

zenon 11 Highlights

What's new for the Food & Beverage Industry in 2022?



zenon 11

PLANT FLOOR GATEWAY / PROCESS SUPERVISION / PLANT HISTORIAN

- ▶ **Add online variables to trend**
Enhanced options to review historic data
Operators can add additional curves to a diagram, even if the variables' values are not stored in an archive.
- ▶ **Variable diagnosis**
Apply Equipment Group as filter on variable diagnosis
New filter options allow for quicker access to searched information.

PLANT FLOOR GATEWAY

- ▶ **Gateway Servers**
Offline configuration and read-back of Service Engine changeable configuration
Easier solution engineering and increased data availability through enhancements of gateway functionalities.
- ▶ **OPC UA Server**
Enhanced reload behavior
Higher data availability in the cases when the solution is further engineered.
- ▶ **Edge IoT Gateway on Linux**
Online values directly into Service Grid (bi-directional)
A key modular component of digitalization projects, supporting reliable and easy to manage information flows from plant floor to further OT / IT solutions.

PROCESS AUTOMATION

- ▶ **Redundancy**
Native redundancy support in Batch Control (module)
Reduced risk of production downtime through more robust process execution.
- ▶ **Reporting**
New options for easier aggregation of batch-related process data
Deeper and extended insights of every single batch, for high process quality.

PROCESS SUPERVISION

- ▶ **Alarm Shelving**
Operators can temporarily disable specific alarms
Extended capabilities to manage process alarms, for more comfort in dealing with complexity.
- ▶ **Web Visualization Service**
Comfortable configuration of HTML5 user interfaces
Easy to use solution for development of web and mobile interfaces.

MODULE TYPE PACKAGE

- ▶ **MTP Integration in zenon**
Orchestrating processes via the MTP standard
Support of process innovation through modular and flexible configuration of production equipment

zenon 11 Highlights

What's new for the Energy Industry in 2022?



zenon 11

CONNECTIVITY

▶ Connectivity General

- Various improvements in energy protocols:
 - Improved interoperability
 - Improved configuration of protocol behavior and additional application functions
 - Improvement of engineering ergonomics
 - Cyber security advancements

▶ Device Level Protocols

- IEC850 Client: configuration option for report control block attribute write

Option for compatibility with specific devices that are not 100% compliant

- IEC 61850 server: support for Simulation Mode

IEC 61850 Server - Support for simulation mode according to part 7.8 of IEC 61850-7-1 ed2.0

- DNP3_TG: additional double point value mapping option
- PRP driver: support of Gigabit Ethernet

▶ Control Center Connectivity

- DNP3 Process Gateway – local / remote mode

Variable controlled local / remote mode selection

- DNP3 Process Gateway – inverting binary inputs

Accommodate master requirements, no need for additional variables and mapping in logic

- DNP3 Process Gateway: configurable operate response

The DNP3 process gateway allows configuration for sending a positive operate response in command routing

CONNECTIVITY

▶ Control Center Connectivity

- DNP3 Process Gateway: scaling for Analog Inputs

The Process Gateway DNP3 Outstation has been enhanced with a configuration option for a scaling factor for analog inputs

- Process Gateway DNP3: use specific qualifier only

The Process Gateway DNP3 Outstation and the Logic DNP3 outstation now uses preferred / subset level compatible qualifier codes

- IEC 60870 Process Gateway – variable controlled gateway activation

Internal T00 variable determines if the gateway is active and accepts master connections / requests

- IEC 60870 Process Gateway: redundancy

Support for redundant links according to IEC 60870-5-104 ed. 2

- IEC 60870 Process Gateway – support for UTC time

- IEC 60870 slave stack and Logic Service driver: support for IPv6

The IEC 60870 slave stack and the Logic Service IEC 60870 slave driver, have been enhanced to also support IPv6 based communication for IEC 60870-5-104

- Process Gateway ICCP: support for secure communication TLS and MMS security according to IEC TS 62351-4:2007 / compatibility mode in IEC 62351-4:2018

- Process Gateway ICCP: Optional custom configuration of datasets in the ICCP Client role

zenon 11 Highlights

What's new for the Energy Industry in 2022?



zenon
11

ERGONOMIC OPERATION

▶ Alarm Management

▪ Alarm Shelving

In case of a disaster, a flood of alarms is generated. To systematically analyze and fix the situation, the operator must be given the chance to temporarily „mute/suppress“ certain alarms. So, for an instance high priority alarms are taken care of immediately whereas lower priority alarms are shelved.

zenon alarm shelving:

- New shelving command in the zenon alarm list
- Selected alarms can be shelved for a specific period, a shelving reason must be stated. Shelved alarms disappear from the alarm list. All associated audio-visual indications are muted
- After expiration of the shelving period, alarms are reactivated

Variable Diagnosis

- **Improved ergonomics of the Variable Diagnosis screen** by additional columns and apply equipment group selection from equipment model screen

- **Filtering based on Equipment Model (screen)**

- **Additional columns: Equipment Group, Project Name, Resources Label**

▶ Web Visualization Service

▪ New Web Visualization Version

- Integrated engineering and compilation and zenon multi-project support
- Further energy process control features planned

▶ Historian

- **Swinging Door Trending Compression** for historic data in zenon archive files (ARX)

- **Higher compression rate leads to better utilization of storage space**

EFFICIENT ENGINEERING

▶ Efficient Engineering (Connectivity)

Engineering and configuration of gateway protocols is fully integrated in the zenon Engineering Studio:

- DNP3 / IEEE 1815 Outstation
- IEC 60870-5-101/104 Slave
- ICCP / TASE.2
- MODBUS Server
- OPC UA Server
- SNMP Agent
- Syslog
- MS Azure Services
- SQL Online Interface

▶ Efficient Engineering

▪ Smart Object Engineering:

- Support of mapping rules
- Automatic Engineering for Sols, including specialization of released properties and mapping rules
- Up to 70% faster processing of SO updates

▪ ALC properties for lines supported in styles

ALC line properties can be centrally defined in styles and applied to the lines of a single line diagram

▪ New end-of-line-types

Support of line end types which are often required in SLDs

SECURITY

▶ Configuration of energy protocol security

TLS and MMS certificate authentication configuration dialogs IEC 62351-3 and IEC 62351-4 settings for energy protocols can be configured in the user interface

▶ Security for additional protocols

▪ Message Control now supports TLS 1.3 for SMTP

Default behavior is auto-negotiation of the newest supported TLS version between client and server

▪ TLS v1.3 encryption in zenon Network

zenon Network can be encrypted with TLS v1.3 certificates

CIM/CGMES GRID MODEL INTERFACE

▶ Provide status information to load-dispatch centers

Support optimization and congestion avoidance (re-dispatch)

▶ Detailed topologic information through zenon CGMES interface

Equipment inventory

Current asset states (switches open/closed etc.)

Overall current topology

▶ Fully integrated generation of CGMES data in zenon

Equipment model (EQ.xml) generated during project compilation

Asset states (SSH.xml) and topology (TP.xml) generated on demand during runtime

zenon 11 Highlights

What's new for the Life Sciences & Process Industry in 2022?



zenon 11

PROCESS AUTOMATION

- ▶ **Batch Redundancy**
More robust process automation leading to less production downtimes and reduced material loss
- ▶ **Alarm Shelving**
The operator can disable specific alarms temporarily.
Extended capabilities to manage process alarms, allowing for more comfort in dealing with complexity.
- ▶ **Batch Reporting**
New mechanisms for easier aggregation of batch-related process data.
Deeper and more extended insights of every single batch, ensuring a high process quality.

AUTOMATION INTEGRATION LAYER / PHARMA HMI / LES

- ▶ **MSI Interface**
Native connector to Werum PAS-X MES
Gives the operator a configurable interface out of the box for exchanging data between zenon and Werum PAS-X MES.
It supports the batch information exchange and Exception handling.
- ▶ **OPC UA Client**
Configurable browsing of variables
When there is a large data model and not every part of it is required, a subset of the OPC UA server data model can be selected for background read.

LES / AIL

- ▶ **Report Engine: Offline reporting**
Gives operators the capability to create reports reading evacuated AML and CEL information directly from SQL DB or Data Storage.
Operators don't need a running zenon server for retrieving.
Alarm & Event data.

MODULAR PROCESS AUTOMATION / MTP

- ▶ **MTP Suite**
From MTP editing to orchestration, the MTP Suite reduces time and costs when integrating new equipment.
Support of process innovation through modular and flexible configuration of production equipment.

PHARMA HMI / LES / AIL

- ▶ **eSignature: Support of biometric devices**
zenon API has been extended to support eSignature by external biometric devices like Nymi band and others.
Specific devices can be used for user authentication. System integrator has to create a project addIn for the device integration.
- ▶ **Audit Trail: Integrate Audit Trail from external equipment**
zenon API has been extended to support the insert of CEL entries by a project AddIn.
Integrate Audit Trail reading text or CSV files by creating a dedicated project AddIn. Useful for integrating existing machines or legacy equipment.
- ▶ **eSignature: Comments as option**
The Electronic Signature Module allows to optionally configure comments in every step.
More flexible handling depending on use case.
There might be situations, where no comment is required.

zenon 11 Highlights

What's new for the Automotive Industry in 2022?



zenon 11

ERGONOMIC OPERATION

▶ Alarm Management

Alarm Shelving

In case of a disaster, a flood of alarms is generated. To systematically analyze and fix the situation, the operator must be given the chance to temporarily „mute/suppress“ certain alarms. So, for an instance high priority alarms are taken care of immediately whereas lower priority alarms are shelved.

zenon alarm shelving:

- New shelving command in the zenon alarm list
- Selected alarms can be shelved for a specific period, a shelving reason must be stated. Shelved alarms disappear from the alarm list. All associated audio-visual indications are muted
- After expiration of the shelving period, alarms are reactivated

▶ Web Visualization Service

Comfortable configuration of HTML5 user interfaces
Easy to use solution for development of web and mobile interfaces.

CONNECTIVITY

▶ OPC UA Server

With the zenon 11 comes an optimized reload behavior for a more efficient operation.

▶ OPC UA Driver

An enhanced import increases usability.

The OPC UA driver now supports alarms and conditions, which allows other possibilities besides a pure data/value transmission.

The support of methods can be used to start special actions (calculation, acknowledgement, etc.) via the driver at the OPC UA server.

▶ TIA Driver

The TIA driver allows the support of units and offers an enhanced import function.

▶ VASS

zenon 11 comes with a new driver for communication to VASS PLCs

EFFICIENT ENGINEERING

▶ Efficient Engineering (Connectivity)

Integrated Process Gateway Engineering

▶ Efficient Engineering

- Smart Object Engineering: Mapping rules, API (RelProps und mapping), up to 70% faster updates
- Improvements for template based engineering with Smart Object, including:
- Support of mapping rules
 - Automatic Engineering for SOs, including specialization of released properties and mapping rules
 - Up to 70% faster processing of SO updates

BROWNFIELD GATEWAY

▶ Edge IoT Gateway on Linux

Online values directly into Service Grid (bi-directional)

A key modular component of digitalization projects, this enables reliable and easy to manage information flows from the plant floor to further OT / IT solutions.