Group Overview



OUR BUSINESS

TECHNOLOGIES

RESEARCH & DEVELOPMENT

CERTIFICATIONS

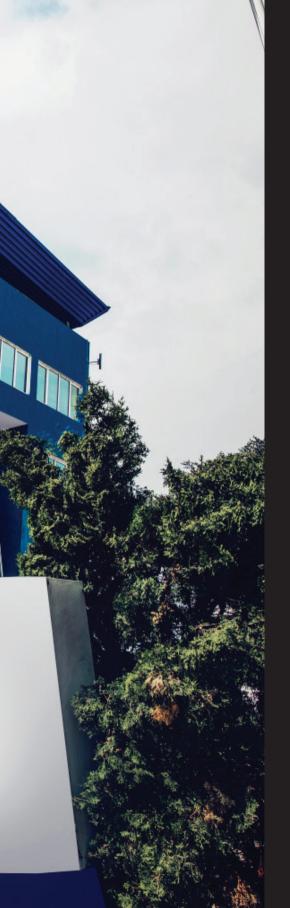
PRODUCTS & SERVICES

CLIENTS & REFERENCES

We believe in the power of innovation, we seek and invest in the latest technology to create competitive products and solutions.

After 25 years of experience in the field, Electroalfa is a strong brand based on the expertise, qualifications and enthusiasm of more than 400 specialists. Located North East of Romania, Electroalfa holds three modern factories in Botosani, a design office in the Republic of Moldova, a 3.5 MW photovoltaic park, as well as sales offices in all regions of Romania and a research and development facility.





Committing energy, dedication and proficiency to excel in our relations with the clients.

We are a company that bases its business on progress and respect.
We hold the necessary experience to meet our customers' needs.
We are driven to invest and evolve through research.
We are determined to be actively involved in the community.

All these fundamentals make us function as a one stop provider, capable of delivering integrated solutions on both the energy sector and real support to the society to which we belong.

We have reached that point of maturity at which a company honours equally its customers, the employees and the society as a whole.

Shouly

Gheorghe Ciubotaru

President of the Board

25 YEARS OF SPIRIT AND ENERGY

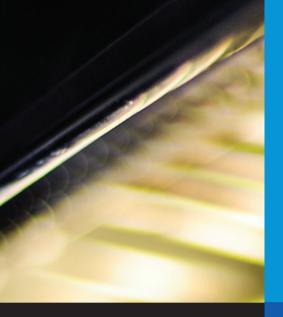




- Production and supply of Electrical Equipment for Medium and Low Voltage
- 2. Complex Electrical Installations Turnkey Projects
- 3. Engineering Services
- 4. Steel Fabricated Parts
- 5. Renewable Energy Generation Projects

Our business

Electroalfa is a group of privately owned companies, a leading solution integrator in the most relevant industry sectors.



Steel cutting technology

Drilling technology

Burrs removal technology

Gasketing technology



Technologies

At Electroalfa, human and technological efforts are combined to essentially contribute in creating value for the customer. This belief determines us to continually supervise the quality of our solutions.

Welding technologies

- → Active (MAG), Trans Puls Synergic 2700, Merkle M 285k, Eurofil 300, Filcard 203 - protective gas welding
- Magic Wavw 2200, Merkle PU 250k, Mos 2000T - inert gas welding (Argon) with fusible electron (MIG), tungsten electrod



Stamping technologies

- → 1 Hydraulic Press
- 9 Eccentric Presses
- → 2 Hydraulic Presses





NKLP 36/46, PCP 28 Telwin, Telwin Spoter 6000 - pressure

TECNA (manufacturer) - point

welding, cooper table, soldering

QIROX QRC 350 (manufacturer

CARL CLOOS) - welding robot

welding

plier

Electrochemical zinc plating

Powder coating (nanoceramic pretreatment process)



Laser & Punching technology

- → LT COMBO FIBER, 3000 W Laser Cutting Machine for Sheets / Tubes
- → Trumpf Trumatic 200R
- → Trumpf Trumatic 2000R
- → Prima Power Shear Genius SGe6
- → Euromac ZX1250/30 & Euromac ZX Index Multitool
- → Trumpf Trumatic 6000 Combined Laser & Punching Machine



Bending technology

- → Prima Power Bending Centre Fast Bend Fbe4
- → Gasparini PBS45/1600, PBS45/2100, PBS85/3000
- → Bending Press Power Bend Pro 135-30
- → Bending Press Trumpf Turmabend V85S
- → Bending Centre Weinbrenner B12
- → E-TURN 52, BLM Bending Machine for Tubes / Profiles



Research & Development

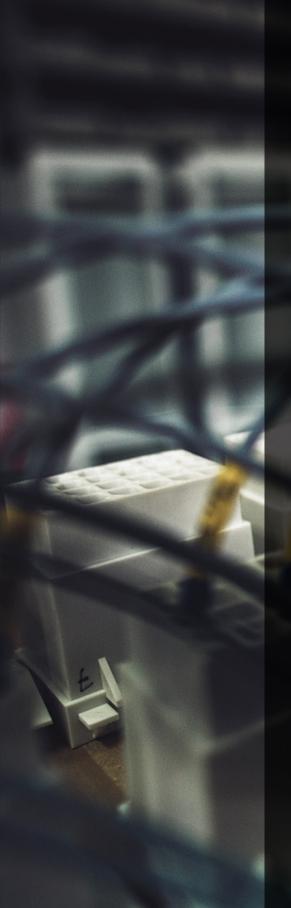
Our Centre for Research &
Development is an essential vector
for Electroalfa's economic and
technological competitiveness and
growth. It is aimed at creating
worldwide competitive prototypes
and products. Electroalfa's experience
in research focuses on: developing
new products, optimizing existing
products, integrating the latest
technologies, streamlining existing
processes.



Certifications

National and international certifications:

- → The System of Quality Management of Environment, Occupational Health and Safety certified by SRAC CERT
- Bureau Veritas 'BV Mode
 II Scheme' Certification for electrical equipment and sheet metal fabrications in shipbuilding applications
- → Certifications from the National Energy Regulatory Authority (ANRE)
- → Various other national certifications in fields like nuclear, rail, naval, aeronautical, land reclamation



We are amalgamating a strong business on the electrical equipment & sheet metal fabrications markets.

Backed up by solid research, our portfolio of electrical equipment provides our customers all that are best in terms of innovation, quality and safety.

We offer complete solutions that include: design (electrical, mechanical or hydraulic), tendering, delivery, installation and commissioning, equipment maintenance.

The sheet metal enclosures provided with Electroalfa electrical equipment are manufactured in-house, by own factory, using the latest generation and high productivity machinery and technologies.

All equipment are tested in own research and development centre as well as in specialized laboratories in the country or abroad. In this way we guarantee proper performance for all the manufactured electrical equipment.

Our products and services

- Medium Voltage Equipment
- 2. Low Voltage Equipment
- 3. Contractor works
- 4. Steel Fabricated Parts
- 5. Energy audit
- 6. Development of green energy sources

Medium voltage equipment

The Medium Voltage portfolio includes switchgear for primary and secondary distribution, transformer and connection substations, all high complexity products with a high added value.

The high degree of functionality and the safety level during operation of the equipment are the characteristics that recommend our medium voltage products to a preferred position with the major customers in the market. The switchgear can be fitted with equipment supplied by our strategic suppliers SIEMENS, SCHNEIDER ELECTRIC, ABB or from other manufacturers according to client demands. The Electroalfa electric switchgear are designed and tested in accordance with European Standard 62271-200.









Low voltage equipment

Electroalfa is a manufacturer with an extensive experience in the assembly of low voltage equipment having a portfolio with a full range of products:

- → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type
- → Main and secondary distribution boards
- → 400/230 Vac and 48...220Vdc auxiliary services cabinets
- → Industrial automation and control switchboards
- Control and protection panels for high voltage electrical substation
- → Assemblies for power distribution in public networks
- → AC/DC power supply solutions for telecom applications

The panels can be fitted with equipment from our strategic suppliers SIEMENS, SCHNEIDER ELECTRIC, ABB, EATON, LEGRAND or equipment from other manufacturers in accordance to specific clients' demands.











Contractor works



We operate on the multifaceted projects market of energy, industrial, infrastructure and civil engineering, residential and commercial.

The contractor activities ensure the embedding of Electroalfa's products into all-inclusive turnkey projects, which involve the actual design and commissioning of the contract. For complex power supply projects we are able to provide our customers with design, installation and commissioning works. Combined with Electroalfa's own equipment, we deliver optimal quality

Our effective teamwork and passion for your projects help us to deliver much more than finished goods, it helps to create strong and stable partnerships.

With a strong experience in task management, our project management specialists can duly formulate each step of the process, ensuring the successful completion of the entire project: budget compliance, timely contractual delivery and of course Quality, Health, Safety and Environment (Q&HSE) management.

Whether an industrial site, a building development, a commercial space, a 0,4÷110kV overhead or underground power lines, compact or overhead transformer substations, Electroalfa's professionalism is a guarantee for high quality.

ELECTROALFA'S CONTRACTOR WORKS PORTFOLIO ENTALIS:

- Power supply solutions, distribution and transformer substations for the national power grid or belonging to private companies
- → Electrical and automation projects for residential, commercial and industrial sites
- → Electrical installations projects for infrastructure - transport, telecommunications, public utilities (pumping stations, for potable, industrial and irrigation water, sewage and wastewater treatment plants) and environment protection
- Technical consultancy, prefeasibility studies, electrical, mechanical and automation engineering

Steel Fabricated Parts

The steel fabricated parts design and manufacturing activities emerged as a distinct production facility in the early beginnings of Electroalfa to serve the growing need of metal enclosures for electrical equipment.

Year after year, by massive investments in specialized machines and by enlarging the team with specialized personnel, this activity developed and finally turned into a Profit Centre/ Business Unit.



Nowadays, the Steel Fabricated Parts Business Unit is a distinct company of the group, providing high quality enclosures for Electroalfa's electrical switchboards as well as various subcontracted products for third party customers.

During the last years we made investments in excess of 5 million Euro procuring new machines, acquiring specialized software and extending the manufacturing area with two new production halls.ing, Bending, Rolling, Various types of Welding, Semi-Automated Burrs Removal, Polyurethane Gasketing, Electrochemical Plating, Powder Painting.

Our main capabilities for steel sheet processing are: Shearing, Laser Cutting and Punching, Deep Drawing, Bending, Rolling, Various types of Welding, Semi-Automated Burrs Removal, Polyurethane Gasketing, Electrochemical Plating, Powder Painting.

RANGE OF PRODUCTS:

Standardized steel boxes and cabinets for electrical cabinets

- → Steel Boxes for Electrical Equipment
- → Alfa System Cabinets

COMPETITIVE ADVANTAGES:

- → Extensive experience in the design and fabrication of sheet metal parts and assemblies
- → Full control over production and sales – ERP & MRP solutions (ORACLE based) + High Standards of Quality Assurance Certifications (ISO certifications)
- → Premium Portfolio of suppliers and customers
- → Speed and versatility in meeting customer demand/requirements
- → Competitive price/quality ratio – East European labour rates mixed with advanced technological capabilities
- → Advance design and testing capabilities- in-house R&D Laboratory
- → Partnerships with reputable Technical Universities
- Experience in participation in domestic and international competitive bids

VARIOUS SUBCONTRACTED PRODUCTS:

- → Control Enclosure for Machine Tool
- Drawer Cabinet
- → Steel Enclosure for Electrical Applications
- → Control Console
- → Custom Chassis (Switchboard)
- Workbench with Compartments

Development of renewable energy sources

Electroalfa develop projects to generate electrical power by converting solar energy using photovoltaic cells.

We provide the photovoltaic parks' investors and contractors an extensive product portfolio: mounting system for solar panels, step up transformer with low losses, distribution cabinets, junction boxes, as well as services: designing the mounting systems, parks' electrical design, operating and maintenance.

Electroalfa has a photovoltaic park located in the Rediu Forest area of the Botosani Municipality. The park has a nominal installed power of 3.5 MW and supply 4.500MWh annually to the National Power Grid. The park covers an area of 85,000 square meters with 12,168 photovoltaic panels.



Energy Audit

Electroalfa is authorized by the
National Authority for Energy
Regulation (ANRE) as Class II Auditor
Energy Complex, under Law 121/2014
regarding the energy efficiency and
regulation for the authorization of
energy auditors in the industry.

Our team of experts has the technical skills necessary for carrying out complex energy audits (electric and thermal power) in industrial installations belonging to operators which annually consume an amount of energy of more than 1,000 tonnes of oil equivalent (toe). The purpose of an energy audit is to identify, analyze and recommend measures to increase energy efficiency for all present energy flows on a technological outline (electricity, heat, fuels).

By implementing an energy audit, the power consumption activity will be truly represented and best solutions to improve energy consumption will be identified, as the underlying programs to improve energy efficiency are mandatory to be prepared according to the provisions on energy efficiency.

The metering methods and means used by our company in realizing the complex energy audits include modern equipment, analysis by thermal imagery, ultrasound, and graphic recordings.





Industry

- → Metallurgy
- → Oil &Gas
- → Chemical
- → Shipyards
- → Automotive



Power

- → Generation
- → Transmission
- → Distribution



Buildings

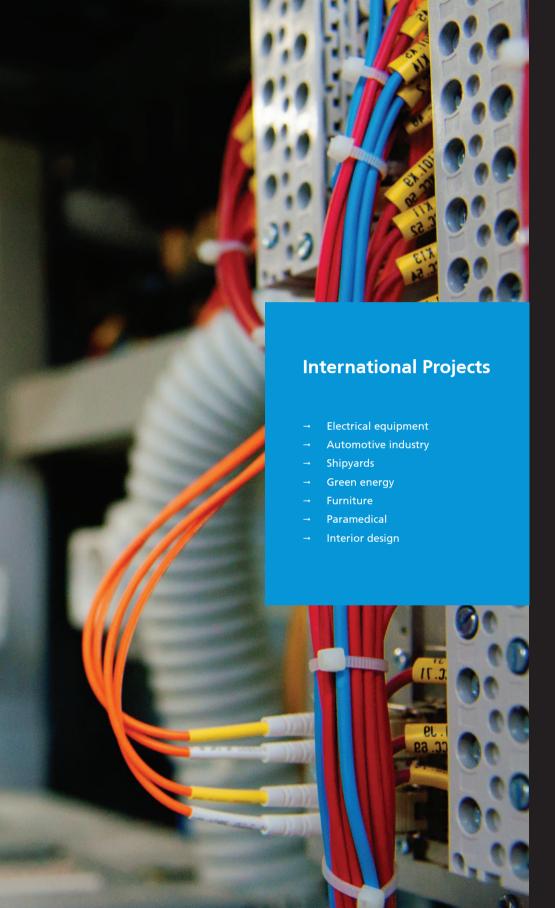
- → Offices
- → Banks
- → Hospitals
- → Shopping centres
- → Hotels
- → Residential buildings



Infrastructure

- → Transportation
- → Telecommunications
- → Public Utilities





Our Clients

Electroalfa's customers in Romania are active on the energy market, industry, infrastructure, residential and tertiary buildings.

ENERGY REFERENCES

	Project	Equipment & Services
Power Generation Complexul Energetic Oltenia SA national provider for coal based power	 → Isalnita Power Plant - Complexul Energetic Craiova branch → Complexul Energetic Rovinari → Complexului Energetic Turceni 	 → Primary distribution switchboards → Industrial automation and control switchboards → 400/230 Vac and 48220Vdc auxiliary services cabinets → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type
Power Generation Hidroelectrica SA national hydro based energy provider	 → Rastolita Hydro Plant → Robesti Hydro Plant 	 → Primary distribution switchboards → Industrial automation and control switchboards → 400/230 Vac and 48220Vdc auxiliary services cabinets → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type
Power Generation Govora SA electric thermal power plant	→ Boiler no. 7 flue gas desulphurisation equipment	 → Primary distribution switchboards → Industrial automation and control switchboards → 400/230 Vac and 48220Vdc auxiliary services cabinets → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type
Power Generation Nuclearelectrica SA national provider of electricity, thermal power and nuclear fuel	→ Cernavoda nuclear power plant, generation unit 1 and 2	 → Primary distribution switchboards → Main and secondary distribution boards

	Project	Equipment & Services
Power Distribution CEZ Distributie SA regional electricity operator	→ 10 substations 110/20 kV upgrade	EPC project: → civil work and electrical installations design → 110/20kV power transformers auxiliary
		services modernization and SCADA integration manufacturing, delivery and commissioning electrical equipment: primary and secondary distribution switchgears; control and protection panels for high voltage electrical substation; 400/230Vac and 48220Vdc auxiliary services cabinets; secondary circuits and cables installation for control and protection system
Power Distribution E.ON Moldova Distributie SA regional electricity operator	→ Upgrade and integration into SCADA systems of 26 transformer stations	 → Primary and secondary distribution switchboards → Protection and automation panels for 110/20 (6) kV transformer stations → 400/230 Vac and 48220Vdc auxiliary services cabinets → SCADA integration systems
Power Generation FDEE Electrica Distribuție	110/20 kV power stations upgrade:	 → Junction Point → Primary and secondary distribution
Transilvania Nord SA regional electricity operator	 → Aghires → Marghita → Clujana → Palota → Iosia → Power supply Károlyi Castle from Carei 	switchboards → Control and protection panels for high voltage electrical substation → 400/230 Vac and 48220Vdc auxiliary services cabinets

	Project	Equipment & Services
Power Transmission CNTEE Transelectrica SA national electricity transmission operator	→ Focsani Vest 20 kV and services substations upgrade	EPC project: → telecommunication works → centralized metering system → arc suppression coil automatic adjustment → service transformers and arc-suppression coil → automatic adjustment → manufacturing, delivery and commissioning electrical equipment: prefabricated concrete substations, primary and secondary distribution switchgears; control and protection panels for high voltage electrical substation; 400/230 Vac and 48220Vdc auxiliary services cabinets; main and secondary distribution boards → remote management and local metering system
Hydro Power Plants Voith Hydro SRL	→ Banesti - Floresti Plant modernization	EPC project: Equipment installation: → manufacturing, delivery and commissioning electrical equipment: industrial automation and control switchboards → cables installation for command and signalling equipment → preventive checks, relays parameterisation at three plants: Banesti, Floresti 1, Floresti 2

	Project	Equipment & Services
Thermal Power Plants Botosani Municipality	→ Implementation project at the CET Botosani source (city's thermal power provider)	EPC Project. Rehabilitation and modernization design and
		thermal engines MWe 4.4 / 3.5 MWt → hot water boilers 52 MWt 120/70° C → fire detection systems → water treatment installations → structural and architecture works → buildings constructions → hydro-technical constructions → primary distribution switchgears → main and secondary distribution boards → low voltage switchboard up to 5000A, PCC/&MCC DISMOD type

INDUSTRY REFERENCES

	Project	Equipment & Services
Oil & Gas KREMSMUELLER ROMANIA SRL	→ Power distribution system revamp - Petrobrazi Refinery SRA1, SRA2 and SRA4	 → Primary distribution switchboards → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type → Assemblies for power distribution in public networks
Oil & Gas SIEMENS SRL	→ Load shedding System Petrobrazi Refinery	 → Retrofit solution for Primary distribution switchboards → Installation on site
Oil & Gas Petromidia Refinery Grup KazMunayGas International	→ System installation to reduce particulate emissions from the chimney exhaust	 → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type → Training
Oil & Gas Arcelor Mittal Galati Arcelor Mittal Group	→ Energy Project Package nr. 2 - Implementation of prefabricated 6/0.4kV transformer substations equipped with motor speed control and direct electric drive	
Industrial Automation CNUD EFCO ROMANIA SRL CNUD-EFCO INTERNATIONAL Group	 → P4288 HEATING, COOLING, ACTUATORS, DRIVE → P4262 	 → industrial automation and control switchboards → engineering

	Project	Equipment & Services
Automotive STC Star Transmission Daimler Group	 → Star Assembly Sebes Factory - Mercedes-Benz gearbox manufacturers 	 → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type → Main and secondary distribution boards → Assemblies for power distribution in public networks
Automotive Yazaki Component Technology SRL Yazaki Corporation	→ Arad Factory - automotive electrical and electronic components	 → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type → Main and secondary distribution boards → Assemblies for power distribution in public networks
Automotive Delphi Packard Romania SRL Delphi Automotive PLC - USA	→ Ineu (Timisoara) manufacturing premises	 → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type → Main and secondary distribution boards → Assemblies for power distribution in public networks
Shipyards Daewoo-Mangalia Heavy Industries	→ PT6-4 transformer substation upgrade – Mangalia shipyard	 → Main and secondary distribution boards → Secondary distribution switchboards
Shipyards Damen Galati Shypyard	→ Power supply upgrade	 → Main and secondary distribution boards → Secondary distribution switchboards
Shipyards STX OSV ELECTRO SRL Fincantieri Group		 → Main and secondary distribution boards → Secondary distribution switchboards

INFRASTRUCTURE REFERENCES

	Project	Equipment & Services
Water pumping stations and irrigation systems AQUASERV SA	Rehabilitation and extension of drinking water supply and sewerage system: → SP 1, 2, 3 and SPAU 1, 2, 3 Baia Mare → SPAU 1, 2, 3, 4, 5, 6, 7, 8 and SPAU S1 Viseul de Sus → SP1, 2, 3 Cihei, SP1, 2, 3, 4,5 Cordau and SP1 Rontau (Sinmartin commune) → SP Verii 4, SP Trebely, SP Aquaserv Targu Mures	 EPC Project. → Industrial automation and control switchboards → Main and secondary distribution boards → Assemblies for power distribution in public networks
Water pumping stations and irrigation systems O.U.A.I. Irrigation Water Users Organization - administrated by the Agriculture and Rural Development Ministry of Romania	→ O.U.A.I Agrozootehnica Pietroiul, Calarasi County - Upgrading and refurbishment of the SPP 4 pumping station	EPC project: → engineering design and technical assistance → civil works and erection of hydro mechanical → installation, pipes and supports → manufacturing, delivery and commissioning electrical equipment: industrial automation and control switchboards; low voltage switchboard up to 5000A, PCC &MCC DISMOD type
Water pumping stations and irrigation systems HIDROCONSTRUCTIA 2013 SRL	→ Chircani Zirnesti irrigation system rehabilitation (Republic of Moldova)	→ Industrial automation and control switchboards
Telecom CSR - Radio Communication Services Center SRL	 → RO-FSCH-15 Extension and consolidation of ATM WAN communictions infrastructure of the Special Telecommunications Service at cities' level → WiMAX 802.16e base stations installation and Ethernet radio relay links in 7 GHz wavelength 	→ AC/DC power supply solutions for telecom applications
Telecom BUSINESS SERVICE CONSULT INTERNATIONAL SRL	→ Building a national broadband infrastructure in deprived areas	→ AC/DC power supply solutions for telecom applications

BUILDINGS REFERENCES

	Equipment & Services
Sky Tower Floreasca City Centre - Office building Bucharest Mall, Vitan Lia Manoliu National Arena, Bucharest	 → Low voltage switchboard up to 5000A, PCC & MCC DISMOD type → Assemblies for power distribution in public networks → Main and secondary distribution boards → Secondary distribution switchboards
America House Bucharest	
Rehabilitation of Mavromati Emergency Hospital, Botosani	EPC project:
	 electrical installations refurbishment by new electrical panels, cable and cable routes replacement
	→ restoration of thermal and electrical installations: replacement of main distribution pipes
	for heating / cold water / hot water, installing new sanitary fixtures and heating radiators
	→ implementing new voice and data network and fire protection system
	→ restoring the building's structure
	→ wards partitioning
	→ exterior thermal insulation of the building
	→ manufacturing, delivery and commissioning electrical equipment: main and secondary

INTERNATIONAL PROJECTS

Energy - Power Transmission & Distribution Î.C.S. Red Union Fenosa S.A. Moldova	→ Power supply networks' upgrade	→ Assemblies for power distribution in public networks
Energy - Power Transmission & Distribution TEC INTERNATIONAL SARL France		 → Primary distribution switchboards → Main and secondary distribution boards
Energy - Power Transmission & Distribution UNAMID- African Union- United Nations Mission in Darfur Sudan		→ Low voltage switchboard up to 5000A, PCC & MCC DISMOD type
Industry - Oil & Gas Uhde Gmbh (Grup ThyssenKrupp) Germany	→ Petrobrazi Refinery power supply extension	→ Primary distribution switchboards
Industry - Oil & Gas PSE Engineering Gmbh Germany	→ Petromar International Oil platform	→ Industrial automation and control switchboards
Industry - Oil & Gas Global Vision Kuwait	→ Natural gas compression station KOC	 → Main and secondary distribution boards → Control and protection panels for high voltage electrical substation
Industry Customer under NDA France	→ long term agreement	→ Steel fabricated parts: perforated tubes for truck exhaust systems
Infrastructure - Water pumping & Irrigation Systems SALONIX-TEH SRL Moldova	→ Grozesti Pumping station, Leovo Pumping station	→ Primary distribution switchboards

Industry Customer under NDA Norway	→ long term agreement	→ Steel fabricated parts: low voltage switchboard chassis
Industry Customer under NDA Germany	→ long term agreement	→ Steeel fabricated parts: switchboards accessories for wind farms
Industry IMECA (Grup Michelin) France	→ Multex Maj	→ Industrial automation and control switchboards
Buildings United Nations Economic Commission for Africa Ethiopia	→ UNECA Headquarters. Addis Ababa	→ Primary distribution switchboards
Buildings P.P.IPROJET PRODUCTION INTERNATIONALE Mali	→ Mali Court of Justice	→ Main and secondary distribution boards
Buildings CICexport France	→ Presidency of the Republic of Equatorial Guinea	→ Primary distribution switchboards
Consumer Customer under NDA Belgium	→ long term agreement	→ Steel fabricated parts: chassis for fireplaces
Paramedical Customer under NDA Germany	→ long term agreement	→ Steel fabricated parts: mobile booths for hear testing



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