



atvise®

scada

PURE WEB
POWER

atvise[®] scada

Supervisory Control and Data Acquisition in pure Web Technology

The availability of information, independent of location and time, from all kinds of various systems on the same network, has become the encompassing standard of the 4.0 age of industry. In industrial automation this demand is being extended even further by paradigms such as IoT and Bring Your Own Device. In order to meet these requirements, open and flexible systems that are not based on proprietary standards are required. Conventional control stations and operating systems which were developed under dated requirements and based on older, limited technology, are no longer up to the demands of today.

Equipped for the Requirements of the Future

Right from the beginning, atvise[®] scada had been developed using future-oriented technology forming the foundation of the product. The implementation of open industry and communication standards such as OPC UA, enables customers to reduce project planning and maintenance to a minimum and save costs. Native web technology is put at work for the automation world and the inevitable problems encountered when using proprietary solutions are circumvented with ease.

Open Standards

By using established standards (e.g. HTML5, SVG - vector graphics, TCP/IP), user interfaces created by atvise[®] are displayed and executed in all common web browsers without individual special add-ons such as plug-ins, ActiveX, Java or Silverlight. This means more added value: Web browsers are available everywhere, independent of the device, whether at the plant or for remote maintenance. Eliminating annoying client installations and updates means less work during operation and maintenance.

Maximized graphic design variations and access security are some of the benefits of native web technology. Instead of trying to use a makeshift connection to the "outside world", atvise[®] scada is based entirely on universal standards. This guarantees performance, expandability and simplicity.





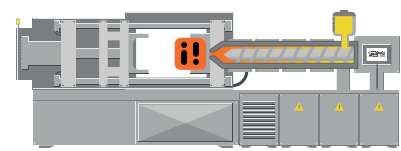
SCADA Features

The standard version of atvise® scada offers all the features required for the implementation of SCADA projects. In addition to a multitude of options for process interfacing – for example, flexible alarm management with freely configurable alarm hierarchies, high-performance historization with integrated aggregation, and integrated web trending- you will also find a high-performance server-side JavaScript runtime environment.

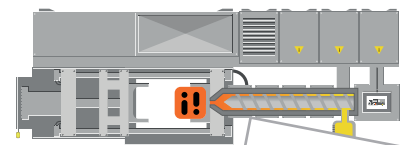
The increasing need to process large data volumes necessitates high-performance and scalable solutions which can also be seamlessly integrated into a wide variety of system architectures. atvise® scada can scale up from small applications using a few data points on low-cost platforms, to large sprawling applications with several million data points; and offers the highest interoperability by using OPC UA as a process interface.

HIGHLIGHTS

- High-performance responsive web visualisation with touch-optimised object catalogue.
- Best interoperability by implementing OPC UA DA, HA, A&C, methods and aggregates on the server and client.
- Data acquisition via OPC UA, S7 Step7/TIA, Ethernet/IP, Modbus TCP, BACNet, databases, Web services.
- High-performance data archiving with 40 aggregate functions.
- Flexible alarm processing with high-level alarm features (reset, suppress, deactivate) and freely configurable alarm hierarchies.
- Efficient engineering through vertical object orientation of graphic and data objects.



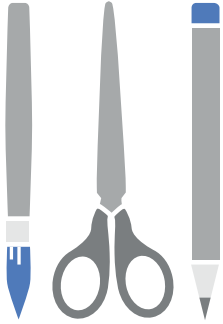
Vertical.Objects



OPC UA
at work

Powerful Project Planning

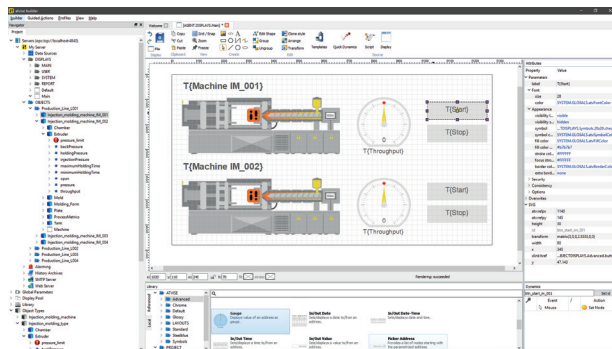
Planning and configuration are handled by the engineering tool atvise builder using any PC. The tool accesses the server locally or remotely via the Internet to make it possible to create data objects, configure alarms, or draw process images online while the plant is running.



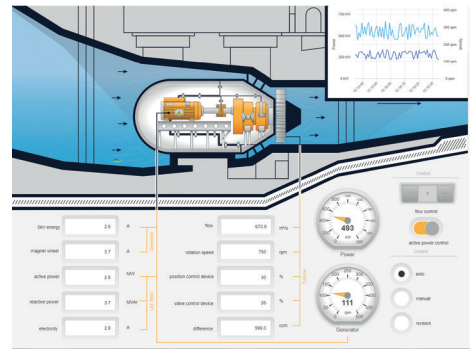
A large number of preconfigured standard objects and control panel layouts can be generated and fully customized by using the on-board atvise graphics editor. Original objects can also be created and augmented with preconfigured dynamics.

Once defined, user interfaces can be applied on all target systems immediately, without adaptation, regardless of screen resolution, operating system, or web browser. Update rates and response times outshine any previous Web application experience and even surpass conventional operating systems.

atvise® builder - Engineering Tool



Visualization / Trending

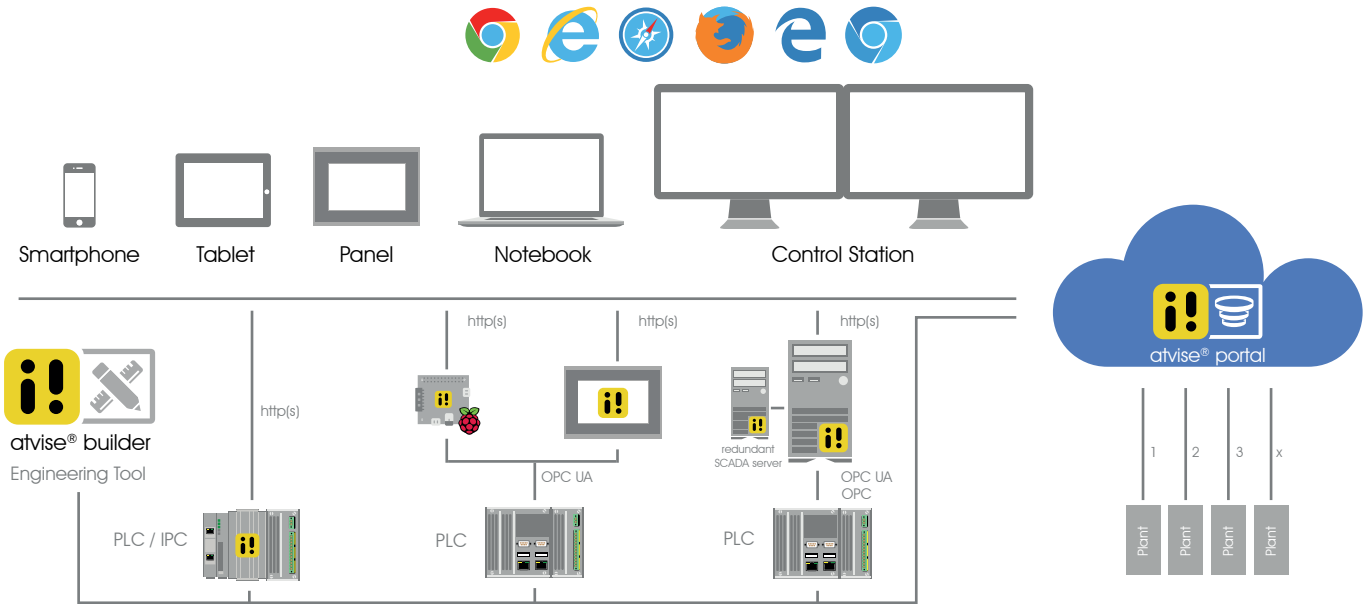


Licensing – CCD's

Fundamentally, atvise® products enable any Web browser (client) to access an atvise® visualization. atvise® licensing is based on so-called "Concurrent Connected Data Points"; meaning the total number of data points that are displayed simultaneously on all connected clients. If a graphical view with ten data points is displayed simultaneously on ten clients, the total number of CCD's is 100. In this case, a 50 CCD license would not be sufficient; a 150 CCD license would be required.

atvise® scada is available with the following standard CCD packages: 50, 150, 1500, and 5000 CCD's.

Architecture



Technical Data atvise® scada 1)

Process Interfacing

Protocols	OPC UA Data Access, OPC UA Historical Access Server & Client OPC UA Alarms & Conditions Server & Client, OPC UA Methods Server & Client OPC Data Access V2.05, V3.0, webMI Data Interface, SNMP V1.0, V2.0c Siemens S7 Step7/TIA, Ethernet/IP, Modbus, BACNet, SLMP via atvise connect Databanks via ODBC, Web services via HTTP/HTTPS
Physical interface	Ethernet (physical characteristics depending on target device)
Parallel operation	Yes - several protocols, several data sources
Types of data	All OPC UA compliant element types, fields and structures
Data mapping	Integrated - digital, analog and strings
Data model migration	Yes - either manually or automatically
Data labelling	Freely selectable - transfer from data source possible
Source time-stamp	Yes - from controller, OPC compliant
Status display	Yes - from controller, OPC compliant
Transmission modes	Depending on protocol either event controlled or cyclical
Update rate	From 100ms, depending on project and configuration Adjustable according to protocol
Update suppression	Time and threshold value controlled
Connection monitoring	Yes
Access privileges/security	Yes - OPC UA compliant, optionally with SSL encryption
Data structure tracing	Hierarchical browser interface for parameterization and runtime
Simulation mode	Yes
Logging	Yes

Server

Core processes	C++ platform-independent
Module interface	C++ API
Multiple thread processing	Yes
Client interface	Integrated Web server - either http or https
Interface to master systems	OPC UA Data Access, OPC UA Alarms & Conditions, OPC UA Historical Access OPC UA Methods, HTTP/HTTPS

Footnotes

1) Based on atvise® scada 3.4

Server

Configuration persistence	Yes - configuration is stored in the implemented database
Process data model	Choice of fully structured or object-oriented Support of hierarchies and derived types
Server timestamp	Yes - independent of source timestamp
Alarm system	Alarm processing compliant to OPC UA Alarms and Conditions
Archiving	Process value database and alarm database with incremental data archiving
Aggregation	OPC UA compliant Support for derived archives and nested aggregation
Scripting runtime environment	Yes – server-side JavaScript runtime environment Full access to data point functions and database queries possible Support of external upgrades via DLL's
User management	Yes – user and group rights
Fail-safe operation	Yes – by configuring a redundant partner server
Virtualization	Possible in standalone operation
Volume	Project and hardware dependent ¹⁾

Client

Technology	Standards compliant web browser ²⁾
Technology process images	HTML, SVG, CSS, JavaScript
Number of clients	Project, hardware and license dependent ¹⁾
Operation	Mouse or other pointing device, touch screen
Continuous zoom	Yes
Automatic scaling	Yes
Multi-language	Yes
Font	Selectable
Representation of process data	Display of process data and structures possible
Trending	Optional online configurable and/or offline trending possible Support of multiple trends in one view
Alarm display	Yes
Historical display	Yes
Scheduler	Yes

Configuration / Engineering

Interface to server	OPC UA
Online engineering	Yes
Remote engineering	Yes
Multi-user engineering	Yes
Floating views	Yes
Global parameters	Yes
Data point views	Yes
Bilderbibliothek	Yes (optional)
Import / export	XML and CSV
Customizable user profiles	Yes
Help systems	Yes
Basic graphic objects	Line, spline, rectangle, circle, ellipse, polygon, HTML elements, text fields
Adaptability graphics	Manipulation of shape and size, rounding, colors and gradients Transparency, semi-transparency, rotation, mirroring
Dynamic modification types	Change text content, change colors, toggle visibility Scaling, shifting, rotation, blinking and much more
Global search	Yes (under global parameters)
Automated engineering	Yes (under multi-user engineering)

Installation

Clients	No installation necessary
Server	Windows: executable installation Linux: package installation
License model	Licensing based on CCD's (Concurrent Connected Data Points) Number of all simultaneously displayed data points
License protection	Server-side verification by a hardware-specific software key

Diagnostics

Process data monitor	Yes
Process data statistics	Yes
System log	Yes

System Requirements: Server

Hardware	Generally project-dependent Minimum requirements: x86 or ARM based CPU with at least 1 core and 500 MHz clock rate Minimum 500MB RAM Minimum 128MB available memory At least one network card
Operating system	Windows 7, 10 32-bit and 64-bit Windows Server 2012, 2016, 2019 64-bit Ubuntu 16.0.4 LTS, 18.0.4 LTS 64-Bit Debian 9.5, 10 32-bit (ARMv6 instruction set)

System Requirements: Engineering

Hardware	Generally project-dependent Minimum requirements: x86 based CPU on at least 2 cores and 1.0GHz clocking Minimum 2GB RAM Minimum 512MB available memory Graphic resolution at least 1280x1024
Operating system	Windows 7, 10 32-Bit und 64-Bit Windows Server 2012, 2016, 2019 64-Bit
Operating components	Keyboard, 2-button mouse

System Requirements: Client

Hardware	Generally project-dependent Minimum requirements: See minimum requirements of the Web browser you are using If client and server are operating on the same hardware, the minimum requirements of both must be added together At least one network card Graphic resolution at least 800x480
Operating system	Freely selectable
Web browser	Chrome V74.x Chromium V74.x Firefox ESR V68.x Firefox V69.x Internet Explorer V11.x Microsoft Edge V41.x Safari Mobile V12.x
Operating components	Keyboard, 2-button mouse, touch screen

Footnotes

- 1) Please contact us for information on quantity architectures
- 2) See section "System Requirements: Client".



atvise[®] scada

The World of Visualization.

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