

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**
Compact solution for data transfers, from various data sources to OPC UA
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

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What's new for the Energy Industry in 2022?



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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

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What's new for the Energy Industry in 2022?



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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

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



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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.

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What's new for the Automotive Industry in 2022?



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ERGONOMIC OPERATION

▶ Alarm Management

Alarm Shelving

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▶ 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

Compact solution for data transfers, from various data sources to OPC UA.

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.