

# STATIONARY GRID VISUALIZATION

MULTI-COMPONENT  
DATA MANAGEMENT





High quality artwork for an optimised HMI experience and full functionality

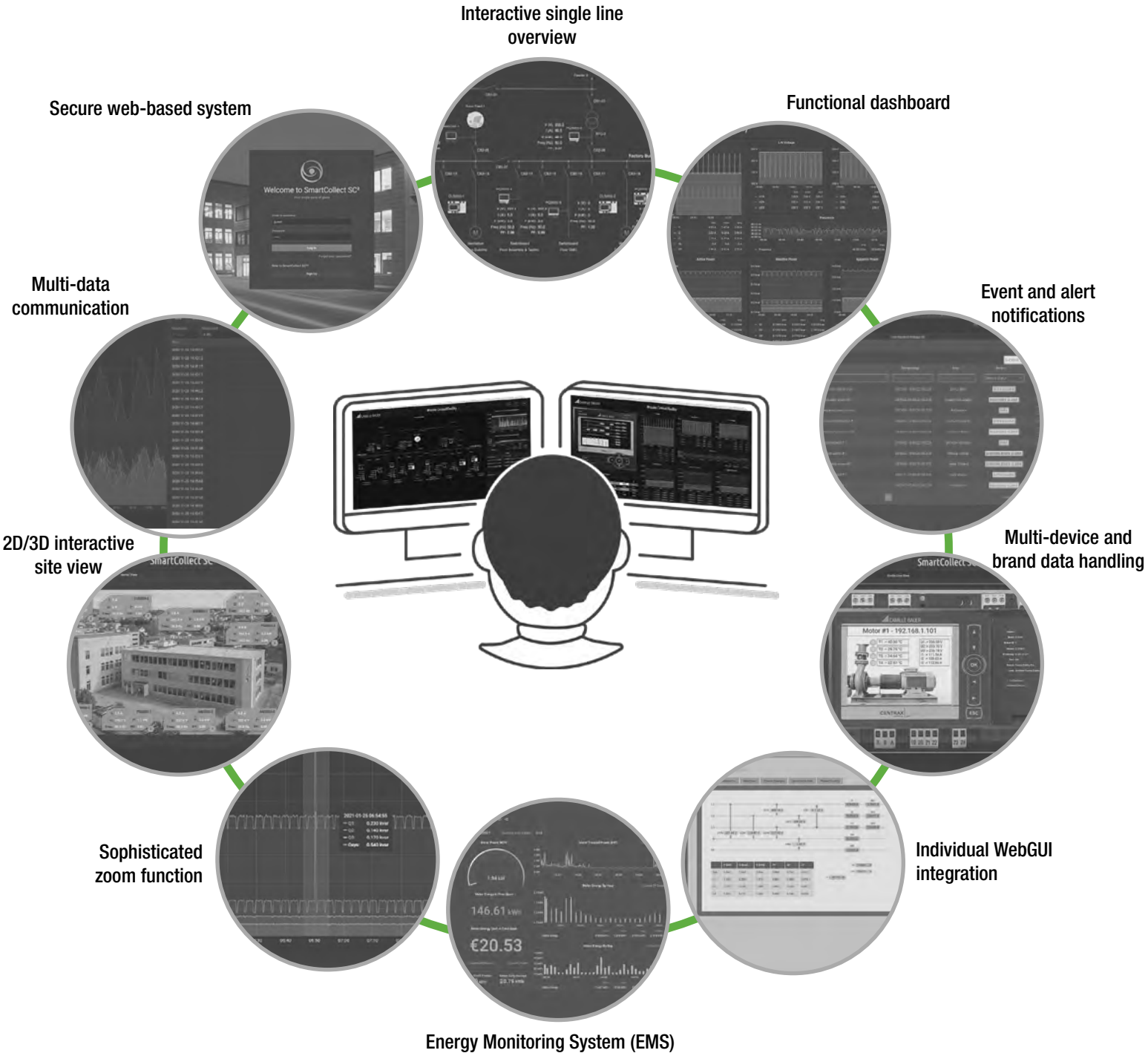


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SIMPLICITY AND USER FRIENDLINESS  
ARE THE KEY

# SMARTCOLLECT® SC² SYSTEM OVERVIEW



SMARTCOLLECT® SC² is a scalable HMI/SCADA software for the visualization of electrical distribution and other physical parameters. Unlike other SCADA software, SMARTCOLLECT® SC² is built on a new,

ultra-modern platform with a visually pleasing 2D/3D web-based graphical user interface. Powerful communications and software interfaces, expansion options, ease of use and an affordable price are just some of the other

user benefits of SMARTCOLLECT® SC². Just one look at SMARTCOLLECT® SC² makes you wonder how you used anything else before.



# CONSCIOUS SIMPLICITY

## Interactive single line overview

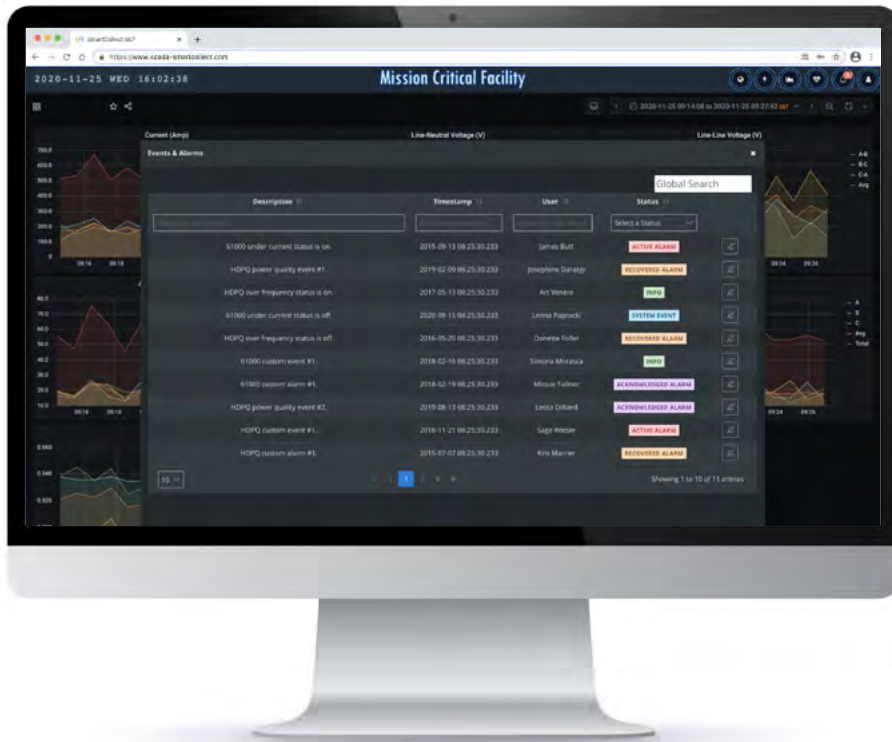
Permanent monitoring of all integrated circuits in the infrastructure with a brief overview of instantaneous measurement values. The single line overview is a customized function that is based on the individual application design.



## Functional dashboard

The modern dashboard displays all the necessary information with high fidelity for relevant and critical measures. The data design is customized based on the application and user demand.





### Event and alert notifications

The software has different options for event and alert notifications. For power quality event notifications, details can be read out at standard level for Camille Bauer devices from the integrated webGUI.

### Multi-device and brand data handling

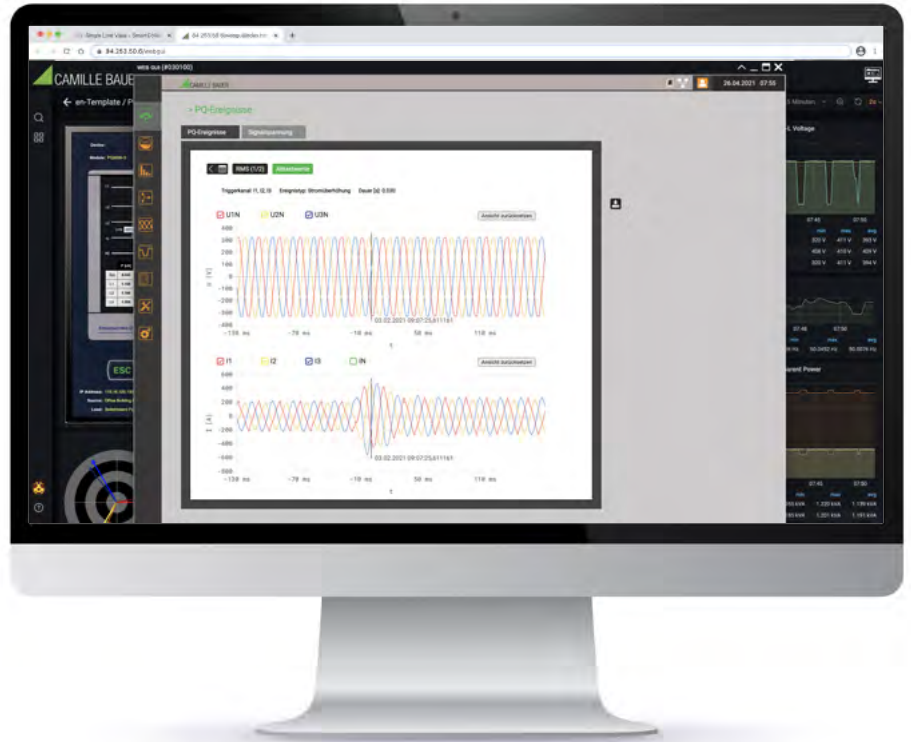
The software links with multiple devices and can integrate different measurement devices and sensors of any brand. In addition, other data beside physical parameters can be displayed, including virtual channels.



# CONSCIOUS SIMPLICITY

## Individual WebGUI integration

The software supports individual WebGUI integration for more in-depth details about a measurement point. It enables the user to access more details and remote configuration possibilities depending on the individual device.



## Energy Monitoring System (EMS)

The high degree of data acquisition allows full transparency of energy data. For analytic purpose (e.g. reducing CO<sub>2</sub> emission, increasing energy efficiency as well to evaluate potential saving) the EMS supports different panel views inside the EMS dashboard. Various manual or automatic reporting functions supports the individual business intelligence.





### Sophisticated zoom function

The dashboard can be used for deep analysis with the zoom function. In the dashboard overview the zoom will synchronize all parameters so that all associated parameters can be viewed in relation to the zoomed-in data.

### Interactive 2D/3D aerial view

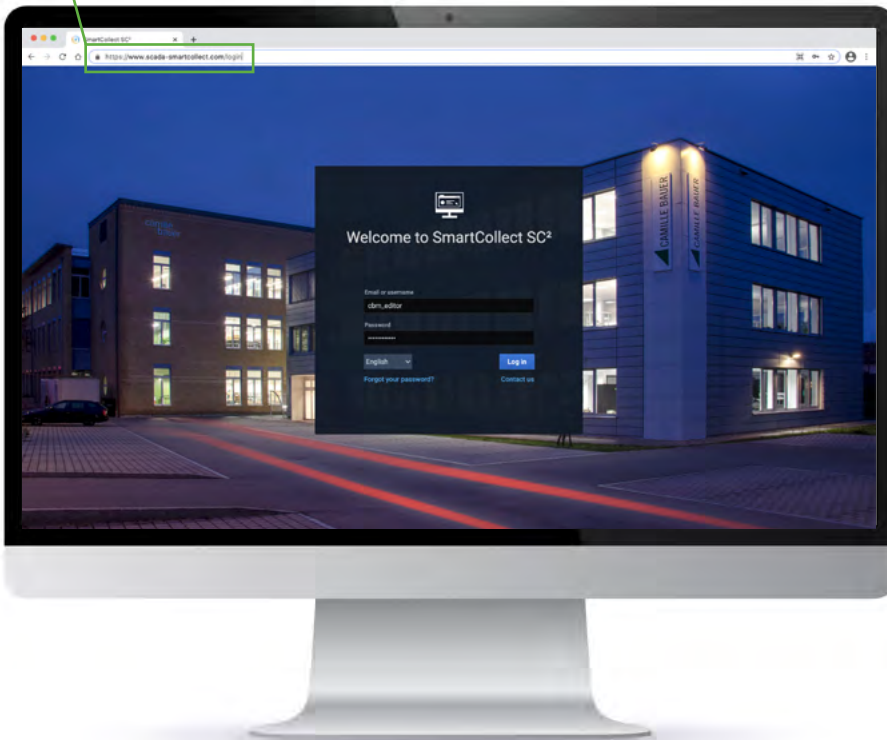
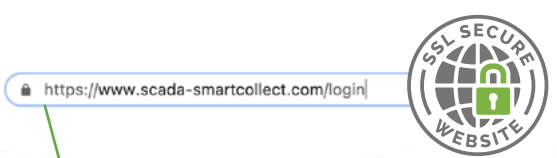
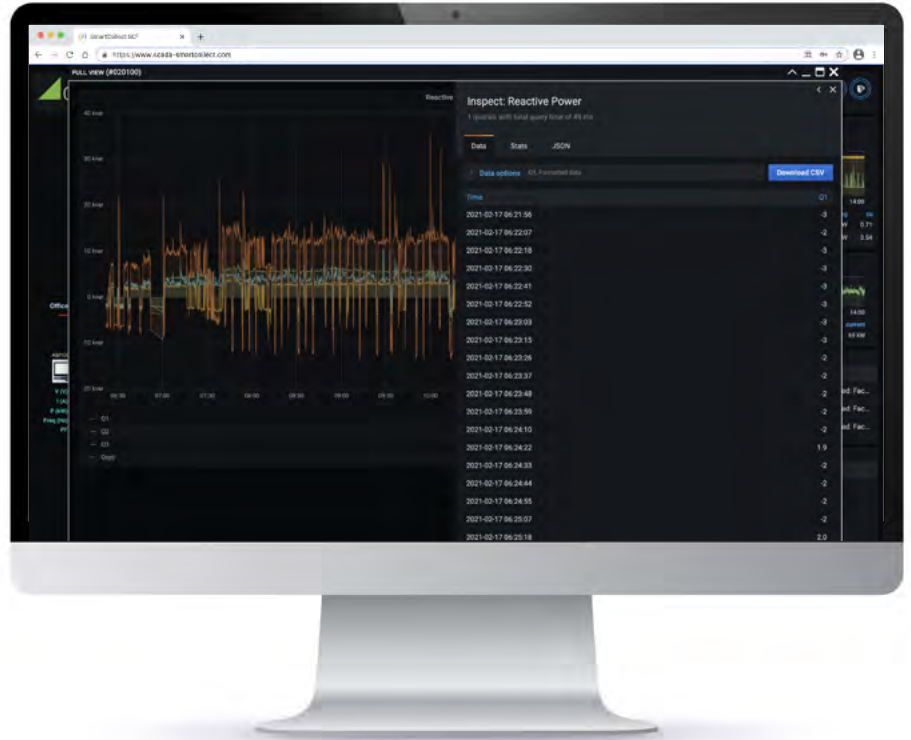
The main feature of the aerial view is the use of an image of the site(s) as the background. Brief info boxes point to locations where the measuring devices are situated. The info box has a specific name and contains a brief overview of the instantaneous measurement values



# CONSCIOUS SIMPLICITY

## Multi-data communication

The software provides several data formats for incoming, outgoing and secure data. The software can export data to csv files as standard. Other formats can be programmed and configured individually.

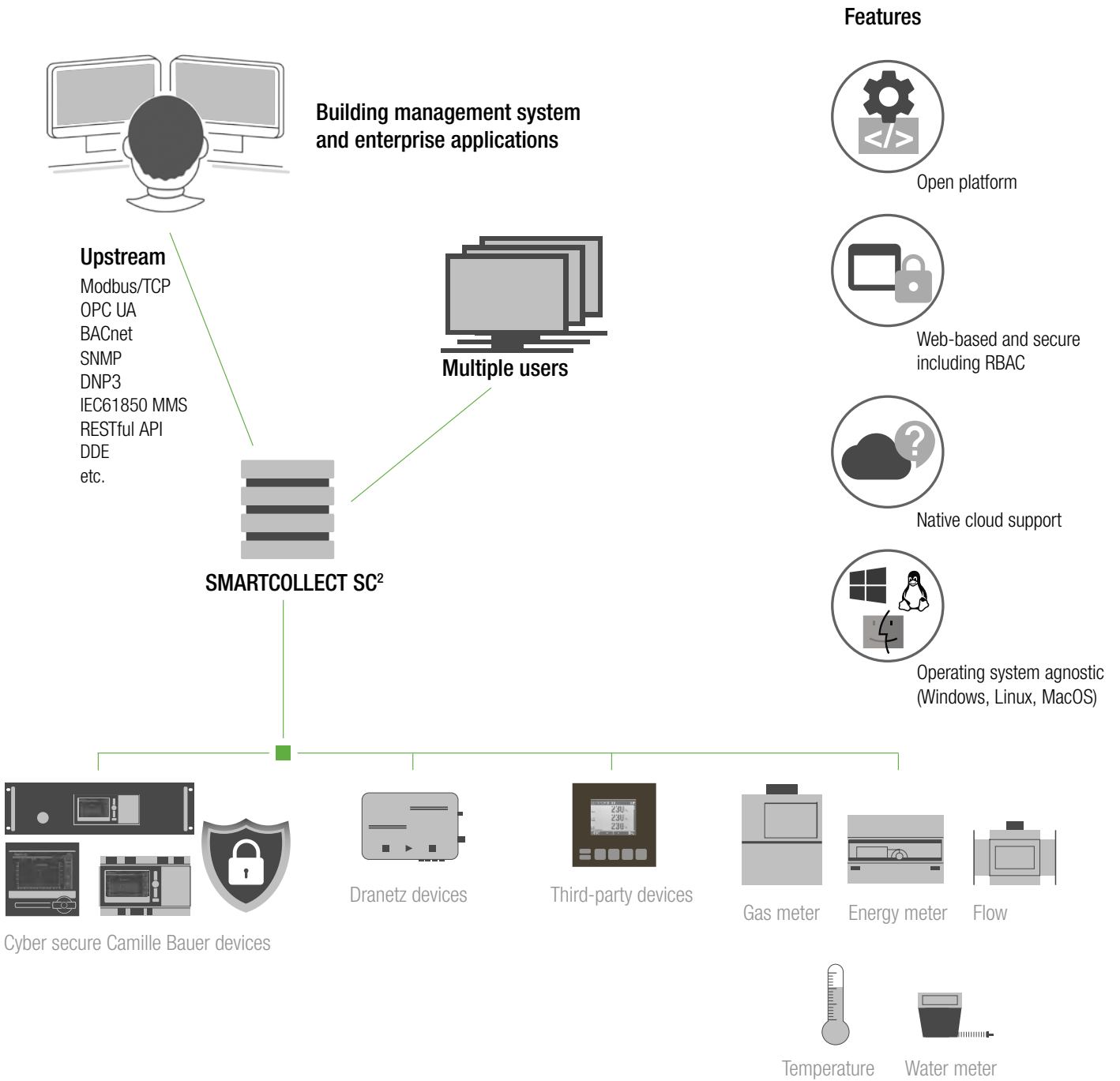


## Secure web-based system

The software is based on a modern and intuitive secure web application compatible with most common web browsers. The application needs no specific client software and runs on most common operating systems (OS) such as Microsoft Windows, Linux and MacOS, and provides intuitive cloud support.



# SYSTEM OVERVIEW



RECOMMENDED SYSTEM REQUIREMENTS:	SYSTEM	CPU	MEMORY	HARD DISK	SCREEN RESOLUTION	BROWSER *
<b>Starter Edition</b>	Windows 10 x64	2 CPU cores	4GB (+4GB with EMS)	250GB	1920x1080	Google Chrome, Mozilla Firefox, Apple Safari, Microsoft Edge
<b>Standard Edition</b>		4 CPU cores	12GB (+4GB with EMS)	500GB		
<b>Professional Edition</b>		4 CPU cores	12GB (+4GB with EMS)	500GB		
<b>Enterprise Edition</b>		4 CPU cores	20GB (+4GB with EMS)	1TB		

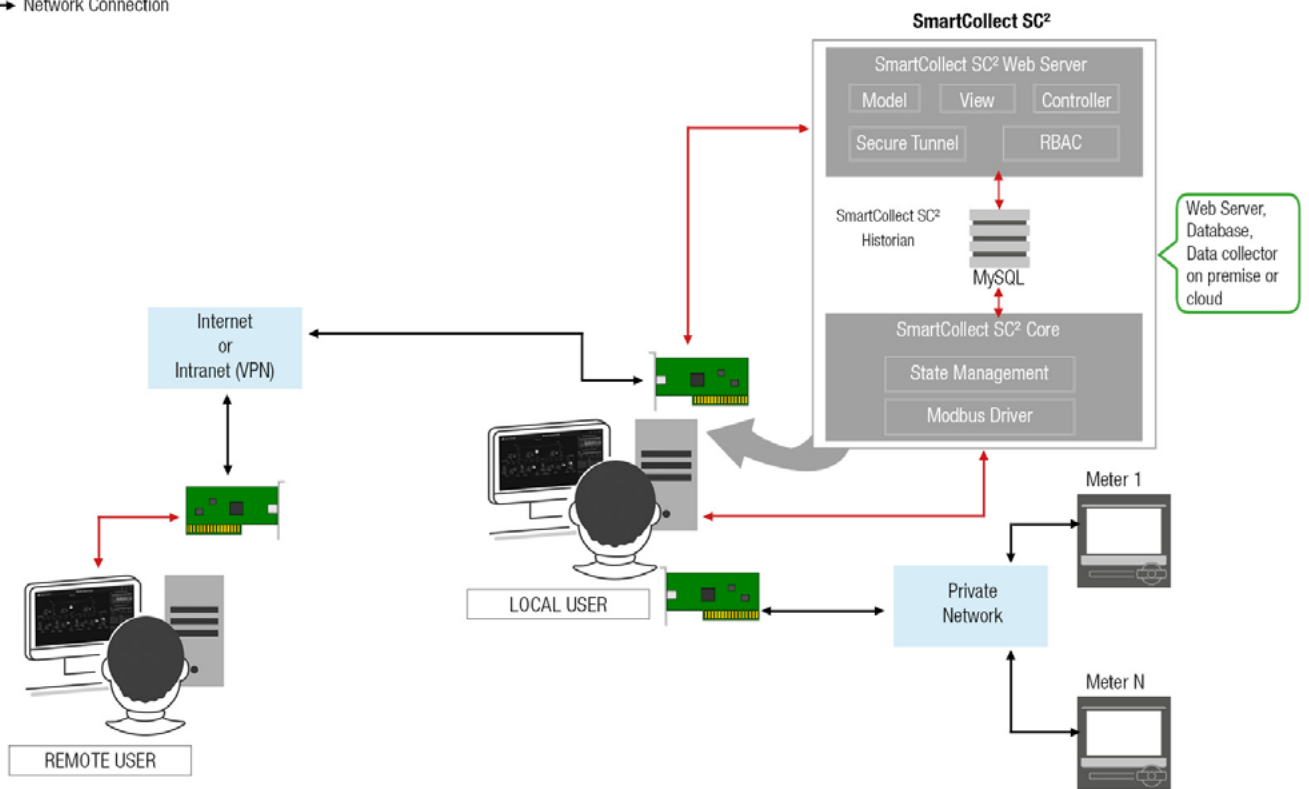
\* **Attention:** Please always use latest browser version. Sometimes browser negatively influences the software performance. In case of performance issues please check for a newer version of your browser or try another browser.

# INSTALLATION SCENARIOS

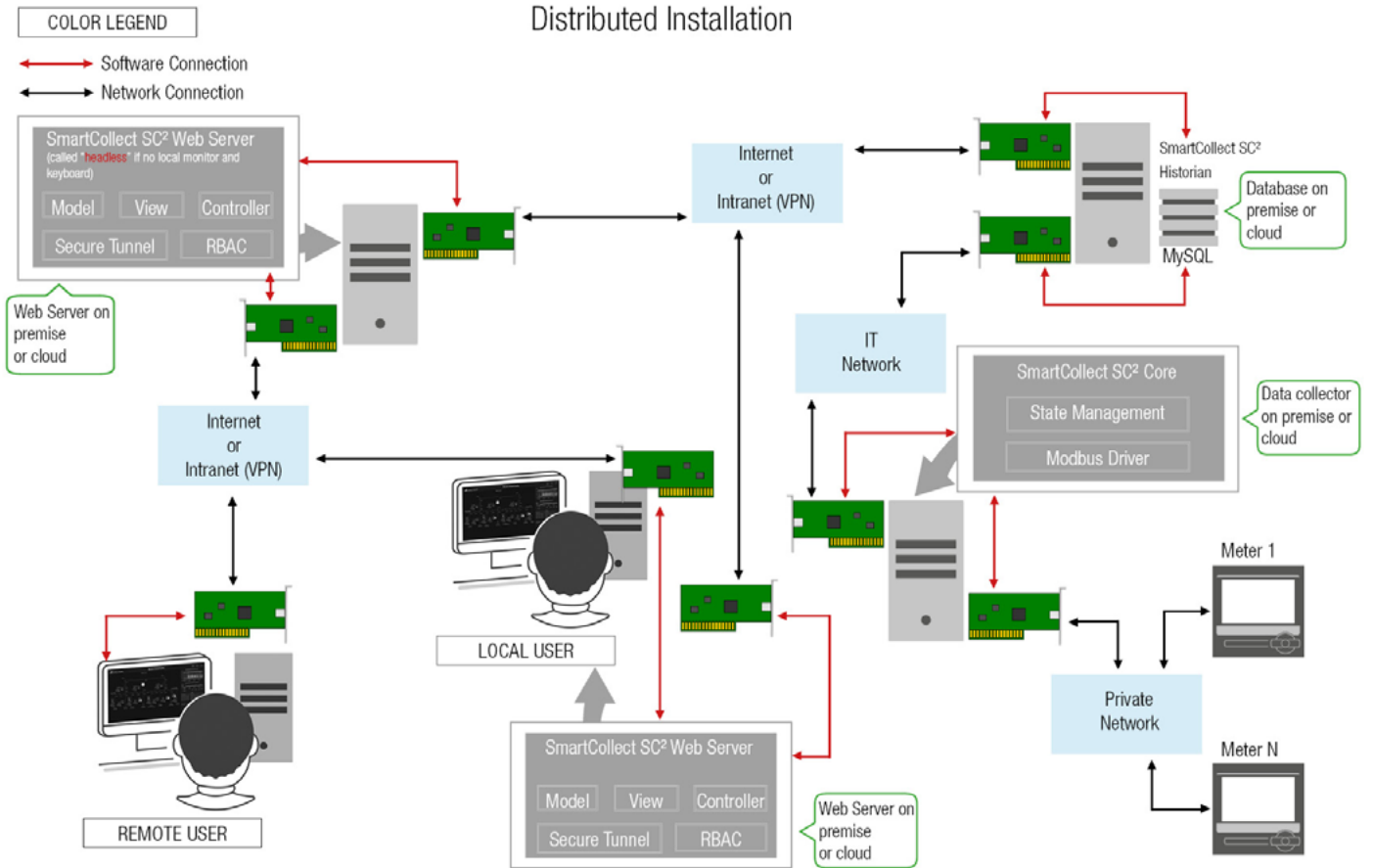
## COLOR LEGEND

- Software Connection
- Network Connection

## Single Node Installation



## Distributed Installation





# OVERVIEW OF SMARTCOLLECT SC<sup>2</sup> VERSIONS

System features	Starter Edition	Standard Edition	Professional Edition	Enterprise Edition
<b>Communication driver</b>				
Modbus/TCP Client <sup>(1)</sup>	✓	✓	✓	✓
Modbus/RTU over TCP Client <sup>(1) (3)</sup>		✓	✓	✓
Modbus/TCP Server <sup>(2)</sup>			✓	✓
OPC UA/DA Client			✓	✓
OPC UA/DA Server			✓	✓
BACnet Client			✓	✓
BACnet Server			✓	✓
SNMP Client			✓	✓
SNMP Server			✓	✓
DNP3 Client			✓	✓
DNP3 Server			✓	✓
IEC60870-5-104			(4)	(4)
IEC61850 MMS Client			✓	✓
IEC61850 MMS Server			✓	✓
RESTful API Client			✓	✓
RESTful API Server			✓	✓
DDE Client			✓	✓
DDE Server			✓	✓
<b>Feature component</b>				
Login screen	✓	✓	✓	✓
Interactive one-line (single line) with live data overlay	✓	✓	✓	✓
Measuring device quick view screen	✓	✓	✓	✓
Measuring device dashboard screen	✓	✓	✓	✓
Measuring device webgui view <sup>(5)</sup>	✓	✓	✓	✓
Event/alert screen	✓	✓	✓	✓
Role-based access control (RBAC)	✓	✓	✓	✓
Internationalization <sup>(6)</sup>	✓	✓	✓	✓
HTML online help	✓	✓	✓	✓
Energy Monitoring System (EMS) Screen	✓	✓	✓	✓
Energy Monitoring System (EMS) Reporting		✓	✓	✓
Field-customizable dashboard/report		✓	✓	✓
3rd-party device integration <sup>(7)</sup>		✓	✓	✓
Export dashboard/report screen as PDF		✓	✓	✓
Export dashboard/report data as CSV		✓	✓	✓
User management console		✓	✓	✓
Interactive 2D aerial view		✓	✓	✓
Summary PQ Event Notification <sup>(8)</sup>		✓	✓	✓
Interactive one-line (single line) with live animation			✓	✓
2D imagery background with live animation <sup>(9)</sup>			✓	✓
3rd-party web app embedding			✓	✓
Web proxy for VNC			✓	✓
Device log/waveform viewer				✓
Interactive 3D geospatial view				✓
E-mail notification				✓

System features	Starter Edition	Standard Edition	Professional Edition	Enterprise Edition
<b>Architecture/technology</b>				
Browser-server (BS)	✓	✓	✓	✓
HTTPS	✓	✓	✓	✓
Secure WebSocket (wss)	✓	✓	✓	✓
HTML5/CSS3	✓	✓	✓	✓
SVG	✓	✓	✓	✓
WebGL (3D)	✓	✓	✓	✓
<b>Operating system</b>				
Windows XP SP3 and above	✓	✓	✓	✓
MacOS		✓	✓	✓
Linux			✓	✓
<b>Deployment/installation</b>				
On premises	✓	✓	✓	✓
Cloud		✓	✓	✓
<b>Database integration</b>				
MySQL Client	✓	✓	✓	✓
MySQL Server		✓	✓	✓
Microsoft SQL Client				✓
Microsoft SQL Server				✓
PostgreSQL Client				✓
PostgreSQL Server				✓
<b>E-mail integration</b>				
POP3 client (receive email)				✓
SMTP client (send email)				✓
<b>Ad-hoc features</b>				
Retrieving, archiving and displaying device's local Data recording / Event log / Waveform capture <sup>(10)</sup>				✓
<b>I/O tags <sup>(11)</sup></b>				
≤ 250 <sup>(6)</sup>	✓			
Tier 1 < 500		✓	✓	
Tier 2 < 2,500			✓	
Tier 3 < 5,000				✓
Tier 4 > 5,000				✓

<sup>(1)</sup> also known as Modbus Master. To read data from devices via Modbus protocol

<sup>(2)</sup> also known as Modbus Slave. To feed data to other hosts via Modbus protocol

<sup>(3)</sup> also known as Modbus Encapsulated TCP. To read a Modbus/RTU device behind a device server via a generic TCP connection

<sup>(4)</sup> On request

<sup>(5)</sup> If available and only with https

<sup>(6)</sup> The GUI will use not more than one language of customer's choice

<sup>(7)</sup> Foreign 3rd-party brands on request

<sup>(8)</sup> For connected LINAX PQXXX devices, PQ events are listed and can only be read out and analysed from the device web page or by means of external software

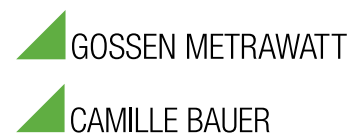
<sup>(9)</sup> Changing the color of lines/shapes based on values, blinking texts/lines/shapes based on values, fill color in shapes to certain level based on values, rotation of shapes (like the phasor diagram), etc.

<sup>(10)</sup> Customer to provide sample device and documentation. Extra 4-8 weeks R&D

<sup>(11)</sup> Tag = visual value point on the GUI, e. g. U1 = 1 tag, I1 = 1 tag, 1 virtual channel = 1 tag, etc.

If you have a request concerning a feature (e. g. Power Quality) that is not listed here, please contact Camille Bauer Metrawatt AG

# GMC INSTRUMENTS



Camille Bauer Metrawatt AG  
Aargauerstrasse 7 ▪ 5610 Wohlen ▪ Switzerland  
TEL +41 56 618 21 11 ▪ FAX +41 56 618 21 21

[www.camillebauer.com](http://www.camillebauer.com) ▪ [info@cbmag.com](mailto:info@cbmag.com)