visIT
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.
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.

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

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

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 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-GATE, FW-5-GATE-230
  - 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

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**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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