

the future is electric.

electromontaj.ro


EM
ELECTROMONTAJ



building energy highways for the electric future

150 kV OHL Mantoudi-Skiathos

pioneering excellence in energy infrastructure

Established in 1949, Electromontaj stands as the unrivaled leader in the Romanian energy construction market. With a history spanning over seven decades, we have set benchmarks and redefined excellence in power infrastructure development.

We take great pride in our unwavering commitment to delivering turnkey projects of the highest caliber, catering to both local and international clients.

At Electromontaj, we embody the essence of ingenuity and expertise, fueling progress through our exceptional range of services.

Our core competency lies in the accurate design, construction, transformation, and maintenance of cutting-edge infrastructure, all meticulously crafted to enable the intelligent distribution of electrical energy.




75 years
4 continents

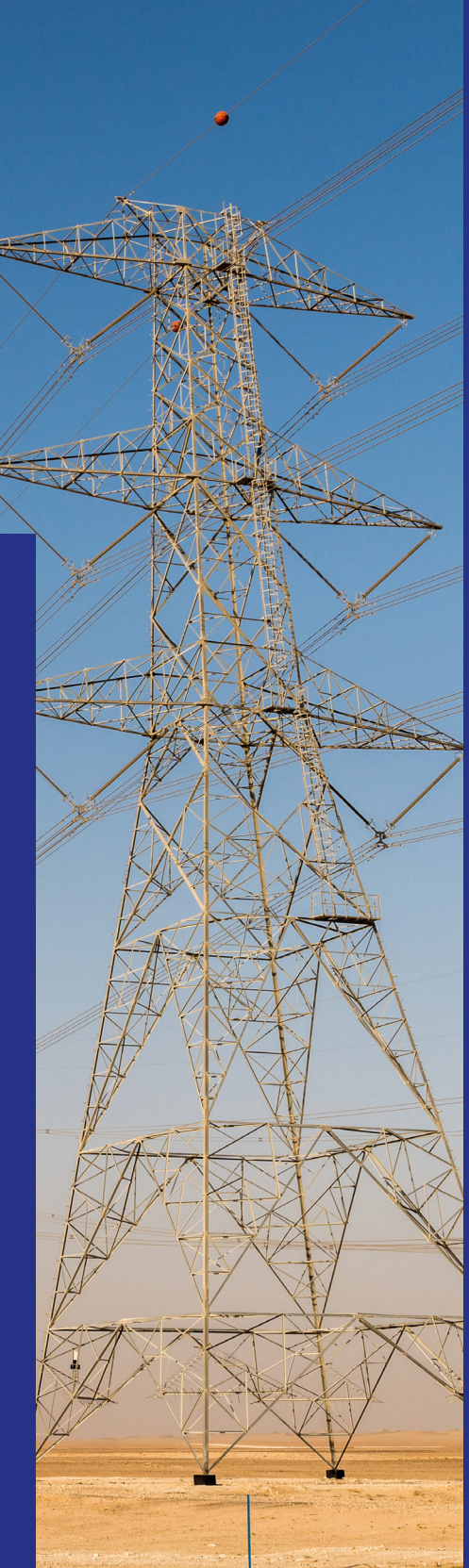


From the very dawn of Romania's national power grid, we have stood as architects, builders, and caretakers of its intricate network, ensuring the uninterrupted flow of electrical energy to power the nation's progress.

As a state-owned company in its early years, Electromontaj bore the weighty responsibility of designing, constructing, and maintaining the national energy infrastructure.

With unwavering dedication, our team of visionaries and experts pioneered groundbreaking solutions, shaping the very foundation upon which the country's power grid stands today.

In 1989, as Romania witnessed a profound revolution, Electromontaj embarked on its own transformative journey. Embracing the winds of change, we transitioned into a joint stock company, adapting to the evolving demands of a dynamic industry. This pivotal shift marked the beginning of a new chapter, one that would propel us towards even greater heights of achievement and success.



our journey

Committed to providing immediate and cost-effective responses to our customers' demands, we decided to enhance our range of services by seting up adjacent facilities such as a **Lattice Towers Factory** in Bucharest, a **Metallic Clamps and Fittings Factory** in Câmpina, and our own **Tower Testing Station** located in Bucharest, ranked among the top three in the world for its exceptional performance and capabilities.

We continued to diversify and expand our offer by setting up a new company, **Emfor,** specialised in civil engineering works of classic and bored pile foundations that embodies the same principles of quality, craftsmanship, and dedication to excellence. At the same time we increased our company shares in **Iproeb,** a well-established Romanian production facility for cables, conductors, and insulators.

Recently we acquired a majority stake in **Electrotehnica,** specialized in the design and manufacturing of electrical equipments for diverse technological applications, and **Hidroconstrucția,** specialized in hydropower constructions, especially dams, both of them being experienced companies in their field of expertise, with a large portfolio of local and international projects.

Together, we forge a formidable partnership, ensuring that our clients receive a comprehensive and seamless experience throughout their energy infrastructure projects.

EM footprint in the global power grid



98%

Romania

80%

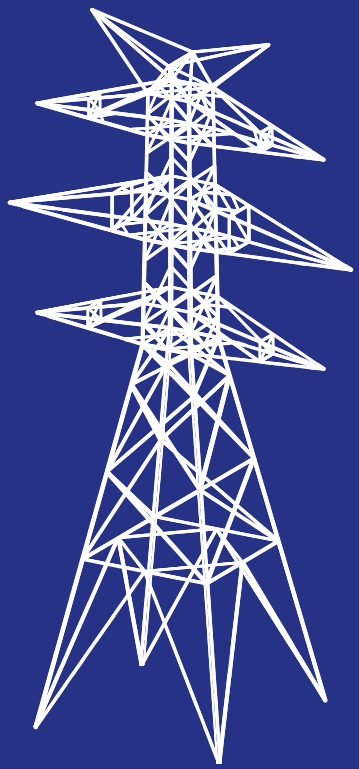
Cyprus

60%

Jordan

12%

United Arab Emirates (Abu Dhabi)



1975–2024

Bulgaria
Cyprus
Egypt
Finland
Greece
Iran
Iraq
Jordan
Mexico
Moldova
Netherlands
Poland
Qatar
Rwanda
Tanzania
UAE
Yemen


EM
ELECTROMONTAJ

mission & vision



132 kV OHL Yemen

the future is electric.

Our commitment to excellence is anchored by a team of seasoned professionals who possess an innate passion for their craft. These remarkable individuals form the backbone of our organization, driving our success and propelling us toward new horizons. Meticulous planning, impeccable execution, and an unwavering dedication to quality are the hallmarks of every endeavor we undertake.

People are at the core of our company's set of values.

We believe in Integrity, and promise to act with Efficiency and to look for Innovation, Excelling in everything we do, so that our impact in society improves the Quality of Human Life.

Our mission is to support the global transition towards a sustainable future based on electrical energy, through the design, construction, transformation and maintenance of the infrastructure for smart electricity distribution.






EM
ELECTROMONTAJ



our services

400 kV OHL Cernavodă - Stâlpu

powering the infrastructure

Engineering design, Construction and Maintenance of High Voltage Overhead Transmission Lines, Underground Lines

Engineering design, Construction, connection to energetic system for Wind Farms, Photovoltaic Parks

Engineering design, Construction and Maintenance of Power Stations

Hydropower plants overhaul works





- Manufacturing capabilities supporting OHL services
- OHL towers testing in owned Tower Testing Station
- Electric traction works (national railway electrification works, public lighting, electrical installations for airports, trolleys, trams)
- Irrigation systems actioning
- Civil engineering electrical projects

engineering design, construction and maintenance of High Voltage Overhead Transmission Lines, Underground Lines





- Design and construction with turnkey delivery for NEW OHL with a voltage range between 0.4 kV and 750 kV and underground power lines with a voltage range between 0,4kV and 400kV
- Modernization works, retrofit, reconditioning works for existing OHL with a voltage range between 110 kV and 400 kV and also for underground power lines
- Project management
- Cutting-edge tools and equipment, helicopter and drone assisted services
- Owned fleet and heavy equipment
- Rapid intervention towers system for emergency situations, natural disasters or specific unique projects requests
- Installing any type of underground cable of 0.4 kV up to 400kV
- Dismantling with recovery of any type of cable
- Installation of normal cables or OPUG in ducts, subway ducts, normal ground
- Installation of cables under water or under sea level
- Undercrossing of roads, railways


EM
ELECTROMONTAJ

our services



400 kV Porțile de Fier – Anina – Reșița

elevating the power of Design Engineering

Design is at the core of our DNA. We approach each project as a canvas, employing our creative prowess to develop innovative solutions that transcend conventional boundaries. By seamlessly integrating the latest technologies, sustainable practices, and forward-thinking methodologies, we create intelligent distribution systems that empower communities, drive progress, and shape the future of energy consumption.

Electromontaj is committed to fulfilling the diverse and dynamic requirements of every project we undertake. We embrace the complexities and challenges of high voltage overhead lines and substations, ensuring that our designs exceed expectations and withstand the test of time.

Project requirements we adeptly cater to include:

- Size
- Terrain
- Phase configuration
- Structural variation
- Voltage range
- Line and foundation designs
- Weather conditions
- Transmission structure maintenance and accessibility
- Electrical clearance assessment
- Transmission structure body geometry



Our design capabilities

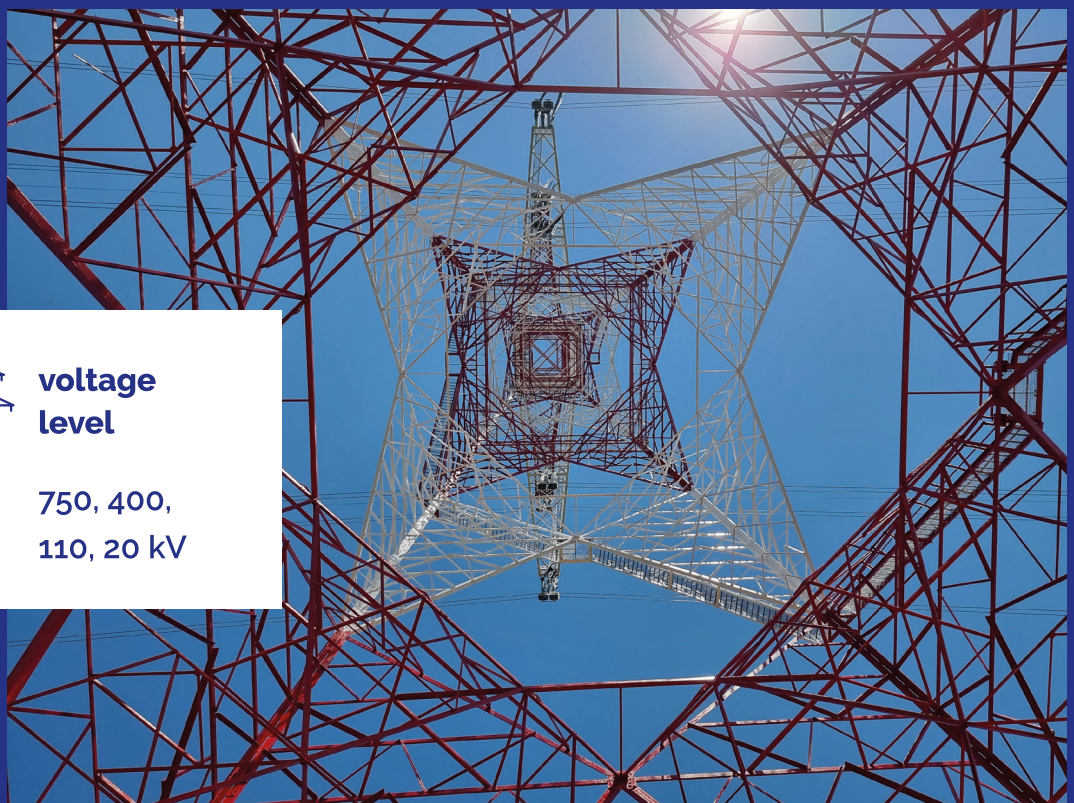
- TRANSMISSION TOWERS DESIGN
- ELECTRICAL LINES DESIGN
- CONSTRUCTIONS DESIGN
- TECHNOLOGICAL DESIGN
- ELECTRICAL PANEL DESIGN
- SUBSTATION DESIGN



Comprehensive Design Services

Electromontaj offers a comprehensive range of design services that encompass the entire lifecycle of power infrastructure projects. With our expertise and commitment to excellence, we provide end-to-end solutions that meet the unique needs of each client:

- Plan and profile development
- Structure Spotting
- Load Criteria
- Sag and Tension Analysis
- Structure Optimization
- Structure Design and Detailing
- Prototype and Full Scale Testing
- Foundation Design



voltage level

750, 400,
110, 20 kV

Software Expertise

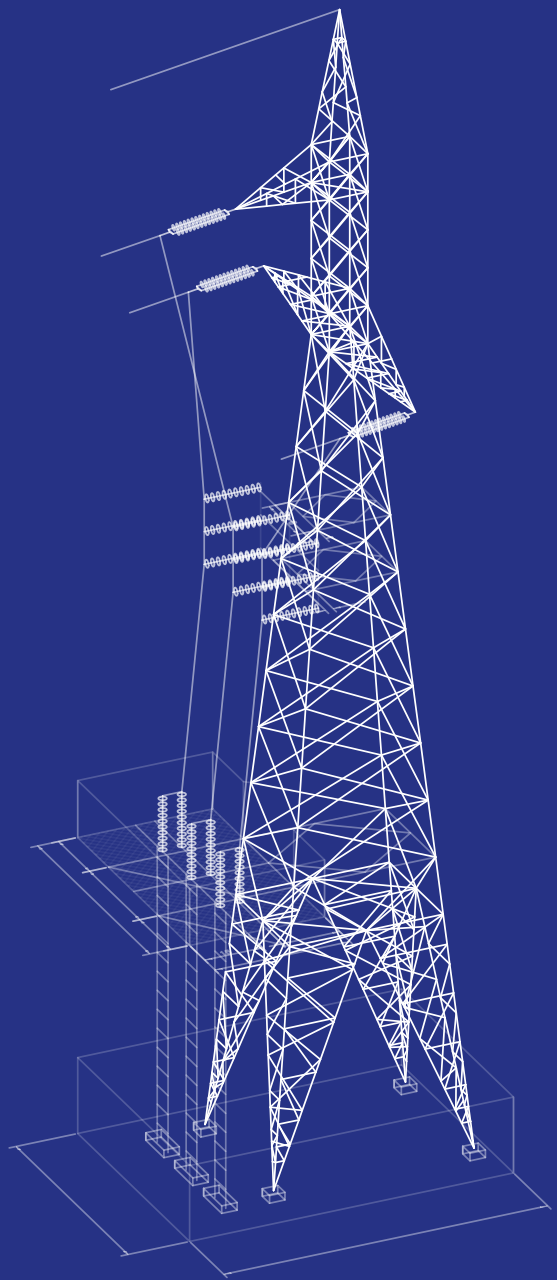
Our engineering design team is adept at utilizing a comprehensive suite of industry-leading software, enabling us to push the boundaries of what is possible in power infrastructure design. With a deep understanding of these powerful tools, we are capable of delivering unmatched precision, efficiency, and reliability.

Among the software solutions we employ are PLSCADD, PLS-POLE, TOWER, AutoCAD, Bocad, ePLAN, Primtech 3D Substation.

In addition to these software solutions, we employ a range of other CAD software tools that enhance our design capabilities, allowing us to address the unique challenges of power infrastructure projects.

At Electromontaj, software expertise is an integral part of our design philosophy. By harnessing the power of these advanced tools, we bring efficiency, accuracy, and innovation to every project we undertake, ensuring that our power infrastructure designs are at the forefront of excellence.





design and construction of substations

With a profound understanding of the complexities involved, Electromontaj excels in designing and building new power stations and substations across a broad voltage spectrum, ranging from 20 kV to the formidable 750 kV. Not limited to new installations, our prowess extends to the comprehensive retrofit, modernization, and extension of existing substations.

Leveraging our technical acumen and years of experience, we seamlessly integrate advanced technologies, intelligent monitoring systems, and sustainable solutions into the fabric of power distribution networks.

Our team of seasoned engineers and specialists meticulously plan and execute every stage of the project, from conceptualization and detailed design to procurement, installation, and commissioning. We employ cutting-edge software tools and industry leading methodologies to optimize performance, enhance efficiency, and ensure the utmost reliability of your substation infrastructure.

- **Power stations** 20/110/400/750 kV
- **Substations** 0,4/6/10/20 kV
- **Retrofit/modernization/extension** of existing stations





970 substations
(120-400 kV)

65.000 substations
(63 kV)


EM
ELECTROMONTAJ



our services

400 kV OHL Cernavodă - Stâlpu

EM Tower Testing Station

Internationally accredited and ranked among the world's largest full scale towers testing stations, our state-of-the-art facility is where meticulous preparatory and testing activities take place for a diverse array of latticed, guyed, tubular, and anchored metal towers.

Strategically located near our towers manufacturing facility, we ensure the utmost quality of testing results, not only for Electromontaj but also for other local or international companies.

There are no restrictions on the material used in the manufacture of the structure to be tested. Vertical, longitudinal, transverse and wind loads are applied by electrical winches at a constant low speed. A maximum of 66 loads can be applied and measured simultaneously.

The Tower Testing Station can perform design tests for multi-circuit giant towers of up to 90 meters high, with a base of 35 x 35 meters, a compression load of 800 tons and a tensile load of 730 tons.

Having its own developed testing procedure, our Tower Testing Station can provide complete testing solutions to any type of transmission line requirements.





260 towers

tested since 2014

heaviest tower tested 116 tons

2021

highest tower tested 85.2 m

2017



manufacturing capabilities

Supporting our core activities are our production facilities, ensuring the highest quality in manufacturing.

Galvanized Lattice Towers Factory
Located in Bucharest, equipped with cutting-edge technology, we design and produce galvanized bolted metal towers and structures. With a production capacity of 7.000 tons per year, we deliver sturdy and reliable infrastructure to facilitate efficient power transmission, both for our own projects but also for other local and international companies.

Metallic Clamps and Reinforcements Factory
We produce robust clamps and reinforcements for medium and high voltage lines, as well as welded metal structures. With a production capacity of 750 tons per year, we meet the demands of our customers, ensuring the structural integrity and reliability of our installations.

At Electromontaj, we understand the critical role of these manufacturing facilities in realizing our clients' vision. Our teams of skilled professionals leverage their technical expertise and adhere to stringent quality control measures to ensure every component and structure meets the highest industry standards.






EM
ELECTROMONTAJ



our recent projects

400 kV Porțile de Fier – Anina – Reșița



Exceptional Projects

Overhead High Voltage Lines

Average of projects per year per EM:

200
(including LEA, LES, stations, urbanistic works)

Leaning Towers
Yemen & Jordan

design, manufacturing, assembly and comissioning for
OHL 132 kV & 400 kV

Nile River Crossing
Cairo—Mansoura (1986)

design, manufacturing, assembly and comissioning for
OHL 220 kV

Danube River Crossing
Romania—Bulgaria (1986)

design, manufacturing, assembly and comissioning for
OHL 750 kV



Exceptional Projects

400 kV OHL Cernavodă–Stâlpu

Romania, Client: Romania TSO Transelectrica, 2023

The project is part of the North-South Interconnection East Electricity Corridor and aims to strengthen the cross-section between the western Black Sea coast and the rest of the European system, while contributing to the strengthening of the power transmission grid in Romania, increasing the interconnection capacity between Romania and Bulgaria and integrating wind energy produced in the Dobrogea area.

The route of the projected line is 160 kilometres long and crosses the territory of three counties: Constanta County (6 kilometres with double circuit), Ialomita County (94 kilometres with double circuit and 5 kilometres with single circuit) and Buzau County (54 kilometres with double circuit), with 22 administrative territorial units.

Crossing Danube river – 2.6 km wide.
Crossing Borcea branch – 1.7 km wide.
Highest OHL towers in Romania (150m) – designed, manufactured and tested by Electromontaj.

Main contractor, full design, towers manufacturing, civil works, assembly of towers and conductor, commissioning.





400 kV OHL Porțile de Fier–Anina–Reșița

Romania, Client: Romania TSO Transelectrica, 2023

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 strenghtening the interconnection network with ENTSO-E in South–West Romania, creating adequate premises for connection to the national power grid with Serbia. It is part of the 400 kV ring of Romania.

Retrofit OHL 400 kV Anina – Reșița – 41.3 km
New OHL 400 kV Porțile de Fier – Anina – 81.1 km - crossing mountains - simple circuit, with 3 conductors

Main contractor, full design, towers manufacturing, civil works, assembly of towers and conductor, commissioning.

400 kV OHL Reșița–Pancevo,

Romania–Serbia, Client: Romania TSO Transelectrica, 2018

Part of the Mid Continental East Corridor, it strengthens the national and South-East European (SEE) electricity system and it allows the elimination of major congestion in the area of the Romanian and Serbian power systems as well as an increase of the transfer capacity between two countries and throughout the South-Eastern part of Europe.
Details: 62,4 km, double circuit, 206 towers, 400 kV with 3 conductors, 300/69 ACSR, OPGW & ACS.

Main contractor, full design, towers manufacturing, civil works, assembly of towers and conductor, commissioning.





Connecting 400 kV OHL Isaccea–Varna and Isaccea–Dobrudja to 400 kV Medgidia Substation Romania–Bulgaria

Client: Romania TSO Transelectrica, on going 2024

The 400 kV Medgidia Sud station contributes to the safe evacuation of the power produced in the Cernavodă NPP, as well as the electricity produced in the wind power plants in the Dobrogea area and will become the interconnection station of the National Electricity System (SEN) with the Bulgarian Energy System.

Main contractor, full design, towers manufacturing, civil works, assembly of towers and conductor, commissioning.

Connecting route is 13.8 km, double circuit, 49 and 49 transmission towers each.

400 + 100 kV high-voltage overhead line Huittinen–Forssa, Finland

Client: Fingrid, on going 2024

Design and execution of new 400 kV OHL and new 110 kV line, relocation of an already existing line, 100 kV Kolsi-Fors .

261 towers are required for the 400 kV segment and 31 for the 110 kV segment, which will be produced in Electromontaj's own production unit, the Lattice Tower Factory in Bucharest.





380kV OHL Ens–Zwolle, Netherlands

Client: Tennet TSO, on going 2024

Upgrading, reinforcement of the transmission 49 towers and cables, on 18 km length.

380 kV OHL Krimpen aan den Ijssel–Geertruidenberg, Netherlands,

Client: Tennet TSO, 2022

Upgrading, reinforcement of the transmission 49 towers and cables, on 18 km length.

380 kV Diemen–Lelystad, Netherlands

Client: Tennet TSO, 2022

Upgrading, reinforcement of 156 transmission towers and cables, on 50 km length

150 kV OHL Mantoudi–Skiathos, Greece

Client: Independent Power Transmission Operator SA (IPTO), 2022

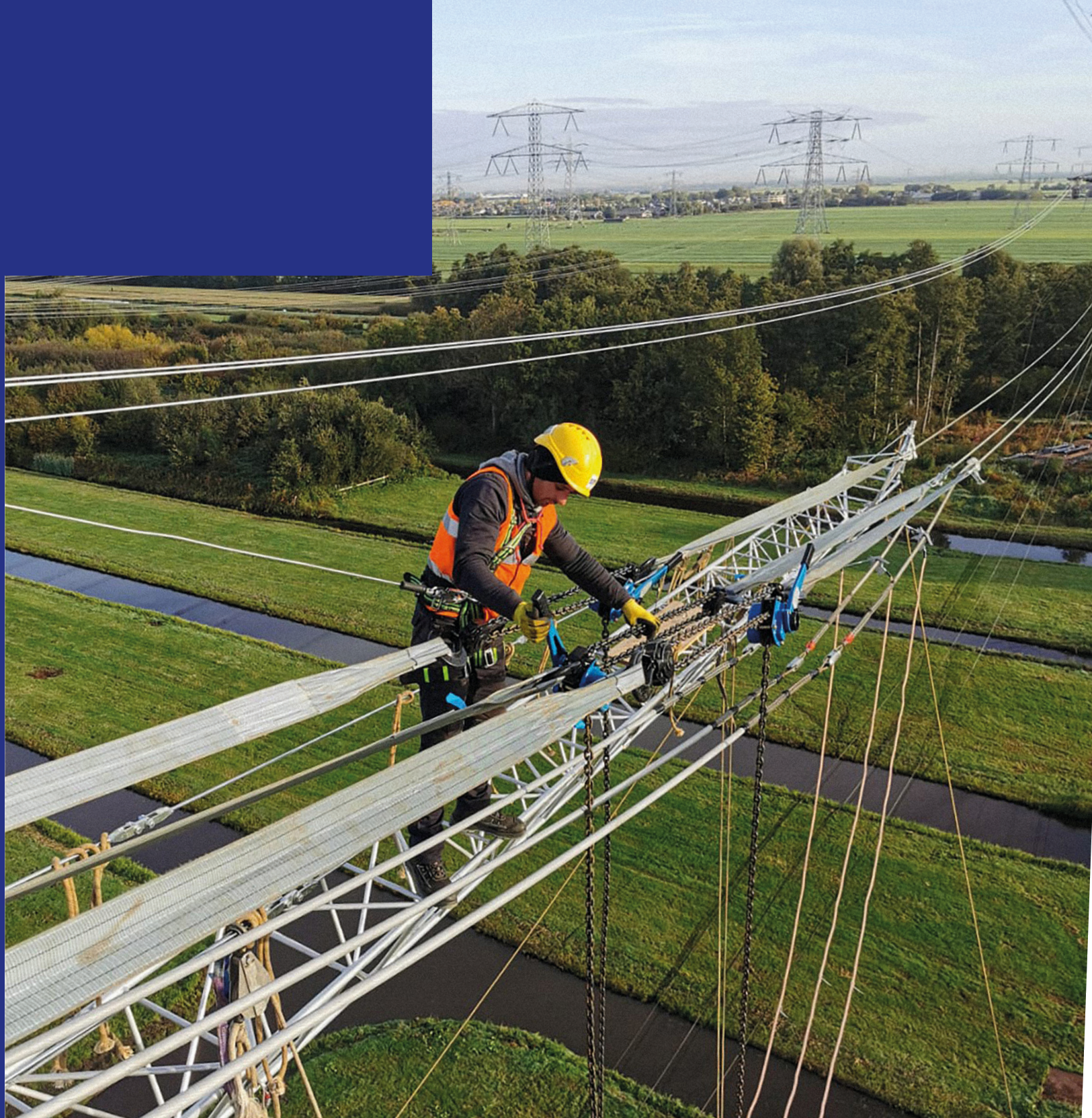
Connecting Skiathos island to Greece National Energy System. Line assembly: transmission 43 towers and cables on a length of 16 km.

400kV OHTL Maritsa East–Plovdiv, Bulgaria

Client: Elektoenergien Sistemen Operator EAD, 2021

Design and execution of new OHL





SUBSTATIONS

Modernization of recent major electrical substations:

110/20 kV Ocolna Station, Romania
Client: Romania TSO Transelectrica, on going

400/110/20 kV Smârdan, Romania
Client: Transelectrica TSO, on going

220/110 kV Craiova Nord, Romania
Client: Transelectrica TSO, 2022
Full modernization of the existing station

400 kV Isaccea, Romania
Client: Transelectrica TSO, 2019
Extension of the existing substation, by 3 new cells of 400 kV

400/220/110 kV Oțelărie Hunedoara
Client: Transelectrica TSO, 2018

400/220/110 kV Tulcea Vest, Romania
Client: Transelectrica TSO, 2017

400/220/110 kV Lacu Sărat, Romania
Client: Transelectrica TSO, 2013
Modernization of the primary equipment and optimization of the electrical wiring

330 kV Chișinău, Republic of Moldova
Client: Moldelectrica TSO, 2023



400 kV Vulcănești, Republic of Moldova
Client: Moldelectrica TSO, 2023

110 kV Otaci, Republic of Moldova
Client: Moldelectrica TSO, 2023

Greenfield recent substation projects

Zona Industrială de Est Craiova (ZIEC), 110/20 kV, Romania
Client: Distribuție Oltenia, CEZ Romania, 2018
Station connected in a loop, between Craiova Nord substation and Ghercești substation, through two 110 kV underground electric cables with a length of 11 km; Installed power of 80 MVA, with the possibility of future expansion to 120 MVA. Telecommunications and teleprotection systems made through optical fiber.

Constanta Port, Romania
Client: CNAPM (Maritime Port Administration Constanta), on going
Design and execution of new GI 220/110 kV substation, modernization of 7 transformers , construction of 2 new transformers, underground powerlines,

GREEN ENERGY PROJECTS

Ruginoasa Wind Power Plant, Romania
Client: D-TEK Renewables International & Moldova Eolian, 2023
The wind power plant will have an installed capacity of 60 MW and once completed will deliver a considerable amount of energy to the National Energy System, approximately 150,000 MWh/year. Contracted works: electrical line design, wind turbines foundations, construction of equipment platforms, access infrastructure.

Ciuperceni Photovoltaic Power Plant, Romania (2013)
Turnkey works: Design, supply, construction, equipment, testing and commissioning of the Ciuperceni substation for the photovoltaic park in Livada, Satu Mare, Romania.

Modernization of Hydropower Site Surduc Siriu, Romania (2023)
Client: S.P.E.E.H. HIDROELECTRICA S.A.
Purchase and installation of mechanical and electrical equipment at the Surduc dam, water intake and pressure node.

Modernization of Gogoșu Dam, Romania (2022)
Client: S.P.E.E.H. HIDROELECTRICA S.A.
Modernization of electrical installations related to hydromechanical equipment and hydraulic drive installation related to the Gogoșu spillway dam.

Modernization of Hydroelectric Plant Tismana Underground, Romania (2021)
Client: S.P.E.E.H. HIDROELECTRICA S.A.
Modernization of HA2 automation and control facilities, auxiliary facilities, 0.4 kV alternating current supply and distribution facilities, etc.






EM
ELECTROMONTAJ

our group synergies



400 kV OHL Cernavodă - Stâlpu

electromontaj group

Within our group, we proudly showcase **EMFOR MONTAJ,** a specialized civil engineering company, founded by Electromontaj.

Emfor's expertise, for more than 20 years, lies in classic and bored pile foundations, soil investigations, and construction of service roads and buildings.

Services:

- Special Foundations: bored piles, micro piles, columns, inclined bored piles, anchors
- Horizontal Drilling for underground utilities, such as pipes, conduits, or cables
- Foundation Reinforcements: combined technologies of injection, draining, and anchoring
- Residential buildings: foundations, secant pile walls or retaining walls
- Ground treatment and improvement: soil removal and replacement, stone columns, and geotextile encased sand columns.
- Electrical substations: turn-key solutions for electrical substations

Emfor has the advantage of owning its fleet of equipment and machinery, thus making it possible for quick turnarounds, cost-effective and rapid solutions, ensuring operational independency.





electromontaj group

IPROEB

Complementing our manufacturing capabilities is our production facility for cables, conductors, and insulators. With over 40 years of experience in the production of cables and conductors, **IPROEB**'s specialists have taken part in complex energetical projects, that have led to solid experience gain.

Production capability: low and medium voltage cables, insulated copper, aluminum and steel cables with crosslinked polyethylene and PVC insulation, galvanized steel conductors, composite insulators, manufacturing lines for automotive industry. IPROEB has its own testing and metrology laboratories, certified by RENAR.

Production capacity:

- 16,000 km/year of insulated cables.
- 22,000 insulator units/year
- 4,500 tons of processed aluminium/year.

IPROEB is listed on the Bucharest Stock Exchange since 2015.





electromontaj group

ELECTROTEHNICA
echipamente electrice

With a rich heritage of 100 years, **ELECTROTEHNICA** epitomizes expertise and innovation in the field of electrical equipment, transformers, and coils. Electrotehnica specializes in the design and manufacturing of equipment for diverse technological applications, characterized by high complexity. Research, development, design, manufacturing and delivery automation systems, power electronics, measuring and control equipments for industrial processes and electrotechnical equipment.

Our cutting-edge solutions facilitate the conversion of electrical energy, precisely altering source parameters such as value, frequency, or waveform. Additionally, our products enable the transformation of electrical energy into other forms such as mechanical, chemical, radiant, or thermal energy.

Range of products:

- Adjustable Electric Drives
- DC Power Supply Sources
- AC Power Supply Sources
- Equipment for power stations' own services
- Electro-technologies
- Synchronous Machines Static Excitation System
- Electric traction equipment
- Equipment for Environmental Protection, electrostatic precipitators (ESP)
- Reactive Energy Compensation in Electric Mains
- Transformers and coils
- DC and AC motors
- Electric Devices

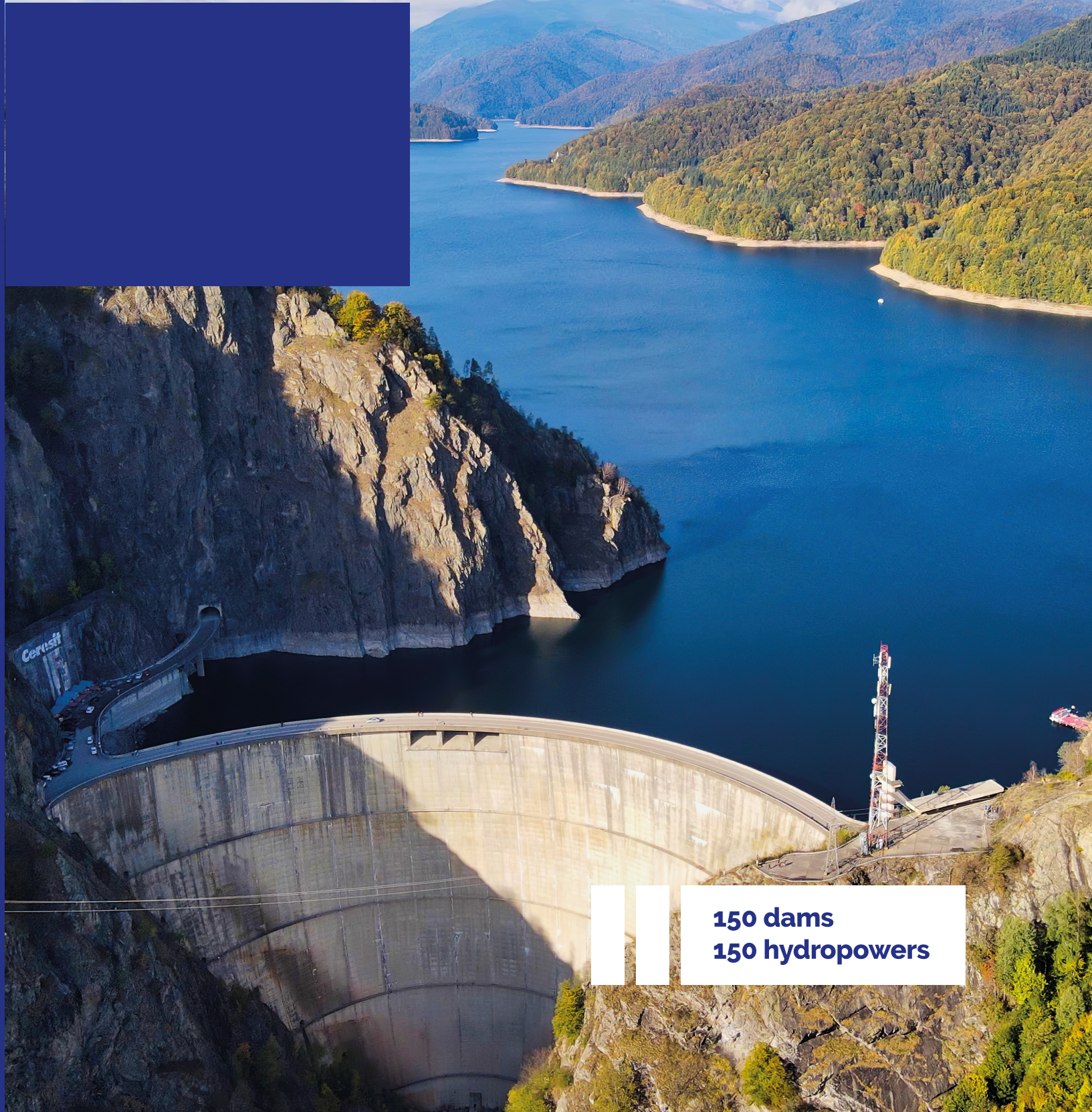


electromontaj group

Established in 1950, **HIDROCONSTRUCȚIA** stands as the premier Romanian constructor of hydropower and hydrotechnical investments. Our portfolio boasts national-scale, intricately designed hydropower works, including major dams, hydropower plants but also civil and industrial engineering projects, roads and bridges, quarry and ballast operations.

In Romania all major dams have been executed by Hidroconstructia, among which: **Gura Apelor** (168 m high), **Vidraru** (166 m high), **Bicaz** (127 m high), **Siriu** (122 m high) and **Valea Drăganului** (120 m high), together with their adjacent hydropower plants and lake reservoirs, also all major hydropower plants such as **Porțile de Fier 1** & **Porțile de Fier 2,** underground hydropower plant **Lotru, Retezat, Vidraru.**

Our projects expand not only on the whole Romanian territory but also outside of it, in countries as Germany, Belgium, Bulgaria, Jordan, Iraq, Algeria, Iran etc. One of the notable international contributions is the one to the largest sea lock project, the Belgian port of Antwerp, and the rehabilitation and expansion of one of the world's largest potash mines located in Jordan on the shores of the Dead Sea.


Cerasit
150 dams
150 hydropowers

contact details

ELECTROMONTAJ SA

Headquarters
1 Candiano Popescu
040581, Bucharest, Romania
+4 021 450 3028
office@em.ro

Bucharest Branch
1 Candiano Popescu
040581, Bucharest, Romania
office.bucuresti@em.ro

Craiova Branch
4 Calea Brestei, 3rd floor
Craiova, Romania
office.craiova@em.ro

Bacău Branch
7 Constanței,
Bacău, Romania
office.bacau@em.ro

Pitești Branch
124 Păișești
Bascov, Argeș
office.pitesti@em.ro

Lattice Towers Factory
160 Ilioara
Bucharest, Romania
office.fsmz@em.ro

Clamps and Fittings Factory
19 Fabricii
Cămpina, Romania
office.fca@em.ro

Towers Testing Station
160 Ilioara
Bucharest, Romania
office.sis@em.ro

EMFOR
1 Natiunile Unite Boulevard
Building 107, 3rd floor,
Bucharest, Romania
office@emfor.ro,
www.emfor.ro

IPROEB
19 Drumul Cetății,
Bistrița, Bistrița Năsăud, Romania
office@iproeb.ro
www.iproeb.ro

ELECTROTEHNICA
104A Timișoara Boulevard
Bucharest, Romania
office@electrotehnica.ro
www.electrotehnica.ro

HIDROCONSTRUCTIA
103-105 Calea Dorobanților
Bucharest, Romania
office@hidroconstructia.ro
www.hidroconstructia.com



ELECTROMONTAJ

office@em.ro
www.electromontaj.ro