



POWERING NEW PROJECTS
ANNUAL REPORT

CONTENTS

- 4 Message from the PRESIDENT
- 7 Electricity Value Network
- 9 Worldwide Connected
- 10 Group of Companies
- 13 Business Areas
- 14 Main Projects of 2017
- 36 Financial Review of Year
- 39 Certificates
- 40 Utility of the Future

MESSAGE FROM THE PRESIDENT

2017 was a year of growth for Romelectro.

From this standpoint, the goal of consolidating our position as chief General Contractor in Romania was reached.

The turnover growth did not bring with it, unfortunately, an increase in profitability, this being the main objective for the immediate future.

Turnover growth was determined by a much larger number of projects in execution, some of them already begun in 2016.

The two external projects continued: Burullus, the 1200 MW combined cycle unit in Egypt, which reached the powering up and commissioning phase (as the first of eight power generation units belonging to main contractor Siemens-Orascom to reach this phase) and Kosovo, the overhead transmission lines and high voltage power cables project, which continued with deliveries of supplies and works.

On the domestic market, the projects progressed in all three business areas: Transport & Distribution, Electrical Power, Hydroelectric and Thermoelectric Power Plants.

Let us review the most important projects: continuing works on the Bradu substation, the Jiu and Stejaru hydroelectric power plants, the Rovinari thermoelectric power plant and commencing the execution of the Combined Cycle Thermoelectric Power Plant in Iernut.

Likewise, the portfolio of contracts underwent a significant growth.

Several tenders were won and contracts were signed with Transelectrica (Focșani, Roman-Bacău, Smârdan) and Hidroelectrica (Slatina).

In addition, the first proposals were submitted to ANIF for irrigation works, a very high growth potential business area, with the signing of the first contract scheduled for 2018.

In terms of improving profitability, the most important project launched in 2017 is the Project Planning and Monitoring Methodology.

This new methodology entails revamping the organizational culture and behaviour, emphasizing proactivity.

By implementing this methodology, all aspects related to running a project, cost control and deviations, execution schedule and risk management will be improved.

2018 has a positive outlook.

Through the proper management of contracts in execution, as well as the consistent application of the new methodology, Romelectro will continue to be the leading General Contractor in Romania and will create value for its clients, partners and shareholders.



“2018 has a positive outlook. Through the proper management of contracts in execution, as well as the consistent application of the new methodology, Romelectro will continue to be the leading General Contractor in Romania and will create value for its clients, partners and shareholders.”

2017 was a year of accelerating change that will impact the power industry across the entire Electricity Value Network.

Power leaders determined to thrive in this rapidly changing landscape must understand these trends, how they will impact their business models and the transformative role of digitalization.

Renewables and DERs will probably grow in the years to come, although coal and other traditional sources will continue to be critical energy sources.

The competitiveness of renewables means that fossil must aggressively adopt digital technologies to become more efficient, more quickly flexible (cycling), and compliant with environmental regulations.

DERs, digital technologies, and the cumulative upgrades in power generation, transmission and distribution of the past several years will drive the adoption of multi-directional grid capabilities in 2017 and beyond.

The future will increasingly be defined by intelligent grid technology, two-way power flows and higher quality power.

The multi-directional grid will reduce barriers to entry, spur competition and increase the velocity of innovation-led change — all of which will challenge established power utilities to rapidly adapt.



ELECTRICITY VALUE

NETWORK

Distributed generation, renewables, smart grids, storage and the digitalization of power demand new capabilities and will boost innovation, generating a rapid-fire progression of new business models. Competition is also increasing, both from independent power producers and non-traditional competitors.

The exponential growth and increasing connectedness of industrial data together with advanced analytics and artificial intelligence offer extraordinary opportunities to improve nearly every segment of utilities' business and operations, from power generation efficiency, flexibility and reliability to revenue, profit, the customer experience and workforce productivity.



Egypt

**Saudi
Arabia**

Japan



UAE

Australia

WORLDWIDE
CONNECTED

Romelectro is present on international markets
in over **40** countries



GROUP OF COMPANIES

Implementing a policy of expansion of offer and services, between 1995 and 2006 Romelectro became the major shareholder of ISPE and Electromontaj Carpați Sibiu companies.

In the last few years, an internal integration program has been running at the level of Romelectro Group, with the stated goal of maximizing the companies' participation in complex projects, leveraging the Group's resources throughout the whole project chain: engineering, manufacturing, testing, erection, commissioning.



Romelectro

EPC Contractor, Project Developer and Investor in the fields of power and heat generation, power transmission & distribution, environment and industry, in Romania and on international markets.



ISPE

Institute for Studies and Power Engineering, Leader in consulting (technical, financial and institutional) and engineering, in power transmission & distribution and environment. Designer and engineer of the Romanian National Power System.



Electromontaj Carpați Sibiu

One of the most important electrical engineering companies in Romania, specialized in mounting, assembly, and commissioning services for turnkey electrical substations and OHTLs.



Romelectro Arabia

EPC Contractor, Project Developer and Investor in the fields of power and heat generation, power transmission & distribution and environmental protection.

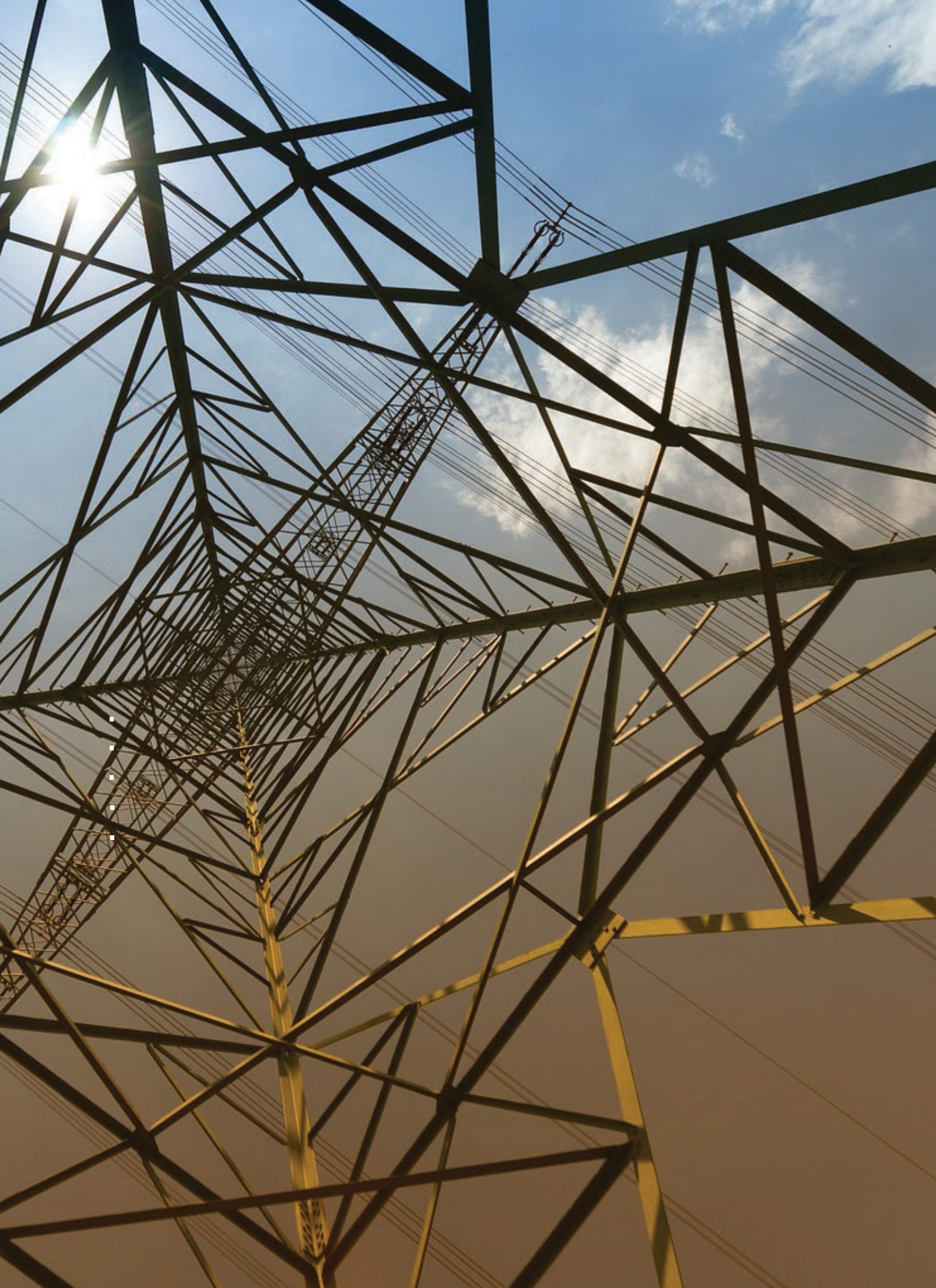


Romelectro Kosovo



Romelectro Egypt





BUSINESS AREAS

Thermal Power

As Romelectro's expertise over the years extended to most of the Romanian Thermal Power Plants on coal or gas, we have the necessary competencies, technologies, resources and know-how to answer our clients' needs for both greenfield projects or retrofit of the existing power units.

Hydro Power & Renewables

Romelectro is actively involved as EPC Contractor and Investor in developing the hydropower potential, managing turnkey contracts for projects in hydropower and hydromechanical works. Romelectro manages as well projects for every type of renewable energy: wind, photovoltaic, biomass, biogas and waste-to-energy.

Power Transmission & Distribution

The Power Transmission & Distribution sector has been since the beginning the core business of Romelectro. Our expertise is continuously expanded while new dimensions, technologies and standards are developing.

Environmental Protection

In line with international environmental protection directives, Romelectro implements the most advanced technologies. In fossil fuel power plants we implement high-tech solutions for flue gas desulphurization, electrofilters, ash and slag removal and storage in dense fluid technology and low NOx burning systems.

Industry

Romelectro shares its experience achieved in the energy industry with other industries - oil, gas, water, metal, cement, chemistry and pharma, food and beverage, etc. - in energy-optimization projects (thermal, electrical, utilities), for increasing energy efficiency and energy quality and in order to mitigate the environmental impact.

Our offer

- Turn-key contract management
- Technical, financial and institutional consultancy
- FEED, basic and detail engineering
- Project management
- Equipment supplier
- Manufacturing and testing of steel structures for power and telecommunication towers
- Installation and assembly services
- Civil works
- Site supervision
- Commissioning
- Operation monitoring during guarantee period
- Rehabilitation and modernization programs

MAIN PROJECTS OF 2017





Refurbishment of Stejaru Hydro Power Plant

In 2017 Romelectro oversaw the continuation of this project which amounts to approximately € 75 million and will be developed over a 6-year period. The project includes ample rehabilitation and modernization works to be carried out on the equipment and installations for all 6 units of Stejaru HPP.

Client:
Hidroelectrica SA –
Hidrocentrale Bistrita River
Branch
Starting year: 2015
Completion year: 2021

Main technical characteristics

The most important hydropower objective operated by Hidrocentrale Bistrița branch is the hydro power complex Bicaz - Stejaru (HPP Dimitrie Leonida) commissioned in 1960. Stejaru HPP is located on the Bistrița river, near the village of Stejaru, about 15 km downstream from Izvorul Muntelui dam, in Neamț county. The refurbishment project includes modernization works of the hydro power plant, both through replacement of obsolete equipments and through upgrade of older equipments to modern standards.

Main objectives

- Harnessing the hydropower potential of Bistrita river with maximum efficiency;
- Increasing the units' yields for independent operation, as well as together with other units;
- Increasing the amount of system services offered according to network requirements;
- Establishing a remote control system to ensure the groups' management from a remote computer;
- Providing the possibility to monitor key operating parameters of the groups, their transmission to the hydro power dispatcher, and the diagnosis of possible causes of occurring events.

Benefits

The major benefit of the project consists in the extension of Stejaru HPP lifetime with 30 years of operation, with yields superior to those of today. Throughout the duration of the works, the hydro units shall be withdrawn successively from operation, the availability level of the power plant being maintained at any time at a minimum of 75% of the installed power.



Key Figures

- 4 × 155 Turbines type F20 – 1600 & 4 Generators x 26,8 MW
- 2 Turbines type F20 - 2300 & 2 Generators x 50 MW

Partners

- Romelectro
- Litostroj Power Slovenia
- ISPE



400/220/110/20 kV refurbishment of Bradu Substation

Client: Transelectrica -
Romanian TSO
Starting year: 2015
Completion year: 2018

Refurbishment of 400/220/110/20 kV Bradu Substation at all voltage levels, with the target of bringing it to the appropriate level of security corresponding to the region and the adopted energy objectives.

Main technical characteristics

The 400/220/110/20 kV Bradu Substation is an important substation both for the National Energy System, as well as for the Regional Distribution Network .

The severe degradation of the existing equipments and appliances, found in operation for over 45 years, and the requirements of current standards led to the necessity of retrofitting Bradu power station.

The project involves the incorporation of modern equipment for primary circuits (type AIS 400 kV, GIS 220 kV outdoor, GIS 110 kV indoor, and 20 kV cells, encapsulated circuit breaker) and for secondary circuits, in order to

achieve decentralized system protection, telecommunications and SCADA system for centralized monitoring and management of the modernized electric substation.

Refurbishment works are carried out without affecting the existing circuits and installations, and based on a schedule of the works designed to maintain the current level of security of supply.

Benefits

- Increasing the security of the National Energy System and raising the safety of power supply to final consumers. Reducing the internal technical consumption by using high performance equipment and installations.
- Decreasing downtimes.
- Upgrading the substation through refurbishment at all voltage levels in order to bring it to the appropriate level of the area, using a modern technology.

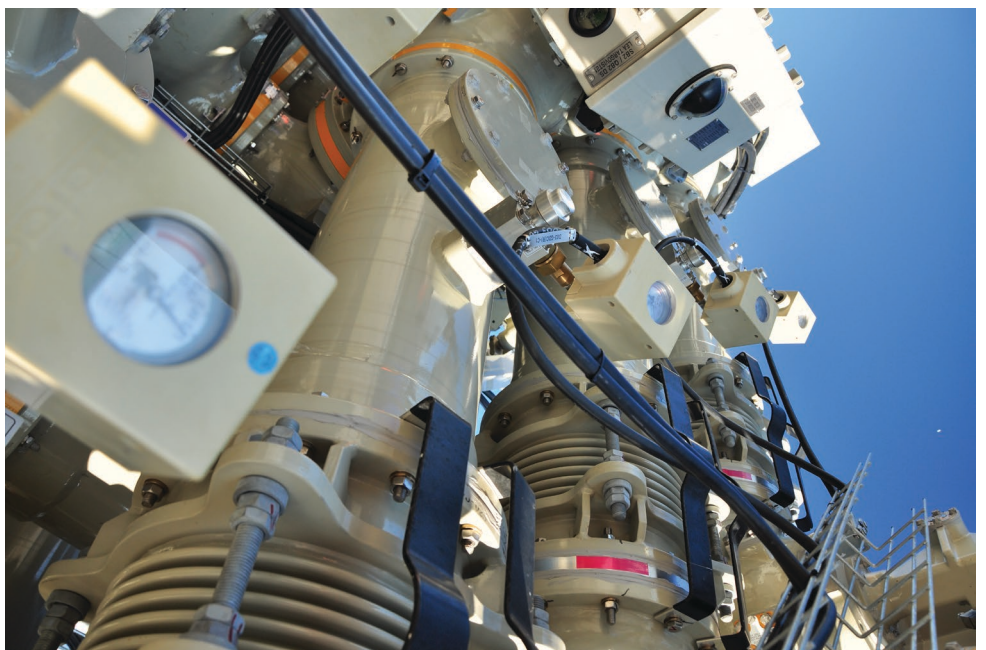


Key Figures

- 400 kV Substation with double busbar system
- 220 kV exterior Substation
- 110 kV interior Substation
- 20 kV interior Substation

Partnership

- Romelectro
- Electromontaj Carpati Sibiu
- ISPE



Iernut - 2 x215 MW Combined Cycle Power Plant (CCPP)

The value of the contract amounts approximately € 268 million and will be carried out over a 3-year period.

The project is a turnkey contract, including: engineering, construction works, equipment procurement, testing and commissioning.

Client: Romgaz S.A –
Romanian State Company.

Starting year: 2017

Completion year: 2019

Main technical characteristics

Two units, each one comprising:

- 2 x GTs,
- 2 x HRSGs ,
- 1 x ST,
- Natural gas compressors station,
- Gross efficiency: 56%,
- Specific emission of CO₂: max. 0.360 tons CO₂/MWh.

Benefits

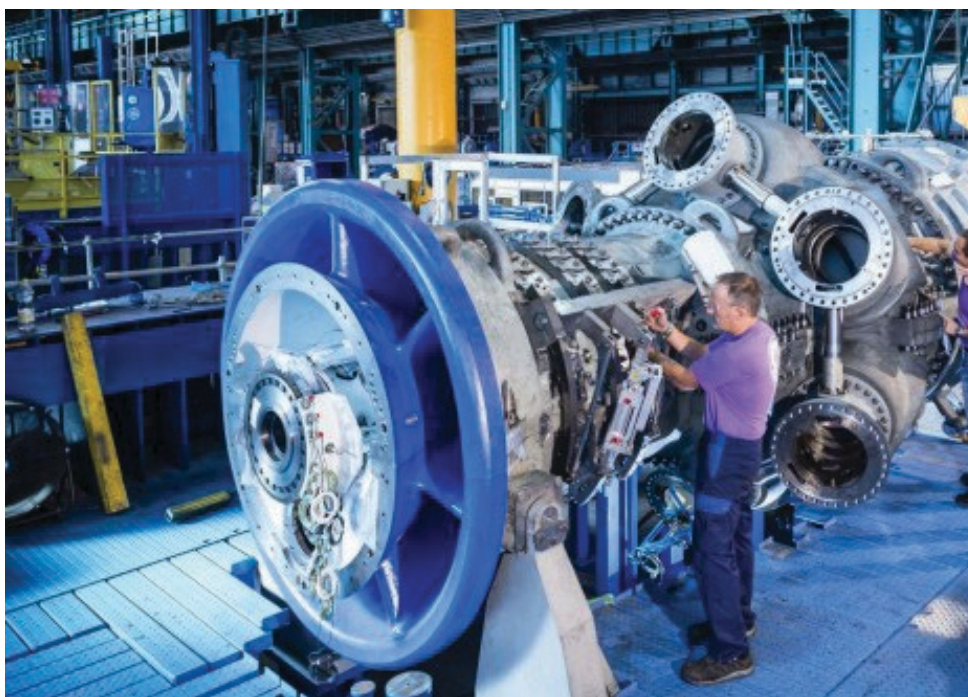
- Increasing the capacity for delivering Power system services, according to electrical grid requirements.
- Achieving reliability indicators for individual units and for the entire power plant similar to global CCPP standards.
- Establishing a remote control system to ensure the management of the unit from a remote computer.
- Providing the possibility to monitor key operation parameters of the groups, their transmission to the National Energy Dispatcher, and the diagnosis of possible causes of occurring events.
- Complying with the European directives for environmental parameters.



Key Figures

Partnership

- Duro Felguera Spain
- Romelectro
- ISPE
- GE - Main equipment



400 kV Overhead Transmission Line Portile de Fier - Anina Resita

Client: Transelectrica - Romanian TSO
Starting year: 2015
Completion year: 2018

The 400 kV Overhead Transmission Line Portile de Fier – Anina – Resita is part of the ample project implemented by TRANSELECTRICA of switching to 400kV the existing 220kV axe Portile de Fier – Resita – Timisoara – Sacalaz – Arad. This project constitutes the first step in strengthening the interconnection network with ENTSO-E in South – West Romania, creating adequate premises for connection of the national power grid with Serbia.

Main technical characteristics

This project represents the first step in the interconnection between the two countries, Romania and Serbia. The 400kV OHTL Portile de Fier – Anina – Resita aims to increase the operational safety for both Power Systems involved, as well as for the entire region of Southeast Europe.

Making the transition to 400 kV of the power lines in the Western region of Romania is advantageous both for the internal power transmission networks of the National Power System and for strengthening the network interconnections with ENTSO-E.

Increasing the security of power supply for a greater consumption area of about 1000 MW.

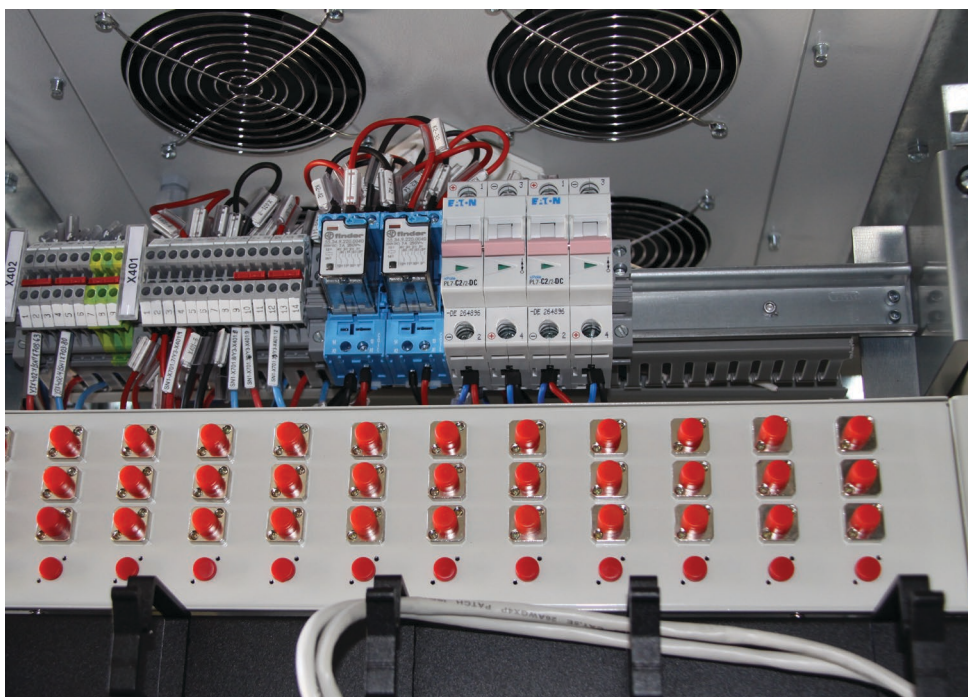
Strengthening the energy supply for the Banat region, thereby increasing the stability of voltages in the area and consequently reducing power losses.

Strengthening the network in South-Western Romania and thus increasing the amount of electricity that can be transited between Romania and Serbia, which generates higher financial compensations.



Key Figures

- Total OHTL route length 116 km



Partnership

- Electromontaj Bucuresti
- Romelectro
- ISPE
- Electromontaj Carpati Sibiu

Burullus Combined Cycle Power Plant (CCPP) - Egypt Unit 1 - 1200 MW

Client: Orascom Construction
- Egypt
Starting year: 2016
Completion year: 2017

CCPP Burullus together with the other two CCPP in construction (Beni Suef and New Capital), will be the largest gas fired combined cycle power plants in the world, totalising 14,4 GW.

Main technical characteristics

In Egypt Romelectro, together with its consortium partner SAEM Energomontaj has completed the construction, testing, pre-commissioning and assistance in commissioning of the entire Mechanical, Electrical and Instrumentation Works for unit 1 – 1200 MW.

This unit consists of two Gas Turbines, one Steam Turbine and two HRSGs, auxiliaries and all associated piping, wiring and electrical control systems.

The supplier of the main equipment is Siemens AG.

CCPP Burullus, together with the other two CCPPs in construction in Egypt (Beni Suef and New Capital), will be the largest gas fired combined cycle power plants in the world.

The entire power plant in Burullus is due to be completed in the first half of 2018 when all 4800 MW will be connected to the national grid.



Key Figures

Client: EEHC

Direct Contractor: Orascom
Construction

Main equipment supplier:
Siemens AG

Contractor:

- Romelectro – Consortium leader
- SAEM Energomontaj – partner
-



220 kV and 110 kV Transmission and Distributions Lines and Cables in Kosovo

Client: KOSTT Kosovo
Starting year: 2016
Completion year: 2018

Main technical characteristics

Romelectro is EPC Contractor and the scope of the contract is: complete design, obtaining the construction permit (including all local permits and expropriation), manufacturing and supply, civil works, erection works, interface with the electrical substations, for the following 5 segments of lines or cables:

- New 110 kV Double Cable System to connect new 110 kV Mitrovica 2
- New 220 kV Drenasi-2 Double Circuit Transmission line
- New Combined 110 kV Double Circuit Transmission line and 110 kV Cable System to Fushe Kosova
- New 110 kV Double Cable System between Pristina 4 and New Pristina 6
- New 110 kV OHL between Rahoveci S/S- Theranda S/S



Key Figures

Partnership

- Romelectro
- Electromontaj Sibiu
- N.P.T.UKAB (Kosovo)
- ISPE



400 (220) 110 kV Focşani West Substation Refurbishing

Client: Transelectrica

Starting year: 2017

Completion year: 2020

Main technical characteristics

The substation will be upgraded and ready for future operation at the nominal voltage of 400 kV by:

- Installing the primary 400 kV device, simplifying the scheme by dismantling the transfer bar and the 2-bar system, with the mention that in the future there is a possibility of operating in a developed scheme by connecting to the 400kV Gutinas-Smardan OHTL and supplying the second unit transformation for power injection into the 110kV grid.

- 5 cells of 400 kV will be connected to the collectors as follows:

- 2 400 kV line cells for Creep and Barbos OHTL;
- 2 cells for the 220 / 110kV autotransformer, 200 MVA;
- a cell for measuring on the collector bars.

- Upgrading the station by keeping the existing electric circuit with a double collector bar system, replacing the primary and control-protective equipment, including the connections between them, and replacing the concrete structures with metallic anti-corrosion structures.
 - 14 cells of 110 kV will be connected to the collectors as follows:
 - 8 line cells 110 kV;
 - a cell for 220 / 110kV autotransformer, 200 MVA;
 - 2 cells for the two 110/20 kV-25 MVA power transformers;
 - 1 cross-coupled cell;
 - 2 cells per measure on collector bars.
- SCADA System:
- Installation of a new SCADA system for the 400 (220) and 110 kV equipment, which will integrate with the existing one that controls the 20 kV installations and the station's own services.
 - Upgrading of atmospheric overvoltage protection devices, external lighting installation and earthing installation.
 - The refurbishment works will be carried out without long-term damage to the existing circuits and installations, based on a schedule of works execution, ensuring that the current level of safety is maintained.



Key Figures

- Romelectro – EPC Contractor
- Electromontaj Carpati Sibiu SA, Erection and commissioning works



110 kV Bacău South & Roman North Substations Reburbing

Client: Transelectrica

Starting year: 2017

Completion year: 2020

Main technical characteristics

The scope of the contract is upgrading the 110kV installations of two transmission stations located in the eastern part of the 400kV-ring of the National Power Grid, namely 400/110 kV Bacău Sud and 400/110 kV Roman Nord transmission station.

Modernization works for each 110kV station will consist of:

- installation of primary and secondary equipment;
- use of a new Control & Protection system, which will cover all voltage levels, 400/110 and 0.4 kV), unitary, digital, integrated, redundant, remotely configurable;

- Providing remote control capabilities from DET + DEN + CTSI of new facilities.
- Ensuring the safety requirements according to the Integrated Safety System.
- New metering and power quality analysis system.

The investment contract includes the following services:

- pre-investment consulting, with the development of documentation for obtaining the approvals and agreements;
- basic and detail engineering
- procurement of equipment, FAT tests, receipt of supplies, transportation, insurance and storage;
- installation, interfacing and integration, SAT testing and commissioning;
- configuration and parametrization of digital systems;
- technical assistance during the execution of the works;
- technical assistance during the warranty period of the works;
- training of end user personnel.



Key Figures

Partnership

- Romelectro – EPC Main Contractor



FINANCIAL REVIEW OF 2017

	2016	2017
EUR		
Employees, average number	138	179
Turnover	49,576,493	89,606,695
Nominal capital	3,442,038	3,354,430
Gross Profit	1,102,691	2,169,942
Net profit	758,973	1,195,102
PROFIT AND LOSS ACCOUNT		
Operating revenue	52,490,497	89,677,099
Financial revenue	398,313	858,140
Operating expenses	51,370,504	87,431,325
Financial expenses	403,265	890,459
Total revenue	52,888,810	90,535,239
Total expenses	51,773,769	88,321,784
BALANCE SHEET		
Noncurrent assets	7,295,737	6,607,500
Intangible assets	4,178	29,805
Tangible assets	4,026,561	1,015,757
Financial assets	3,264,998	5,561,938
Current assets	48,561,170	37,979,271
Regularisation&similar account	1,028,656	3,522,146
Assets total	56,885,563	48,108,917
Own capital	12,771,339	12,449,276
Debts	43,588,039	35,659,640

	2016	2017
RON		
Employees, average number	138	179
Turnover	225,131,814	409,332,343
Nominal capital	15,630,640	15,630,639
Gross Profit	5,007,428	10,111,281
Net profit	3,446,573	5,568,818
PROFIT AND LOSS ACCOUNT		
Operating revenue	235,724,324	409,653,954
Financial revenue	1,788,744	3,920,070
Operating expenses	230,694,658	399,395,037
Financial expenses	1,810,982	4,067,706
Total revenue	237,513,068	413,574,024
Total expenses	232,505,640	403,462,743
BALANCE SHEET		
Noncurrent assets	24,204,094	30,788,968
Intangible assets	54,275	138,883
Tangible assets	5,273,208	4,733,121
Financial assets	18,876,611	25,916,964
Current assets	177,580,307	176,972,008
Regularisation&similar account	10,293,533	16,412,143
Assets total	212,077,934	224,173,119
Own capital	58,441,075	58,009,893
Debts	153,636,859	166,163,226



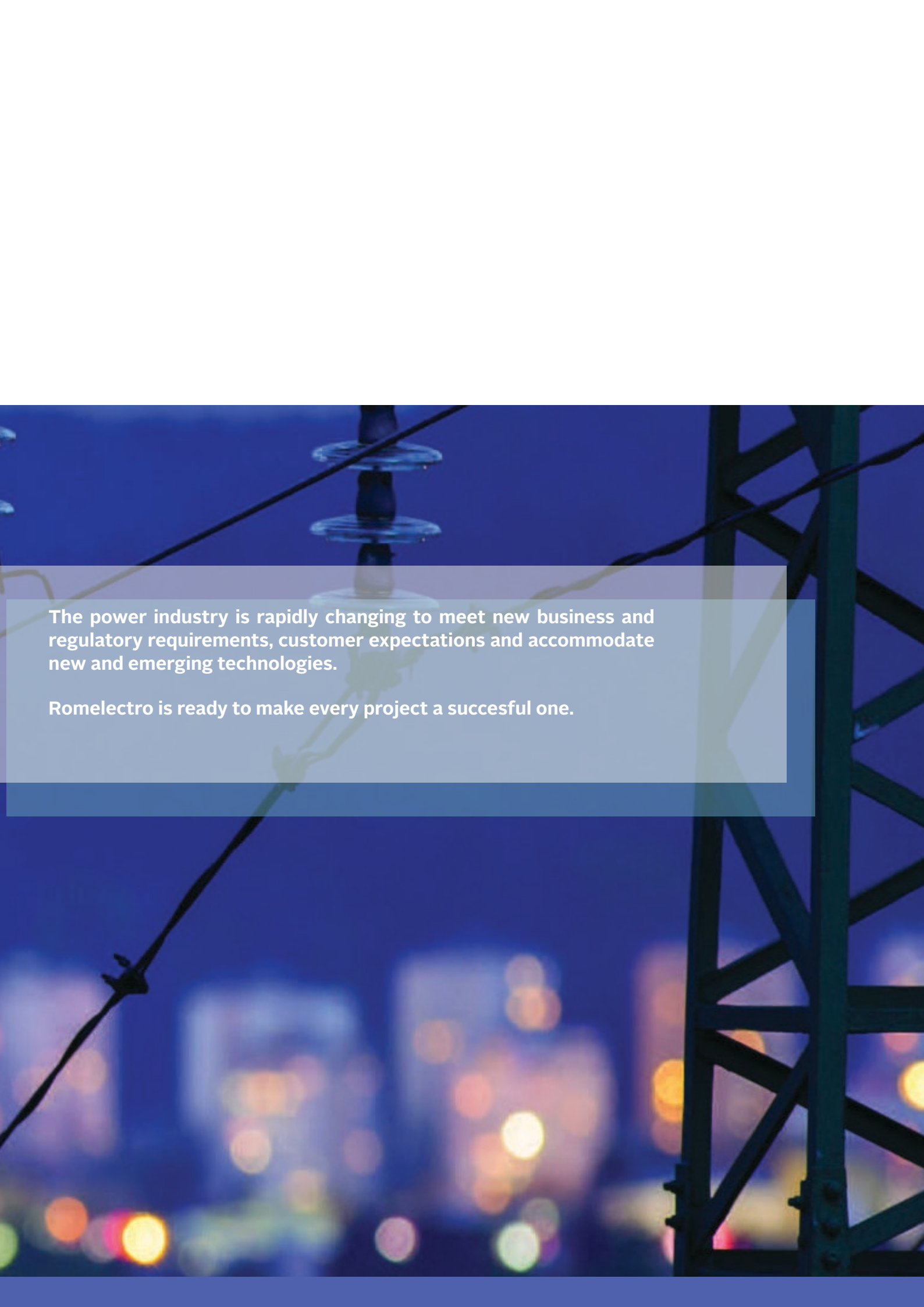
CERTIFICATES

Romelectro SA has obtained certifications for its Integrated Management System in the following areas: Quality, Environmental Management, Occupational Health and Safety, Social Accountability and Information Security.



POWER OF THE FUTURE



A photograph of a power line tower at night. The tower is a dark metal lattice structure on the right side. Power lines run across the frame. In the background, there are blurred city lights in various colors (yellow, orange, blue) against a dark blue night sky. A semi-transparent blue rectangular box is overlaid on the middle of the image, containing white text.

The power industry is rapidly changing to meet new business and regulatory requirements, customer expectations and accommodate new and emerging technologies.

Romelectro is ready to make every project a succesful one.



1-3 Lacul Tei Blvd,
Bucharest, Romania
004 021 2004 300
office@romelectro.ro
www.romelectro.ro