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# JUMO smartWARE Evaluation

## Software for evaluating and visualizing process data from the JUMO variTRON system

### Brief description

JUMO smartWARE Evaluation stores process data from distributed plants that is acquired by JUMO variTRON devices. The collected data can be viewed and evaluated with a web browser. Thanks to Docker technology, JUMO smartWARE Evaluation can be installed on a desktop computer, on a server in your own network, or on a cloud server. A manipulation detection system ensures data security.



### Comfortable evaluation

Browser-based process data evaluation via customizable dashboards

### Run anywhere

Can be installed on desktop, server, or cloud with Docker environment

### Process data overview

Fast navigation and dashboard selection based on intuitive device and plant overview

### Batches at a glance

Plant-wide batch evaluation

### Effective access protection

Secure data transfer from the JUMO variTRON via HTTPS to the Data-store (data diode)

### Cost efficiency

Cost savings for software administration, as maintenance is only required in one place.



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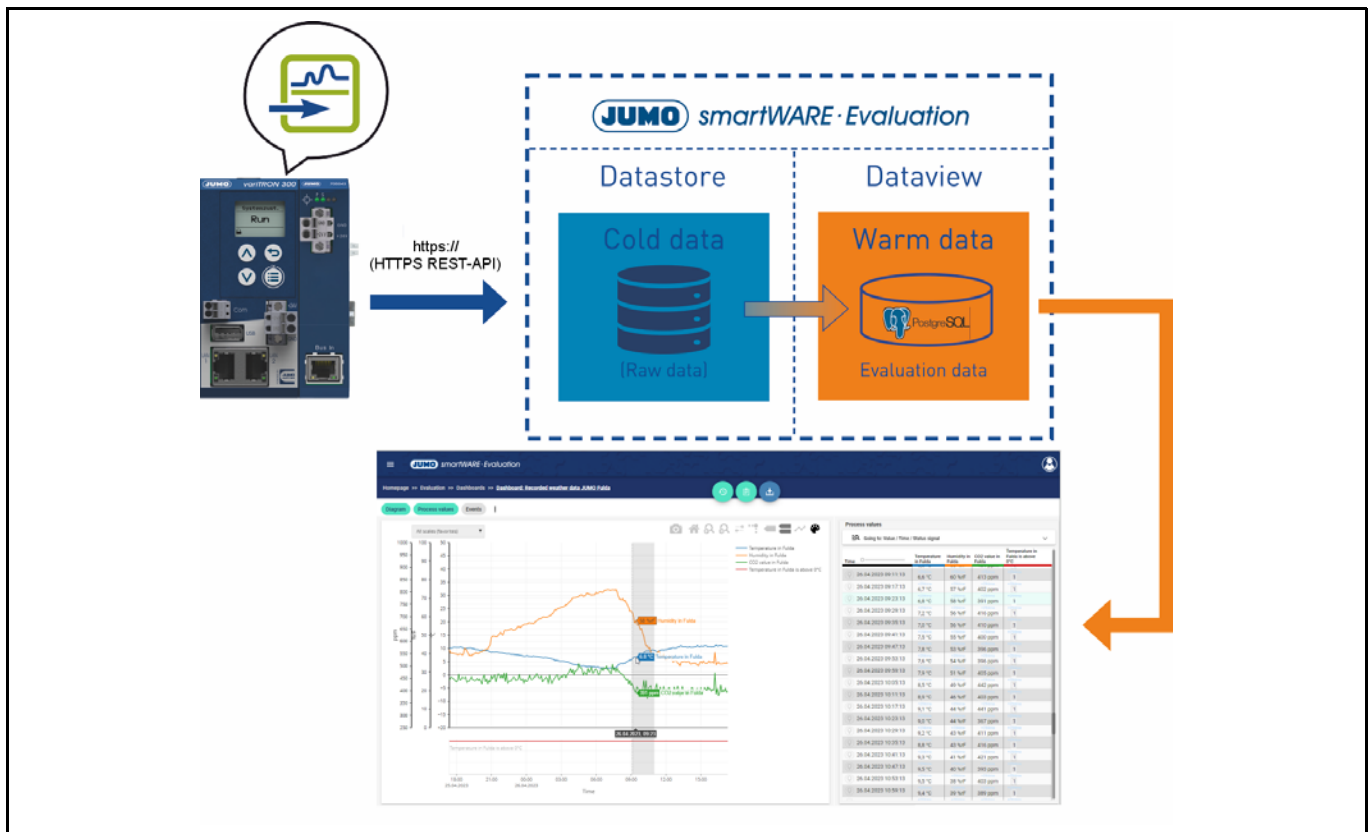
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# Description

## Reception and retention of process data

- **Acquisition and evaluation:** JUMO smartWARE Evaluation allows the bundled evaluation of process data in distributed plants that is acquired by JUMO variTRON devices. JUMO variTRON devices are able to acquire both process data of their inputs and program variables (CODESYS data), as well as of their fieldbus systems, and transmit this data to JUMO smartWARE Evaluation.
- **Run anywhere:** Can be installed and operated on desktop, server, or cloud thanks to Docker technology
- **Data diode:** JUMO variTRON devices transmit process data via HTTPS to the Datastore of JUMO smartWARE Evaluation and are protected from unauthorized access themselves in the process.
- **Simple integration:** JUMO variTRON accesses the Datastore for transmission via Push technology. This simplifies the network integration of JUMO smartWARE Evaluation, e.g. through simple firewall administration.
- **Manipulation detection:** JUMO smartWARE Evaluation receives the process data from JUMO variTRON devices in the Datastore and verifies their authenticity using a digital signature. This ensures that the data remains unchanged from the day on which it is stored.
- **Data retention in the Datastore:** The Datastore stores all data transmitted from JUMO variTRON devices to JUMO smartWARE Evaluation as cold data, and holds the time range specified for fast evaluation in the Dataview as warm data.
- **Scalable license model:** Depending on the license, Dataview can access up to 1500 signals in the warm data area, and these can be viewed and evaluated using the web browser (see order details).
- **Continuous recording:** In case of a network failure, JUMO variTRON devices buffer the process data until such time as the network is restored. This prevents recording gaps in the Datastore.



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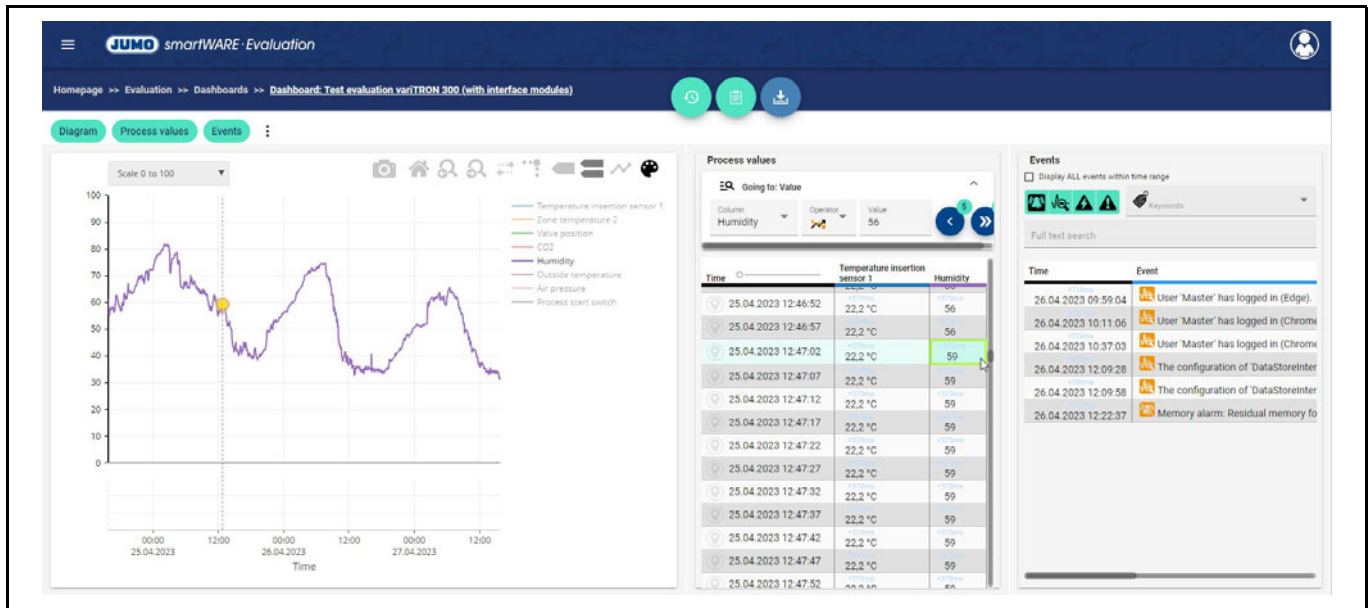
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### Process data evaluation

- **Dashboards:** The user can organize process data from the Dataview area in any arrangement as customized dashboards for evaluation.
- **Time range settings:** The time ranges of the process data (warm data) available for a dashboard can be defined by the user.
- **Evaluation:** In a dashboard, the data selection is displayed as a horizontal line chart (x-t-chart) and additionally, as an option, in tabulated form.
- **Process value table:** The evaluation data is listed in the value tables. Depending on the recorded measurement data, the measurement status according to NAMUR NE 107 is displayed for each acquisition interval.
- **Event table:** All recorded events are listed here together with the event time.



### Time navigator

In the time navigator, time ranges to be displayed can be adjusted to the current evaluation. The time navigator is called up via a button within the evaluation window.



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## Batch evaluation

- Batch recordings of your plant at a glance:** The batch recordings of all JUMO variTRON devices in your plant are arranged according to the plant hierarchy from the plant and device overview and can be effectively selected via filter functions in order to view them in an evaluation window.
- Scalable licence model:** JUMO smartWARE Evaluation offers a fully scalable batch evaluation, depending on the desired scope (see order details).

The screenshot shows the 'Batch selection' screen in the JUMO smartWARE Evaluation software. It features a table with the following columns: Device place, Batch application, Batch start, Batch end, Batch duration, and Identifier: BatchNumber. The table lists several batch recordings for 'Datarecorder FD variTRON 300' at 'Annealing furnace 1' with various start and end times and durations. The row for batch number 18 is highlighted in green.

Device place	Batch application	Batch start	Batch end	Batch duration	Identifier: BatchNumber
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	31.03.2023 10:07:53.157	31.03.2023 10:07:54.159	00:00:01	Batch number 19
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	31.03.2023 10:06:58.163	31.03.2023 10:07:08.151	00:00:10	Batch number 18
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	31.03.2023 08:18:25.157	31.03.2023 08:18:57.161	00:00:32	Batch number 17
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	31.03.2023 07:44:52.235	31.03.2023 07:45:35.152	00:00:43	Batch number 16
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	29.03.2023 15:57:10.159	29.03.2023 15:57:27.145	00:00:17	Batch number 15
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	29.03.2023 14:56:20.166	29.03.2023 14:57:04.145	00:00:44	Batch number 14
Datarecorder FD variTRON 300 (Office: M. Walter)	Annealing furnace 1	29.03.2023 14:47:47.168	29.03.2023 14:48:13.144	00:00:26	Batch number

## Report generation

- Easy setup:** Report generation can be conveniently set up in just a few steps.
- Report templates:** Using default templates, individual layouts for the report can be easily realized. New templates can be created based on an existing template using an integrated designer.
- Automatic generation:** Reports can be generated at the end of a batch record, periodically, or driven by an event.
- Output formats:** Reports can be output as PDF, Excel or CSV files.

The screenshot shows the 'Edit report: Batch\_Report\_Heating\_Process\_Customer\_EN' configuration screen. It includes sections for:
 

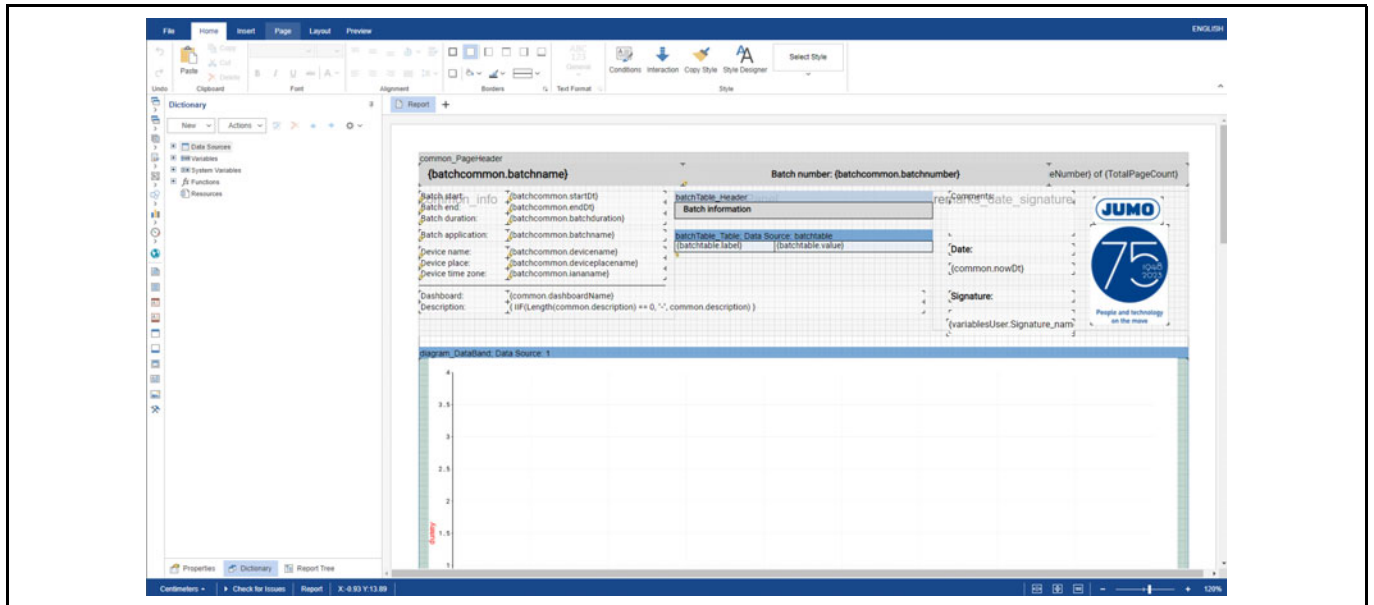
- Report:** Name of report (Batch\_Report\_Heating\_Process\_Customer\_EN), Description (PDF Report for proof of product quality), and Filename of the generated report with resolved variables (PDF\_Report\_Production\_Material\_Batch\_Nr(batchno)\_Year\_(yyyy)\_mm-dd\_en26.pdf).
- Report template:** Report template (JUMO\_Batch\_Cross\_format\_with\_LOGO\_EN), Language (English), and File format (PDF).
- Dashboard as a data source:** Dashboard (Test evaluation variTRON 300 (with interface modules)).
- Timestamp display settings:** Date format (31.12.2023), Time format (13:00), and Other format.

 A progress bar at the top indicates the current step in the configuration process.

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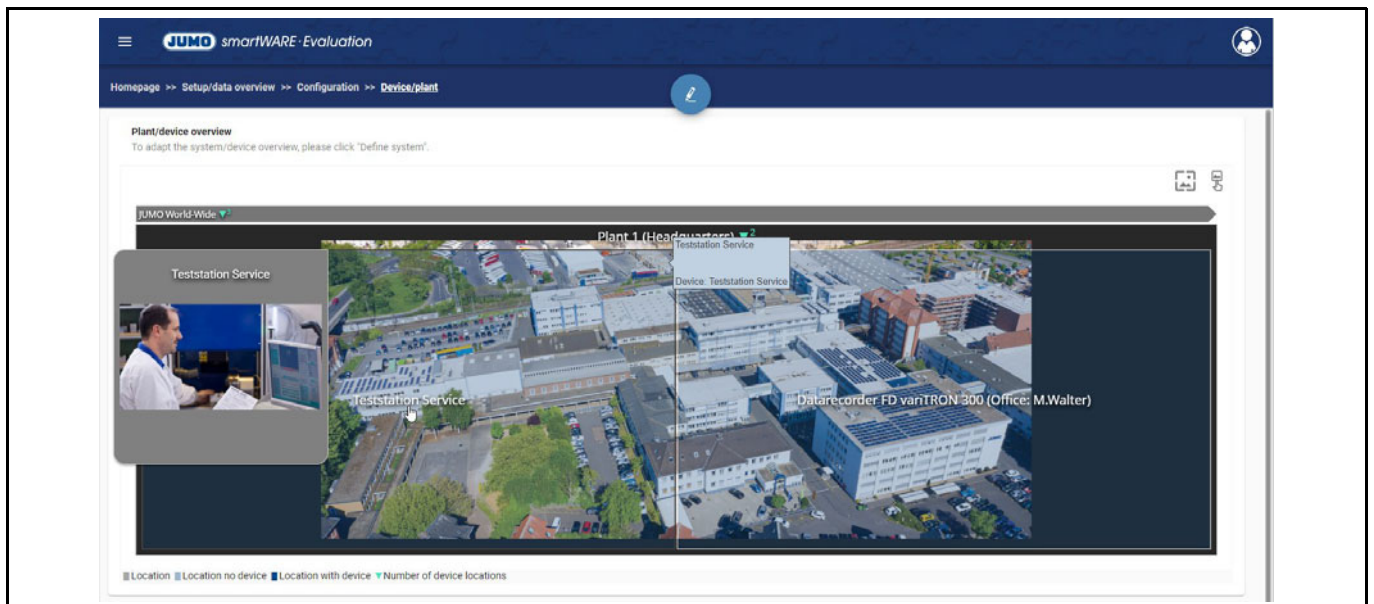
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### Overview of plants and devices

- **Distributed plants at a glance:** The JUMO variTRON devices within the plant can be mapped here in a clearly arranged, hierarchical format according to the plant topology.
- **Plain text designations:** For each plant object in the topology (real estate, building section, or JUMO variTRON device), names and descriptions can be assigned to suit your requirements.
- **Photos:** A photo can also be added to the hierarchy for each plant object. This makes sites and plant components visible at first glance.





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## System requirements

### Supported operating systems

- Windows 10 64-bit, from Version 20H1 with WSL2 (**Windows Subsystem for Linux 2**)
- Windows 11 64-bit, from Version 22H2 with WSL2 (**Windows Subsystem for Linux 2**)
- Windows Server 2022 64-bit, from Version 21H2 with WSL2
- Ubuntu 20.04 64-bit

### Supported browsers

- Microsoft Edge on Windows
- Google Chrome on Linux, Windows, Mac
- Mozilla Firefox on Linux, Windows
- Apple Safari on iOS

### Hardware

**Minimum requirements without consideration for the recorded measurement data:**

- Quad core with hyperthreading
- 8 GB RAM
- 250 GB SSD hard disk drive

**Recommended:**

- Quad core with hyperthreading
- 16 GB RAM
- 1 TB SSD hard disk drive for installation and measurement data

### Docker

**Linux:**

- Internet connection
- Docker version 20.10.5 or higher
- Docker Compose version 1.28.5 or higher

**Windows:**

- Windows 10 64-bit: Pro 20H1 or higher
- Hyper-V and container features must be enabled, hardware virtualization support must be enabled at BIOS level.
- 64-bit processor with Second Level Address Translation (SLAT)
- Docker desktop
- WSL2 with Ubuntu 20.04 64-bit
- Internet connection

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# Process data acquisition and evaluation of distributed plants

## Comprehensive data acquisition, including field bus system

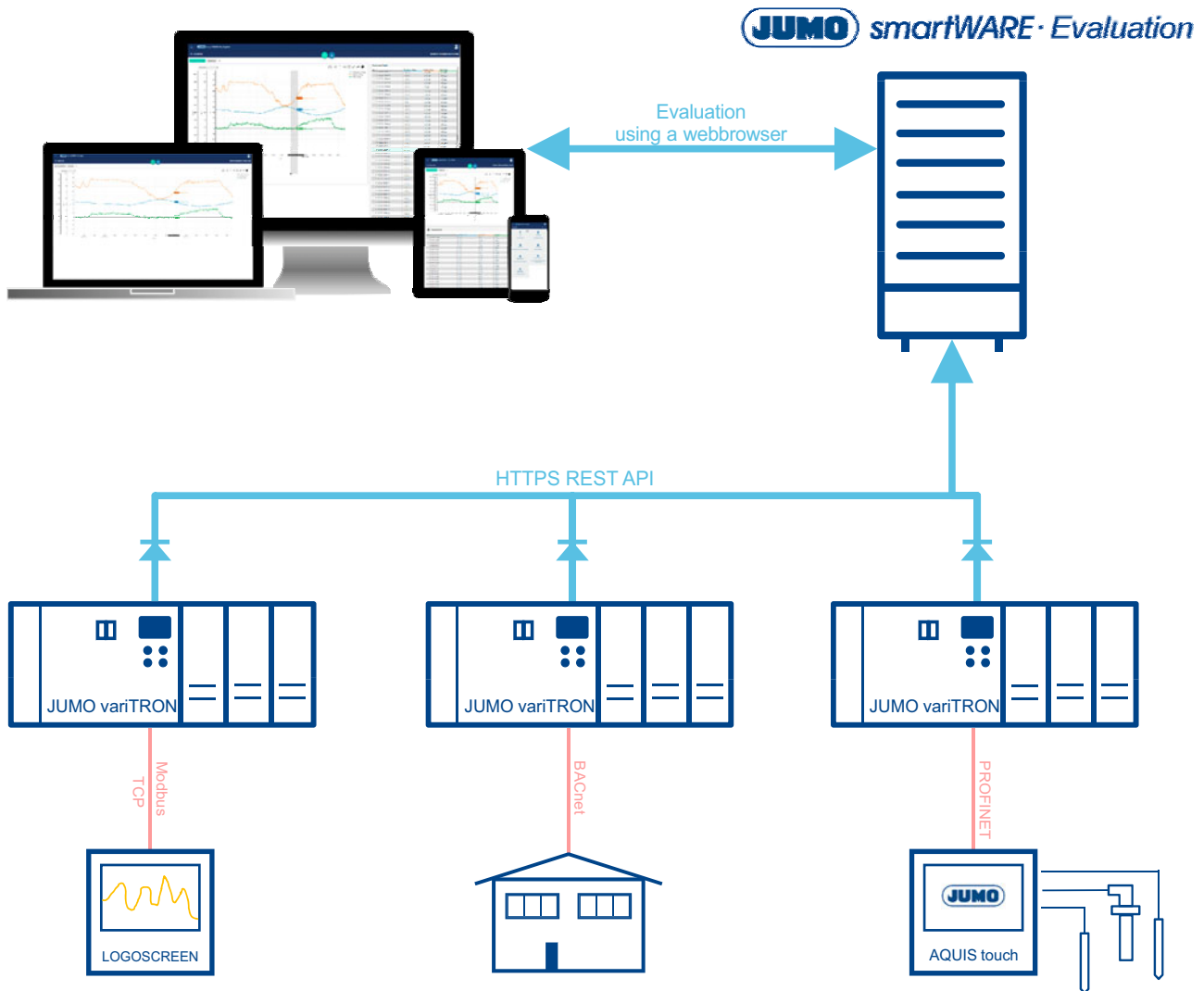
Devices of the JUMO variTRON range can be extended with various protocols and interfaces as extra codes (e.g. PROFINET IO, EtherCAT, Modbus TCP, or BACnet/IP). JUMO variTRON devices can acquire data from devices connected via these extension interfaces and transmit this data to the JUMO smartWARE Evaluation Dastore.

## Secure data transmission and manipulation detection

JUMO variTRON devices transmit the process data to the Dastore (cold data) of JUMO smartWARE Evaluation via the Internet or intranet using Push technology. The data is approved by JUMO smartWARE Evaluation based on certificates. This allows manipulation attempts to be detected.

## Intuitive evaluation of your process data

Process data of distributed plants is stored bundled with JUMO smartWARE Evaluation and made available for clear and customizable evaluation. The process data can be retrieved using a web browser via the Internet or intranet and evaluated intuitively.



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## Worth knowing

### Test the solution quickly and easily

To do so, simply contact a JUMO contact person of your choice.

### Do you need support?

If you need more information, simple explanations, training courses or support on the JUMO smartWARE Evaluation, there are a range of options available to you from JUMO.



#### JUMO Help Center

Detailed documentation



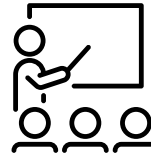
#### Technical Support

Questions and information



#### JUMO Engineering

Services



#### JUMO Campus

Training courses



#### YouTube channel

Explanatory videos



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## Order details

	<b>(1) Basic type</b>
701840	JUMO smartWARE Evaluation
	<b>(2) Number of signals</b>
10	10 signals (XXS)
25	25 signals (XS)
50	50 signals (XS)
75	75 signals (XS)
100	100 signals (S)
250	250 signals (S)
500	500 signals (S)
750	750 signals (M)
1000	1000 signals (M)
1500	1500 signals (M)
	<b>(3) Batch module</b>
0	None
1	Batches (XXS/XS)
2	Batches (S)
3	Batches (M)
	<b>(4) Report module</b>
0	None
1	Reports (XXS/XS)
2	Reports (S)
3	Reports (M)

Order code                        (1)                        (2)                        (3)                        (4)  
 /  -  -   
 Order example                    701840 / 50 - 1 - 1

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