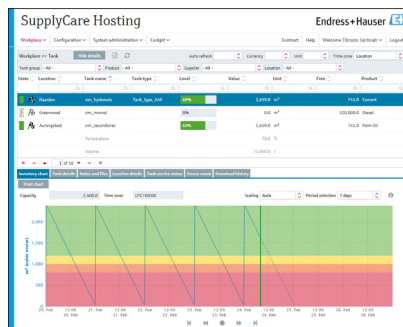


# Technical Information

## SupplyCare Hosting SCH30

Cloud-based inventory management platform for transparent information within the supply chain



### Application

SupplyCare Hosting is a web-based operating program for coordinating the flow of material and information along the supply chain, hosted by Endress+Hauser on a redundant server infrastructure. SupplyCare Hosting gives you complete transparency over inventory levels in tanks and silos, at all times and location-independent.

### Your benefits

- Improves demand planning and lowers your inventories
- Enables business processes such as Vendor and Supplier Managed Inventory (VMI, SMI)
- SupplyCare is the basis for your complete inventory management solution, scalable from inventory measurement and data acquisition to integration in your business processes
- IT infrastructure within the Endress+Hauser network with full support and redundant servers with state of the art IT security
- Complete inventory visibility, highly available anywhere within your enterprise, even on mobile devices saving you extra costs and investments in your company (servers, IT management, technical support, licenses for software)
- Based on Web Server technology, End Users can monitor the inventory flow via a web browser independently of the operating system
- Multi-Language User Interface with 10 languages supported allowing worldwide collaboration using the same platform. Furthermore, auto detection of language and settings based on the Browser setting.

## Table of contents

|   |           |
|---|-----------|
| <b>Description</b>                                    | <b>3</b>  |
| Application   | 3         |
| <b>Application packages</b>                           | <b>3</b>  |
| Monitoring  | 3         |
| Logistics   | 3         |
| <b>User Interface and functions</b>                   | <b>4</b>  |
| User Interface  | 4         |
| Main Page – Portal window                             | 4         |
| Monitoring tanks                                      | 5         |
| My tank view  | 6         |
| Editing events – Event workplace                      | 6         |
| Planning delivery and disposal – Scheduling workplace | 7         |
| Totaling and managing templates – Totaling workplace  | 8         |
| Viewing analysis – Analysis workplace                 | 8         |
| Viewing tank locations on the map – Map workplace     | 9         |
| <b>User Management</b>                                | <b>9</b>  |
| User roles  | 9         |
| <b>Configuration</b>                                  | <b>9</b>  |
| Configuration of master data                          | 9         |
| Configuration of reports                              | 9         |
| <b>Technical system overview</b>                      | <b>10</b> |
| Installation and scope of delivery                    | 10        |
| Redundancy and availability                           | 10        |
| Security  | 10        |
| System Overview                                       | 10        |
| Interface options                                     | 11        |
| Limit for data transmission from Gateways             | 11        |
| <b>System requirements</b>                            | <b>12</b> |
| Recommended Specifications                            | 12        |
| <b>Information required from customers</b>            | <b>12</b> |
| Information about application                         | 12        |
| <b>Registered trademarks</b>                          | <b>12</b> |
| Trademarks  | 12        |
| Legal notice concerning trademarks                    | 12        |
| <b>Additional documentation</b>                       | <b>13</b> |
| Operating Instructions                                | 13        |

## Description

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### Application

SupplyCare Hosting is a web-based operating program for coordinating the flow of material and information along the supply chain. With SupplyCare you have an actual, complete, and clearly displayed overview over levels and inventory, even in tanks and silos spread all over the world. Based on the measuring and transmission technology installed on site, the current inventories are recorded and transmitted to SupplyCare. Critical levels are clearly indicated and you can also receive active information on these levels if required. Calculated prognosis gives additional security for replenishment planning.

SupplyCare Hosting runs safely on a redundant application server hosted in the Cloud by Endress+Hauser. The operators and administrators operate the application via web browser from their desks.

### Indication of inventory data

The tank and silo inventories are regularly collected by SupplyCare. The current and previous inventory data can be indicated at any time.

### Data visualization

SupplyCare offers a centralized visualization of tank and silo inventories throughout the whole company. The combination of measurement and master data gives the user knowledge to manage the supply chain. Historical and current inventories are displayed in 3 diverse views adjustable per user.

### Forecasting

Through a forecast based on historical inventory consumption, the software supports the end user in planning of deliveries and disposals.

### Reporting


With SupplyCare you can create flexibly configurable reports in formats like Excel, PDF, CSV and XML that contain measured values and further information and which can be reused by other systems.

### Alarm and Event Management

SupplyCare shows events in the process of the customer like the fall below safety stocks or plan points. Also if there is a technical problem, e.g. connection problems. Additionally, notifications can be sent to the relevant persons per e-mail.

### Logistics and Analysis

Furthermore, there are additional features to analyze your supply chain and to improve delivery and disposal planning.

For more detailed information on functionality and the look and feel of SupplyCare, please have a look into the chapter **User Interface and functions** →  4.

## Application packages

SupplyCare is modular in design.

The software modules are assembled to the application packages **Logistics** and **Monitoring**.

---

### Monitoring

The application package **Monitoring** is the standard package. It contains the necessary software modules to cover the standard use cases like inventory monitoring, event management and reporting.

---

### Logistics

The application package **Logistics** contains all the software modules and functions that are contained in the application package **Monitoring**, plus a number of additional modules for Supply Chain Management. The additional software modules are **Scheduling**, **Totaling**, **Analysis**, and **Geographical visualization**.

Software modules that are contained in **Logistics** only are marked with a respective note.

## User Interface and functions

### User Interface

The user interface supports the following 10 languages:

- German (DE)
- English (EN)
- French (FR)
- Italian (IT)
- Japanese (JA)
- Portuguese (PT)
- Russian (RU)
- Spanish (ES)
- Turkish (TR)
- Chinese (ZH)

Based on the browser settings, the language and other settings are detected automatically. SupplyCare Hosting takes advantage of the intuitive nature of Windows-based Graphical User Interfaces (GUIs) and multi-tasking, allowing multiple windows to be opened simultaneously.

Displays are loaded very quickly, can be scaled, minimized, maximized and moved around so that the operator can set the desktop as required.

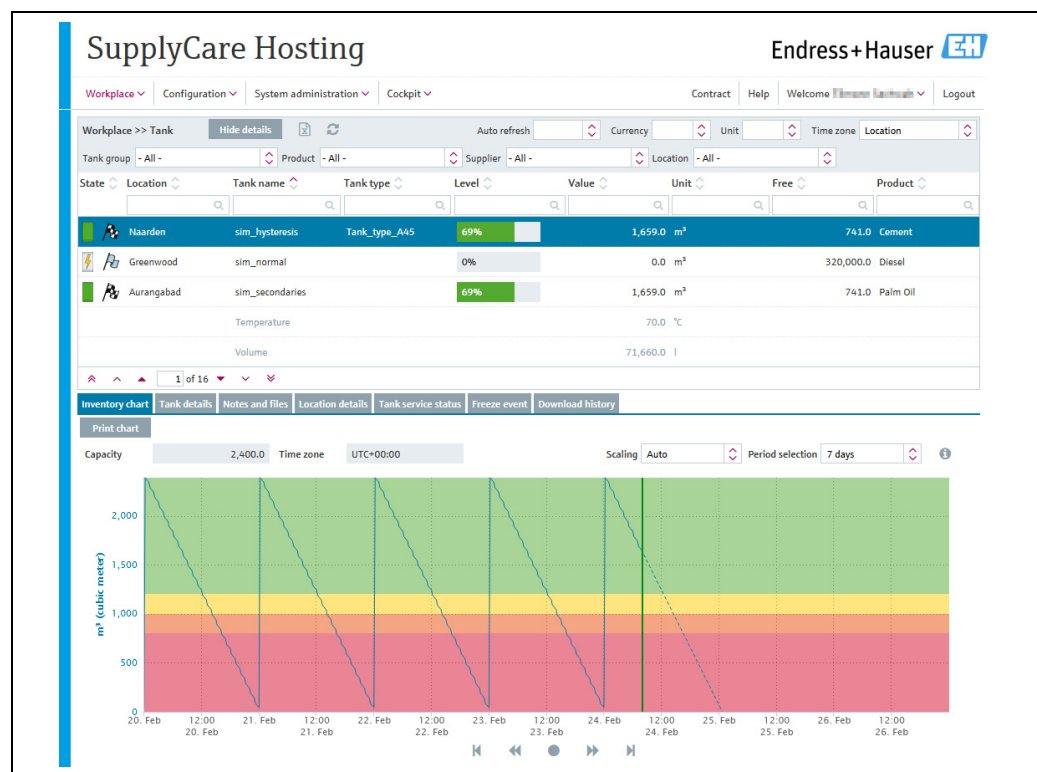
Navigating the software is made easy by well-equipped toolbars, comprehensive menus and wizards designed to meet your use cases.

### Main Page – Portal window

The Portal window displays the **Workplace Tank**, the starting point for comprehensive inventory management work.

This page provides an overview table of all tanks and their relevant data like status, name, location, actual product value and more. The overview table can be customized to the user's needs by selecting from a wide variety of different data for display and filtering.

- **Overview:** The tanks, objects and silos related to the customer's SupplyCare Hosting contract are listed in this overview table together with a relevant and highly customizable data set. Variable filters and practical scroll buttons on the table provide fast access to the tank in focus.
- **Detailed view:** Once a tank is selected, more detailed information on the tank like an inventory chart, the tank's capacity and set limits, or details on tank location and service status are accessible in the lower section of the screen, sorted into several tabs.
- **Tabs:** Using the tabs, you can access detailed information or, depending on the user role, manage tank service periods, plan delivery, comment on event messages or download a tank data history file.



Monitoring tanks

- The **Workplace Tank** offers the following information and functions:
- **Tank details:** tank name, tank type, tank status, capacity, optimum, location, time zone, time stamp, level, unit, data sources, products, supplier, buyer, plan point, ship point, safety stock.
  - **Inventory chart:** displays the past inventory change pattern and a calculated forecast for inventory control.
  - **Event details:** displays details on the currently applicable event, e.g "safety stock reached".
  - **Download history:** Access for setting parameters to export measured value history for the tank selected in the overview.
  - **Secondary values:** A range of measuring devices allows additional measured variables (secondary) to be recorded in addition to the primary variable. A maximum of one primary value and eight secondary values can be assigned to a tank.

Workplace >> Tank

Hide details

Auto refresh

Currency

Unit

Time zone

Location

Tank group All

Product All

Supplier All

Location All

State

Location

Tank name

Level

Value

Unit

Free

Product

Maulburg

sim\_secondaries\_2

88%

281,052.0 l

38,948.0 Ethanol

Temperature

10.0 °C

Volume

281,052.0 l

Suzhou

sim\_short\_term

44%

1,052.0 m³

1,348.0 Pellets

Dubai

sim\_tank\_freeze

44%

1,052.0 m³

1,348.0 Diesel

6 of 13

Inventory chart

Tank details

Notes and files

Tank partners

Location details

Tank service status

Download history

Organization

Tank name

Value

Unit

Time stamp

Product

Location

Time zone

SDT

sim\_secondaries\_2

281,052.0

l

3/3/16 1:48 PM

Ethanol

Maulburg

UTC+00:00

0

Limits

Capacity

Optimum

Plan point

Ship point

Safety stock

Hysteresis

Free capacity

Tank type

320,000.0

120,000.0

60,000.0


32,000.0

0.0

38,948.0

Standard tank

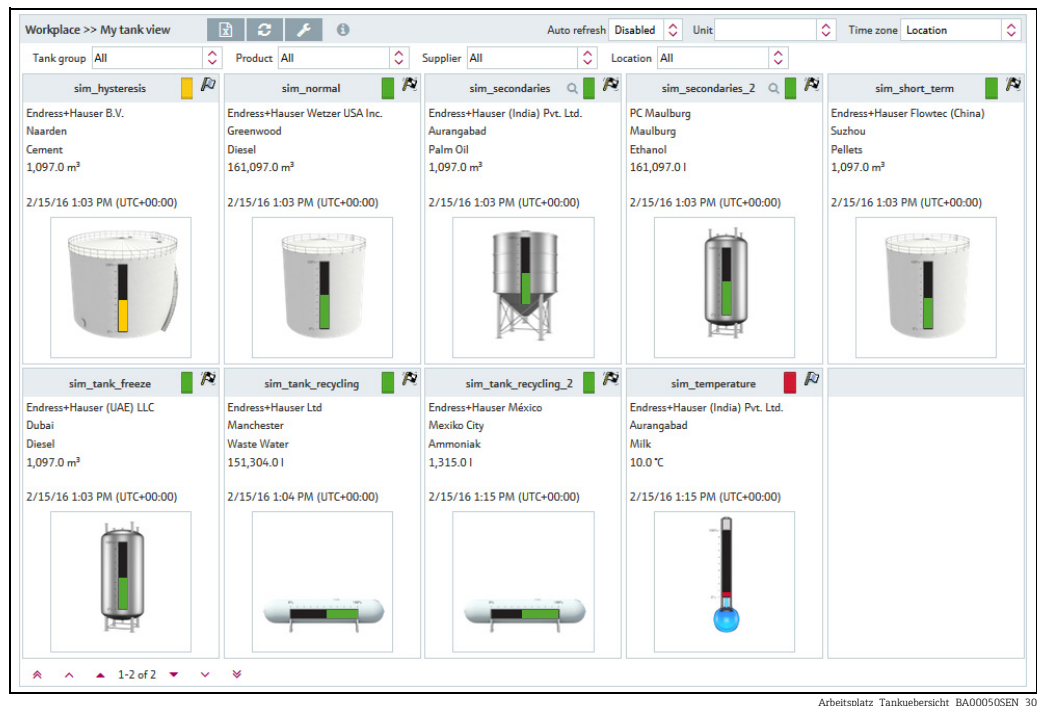
Recycling tank



Arbeitsplatz\_Tank\_BA00050SEN\_30\_T1

## My tank view

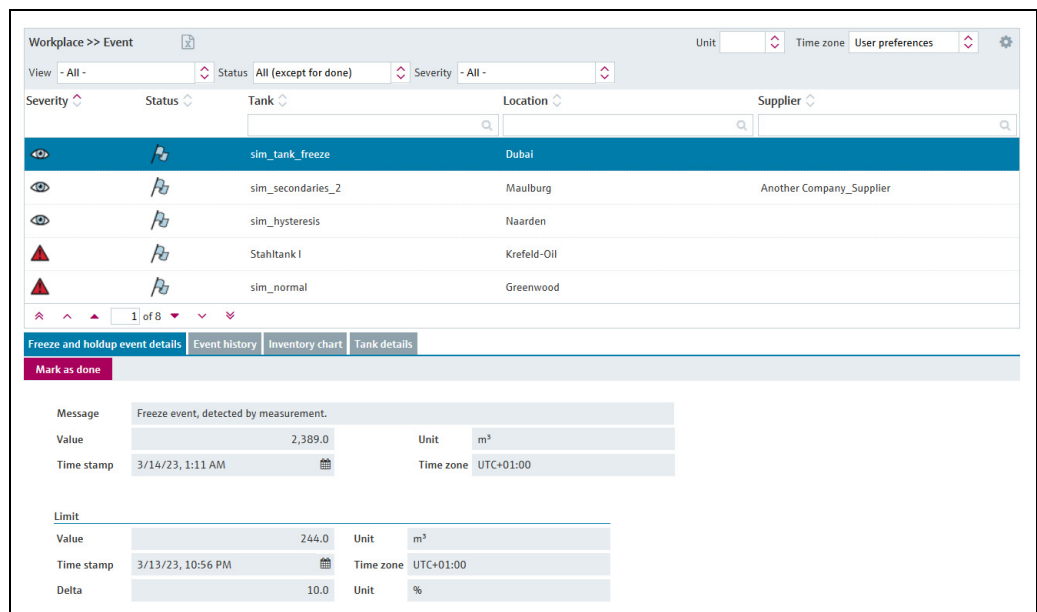
The **My tank view workplace** is a personalized tank view that shows you the tanks that you selected in your user profile. Several filter functions allow you to display only tanks of a special tank group, product, supplier, location, unit or time zone. Clicking on one of the tank images gives instant access to the tank details and more tabs in the **Workplace Tank**.



Arbeitsplatz\_Tankuebersicht\_BA00050SEN\_30

## Editing events – Event workplace

An event is triggered if a limit value is undershot (Plan point, Ship point, Safety stock) or unexpected level changes occur. The weighting is derived from the limit value, i.e. reaching the plan point is categorized as not critical (low) while reaching the safety stock level is regarded as very critical (high). Once an event has been generated, the user can change the status to **Acknowledged** or **In process**. To make it easier to track events later, the change is stored with a time stamp and user name. If a critical limit is reached, determined by another measurement, the status of the event is set to **Open**. If an inventory that is above the plan point is detected for standard tanks, and if an inventory that is below the plan point is detected for recycling tanks, the event assumes the status **Done** and no other activities are required.



S48\_BA00050SEN\_0211\_36

Planning delivery and disposal – Scheduling workplace

With SupplyCare Hosting, planning delivery and disposal of inventory is possible on a detailed basis, as well as the monitoring of this tasks. When a new delivery/disposal is created, the system checks whether the delivery/disposal is planned too early or too late. The forecast data determined by SupplyCare are used to check the information. The user can either reschedule the delivery/disposal which is too late/early or confirm this as an early or late delivery/disposal. SupplyCare monitors the deliveries and disposals daily. If it detects an early or late delivery/disposal, this delivery/disposal can be confirmed. If it detects a missing delivery/disposal, this delivery/disposal can be marked as fulfilled. This software module is contained in the application package **Logistics** only.

OverviewPlanning

Workplace >> Scheduling >> Overview

UnitTime zoneLocation

| State | Message                 | Location   | Tankname          | PD               | Time zone | PD Amount | Unit | State changed at |
|-------|-------------------------|------------|-------------------|------------------|-----------|-----------|------|------------------|
|       | Early delivery (conf... | Suzhou     | sim_short_term    | 8/3/17 6:00 PM   | UTC+00:00 | 1,400.0   | m³   | 8/3/17 2:07 PM   |
|       | New planned delivery    | Maulburg   | sim_secondaries_2 | 8/22/17 12:00 PM | UTC+00:00 | 217,913.4 | l    | 8/3/17 2:06 PM   |
|       | Late delivery (confi... | Aurangabad | sim_secondaries   | 8/4/17 12:00 PM  | UTC+00:00 | 1,200.0   | m³   | 8/3/17 2:05 PM   |
|       | New planned delivery    | Greenwood  | sim_normal        | 8/16/17 12:00 PM | UTC+00:00 | 150,000.0 | m³   | 8/3/17 2:04 PM   |
|       | Late delivery (confi... | Naarden    | sim_hysteresis    | 8/5/17 12:00 PM  | UTC+00:00 | 2,400.0   | m³   | 8/3/17 2:03 PM   |

2 of 5

DetailsHistory

MessageNew planned delivery

Planned delivery

|            |                  |           |           |
|------------|------------------|-----------|-----------|
| Amount     | 217,913.4        | Unit      | l         |
| Time stamp | 8/22/17 12:00 PM | Time zone | UTC+00:00 |
| Comment    |                  |           |           |

The **Totaling workplace** allows you to add up values, e.g free capacity. The totalized **Level** is then represented graphically. The values of standard tanks can be totaled in the **Standard tanks** tab and the values of recycling tanks in the **Recycling tanks** tab. Tanks and aggregated tanks can be included in the same calculation.

In the **Totaling workplace** you can also save a particular selection as template, create new templates, change, overwrite or delete existing templates as well as compare inputs, stocks and outputs. This software module is contained in the application package **Logistics** only.

**Standard tanks**    **Recycling tanks**

---

Workplace >> Totalling    Auto refresh Disabled    Currency    Unit    Time zone    Location

Tank group All    Product All    Supplier All    Location All

| Select                   | State | Location   | Tank name         | Level | Value | Unit         | Free | Product           |
|--------------------------|-------|------------|-------------------|-------|-------|--------------|------|-------------------|
| <input type="checkbox"/> |       | Naarden    | sim_hysteresis    | 37%   |       | 896.0 m³     |      | 1,504.0 Cement    |
| <input type="checkbox"/> |       | Greenwood  | sim_normal        | 47%   |       | 150,896.0 m³ |      | 169,104.0 Diesel  |
| <input type="checkbox"/> |       | Aurangabad | sim_secondaries   | 37%   |       | 896.0 m³     |      | 1,504.0 Palm Oil  |
| <input type="checkbox"/> |       | Maulburg   | sim_secondaries_2 | 47%   |       | 150,896.0 l  |      | 169,104.0 Ethanol |
| <input type="checkbox"/> |       | Suzhou     | sim_short_term    | 37%   |       | 896.0 m³     |      | 1,504.0 Pellets   |
| <input type="checkbox"/> |       | Dubai      | sim_tank_freeze   | 37%   |       | 896.0 m³     |      | 1,504.0 Diesel    |
| <input type="checkbox"/> |       | Aurangabad | sim_temperature   | 25%   |       | 30.0 °C      |      | 90.0 Milk         |

of 7

Total

Calculate

|                |    |  |
|----------------|----|--|
| Level          | 0% |  |
| Value          |    |  |
| Capacity       |    |  |
| Free           |    |  |
| PD Amount      |    |  |
| Monetary value |    |  |

Summierung\_uebersicht\_BA00050SEN\_30

## Viewing analysis – Analysis workplace

The **Analysis workplace** item allows the user to view important indicators for the inflow and outflow of the individual tanks as data and charts. You can use these data and charts to analyze past cycle patterns and use them as the basis for future planning. You can export all the information to an Excel spreadsheet. In addition, it is also possible to print out the charts.

This software module is contained in the application package **Logistics** only.

Workplace >> Analysis
Unit

Tank group All Product All

| Tank name         | Location   | Time zone | Unit | DO      | ADO     | DI      | ADI | Product  |
|-------------------|------------|-----------|------|---------|---------|---------|-----|----------|
| sim_hysteresis    | Naarden    | UTC+00:00 | m³   | 2,345.0 | 2,345.1 | 2,318.9 |     | Cement   |
| sim_normal        | Greenwood  | UTC+00:00 | m³   | 9,914.9 | 9,984.9 | 0.0     |     | Diesel   |
| sim_secondaries   | Aurangabad | UTC+00:00 | m³   | 2,345.0 | 2,345.1 | 2,318.9 |     | Palm Oil |
| sim_secondaries_2 | Maulburg   | UTC+00:00 | l    | 9,914.9 | 9,984.9 | 0.0     |     | Ethanol  |
| sim_short_term    | Suzhou     | UTC+00:00 | m³   | 2,345.0 | 2,345.1 | 2,318.9 |     | Pellets  |

4 of 9

KPIs Outflow/Inflow Chart hourly Chart daily

Daily outflow
2/16/2016
9,914.9
l

Average daily outflow
9,984.9
l

Daily inflow
2/16/2016
0.0
l

Day(s) until reaching safety stock
10d 21h

Next planned delivery
2/23/2016
UTC
50,000.0
l

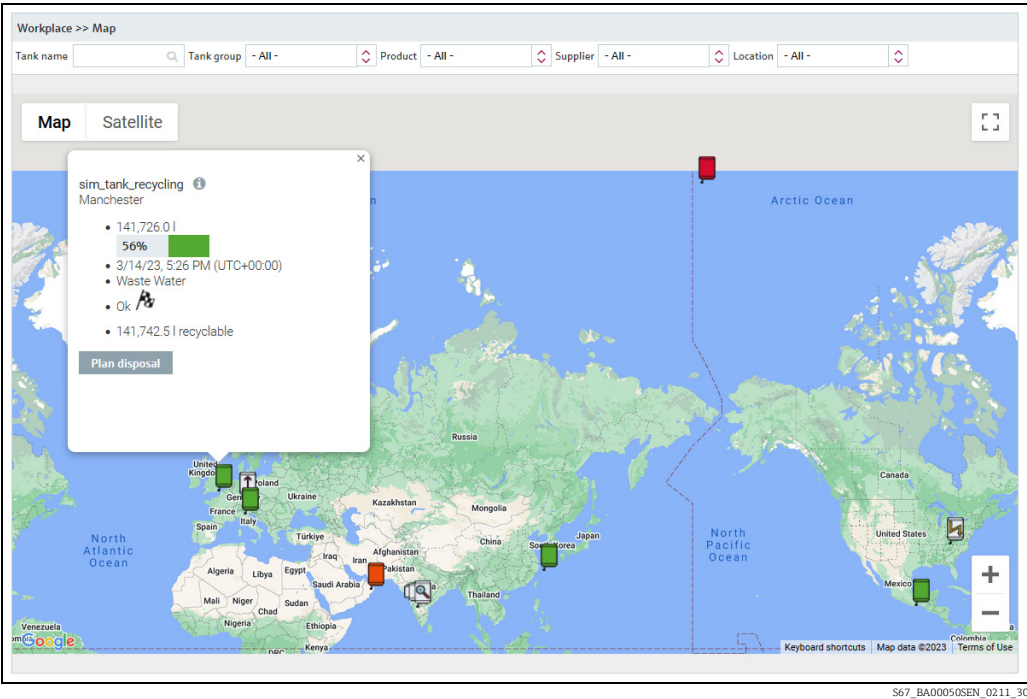
From date To date Show available period

PS0000968en 30



Viewing tank locations on the map – Map workplace

You can use the **Map workplace** item to get an overview of the locations of the individual tanks on Google Maps. The tanks can be filtered by tank name, tank group, product, supplier and location. You can call up detailed information on every tank, such as level, planned delivery or disposal. This software module is contained in the application package **Logistics** only.



User Management

User roles

The system allows access only with user name and password. Users and their privileges are entered through the **User role** menu item. Each user role includes a couple of features and privileges. For each user you can determine their rights by setting the user role. SupplyCare Hosting offers the following user roles: Privilege to set and edit master data, Operator, Privilege to read only, Scheduler.

Configuration

Configuration of master data

**Master data** is used to allocate, e.g. a product or a user to a tank, and to create, change or delete companies, users, tanks, tank types, aggregated tanks, locations, products, tank groups, units and reports within SupplyCare Hosting contracts. Many of the settings are critical and access should normally be limited to certain personnel.

Configuration of reports

Using the Report wizard, you can create reports in several output formats:  
■ Excel file, text file, PDF file, CSV file or XML file.  
Reports can be distributed by directory, by HTTP, by FTP or by e-mail.

## Technical system overview

### Installation and scope of delivery

No installation is needed as the software runs as a cloud service in the Endress+Hauser infrastructure. For operating the software only an internet connection with a standard web browser is needed. System requirements → [12](#)

### Redundancy and availability

SupplyCare Hosting offers reliable and safe hosting of your data.

By operating redundant sites in different locations, we secure the application against undesirable downtimes.

Redundant critical application components make the system resilient and fault tolerant. Thus, the continuity of customer business is effectively protected, as the system will still be in operation, even if, however unlikely, single components should fail.

If not explicitly agreed otherwise, the conditions for availability are valid as recorded in the associated service level agreement.

### Security

State-of-the-art security mechanisms protect the integrity of data communicated between SupplyCare Hosting, the interfaces and data sources.

On the Endress+Hauser Web server and Hosting API interfaces, communication is done via HTTPS. For the Data interface, the security level depends on the communication interface selected and on gateway-embedded technologies.

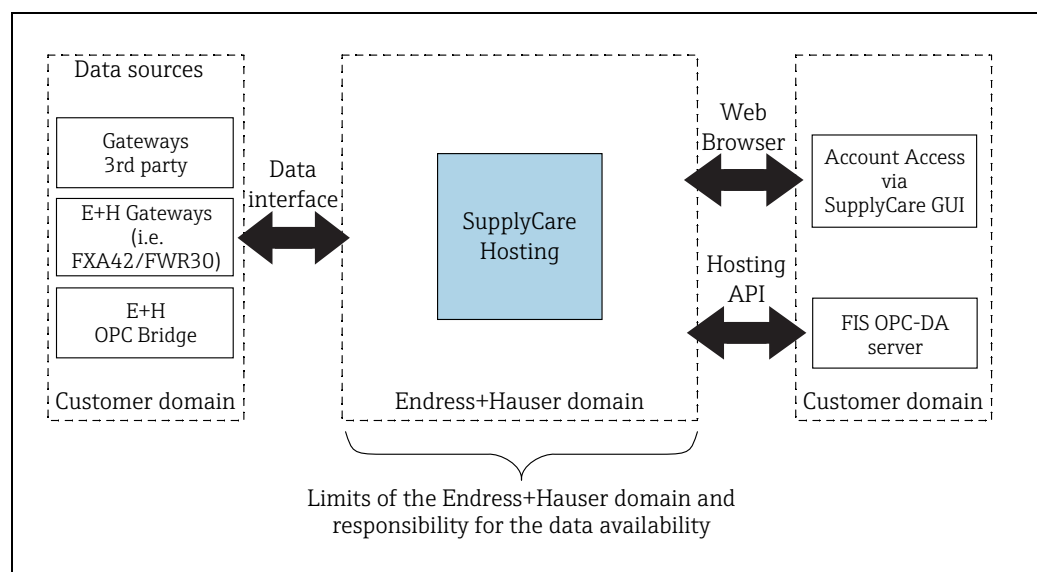
All access to data inside SupplyCare Hosting, as well as the execution of actions, requires authorization.

To perform actions inside SupplyCare Hosting, a user must have the following:

- The required authorization via privilege to perform an operation (role)
- The required authorization via privilege to access to the respective object (authorized contract)

### System Overview

#### Responsibility transfer point



AA037087-EN

To connect to the Endress+Hauser hosting system, customers use the Internet. The responsibility transfer point for data communication between the customer's IT infrastructure and the hosting system operated by Endress+Hauser is described in the diagram above.

Endress+Hauser is responsible to render the following deliverables and services:

- Operation of the application SupplyCare Hosting
- Process flow at the interfaces between the Endress+Hauser domain and the customer domain according to respective protocols and definitions, as far as this is within the sphere of influence of Endress+Hauser. Such processes are, for instance, storage, processing and delivery of data.

Endress+Hauser is not responsible for malfunction occurring outside the Endress+Hauser domain (e.g. internet connection problems, IT infrastructure malfunction on customer's side, ...).

Interfaces which connect the Endress+Hauser domain with the customer domain can be the following:

- Data interface
- Endress+Hauser Web server (is addressed by means of a web browser)
- Hosting API (communicates with the FIS OPC-DA server)

The interfaces have the following features and functions:

- The **Data interface** represents the domain border for incoming data. Data interface acts as a collective noun here for a bundle of different kinds of interfaces which can have the following form:
  - M2M interface for machine-to-machine communication
  - Endress+Hauser Mail Server for e-Mail
  - RawData Queue for FTP and HTTP
- The **Endress+Hauser Web server** provides the computer environment for the graphical user interface of SupplyCare (hosting), which is used by customer users to access their inventory data and individual configurations. The Endress+Hauser web server is located inside the Endress+Hauser domain and is addressed by means of a web browser.
- The **FIS OPC-DA server** provides access to measurement data and gateway information inside the Endress+Hauser hosting system for a customer's local system that uses OPC-DA (e.g. a PLC). The FIS OPC-DA server is a software program and is located in the customer domain. The customer is responsible to provide the computer environment which is needed by the FIS OPC-DA server. The counterpart for it in the Endress+Hauser domain is the Hosting API, the correct integration of which is part of the responsibilities of Endress+Hauser respectively.

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## Interface options

### M2M

Option 1 and **preferred method**: Gateways push their measurement data directly to the Endress+Hauser hosting solution via a Machine-to-Machine (M2M) interface. This method is preferred, as it does not require any additional infrastructure or accessories for stationary gateways on customer's side except for an internet connection with usual permissions for outgoing traffic on HTTP/HTTPS ports.

### Mail

Option 2: The gateways transfer measurement data to SupplyCare via e-mail to the Endress+Hauser mail server, using the SMTP protocol.  
SupplyCare Hosting collects the e-mails and extracts the measurements data that are embedded inside the e-mails.  
The SMTP server is not a part of the standard scope of delivery.

### HTTP Polling

Option 3: The gateways are polled directly by SupplyCare in order to retrieve the delivered measurement data. As a prerequisite, the gateways must be available via internet with a static IP v4 address.  
The static IP address configuration is not a part of the standard scope of delivery.

### FTP

Option 4: The gateways push their measurement data to an FTP Server. The measurement data are saved inside a file in XML format, which is retrieved via FTP protocol and delivered to SupplyCare. The FTP server is not a part of the standard scope of delivery. M2M solution is preferred and allows more flexibility.

### FIS OPC-DA Server

Option 5: The data, which are stored in the Endress+Hauser hosting system, can be retrieved by a customer's local system. The data are provided for a local system (e. g. a PLC) via an OPC-DA server interface.  
The FIS OPC-DA server is not a part of the standard scope of delivery. If you are interested in this kind of solution, please contact Endress+Hauser: [www.addresses.endress.com](http://www.addresses.endress.com)

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## Limit for data transmission from Gateways

In typical inventory control applications, data are transmitted 1 to 3 times per day. A higher data transmission rate (= shorter intervals) can lead to high data volume. For this reason, Endress+Hauser reserves the right to reset transmission and measuring intervals shorter than 1 hour back to 1 hour, if the setting has been made without consultation with Endress+Hauser,



If transmitting data on a higher rate than once per hour is required, please contact Endress+Hauser: [www.addresses.endress.com](http://www.addresses.endress.com)

## System requirements

### Recommended Specifications

#### Internet browser:

- Microsoft® Edge 93 (or later)
- Mozilla Firefox 92 (or later)
- Google Chrome™ 93 (or later)

#### Mobile devices:

- Apple® iPhone® with Safari® on iOS 15 (or later)
- Apple® iPad® with Safari® on iOS 15 (or later)

#### Browser configuration:

- Active scripting enabled
- JavaScript enabled
- Allow cookies

These are the official supported browsers that we recommend to use our SupplyCare Hosting application. The use of any other browser version or technology may lead to limited functionality and display.

## Information required from customers

### Information about application

To create an account for a customer, Endress+Hauser needs information about the customer's application. Endress+Hauser uses checklists to query the information required about tanks, gateways, users and further topics.

By concluding a license agreement for SupplyCare Hosting, the customer signs up to fill in the checklists true and accurate and to provide the required information for Endress+Hauser.

## Registered trademarks

### Trademarks

The following trademarks are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries:

Microsoft®  
Windows®  
Windows Server®

The following trademarks are either registered trademarks or trademarks of Google LLC:

Google™  
Google Chrome™  
Google Maps™

The following trademarks are either registered trademarks or trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries:

IOS®

Safari®, iPhone® and iPad® are trademarks of Apple® Inc., registered in the United States and other countries.

### Legal notice concerning trademarks

All company/product names and/or all company logos may be trade names, trademarks and/or registered trademarks of Endress+Hauser, its affiliates or of their respective owners with which they are associated.

## Additional documentation

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**Operating Instructions**

| Document | Valid for  | Content   |
|----------|--|---|
| BA00050S | <ul style="list-style-type: none"><li>SupplyCare Hosting</li></ul> | Operating instructions<br>Languages: <ul style="list-style-type: none"><li>English</li><li>German</li></ul> |
| SH00001S | <ul style="list-style-type: none"><li>SupplyCare Hosting</li></ul> | Service Manual<br>Languages: <ul style="list-style-type: none"><li>English</li><li>German</li></ul>         |



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[www.addresses.endress.com](http://www.addresses.endress.com)

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