Data Visualizer

Building X

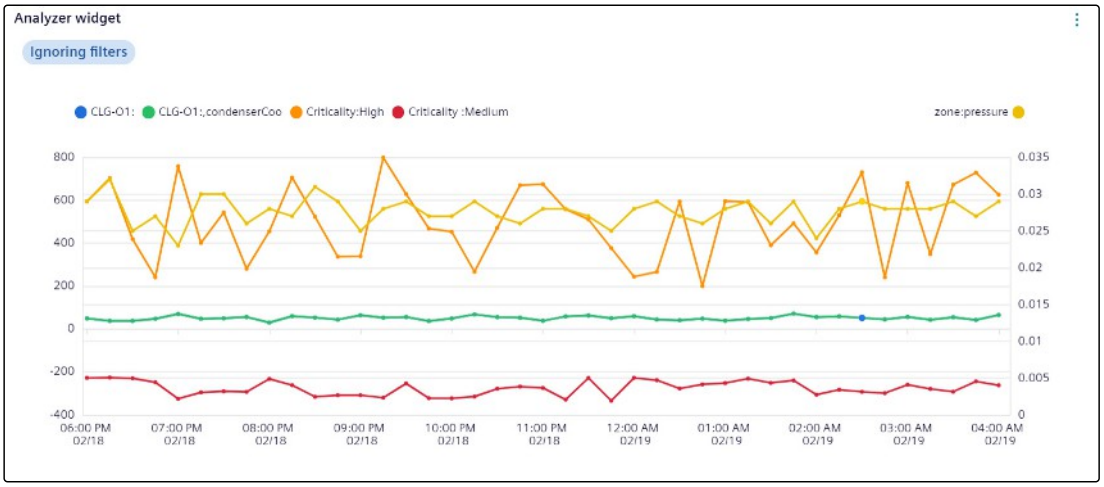
Data Visualizer provides customizable dashboard applications that visualizes data & KPIs of building domains through cross domain visualizations, into one platform. It also provides easy additional data analysis capabilities using various widgets, thereby facilitating tangible insights.

- Customizable dashboards
- Visual examination of data from multiple domains through multiple widgets
- KPI widget for visual comparison
- Visual investigation of Warning and Faults, from single asset rule pair

buildingx.siemens.com

HVAC Time Series Analysis Using the Analyzer Widget

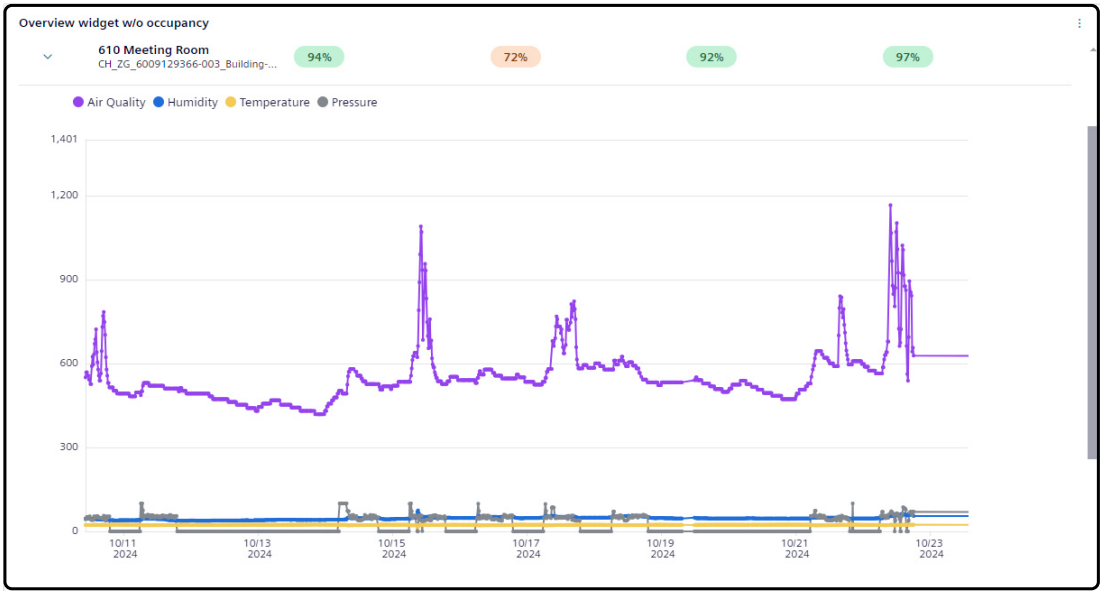
Data Visualizer exposes the ability for users to visually create and examine cross domain analyses through the analyzer widget. Using the global filters, widgets can be reused for a different location and date range.



KPI Visualization Through Overview Widget

The overview widget facilitates comparison between units, rooms or even buildings, through the creation of KPIs using upper and lower limits and automatically applying those to the intended building for a comparative analysis.

The KPIs are always calculated based on the percentage of times the rooms or locations were within the lower and upper limits.

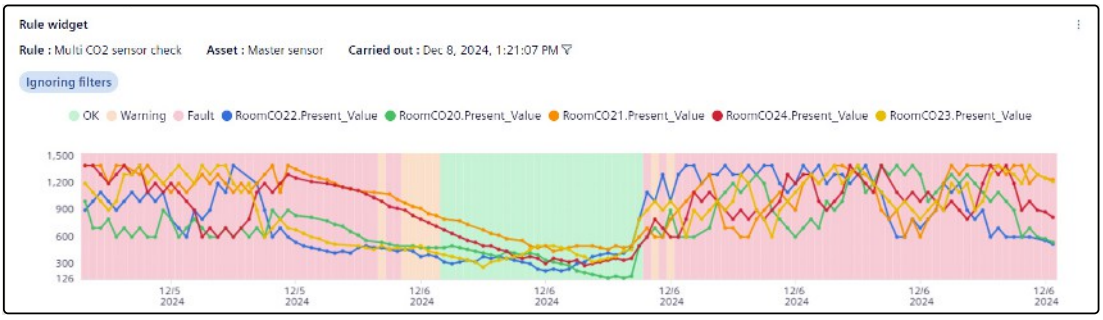


Occupancy support is also available for this widget as certain KPIs depend heavily on the place being occupied or not, which is also fully configurable. Therefore, values are also integrated that come in from occupancy sensors, which allows the user to see more realistic KPIs factoring in space occupancy. This way, accurate KPIs are calculated by excluding unoccupied times from calculation process and this would lead to more reliable data analysis and decision-making based on the KPI metrics.

There is also support for users to be able to plot the overview widget with multiple thresholds limits for different rooms or pieces of equipment, as certain parameters cannot always have the same ranges and they vary based on location or type. The users can select one range per room or equipment and assign a range, so that each location or room can have its own specific range of acceptable values.

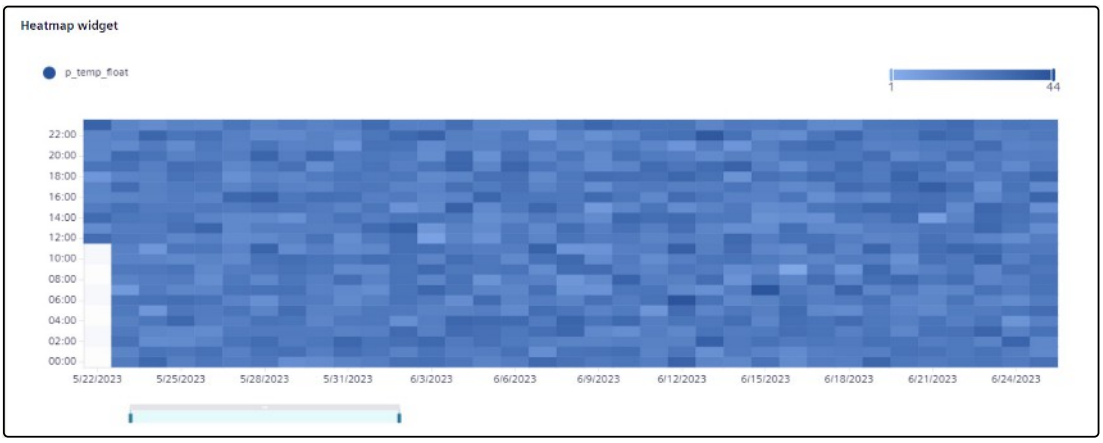
Rules Visualizations Using Rules widget

The rules widget provides an easy way to create a single asset rule visualization showing multiple events along with multiple data points for pre-created rules on the Rules application. It shows five events, OK, Warning, Fault, Inconsistent and Undetermined, for which it has a default color scheme that can be reconfigured in the Rules widget. It also allows users better visualization by providing double Y-axis for data points with varying ranges.



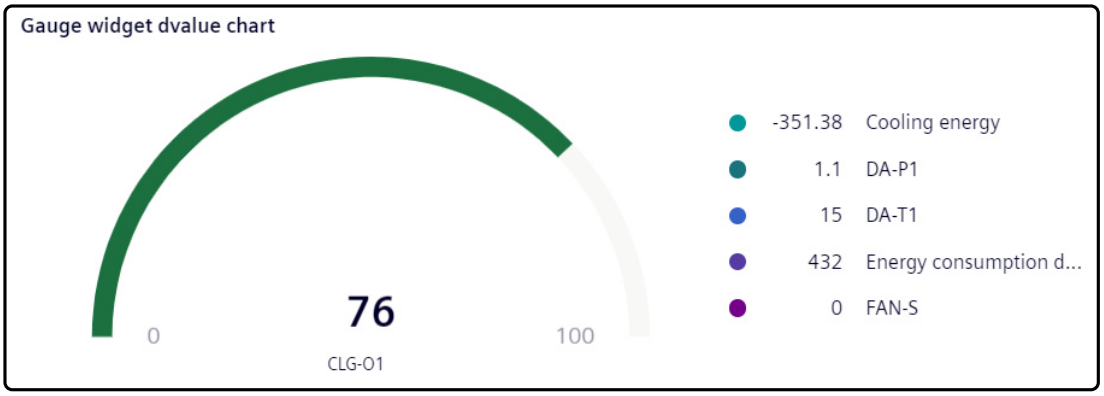
Visualization of Multiple Values Using Heatmap Widget

The heatmap widget provides a way of examining a range of values over a time period for a single data point or equipment. The widget automatically takes the lower and upper values to configure its view, but this can also be manually entered.

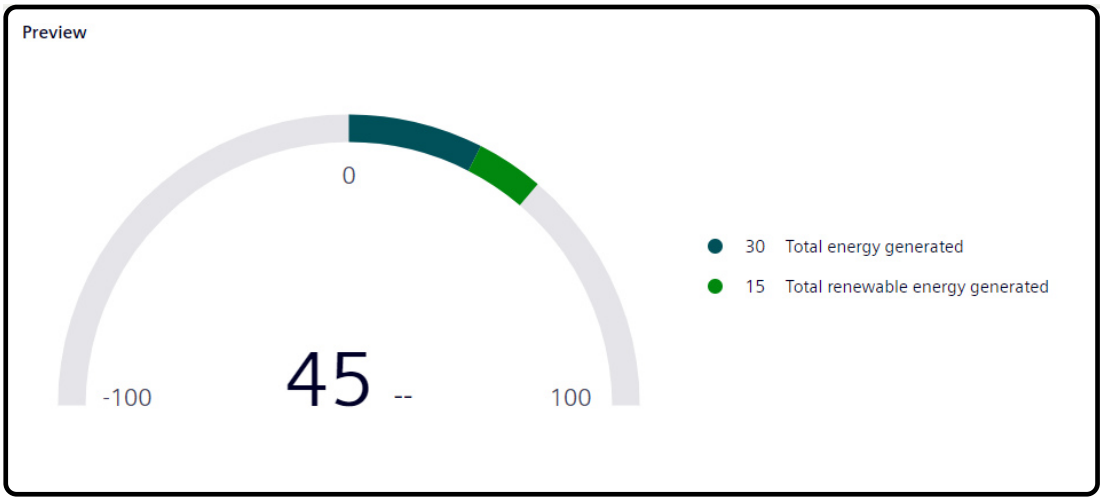


Visualization of Most Recent Value but Multiple Data Points Using Gauge Widget

The gauge widget is a way of showing the most recent value for multiple data points. For a selected single data point different sections of the gauge can be color-coded to represent various levels of the data, such as low (red), medium (yellow), and high (green). These colors are also changeable by the user. On the side the user can also select other data points and configure a color as well.

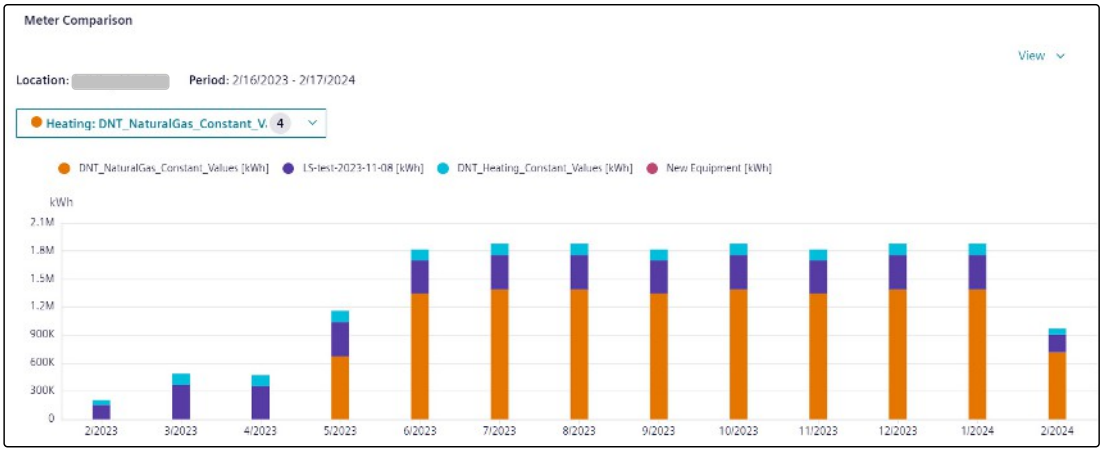


Along with visualizing a single data point on the gauge widget, there is a way of showing the most recent value for two data points on the gauge while also supporting a negative scale. The user can configure a color as well.



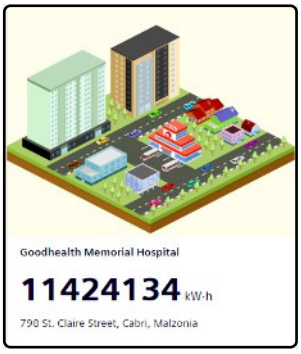
Meter Comparison widget

The meter comparison widget enables consumption analysis on the meter level. The consumption can be displayed as a stacked bar chart or line chart.



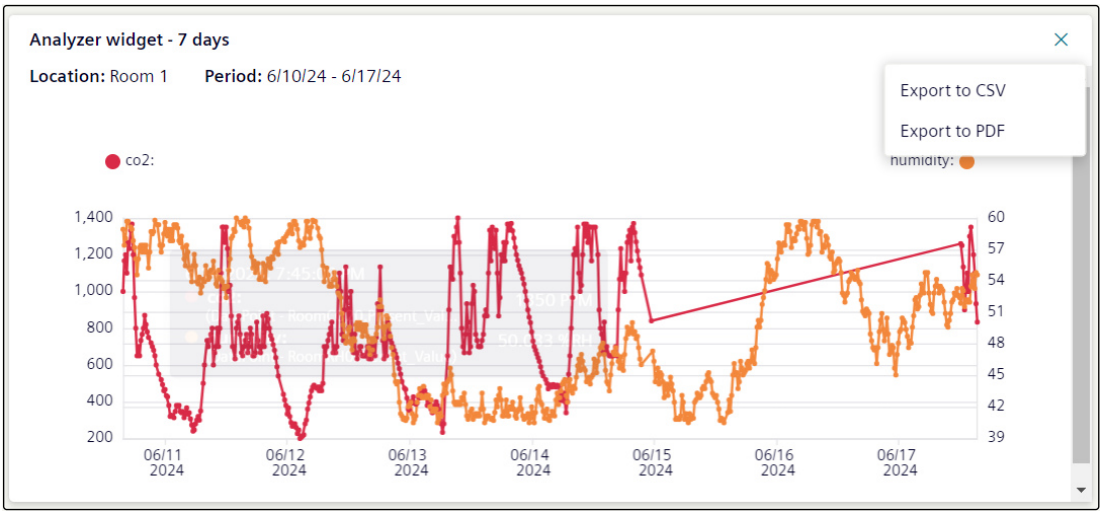
Info Card Widget

The info card widget allows the user to configure a widget with customized data, for example image, text, and live data points for the effective visual communication.



Data Download

All widgets in Data Visualizer can be downloaded in the form of CSV files. The three dots on the top right of the widget offer easy access to the data.

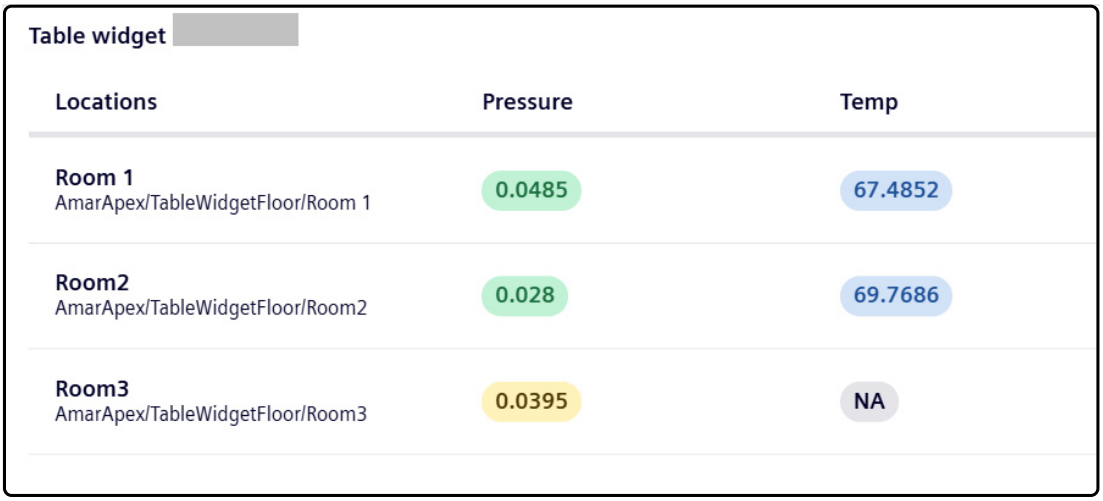


In the dashboard view, on the top left, users can download their whole dashboards in PDF format, with one widget rendered per page. These downloads can be used as reports.

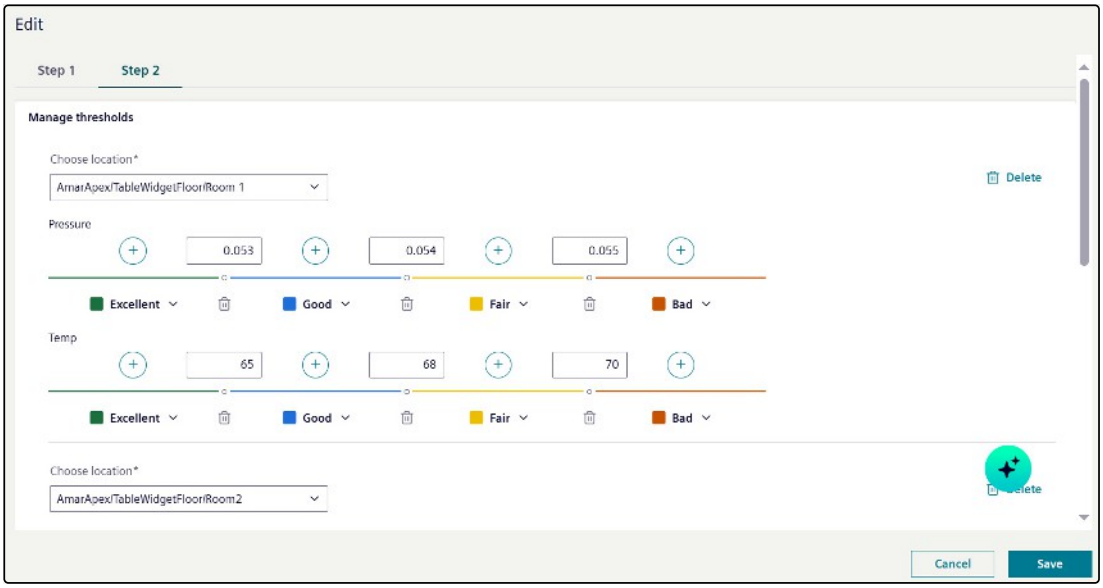
Table Widget

The table widget displays a raw data or the last COV data, in the form of a table with the ability to set thresholds and color code the values to show intensity. The color code depends on threshold limits which are configurable by the user in the second step.

The screen below shows how the widget looks after it is fully configured.



In this widget we introduce a multiple threshold configurator allowing the user to configure thresholds ranges anywhere between 1 to 5.



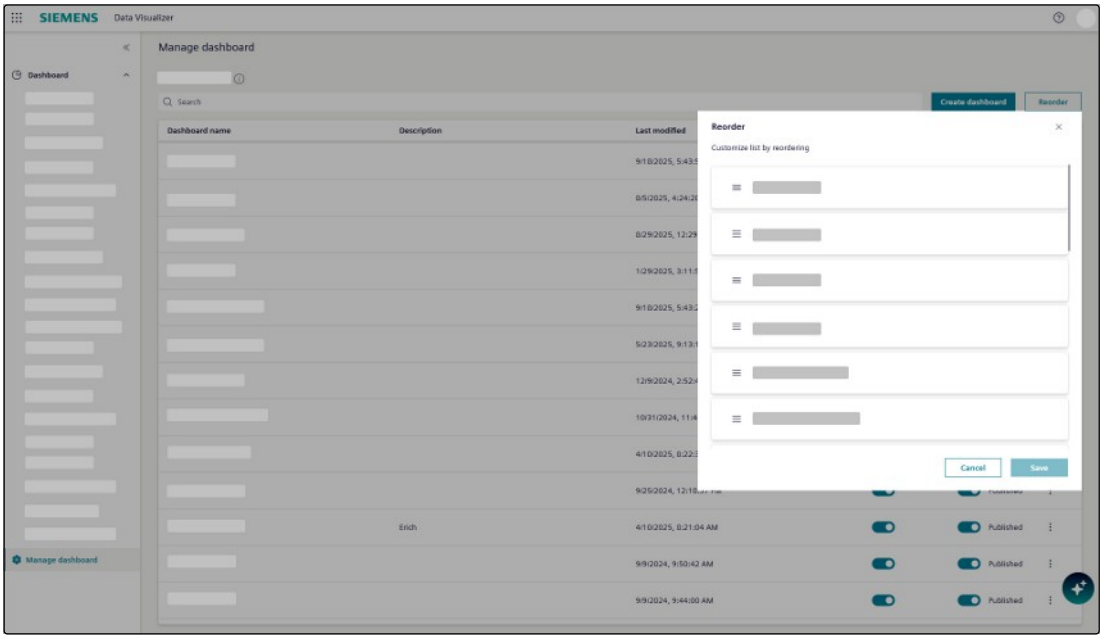
Widget and Dashboard Limits

Users can create up to 50 dashboards. In each dashboard, users can create 30 widget. Along with that, users can add up to 10 data points on the Analyzer widget

Dashboard Management

Dashboards can be created, modified and deleted. Each dashboard provides a date filter that may or may not affect the widgets, and using them widgets could be reused for different locations and dates.

The DV Advanced users can change the order of the dashboards, make them invisible or publish them, and also switch on or switch off the date filter all on one screen. Users can see the last modified date.



Kiosk Mode

Kiosk mode allows users who have a special DV Kiosk role, to launch Data Visualizer in Kiosk mode. This mode launches the current Data Visualizer dashboard without the left panel and shows only the necessary information in the top panel. The Kiosk mode allows for users to be logged in for 180 days.

Accounts Application

Ability to manage users with a role-based access control. New users can be invited to access the Cloud Service and given appropriate access rights via user groups. Users can log in with two-factor authentication and manage their user account themselves. Data can be logically grouped into partitions and given access via user groups.

Data Hosting and Data Usage

Hosts and processes personal and non-personal data in data centers located in Europe. For information regarding processing of personal data and locations Customer may refer to the Data Privacy Terms.

Devices Application

Ability to manage Connected Devices compatible with the Cloud Service.

Ask Building X

Ability to ask questions in different languages about Building X technical information, utilizing GenAI.

Subscription

The subscription plan depends on the agreement between Customer and Siemens.

1) Standard Subscription Plan if the customer purchases the subscription via the Siemens online store

	Data Visualizer
Functions	All
Subscription metric	per 100 data points per year (minimum 1 quantity per Connected Device)
Subscription term	Annually, auto-renewal
Billing term	Annually, payment in advance
Upscale	Effective immediately, pro-rated billing
Downscale/Cancellation	Effective with end of subscription term
Connected Devices	To be purchased separately
Permitted Users	Unlimited, Extended Use

The Data Visualizer subscription plan is the regular, scalable Offering for this Cloud Service. The subscription term is twelve (12) months with automatic renewal; the Cloud Service fee is paid in advance. The subscription plan can be upscaled at any time and Cloud Service fees for upscales are calculated on a pro-rated basis. The Customer can also scale down the

Cloud Service effective with the end of the current subscription term. The subscription fee will be adjusted for the upcoming billing term. The Cloud Service can be cancelled any time, effective with the end of the current subscription term.

The Data Visualizer subscription plan can be purchased in packages of 100 data points. At least one must be purchased per connected device, see list of connected devices. For example, if several buildings or locations are connected via 5 connected devices, then 5 times 100 data points are required. Another example, if the total number of data points from 2 connected devices does not exceed 200 points, then 2 times 100 data points are sufficient.

A data point is a discrete unit of information, e.g. a temperature sensor value.

Customer may purchase required Connected Devices separately.

Extended Use entitles Customer to authorize its Affiliates and third parties to access and use the Cloud Services in accordance with the rights set out in the Terms and Conditions.

2) Custom Subscription Plan

Any subscriptions that are not purchased via a Siemens online store are Custom Subscription Plans. Under a Custom Subscription Plan the details regarding functions, subscription metric, term, billing, up- and downscaling, Connected Devices as well as Permitted Users are set out in the agreement between the Customer and Siemens.

Prerequisites

Supported Connected Devices

The Cloud Service is currently compatible with commercially available Connected Devices. Connected Devices enable the Cloud Service to exchange data with the technical building infrastructure. A description of the available Connected Devices is provided below.

	List of Supported Connected Devices
SIEMENS: Connect X200	The Connect X200 edge gateway is powered with DC 24V or AC 24V and may require an enclosure. The Connect X200 includes embedded software (for example, firmware and factory installed applications collectively referenced herein as Software) to supply building data to this Cloud Service.
SIEMENS: Connect X300	The Connect X300 edge gateway is powered with DC 24V and may require an enclosure. The Connect X300 includes embedded software (for example, firmware and factory installed applications collectively referenced herein as Software) to supply building data to this Cloud Service.
SIEMENS: Connect X500	The Connect X500 edge gateway is powered with DC 24V and may require an enclosure. The Connect X500 includes embedded software (for example, firmware and factory installed applications collectively referenced herein as Software) to supply building data to this Cloud Service.
SIEMENS: Connect Software	Connect Software edge gateway is running on Windows 10 or Windows 11 Hyper-V and requires computer hardware. Connect Software includes multiple software applications collectively referenced herein as Software to supply building equipment data to this Cloud Service.
SIEMENS: Desigo CC	Desigo CC software product is running on Windows computer hardware. The supported software version is Desigo CC V6 or higher. Desigo CC includes multiple software extensions collectively referenced herein as Software to supply building data to this Cloud Service.
SIEMENS: Desigo PXC 4/5/7	Desigo PXC4/5/7 hardware is powered with AC 24V. The supported hardware devices for this Cloud Service are PXC4-2.E16S, PXC4-2.E16, PXC5.E24, PXC7.E400S/M/L and PXC5.E003 with firmware version V02.21.194.25 or higher.

	List of Supported Connected Devices
SIEMENS: Desigo Optic F200	Desigo Optic hosted on CFG3.F200 hardware is powered with AC 24V. The supported software version is V5.1.7.x or higher to connect to this Cloud Service.
SIEMENS: Desigo SLX (Niagara Framework)	Desigo SLX / Niagara Framework® running as Supervisor on a PC or JACE® is supported for this Cloud Service. The supported Niagara versions are 4.14 and 4.15. The Building X Connector for Niagara™ must be deployed on the Niagara Framework® to supply building data to this Cloud Service. The Tridium EULA is applicable, see https://www.tridium.com/us/en/eula. Niagara FIPS mode and web proxy configuration are not supported.

To use the Cloud Service, a Connected Device must be installed on site, fully operational and connected to the Internet. The Customer is responsible for the provision of the Connected Device on site and all associated costs for the provision of the Cloud Service in accordance with the associated documentation for the Connected Device.

Supported Third-Party Software Connectivity

The Cloud Service is currently compatible with commercially available Third-Party Software. Third-Party Software Connectivity enable the Cloud Service to exchange data with Third-Party Software. A description of the available Third-Party Software connectivity is provided below.

	List of Supported Third-Party Software
Software Specific connectors	• CSV & PDF export

The customer is responsible for the Third-Party Software at the site and all associated costs for the provision of the cloud service in accordance with the associated documentation for the Third-Party Software.

Web browser and Viewing Devices

Chrome is recommended to use the Cloud Service, but other standard browsers might also serve this function. Screen resolution of 1920x1080 pixels or higher is recommended for best user experience.

Internet Connection

The bandwidth of Customer's internet connection determines the performance of the Cloud Service.

Ordering

To order a subscription plan and connected devices, Customer must request a quote from its Siemens sales representative.

Product Documentation

1) Product Documentation under a Standard Subscription Plan

General Contractual Documents	Links
Building X - Data Visualizer Data Sheet	www.siemens.com/buildingx/data-sheet/data-visualizer
Supplemental Terms for Buildings	www.siemens.com/buildingx/data-sheet/supplemental-terms
General Software Terms and Cloud Supplemental Terms	https://www.siemens.com/si/cloud/terms
Base Terms International	https://www.siemens.com/si/cloud/terms

General Contractual Documents	Links
Siemens Acceptable Use Policy	https://www.siemens.com/si/cloud/terms
Minimum Terms	www.siemens.com/buildingx/data-sheet/minimum-terms
Data Privacy Terms	https://www.siemens.com/dpt/si
Data Privacy Terms Annexes Building X	https://www.siemens.com/dpt/si
EU Data Act	https://www.siemens.com/buildingx/terms

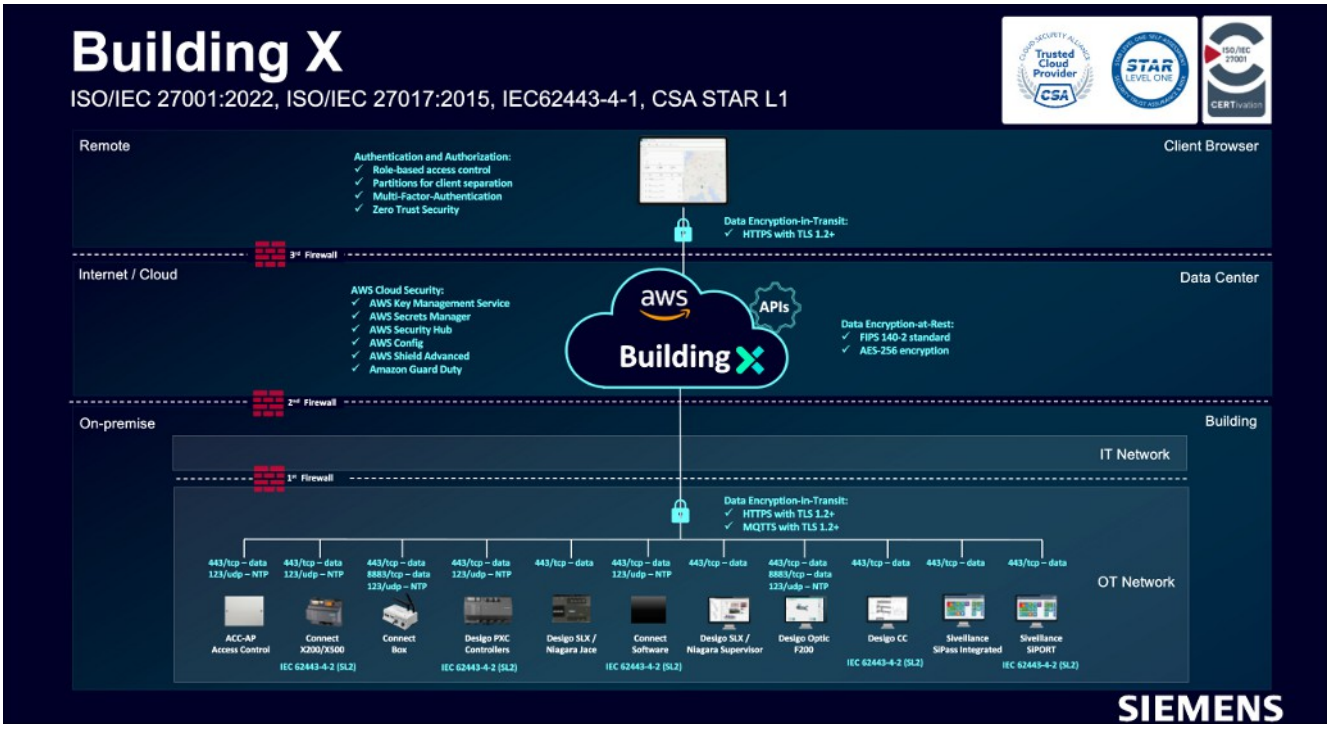
2) Product Documentation under a Custom Subscription Plan

The contractual documents and the Product Documentation are set out in Siemens' offer to the Customer.

3) Technical Documents

Technical Documentation	Link
Building X - Online help	www.siemens.com/buildingx/sid

Topology



The topology shows the superset of possibilities for connecting data to Building X. The options available for this Digital Service can be found in the list of supported connected devices and third-party software connectivity.

Data communication between the Connected Devices on-premises and the Cloud Service requires internet connectivity (to be provided by the Customer).

Specific Terms

High-Risk Use

Customer acknowledges and agrees that:

a) the Offerings are not designed to be used for the operation of or within a High-Risk System if the functioning of the High-Risk System is dependent on the proper functioning of the Offerings; and

b) the outcome from any processing of data through the use of the Offerings is beyond Siemens' control.

Service Level Agreement

Siemens shall use commercially reasonable efforts to make the Cloud Services available for a monthly uptime percentage of ninety-eight percent (98%).

Except for:

a) Planned downtime, agreed downtime, routine and emergency maintenance,
b) Cyberattacks,
c) the public, third party and/or customer’s internet and communications networks,
d) data, software, hardware, telecommunications, infrastructure, power, build-packs or networking equipment not provided by Siemens,
e) Customers and Users negligence or failure in using the Cloud Service and/or in not following the instructions of published documentation,
f) system configurations and platforms not supported by Siemens,
g) system administrations, action, commands and file transfers of Customer or User,
h) modifications or alterations not made by Siemens,
i) unauthorized access via Customer’s credentials and/or
j) any other failure outside of Siemens reasonable control.

Customer Support

Siemens offers helpdesk support. Customer may contact its local Siemens representative for support requests. Customers can also submit a support request online: https://www.siemens.com/support-request.

Issued by
Siemens Switzerland Ltd
Smart Infrastructure
Global Headquarters
Theilerstrasse 1a
CH-6300 Zug
+41 58 724 2424
www.siemens.com/buildingtechnologies

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