Who are we Systems and solutions to increase energy efficiency



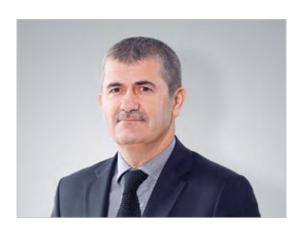
### Content

We brought value to the community and we are ready for the challenges that are to come.

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ELSACO – INTRODUCTION

# First word A strong team united by a single vision.



Elsaco Group is the aggregate result of the efforts and ideas from hundreds of people with whom I had the pleasure to work with for more than two decades.

Beyond the actual endeavours, Elsaco took a piece of our souls. We aimed to provide everybody with the ideal framework for further development in a dynamic company, with continuously innovative products and activities. Our colleagues' sense of belonging to one large family is one of our biggest satisfactions.

Over the past twenty years, we have managed to earn our clients' trust all over the country, offering them quality products and services. We wanted all our collaborators to have the feeling that they have a stable partner alongside. Thus, we have built solid partnerships by offering cost-efficient products using advanced, clean and safe technologies.

How could I synthesize the fundamental creed of the Elsaco Group? We are defined by the desire to offer energy efficiency solutions to the community we live in. Improving the quality of life is the goal which attracts all our efforts.

Valeriu Iftime, Eng. PhD.

#### Headquarters

Str. Pacea nr. 41A, 710013 Botoșani, Romania

- +40 231 507 060
- **F** +40 231 532 905
- **■** office@elsaco.com
- www.elsaco.com

## Elsaco history Time leads us towards perfection.

Elsaco SRL is set up, a company whose Elsaco Electronic SRL.

Slobozia and Călărasi.

system for district heating substations in

Is being realized the first remote control Elsaco Electronic SRL (Elsaco) is set up Elsaco becomes the sole distributor by the four shareholders - Valeriu Iftime, in Romania for the utility meters Ovidiu Jitaru. Petru Parfenov and Doru Popa, which form the present Council of (presently Itron).

made by Schlumberger Industries



## 1996

Is being realized the first computer under the Elsaco brand.



Streamlining the company's global activity by dividing its organizational



Is being designed and manufactured the first M-Bus dedicated electronic reading equipment for heat meters.

Is adjudicated the first integrated project of metering, monitoring and automation implemented at Ecoterm SA Făgăraș with funding from BERD.

Is reached the figure of 100.000 residential meters installed in Romania.

Is adjudicated the first automation and SCADA system for 24 heating substations at the largest district heating operator in Romania, RADET București.

Is adjudicated the first SCADA and AMR project of monitoring and control for 76 water supply stations at Apaterm SA Oradea (now Compania de Apă SA).

financing under the PHARE program: Assembly line for partitioning meters, with a value over 200.000 €.

The first projects for implementation of cogeneration sources of heat and power, namely of district heating rehabilitation, are awarded at the heating companies in Botoșani and Bacău, under the SOP Environment.

The first real estate project - "Attic Modernization" starts in Botoșani.

The "Wind Farm" project starts in

## 2008

Is adjudicated the first project of of water and waste water pipes in

by the Regional Operational Program 2007 - 2013 – "EL-Quatro" Board and Lodging House, Voroneţ.

Elsaco Energie Verde SRL is founded energy (wind) area.



### 2007

Starts the first external project of complex AMR M-Bus system for The Pearl Of Qatar, realized with our

Is adjudicated the biggest project of hydraulic balancing for heating networks from Bucuresti.

### 2006

Is reached the figure of 250.000 cost allocators installed in Romania. Is adjudicated the first cogeneration

combined heat and power (CHP) project at Energomur SA Tg. Mureș.

Elsaco Electronic becomes a majority shareholder at Fotbal Club Botosani

The first water metering system with portable reader is implemented at the water supply operator in Kragujevac — Serbia.

The company's book "Elsaco—Ten years of success" is launched at Elsaco Oscar Awards Gala.

Elsaco ESCO SRL is founded.

Is developed the first software product dedicated to utility companies (water, heating) for the management of the meters, the clients, the production and consumption billing: Elsaco ACE.

### 2002

The "Elsaco Panther" computer is designated the product of the year in "PC Magazine".

Is awarded the works contract for district heating network reahabilitation and heating points in Focșani municipality.

Is launched the new brand identity

Elsaco Engineering SRL and Elsaco Energy SRL are founded.

Elsaco celebrates 20 years of activity in the equipment and energy services and utilities market.

project — combined heat and power at ChimComplex SA Borzesti, financed through SOP IEC (completed in 2015) Is adjudicated the biggest project of implementation of a cogeneration heat and power source for Oradea municipality.

Is adjudicated the first environmental project for the flue gas desulphurisation at the coal combustion plant from CET 2 laşi

Is implemented the new computer system within Elsaco, worth 200,000 euro— SOP IEC [2014].

The project of modernization of the water and wastewater systems of Buzău and Nehoiu is implemented.

Elsaco International SRL Chișinău, Republic of Moldova, is founded.

ChimComplex SA Borzesti carries out the performance test and accepts the new cogeneration source realized by Elsaco, which also marks the beginning of the maintenance contract.

Is adjudicated the contract for the plant in Vatra Dornei.

Is implemented the project regarding the rehabilitation of the water treatment plant in Fălticeni.

The distribution and sales activities of utility and energy equipment, industry dedicated, are taken over by the new company of the group Elsaco, Vestra

act according to the highest standards in relationship with customers, employees, society and the world we live in. We do our best to promote a better world by technology and

Our success was built around our wish to

Elsaco is among the first three large national providers of complete services in Romania consisting in consultancy, design, construction and operation of heating installations of any

We have built durably, always according to a long term vision. We focus on offering cost-effective manner, with the support of advanced, clean and safe processes.



## About us We excel in what we do because we focus on our clients' needs.



Valeriu Iftimie Eng. PhD. President



**Ovidiu Jitaru Eng.** Vice-president



**Doru Popa Eng.** Vice-president



Petru Parfenov Eng. Vice-president



Constantin Dumitriu Eng. Member of the corporate management board

Since its foundation in 1994, Elsaco evolved into one of the leading energy and environment-related services provider in Romania.

We activate successfully in high technology fields and we continue to develop. The results so far prove that our more than 500 specialists of Elsaco form a strong team.

Energy efficiency is a main area of interest for our company.

Through seriousness and professionalism, Elsaco provides the reliability of a competent and responsible partner.

#### 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 employees.



# Experience and expertise We have developed a wide range of services in order to answer the market's requirements.

#### Fields of activity

Elsaco Electronic successfully performs activities in the following fields:

#### 1 — Heating and power projects:

- Construction, rehabilitation and/or retrofit of urban heating systems (heating points and modules, heating stations, heating networks for the transportation/distribution of heat carrier and hot water);
- Construction of energy sources in cogeneration, with fuel as natural gas or urban waste;
- Construction of renewable energy sources (photovoltaic plants, wind parks, hydroelectric power stations, biomass/biogas stations)
- Construction, rehabilitation and/or retrofit of environment pollution control systems specific to classical thermoelectric power plants with coal combustion (DeSOX, DeNOX, etc.)

#### 2 — Water and wastewater utilities projects:

- Construction, rehabilitation and/or retrofit or water supply and sewage systems (pits, water pump stations and storage tanks, water treatment plants, waste water purification plants, mud treatment/capitalization plants, water and sewage networks, etc.);
- Civil and industrial constructions, including building services HVAC, electrical installations, weak currents, utility networks (technological buildings and halls, gyms, education campuses, football stadiums, etc.)

#### 3 - Automation and information system projects

- Implementation of monitoring, automation and control solutions of thermal energy production, transportation and distribution systems;
- Implementation of monitoring, automation and control solutions of water supply and sewage systems;
- SCADA control rooms for the control of technological plants and processes;
- Design and development of process software dedicated to SCADA and MDM systems;
- Design, development/production and commissioning of electronic equipment for AMR/MDM systems for meter reading and data collection;
- Design, production, testing and commissioning of control panels with programmable automatic machines or process industrial computers.

Within the projects implemented by Elsaco Electronic we make sure to provide all the services and works on a turn-key basis, contractually agreed with the clients. A contract for works such as design and execution will include all the necessary activities for the performance and acceptance of the contractual object within the time frame, value and quality/performances agreed by the parties:

Project Management

#### Elsaco nowadays

The number of the Group companies increased year by year, reaching today 18, representing a portfolio of strong names in various sectors.

#### Elsaco Electronic

Elsaco Electronic is the most important and profitable name in the Elsaco group. We are aware of the many activities and resources required for developing services at the highest quality standards. This is the reason why our services, specialised in different areas of activity, have been separated in specific companies that always answer in the best way to our clients' requirements.

Also, Elsaco Electronic provides a range of management services (human resources, finance and accounting, administrative, communication, quality assurance, logistics) for other companies of the group.

- Site Organisation
- Engineering, Design and process of obtaining the approvals and licences
- Purchase of technological equipment and construction material and installations
- Manufacturing and quality technical control (electrical and automation panels, mechanical supply, heating modules, add-on expansion modules, software applications development, data purchase electronic devices)
- Civil + erection work execution (foundations, construction, steel structure, construction installations, technological equipment erection, mechanical, electrical and automation technological installations) and quality control off the works
- Training of the beneficiary's personnel in order to operate and maintain the contract objective
- Tests, checking, trials and measurements upon completion of contractual works
- Tests, checking, trials and measurements previous to commissioning of the contract objective
- Tests and trials that certify the guarantees performances / consumptions
- Technical coordination of the acceptance phases organized by the client (acceptance at completion of the works, acceptance at commissioning, definitive acceptance upon certification of the guarantees, final acceptance upon finalization of performance bond – as the case may be, in compliance with HG 273/1994 and HG 51/1996)

If the client doesn't have an outline of the required technical and economical solution, Elsaco Electronic provides the necessary consultancy and support to the client in order to identify the solution and to describe the implementation requirements. Depending on the client and application, Elsaco Electronic collaborates, during the concept and design phase, with the engineers of the other specialized Elsaco companies, in order to offer to the client the optimum technical and economical solution.

We are able to support any activities of design and execution required for an investment, both with our personal qualified and trained personnel, as well as with specialists from our network of collaborators. Elsaco Electronic is a certified manufacturer of electrical and automation cabinets.

At the same time, Elsaco Electronic owns the technical and human resources required for the administration of subsequent implementation of maintenance services required by the client, as well as for the assurance of technical assistance, logistic and support services, supply of spare parts, upgrade of software applications, real time performance monitoring, using either its personal resources or resources from its group.

**Elsaco Electronic** is currently divided into three divisions specialized in implementing projects:

- 1. Power and Heat Division
- = ENERGY
- 2. Hydro Utility Division
- = WATER
- 3. SCADA & Software Division = SCADA

## Vestra Industry SRL



The business units focused on the end-user and the distribution/sale of equipment, systems and services in the

IT&C and utilities industry (water, sewer, heat, gas, lighting, etc.), which were part until recently of the structure of Elsaco Electronic, are currently managed by other companies in the group — Elsaco Solutions SRL, namely Vestra Industry SRL.

Founded in 2015, **Vestra** is the newest company within the Elsaco group, which takes over from the company Elsaco Electronic the activities of distribution and sale of equipment for the utilities companies and contractors, provided since 1994. The continuous and sustainable development of the two types of business (turn-key implementation projects, namely sale of products and services dedicated to utilities and energy markets) required a different approach and a specialized management, therefore the occurrence of the reorganization decision.

For 20 years we focused our efforts on offering the best measurement and control equipment, valves and fixtures for the utility industry (water, heat, gas). Permanently facing the needs of the clients, wishing to complete our scope of supply, solutions and services with new elements, namely to improve the operation manner, we believe that this step is imperative in order for us to be prepared for a stable and prosper future.

The products traded by Vestra team are manufactured by nationally and internationally renowned companies, being structured as follows:

- 1. Measurement equipment: meters for water, heat, gas, meter for industrial fluids, process instrumentation Itron, Huba Control
- 2. Valves and fixtures: flow adjustment valves, pressure regulators, level control valves, slide valves, throttles, aeration valves, retention valves, gate valves, weirs, street valves, branch valves and collars, repair collars, hydrants, adaptor flanges, various accessories AVK, Sainte Lizaigne, Cla-Val, Orbinox, Rivard
- 3. Systems and solutions for water and sewage networks: video inspection equipment for networks/drilling/hydraulic works, hydrocleaners for sewage mounted on trucks, cesspool emptier, autowashers, cesspool emptier and cleaning heads with high pressure jet, ball closures for sewage, measurement and control equipment for detection of leakage into the networks ECA Hytec, Enz Technik, Musthane, Hydreka
- **4. Automation equipment and systems:** programmable automatic machines, software applications Rockwell Automation

#### Contact data

Vestra Industry SRL

VAT Number: RO-15969249, Trade Register Number: J40/2989/2015

Address: 500 Mihai Bravu Road (Jariștea 2 Entry), District 3,

Bucharest, RO-030335

- +40 21 326 15 50 Ext: 2150
- **F** +40 21 326 15 20
- **■** contact@vestra.ro
- www.vestra.ro

#### The scope of services includes:

- Free consultancy and guidance before the contract in order to correctly choose the proposed equipment
- Basic design for the equipment within the proposed systems
- Assistance and technical support for supplied products
- Metrologic checking and repair works for utility meters (water, heat) in compliance with the applicable norms
- Installation and commissioning of measurement systems and meter reading systems
- Warranties, repair works and services for supplied products

## Elsaco Solutions SRL

The IT&C solutions division took place in 1994 within company Elsaco Electronic, and in 2013 it operates via Elsaco Solutions. The manufacture of PC stations started in 1996, together with the launch of the first computer under the brand "Elsaco".

In time Elsaco was constantly among the first suppliers and IT solutions integrators, both for home type or enterprise applications, as well as for industrial applications such as SCADA/AMR, required in the power field and utilities.

The mission of Elsaco Solutions is to permanently promote the newest technologies and innovating services, for a better world, opened towards the needs of the people, in harmony with the environment. IT&C solutions provided by Elsaco Solutions include:

- Supply of servers and IT&C equipment (or their rental)
- Supply of printing/copying solutions of documents and corresponding IT consumables
- Supply of electronic communication solutions: digital phone stations IP, voice/data networks LAN and Wireless LAN, etc.
- Supply of various software solutions and services: antivirus, electronic archiving, document management, telecommunications, server visualization, cloud computing, etc.
- Supply of consulting and advanced IT security solutions for government or enterprise customers
- Online shop www.eurobuy.ro bilingual shop Romanian/English with over 50,000 products, updated stocks in real time. The customers come from both environments: business and end users. Additional information: shop@eurobuy.ro
- Implementation of hardware-software infrastructures for SCADA/ DCS management centres required in various fields and installations: water stations, thermo-electrical plants, wind parks and photovoltaic parks, energy transactions and unbalance management, etc.
- Implementation of ERP/CRM solutions and specific information projects for small and medium companies
- Implementation of protection and security systems: video surveillance, house breaking alarms, fire detection, access control, electronic time keeping, auto traffic barriers
- Performance of structural cabling and electronic networks of data
- Housing e-mail and/or web servers within Elsaco Data Center (HDC)
- Service and repair of servers, PC stations, IT equipment and networking

Elsaco Solutions's offer includes professional solutions, provided by renowned manufacturers such as Microsoft, HP, Dell, IBM, Lenovo, Intel, Samsung, Cisco, Xerox, Fujitsu, etc.

The solutions offered by Elsaco Solutions include consultancy and support required by the clients in choosing the information solution, permanently adapted to their budget and requirements, basic design, as well as post sale technical support. At the same time, we also provide services of installation, configuration, training and commissioning of supplied equipment.

Based on different contracts, we provide maintenance of supplied information systems in order to maintain their availability at the highest degree possible and to keep the clients constantly satisfied.

#### Contact data

Elsaco Solutions SRL

VAT Number: RO-14364265.

Trade Register Number: J07/319/2001

Address: 3 Cuza Vodă Street, Botosani, RO-710236

- +40 231 514 278 Ext: 2321
- F +40 231 532 905
- E sales@elsaco.com
- www.elsaco.com

#### e-Shop Eurobuy

- +40 231 507 060 Ext. 2240
- F +40 231 532 905
- **E** shop@eurobuy.ro
- www.eurobuy.ro

## Elsaco ESCO SRL

The company was founded in 2004 as a result of our clients' frequent demands for energy audits in respect to production facilities.

The current field of activity was added a series of new services and solutions, which allow the efficiency increase of energy and resources consumptions within the production processes of our industry clients or within public institutions and business operators (hospitals, gyms and sport centers, office buildings, shopping malls, etc.):

- Elaboration of solution studies, feasibility studies, optimization studies, resources supply strategies, including execution of diagnosis and specific measurements on-site required to identify the solution and consolidate the technical-economical proposal
- Performance of electro-energetic, thermo-energetic or complete audits/ balances
- Performance of complex energetic audits/balances, including the analysis of power consumptions for the great consumers, in compliance with the law in force (OG no. 22/2008)
- Execution of measurements within performance tests in order to certify the guaranteed parameters, for investment projects that involve building new power units or retrofitting existing units
- Consultancy and technical/legal assistance for accessing financing funds and sources
- Elaboration of design documentations for various implementation phases of technological investments
- Performance of power audits for buildings in order to certify the energetic performance, in compliance with Law no. 372/2005
- Technical management services of the project, technical assistance and support during investment implementation phases
- Dedicated power management services, for the operation and maintenance of power production systems, including taking over power management for power companies which want to outsource these legal obligations
- Development of investment projects like ESCO, BOOT in partnership with the client, for renewable or classical power sources (photovoltaic plants, wind parks, biomass/biogas cogeneration plants, hydro-electrical power plant, geothermal thermic points, natural gas cogeneration plants)
- Supply of balancing power services as PRE entity (Party Responsible with Balancing) in compliance with ANRE regulations, in addition to the offer of Elsaco Energy for the supply of electric power to final consumers in order to reduce power costs
- Trade with products and systems that provide energetic efficiency to clients' plants: power economizers and stabilizers (Power Sines), dedicated software applications and drivers (Matrikon OPC)
- Performance of training courses for people who wish to obtain various certificates or qualifications in the field of power

#### Contact data

Elsaco ESCO SRL

VAT Number: RO-16396697,

Trade Register Number: J07/229/2004

Address: 41A Pacea Street, Botoșani, RO-710013

- +40 231 514 278 Ext: 2326
- F +40 231 532 905
- **■** esco@elsaco.com
- www.elsaco.com

The services offered by Elsaco ESCO are meant to support the efforts for improving the use of power, for the products within the portfolio of the client. Thus, if the majority of the clients believe it is vital to focus their efforts in order to give more efficiency to their technological processes, Elsaco ESCO has the professional capacity to attend the power flows set (gas, electric power, thermic power, other fuels, cold, pressurized air) meant to support the industrial activity and bring cost reduction. Elsaco ESCO offers a highly specialized technical expertise for the projects related to the increase of power efficiency and completes the offer with a financing system of the investment project depending on its type and the specific demands of the client. Regardless of the contractual solution agreed with the client, Elsaco ESCO guarantees both the performances of the new or retrofitted plant as well as the lowest levels of power consumption, thus the client is able to benefit from the savings resulted from consumption reduction.

Our mission is to respond with services and professional solutions to the demand of public or private power consumers, wishing to retrofit and give more efficiency to power plants in order to reduce operation costs.

The success proved by the high number of performed audits and balances, places Elsaco ESCO on an honorable position of market leader on this segment of activity. Among the clients who trusted us we would like to mention the following: Betty Ice, Avicarvil, Deutek, Green WEEE International, Green Lamp Recycling, Recon, Kandia Dulce, Pancevo Refinery Serbia, Romgaz, Timken, Mechanical Factory Cugir II, Water Company Vital Baia Mare, Water Company Buzău, West Gate Business Park Bucharest, Botoșani Municipality, Galeria Shopping Malls, El-Quatro Guesthouse, Rose Garden Residency Bucharest, FeliCity Residency Bucharest, etc.

## Elsaco Energy SRL

Founded in 2013, Elsaco Energy realizes energy supply and trading, as well as electricity digital services.

The mission of the company is to assure to the clients a complete palette of power solutions and services, in order to decrease the expenses with the electricity.

#### The main areas of activity:

#### Electric power supply for industrial consumers:

Elsaco Energy, as authorized provider, offers complete services for the enterprise customers, services that include:

- low electricity price on the basis of fixed price and/or adjusted price adapted to the consumption profile
- continuous monitoring of energy quality provided by Elsaco Energy Online system, monitoring on all supply lines
- ensuring a minimum price of the green certificates during the contract
- support for enterprise customers for ESCO type services and energy audit services and representation
- energy management services and optimizing costs for all enterprise utilities: electricity, thermal energy (hot water, steam), natural gas, water

#### Providing electricity to individual customers (household customers):

- the price and the payment terms are adapted to the customers' requirements so that they have an energy providing service as easy to manage
- clear and comprehensible invoices for consumers
- the prices from the invoices are only the ones provided by ANRE, according to the current legislation
- collaboration with the household customers in order to help them minimize their energy costs

#### **Energy Trading**

Energy Elsaco is present on the electricity trading market. Our trading partners are companies both from Romania and Europe.

#### Digital services for businesses of electricity:

As part of the group Elsaco we offer technologically advanced solutions (software and SCADA) for our clients, wherever they operate in the field of energy: producers of electricity (green or standard energy), transmission of electricity, energy distributors, electricity supply, consumers of electricity.

Through the digital services offered we put together solutions for customers situated in different areas on the energy axis, from producers to consumers, so as to solve their problems and offer them financial advantages that they could not obtain on their own.

**PRE - Balancing Responsible Party.** This service is offered by Elsaco

Elsaco Enegy collaborates with PRE Elsaco ESCO in order to provide the clients the lowest costs for the inherent power imbalances. Elsaco Energy is keen to identify solutions / PRE partners for the active balancing of PRE Elsaco ESCO so as to minimize in real time the imbalance between notified - measured of the interested companies in PRE Elsaco ESCO.

#### Contact data

Elsaco Energy SRL

VAT Number: RO-31958667,

Trade Register Number: J07/209/2013

Address: 41A Pacea Street, Botoșani, RO-710013

- +40 231 514 278 Ext: 2328
- +40 231 532 905
- **■** energy@elsaco.com
- www.elsaco.com/energy

## Elsaco Energie Verde SRL



#### Contact data

Elsaco Energie Verde SRL

VAT Number: RO-24186637,

Trade Register Number: J07/487/2008

Address: 41A Pacea Street, Botoșani, RO-710013

+40 231 514 278 - Ext: 2123

F +40 231 532 905

**■** elsaco@elsaco.com

www.elsaco.com

The company was founded in 2008, as a result of the opportunity analysis offered in the area of Botoşani County, for the production of electric power via wind turbines. The project is since 2013 at the stage of documentation of Building Permit, having obtained all the necessary approvals and licenses to start the investment which is foreseen for the period within 2015 and 2017. The wind park, with and installed power of 40 MW, targets a number of 16 turbines with a capacity of 2,5 MWh each, its location being set in the area of Mitoc Locality; the value of the investment is estimated at approx. 60 million Euro. Elsaco Energie Verde provides services and works of development and exploitation of wind parks in Romania, including the elaboration of the specific documentation and wind studies.

## Elsaco Engineering SRL





#### Contact data

Elsaco Engineering SRL

VAT Number: RO-32016560, Trade Register Number: J07/215/2013

Address: 41A Pacea Street, Botoșani, RO-710013

- +40 231 514 278 Ext: 2114
- **F** +40 231 532 905
- **E** engineering@elsaco.com

www.elsaco.com

The company was founded in 2013 having the purpose of managing the implementation of heat and electric energy cogeneration projects for heating companies and private companies which need modern production sources of energy based on turbines or motor with gas.

**Elsaco Engineering** provides project management, partners/ subcontractors and engineering and design services coordination by working with its own specialists or with outsourced resources.

The first large project, in progress between 2014-2016, is the construction of a new heat-electric power plant in cogeneration for Oradea Municipality with an installed capacity of approx. 45MWe and 283 MWt.

### Elsaco Business Software SRL

The company was founded in 2003 in consequence of the water and heating companies' demands for a software platform dedicated to the management of resources, production and distribution of water and heat to the subscribed clients. The first major implementation was performed at the Water Company Buzău. In time, the platform was developed to offer other functionalities as well, becoming today a powerful ERP/CRM system especially dedicated to utilities companies.

The mission of the company is to provide clients with efficient, safe and fast information solutions for the main management processes (calculation and repartition/invoicing of production to subscribed consumers, clients' management, integration with existing information systems), which assure a minimum effort of learning and operation, by using advanced and robust equipment.

The company's field of activity targets the production of software applications for the following types of solutions:

- implementation of information systems dedicated to invoicing, repartition and business management for utilities companies (water, heat, sanitation), repartition services companies, or tenant associations (Elsaco ACE)
- implementation of integrated systems of financial and accountancy administration and financial management for medium and large companies in progress of development (Elsaco ELITIS)
- implementation of informatics systems for the repartition service companies or housing associations
- implementation of software products for financial-accounting domain for small businesses
- design, development and implementation of information projects based on clients' specifications for business processes

Elsaco Business Software provides all the support services for the proposed/implemented information systems – consultancy, design, personnel training, assistance and technical support, documentation, maintenance, data analysis, process optimization, etc. The company also provides solutions doe various demands of the clients regarding hardware and software platforms, by using the advantage of being a member of Elsaco Group; there are therefore provided both IT&C equipment (servers, data bases, work stations, system applications, networking equipment and data communication) as well as meters namely AMR systems for reading and collection of data from the utilities and resources meters, offered by Elsaco Solutions and Elsaco Electronic/Vestra.

The main implementations of information systems accomplished by Elsaco Business Software for utilities management were made at: RADET București, Compania de Apă Buzău, Aquavas SA Vaslui, Ecoterm SA Făgăraș, Nova Apaserv SA Botoșani, Termica SA Suceava, Modern Calor SA Botoșani, Termoficare Oradea SA, E-Star SA Gheorghieni, RAM Buzău, RADET Constan a, CET Bacău SA, RAAN—ROMAG Termo Drobeta.

#### Contact data

Elsaco Business Software SRL

VAT Number: RO-15969230,

Trade Register Number: J07/90/2009

Address: 41A Pacea Street, Botosani, RO-710013

- +40 231 514 278 Ext: 2293
- F +40 231 532 905
- **■** office@ebsoft.ro
- www.elsaco.com

## Napotherm Energy Systems SRL

Napotherm Energy Systems is a company specialized in the design, production and trade of thermal and industrial systems dedicated to special applications, systems which are meant to improve global energetic efficiency of the processes in which they are integrated.

Napotherm products target the internal market as well as certain external markets, with opening towards the use of the systems produced by the company, for the clients who wish high quality products at reasonable prices and who expect correctness, maximum seriousness and flexibility in collaboration with a professional manufacturer/supplier.

The main traded products are:

- Individual thermal modules, for apartment building or neighbourhood, from the smallest to the largest capacities, for heating and waste hot water supply applications
- Add-on expansion modules for urban heating applications
- Industrial thermal systems, for special applications

The products are manufactured in our own production workshop, with highly qualified personnel with an experience of at least 10 years in the field. For the manufacturing of thermal modules/points and other industrial thermal systems, heat exchangers with plates are used, from the brands SPX-APV Denmark, Vahterus Finland, or Swep Sweden. Other thermal equipment provided as Napotherm solutions are: accumulation vessels a.c.m. (Dinox Hungary), boilers for production of a.c.m., magnetic filters, heat economizers (Lacaze Energies France), impurity filters (Bernoulli Sweden), electromagnetic dissolvers of chalk deposits from urban heating installations or residential water installations (Trebema Sweden), any other special thermal equipment.

The thermal modules are delivered preassembled and completely automatic. Depending on the application, using as primary agent water or steam, they assure as an instantaneous or semi-instantaneous regime the production of hot wastewater, the production of heating carrier, the combined production of hot wastewater and heating carrier.

The beneficiaries of thermal modules are the dwellers of apartment buildings connected to a primary heating carrier, urban heating companies or industry companies.

The long experience in design, sizing and trade of heat exchangers with plates and of thermal modules and systems, together with the correctness, seriousness, flexibility and respect towards the client, a high class service and technical support, are the warranty of Napotherm for a successful partnership, to respond to the highest exigency demands of our clients.

#### Contact data

Napotherm Energy Systems SRL

VAT Number: RO-31178262,

Trade Register Number: J12/2423/2013

Address: Cluj-Napoca,

204 Traian Vuia Street, RO-400397

- +40 264 274 063
- +40 264 274 143
- **■** office@napotherm.ro
- www.napotherm.ro

## Elsaco International SRL (Republic of Moldova)

#### Contact data

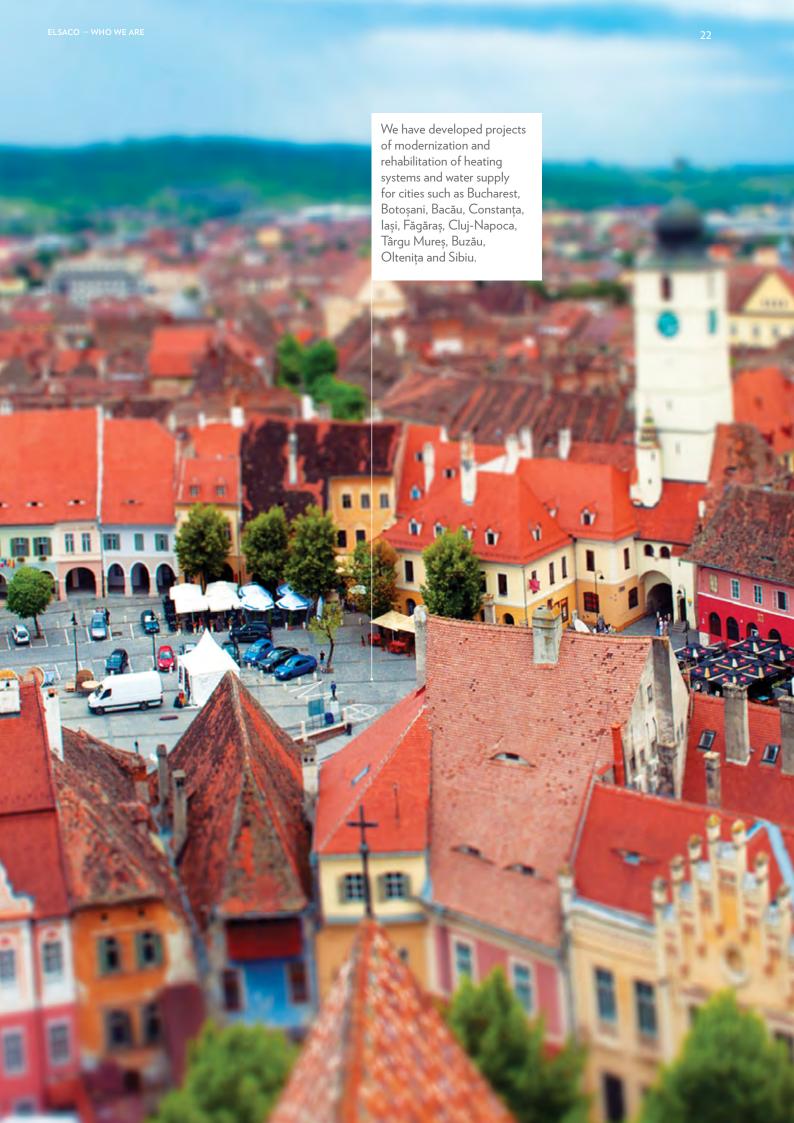
Elsaco International SRL

ID: MD-1014600012294/2014

Address: 45 A. Puskin Street, Chişinău, MD-2005, Republic of Moldova

- +373 (22) 105 705
- F +373 (22) 105 705
- E chisinau@elsaco.com
- www.elsaco.com

As a result of the business strategy adopted by the group and certain accomplishments of SCADA systems for water companies, from the Republic of Moldova, in 2014 was founded Elsaco International Chişinău. The company targets the exploration of opportunities and getting involved in investment projects related to heat-power and water, developed by public authorities, utilities companies or industry companies from the Republic of Moldova.





## Enos Cod SRL ("Conacul Zăicești" Guesthouse)



#### Contact data

Pensiunea Conacul Zăicești (Enos Cod SRL)

VAT Number: RO-18639369, Trade Register Number: J07/262/2006

Address: 172 Principală Street, Loc. Zăicești, Botoșani, RO-717031

- +40 755 400 207, +40 755 400 328
- Reservations: +40 755 400 355, +40 755 400 207
- **■** contact@conaculzaicesti.ro
- www.conaculzaicesti.ro

The company was founded in 2006 based on the decision of Elsaco to get involved in the development of certain touristic units, in the Northern areas of Moldavia, with potential. After the completion of the investment, Enos Cod manages, since 2010, "Conacul Zăicești" Guesthouse, located nearby Botoșani City (8 km).

Zăicești Mansion, the former residence of Gheorghe Filipescu, one of Moldavia's aristocrats of XIX century, bears the mark of a unique architectural vision, is situated in a special natural landscape, succeeding to entice one to feast, relaxation and chit-chat. The guesthouse is provided in order to create excellent conditions for the organization or private or corporate evens, with the possibility to organize outside parties. The guests can swim at the Mansion, the available rooms being carefully decorated with red, brick-red and golden shades, thus offering relaxing and comfortable environment.

As a guest at the Mansion, you can also visit nearby other recreational or cultural touristic objectives – "Cai de Vis" Herd Farm located in Vârfu Câmpului Locality (at approx. 30km from Botoșani), Mihai Eminescu Memorial House located in Ipotești (at approx. 12 km from Botoșani), George Enescu Memorial House (at approx. 52 km from Botoșani), Nicolae lorga Memorial House (Botoșani).

## **EL Quatro Boutique Hotel**



The company was founded in 1999 and it produced thermal energy meters for Elsaco Electronic, namely it traded and supplied services of installation of meters and individual heating systems in Suceava County. After the relocation of meter manufacturing activities to Botoșani, Elsaco International SRL changed its field of activity, starting an extension and modernization project of the existing touristic capacity, financed in a percentage of 55% by the program REGIO (POR Line 5), with a total value of the investment of 6,44 million lei. The activity of accommodation and food service of the new Guesthouse "EL Quatro" Voroneț started in the summer of 2012.

EL Quatro Boutique Hotel is located at 1,6 km from Vorone Monastery, one of the most famous cultural touristic objectives of Bucovina, being as well a good departure point for the other monasteries of the area (Humor, Arbore, Moldovi a, Putna, Sucevi a) or other touristic points (Cacica Salt Mine, Black Ceramic Centre of Marginea, Pietrele Doamnei Reservation of Rarău Massif, Suceava Citadel of the Throne, etc.).

The hotel is unique from the design point of view and it integrates into the surrounding landscape, being located nearby the forest. The hotel has 10 rooms with different colour themes and individualized design furniture, with high quality modern facilities, harmoniously located to create a romantic and comfortable atmosphere. The location and the surroundings offer a peaceful environment, benefiting from the comfort and modern facilities required by any tourist in order to enjoy a relaxing holiday. The facilities of the guesthouse create an excellent environment for private or corporate events, with the possibility to organize outside parties. For active people, the hotel owns fitness indoor gym, sport court for tennis, volleyball, football or badminton.

#### Contact data

EL Quatro Boutique Hotel

VAT Number: RO-12542943, Trade Register: J33/657/1999

Address: 30 Vorone Street, Loc. Gura Humorului, Suceava, RO-725301

- +40 755 400 112
- F +40 230 232 441
- **■** rezervari@elquatro.ro
- www.elquatro.ro

# Management standards We are guided by quality, by the care for people and the environment, regardless of the project.

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.

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

## Technical and professional certificates

We are ready and preoccupied to approach the works and services provided to the clients in compliance with the national and international regulations, with certified and trained personnel, or via our partners.

Elsaco holds the following certificates:

Certificate Title	Description
ISCIR	Hot water and industrial fluids installations under pressure – types A1, C1, C4, C6, C9, C10, C11  Design, execution, maintenance
ANRE	Electrical installations – types B, C1A   Natural gas installations – types PDI & EDI, PDS & EDS Design, execution, maintenance
IGSU	Security systems (fire detection and warning)  Design, execution, maintenance
IGPR	Alarms and security systems (house breaking, access control, video surveillance)  Design, execution, maintenance
INSEMEX	Electric and mechanic installations located in potentially explosive areas – type GANEx Design, execution, maintenance
BRML	Metrology Laboratory Authorisation for the following types of metrological verifications: Initial metrological verification   Periodic metrological verification   After repair metrological verification
ANRSC	License for the management activity of waste deposits and/or municipal waste disposal facilities and similar waste
ANRE	Licence for the electricity supply
ANRE	Licence for the electricity supply Authorization for energy auditor

## Partners We evolve together with our partners.

Cooperating with many worldwide-known companies, our team received the technical support and the necessary consultancy to adopt the optimal solutions. The know-how transfer made by these partnerships leads to the creation of some advanced solutions like the automated management of the urban water and heating supply systems. Thus, we are now able to produce and develop our own products and accessories indispensable to this kind of solutions.

#### Partners for heating and power projects

#### Kawasaki

Gas turbines, Gas motors

#### **GE** Power & Water

Gas motors, Gas turbines, Technologies for water and power industry

#### EKOL spol s r.o.

Hot water boilers, Steam boilers, Steam turbines, Gas turbines

#### Doosan Lentjes

Technologies for depollution of flue gases evacuated by large combustion plants (desulphurization, denoxation, dedusting, etc.) and technologies of municipal waste incineration

#### **ABB**

Electric switchgear, energetic equipment, automation

#### Schneider Electric

Electric switchgear, energetic equipment, automation

#### Logstor

Pipes for heating and water

#### Viessmann

Central heating systems and heating-power equipment

#### IM

Equipment for heating, water and industry

#### Flco RT

Electric installations of high and medium voltage

#### Partners for water and wastewater utilities projects

#### Hidroconstrucția

Hydro-technical constructions

#### Wild

Pumping systems for HVAC installations, water and sewage installations

#### Grundfos

Pumping systems for water and sewage installations

#### Energobit

Special lighting systems, electro-energetic equipment

#### Partners for information systems and automation projects

#### Rockwell Automation

Hardware and software equipment for industrial automation and SCADA systems

#### Siemens

Hardware and software equipment for industrial automation and SCADA systems

#### Schneider Electric

Hardware and software equipment for industrial automation and SCADA systems

#### Motorola

Hardware and software equipment for automation and SCADA systems in water field

#### Lacroix Sofrel

Hardware and software equipment for automation and SCADA systems in water field

#### Danfos

Automation equipment for central heating systems

#### Matrikon OPC

Software products for data connectivity within information systems

#### Iconics

Software packages for heating applications Genesis32 OPC

#### Partners for utilities equipment

#### **Rockwell Automation**

Hardware and software equipment for industrial automation

#### Itron

Utilities meters (cold water, hot water, heat, gas and electricity), equipment for meter reading systems (AMR)

#### **AVK**

Valves and fixtures for utilities (water, sewage, gas) and fire protection

#### Sainte-Lizaigne

Branch valves and collars for water

#### Cla-Val

Special valves and regulators for water

#### Orbinox

Special valves and weirs for water and other industries

#### Rivard

Equipment and systems for sewage networks

#### **ECA Hytec**

Video inspection equipment for sewage networks

#### Enz Technik

Equipment and solutions for pipes and surfaces cleaning

#### Hvdreka

Equipment and systems for measurement and detection of leakages in water networks

#### **Huba Control**

Process instrumentation for the measurement of pressure



# Clients We form a team together with those we are working for.

#### Our 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, natural persons (apartments/houses/villas)
- retail distributors, collaborators
- constructions contractors, subcontractors, designers

## Main references Power. Water. SCADA

#### National projects in progress

City Hall of Oradea Municipality (beneficiary Termoficare Oradea SA) Implementation of a project at source in CET Oradea – Design and construction of a heat-power plant in cogeneration using 1 gas turbine with waste-heat boiler (45 MWe + 50 MWt), 2 hot water boilers (2 x 116 MWt), 2 steam boilers (14 t/h), 1 heat accumulator (8500 m3) – Value: approx. 55.000.000 €, Period: 2014-2016.

City Hall of Iaşi Municipality (beneficiary Veolia Energie Iaşi SA) Design and construction of a Flue gas desulphurization plant (DeSOX) discharged by the steam boiler (285 MW, 420 t/h, 540°C, 137 bar) with pit coal combustion, within CET 2 lasi – Value:

#### City Hall of Bacău Municipality (beneficiary Thermoenergy Group SA Bacău)

approx. 21.700.000 €, Period: 2014-2016.

Design and execution – Retrofitting the heating networks and modernization of heating points in Bacău Municipality – Value: approx. 10.000.000 €, Period: 2014-2016.

#### **RADET Bucharest**

Finalization of automation for 104 heating points in Bucharest Municipality: pumping systems with frequency converters for the heating and hot water circuits, automation systems (panels, sensors, adjustment valves, differential pressure regulators) including software, associated works and services – Value: approx. 3.200.000 €, Period: 2014-2015

#### Completed national projects

#### ChimComplex SA Borzești

Design and construction of a heat-power plant in cogeneration using 1 gas turbine with waste-heat boiler (8MWe + 11,7MWt) [2014-2015]

#### City Hall of Iași Municipality

Retrofit of heating networks in Iași Municipality (via Conest SA) [2013-2015]

City Hall of Focșani Municipality (beneficiary ENET SA)
Project Implementation - District heating network and thermal units [2012-2014]

City Hall of Botoșani Municipality (beneficiary Modern Calor SA)

Design and execution – Retrofit and modernization of the heating
networks in Botoșani Municipality [2011-2013]

City Hall of Botoşani Municipality (beneficiary Modern Calor SA) Implementation of a project at source in CET Botoşani – Design and construction or a heat-power plant in cogeneration using 2 Diesel motors with waste heat recovery (2 x 4,4 MWe + 2 x 4 MWt) and 2 cazane hot water boilers (2 x 52 MWt) [2011-2013]

City Hall of Bacău Municipality (beneficiary Thermoenergy Group SA) Implementation of a project at source in CET Bacău – Design and construction of a heat-power plant in cogeneration (combined cycle) using 1 gas turbine (7.5MWe), 1 waste-heat boiler with additional combustion for steam production (14 MWt, 20t/h, 450 °C), 1 steam turbine (3,6 MWe), 2 auxiliary steam boilers (10 t/h), including the adaptation of the thermomechanic diagram for interconnection to CET 1 – services of design, execution of works and commissioning

#### **RADET Bucharest**

Hydraulic balancing of heating networks for the supply of heat carrier to the consumers - delivery, erection ad commissioning of balancing valves of the flows and differential pressure regulators at the units.

#### Thermoenergy Group SA (CET Bacău SA)

Retrofit and modernization of 54 heating points, including SCADA and AMR systems – design and execution.

#### Nova Apaserv SA Botosani

Retrofitting works for water distribution and sewage networks – design and execution

#### City Hall of Bucharest Municipality

Metering heat and hot water sales in Bucharest Municipality – design and execution.

#### SECOM SA Drobeta Turnu Severin

SCADA system for water supply and sewage system in Drobeta-Turnu Severin Municipality – design and execution (via Confort SA).

#### Top 10 clients

City Hall of Botoșani Municipality 36.025.070

City Hall of Bacău Municipality 29.703.282

Hidroconstrucția Grup 21.833.425

RADET București 19.358.450

City Hall of Focșani Municipality 9.207.532

SC Apa Nova București SA 9.137.897

ChimComplex SA Borzești 8.941.767

Trușești Village 8.769.502

Electro Alfa Grup 6.298.397

City Hall of București Municipality 5.014.575

#### International projects

Automatic meter reading systems (AMR) for utilities – heat, air conditioning, water, systems consisting of software and hardware designed and developed by Elsaco (Emmsys, Emmsys Mobile, Mbus Link, Mbus Datalogger, Mbus Cards, Radio Hand Held Terminals, etc.) were implemented or delivered through Elsaco Electronic.

The success of these external projects certifies the high quality and performance of AMR Elsaco solutions for the reading of meters.



#### QIT, Qatar

Automatic reading system for approx. 30.000 air conditioning and water meters installed in 400 villas and 100 tower buildings in "The Pearl Qatar" residential complex, using communication networks M-Bus and Ethernet IP, including Emmsys software for the management of the meter data.

#### Water Authority, Saudi Arabia

Automatic reading system of water meters in Medina City by means of 40 portable terminals, using radio communication and Emmsys Mobile software for data management.

#### South Africa, Mauritius, Poland, Dubai, Egypt

Remote reading systems of water meters with Elsaco hardware and software equipment.

Water Company Cahul, Republic of Moldavia SCADA system for water installations in Cahul region

**Community Services Florești**, **Republic of Moldavia** SCADA system for drinking water network in Florești region

## Elsaco and the community We bring value to the lives of those around us





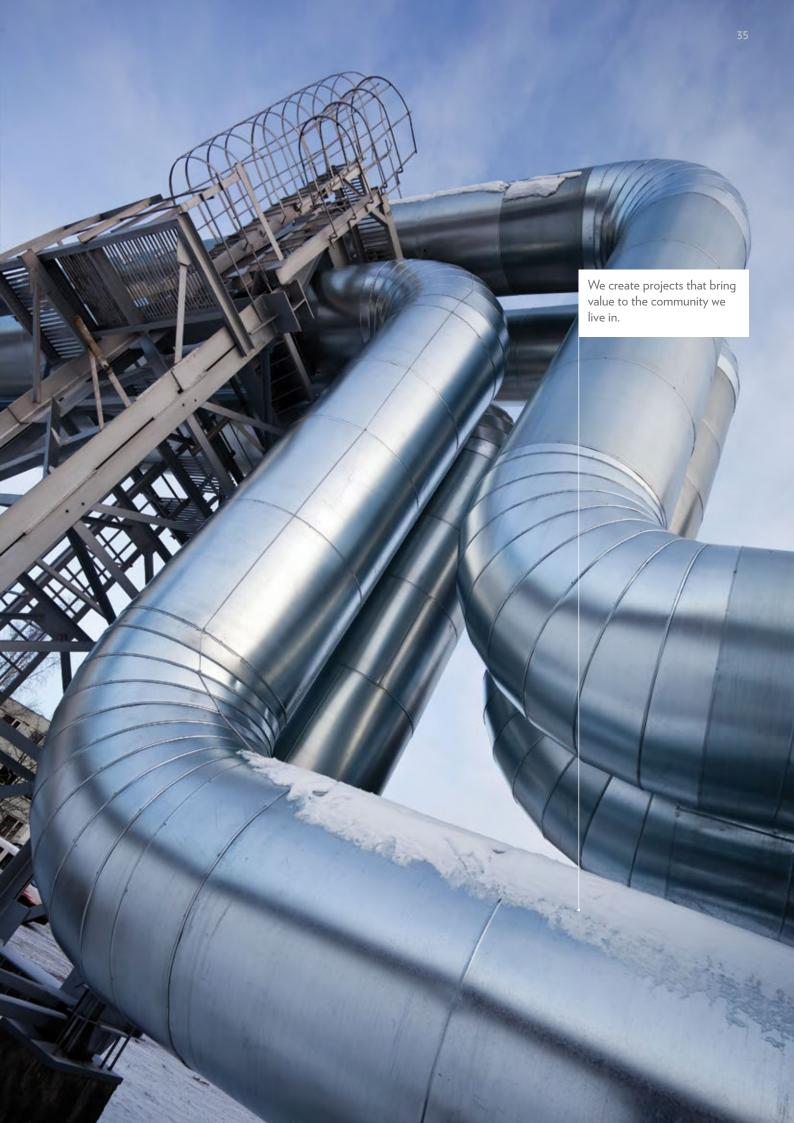
The community activities in which Elsaco is actively involved follow the development of the educational, cultural and sportive performance.

Elsaco supported various cultural, artistic, educational and sportive activities with the necessary funds for various investments, granted scholarships for students or material support for people in need.

Over the years, the total amount offered by Elsaco as sponsorships, scholarships or donations exceeded 1.000.000 €.

### We support the future of the local sport, we bring happiness to the community

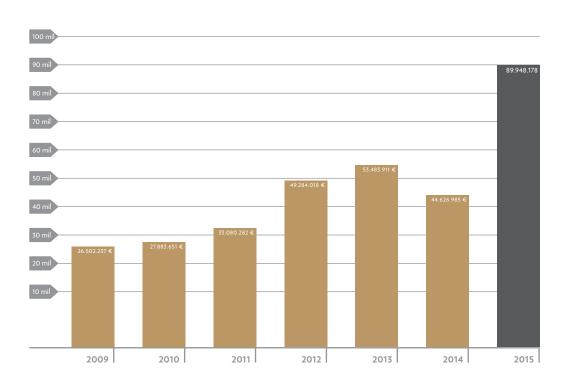
Since 2005, Elsaco is actively involved in supporting the local soccer team, being the most important sponsor of the club F.C. Botoşani. The club reached the level of being one of the best organized clubs and has also developed a Children and Juniors Centre, aiming to help and promote young talented players. From the 2013/2014 season, the team plays in the First League, achieving from its first participation a worthy 8 place in the rankings. During 2014-2015 season the team has maintained their ranking, obtaining also the Europa League qualification. The investment cumulated so far in the local soccer, made by Elsaco amounts to approx 4.000.000 €.



## Financial results

The financial performances offered us the opportunity to back up all the ambitious projects we planned.

#### The evolution and forecast turnover of the Group Elsaco



# Contact us High performance backed up by a powerful network.

#### Elsaco headquarters

#### Botoșani

Str. Pacea nr. 41A. RO-710013

- **T** +40 231 507 060
- F +40 231 532 905
- E elsaco@elsaco.com

#### Elsaco subsidiary

#### lași

Str. Splai Bahlui Mal Stâng nr. 33A RO-700031

**T** +40 232 217 376

#### Bucharest

Şos. Mihai Bravu nr. 500 (Intrarea Jariștea nr. 2) District 3, RO-030335

T +40 213 261 550

#### Constanța

Str. Mircea Cel Bătrân nr. 99C RO-900592

T +40 241 556 717

#### Târgu-Mureș

Str. Sinaia nr. 2. RO-540319

T +40 265 216 510

