









# **ENERGII REGENERABILE -**

INSTRUMENT PENTRU PREVENIREA ŞI COMBATEREA SCHIMBĂRILOR CLIMATICE, CREŞTERE ECONOMICĂ ŞI BUNĂSTARE SOCIALĂ



# **GENERAL OBJECTIVE**

"Safeguarding cross-border area's natural resources and protecting the environment in order to ensure sustainable development, through increased cooperation between all the key-actors in the region"

- The programme is intended to overcome the natural geographic and language barriers, in order "to transform the border from a line of separation into a place for communication and cooperation, promoting the area's potentials for integrating the development, and integration of the cross-border area between two EU new member states". One of the problems approached by the current programme is the environment protection, "the natural features of the area representing valuable assets that may only be safeguarded through joint interventions".
- REEconomy project is creating the framework for jointly live and cooperate, in a cleaner and for a cleaner environment, complying with the general and specific objectives of the programme, using efficient tools and methods:
  - o **Cross-border network and portal** for cooperation in the energy sector, dedicated to entrepreneurs from energy sector, investors and other institutions and organizations with competences in energy sector
  - o International conference "Innovation Innovators Intellectual property"
  - o A **study** on current stage and potential for development of renewable energy resources in the cross-border area and an **opportunity study** concerning the construction of a hydroelectric central station in Dolj-Montana-Vidin-Pleven cross-border area (translated in Romanian, Bulgarian and English)
  - o Awareness-raising campaigns targeting several categories of beneficiaries (public authorities, SMEs and inhabitants in Dolj -Montana-Vidin-Pleven cross-border area): film, workshops, seminars, round table, fair, press-conferences, printed materials (brochures, flyers, poster, web page, press releases and announcements etc.)

# **SPECIFIC OBJECTIVE:**

"Increasing awareness of entrepreneurs, public authorities and population in the cross-border area on the necessity to reduce pollution and prevent climate change for economic and social welfare and developing joint initiative for supporting the access of target groups to alternative solutions for saving energy"

The specific objectives which comply with the objective of the priority axis are going to be attained through joint actions, carried out on the both sides of the border:

- Awareness campaign targeting inhabitants from the cross-border area: elaborating and broad-casting the film "Using renewable energies in domestic activities a cleaner environment for present and future generations".
- Awareness campaign targeting public authorities: organizing workshops in 10 localities from Dolj, Montana, Vidin and Pleven on the theme "Investment projects in community benefit using renewable energies and financial sources for implementing these projects".
- Awareness campaign targeting SMEs on the themes: "Energy efficiency in construction field"; "Cogenerating innovative technologies"; "Wind energy energy efficiency, low costs, protected environment"; "Solar technology energy efficiency, low costs, protected environment"; "Geothermal energy and hydro energy benefits for business and environment"; "Methods for efficient use of energy based on fossil fuels and safe storage of process waste for a cleaner environment". The tools used for the dissemination of the information are seminars and brochures, with the participation of experts in environmental management.
- Joint actions for supporting the access to alternative solutions for saving energy:
  - o Fair and round table "Products and services in the field of renewable energies"
  - o **Portal** Supply and demand of products and services in the field of renewable energies and technology transfer
  - o Brokerage event "Innovation Innovators Intellectual property"

# **INAS SA**

Contact persons: Mr. Eugen Stefaneanu -General Manager	Street: Caracal nr.244			
Mr. Constantin Ciolofan -Deputy Manager				
Tel: 40.251.438789	PO Box:			
Fax: 40.251.438339	City: Craiova			
Email: eugens@inas.ro; ciolofanc@inas.ro.	Post-code: 200745, Dolj, Romania			
Web-site: www.inas.ro .				
Synthesis: INAS SA is a private Romanian company providing CAD/CAM/CAE engineering services.				

#### COMPANY PRESENTATION

# Sector of activity

INAS SA is a private Romanian company for mechanical (CAD/CAM/CAE) and electronics (ECAE) engineering services. It provides design and engineering solutions and services for a wide spectrum of industrial applications, from aerospace and automotive to heavy equipment, nuclear and defense.

Capabilities include virtual prototyping, design-through-manufacturing, engineering simulations, integrated information system for production management and control, industrial design, stress analysis and optimization, simulations; training and technical support. The ECAE department has a laboratory where can be performed a wide range of measurements including extreme temperatures tests (-40 $^{\circ}$ C +200 $^{\circ}$ C).

# Main industrial partners

Large companies:

VISTEON / FORD MOTOR COMPANY - USA, Germany and UK; ASSIP GROUPE France; CAMBRIC USA; VOLKSWAGEN Germany; Kvaerner - IMGB Clairis Technologies (supplier for AIRBUS France). Small and medium size companies:

CLAGI Romania, ELECTROMAGNETICA Romania, European Technologies & Services Romania, ELMET International (a subsidiary of ELBIT Systems Israel), PROMEC Automotive Italy, BMT Romania. Public sector organizations:

ROMANIAN MINISTRY OF DEFENSE; ROMANIAN AGENCY OF RESEARCH AND TECHNOLOGY Main last Research Projects

- ▶ Aeroelastic analysis of the IAR 99 virtual prototype
- ▶ IAR 99 virtual prototype 3D models of the carrying area, commands systems and landing gear
- ▶ IAR 99 virtual prototype dynamic analysis
- ▶ IAR 99 virtual prototype 3D models of the fuselage
- ▶ Structural Analysis of the wing of the IAR 99 virtual prototype
- CASH Collaborative working Within the Aeronautical Supply cHain Growth Project Nr GRD 2000 -25102
- Project TATEM Technologies and Techniques for New Maintenance

# Already Accomplished European RTD

- ▶ The CASH (GROWTH- 2000-25102) project aimed at collaborative team working for integrated logistics support and reliability centred maintenance.
- ▶ Project COPERNICUS No. CP94-0520: "Bus Expert System for Dynamic Simulation Design and Quality Control"
- ▶ Project TATEM Technologies and Techniques for New Maintenance

# Resources for own investment

INAS SA has a number of facilities including an Electronic Laboratory, computer systems and networking with all calculation tools necessary for such project.









Body in white

Static Analysis of the Body in White



# BATM Systems - The Network Professional's Choice

is driving the IP revolution with transport and access solutions for public and private networks. The solutions include a large installed base of 10/100, and Gigabit Ethernet products for Metro Ethernet, VoIP, FTTH/B, WiFi, and more.



class transport and access solutions for public and es, corporate and Telecom networks. private networks with over 30 years experience. The solutions include a large installed base of TDM, SONET, in the design and manufacture of innovative high-VolP, VDSL, 10/100, and Gigabit Ethernet products.

committed to leading the industry in the development of multi-service transport, access solutions, and intetransport, access, and packet products for carriers' COs, grated IP voice, video and data services. Co-Los, and POPs, as well, enterprise solutions for FTTH, SOHO, hospitality, education, and MTU/MDU. Integrating of all layer routing IP switches and muxes. Advanced circuit- and packetswitched technologies onto flexible optical solutions are integrated in many of those platforms ensures costeffective operation.

of BATM Advanced Communications.

and produces broadband data and telecommunica- ment program between all its subsidiary companies.

Telco Systems is a major provider of carrier-tions solutions geared toward the needs of enterpris-

Since its foundation in 1992, BATM has excelled performance communications equipment. Its leading Based in Foxboro, Massachusetts, Telco Systems is edge technologies include fiber optic networking,

BATM develops and produces an extensive line switches. Headquartered in Kfar Netter, Israel BATM has several subsidiaries in the United States, France, Telco Systems is a wholly owned subsidiary Germany, United Kingdom, Poland, Austria and the Far East. Employing over 400 employees worldwide, BATM BATM Advanced Communications Ltd. designs maintains a highly integrated research and develop-



# JOB OPENINGS:

- Software Engineers
- SQA Engineers

BATM Systems Romania str.Caracal, nr. 164,etaj 2, Craiova, Dolj, Romania postal code: 200 749 tel: +40 351 420 977; fax:+40 351 420 978 http://www.batmsystems.ro jobs@batmsystems.ro



# **AUTOMATECH SRL**

61, Al. Macedonski str; 200383, CRAIOVA, ROMANIA automatech@clicknet.ro, www.automatech.xnet.ro

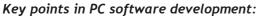
South West Romania, 200Km West from Bucharest, good road and railway connections, airport, 300 000 inhabitants

**AUTOMATECH**, founded in 1991, designs, produces, distributes and supports electronic systems and software committed to industrial automation Firm's orientation can be subdivided into two main areas:

- development of embedded systems and Human Machine Interface software (HMI) in industrial automation (SCADA systems, intelligent sensors and instrumentation, etc.)
- development and manufacturing of CNC controllers for machine tools, development of CNC software for custom machine tools

# Key points in hardware development:

- Using various families of 8 and 16 bit MCUs, with integrated peripherals, according customer needs, high performance, low cost, CPLD and FPGA circuits from Xilinx and Lattice for hardware integration
- ▶ Increased connectivity, using built in TCP/IP stacks or Serial to Ethernet bridging
- Multilayer PCBs design for digital and mixed mode circuits, rapid prototyping, SPICE simulation for analogue and digital circuits analysis



- Multi platform basic software development:
  - o LINUX SUSE, GCC, script languages
  - o WINDOWS, Visual C/C++, Visual Basic, Delphi
- Same GUI for both platforms (Linux, Windows) development:
  - o Tcl/Tk
  - o QT Toolkit from Trolltech
- Embedded Linux for diskless applications
- ▶ Alternative solution: LabWindows CVI for Windows or Linux

# CNC development and production

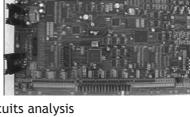
- ▶ Since 1999 we started developing CNC hardware and software for "Dipl. Eng. Engelhardt GmbH", a well-known CNC manufacturer from Germany.
- We are now producing (outsourcing) the equipments we developed for the above firm.
- For our small and medium scale production, we co-operate with well technologically equipped electronics manufacturers
- Most of our production is exported in Europe

# CNC applications capabilities:

- ▶ CNC software and special hardware for custom machine tool
- We offer turnkey solutions for refurbishing and/or updating custom or general-purpose/standard machine tools, by integrating also:
- equipments as motors and amplifiers (DC, AC, stepping) from Engelhardt GmbH
- measurement systems (encoders, readouts) from RSF Elektronik(Austria).

# Some of our industrial automation customers in Romania and abroad: Common points:

- mostly built with our own developed hardware and MCU/PC software
- harsh environment
  - OLTCHIM SA Chemical Plant
    - distributed controllers for NaCl electrolysis cell
  - OLTQUINO SA Chemical Plant
    - SCADA system for utilities
  - ROMAG RA







# Bel Tel Telefonen Zavod EAD

Address:Bul. Saedinenie №17, Belogradchik 3900; Bulgaria Tel.: +359 (0) 936 3460 Fax: +359 (0) 936 5402 e-mail: beltel@beltel-bg.com,

web: www.beltel-bg.com

- In 1960, Telefonen Zavod (Belogradchik) was established as a branch of the Voroshilov Plant (Sofia).
- In 2006, the company adopted the name Bel Tel Telefonen zavod EAD (Bel Tel Telephone Factory, Single Person Joint Stock Company).
- In 2006, the first fixed GSM was manufactured.
- Also in 2006, the ownership of the company was changed. The ownership was shifted from Incoms-Telecom Holding to the single owner, B. Dimitrov.





#### **Markets**

Bel Tel Telefonen Zavod EAD (Bel Tel Telephone Factory, Single Person Joint Stock Company) works with a large number of companies from all over the world, which is due to a mixture of good traditions, innovative approach, high quality and reliability.

Bel Tel's clients are located in Great Britain, Germany, Hungary, Slovakia, Slovenia, Serbia, Ukraine and the countries of the CIS.

In 2006, Bel Tel commenced the development of its market in the Near East, India and Africa.

# **Technologies**

The following manufacturing actions are still carried out in the factory:

- Manufacturing of fixed GSM phones
- Manufacturing of one-sided folio printed circuit boards
- Assembly of microphone capsules, rotary dials, push-button modules on the basis of electrically conductive rubber, ringers and electronic calling devices; saturation of printed circuit boards and final assembly
- Manufacturing of components for telephone sets, telephones, as well as spiral and line cords
- Processing of plastics
- Winding of coils
- Manufacturing and repair of tools for all necessary metal and plastic parts
- Processing of steel bar material and brass parts with a lathe and cutter
- Preparatory pressing and metal pressing process
- There is a wide variety of machines, equipment and technologies in Bel Tel Telefonen Zavod EAD.

# **Assembly Hall**



What is carried out here is the assembly of components for appliances and electronic products. The following machines and devices (54 in total) are used in the hall:

- ▶ Lango conveyor belt system; Assembly line for spiral cord;
- ▶ Ultrasonic device to attach PVC elements; Krone assembly line for the production of dynamic telephone capsules;
- Assembly line for spiral cord; Ultrasonic device to attach PVC elements

# Manufacturing of Instruments

This department maintains the design of tools, as well as the manufacturing and repair of tool equipment. The following machines are available here: CNC machines; Lathes; Milling machines; Grinding

machines; Wire EDM (Electrical Discharge Machine); Volume EDM; Coordinate drill; DECKEL milling machine

# Manufacturing of Plastic Part

The parts produced here are made of polystyrole, polycarbonate, polyamide, polyformaldehyde, polythene, polyvinylchloride etc.; through molding under pressure (injection). The following types of machines (35 in total) are used in this department: USA automatic lines; Injection molding machine; Plastic recycling mills

#### **Metal Pressing**

Metal parts are produced here through lathing, punching and pressing. The following types of machines (34 in total) are available here: Hydraulic presses; Pneumatic presses; Automatic punching presses; Turret lathes; Power hacksaw; Edge bending machine

Office area - 1,000 m<sup>2</sup>; Workshop area - 48,000 m<sup>2</sup>; Depot area - 40,000 m<sup>2</sup>

### **Products**

FIXED GSM-s

FIXED GSM-88 This product was created by Bel Tel Telefonen zavod EAD (Belogradchik)'s in 2006.

**TELEPHONE** 

**INTERCOM CALL SYSTEMS ED-700** 

**POWER SUPPLY UNITS** 

Double sockets and four-socket adapters are made to order by Office Electrics Ltd (UK).

PIONEER 84

Power unit with 4 sockets and 4 switches

SPARE PARTS







Office and shop: Vidin

contact: dipl.eng. Stefan Toshev address: "Rajna Knjaginja" str. 7

phone: (094) 60 07 62 e-mail: toshev@mtel.net 125, Tzarigradsko Shossee Blvd., Block 26 B,

1113 Sofia, Bulgaria Phone: (+359 2) 81 736 50 Fax: (+359 2) 971 20 21 e-mail: office@risk.bg

web: www.risk.bg

# THE BEGINNING

RISK Electronics Ltd. was established in 1990 by fellows of the Institute of Applied Cybernetics, part of the BAS, working in the field of razvoini and industrial systems and computers.

Both present owners of the company - dipl. Eng. Jordan Kissjov and dipl. Eng. Todor Stanchev have rich experience in developing and integrating PCs, communication networks and developing means into manufacturing.

Since its establishment till now, Risk Electronics has affirmed as one of the leading companies for high quality products and service on the IT market

# **OUR ACTIVITIES**

Risk Electronics is a manufacturer and system integrator working only with end-users mostly in the corporate sector. The firm activities are the following:

Manufacturing of computer systems, industrial computers and servers in 19" format and notebooks according customers specification with registered trade mark Risk Profiline.

# The company's politics is:

- ▶ To use only high quality products in the production of its own systems
- Its three year guaranty should be on the level of the best worldwide manufacturers

- ▶ Delivery and installation of products of world leaders like HP and Fujitsu Siemens based on direct contracts for trade and service partnership.
- System integration installation of local networks/internetwork communication under the management of NOS Microsoft windows and Novell NetWare, LAN/WAN connections covering all stages of performance from projecting to installation and support.
- Projection and installation of certified structure cable systems with longstanding guaranty.
- Supply of wide range peripheral devices: matrix and laser printers, optical devices and subsystems, data storage devices, scanners, uninterruptible power supply, monitors, consumables, etc.
- Supply, installation and system support of wide range software products OEM versions of OS, anti-virus software, converting in Cyrillic software and many others.
- ▶ Development and manufacture of weight measuring systems (Since 2003 Risk Electronics has begun to produce and supply electronic scales and systems connected to them.
- ▶ Technical and system integration for all products offered by Risk Electronics.
- After warranty technical and system service according bilateral contracts with customers



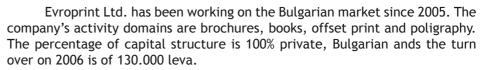
# OUR OFFICES IN THE COUNTRY.

Through its offices in the country (Bourgas, Varna, Stara Zagora, Montana, Vidin, Ruse, Plovdiv and about 10 dealers in the country) our company spreads its business activity throughout Bulgaria and is in a position of realizing big national orders.

# EVROPRINT LTD, Vidin

# Production of cardboard/corrugated cardboard packaging and paper packaging



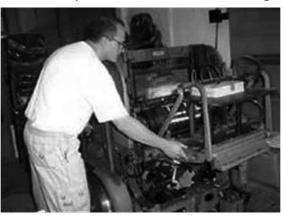




We provide service for broad spectrum of print materials: booklets, catalogues, brochures, advertising leaflets, calendars, folders and business cards.



The legal representative of the company is Krasimir Petrov Nachev and the contact person is Antoaneta Asenova Angelova.



On the future we are interested in contacts establishment with analogue companies from Romania aimed at enhancing our spectrum of activities in the field of polygraphy and offset print.

For more informations you can contact us at the phone number 0035994600018 or you can write us on the email at Nw\_print@yahoo.com.



**LEVENTA Computer Systems** 

54 Bdin Str., Vidin 3700, Bulgaria Tel.: +359888006377, +359887884410, +359884672383

office@leventa.eu; www.leventa.eu

**LEVENTA Computer Systems** is a private company, established in 2002.

Our mission is to meet and exceed our clients' expectations by significantly improving their work through the implementation of leading information technology solutions.

## **Business:**

- ▶ Delivery, installation and support of personal computer systems, modems, multimedia, peripherals, UPSs.
- ▶ Delivery and installation of high-quality, brand name IT equipment and accessories with best price/performance.
- ▶ Consultations in the field of the computer equipment.
- ▶ Sales of notebooks and pocket PCs; Computers, printer and copier consumables.
- Design and installation of local networks.
- ▶ Total solutions for shops, restaurants and stores.
- ▶ Full range of data media.
- ▶ Sales and installation and support for software, computer games, POS systems
- Warranty and post-warranty service and support.

# Company relations:

# Hardware and accessories:

AMD, Intel - cpu

MSI, Asus, Epox - all brand of hardware and accessories (Authorized dealer)

Easy Touch - keyboards, mousses, web cameras

Point of view, Deluxe - computer cases, power supply units, external HDD cases

Samsung - memory, HDD, ODD

Seagate, Hitachi - HDD

Logitech - keyboards, mouse, accessories

Xerox, Lexmark, HP - printers

Fujitsu-Simens, HP, COMPAQ, - notebooks, workstations, servers

Acer - notebooks, workstations, monitors (Acer sales expert)

Edimax - network equipment

XFX, ZOTAC, Sapphire - nVidia, ATI Video cards

Corsair, Kingston, OCZ, TwinMos, TakeMS, PQI - memory, flash memory

Aqua computer - water cooling

Cronos - I/O card, headphones, microphones

Cooler Master, Scythe, Zalman - coolers, water cooling

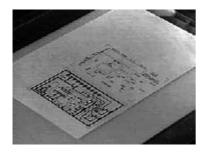
# Software:

- ► Microsoft® Windows® family all products integration and support
- ► Fact® accounting software



Str. Kamchia №3, Novo Selo, 3784, Bulgaria office@novoselo.info, web: www.novoselo.info

The company was established in 1997 for PCB design and manufacturing. Our factory is situated in Novo seloq Northwest Bulgaria. Our company specializes in the manufacture of a full range of PCBs (Printed Circuit Board)







# 1. CAD/CAM

Graphical sections with 2 photo plotters each for the following file formats:

- ▶ Eagle
- Gerber
- Excellon-Drill
- ▶ Sieb & Meyer-Drill

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# 2. Drilling and milling

Two Excellon machines for drilling and milling propose combination of speed, accuracy and high productivity.

# 3. Lamination and exposition

PCB lamination and exposition is performed in clean and air conditioned rooms for keeping of quality instructions.

# 4. Plating

Completely automated Schering system for galvanic plating guarantees the best level of quality and capacity.

# 5. Coating

Treatment and plating of all PCBs are performed in the contemporary equipped and air-conditioning sections with high clearance.

# **Products**

- Manufacturing of single and double and multilayer sided plated through-hole
- Flexible keyboard with carbon plating

# Major Equipment

- SCHERING electroplating line using ATO-TECH chemistry
- ▶ MODULINE 500 etching machine
- GBR-Sheet Photoresist Laminator
- ▶ MODULINE Horizontal chemical Preclean line
- VESERO cleaning line
- ▶ Exellon Drilling and Routing machines

# **Capabilities**

- ALIACHEM FR-4 and FR-2 and CEM-1 glass base material, other laminates upon request
- ▶ Base material thickness: 0.5 to 2.0 mm
- ▶ Minimum Panel Size: 10 cm x 10 cm
- Maximum Panel Size: 36 cm x 50 cm
- Smallest Hole Diameter = 0.2mm
- Smallest lines and spaces: 150 microns x 150 microns (6mil x 6mil)
- Solder Mask: Lea Ronal /UK/ and Peters / Germany/
- Surface finishes include:
  - Hemical Gold
  - Electroplate tin/ Free of Pb

# **KVEL**

KVEL was established in 1991 as a private Bulgarian company by eng. Krassimir Varbanov. In the last 10 years it has become one of the leading companies in its field, with specific engineering and innovations lines in the area of access control systems design and development in all areas: signal-security systems, systems for real-time video surveillance and recording, specialized systems for industrial video surveillance, access control of specialized zones, working place and working time, electro-mechanical barriers, anti-parking devices, antiterrorist systems, security foil

On April 25th 2011 KVELL will celebrate its 20th birthday. Its continuous practice gave the company the opportunity to gain experience and later it is used by its clients as a consultant in these areas for the exploitation process in real time, according to the legislation in the relevant countries where the systems were implemented.

KVEL's headquarters are housed in its own office and Maintenance and Service Department on 22 A, San Stefano St., Pleven.

The company has registered branch in Tvarditsa, Sliven District, whose investments are in the area of tourism and recreation. It has built and equipped Hi-Tech guesthouse KVEL.

KVEL has registered its own Trade mark and holds Certificate ISO9001-2000 with No. 216565

In accordance with the possibilities and the EU directives for mastering the energy potential of renewable energy sources (RES), KVEL Ltd. included in its activity development and management of projects related to the RES production as well as consultations for applying in programs regarding EU grant programs.

The application of KVEL Ltd. branch Tvarditsa was approved for financial grant for projects and programs of the European Union.

The project, which is already implemented in the territory of Tvarditza obl. Sliven - a guest house - KVEL equipped with swimming pool, ecosystems, photovoltaic plant, solar panels, biomass and others.

The house is a peculiar model for a successful combination of green and high tech innovation and there is already overwhelming interest in it, both domestic and abroad.

# http://www.kvel-bg.com



# **ROMSIR**

# **ACTIVITY HISTORY**

ROMSIR dates from 1994 and its main activity is the import of electrical and electronics componets ROMSIR distributes electronics componets to important Romanian companies such as:

- ▶ ELECTROPRECIZIA SĂCELE SA
- ▶ PETROM SA MEMBRU OMV GRUP
- ▶ CFR IRLU SA
- ▶ PETROMSERVICE SA
- ▶ RELEE MEDIAŞ SA

- ▶ ELECTROARGEŞ SA
- ▶ IPEE CURTEA DE ARGEŞ SA
- ▶ ICPE SAERP SA
- ▶ INDA ELTRAC CRAIOVA SA
- ▶ RELOC CRAIOVA SA

Once reduced and completely stopped the BĂNEASA SA activity our company has assimilated all the major electronic components produced by Baneasa SA managing to cover the necessary parts for products that use these components.

2 years ago and the first half were imported equipment using renewable energy sources consisting of wind turbines, photovoltaic panels, solar panels to produce hot water and heat pumps. This activity grew strongly in 2008 and became the main business of the company.

For this reason, ROMSIR participated in 2007 and 2008 in many national exhibitions, exclusively for the promotion of products that use clean energy sources.

At this point ROMSIR has distributors through out the country. They received training and practical demonstrations at the installation and maintenance of our society products. Thus they are able to install and make operational all imported ROMSIR systems currently providing over 70% of the power electronic components for the entire market in Romania.

Over the years ROMSIR become a viable replacement of IPRS Baneasa SA.

#### **ROMSIR** obtained:

- the quality management system certification ISO 9001
- environmental management system ISO 14001
- management system of occupational health and safety
- OH SAS 18001:2008 management system of social accountability SA8000: 2008.

In July 2010 the government launched the Green House for the population attended by both teams and by mounting its own distribution network with over 600 solar installations.

Our company offers simple and effective solutions to all those concerned about increasing energy prices, home maintenance costs and the negative impact of climate change on the environment.

Our offer includes a wide range of solar panels and accessories used for domestic water heating, swimming pools or can be connected to central heating system. Our solar panels can be successfully integrated applications both residential and commercial.

Also our company also sells and heat pumps, street lighting poles with solar panels, LED lighting and wind turbines.

Information about each of our products, technical characteristics and operation are available here.

If you need additional information about solar panels or recommendations for choosing the right solution to your needs, read our set of useful information or contact our team.



"Polytechnics" Ltd, established 1991 in Pleven, Bulgaria, is specialized in technical engineering of thermo energetic devices and heat technology. Recently the company has two offices in Pleven and Russe, shop for heat technical equipment, production and storage department in Dolni Dabnik.

We are part of the world society for green energy.

# **Contacts**

## Head office:

Address: BG-5800 Pleven, P.O.Box 468

Tel/Fax: +359 64 800347 Mobile: +359 888 511385 +359 6514 2232 Facility:

# Project bureau:

Mobile:

Address: BG-7015 Rousse, P.O.Box 9 Tel/Fax: +359 82 826858 +359 888 597416

For more information email us at polytechnics@abv.bg

# **Energy effective services**

The company is certificated according to the Bulgarian legislation for auditing companies and buildings for effective energy usage, preparing reports and recommending measures for reducing energy consumption. This certificates are valid for all the countries of Europe.

The company also offers solutions for utilizing waste heat for production of electricity (flue heat, waste hot water, geothermal waters, sun heated water).



# Erection, reconstruction and maintenance of thermo energetic installations

The company has the certificate, according to Bulgarian legislation, for executing maintenance and repair of: distribution piping, gas piping and installations, steam and water heating boilers, steam and hot water piping.

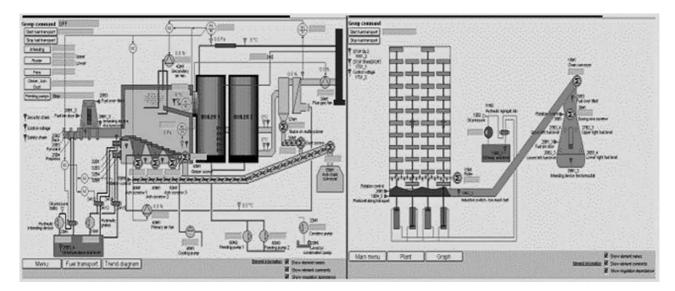
# Utilizing renewable energy sources

The company offers solutions for utilizing renewable energy sources (wood and wooden waste, straw, husk) for production of thermal and electrical energy, produces, delivers and commissioning the installations.



# Offers solutions for electric power production from waste heat

# PLC control of combustion installation on biomass



# Sanitation of building fund

The company evaluates the energy effectiveness of buildings offers solutions for reduction of energy consumption, prepares "energy passport" of the building and certificate it, if energy parameters are within norms.

# **Partners**

Our partners are:

- ▶ WTI
- ▶ ElectraTherm
- Stratek
- Järnforsen
- AgriPower

http://polytechnics.biz/

# <u>AUTOMATIC</u> Systems

**SC AUTOMATIC SYSTEMS CRAIOVA** is created to offer to its partner the adequate technical and logistics support and to guarantee flexibility and availability for satisfying the demands in the main domains of activity:

- Services of technical consultancy;
- Industrial automations;
- Industrial application software;
- ▶ Research development of technical and natural sciences;
- Engineering activities;



The personnel within the SC AUTOMATIC SYSTEMS CRAIOVA is characterized by professionalism, dynamism, perseverance, great experience in its domains of activity, consisting of the best specialists with experience of more than 20 years in elaborating projects for the national energy system, having the recognition and the appreciation of its partners. The personnel number amounts to 12 engineers specialized in automation and computers and 5 persons with intermediate training.

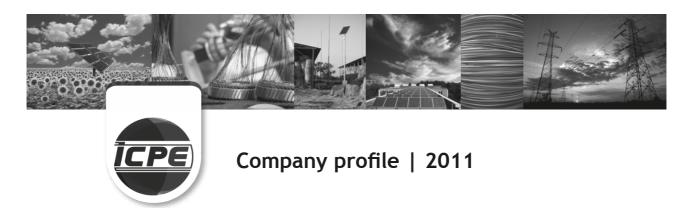
**SC AUTOMATIC SYSTEMS CRAIOVA** is present on the suppliers list approved by SC TRANSE-LECTRICA SA

**SC AUTOMATIC SYSTEMS CRAIOVA** is authorized by ANRE

SC AUTOMATIC SYSTEMS CRAIOVA has implemented the ISO 9001:2001 Quality Management System and the ISO 14000:2004 Environment Management System

# SC AUTOMATIC SYSTEMS CRAIOVA provides the following services

- Assignation of solutions for modernization and implementation of the control systems
- ▶ Design and implementation of computed systems for supervising the process performed within plants and stations
- Creation of tele-controlled systems for energy equipments using real-time automation systems
- ▶ Elaboration of optimal solutions for modernization, re-technologisation and maintenance
- Optimization of technological equipments adjusting systems
- Programs for analysis and diagnosis in exploitation, creation of automation and monitoring equipments



Born in 1950, from a real necessity of that time - country electrification - **Icpe** has become during its 60 years of continous action, a world-wide actor and a global economy brand.

Today, **Icpe** represents a complex structure, covering a wide range of innovative concepts, in the field of electric engineering. The main activities are focused on research, development, engineering, OEM fabrication of innovative products and services.

**Icpe** has as main goal the obtaining of innovative technologies and products, efficient and competitive, without harmful impact on the environment.

# The main thematic domains

- Renewable energy
- Energy saving
- ▶ Electric apparatus with vacuum commutation
- Special electrical cables with Teflon insulation
- Special electrical machines
- Servo-control
- Electric vehicles
- Industrial automation components
- Electrotechnologies
- Product testing
- Material characterization

# **Products**

- ▶ Renewable energy productive systems (photovoltaic, solar-thermal, wind, biomass, cogeneration, hybrid)
- ▶ LED City light systems (on grid and PV stand alone )
- Electrical apparatus:
  - Vacuum contactor
  - Breakers
  - Switchers
  - Medium voltage fuse-links
  - High speed fuse-links
- Special electrical machines
  - -Brushless Servomotors
  - Actuators
  - -Torque motor
  - -Electric machines transducers (resolver, RVDT, microsym, tachogenerator)
  - -Electric generator
  - -Customized products (frameless, coreless, liniar)

- Servo-systems
  - Servodrives
  - -Electric vehicles propulsion systems
- Special electrical cables
  - Bipolar cables
  - PE, Teflon coaxial cables
  - Underfloor heating cables
  - Halogen-free cables
  - Loss detection cables
  - Multiconductors

#### Services

- Customized product research and development
- ▶ Consulting for feasibility studies, achievement of financing and project management documentation
- ▶ ESCo Integrated Energy Services
- Metrology and testing of electrical products in accredited laboratories by RENAR
- "In-site" noise measurements, EMC and termography performed by the Mobile Laboratory
- ▶ International cooperation
- Publishing house
- Organization of scientific events and exhibitions

Icpe has officially released "ICPE Solar Park - The European Hi-Tech Energy Park" project at the International Exhibition in Hannover. The ambitious project implies the initiation of partnerships and the reunion in an integrated system of the energy production and energy saving projects - electrical or thermal - based on renewable energy sources.

In the  $40.000~\text{m}^2$  of the Black Sea Shore, at "Agigea", Icpe dedicates it's space for PV systems, wind turbines, heat pumps, micro-hydro, biomass systems, eco-houses or any hi-tech solutions based on renewable sources, meant to save energy and promote the sustainable development.

Icpe has directed a part of it's resources in order to offer Esco services and has become a system integrator in the search of partners with international references as equipment providers.

Through this project, Icpe will connect the technology with the users, presenting "the green energy" in an innovative manner compared to a classical technical brochure. It highlights both the technical characteristics and the technologies in use.

Among the advantages of the partners, there are: Icpe infrastructure, showroom, desk and stand for presentation, qualified personnel, unlimited access to the network of partners ICPE, tests and analisys, certifications and promoting the results, conferences.

A big part of ICPE's products are patented, being presented to various international exhibitions Bruxelles, Geneve, and Moscow). In 2009 and 2010 these patents obtained 12 medals including 8 gold medals and 4 silver medals. Based on an elite team, ICPE was and is deeply involved in national and international programs to promote technologies for sustainable development.

# **ICMET**

With about 300 employees, ICMET Craiova is Research-Development and Testing National Institute for Electrical Engineering, 100 % state-owned.

It started its activity in 1974 as the central R & D department of Electroputere Company, which is the largest Romanian manufacturer in this field.

In 1990, **ICMET** became independent. **ICMET** has experience in:

- High Voltage, High Power and Low Voltage research, development and testing technology
- Monitoring and Diagnosis of the electrical power equipment
- Measuring of electrical and non-electrical quantities
- Power electronics
- Electromagnetic Compatibility
- Industry applications



# ICMET Craiova is the national leader in the field of:

- Research, Development and testing for high voltage and high power equipment
- Research, Development for monitoring and diagnosis of the electrical power equipment
- Unconventional technologies using the effect of the vibratory stress relief
- Unconventional technologies using the effect of the compressed air at supersonic velocity
- ▶ It is the only manufacturer of force and mass measuring transducers and equipment for heavy industrial duty based on magnetoelastic strain gauging, the result of its own research within interdisciplinary group CERTENSMAG

# **ICMET Craiova:**

- ► Has national metrological standards for the range of high forces (1 32 MN) and high voltages (alternating and continuous voltages, lightning and switching impulses)
- Has laboratories nationally accredited by :
  - o **RENAR** for High Voltage Testing, High Power Testing, Electromagnetic Compatibility and Low Voltage Testing
  - o **DKD** (German Calibration Service) for High Force Calibration, High Voltage Calibration and Electromagnetic Fields Calibration
  - o DATech for Dielectric Tests of High Voltage Electrical Appliances and Components, High Power Tests for High Voltage Equipment and Components and Low Voltage Equipment and Electromagnetic Compatibility
- **VDE** Testing and Certification Institute certifies the qualification of Electromagnetic Compatibility Laboratory for "Test Data Acceptance Program" in the field of EMC
- ▶ Participates in the activity of international scientific co-operation by bilateral relations (Greece, Germany, Israel, Switzerland) and relations at European level (COPERNICUS, COST, PHARE, EUREKA).











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