



visIT

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Web-based plant visualisation

All in full view!

Efficient plant visualisation makes the work of service staff considerably easier. Allows for quick troubleshooting and saves time and money. The display can be installed on-site or you can take advantage of it via mobile devices or remotely over network connections as with the web server; all meeting stringent IT safety standards as you would expect.

The concept

visIT is a platform-independent visualisation tool for creating modern user interfaces. By importing all process variables from the parametrisation tool setIT*, the visIT designer can be used to conveniently integrate all relevant elements and can quickly be compiled into a tailor-made visualisation; the provided symbol library can be accessed but also drawn and dynamised fully individually.

The visualisation is then loaded into the telecontrol unit as an element of the firmware and can be called from its IP address in the same way as the web server. Almost all devices with HTML5-enabled browsers can serve as terminals; compatible smartphones and tablets, as well as fixed-installed touch displays. By combining with connectIT and installing on a separate server, visIT technology can also provide information for calls via decentralised on-site operating stations and can thus be used as a rudimentary control system.

Brief profile visIT

Platform-independent visualisation tool for creating modern user interfaces.

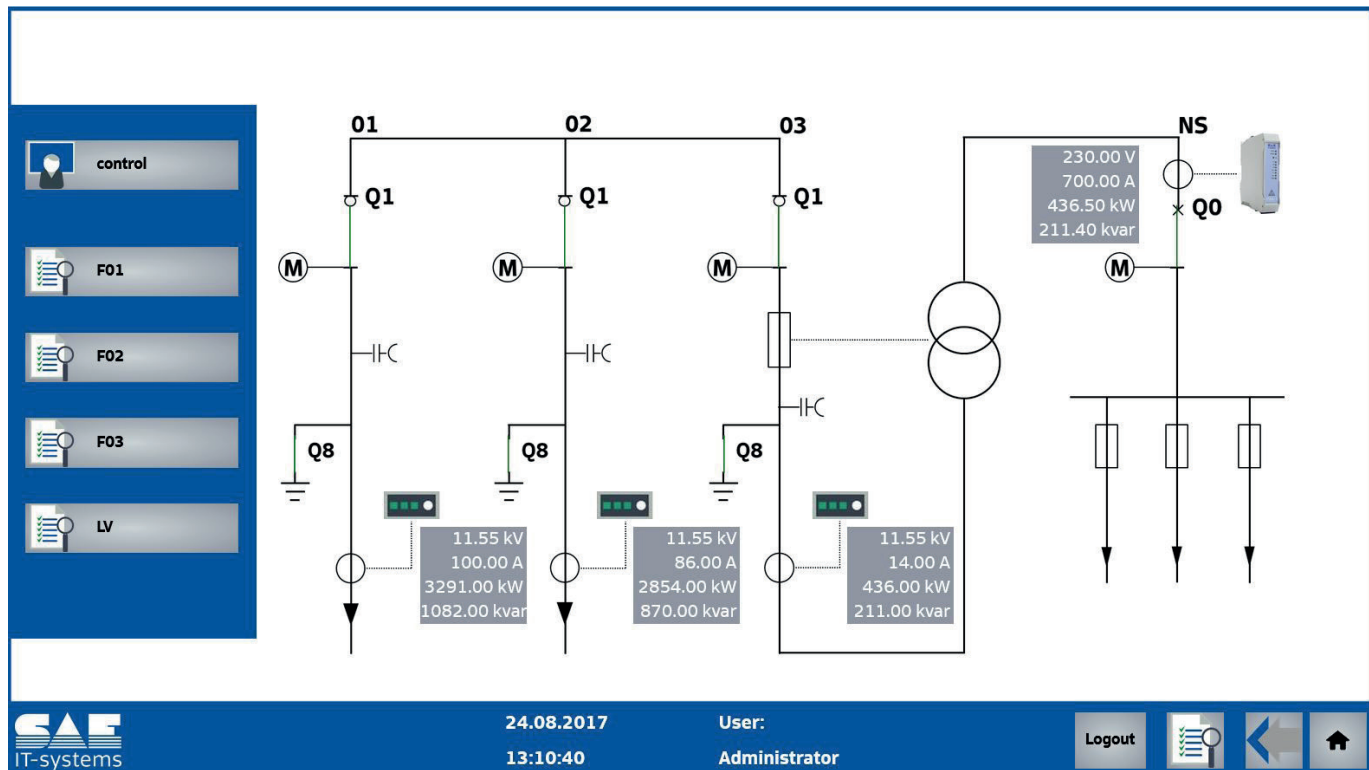
Based on HTML5 and Java-Script for high IT security.

Almost any device with an HTML5 enabled browser can be used as a terminal.

Convenient import of process variables from the parametrisation tool setIT with use of role-based access control. Monitoring functions, active intervention and switching operations possible.

Quick image creation using the provided symbol library; individual visualisation through free graphics design and objects dynamisation. Process images can also be made available as a service, and so there is no licence fee for the designer.





Detailed display of a local network station with switching option (left)

Monitoring & intervention

visIT runs in the station in runtime mode and has direct access to current process data and logged values of the station. In this way, all relevant information can be shown for operation and service:

- Online values
- Operations diary
- Alarm list
- Curve diagrams**

As well as the pure monitoring of system components and communication paths, active interventions such as switching operations and target requirements are also possible with visIT.

Exporting and importing process variables

Calling the designer from within setIT*, the created process variables are automatically sent to the designer. Big process data can be imported quickly and are ready for process visualisation. Separate designators in setIT set up a self-sufficient reference. Further process variables can be created and edited in the designer.



timestamp	status
24.08.2017 13:11:41	short circuit Inaktiv
24.08.2017 13:11:39	remote Inaktiv
24.08.2017 13:11:36	remote Aktiv
24.08.2017 13:11:32	short circuit Aktiv
24.08.2017 13:11:24	short circuit Inaktiv
24.08.2017 13:11:24	warning Inaktiv
24.08.2017 13:11:22	short circuit Aktiv
24.08.2017 13:11:22	warning Aktiv
24.08.2017 13:10:30	LV_Q0_closed Aktiv
24.08.2017 13:10:29	F03_Q1_closed Aktiv
24.08.2017 13:10:29	F02_Q1_closed Aktiv
24.08.2017 13:10:28	F01_Q1_closed Aktiv
24.08.2017 12:04:49	LV_Q0_closed Inaktiv
24.08.2017 12:04:49	LV_Q0_open Inaktiv
24.08.2017 12:04:49	F03_Q8_open Inaktiv

Example of an Operations Diary

Name	Type	PlantStruct	Structure instance element	[x]	Comme
On this line for each column, a filter can be set.					
1 #Date	String	Plantstruct	#Date VALUE	10	
2 #MessageBookListRefresh	Bool	Plantstruct	#MessageBookListRefresh...	1	
3 #MessageBookRefresh	Bool	Plantstruct	#MessageBookRefresh.VA...	1	
4 #Name	String	Plantstruct	#Name VALUE	3	
5 #Projectname	String	Plantstruct	#Projectname VALUE	12	
6 #Time	String	Plantstruct	#Time VALUE	8	
7 BMA_F01_Q1_closed	Bool	Plantstruct	BMA_F01_Q1_closed.VAL...	1	
8 BMA_F01_Q1_open	Bool	Plantstruct	BMA_F01_Q1_open.VALUE...	1	
9 BMA_F01_Q8_closed	Bool	Plantstruct	BMA_F01_Q8_closed.VAL...	1	
10 BMA_F01_Q8_open	Bool	Plantstruct	BMA_F01_Q8_open.VALUE...	1	
11 BMA_F01_short_circuit	Bool	Plantstruct	BMA_F01_short_circuit.VA...	1	
12 BMA_F02_Q1_closed	Bool	Plantstruct	BMA_F02_Q1_closed.VAL...	1	
13 BMA_F02_Q1_open	Bool	Plantstruct	BMA_F02_Q1_open.VALUE...	1	
14 BMA_F02_Q8_closed	Bool	Plantstruct	BMA_F02_Q8_closed.VAL...	1	
15 BMA_F02_Q8_open	Bool	Plantstruct	BMA_F02_Q8_open.VALUE...	1	
16 BMA_F02_short_circuit	Bool	Plantstruct	BMA_F02_short_circuit.VA...	1	

SQLite import in visIT

The Designer

Visualisation images are created by the visIT designer, a variant of the professional visualisation tool PROCON-WEB V6. The process variables for the telecontrol station are modelled in the designer as numerical, logical or text variables and can be displayed using simple assignment in the interface. The user has a number of pre-made controls, such as number fields, buttons and sliders. These can be adjusted individually both visually and functionally. Even self-drawn graphics can be imported and used in the visualisation. Through dynamisation of graphics, their representation can vary depending on the process variables, in the form of:

- Flashing
- Colour change
- Movement (e.g. Rotation)

Example

The position of switchgears is recorded via digital inputs on the remote terminal unit. In the visualisation interface, this is represented by the rotation of a switch symbol. To implement the requirement, information about the process point states is needed for various display angles:

Single-point information

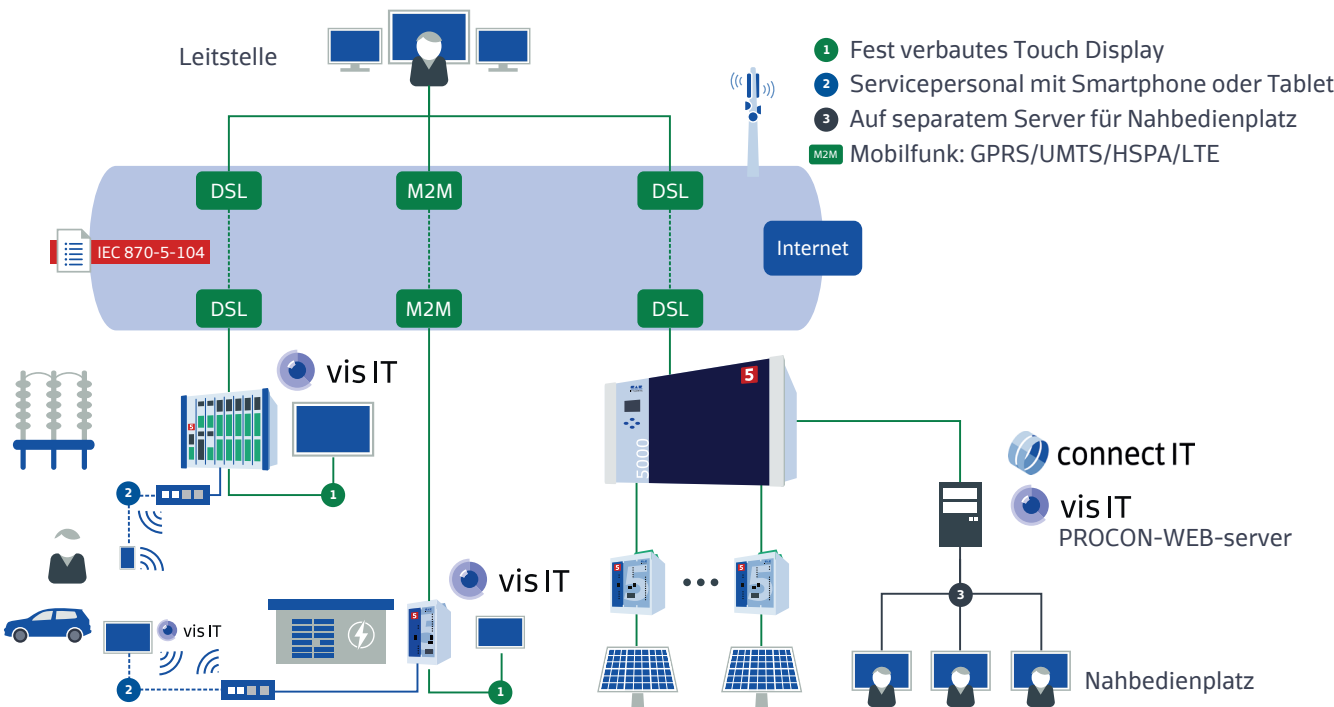
This process point type from setIT corresponds to a logical variable in visIT.

- logical process variable = 0 corresponds to switch OFF (inactive)
- logical process variable = 1 corresponds to switch ON (active)

Double-point information

This process point type from setIT corresponds to a numerical variable in visIT.

- numerical process variable = 0 corresponds to switch moving
- numerical process variable = 1 corresponds to switch OFF (inactive)
- numerical process variable = 2 corresponds to switch ON (active)
- numerical process variable = 3 corresponds to switch malfunction



Application capabilities and terminal equipment

High IT security

Integrating a plant visualisation requires a user management in setIT to be created and activated with password protection. This ensures unauthorised persons cannot see the station information and only employees can perform switching operations who have appropriate permissions.

Unlike many other concepts on plant visualisation in the market, HTML5 and JavaScript used for visIT offer a high level of IT security.

Properties of

visIT

Designer: Software tool for creating process images and symbols for visIT runtime or PROCON-WEB server.
Process images can also be ordered as a service.

Server:
series5+: visIT runtime for field devices starting with series5+:
net-line FW-5, FW-5-BT, FW-5-230, FW-5-230-BT
net-line FW-5-GATE, FW-5-GATE-230
net-line FW-50, FW-50-4, FW-50-14, FWG-50
net-line BCU-50
net-line FW-5000

series5e: net-line FW-5 rev3
net-line FW-5-GATE rev2, FW-5-GATE-4G
net-line FW-50 series5e
net-line BCU-50 series5e
net-line FW-5000 series5e

PC: local operator station with PROCON-WEB server

Client: All devices with an HTML5-capable browser such as Safari, Chrome, Firefox, IE,...
- Touch-displays/terminals for local display
- Smartphones
- Tablets
- PCs/notebooks

local displays with touch

T7: 7" terminal
Display: 7.0" TFT-TN, 800 x 480, 262 k colours, LED 400 cd/m², 30,000 h
Touch: resistive, antiglare
CPU: Cortex-A9, 1 GHz, 1 GB DDR3 RAM, 4 GB eMMC Flash
OS: Yocto-23, Chrome browser
LAN: 10/100-MBit/s
Assembly: Installation 202 x 127 x 32 mm, cut-out 190.3 x 114.4 mm, 490 g
Environment: 0 ... 60°C, 5 ... 90% rel. humidity without condensation, IP66
Supply: 9 ... 36 V DC, typ. 5.4 W

T10: 10.4" terminal
Display: 10.4" TFT-TN, 800 x 600, 262 k colours, LED 400 cd/m², 30,000 h
Touch: resistive, antiglare
CPU: Cortex-A9, 1 GHz, 1 GB DDR3 RAM, 4 GB eMMC Flash
OS: Yocto-23, Chrome browser
LAN: 10/100-MBit/s
Assembly: Installation 280 x 224 x 35 mm, cut-out 267 x 211.8 mm
Environment: 0 ... 60°C, 5 ... 90% rel. humidity without condensation, IP66
Supply: 12 ... 36 V DC, typ. 8.1 W

...

Product variants

visIT runtime

licence for series5+ stations*

- visIT runtime FW-5
- visIT runtime FW-50
- visIT runtime BCU-50

For PROCON-WEB under Windows

- PROCON WEB server K
up to 500 tags
- PROCON WEB server L
up to 1000 tags

visIT V6 Designer Demo

starting with series5+ stations
up to 20 tags, 5 images

visIT V6 Designer L-E

starting with series5+ stations
up to 1000 tags

PROCON-WEB V6 Designer

For implementing larger projects
on a Windows PC

visIT V6 Designer MUL

Multi-user-licence up to 10 users
per Designer

*starting with setIT V5.003.05

** starting with setIT V5.005

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