WinCC V7.4 SP1
WinCC V15 Professional

The scalable, open SCADA systems for maximum plant transparency and productivity
SIMATIC HMI vs SCADA
The entire world of human machine interfacing & positioning

Enterprise Resource Planning (ERP)
Manufacturing Execution Systems (MES)

Plant Intelligence Options
Process visualization

Single-user PC
Client/Server
Web Client
WinCC Options

WinCC

Machine-level Human Machine Interface

Key Panels
Mobile Panels
Basic Panels
Comfort Panels
Industrial Thin Clients
Panel PCs
HMI-Software WinCC V15

SIMOTION Motion Control
SIMATIC Controllers
Other automation systems
Machine-oriented HMI software: SIMATIC WinCC V 15 (Basic, Comfort, Advanced)

- Flexible in application, with one engineering software from key Panel up to PC
- Single-user system
- Service and diagnostics via the Web
- Traceability and simple validation

Process visualization with Plant Intelligence: SIMATIC WinCC V 7.4 SP1 & V15 Prof

- Scalable from single-user up to distributed multi-user systems with redundant servers and Web clients
- Open standards for easy integration
  (incl. integrated MS SQL Server 2014 database)
- Expandable through options and add-ons
What’s available or new in the Basic SCADA System?

- in SIMATIC WinCC V7.4 SP1
- in TIA Portal V15 – WinCC RT Professional
- in SIMATIC WinCC V7.4 SP1 and in V15 RT Professional
SIMATIC WinCC V7.4 SP1
Operating Systems

Supported Operating Systems

- Windows 7 SP1 32bit & 64bit (Professional / Enterprise / Ultimate)
- Windows 8.1 32bit & 64bit *(Professional / Enterprise)
- Windows 10 64bit *(Professional / Enterprise)
- Windows 10 64bit LTSB
- Windows Server 2008 R2 SP1 64bit
- Windows Server 2012 R2 64bit *(Standard / Enterprise)
- Windows Server 2016 64Bit *(Standard & Datacenter)

Supported SIMATIC NET

- Simatic Net V14 & V14 SP1

For installation under Windows Server 2016, SIMATIC Net V14 SP1 is required
*only approved for integrated operation in SIMATIC Manager (Engineering Station) when using Step 5.6
TIA Portal V15 – WinCC RT Professional
Installation info & 2 New SUS contracts for RT Prof

Supported Operating Systems: only 64-bit OS
Windows 7 SP1 (64bit)
Windows 10 64bit / Windows 10 64bit LTSB
Windows Server 2008 R2 SP1 64bit
Windows Server 2012 R2 64bit * (Standard / Enterprise)
Windows Server 2016 64Bit * (Standard & Datacenter)

Supported SIMATIC NET
Simatic Net V15

Software Update Service for WinCC RT Professional

<table>
<thead>
<tr>
<th>6AV2107-0DB00-0AL0</th>
<th>WinCC RT Professional Client (SUS - Package)</th>
</tr>
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<tr>
<td>6AV2105-0XA00-0AL0</td>
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<tr>
<td>6AV2105-0XA00-0AY0</td>
<td>WinCC RT Professional (SUS-Download)</td>
</tr>
</tbody>
</table>
Starting with SIMATIC WinCC V7.4
Installation & Release Notes

Simplified WinCC setup

- Easy setup mechanism to automatically update existing WinCC V7.x installations
  - Manual removing of older WinCC options (e.g. WebNavigator) is not necessary
- Package installation of WinCC Client (SQL Server Express) from WinCC V7.4
- When you store the setup at a central location and launch it from a network drive, use the shortest possible folder names.
  (no longer than 255 characters)
- Record function of automatic WinCC package installation
  - Install WinCC on multiple PCs - use a central installation
  - Install WinCC without user interactions
  1. create “Ra_Auto.ini” file with record function
     * run → <installation data path>\setup.exe /record
  2. save/copy “Ra_Auto.ini” to C:\Windows
  3. start central automatic installation
     * run → <installation data path>\setup.exe /silent
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Versatile Communication to production

Native communication channels for the 4 leading PLC manufacturers
Additional channels are available as Premium Add-Ons

Source: ARC 2009 Programmable Logic Controllers Worldwide Outlook

S5 channels = only in WinCC V7 not in TIA !!!
SIMATIC WinCC V7.4 SP1

Openness

Extension of communication channel drivers

- Fully integrated **OPC UA Client** channel

- Support of **byte data blocks** (raw-data) in the **S7-1500** channel (with absolute addressing) --> In WinCC handling via script (sub-function of raw-data-communication S7-300/400)

- Diagnostic of new PLC´s via Runtime Control **“SysDiagControl”** (Diagnose Viewer)

- Support of up to **128 connected S7-1500 PLC’s**

---

**Product**

- SOFTNET-IE S7 Lean
  - for up to 8 connections
  - Version: V14
  - MLFB: (included in WinCC)

- SOFTNET-IE S7
  - for up to 64 connections
  - Version: V14
  - MLFB: 6GK1704-1CW14-0AA0

- SOFTNET-IE S7 Extended
  - for up to 512 connections (support of 128 S7-1500)
  - Version: V14
  - MLFB: 6GK1704-1BW14-0AA0
SIMATIC WinCC V7.4 SP1
Communication channel S7-1200 and S7-1500

Functionality Overview 7.2 -> 7.4 SP1

- Cyclic reading of tags
- Absolute & Symbolic addressing
- Password protection

- Chronological reporting (program alarm)
  - Support of full text alarms like RT Prof V14
- Support S7-1500 with WinCC Server-Client-System

- Use of S7-1200/S7-1500 tags in WinCC:
  - Export / Import Function (only absolute addressing)
    - 1) Export of tags from TIA Portal
    - 2) Import to WinCC via WinCC Configuration Studio
  - Load the AS Symbols (tags and alarms)
  - Offline import of configuration data from TIA Portal
  - Setup Pre- / Suffix as default value for tags

- Support of S7-1500 Software Controller (S7-1507S)
- Support of byte data blocks (raw-data) in the S7-1500 channel via scripting
  (sub-function of raw-data-communication S7-300/400 via byte-array)
- Step-up of the connection system limits to 128 for the communication to a S7-1500 PLC

- System diagnostic of new PLC´s
  "WinCC SysDiagControl" (Diagnose Viewer Control)
- New connection-specific tags @Systemtags

New channel in V7.2
New in V7.3
New in V7.4
New in V7.4 SP1
SIMATIC WinCC V7.4 SP1
Communication channel S7-1200 and S7-1500

- **Offline Import from TIA Portal** V13 SP1 onwards
- Tool directly Integrates in TIA Portal menu
- Export to a .zip-File

- **Import in WinCC via „Load from File“ Dialog**
- Grid View for Navigation through the PLC

Tool for offline import of PLC data from TIA Portal
See FAQ: https://support.industry.siemens.com/cs/be/nl/view/109748955/en

New in V7.4 SP1
**TIA Portal V15 – WinCC RT Professional**
Common data handling with S7-1200/1500

**Increased number of connections to S7-1500/S7-1200 PLCs**

- **Perfect interaction & System diagnostics**
  - Short time-to-market
  - Direct transfer of PLC-data and automatic link of HMI tags
  - Less multiple entries, thus less errors
  - Quantity structure of communication 
    WinCC Professional with S7-1200/1500 control

- Access to S7-1500 Web-Server
- Shortening of standstills
- Saving of live-cycle costs

**Direct display of CPU system diagnostics information of S7-1200/1500**

- System-, process messages and identification data
- Communication diagnostics

... up to 128 PLCs
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Further use of all relevant production data

Openness with OPC support

<table>
<thead>
<tr>
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<th>Client</th>
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<tbody>
<tr>
<td>OPC DA,</td>
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<td>Yes</td>
</tr>
<tr>
<td>OPC HDA, A&amp;C</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>OPC XML DA Server</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>OPC UA (DA, HA)</td>
<td>Yes</td>
<td>Yes, as of SP1 (OPC UA DA)</td>
</tr>
<tr>
<td>OPC UA A&amp;C</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

OPC / OPC UA

- Easy integration to IT-World
- Exchange of data with 3rd party systems due to OPC and OPC UA in the visualization

OPC UA Client

- As of V14 SP1: OPC UA DA
- As of V15/V74 SP1:
  - Enhanced security with support of authorization parameters (User & Password)
  - Support of Array data types
TIA Portal V15 – WinCC RT Professional
Short time-to-market through standardization

- Synchronization of structured PLC-data and HMI-tags
- User-defined PLC-data types (PlcUDT) for S7-1200/1500
- HMI-Faceplates connected to PLC structure, e.g. (Motor_PLC-UDT - Faceplate „Motor“)

Structured data blocks (PLC_UDTs)

- Direct use of structured UDTs in HMI („PlcUDT - „Accessible for HMI“)
- Name change of variables are updated
- Cross-references to instance – variables

- Faceplates refer to elements of UDT- instances

- Short time-to-market
- Less errors through tested standards
Overview of Configuration Studio enhancements since V7.2

- Filter functions
- Search & Replace / Copy & Paste
  - Pre & Post-fix as default value for each connections
  - Drag & Drop between Conf Studio & Graphics Designer
- Easy setup structure tags & changing of structure types
- Tag value table (update every second)
- VBA support
- Multi-instance functionality (open editors independently)
- Property window & Information field with help details
- Sublevels additional in “tabs” & structured data representation in grid view
- Undo & Repeat function
- Export & Import function
  - *.txt & *.xlsx format, import from Configuration Tool or TIA Portal for absolute addressing
  - Offline import of data from TIA Portal also for symbolic addressing
- Comments for tags (engineering only)

New in V7.2
(simple management of tags)

New in V7.3
(enhancement of integrated "database editors"

New in V7.4

New in V7.4 SP1
(Integration of Text- and picture list & Picture Tree Manager)
TIA Portal V15 – WinCC RT Professional
Efficient editors

Create user interfaces as fast as never before due to intelligent editors

- Global- and project libraries
- For all types of elements (Controller, HMI, faceplates,…)
- Versioning of objects

Graphic Editor & Library concept

- Continuous Engineering of the whole project
- Reuse of available project planning
- Reduces the project planning expenditure to a minimum for short time-to-market

- Versioning of elements (pictures, objects, DBs,…)
- Easy administration of project versions
Standardized and design oriented modular library:

- Function blocks, based on Structured Control Language (SCL) for the control level
- Faceplates and Icons) for the visualization level, scripting with Visual Basic (VB-Scripting)

Efficiency and standardization with the Basic Process Library

- Free collection of technological blocks for motors, valves, pumps, Motor, Valve, Pump, control units,..
- Significantly reduced engineering efforts
- Efficient engineering and reduced workload: Simple and fast application in the TIA Portal and WinCC RT Professional

see FAQ : Basic Process Library for WinCC V7 and Basic Process Library for TIA Portal (S7-1200/S7-1500/Runtime Professional) with Example Project : http://www.siemens.com/basic-process-library
SIMATIC WinCC V7.4 SP1
Run-Time Graphics innovations

Runtime news of WinCC V7.4 SP1

- Innovation of intuitive operation in Runtime
- Support of multi-touch gesture “zoom” & “pan” in WinCC Controls
- Support of touch gesture “right-mouse-click” during WinCC Runtime
- Multi-Touch gestures must be considered by picture windows
- expansions & highlights Touch gestures as events for custom actions

Enhancement of system dialog

- display of “displayname” in favorites view
- setup favorites WinCC pictures during Runtime

Further Runtime News

- Adjust the size of toolbar buttons from WinCC Controls
- Icons of WinCC controls can be customized
- New BarChartControl
- Display “analog alarms” in the OnlineTrendControl
TIA Portal V15 – WinCC RT Professional
Analog alarms in the trend control

1. Configure analog alarms and define limits
2. Activate alarms for the current trend in the trend view
3. Result in RT
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Intuitive operation using multitouch-gestures

Benefit

- **2 Finger Zoom**
  to zoom picture contents, to show and hide layers using decluttering function

- **Panning**
  zoomed picture content

- **Wipe / Flicks**
  picture changes through „wiping“ over the monitor

- **2-hand handling**
  enable operation or setpoint changes
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Efficient data management

Data management

Consistent data throughout the entire production

High-performance and reliable archiving
... of production data and recipes directly on the Controller or via WinCC Logging and WinCC Recipes in databases

Comprehensive archiving as interface to the IT-MES/ERP world
... centrally with the SIMATIC Process Historian

...is the basis for a transparent plant
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Local archiving of production data

WinCC Tag Logging

- Performant archiving of the entire process information within the integrated SQL Database
- Complete transparency
  Trend indicator and notification – anytime, anyplace
- Recognizing trends early
  thanks to integrated statistical analyses
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Local archiving of production data

WinCC Tag Logging

Powerful, Open and Integrated SQL-Database to archive process data

Compression intervals (day, week, month, year)

Integrated segmentation- and backup mechanism

Subsequent entering of manual- or laboratory values

Archiving of Strings in WinCC Tag Logging

Benefit

High-performance database as WinCC standard

Scalable up to 80,000 archive - variables (per Server)

Long-term availability of WinCC data

Safety of WinCC data

New and only in V7.4 SP1
WinCC Trend Control

Benefit

WinCC Trend Control with lots of individual settings to analyze actual and historical process values.

Integrated statistical calculations of process values: Process value, minimum, maximum, average, standard deviation and integral calculus.

Reference curves (comparison of curves e.g. “Golden Curve“).

Subsequent input of manual or laboratory values.

Trend analysis via Web.
**SIMATIC WinCC V7.4 SP1 / V15 RT Professional**
Flexible alarm system – adaptable to individual requirements

**WinCC Alarm System**

**Benefit**

Archiving of messages in the WinCC SQL database (info consists of up to 30 system info’s, 10 user defined texts and up to 10 process values)

Messages and Different alarm classes to define the importance, the layout (colors) and the acknowledgement of the alarms in runtime

System alarms directly imported from S7 PLC’s (TIA concept)
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Flexible alarm system – adaptable to individual requirements

WinCC Alarm control

- Configurable alarm control for an ideal plant overview including views of currently active alarms and archived messages
  - user-defined content and filter functions
  - Hitlists to view integrated statistic functions (Top10, average, standard deviation, min,max…)
  - integrated multilingualism
- Lock messages (suppress during plant disruptions) and hide (but archive) & view them in Lock List
- Alarm analysis via web

Benefit
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Globally applicable as multilingual applications

- Engineering in several European and Asian languages (D, E, I, S, F, CHT) and simple implementation of global applications due to UNICODE support
- Individual language selection regardless of the operating system
- Central administration of texts in all languages export/import
- Hardware Dongle for Asia is necessary as soon as Asian characters used
- Reduced expenditure for Engineering, IBS and Service
- Simultaneous display of texts/reports in several languages regardless of operating system / language settings
- Clear administration of texts for all target countries
- Copy protection

Multilingualism due to UNICODE support
Compliance certificates for Siemens products
In August 1997, the regulations of the 21 CFR Part 11 Electronic Records; Electronic Signatures of the US Food and Drug Administration (FDA) became effective. These regulations define the acceptance criteria for the use of electronic records and electronic signatures, which must be just as reliable and trustworthy as, and equivalent to, records in paper form and handwritten signatures on paper. Our SIMATIC HMI solutions meet all the technical requirements for the use of electronic records and electronic signatures.

Declarations of the manufacturer and declarations of conformity
- Prove that the products comply with the requirements for the storage of electronic records and electronic signatures
- Compliance with additional requirements of 21 CFR Part 11 and EU Good Manufacturing Practice (GMP) guidelines
- Compliance of the development and production of Siemens products according to our quality management system.

Compliance Responses ERES (Electronic Records / Electronic Signatures) for Siemens products:
GMP-conformity in pharmaceutical industry

How do you generate user-defined operator input messages in WinCC?

Record operator actions in WinCC Professional with the WinCC WebNavigator
https://support.industry.siemens.com/cs/be/nl/view/109479441/en
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Consistent protection according to IT guidelines

central user administration:
- password administration
- automatically logout after inactivity or multiple false entries

Integration to windows user administration (consistant from SIMATIC panels to WinCC Runtime stations)

SIMATIC Logon

- Security according to IT-guidelines
- High security through administrator and user measures

Support of domain concepts and windows workgroups
**Example of Virtual WinCC Clients on Hypervisor**

- Thin Clients via remote access to WinCC Clients of host server
- WinCC RT Professional Server

**Benefit**

- **Separation of applications** and hardware
- **Data security and availability**
  Infrastructure decoupled from environment
- **Efficiency** thanks to simple system expansion without consideration for the operating system version
- **Reduced workload for maintenance** thanks to the SIMATIC Software
- Runs on VMware ESXi 6.0, **ESXi 6.5**
- Runs on Windows Hyper-V 2012 R2, **Hyper-V 2016**

New in V7.4 SP1/V15 RT Prof
What’s new in the WinCC Options?
SIMATIC WinCC V7.4 SP1
Options – Extend the WinCC core system according to your needs

SCADA expansions
User Archives
Calendar Scheduler
Event Notifier
Telecontrol *
SES *

Increased Availability
Redundancy
ProAgent *

Scalability
Server
Web Navigator
WebUX New
Process Historian

Plant Intelligence
ConnectivityPack / Station
IndustrialDataBridge
DataMonitor
Information Server
PerformanceMonitor

System Expansions
ODK

Validation / Tracing
Audit
Change Control

Energy Management
Energy Manager Pro

www.siemens.com/simatic-wincc-options

* No tested and released for V7.4 SP1 yet

Only use (and buy) the functionality which is necessary for your industry
### TIA Portal V15 – WinCC RT Professional

#### Options for WinCC V15 (grey = not available)

<table>
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<th>WinCC flexible</th>
<th>WinCC (TIA Portal)</th>
<th>WinCC</th>
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<td>Archives</td>
<td><strong>Option for RT Advanced / Panels</strong></td>
<td><strong>Option for RT Professional</strong></td>
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<td>OPC</td>
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<td><strong>ControlDevelopment (PC)</strong></td>
<td></td>
<td><strong>Sm@rtAccess Sm@rtService</strong></td>
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</tbody>
</table>

- **New V14**
- **New V13**
- **New V13 SP1**

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SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Archiving of parameter sets and/or User Defined Data

WinCC Recipes (named User Archives in 7.x)

- Performant archiving
  … of coherent recipes and parameter sets

- Efficient administration
  … administration of recipes / parameter sets directly through HMI

- Process control via data sets
  … coordinated transfer between control and HMI
WinCC Redundancy

- **System availability through parallel operation** of two coupled single-station systems or server – assumption of red. servers in case of failure and automatic data reconciliation after the end of the failure
- **Continuous operation** through automatic switch of clients to the intact server
- **Increased performance** through allocation of WinCC operating station to both red. server (in normal operation)
- **When Failed partner is restored** Process values, messages and data from the archives during the failure time period are automatically updated.

The Redundancy Option is only needed 1 x for both RT systems.
Structure of powerful multi-user systems

**WinCC Client/Server**

- **Multi-user system** of up to 32 client stations
- **Investment protection** through simple expansion
- The server provides clients with process- and archive data, reports, pictures and protocols
- No Local WinCC project on the clients (UNI-CLIENTS)
- The **Server option is needed** on the WinCC RT Server
- **Continuous user administration** in the overall situation

Max 1..32 UNI-Clients

WinCC RT Clients

WinCC RT Professional Server
SIMATIC WinCC V7.4 SP1
Turn the WinCC system to a server with fixed (“fat”) clients up to a distributed multi-user system

Standard or UNI-Client: no SQL Express no local client project

Max 1..64 UNI-Clients

Engineering Client

Multi-Clients: with SQL Express and local client project

Max 1..50 MULTI-Clients

WinCC Client/Server

1. WinCC Basic
   e.g. WinCC V7.4 RT 64K

2. WinCC RT Client
   MLFB: 6AV6381-2CA07-4AX0

3. WinCC/Server
   MLFB 6AV6371-1CA07-4AX0

4. WinCC RC 64K
   MLFB: 6AV6381-2BQ07-4AX0

Max 1..50 MULTI-Clients

Max 1..64 (redundant pair) of WinCC Servers

WinCC Engineering Client

Max 1..50 MULTI-Clients

Max 1..64 (redundant pair) of WinCC Servers

Max 1..18 (redundant pairs) of WinCC Servers
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Comprehensive web-based operation and monitoring

WinCC WebNavigator

- Comprehensive remote access for easy operation and monitoring of plants
- Secure remote access with consistent rights in accordance with IT Safety-standards
- Efficient remote maintenance with consistent diagnosis even of physically separate plants
- Full Functionality and Identical Look & Feel as WinCC standard without engineering effort
- Minimum maintenance costs
- Client side installation

* Only for WinCC V7.x
Secure WinCC WinCCViewerRT.exe

- High security
  - no access through IE & other internet pages
  - No virus / Trojans from internet
  - As safe as a regular WinCC client
- Access only to WinCC Web server
- Viewer can be called with settings → XML file
- Call of configuration via keyboard shortcut
- Optionally lock keyboard (Ctrl+Alt+Del)
- Usable with Terminal Services
- Industrial Thin Clients in the field
- Load Balancing using WinCCViewerRT
- Horn functionality on WebClients
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Flexible operation and monitoring – any time, any place

WinCC WebUX

- Optimally informed – focus on Mobile Devices
  24/7 (remote) access to important production characteristics and plant data

- Secure information
  thanks to Web-Standards (access through HTTPS, SSL certificate) with consistent user administration

- „Ready to use“
  thanks to various maintenance free Clients

- Zero Client side installation
  For all devices with a web browser with HTML5 support

- Low engineering costs needed
  to make dedicated screens (not full functionality today)

The options WebUX and WebNavigator complement each other and can be used in parallel
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
WebUX supported objects, controls, animations, scripts

Basic objects
- Line
- Polyline
- Polygon
- Ellipse
- Ellipse segment
- Circle segment
- Circular arc
- Circle
- Rectangle
- Connector
- Text field
- Pipe
- Double T-piece
- T-piece
- Pipe elbow

Elements
- I/O field
- Editable text field
- List box
- Combo box
- Button
- Alarm view
- Symbolic I/O field
- Graphic I/O field
- Bar
- Symbol library
- Slider
- Check box
- Option buttons
- Gauge
- Clock
- Memory space view

Controls
- Screen window
- User view
- HTML browser
- Print job/Script diagnostic
- Recipe view
- Recipe view
- FT trend view
- Trend view
- Tag connections
- Add new animation
- Bold
- Display
- Add new animation
- Appearance
- Control enable
- Visibility
- Movements
- Add new animation
- Horizontal movement

Animations
- Overview
- Animate property
- Add new animation
- Animate property
- Tag connections
- Add new animation
- Bold
- Display
- Add new animation
- Appearance
- Control enable
- Visibility
- Movements
- Add new animation
- Horizontal movement

Scripts
- VB Scripts
  - Global
  - At properties
  - At events
- C Scripts
- Scheduled tasks
- Faceplates / Customized Objects

Graphic format: BMP, TIF, PNG, ICO, EMF, WMF, GIF, JPG, JPEG, SVG

new in WinCC V7.4 SP1 & V15 Prof

Online status display of used WebUX licenses and automatic Login for Monitor Only WebUX clients

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Uniform license concept

- Licenses for WebNavigator and WebUX are countable and ‘version less’ => ‘-’
- **Same MLFB nrs** for WinCC V7.4 and V14
- The licenses of WebNavigator, DataMonitor, IDB and WebUX version independent (and countable) from WinCC V7.4 / V14 on (same MLFB nr) and **are not backwards compatible any more**.
- Attribute „Use WebNavigator License for WebUX“
- **ONE FREE Monitor Only WebUX Client**
SIMATIC WinCC V7.4 SP1
Positioning of archiving and analysis functionalities

- **OS server**
- **WinCC** Single station or WinCC Server
- **WinCC DataMonitor**
- **WinCC Reports**
- **SIMATIC Process Historian**
  - Tags, Alarms
- **WinCC/ConnectivityStation**
- **WinCC/ConnectivityPack**

**Scalability of Archives**
- **Scalability of Reports**

**Office PC**
- Web Browser
- Microsoft Office (Excel)

**SIMATIC Information Server**
- Web Browser
- Microsoft Office (Excel, Word)
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Comprehensive archiving as interface to the IT- and MES/ERP world

- Unlimited amount of data archiving from various WinCC Scada sources regardless of the version in use

- Efficient archiving long-term and real time with minimal memory requirement – can optionally be redundant

- Connection of external systems secure and reliable via standardized interfaces

- Transparent access to PH data via
  - WinCC Clients and Web Clients
  - Information Server Option
SIMATIC WinCC V7.4 SP1 / V15 RT Professional

Information management

Transparent production for optimized processes

Web-based reporting
... target group-specific analysis of production data with the SIMATIC Information Server

Web-based operator control and monitoring
... flexible on diverse devices/browsers with WinCC/WebUX or comprehensive remote access with WinCC/WebNavigator

... making the right decisions instantly
SIMATIC WinCC V7.4 SP1 / V15 RT Professional

Web-based reports and evaluations

SIMATIC Information Server

- Complete transparency thanks to consistent analysis of data from various sources
- Efficient web-based analysis thanks to structured Dashboards and automated reports
- Easy analysis with MS Office thanks to integration in Microsoft Excel, Word and Powerpoint
Required information is available at any time

- reach your goal safely using innovative solutions
SIMATIC Information Server 2014 SP3
Subscriptions run automatically triggered on time (once or recurrent) or event
### New Relative time specification: month

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.01.2012 10:00:00+1d-2h+30m</td>
<td>13.01.2012, 10:00 AM plus one day minus 2 hours plus 30 minutes</td>
</tr>
<tr>
<td>*-24h+30m</td>
<td>Current time minus 24 hours plus 30 minutes</td>
</tr>
<tr>
<td>t-3m</td>
<td>12:00 AM of the current day minus three minutes</td>
</tr>
<tr>
<td>2y-3mo</td>
<td>2 years minus 3 months</td>
</tr>
<tr>
<td>y-15h</td>
<td>12 AM of the previous day minus 15 hours</td>
</tr>
<tr>
<td>12</td>
<td>The 12th of the month</td>
</tr>
</tbody>
</table>

### Examples for relative time specifications

The following table gives examples of relative time specifications:

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
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<tr>
<td>13.01.2012 10:00:00+1d-2h+30m</td>
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</tbody>
</table>

### The following table shows the available relative time specifications:

<table>
<thead>
<tr>
<th>Relative time specification</th>
<th>Time unit</th>
<th>Web application</th>
<th>Office add-ins</th>
</tr>
</thead>
<tbody>
<tr>
<td>ms</td>
<td>Millisecond</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>s</td>
<td>Second</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>m</td>
<td>Minute</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>h</td>
<td>Hour</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>d</td>
<td>Day</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>w</td>
<td>Week</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>mo</td>
<td>Month</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>y</td>
<td>Year</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### The following table shows the separate relative time specifications:

<table>
<thead>
<tr>
<th>Relative time specification</th>
<th>Time unit</th>
<th>Web application</th>
<th>Office add-ins</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>Current day</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>y</td>
<td>Yesterday</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>*</td>
<td>Current time</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1-31</td>
<td>1st - 31st of the month</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
SIMATIC WinCC V7.4 SP1 / V15 RT Professional
Process Historian / Information Server 2014 SP3

- **improved information** in the Excel Add-In for errors and/or not finished actions

- **Status information** of the PH and the OS-PH
Communication on the WinCC Client through new, internal tags (to be created manually)

- **IS2014 SP3** shows all tag logging data until NOW as endtime (‘*’) using the WinCC OLE-DB interface similar to the trend controls without the need of the Process Historian option.
Efficient types of supervisions

„Operands“
... supervision of signal states of static operands such as pressure or temperature

„Interlocking“
... has an action been executed and has enable been given?

„Response“
... for example, has a product reached the end position within the specified period?

„Position“
... is an initial or end position retained consistently?

„Action“
... for example, has a product left the initial position after the start command?
TIA Portal V15 - SIMATIC ProDiag
Analysis of errors within the production process

**Full integration in the TIA Portal**

**Machine- and plant diagnostics**

- "independent"
  ... of language editors / program code

- "comprehensive"
  ... also for safety and know-protected blocks

- "consistent"
  ... Integration in cross-reference functions with permanent data consistency
TIA Portal V15 – WinCC RT Professional
Functional improvements

ProDIAG - controls
- Show previous and next step additionally to the current step
- Show the first faulty operand of the criteria analysis

OPC UA Client
- Security: support of authorization parameters (User and password)
- Support of Array data types

SVG Graphics
- Scalability without changing the image quality
- Support of static SVG graphics

Increased number of connections to S7-1500/S7-1200 PLCs
- up to 128 PLCs
Energy management starts with transparency

Energy management

Energy transparency for energy savings according to ISO 50001

Easy and efficient recording of energy data
...as integrated automation solution with the SIMATIC Energy Suite

Reduction of operating costs...
...due to the comprehensive energy management system SIMATIC Energy Manager PRO (previously B.Data)

...energy-efficient production in compliance with legal stipulations
Plant operator

Costs  Laws  Image

Efficient and economic energy consumption management across site boundaries
Live consumption display and monitoring via panel and SCADA
Consumption detection integrated in automation

Energy transparency

TIA Portal V15 – Energy Management
Energy management starts with transparency
TIA Portal V15 - SIMATIC Energy Suite
Integrated energy management

Benefit

• Easy configuration thanks to integration in engineering
• Efficient realization thanks to an automated generation of the energy program
• Visualization of energy data in combination with production data through ready-made faceplates
• Consistency from acquisition to management
• Flexibility through simple integration of measuring stations and overlapping systems
• Seamless connection to the energy management system SIMATIC Energy Manager PRO
TIA Portal V15 - SIMATIC Energy Suite
Integrated energy management

V14
Energy Data Acquisition

V15
HMI / SCADA

Energy Manager PRO

Load Management

Visualization & Archiving

New in V15

- S7 Energy Efficiency-Monitor for Machines
  - S7-Instruction for analysis energy efficiency of machines (according to VDMA 34179)
  - Screen and report templates will be provided by application examples in the Online Support

- General Improvement: No PowerTag license count anymore*
  → Only Energy Objects must be licensed

* in WinCC Professional
TIA Portal V15 – WinCC RT Professional
Energy Suite integration

**Function**
Visualization of energy data in energy objects requires **no additional PowerTags** in WinCC Professional

**Customer benefits**
- **Cost reduction**
  Number of PowerTags is not increased by energy data
- **Simplified order process**
  - Number of PowerTags required does not have to be calculated in advance
  - New measuring points do not lead in parallel to the PowerTag license being exceeded

**Comparison**

<table>
<thead>
<tr>
<th>Number of PowerTags per energy object</th>
<th>V14</th>
<th>From V15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 180</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>
What is the best SCADA System for you?
SIMATIC HMI SCADA Systems
What is the best SCADA System for you?

WinCC RT Professional (TIA Portal)
small/mid-size applications
=> Growth via new business (latest PLCs)

WinCC V7
mid-size/big applications
=> Growth via existing market share and scalable functionality

HMI
(machine level)

WinCC Advanced (TIA Portal)
for PC-based single-user solutions

WinCC Comfort (TIA Portal)
for Panel-based solutions

SCADA

WinCC V7.4 SP1
The standard SCADA System

WinCC Professional V15
the SCADA System in TIA Portal
The scalable, open SCADA systems for maximum plant transparency and productivity

Thank you for your attention

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