

4th Newsletter



CROSS-INNO-CUT

Cross border implementation of innovative cost cutting technologies

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In this newsletter the 5th Thematic area the “Cost reduction opportunities from geothermal energy” is presented



Project's Mission

to boost the competitiveness of industrial SME'ss in the cross border Greece – Bulgaria area by helping them to reduce their operating costs, through the implementation of innovative cost-cutting technologies.

Project Partners

Federation of Industries of Northern Greece

Aristotle University of Thessaloniki

URENIO Research Unit

South-West University “Neofit Rilski”

Industries Association of Eastern Macedonia

Federation of Industries of Rhodopi

Industrial Association of Petritch

Union of Industry and Manufacture of Xanthi

Industrial Association Karjali

Federation of Industries of Evros

Editorial

Nowadays there is one **common problem** faced by enterprises **during the economic crisis: low international competitiveness.**

Enterprises located in the cross-border regions in Greece and Bulgaria do not have many possibilities to boost their competitiveness, apart from one: **reducing their operating costs.** This was the simple reason behind the creation of our team for collaborating together **on implementing the Cross – Inno – Cut project.**

Our team place a great deal of emphasis on the building up of a close and trustworthy relationship between the two major universities located in the cross-border area, and the manufacturing **enterprises which are based in Southern Bulgaria and Northern Greece.** We have chosen the application of innovative techniques and tools as the means of reducing companies' operating costs within the context of a simple but accessible application, both for ourselves and for the enterprises we wish to approach in order to apply our ideas and to **benefit from our pilot project.**

Our idea comes at a time when both Bulgaria and Greece are listed at the bottom of the world ranking in terms of international competitiveness. According to information provided by the Institute for Management Development, the world-renowned business school IMD based in Lausanne, Switzerland, in 2012 Bulgaria is in fifty-fourth place, while Greece is in fifty-eighth place out of fifty-nine countries worldwide, only out-ranking the Venezuela.

It is well known to all of us that this world ranking for international competitiveness is used by potential investors when assessing the business environment of a country as a possible candidate for investment. It is more than obvious that the ranking of our two countries works has a negative effect on their attractiveness for foreign investors. In fact we would say that probably the opposite is true. As is to be expected, **the current business climate impacts on the competitiveness of companies.**

We strongly believe that through Cross-Inno-Cut project we will be able to boost the competitiveness of one hundred enterprises in the cross-border region and, at the same time, to encourage more companies to contact our team in order to successfully apply the cost reduction techniques which we will develop.

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Information Events

- On Wednesday, April 11 Cross-Inno-Cut program was presented in a special event was held in the hall of “Macedonia and Thrace Union of Daily Newspapers” as the representative project from the first call of European Territorial Cooperation Programme “Greece - Bulgaria 2007-2013”.

At the same event were presented other four successful projects from the rest EU funding cross-border programmes, namely Greece - Italy, Greece - Cyprus, Greece - FYROM and Greece - Albania.



The presentation raised high interest among the participants, because the project is trying to solve a crucial problem for the medium sized industrial companies at the cross border area and the way of solving is very innovative, modern and simple.

The presentation was delivered by the Project Manager of Cross-Inno-Cut Mr. Christos Georgiou ,Ph.D, FING’s Director of Documentation and Research Department, who answered questions about the project’s progress and its implementation by the audience and especially from the Head of Managing Authority Mr. Georgios Emmanouil.

- With the participation of more than 60 business executives from respective local companies based in the Region of Central Macedonia one more event was held on Wednesday, February 29, 2012. The event received extensive television promotion, not only from the local TV stations but from others with nationwide coverage. It was screened in the news broadcast of the ANT1 television station and interview held by Mr. Christos Georgiou and Mr. Vagelis Kopsaheilis, about the enterprises’ benefits from their participation in the project. In this event was participated and make a speech the responsible officer of Joint Technical Secretariat, ETCP “GREECE – BULGARIA 2007 – 2013” Mr. George Taskoudis.



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Activities of the project: recruitment of the auditors for the 1st phase



Federation of Industries of Northern Greece and South-West University (Neofit Rilski) have already finalized the recruitment procedure of auditors. During the first half of June the above responsible partners will organize the appropriate educational seminars for the auditors. These auditors will offer free of charge innovative cost cutting consulting services to reduce operating costs in industrial SME's by:

- using sensors in their production and processes
- improving the supply chain management
- improving processes and increasing productivity of human resources
- using green building standards
- using alternative energy
- taking advantage of social networks to minimize the marketing costs

All the selected auditors who will perform the audits in cross border area SMEs are very experienced consultants that could offer added value services through the implementation of Croos-Inno-Cut project procedure.

The project follows the next methodology in applying innovative cost reduction technologies:

1) Answer the Diagnostic	2) Perform the audit	3) Understand the action plan	4) Apply the solutions
With the support of an expert	The expert works on the digital toolbox and produces the audit	Based upon the diagnostic and the audit the expert proposes and presents an action plan to the SME	The SME with the expert decide which solutions are going to be applied
More than 300 critical points examined to identify as accurate as possible your current situation	More than 600 indices are calculated automatically so that the expert elaborates on them	More than 20 different solutions are examined and evaluated in the proposed action plan	You have the solutions justified. Cut your costs now!

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Cost reduction opportunities from solar energy

The Cross border region (Greece – Bulgaria) has significant advantages for the development and application of (PhotoVoltaic) P/V systems. The reasons why P/V technology, research and applications should be promoted are summarized as follows:

- Use of a domestic and renewable energy resource which exists in abundance, contributing to the security of energy supply
- Supporting the tourism industry in the development of environment friendly tourism and ecotourism, especially in the islands. The dependence of electricity generating plants in the islands on oil and the cost of fuel transportation have a direct negative impact on the quality of life of the inhabitants, on tourism development and on the cost of energy production which is ultimately borne by the Public Power Corporation.
- Backing up the electrical grid at peak midday hours when P/V units produce the greatest amount of electricity especially during the summer when there is very high demand due to air-conditioning.
- Reducing losses from the grid, by producing energy where it is consumed, reducing the load on transmission lines and the postponement of investments to the grid.
- Limiting the development of new central power stations using conventional technology and contributing to the reduction of power cuts due to overloading of the PPC grid.
- Gradually reducing dependence on oil and all types of imported fuels energy and ensuring energy supply through decentralized production.
- Community development for the producer/consumer and Contribution to sustainable development, quality of life and environmental protection in both cities and rural areas.
- Development of business, making an important contribution to local development and social goals.
- Development of a local P/V industry with excellent prospects for adequately supplying the local market and exports. Creation of new jobs and development of know-how.

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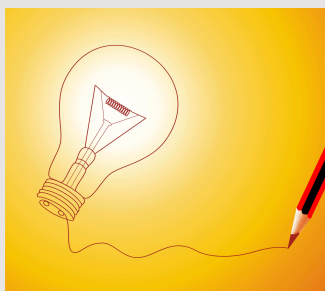
- Promotion of the goals of the E.U. and the Kyoto Agreement concerning the increased use of RES in electricity production by 20% by the year 2010 and the reduction of emissions.

The International Market for P/V Systems

The largest P/V markets in Europe are mainly in Germany, the Netherlands, Spain and Italy. In Germany especially, the original National Programme “1000 P/V Roofs” (1990) and later succeeded by the programme “100,000 P/V Roofs” (1999) combined with subsidies for solar KWh produced, created significant development both in applications and industry. The total size of the European market at the end of 2003 was around 561 MWp, 71% of which, 398 MWp, was installed in Germany. An analysis of the above European market statistics, shows that 15,000 jobs were directly created (many of which are in high technology), and the yearly turnover was € 1billion. Over the two year period 2002-2003, the market grew by 33% and new investments were made in research and innovative high technology products.

Today, the largest P/V market in the world is Japan. In 2003, Japanese manufacturers of P/V generators produced around 400 MWp, of which 250 MWp were installed in Japan and the rest were exported, mainly to Europe and the U.S.A.

As the cost of P/V systems continues to fall, more and more P/V applications become economically competitive compared to energy production by conventional means. At the same time, increased sensitivity of public opinion, due to the harmful environmental impact of conventional means of production and use of energy, combined with the advantages of P/V systems have resulted in P/V becoming one of the most promising energy technologies.



International experience has shown that the biggest market for P/V systems in developed countries is in cities, installed in buildings, groups of housing units, industrial building, public buildings, outdoor areas, etc.

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P/V Systems Applications

The main P/V system applications in Greece are Public Power Corporation (PPC) installations on the islands (Kythnos, Arki, Antikythira, Gavdos, Siphnos, etc.), electricity supply for the network of lighthouses which are maintained by the Greek Navy, transponders for mobile and landline telephony and various installations which are pilot applications subsidized by E.U. programmes, as well as by the Greek Ministry of Development.

The potential market for and production of P/V systems is determined by the market for solar collectors for heating water. The development of the market depends to a great extent on the promotion of measures and incentives by the Greek government.

Solar Thermal Energy Application

In solar thermal route, solar energy can be converted into thermal energy with the help of solar collectors and receivers known as solar thermal devices. The Solar-Thermal devices can be classified into three categories:

- Low-Grade Heating Devices - up to the temperature of 100°C. (technology used in solar water heaters, air-heaters, solar cookers and solar dryers for domestic and industrial applications)
- Medium-Grade Heating Devices -up to the temperature of 100°-300°C (technology used in industrial applications)
- High-Grade Heating Devices -above temperature of 300°C (technology used in industrial applications and for co-generation of electricity)

Solar water heaters

Solar water heating systems can be either active or passive systems. The active system, which are most common, rely on pumps to move the liquid between the collector and the storage tank. The passive systems rely on gravity and the tendency for water to naturally circulate as it is heated. A few industrial application of solar water heaters are listed below:

- Hotels: Bathing, kitchen, washing, laundry applications
- Dairies: Ghee (clarified butter) production, cleaning and sterilizing, pasteurization
- Textiles: Bleaching, boiling, printing, dyeing, curing, ageing and finishing

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- Breweries & Distilleries: Bottle washing, wort preparation, boiler feed heating
- Chemical /Bulk drugs units: Fermentation of mixes, boiler feed applications
- Electroplating/galvanizing units: Heating of plating baths, cleaning, degreasing applications
- Pulp and paper industries: Boiler feed applications, soaking of pulp.

Most solar water heating systems have two main parts: a solar collector and a storage tank. The most common collector is called a flat-plate collector. It consists of a thin, flat, rectangular box with a transparent cover that faces the sun, mounted on the roof of building or home. Small tubes run through the box and carry the fluid - either water or other fluid, such as an antifreeze solution - to be heated. The tubes are attached to an absorber plate, which is painted with special coatings to absorb the heat. The heat builds up in the collector, which is passed to the fluid passing through the tubes. An insulated storage tank holds the hot water. It is similar to water heater, but larger in size. In case of systems that use fluids, heat is passed from hot fluid to the water stored in the tank through a coil of tubes.

Cross – Inno – Cut partners

The Greek project partners are:

- Federation of Industries of Northern Greece (FING), (Lead partner)
- Aristotle University of Thessaloniki, URENIO Research Unit
- Industries Association of Eastern Macedonia
- Federation of Industries of Rhodopi
- Union of Industry and Manufacture of Xanthi
- Federation of Industries of Evros

The Bulgarian project partners are:

- South-West University "Neofit Rilski"
- Industrial Association of Petritsch
- Industrial Association of Kardjali

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