SCADA with zenon

Innovative energy solutions
What makes zenon different?

- Best usability in class
- 25 years of experience
- Topology functions
- Multi touch features
- Scalability and redundancy features
- Protocol drivers and PLC integration
- Engineering tools
- Legacy import from other systems (e.g. Siemens WinCC)
One System – Many Industries

- FOOD & BEVERAGE
- AUTOMOTIVE
- PHARMACEUTICAL
- ENERGY & INFRASTRUCTURE
- AUTOMATION SOLUTIONS
Automation Pyramid

Enterprise Resource Planning (ERP)
- job order management,
- production planning, account analysis

Manufacturing Execution Systems (MES)
- production management, controlling,
- QA-datalogging

Supervisory Control
- process monitoring, malfunction statistics, technical analysis

Machine Data Acquisition (MDA)
- Acquisition, performance- and QA-data-recording

Production / Field Level
- machine operation, process control

zenon product family
- zenon Analyzer
  Dynamic Production Reporting
- zenon Supervisor
  SCADA Solutions
- zenon Operator
  HMI Solutions
- zenon Logic
  Soft SPS
zenon Operator
Embedded HMI System

• Ensures robust and stable running projects
• Perfect usability supports users
• Simple and efficient maintenance
• Flexible and efficient integration
zenon Supervisor
Independent SCADA System

- Easy to integrate into existing equipment
- Utilizes leading security standards
- Efficient engineering
- Simple, secure and redundant networking
- Overview and control even of complex equipment
zenon Logic
Integrated PLC System

- IEC 61131-3 programming in a HMI/SCADA development environment
- Test with real PLC code
- Time saving engineering with mutual database and faceplates
zenon Analyzer
Dynamic Production Reporting

- Eliminate idle times
- Reduce material consumption
- Optimize energy consumption
- Enhance quality
  - Real time data
  - Historical data
  - Any desired data sources
  - Configurable reports
Resolution Independent Project Engineering

- Perfect process overview
- No additional engineering efforts
- Working with virtual monitors
- Flexible monitor selection
Overview is everything

- Zooming, scrolling etc.
- Direct station selection
- Fully operational
- Decluttering of picture elements
Decluttering
Alarm list

- Instant message in case of a value range violation
- Alarm management with logical groups, priority, confirm and delete
- Good overview with handy filter mechanism
- Online help for alarm messages
- Export into other Programs (ASCII, XML, SQL)
Event list

Who has done what and when

- Record of all process relevant events
- zenon system messages
- Useful filters
- Configurable layout
- Online-/Offline- printing
- Export
  - dBase, ASCII, XML
  - SQL
Trends and data analysis

- Historical and actual data
- Free zooming
- Compare time periods on 2 axis
- Data compression mechanism
- Export
- SQL- / Oracle-Interface
Redundancy

Guaranteed data security through smooth switching between standby and online server

Automatic reconnect and automatic switch of all clients

IEC 60870
IEC 61850
Open and direct Connection

- More than 350 direct PLC communications are ready to use inclusive OPC UA.
- All drivers can be used in parallel, no limitations.
IEC 61850 – Key Features

- Driver acts as communication Client (KEMA certified)
- Communication via TCP/IP (profile A1/T1)
- Both “direct operate” and “select before operate” supported
- Driver supports RTU time stamping and RTU quality
- Online browsing for process variables
- Offline browsing (SCL files)
- Definable Originator Category (orCat)
- File transfer
- Individual Trigger Options
- Dynamic Datasets
- ACSE Authentication (IEC 62351-4)
## zenon Security

<table>
<thead>
<tr>
<th>Feature</th>
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<tbody>
<tr>
<td>Separation of Editor and Runtime</td>
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<td>Encrypted passwords</td>
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<tr>
<td>No SQL Server in the Runtime:</td>
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<tr>
<td>Data filing</td>
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<tr>
<td>Encryption</td>
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<tr>
<td>zenon user administration with signature</td>
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<tr>
<td>Connection to Microsoft Active Directory</td>
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</tbody>
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**Worldwide safest HMI/SCADA system**
Project Simulation - Example

Online: take a snapshot

Do the switching online

See what happens offline

Define your switching sequences

Simulation mode active!
Application Profiles: where to use zenon

- Substation (transmission and distribution)
  - Local Control
  - Gateway

- Control Centers (distribution)
  - Remote control
  - Municipalities
  - Medium voltage

- Power plants (generation)
  - Machine control
  - Dam monitoring
  - Plant control

- Renewables (generation – wind, PV, CHP)
  - Farm management including substation
SCADA with zenon from 42technology