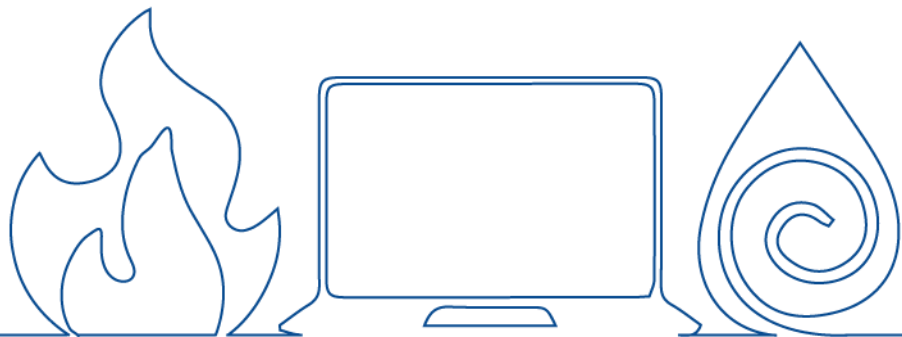




ELSACO®





Elsaco

A strong team,
united by a single vision



1994 Year established



500 Specialists



9 Elsaco companies



15+ International projects



€158M 2015 Turnover*

*the best of the last five years

About us

We excel because we always care about our clients' needs



Vision

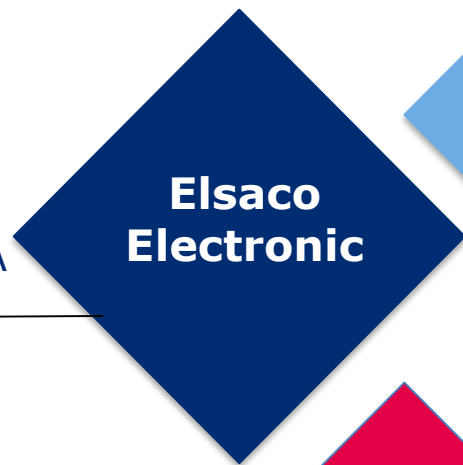
We build energy-efficient solutions, starting with the producer and all the way to the final user. On a national level, we aim to maintain ourselves among the top companies in the field.



Mission

Elsaco's Mission is to provide and implement professional solutions for the production, distribution and management of resources and public utilities (water, energy and lighting) using the accumulated experience and knowledge as to grow the satisfaction level of all stakeholders: beneficiaries / clients, manufacturers or consumers, partners and our own personnel.

- Energy projects
- Hydro projects
- Automation and SCADA



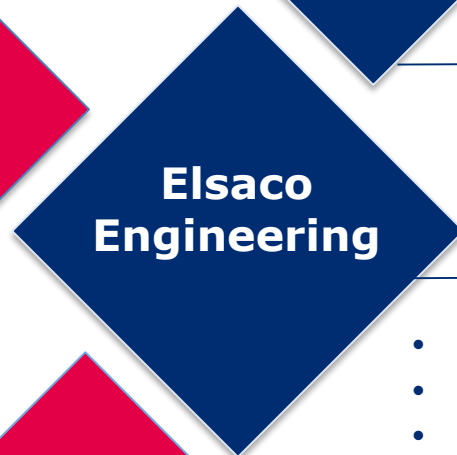
- Sale of equipment and products for the utility industry
- Services
- Sale of automation systems and equipment

- Energy audit
- ESCo Projects
- Complex analysis
- Energy operation services
- Technical due diligence

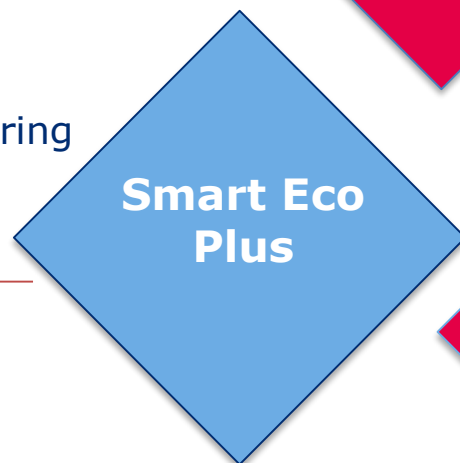


- Information system for meter reading and management
- Information systems: financial-accounting management (ELITIS), for the management of production and sales of utilities (ACE), for the distribution of utilities (Rep - ET)

- Cogeneration projects
- Hydro projects
- Civil and industrial construction



- Residential smart metering
- Installations and cost breakdown services

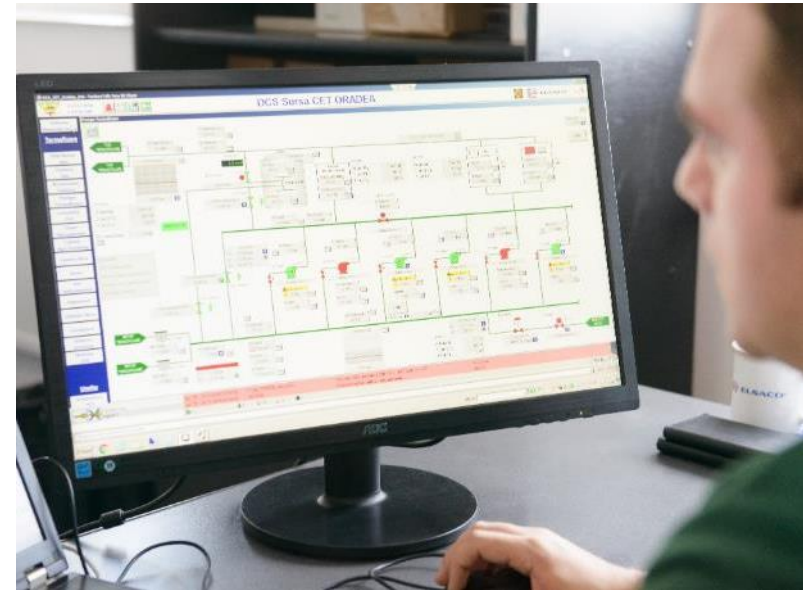


- Smart metering software
- Cybersecurity solutions
- Solar PV Plants
- IT products and services
- Locations surveillance systems
- Smart parking systems
- Electric charging stations



*The Elsaco group also includes two companies active in the field of tourism: El Quatro guest house in Voronet and Zăicești Manor Conac

Elsaco Electronic, the biggest company of the group, successfully performs activities in the following fields:



Power

- urban heating systems;
- new installations for producing electricity and heat in cogeneration including biomass, biogas, municipal waste and
- renewable resources capitalization;
- depollution installations of flue gases in coal power plants (DeSO_x, DeNO_x).

Water and wastewater:

- water supply and sewage systems: water supply networks, water treatment plants, wastewater treatment plants and sludge treatment, wastewater collection and transport networks, pumping stations;
- civil and industrial constructions, including related facilities;
- irrigation systems;

Automation and SCADA

- automation and control systems for the energy, water and sewerage, industry sectors;
- AMR / AMI systems for meter reading, consumption analysis and diagnosis of utility companies;
- SCADA / DCS / Process control systems/ dispatch centers (RTU & PLC panels, servers, PC stations, communication networks, software).

Integrated Management System

Elsaco Electronic has adopted and implemented an integrated management system compliant with the reference standards and the legal requirements and regulations. The implemented system, certified by SRAC/ IQNET, allows the company to achieve and maintain a high level of competitiveness. In order to meet our clients' expectations, in a highly competitive market, we constantly try to meet all the requirements in terms of quality, environment, pollution prevention, occupational safety and health, information security and energy management, social responsibility.

Implemented standard	Description
ISO 14001	Environmental Management
ISO/EC 27001	Information Security Management System
ISO 9001	Quality Management
ISO 50001	Energy Management
OHSAS 18001	Occupational Health and Safety Management
SA 8000	Social responsibility
ISO 3834-2	Quality management in the field of welding



Partners

In connection with our potential partners, our policy is simple: the stability and long term partnerships are the key to long term success. By working with several worldwide companies, our team is capable of offering special technical support and the necessary know-how which is required to adopt the optimal solutions.



Clients

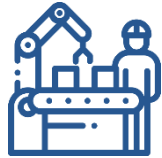
We take pride in a good understanding of our clients' needs and their markets. We are open, deliver on time and approach with professionalism each request we receive. Through quality and solid partnerships we succeeded to build durable relationships with each and every one of them. The main markets of our clients are:



➔ utilities (water, heat, gas) – heating/water/gas, companies, municipalities;



➔ power – power producers, investors in new power sources;



➔ industry – companies with productive activities;



➔ residential – development of residential areas, persons (apartments/houses/villas);



➔ retail – distributors, collaborators;



➔ constructions – contractors, subcontractors, designers.

Reference projects*

We pride ourselves on a good understanding of our clients' needs and of the markets which they develop their activity on.

*of the last 5 years

Energy projects

Systems and solutions for increasing energy efficiency,
dedicated to public and private companies



Cogeneration installation

CET Oradea



Customer: Oradea Municipality

Period: 2014-2016

Value: 54 million EUR

Activities:

- project management;
- Design for Technical Documentation for Building Permits (D.T.A.C.),
- technical project;
- site organization;
- demolition and construction works;
- procurement of equipment and materials;
- equipment fitting;
- mechanical and electrical equipment;
- automation systems;
- training for the operating personnel.



Rehabilitation works for primary and secondary heating networks

Oradea

Beneficiary: Oradea Municipality

Period : 2016-2017

Value: 22 million EUR



Activities:

- replacement of pipes located underground and above ground;
- replacement of valves on the path of the DH arteries and main ramifications and connections;
- construction works;
- creating a system for monitoring the pipes insulation;
- power supply for the motor-operated valves;
- installation of a fiber optic cable for data transmission throughout the whole length of the rehabilitated network.

Desulphurisation plant (FGD) CET Iași



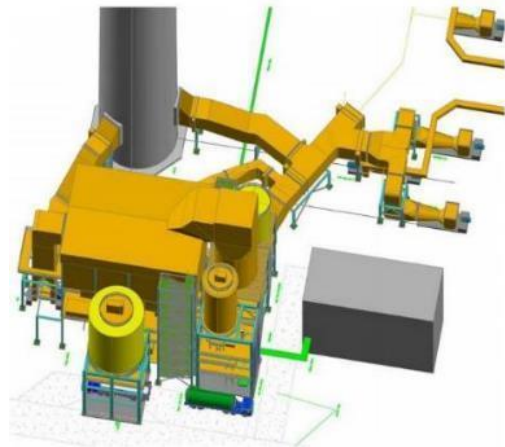
Customer: Iași Municipality

Period: 2014–2016

Value: 21.7 million EUR

Activities:

- general services (surveys, As-built documentations, operation and maintenance manuals);
- design and engineering services;
- construction works and associated services;
- mechanical, electrical and automation installations;
- installation of fire detection, access control;
- spare parts for 2 years;
- commissioning, Beneficiary staff training, Performance Tests.



Cogeneration installation

Chimcomplex SA Borzești, Onești

Customer: Chicomplex SA Borzești, Onești

Period: 2014–2015

Value: 7.2 million EUR



Elsaco provided:

Design and execution:

- integrated technological solution;
- technological equipment gas turbine and generator;
- recovery boiler;
- automation and control equipment for the gas turbine, generator and recovery boiler;
- gas supply installations;
- pressure booster system installation;
- Gas Compressor;
- compressed air system;
- Air Compressor;
- water cooling installation;
- SCADA monitoring equipment (servers, PC stations, counters);
- electrical installations at Low Voltage (AC and DC);
- electrical installation at Medium Voltage including transformation station.

Rehabilitation of the centralized heat supply system

Vatra Dornei



Beneficiary: Vatra Dornei Municipality

Period: 2018–2020

Value: 4.7 million EUR

Activities:

- design and execution of primary thermal network, 2.1 km long;
- design and execution works for the rehabilitation of the thermal plant on wood waste, sawdust - 12MW;
- works for the rehabilitation of the existing building: constructions, installations;
- works for replacement of existing boilers and pipelines with new ones;
- replacement of existing chimneys;
- demolition and replacement of the boiler feed system.

Modernization of indoor installations, dispatch monitoring and networks modernization for 7 Thermal Points

Oradea

Beneficiary: Oradea Municipality

Period: 2018-2019

Value: 4.2 million EUR



Activities:

- upgrading of indoor installations and dispatch monitoring- PT 130, PT 604, PT 820, PT 849;
- modernization of the thermal distribution network, of the internal installations, the monitoring of the parameters and the automation from the dispatcher- PT 119 si PT 875;
- rehabilitation of secondary district heating networks – PT 136.

Extension of primary thermal network

Iași



Beneficiary: Iași Municipality

Period: 2018–2020

Value: 3.8 million EUR

Activities:

- design services;
- technical support;
- installations testing and commissioning;
- purchase and installation of pre-insulated thermal pipes;
- construction of three pumping stations;
- acquisition and installation of 44 thermal modules.

Rehabilitation of pumping stations

Chişinău



Customer: MEPIU, Republic of Moldova
Beneficiary: Termoelectrica Chişinău
Year: 2016
Value: 3.2 million EUR

Activities:

- project management;
- construction works and associated services;
- mechanical, electrical and automation installations;
- commissioning of electrical equipment.

Reconstrucția rețelei termice de interconectare între circuitele CET 1 și CET 2 Chișinău



Beneficiar: Termoelectrica Chișinău

An: 2017

Valoare 2.3 milioane EUR

Elsaco Electronic a realizat:

- lucrări de construcții și instalații;
- furnizare și instalare conducte preizolate agent termic;
- excavații, refaceri carosabil;
- instalare vane, fittinguri, compensatori tip silfonic;
- reabilitare cămine termice – construcții și termomecanice;
- punere în funcțiune.



Reconstruction of the thermal network from the Pumping Station no. 19 to the thermal power station CT-319

Chişinău



Beneficiary: Termoelectrica Chişinău, Republic of Moldova

Year: 2017

Value: 0.8 million EUR



Activities:

- supply and installation of preinsulated pipes;
- excavation works, road rebuilding;
- installation of valves, fittings, silfonic compensators;
- rehabilitation works for thermal stations – construction and thermomechanics;
- commissioning works.

Water and wastewater projects

Innovative solutions for high quality services addressed to utility companies and private companies



Rehabilitation of irrigation facility

Viișoara, Teleorman



Beneficiary: ANIF

Period: 2018–2020

Value: 7.4 million EUR

Elsaco provides:

- design services;
- construction works (building rehabilitation, social facility, fencing, alleys, rehabilitation of water distribution channels);
- hydromechanical works (replacement of pumping units, pipelines, selectors, compensators, flowmeters);
- Medium Voltage and Low Voltage electrical installation works, automation and surveillance.

Irrigation system implementation

Țigănași, Iași



Beneficiary : Agricola 96 S.A., Iași

Period: 2017–2019

Value: 4.1 million EUR

Activities:

- civil works at: pumping station buildings, water tank, pumping stations basins and ventilation booths;
- mechanical works: pipelines and pumping stations;
- low-voltage electrical works: panels, equipment circuits, lighting and automation;
- medium voltage electrical works: connections and transformation stations.

Hydroameliorative Facility Rehabilitation

Grădiștea-Făurei-Jirlău, Brăila



Beneficiary : ANIF

Duration: 30 months

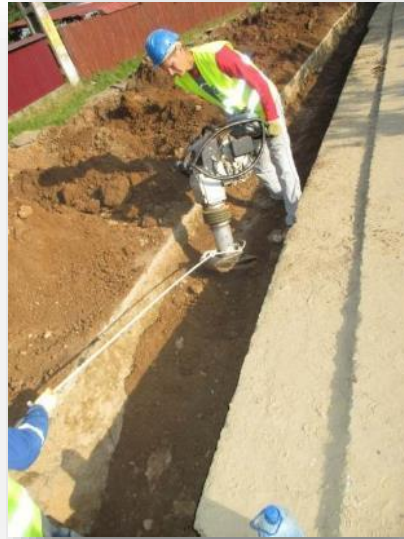
Value: 3.65 million EUR

Activities:

- pumping stations (replacement of pumping units, suction and discharge pipes, hydromechanical installations and fittings, provision of priming and ventilation facilities);
- adduction channels (cleaning works, mechanized reprofiling, filling of broken tiles, rehabilitation of floors, replacement of valves);
- pipes / collectors (suction pipes, duct / discharge manifolds, priming plant, exhaust system, aeration-deaeration connection pipe defense dam).

Expansion of water and sewerage networks

Botoșani



Customer : Nova Apaserv S.A. Botoșani

Period: 2015–2018

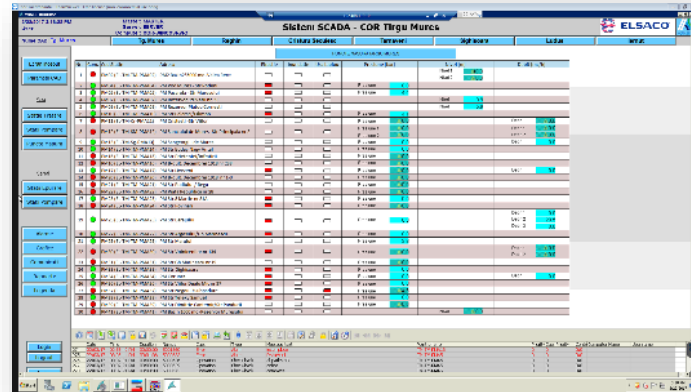
Value: 3.2 million EUR

Activities:

- construction and installation works for the water supply and sewerage;
- supply and installation of the technological machinery and equipment;
- execution of branching for the water supply and sewerage connections;
- drinking water and wastewater pumping stations and discharge pipes;
- execution of electrical connections;
- execution of SCADA type data transmission systems and SCADA dispatcher;
- testing and commissioning;
- training for the operating personnel.

Rehabilitation and extension of water supply and sewerage systems

Târgu Mureș



Client: Aquaserv Târgu Mureș
Period: 2015–2017
Value: 2.7 million EUR

Activities:

- water network rehabilitation and expansion;
- sewerage network rehabilitation and expansion;
- construction and rehabilitation of water pumping stations;
- construction of wastewater pumping stations;
- construction of a central dispatch center and 92 monitoring and transmission points;
- testing and commissioning.

Romcarton Project

Popești-Leordeni, Ilfov



Beneficiary: Romcarton, Ilfov

Year: 2017

Value: 2.1 million EUR

Elsaco carried out:

- power supply;
- electricity distribution;
- interior and safety lighting;
- 230 / 400 V outlets, power receptors;
- protection against atmospheric discharge.

Water supply system

Curtești, Botoșani



Beneficiary: Curtești Commune, Botoșani

Period: 2018–2020

Value: 1.9 million EUR

Activities:

- design services;
- construction works and installations for the water supply;
- supply and installation of technological equipment and machinery;
- execution of water supply connections and valve manholes;
- construction works for water pumping stations and water storage tanks;
- testing and commissioning.

Wastewater Treatment Plant Rehabilitation

Vatra Dornei



Customer: ACET S.A. Suceava

Period: 2013-2015

Value: 1.8 million EUR

Activities:

- civil works;
- mechanical and hydro-mechanical equipment installation;
- technological piping installation (wastewater, sludge, air);
- design of electrical panels and automation;
- electrical and automation installation works;
- SCADA: design and execution;
- systematization and land development.



Rehabilitation of irrigation facility

Zimnicea, Teleorman



Beneficiary: ANIF

Period: 2018–2020

Value: 1.6 million EUR

Elsaco provides:

- procurement and installation of technological equipment, electrical equipment, facilities;
- electric power, lighting works in pumping stations;
- suction and discharge pipes embankment;
- priming equipment in pumping stations;
- -aspiration-discharge technology lines $Q_p = 1200 \text{ mc / h}$, 2800 mc / h , 5900 mc / h .

Water and sewerage network

Roșiori, Răchiți, Botoșani



Beneficiary: Răchiți Commune, Botoșani

Period: 2018–2020

Value: 1.5 million EUR

Activities:

- water network extension;
- execution of water connections;
- execution of water branching;
- extension of the sewer network;
- execution of sewer connections;
- execution of manholes and connections;
- execution of wastewater pumping stations.

Modernization and rehabilitation of SPA LUNCA pumping station Iași



Beneficiary: Federația de Organizații ale Utilizatorilor de Apă pentru Irigații „Aqua Lunca Prut”, Iași

Period: 2018–2019

Value: 1.4 million EUR

Activities:

- modernization works for the irrigation infrastructure;
- construction works and hydro-mechanical installations;
- rehabilitation works for the electrical and automation installations.



EL SACO

Funcționare Circuit INC

ECU Apnea Web Panel

Acquisition and installation of SCADA equipment

Harviz, Miercurea Ciuc



Customer: Harviz SA, Miercurea Ciuc

Period: 2014 – 2016

Value: 1.3 million EUR

Elsaco provided:

- supply and installation of the process instrumentation;
- design, execution and installation of the electrical cabinets of automation and control;
- parameterizing the automation systems;
- monitoring and central controlling of the local automation systems;
- implementation of the communication system;
- hardware and software equipment for the Regional Dispatching and 2 Local Dispatching Areas;
- commissioning, testing and maintenance of the entire Regional SCADA System.

Automation, electrical installations and SCADA system

Galați



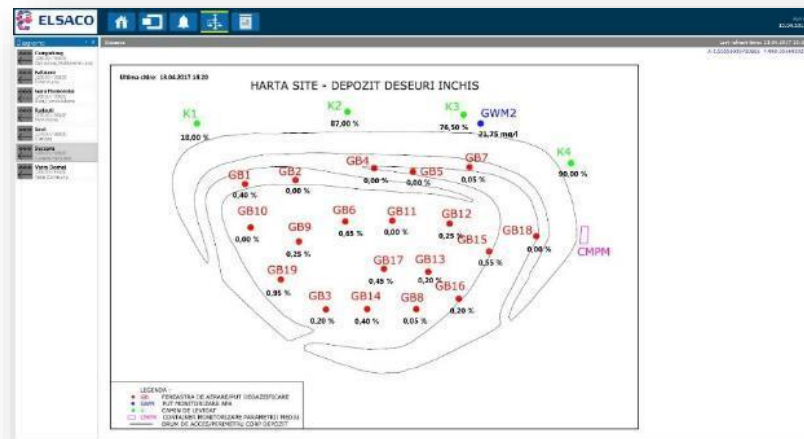
Beneficiary: Apă Canal S.A. Galați
Period: 2018-2020
Value: 0.8 million EUR

Elsaco carries out:

- automation design and execution works;
- electrical installations;
- SCADA Regional Water System development / implementation;
- SCADA Regional Sewerage System development / implementation.

Online system for monitoring environmental parameters

Suceava



Beneficiary: Suceava County Council
Period: 2015-2016

Elsaco provided:

- purchase, delivery and commissioning of IT equipment;
- installation, configuration and commissioning of monitoring parameters software :
 - WinDISP – local stations;
 - EMMSYS – server.

International projects

Our professionalism and competences are world wide recognized.

List of countries where Elsaco has implemented projects:

- Qatar
- Russia
- South Africa
- Mauritius
- Poland
- Dubai
- Egypt
- Republic of Moldova
- Belgium







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