

IT and Automation Solutions for Power Sector



Our Product Line

Software



EL-PSoft

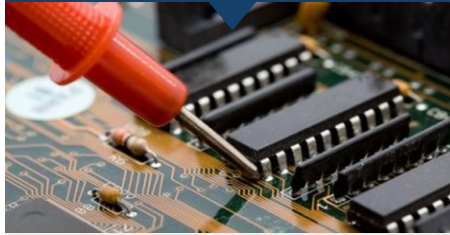
ENMS

Billing Engine

ELint-SoFT

MDM

Hardware



DCU

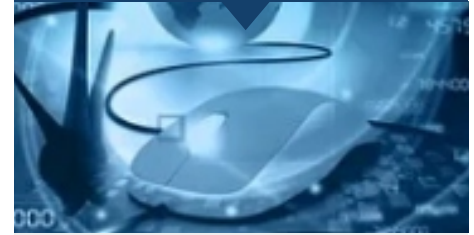
PMU

Smart Meter

Optical Fiber CT/PT

RTU's for SCADA

Services



Implementation of IT Solutions

SCADA Implementation

AMC

EL-PSoft

EL-PSoft is an Utility Decision Support System, specially developed for power and water utilities. It is an office management solution enabling users to perform following major business processes.

- Service Connection Management
- Disconnection & Dismantling
- Metering
- Billing
- Collection
- Revenue Management
- Complaint Management
- Inventory Management
- Legal & Vigilance
- Web Self Service
- Management Information System

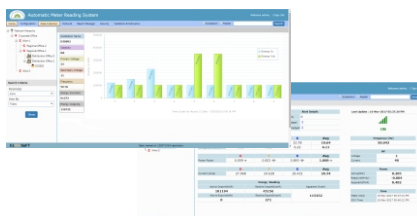
Standardization of Core Modules serves the functionality to any power distribution company with customization.



ELint-SoFT

ELint-Soft (an Automatic Meter Reading System) is developed considering the requirement of Power Distribution utilities facing problems due to high transmission & distribution networks losses.

It collects the data from remote substation / DT metering device to analysis energy usage, provides analytical reports, and long term data management.

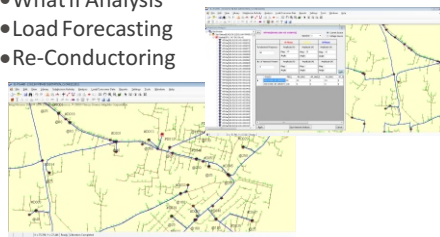


EL-Flow (ENMS)

ENMS is a primary Power Distribution Analysis and Advanced Electrical Engineering Software conceived to assist Engineers/ Officers in performing primary Power Distribution Planning, Operation and Optimization studies.

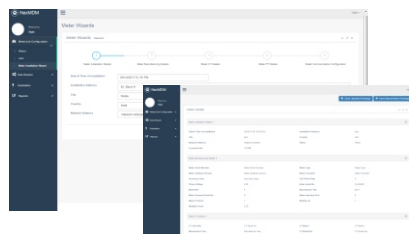
This module generates Single Line Diagram of Electric Lines, Equipment, 11 KV & LT Network on computer system depicting location of pole, transformer & distance between poles etc. Some of the major analysis are -

- Load Flow Analysis
- Short Circuit Analysis
- Substation Proposal
- Express Feeder Proposal
- Switching Optimization
- What if Analysis
- Load Forecasting
- Re-Conductoring



EL-Data (MDM)

- Streamlines data capture and management
- Reads all meters automatically and remotely at designated intervals
- Data capture from multiple sources
- Eliminates need for manual data collection, management, and sharing
- Improves data consistency and accuracy across systems
- Optimizes performance throughout meter to cash operations
- Supports grid modernization initiatives including smart metering programs
- Automated VEE processes



EL-Bil (Billing Engine)

Billing Engine ensures that utility bills its consumers efficiently with intent to increase the revenue of utility, and provide satisfactory services to the consumer. System provides useful reports from different database application integrated with it that helps in making the significant and valuable decision to move the business in profitable direction along with having satisfactory and contented customers.

Area of Billing Engine starts from acquiring the data from consumer end through other integrated application to the various report generation.

Its highly advanced technology, customizable approach, and integration with other modules/applications make it the most viable application in Power, Gas, Water, and Tele-communication sector.

DCU- NG 9601

(Data Concentrator Unit)

- Real-time processor
- Internal Real-Time Clock
- Embedded Web and file servers with remote-panel user interface
- Time Synchronization
- Inbuilt Clock on Real Time Controller
- Alarming & Scheduling
- Data Logging & File Compression
- ModBUS-Serial/TCP (Master/Slave), DLMS, IEC-60870, IEC-61850, IEC 101/104
- Zigbee, LORA





Optical Fiber CT/PT

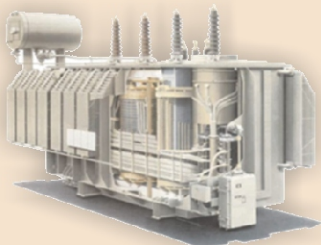
Future of "DIGITAL SUBSTATION" - Complete solutions for digital substations based on Fiber-optic instrument sensors

- No high potentials at secondary circuits – better safety for any works on secondary equipment
- Expenses reduction for Substation maintenance, less frequent power supply interruption for the consumers
- High fire and explosion safety
- To exclude tests for dielectric loss determination and samples examination
- To exclude monitoring of hexafluoride leakage and oil level control
- Complete galvanic isolation, correspondence to modern Electromagnetic Compatibility requirements
- Digital signal processing and modern interfaces (correspondence to IEC61850)
- Highest accuracy of the time-current curve, even in case of aperiodic component availability due to the absence of saturation
- Wide dynamic range
- Highest speed of measuring signal conversion

Transformer Monitoring and Diagnostic System

Transformer monitoring and diagnostic system (TMDS) is intended for monitors the technical conditions forming the expert review and forecast of this technical conditions of equipment using real time calculation

- Supervision of acceptable regular and emergency overloading
- Supervision of temperature of winding hot spot in compliance with EC 60076-7
- Supervision of winding insulation aging
- Calculation of load ability for transformer equipment
- Estimation of LTC residual life
- Supervision of insulation parameters for high voltage bushings
- Supervision of acceptable short-term voltage rises on HV side
- Supervision and recording of load tap changer position and number of LTC operations



Smart Meter

- Single and Three phase Variant
- Online Meter Reading
- Interval Data Recording
- Time-of-use registration (up to 8 tariffs)
- Load-profile recording
- Remote Connect/Disconnect Switch
- High accuracy and long term stability of metering elements
- High meter reliability and immunity to EMC
- Infrared optical port for local meter programming and data downloading
- DLMS/COSEM application layer: IEC 62056-5-3
- OBIS identification system: IEC 62056-6-1
- In Home Display option
- WAN interface for remote access
- IP54 protection against dust and water penetration



Power System Integrity Protection Schemes

Power system integrity protection IEDs are designed to react on abnormal electric power system conditions and faults with the aim of electric power system recovery to normal operating mode

- Pre-fault Data Input and Processing
- Calculation of Control Actions when Local Electric Power System Stability Disturbance Prevention Operation Mode is Active
- Operation as a Remote Controller of Centralized SIPS
- Control at Fault Conditions
- Self-supervision
- Human-machine Interface
- Data Communication with Centralized System Integrity Protection Server
- Process Control System Integration
- Generation of Warning and Alarm Signals
- Events Log and Fault Recording Functionality
- Unauthorized Access Protection



Wide Area Measurement, Protection and Control Systems

Wide Area Measurement System is one of the New and Widely Introduced Technologies in Electrical Power Systems of the World

- More detailed data on steady-state power system operating mode and transients, which arise due to different kind of power system failures
- Current and Voltage Measurement
- Current & Voltage Phase Angle Calculation (Per Phase)
- Line Frequency Calculation
- Frequency Rate of Change Calculation
- Data Transmission Over C37.118 Protocol
- Generator Excitation System Current and Voltage Measurement
- Fault Recording
- Alarm Indication
- Self-supervision
- Integrated Web-interface



Power System Automation

Automated Monitoring and Control Systems for Electric Power Facilities includes IEDs - Intellectual Electronic Devices - Bay Controllers, Microprocessor-based Protection and other devices – each supervising one or several substation feeders and forming system field level

- Acquisition and Primary Processing of Analog Signals
- Acquisition and Processing of Binary Signals
- Remote, Local Control and Automatic Control
- Technological and Operational Interlocking
- Warning and Alarm Signaling
- Technological Process Events Recording and Archiving with 1 ms Time Resolution
- Fault Recording with 1 ms Time Resolution
- Stand-alone Systems Integration - Protection and Automation Devices, SIPS Devices, Fault Recording Devices, Fault Location Devices: Tripping Supervision, Remote Operation Mode Change - Recording and calculation of power quality parameters according to EN 50160:2010
- Electric Power Facility Main and Auxiliary Equipment Supervision, Switchgear Equipment Mechanical Life Calculation, Malfunction Identification
- Secondary and Communication Equipment Supervision
- Data Display to Operation and Maintenance Staff
- Data Transmission to Dispatch and Control Centres

Communication Protocols

- IEC 60870-5-101, IEC 60870-5-103, IEC 60870-5-104
- IEC 61850-8-1 (MMS, GOOSE)
- Modbus (RTU/ASCII/TCP)
- Proprietary Communication Protocols
- IEC 60870-6 (ICCP/TASE.2)

Integration Methodology

- Process bus level (primary equipment level)
- Bay level
- Station level

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NexGEN is an ISO 9001:2015, ISO/IEC 27001:2013 Certified and a CMMI L-3 company. Since establishment in 1997, it has been offering cutting-edge services to Power, Water & Gas domain. In past years, we have proved our expertise in Design, Development, and Implementation of Customized Enterprise Applications, Automation & Control System, Software Development, Integration, IT Services and IT Infrastructure Solutions.

We have two state-of-the-art development centers having 50,000 sq. ft. capacity in Noida & Udaipur having vast pool of technocrats to assure for industry standards and quality services.