

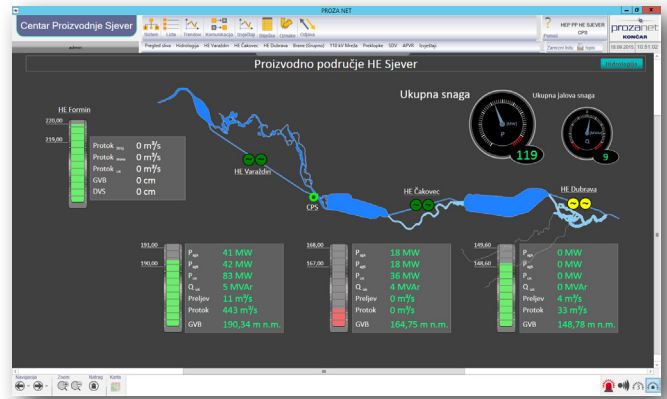
# Integration framework for Smart Grid systems management



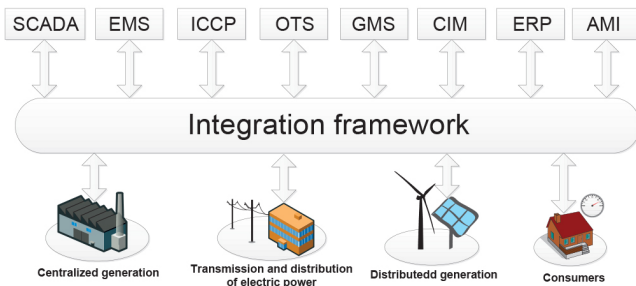
# PROZA NET - UNIFIED INTEGRATION FRAMEWORK FOR SMART GRID AUTOMATION

KONČAR PROZA NET is resulting from nearly 40 years' expertise in SCADA development.

Its development is driven by expanding Smart Grid requirements. PROZA NET supports modular, complex and distributed systems and allows simplified and accelerated development of new functionalities required by modern industrial automation systems.



PROZA NET user interface



PROZA NET as an integration framework

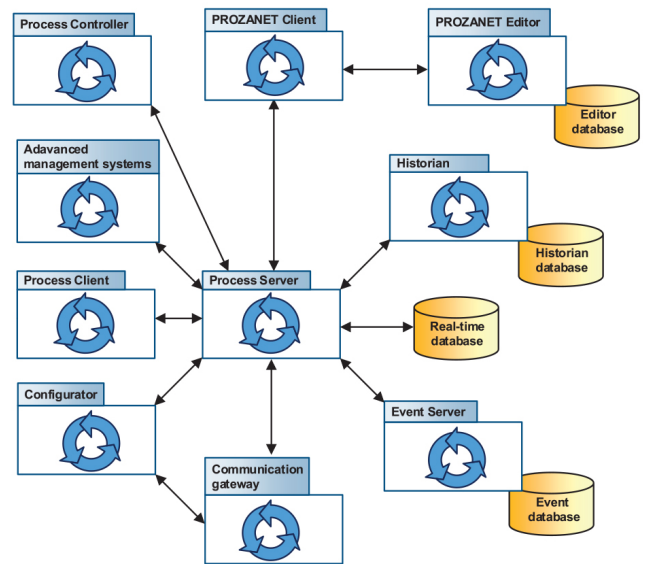
## Software architecture

The software architecture is based on client-server model and it is compliant to object-oriented design principles. Each of the software components is based on state-of-the-art and Standards-compliant technologies. Software architecture includes the following subsystems:

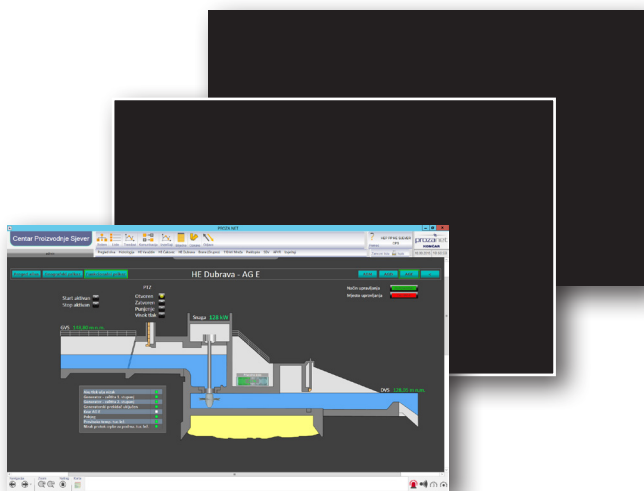
- Communication gateway
- Process data management
- Advanced GUI framework
- Development framework
- Complex analytic functions
- Historian database
- 3rd party integration interface

## Basic functional features

PROZA NET basic features enable multiple-user supervisory control system. It can be used as a traditional SCADA system. Due to its scalability it is possible to use it from substation computers to control centers. As extension to its basic functionality it provides advanced power system analytical functions (EMS, DMS, GMS, OMS). Due to its modular architecture it allows easy integration with 3rd party applications.



PROZA NET software architecture



Visualization examples

## Visualization capabilities

PROZA NET HMI is framework-based, therefore allowing development of new widgets and reporting charts. PROZA NET allows monitoring of process data in real-time through configurable desktop as well as web interface and mobile application.

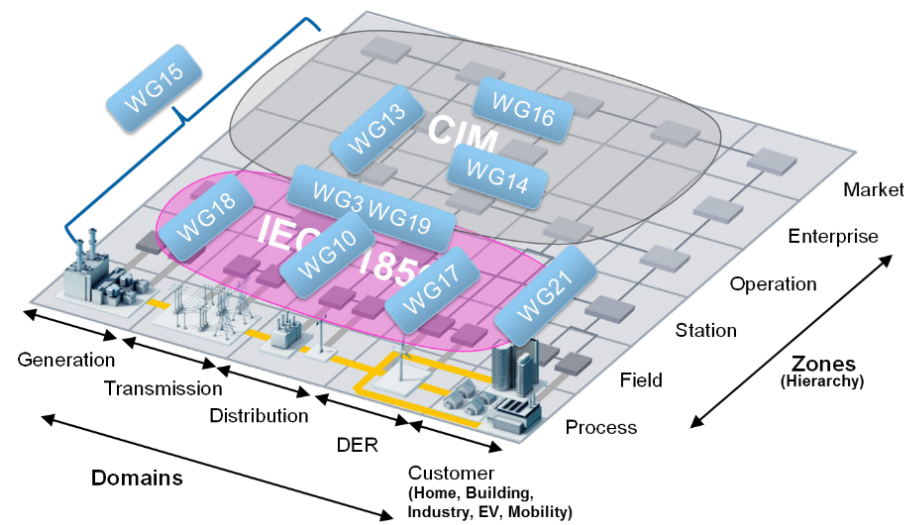
## Protocols and interfaces

All communication protocols are In-house developed with no use of 3rd party libraries. The developed protocols are platform-independent and support multi-vendor subsystems.

### PROZA NET is certified IEC 61850 ed.2 Client!

Supported protocols:

- IEC 61850 ed1./ed.2
- IEC 60870-5-101
- IEC 60870-103
- IEC 60870-104
- DNP3
- OPC DA
- OPC UA
- IEEE C37.118
- ICCP
- SNMP
- Modbus Serial/TCP
- LON LAG 1.4
- SPA
- Courier



IEC Standardization working groups

## Standardization activities

PROZA NET development experts actively participate in the IEC standardization activities directly developing future Smart Grid standards that are integrated into the PROZA NET baseline functionalities. PROZA NET team members participate in

- TC57 WG 3 - Telecontrol & Teleprotection standards
- TC57 WG 10 - IED communications & associated data models
- TC57 WG 13 - Energy management systems
- TC57 WG 15 - Data & Communication Security
- TC57 WG 17 - Communication systems for DER
- TC57 WG 18 - Communication systems for Hydroelectric power plants
- TC57 WG 19 - Interoperability within TC57 in the long term
- TC57 WG 21 - Interfaces and protocol profiles relevant to systems connected to the electrical grid
- SC 65E WG8 OPC

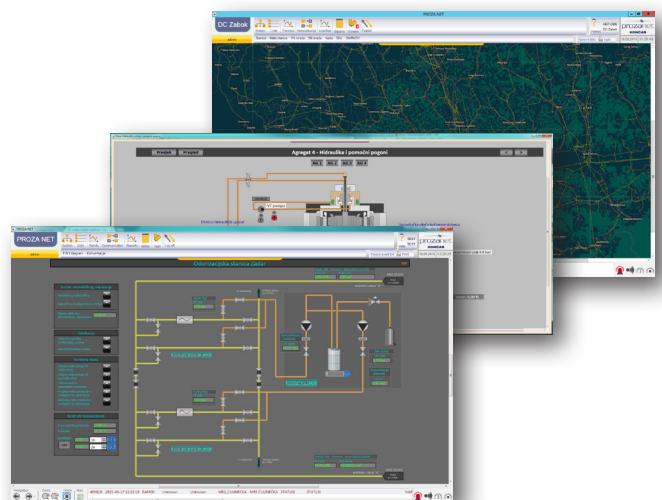


PROZA NET IEC 61850 ed.2 certificate

## Applications in other industrial automation domains

Due to its adaptability to different industrial automation domains PROZA NET is applicable to variety of industrial subsystems including:

- Gas industry
- Oil industry
- Water and wastewater management
- Traffic monitoring
- Home automation



PROZA NET in other domains

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**KONČAR**