



Group Overview

Bucharest,
May 2014





- Year Founded: 1994
- Private company
- Romanian shareholders

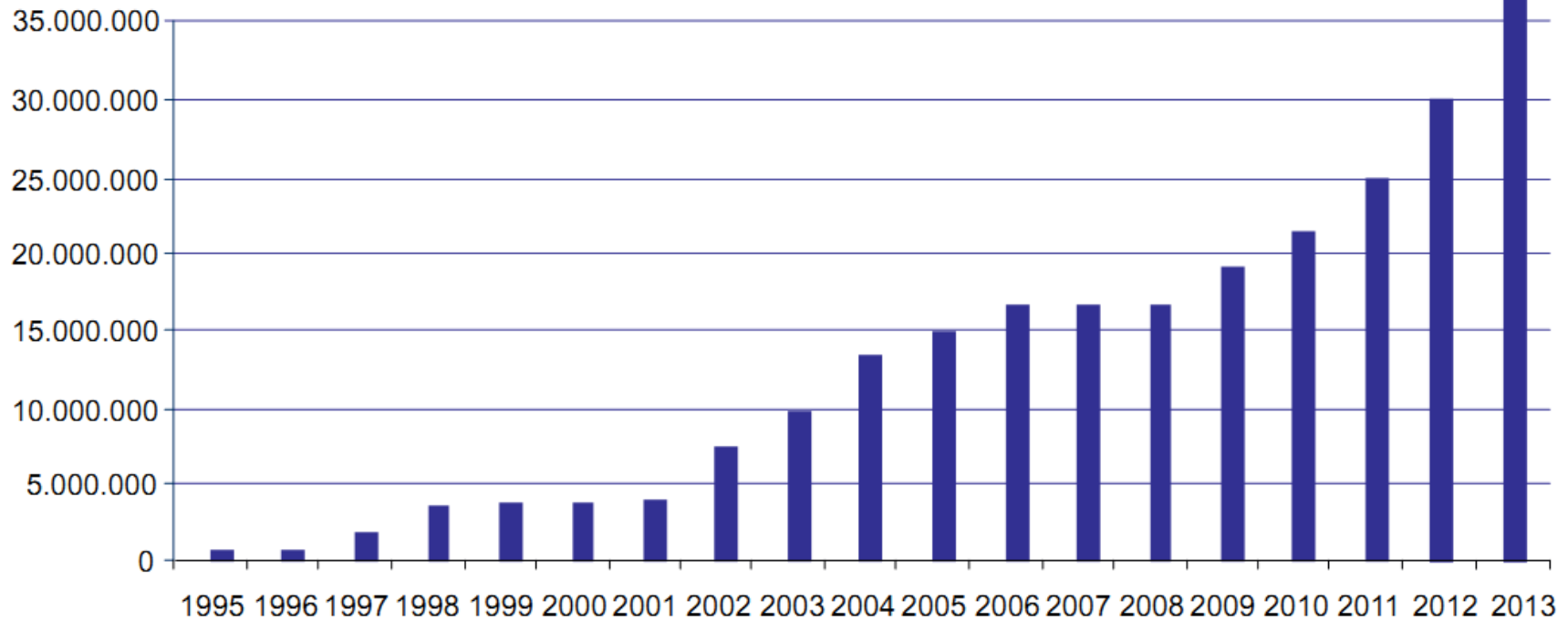
Companies in the Group



Company	Field of Activity	Location
Companies involved in electrical products and energy trade		
Eximprod Grup	Manufacturing T&D Products, SCADA Systems, Turnkey Projects,	Merei , Buzau, Bacau, Bucharest
Eximprod Power Systems	Manufacturing T&D Products	Ceptura
Total Electric	Manufacturing Distribution Boards	Buzau
EFE Energy	Energy Trade	Buzau
Companies involved in power generation		
ECOPROD ENERGY	Wind Generation	Buzau
ECOGEN Energy	Co-generation Project	Buzau
Specialized companies		
CNC	Current Limiting Fuses (7.2 – 24kV)	Bucharest
SIMEN	Low Voltage Instrument Transformers	Ploiesti

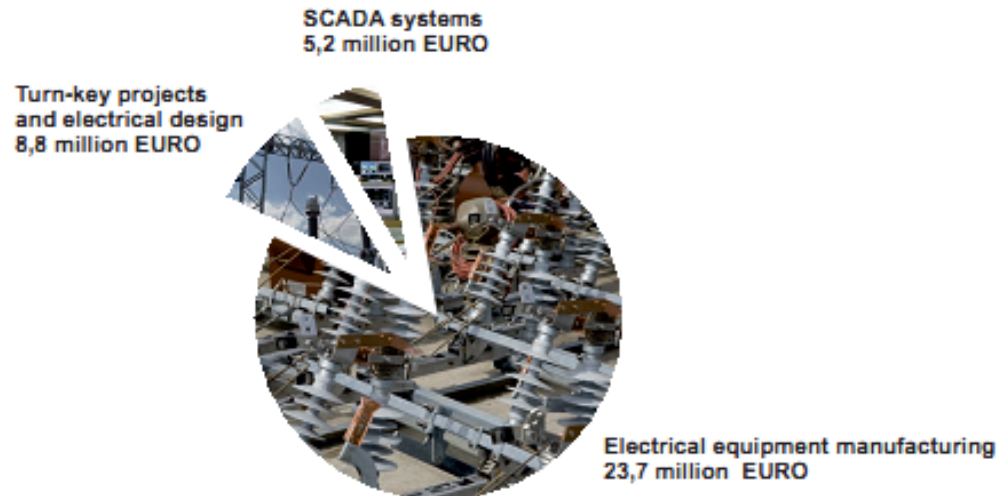


Turnover evolution 1995-2013



Turnover and Employee Structure

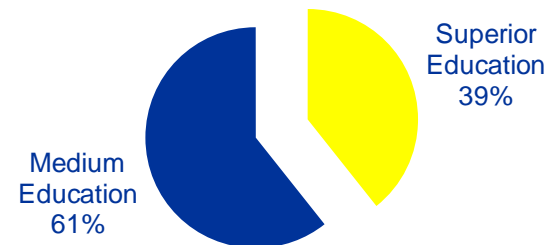
2013's 38 million EURO Turnover breakdown



Current no. of Employees: 370

- Engineers: 128
- Economists: 29
- Medium Education: 213

EPG Employee Structure by education



Eximprod – Evolution Milestones

Year	Milestone
1994	<ul style="list-style-type: none"> ➤ Eximprod Grup is founded in Buzau, Romania. ➤ Eximprod starts manufacturing low voltage electrical equipment.
1998	<ul style="list-style-type: none"> ➤ Eximprod sells its first strings with imported composite insulators to Romanian Electrical utilities
2000	<ul style="list-style-type: none"> ➤ Eximprod starts manufacturing medium voltage (20kV) electrical equipment.
2001	<ul style="list-style-type: none"> ➤ Eximprod starts manufacturing high voltage (110 - 400 kV) electrical equipment
2002	<ul style="list-style-type: none"> ➤ Eximprod starts manufacturing composite railway insulators (25 kV)
2003	<ul style="list-style-type: none"> ➤ Eximprod enters the Renewable Energy sector by commissioning Topolog Wind Park (Stage 1), the first wind turbine operational in Romania. Topolog wind park is operated by Eximprod since. ➤ Eximprod starts manufacturing the 24kV MCOV polymer housed surge arresters class 1 and class 2 per IEC and also the 24 kV outdoor switch disconnectors with composite insulators
2005	<ul style="list-style-type: none"> ➤ The Electrical Design and Turnkey Projects Business Unit is founded in Bacau, Romania. ➤ The SCADA Business Unit is founded in Bucharest, Romania.
2008	<ul style="list-style-type: none"> ➤ Eximprod starts manufacturing 110 kV interphase spacers
2010	<ul style="list-style-type: none"> ➤ Eximprod starts manufacturing 110 kV composite station post insulators.
2011	<ul style="list-style-type: none"> ➤ Increasing demand for high voltage insulators and overhead medium/high voltage switches determines Eximprod to extend the Ceptura, Prahova factory ➤ Eximprod starts manufacturing 123 kV disconnectors
2012	<ul style="list-style-type: none"> ➤ Eximprod commissions its own Dispatch for Alternative Energies in Bacau.



- Manufacturer of T&D Equipment 0,4-400 kV
- Turn-key projects and electrical design
- SCADA Systems and Software development
- Generation / Cogeneration
- Renewable Energy Development and Operation



- ✓ Distribution products 0,4 – 20 kV:
 - Insulators, Strings & Arresters
 - Switch Disconnectors, Fuse Bases & Fuses
 - Metering Boxes & Distribution Boards
 - Clamps & Accessories
 - Others (e.g. instr. transformers, other outdoor and indoor equipment etc.)
- ✓ Transmission products 110 – 400 kV:
 - insulators and full strings for OHLs and busbars;
 - primary equipment (arresters, instr. transformers, circuit breakers)
- ✓ SCADA systems and telecommunications
- ✓ Turn-key contractor
- ✓ Green Energy
- ✓ Energy Trade





GERMANY - 24 kV station post & railway insulators

ITALY - Medium Voltage and High Voltage Equipment (ENEL International)

POLAND – Medium Voltage Fuses and Surge Arresters

AUSTRIA - 25 kV railway insulators

SWEDEN - 24 kV station post insulators

SPAIN - 24, 36 and 52 kV station post insulators for disconnectors

HUNGARY - 24 and 36 kV long rod insulators
- 24 kV station post insulators

SWITZERLAND - 25 kV railway insulators

GREECE - 25 kV railway insulators

BULGARIA - 25 kV railway insulators

CROATIA – SCADA Software

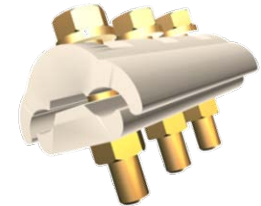


Over 100 products in catalog

Insulated Piercing Connectors: +10 mil. pcs.



Electrical Clamps : +5 mil. pcs.



Plastic Boxes for Metering : +1.5 mil. pcs.





Medium Voltage polymer insulators (20kV) (*first Romanian manufacturer*)

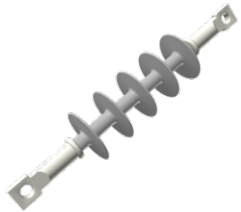
Field experience in România:

1.500.000+ units made by EXIMPROD

- **dead-end**
- **line post**
- **railway**



Dead-end

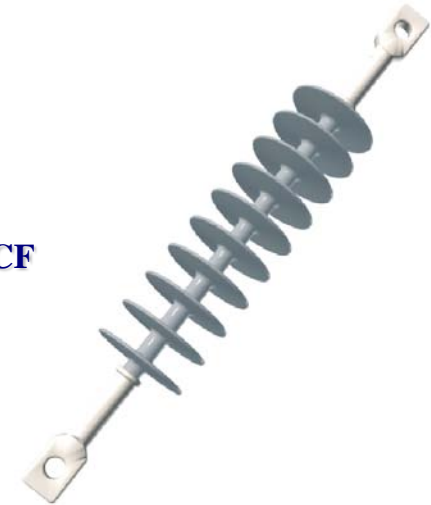


ITS-70/II



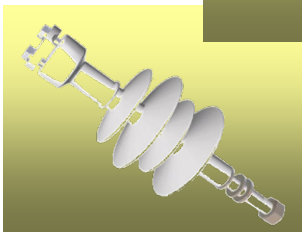
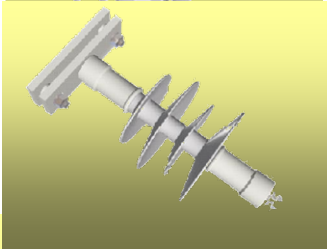
ITS-70/IV

Railway



ITS-CF

Line & station posts



ICS 24/3 AV

ICS 24/3 SB

ICS-CF



Business Areas



References since 2001:

- Electrica
- ENEL Romania
- E.ON Moldova
- CEZ Romania
- Transelectrica
- Hidroelectrica
- Alstom, Inabensa, Va Tech etc.



Field experience in Romania : 250.000 pcs. for 110-400 kV



Over 70 OHLs and substations în Transelectrica starting with 2002:

- 400/220/110 Bradu S/S
- 400/110/20 kV Suceava S/S
- 220kV Paroşeni – Tg. Jiu S/S
- 220/110 kV Craiova Nord S/S
- 220/110 kV Fundeni S/S (Va Tech)
- 400/220/110 kV Iernut S/S (Va Tech)
- 220/110 kV Stupărei S/S
- 220/110 kV Brazi Vest S/S

Over 4000 units 220 and 400 kV insulators to Inabensa (Spain) project of mounting OF – 220 and 400 kV OHLs

Other substations: Tg. Jiu Nord, Târgovişte, Sărdăneşti, Urecheşti, Săcălaz, Ghizdaru, Floreşti, Porţile de Fier etc.





Station Post Insulators for

- disconnectors 110 kV
- support the busbars in 110kV S/S

Customers (1.500+ units installed):

- Electrica (all subsidiaries)
- CEZ Distribuție
- E.ON Moldova
- ENEL (pilot project)
- Hidroelectrica
- Transelectrica

Installed in over 40 substations 110kV/MV



Field experience (2003-2011)

- 100,000+ of 24 kV units



Made by EPG

- 1,500+ of 110 kV units



Made by:





Field experience:

over 80.000 units

References:

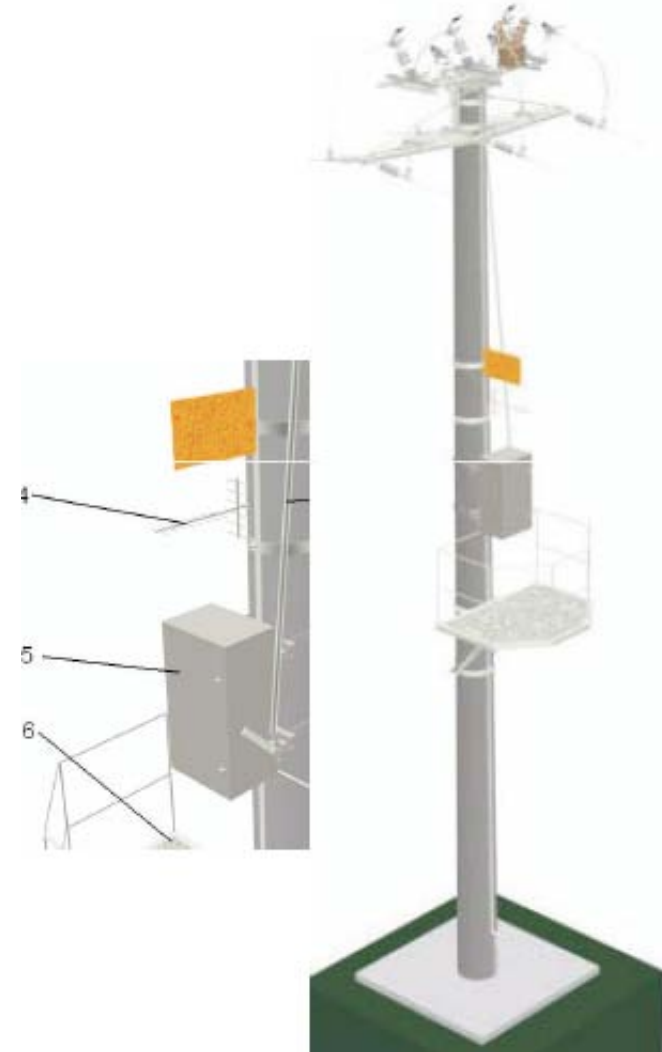
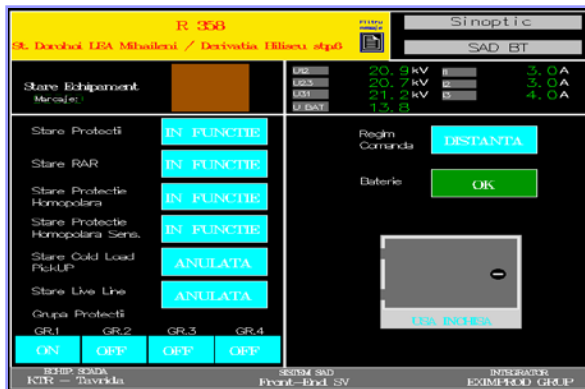
- Romanian Railway Company
- COLAS Rail (France)
- Siemens Aktiengesel (Austria)
- Balfour Beatty Rail (UK)
- Alstom Transport (France)
- Driescher (Germany)
- Romanian Contractors



Export References (rail roads):

- Leptokaria – Evangelismos (Greece)
- Krumovo – Parmovai (Bulgaria)
- other several projects in Bulgaria and France

Over 1.600 EPG MV remote-controlled pole-mounted switches in operation





- Product design

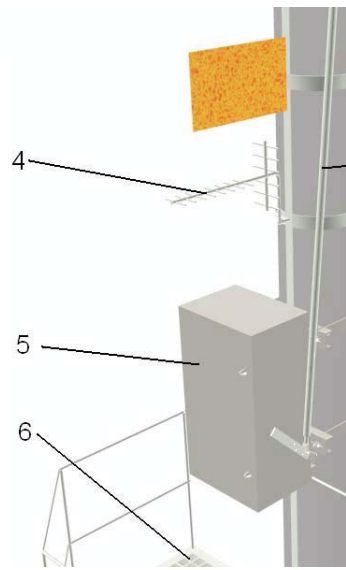
Vedere din A (fara imbracamintea din cauciuc siliconic)

CARACTERISTICI ELECTRICE
 Tensiunea maxima a retelei: 123 kV
 Lungimea liniei de fuga: 3840 mm
 Linia de fuga specifica: 31,21 mm/kV
 Distanța de despricare in aer: 965 mm
 U de tinere la impuls de traseet: 550 kV varf
 U de tinere la frecventa industriala sub ploaie: 230 kV efectiv

CARACTERISTICI MECANICE
 Sarcina de torsiune specificata (StoL): 4 kNm
 Sarcina de incovoiere specificata (SCL): 10 kN
 Sarcina de tractiune specificata (SML): 100 kN
 Inaltime nominala de montaj: 1210 mm

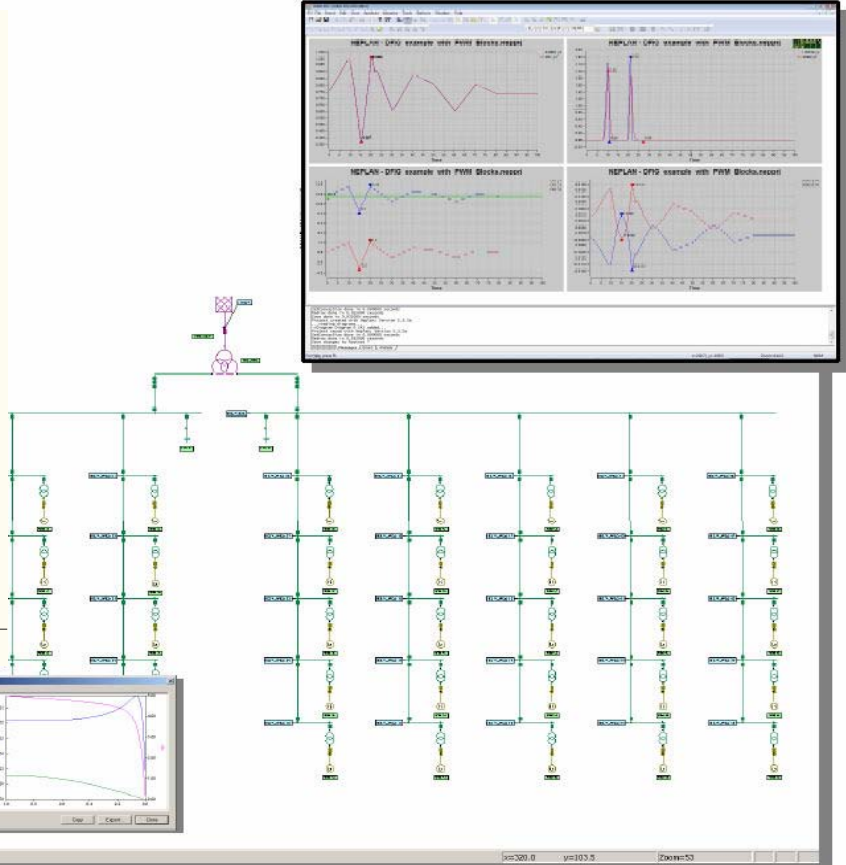
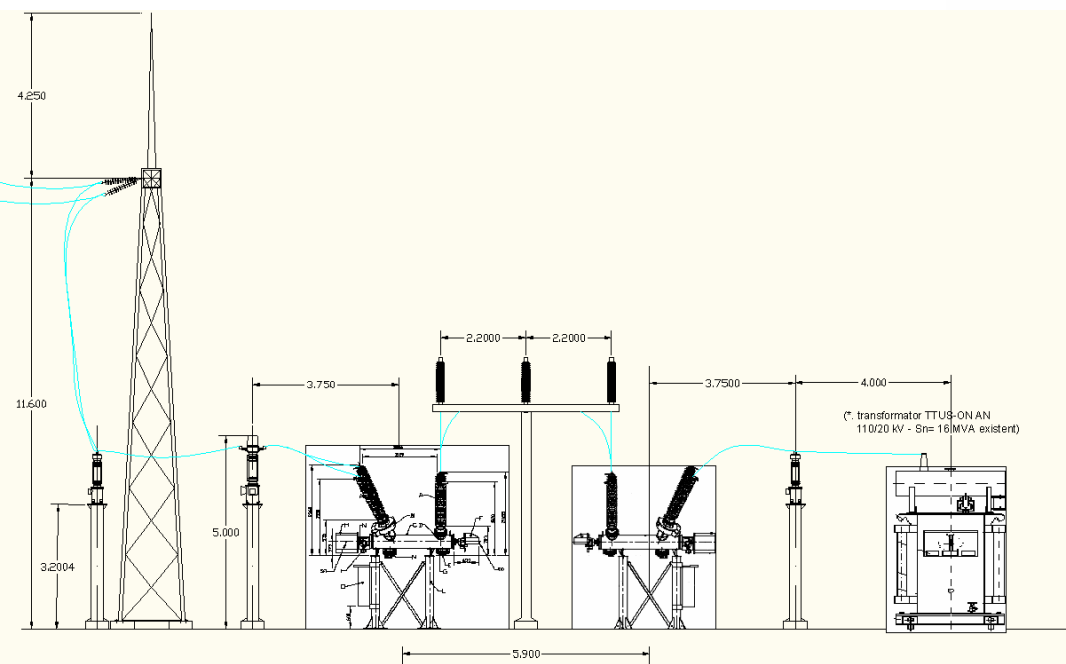
3	Armatura inferioara ICS 110 kv	1	06-08-000-16	10,6		
2	Corp izolator ICS 110 kv	1		18,9		
1	Armatura superioara ICS 110 kv	1	06-08-000-16	5		
Poz.	Denumire	Nr. desen (STAS)	Buc.	Material	Observatii	Masa
Proiectat	Ing. N. Ghisita	Data:				
Verificat	Ing. N. Popescu	18.01.2010			EPS. 279-0	Pl. 1/1
Desenat	Ing. S. Banea					
EXIMPROD		Molara:				
Power Systems					Izolator suport 110-550	
		Masa:	243 kg			

NOTA: La sertizarea armaturilor trebuie ca doua din gaurile M10 din armatura superioara si doua din gaurile M10 din armatura inferioara sa fie in acelasi plan cu doua din gaurile diametrul opuse din armatura inferioara. Abaterile unghiulara de la aceasta pozitie este de ±15'.





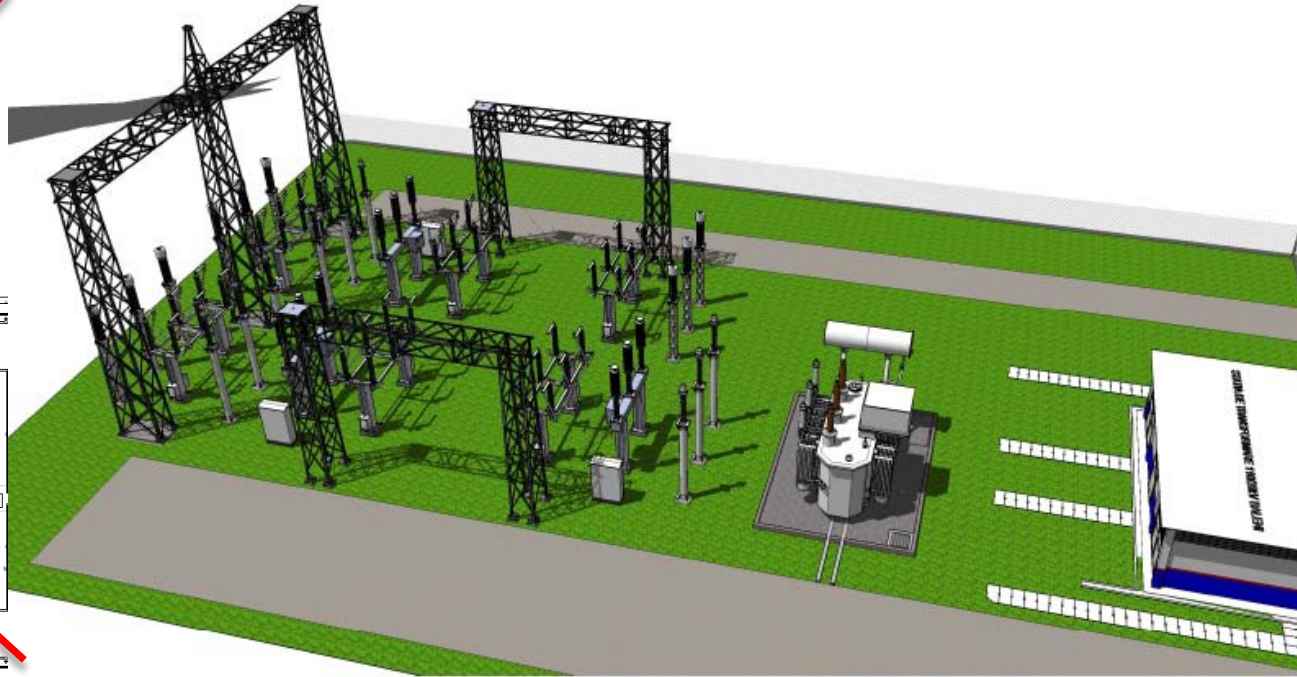
- Complex Solutions Design for HV and MV Substations and Overhead Lines








- Supply of Turn-key projects
- Feasibility Studies
- Design for Overhead Lines, Primary Distribution and Secondary Distribution



NEW: 3D MODELING FOR ELECTRICAL SUBSTATION DESIGN



Project	Scope of SIE- EPG Cooperation	Milestone	Client
Modernization of 26 HV/MV substations for E.ON Moldova Distribuție	Local SCADA and DMS Dispatch Engineering Services	started in February 2013	
110kV/20kV new Substation for Baleni Wind Park (50MW)	Primary and secondary MV and HV Equipment and Services	to be commissioned in August 2013	
400kV new Substation for Transelectrica	Primary and secondary MV and HV Equipment and Services	to be commissioned in October 2014	
Modernization of 110/20 kV Valeni Substation for Electrica Romania	Primary and secondary MV and HV Equipment and Services	to be commissioned in 2014	
110kV/30 kV Substation for Corni Wind Park (70MW)	Primary and secondary MV and HV Equipment and Services	commissioned in September 2012	



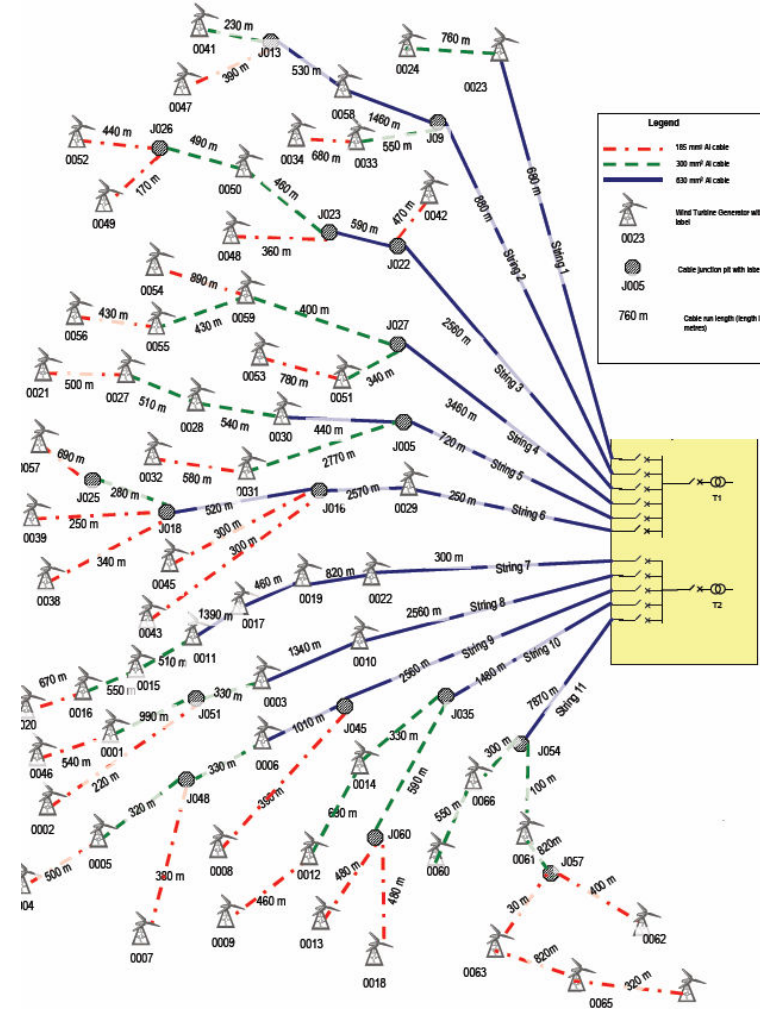
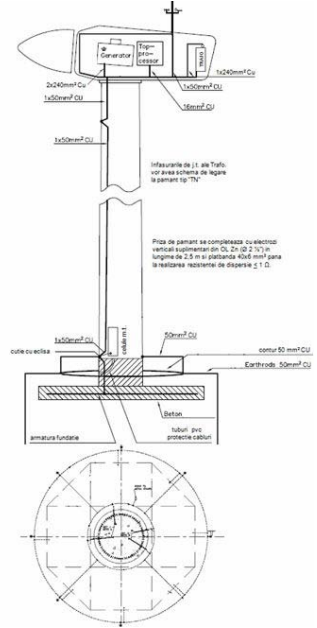
First Co-generation plant commissioned in 2010 in Buzau,

- consists of 2 x 3MW GE Jenbacher Engines.
- built in partnership with local authorities
- supplies heating, hot water and electricity for the city of Buzau, Romania.





- Studies related to wind generation park development
 - studies for grid connection
 - wind and topology studies
 - environmental studies
 - wind park development studies





First Wind Generator Commissioned in august 2003 –
Topolog area

Current wind parks in preparation/construction:

SPV	Installed Power
Ecoprod Energy	9,2 MW
Total Electric	15 MW
Gebeleisis 70	70 MW
Gebeleisis 200	200 MW
Gebeleisis 50	5 x 10 MW
Gebeleisis 3.10	3 x 10 MW



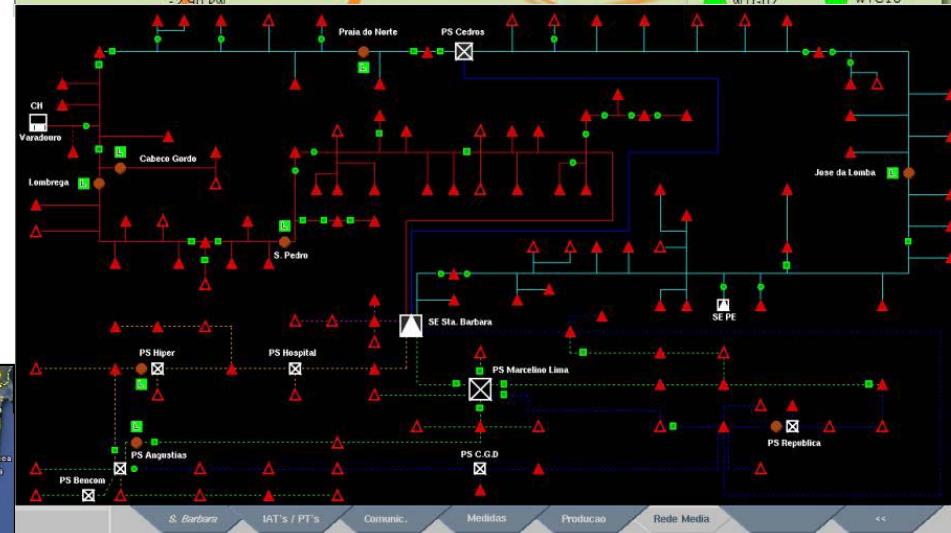
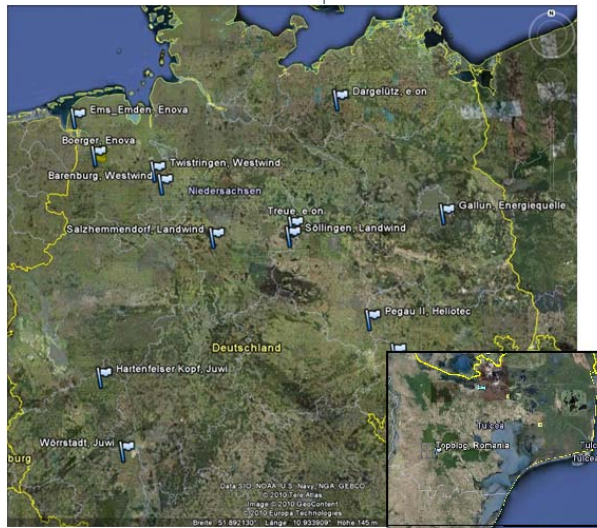


EPG
EXIMPROD GRUP

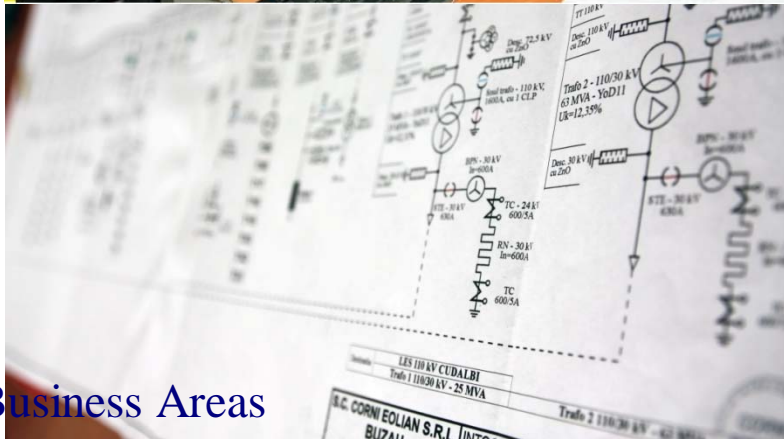
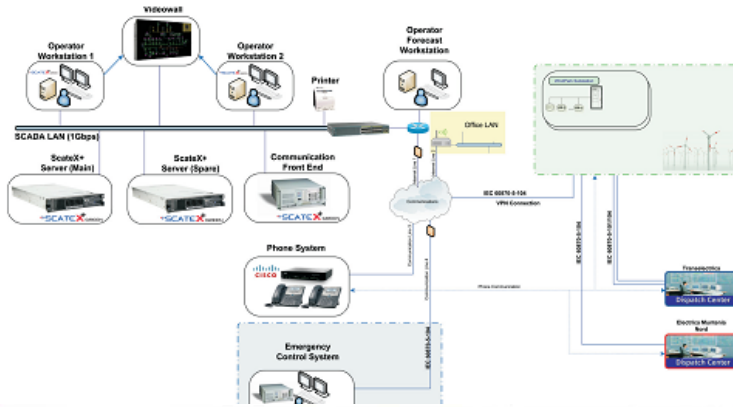
Business Areas – Renewable Energy Dispatch, Operation and Maintenance for Wind and Solar Parks

- Dispatch Located in Bacau
- Dedicated Professional Team
- Complete range of services:
 - Dispatching,
 - Production Forecast,
 - Local Operations,
 - Preventive maintenance,
 - Corrective maintenance

Command & Control Views Reports Interventions Administration (Logout)



Business Areas



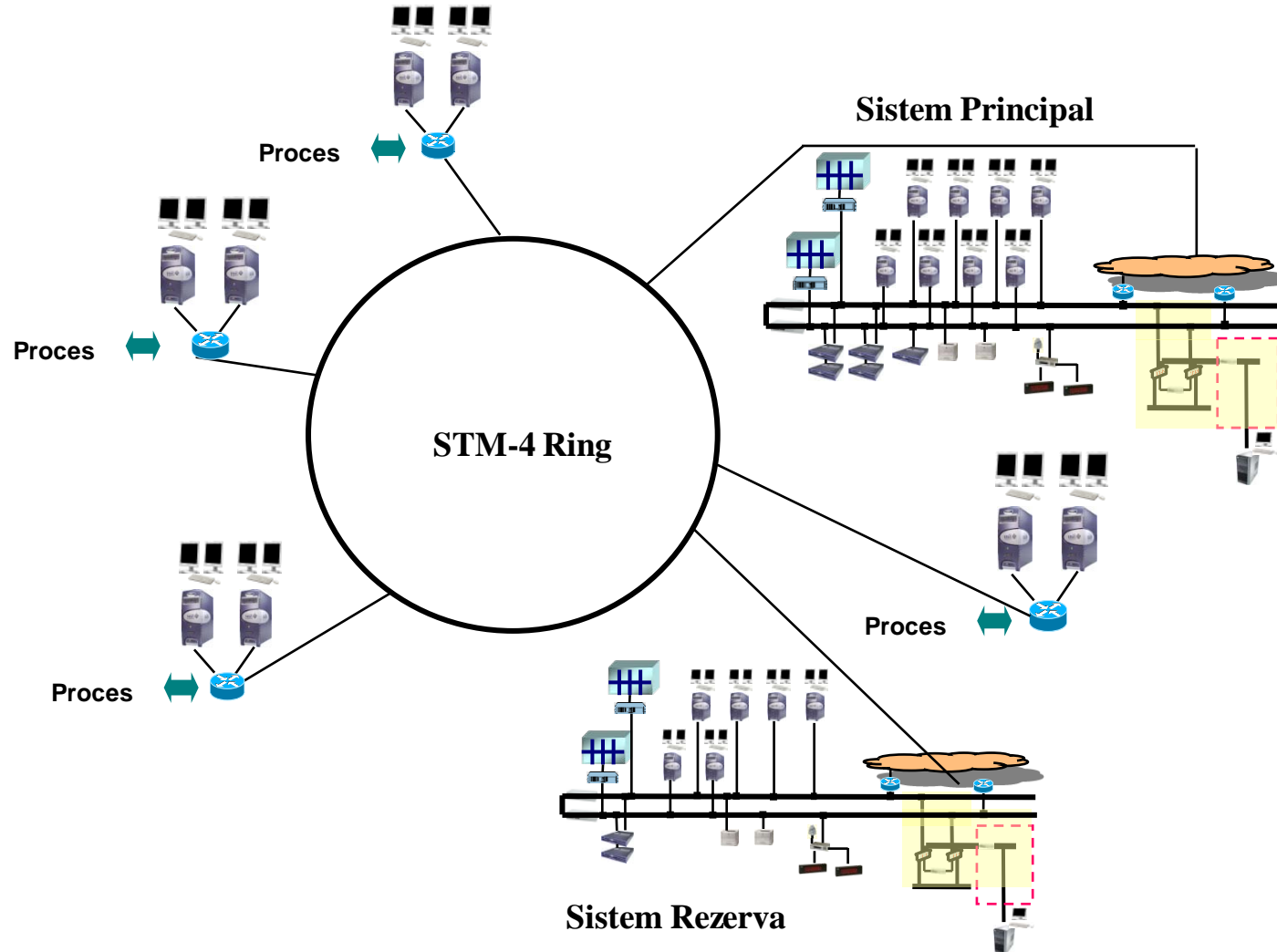
DEEA Dispatch:

- State of the Art Software and Hardware Architecture
- Dedicated Professionals with 11-27 years experience in the field of dispatching
- Authorised by Transelectrica
- Meets all Romanian standards and requirements in the field of Energy Distribution and Transport



- Distribution Automation Systems and Complex SCADA Systems
- Remote controlled overhead switches and reclosers
- Automation of LV / MV distribution transformers and secondary distribution substations
- SCADA systems at substation level (HV/MV).
- Automation systems customized for industrial installations
- Outdoor lighting automation systems

Dispatch Architecture





- Data Acquisition & Exchange
- Sequence of Events
- Data Processing
- Disturbance Review
- Database Snapshot
- Historical Information System
- Supervisory Control

- Tagging
- User Interface
- Alarming
- Wallboard Display
- Word Processing
- Security Checked Switching
- System Availability Watchdog



R B25
ST. Darabani LEA Severi / Deriv. Havnara stp1 bis

Stare Echipament (Mecanice): [Indicator]

Stare Protectii: **IN FUNCTIE**

Stare RAR: **IN FUNCTIE**

Stare Protectie Homopolara: **IN FUNCTIE**

Stare Protectie Homopolara Sens.: **IN FUNCTIE**

Stare Cold Load PickUP: **ANLATA**

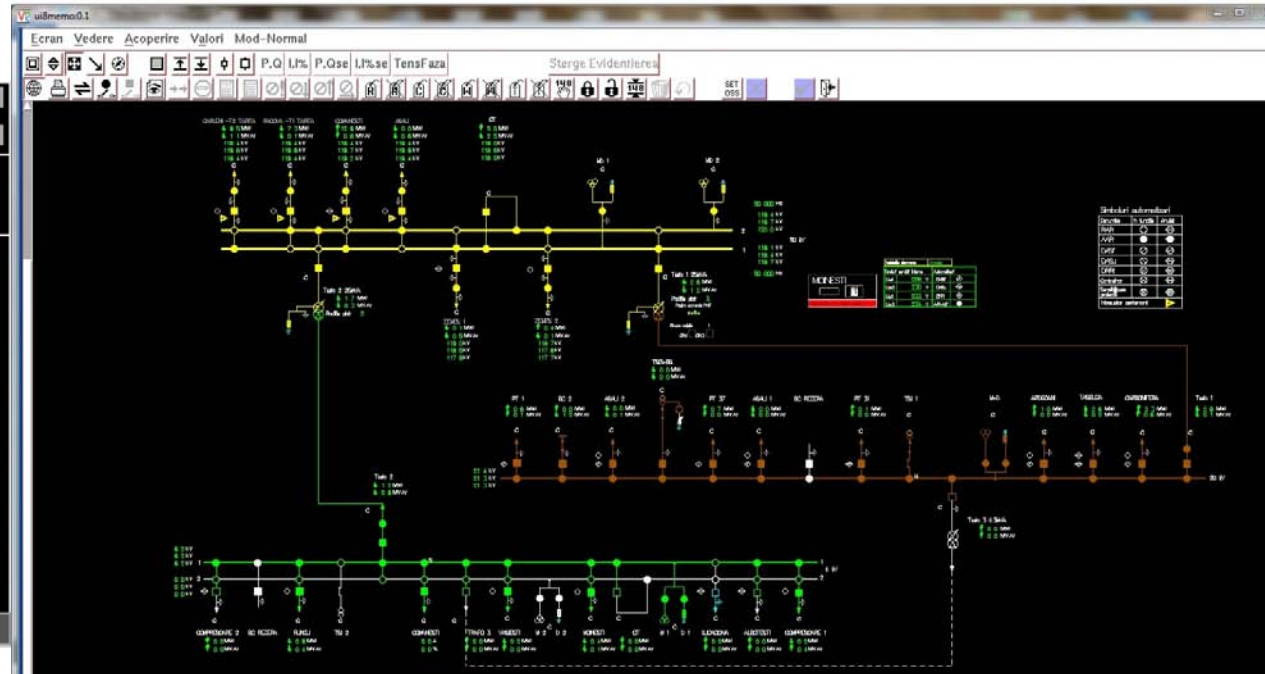
Stare Live Line: **ANLATA**

Grupa Protectii: GR1, GR2, GR3, GR4

Regim Comanda: **DISTANTA**

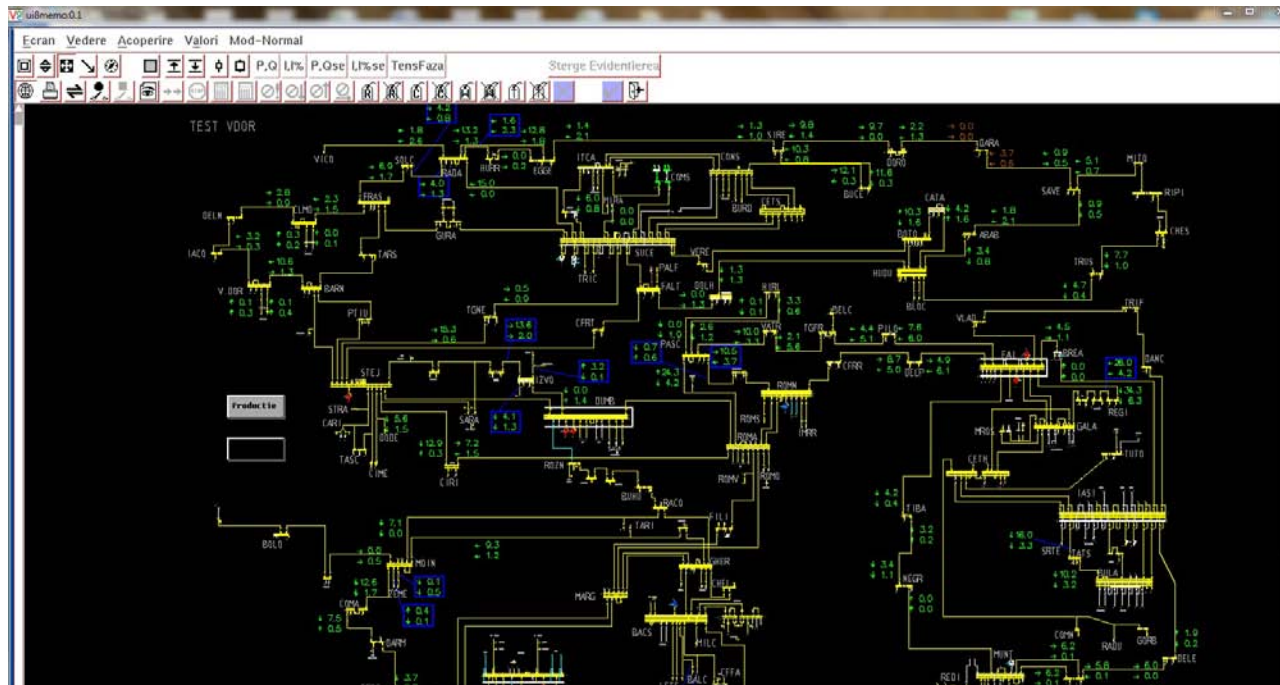
Baterie: **OK**

BOBIP SCADA KTR - Tavrada | SISTEM SAD Front-End SV | INTERFAȚĂ EXIMPROD GRUP



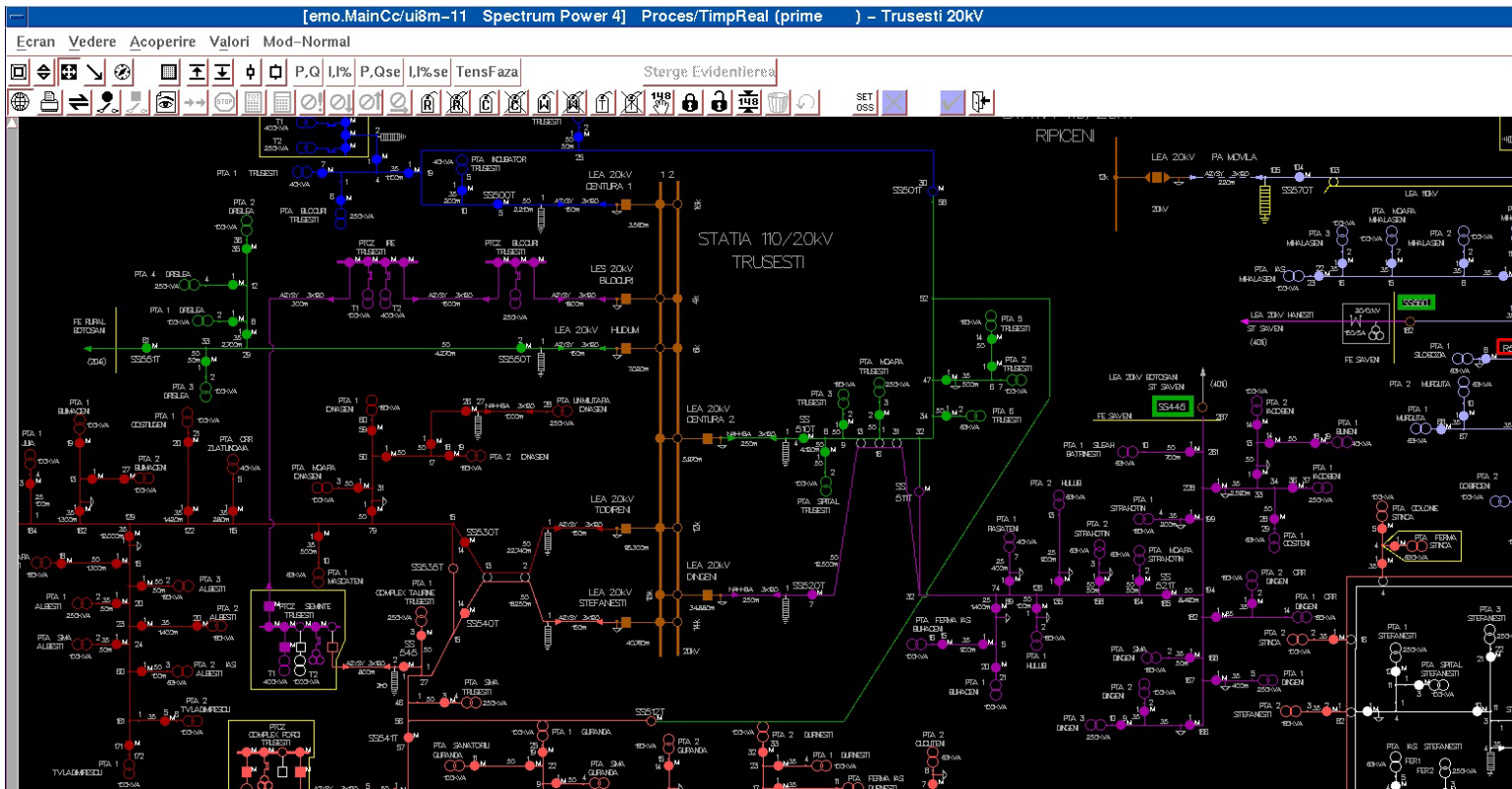


- Topology Processing
- Energy System Model
- Network Status Processor
- State Estimator
- Bus Bar load distribution factor calculation
- Security Checked Switching
- Voltage-, Var- Scheduler
- Dispatcher Power Flow Calculation
- Short Circuit Calculation
- Contingency Evaluation
- Outage Scheduler
- Network Reduction
- Study Case Management
- Short Term Load Forecast





- Topology processing
- Graphical tracing and queries
- Dynamic handling of Jumpers
- Distribution System Power Flow
- Fault location
- Fault Isolation and Service Restoration
- Feeder Reconfiguration
- Volt/Var Control
- Distribution System Short Circuit
- Switching Procedure Management

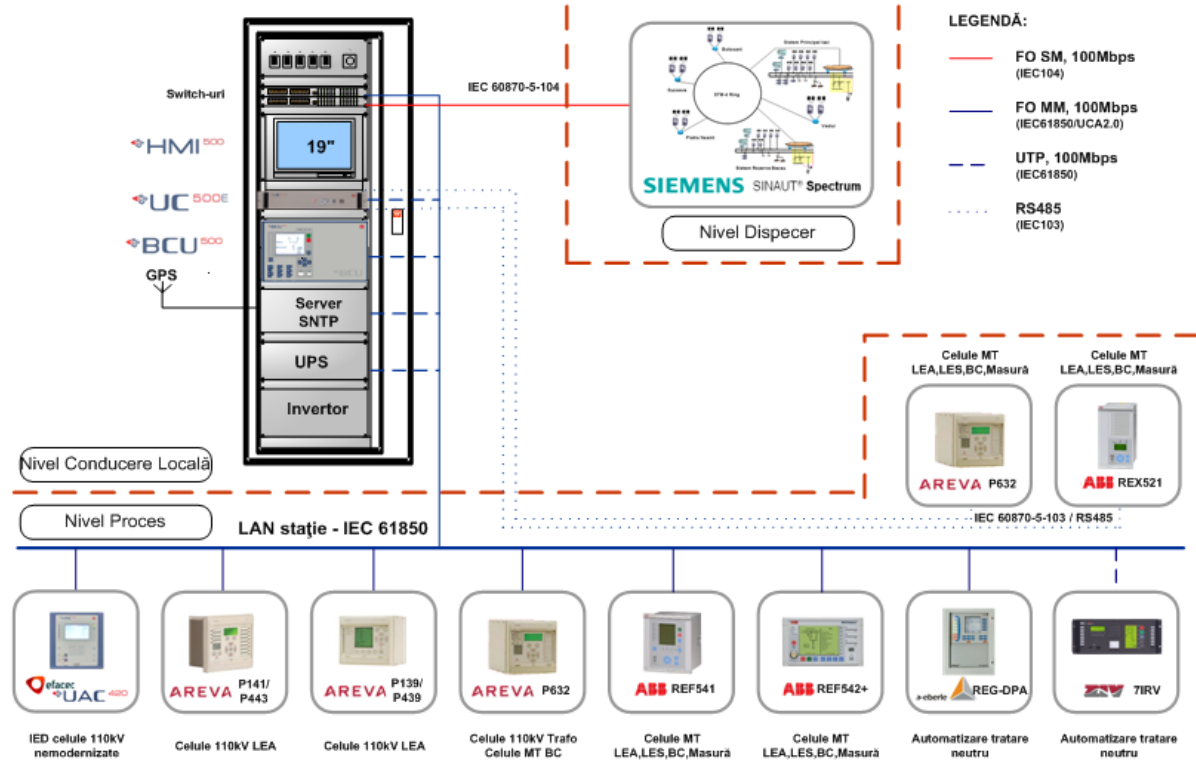


General Substation Architecture



Principles used in SCADA Systems HV/MV substations

- IEC 61850 protocol on vertical communication
- GOOSE for horizontal communication
- IEC 60870 – 5-104 in communicating with CC
- Integrate in local SCADA IED's from different vendors





-Main Clients and SCADA Projects during 2005- 2009

-**Electrica Romania:**

- 6 Automation of Distribution Dispatches (aprox. 750 remote-controlled equipment)
- Integrated SCADA DMS System (5 dispatches, 21 substations, integration of 6 Overhead Automation Distribution Systems)
- 800 remote-controlled equipment (in third parties dispatches)

-**E.ON Romania**

- 1 Automation of Distribution Dispatch (incl 40 remote-controlled equipment)
- E.on training Centre
- SCADA EMS/DMS pilot project (6 Dispatches, Disaster Recovery, 25 substations, integration of existing systems, SDH telecommunication infrastructure)
- supply and integration of aprox. 400 remote-controlled MV overhead switches
- SCADA Implementarion in 21 HV/MV Substations

- **CEZ Romania**

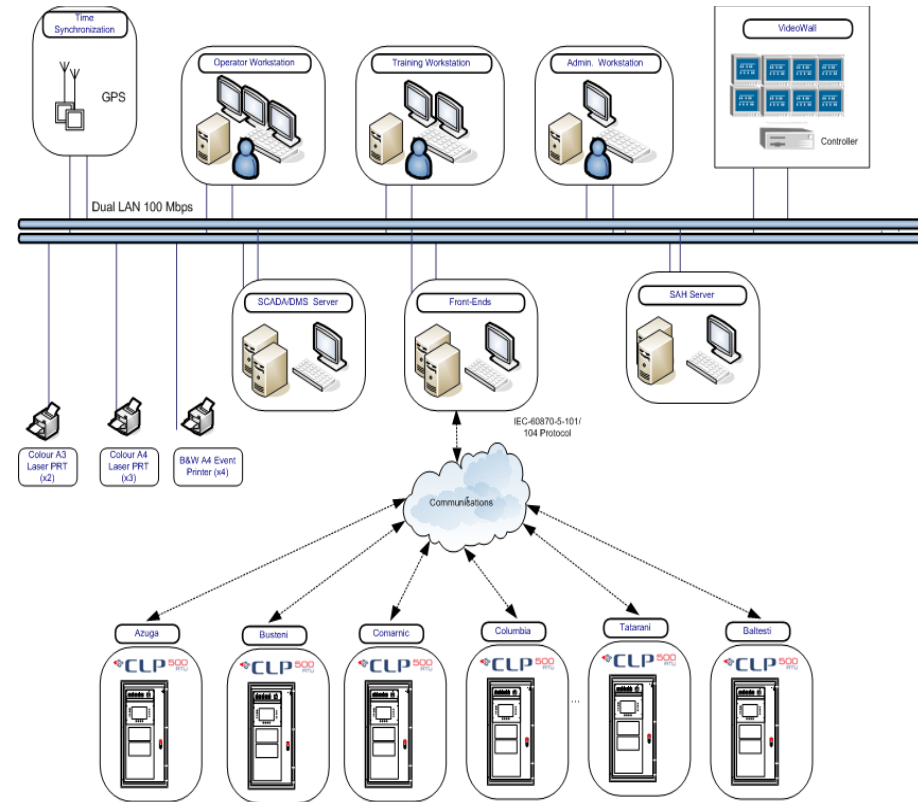
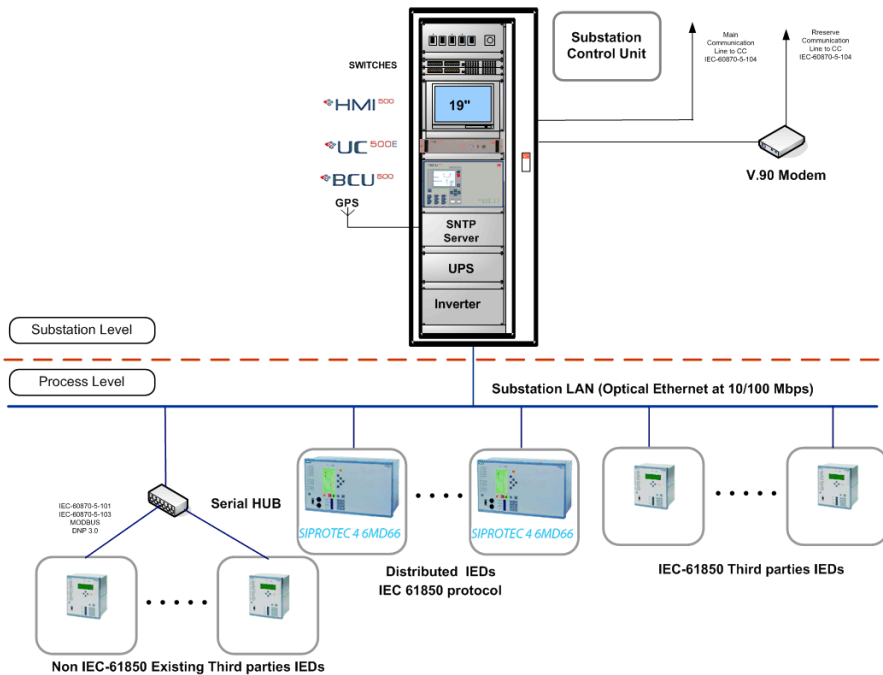
- Automation of 15 secondary distribution substations
- 70 remote controlled overhead switches

- **ENEL Romania** (*formal Electrica Muntenia Sud*)

- Automation of Distribution Dispatch (Bucharest Area)
- aprox 70 equipment integrated

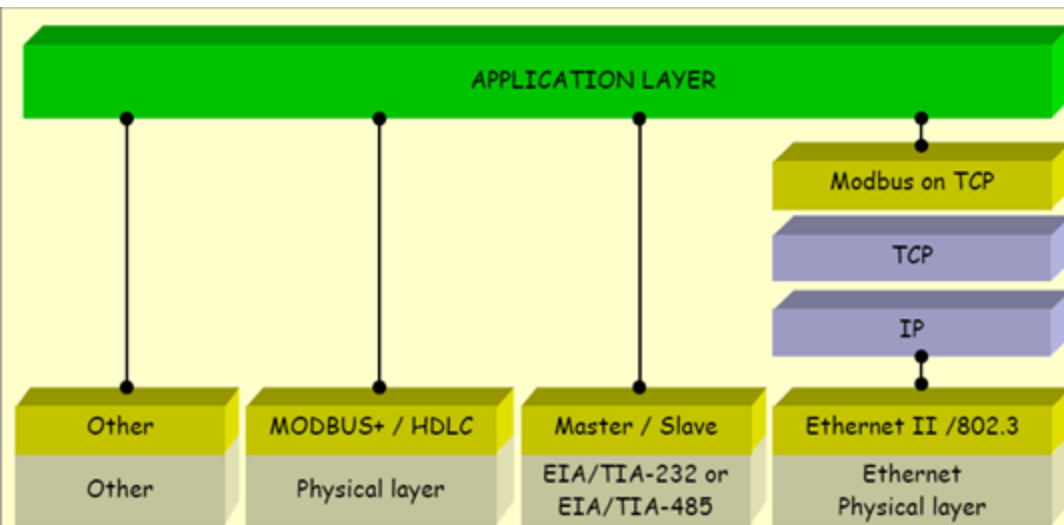
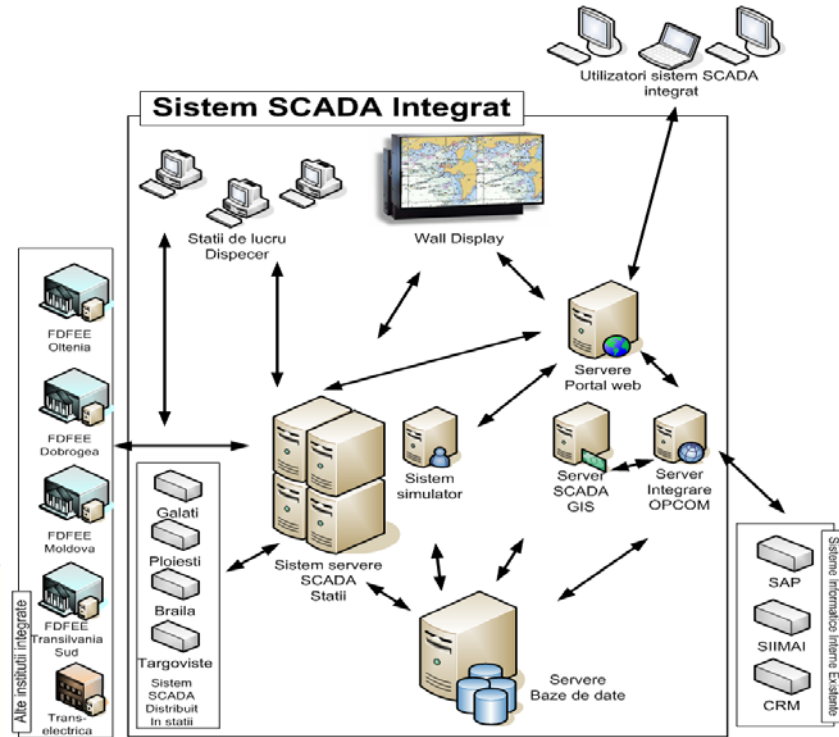
Complex SCADA Distribution Management Systems

Substation Automation



Cross-Platform Business Process Integration

Custom Software Development



Design and Engineering Expertise



Our Design expertise has been rewarded with several awards and patents:

- Patents awarded: 22
- Patents pending: 5
- Patents by domain:
 - Insulation: 6 pcs
 - Safety Equipment: 13 pcs
 - Low Voltage Equipment: 7 Patents

DIPLÔME



Main International Partners



HV Insulation
Surge Arresters



LV Apparatus



Silicone Rubber



LV Apparatus



HV Instrument
Transformers



HT Conductors



MV Instrument
Transformers



SCADA Systems



MV Transformer
S/S



SCADA Systems



Wind Measurement;
Wind Park Production
Forecast



Wireless Routers





Q&A



Thank you for your kind attention !