3rd Newsletter

CROSS-INNO-CUT
Cross border implementation of innovative cost cutting technologies

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CROSS-INNO-CUT

CROSS BORDER IMPLEMENTATION OF INNOVATIVE COST CUTTING TECHNOLOGIES

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Editorial

The **Cross-Inno-Cut** team continues with its information campaign including also regular updates through newsletters. The updates are targeted at informing all the stakeholders of the project and the general audience about the achievements of the projects and provide them with information that could be useful in achieving competitive advantage through cost reduction innovative techniques for SMEs.

The main activities of the project are:

- To introduce the areas and diagnostics tools for cost reduction.
- To provide cost reduction auditing activities in 100 SMEs in the targeted areas in Greece and Bulgaria.
- To provide action planning activities in 30 SMEs.
- To pilot apply cost reduction actions in 10 SMEs.

The efforts of the **Cross-Inno-Cut** team to engage the business communities in the targeted areas in Greece and Bulgaria in the proposed innovative cost reduction activities through a series of workshops continues to receive adequate media coverage. The broad media coverage in regional and national television and radio channels, as well as in daily newspapers is an evidence for the topical issues that are to be covered by the project implementation.

The **Cross-Inno-Cut project** also entered in the final stage of its initial public procurement activities for ensuring of the envisaged expert and consulting services.

In this news letter the 2nd Thematic area the "Reducing marketing cost through social media" is presented as well.

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URENIO Research Unit

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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

![CROSS-INNO-CUT logo]

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CROSS BORDER IMPLEMENTATION OF
INNOVATIVE COST CUTTING TECHNOLOGIES

Information events

Workshop "Implementation of innovative cost-cutting technologies at the enterprise" within the framework of the "Cross Border Implementation of innovative cost cutting technologies – CROSS-INNO-CUT" Project, funded under the European Territorial Cooperation Programme "Greece-Bulgaria 2007-2013", held in Blagoevrad, Bulgaria on the 26th April 2012
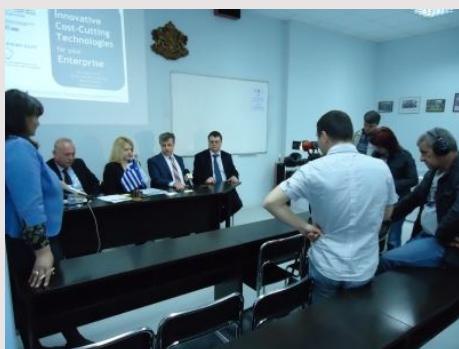
The South-West University "Neofit Rilski" - Blagoevgrad organized a workshop on the "Innovative Technologies for the reduction of costs in the enterprises". The workshop took place at **Hall No.1, Faculty of Economics, South-West University "Neofit Rilski", 2 Krali Marko Str., Blagoevgrad 2700, Bulgaria,** on **26 April 2012 at 16:00 h**. This workshop was part of a series of similar events held in Southern Bulgaria and Northern Greece, within the framework of the "Cross Border Implementation of innovative cost cutting technologies – CROSS-INNO-CUT" Project, funded under the European Territorial Cooperation Programme "Greece-Bulgaria 2007-2013".

The workshop was covered in both the national and regional Bulgarian mass media. The coverage included news emission and editorials in regional and national television channels and radio stations, as well as in daily regional newspapers. Information for the media coverage can be found also on the web sites of the respective media, as follows:

1. BNT 2 (the second channel of the Bulgarian National Television), which has a traditional and substantial regional coverage in South-West Bulgaria:
http://bnt.bg/bg/productions/118/edition/22437/bylgarija_dnes_26_april_2012

2. The "Radio Blagoevgrad", an affiliate of the Bulgarian National Radio:
http://radioblg.bnr.bg/News/Pages/26042012uzu.aspx

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3. The Radio "Focus" – a private radio network with a national coverage:
http://www.focus-radio.net/?action=news&id=574562

4. The news web site "den.bg":
http://news.den.bg/home/unsorted/il=bg&nid=5342900&year=2012

5. The "Struma" regional daily newspaper:
http://www.struma.com/obshtestvo/diskusiya-v-yuzu-neofit-rilski-za-transgranichno-prilagane-na-inovativni_26929

6. The "Viara" regional daily newspaper:
http://www.viara-online.com/

Information for the workshop was also published on the official website (the main website) of the South-West University "Neofit Rilski", as follows:
http://www.swu.bg/news/10-05-2012-discuss.aspx?lang=en .

Tender for the recruitment of auditors

Federation of Industries of Northern Greece and the South-West University "Neofit Rilski" announced in April 2012 public tenders for experts that will perform the audits in SMEs. The tender process was aimed at attracting experienced consultants that could offer added value services to SMEs.

The public tender organized by the South-West University "Neofit Rilski" was officially announced on the 2th of April 2012. The public invitation for participation in the tender was available both on the web site of the University (http://www.swu.bg/information-for/public-procurement.aspx) and on the web site of the Public Procurement Agency of the Republic of Bulgaria (http://www.aop.bg) within the period of 02 April to 17 April 2012. After an evaluation of the receiev offers at the South-West University "Neofit Rilski" and based on the criterion "the lowest price offered", the Association "Institute – Society of knowledge" (Sdruzhenie "Institut Obshtestvo na znanieto) was selected as a contractor for execution of the consulting services.

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Reducing production cost through sensors and meters

The production line of an industrial or a manufacturing or any other type of company is one of the most energy consuming areas and in many cases the least energy efficient. In small or large production lines there are always energy "hungry" equipment or machinery that in many cases do not run at a optimum way. A production line can also be one of the areas of a company that if not properly operated can immediately affect revenues and therefore profits. A production line halt due to equipment failures can have an immediate impact on many different areas of a company such as logistics and supply chain and sales and marketing. So looking at the operation of a production line, one has two serious issues to tackle: high overall energy consumption and high dependability on equipment and machinery reliability.

A production line can be very diverse as it usually contains different types of equipment and machinery, all required to operate reliable at an optimum and efficient way. From its lighting system to its motors, belts and fans, to air compressors and refrigeration systems, to hydraulic and steam systems, a production line is also a very complex environment. It uses raw materials to produce products that are sold to produce profits to the company. Minimising or optimizing its operational costs can increase profits as theses are directly related to production costs. To do so the two issues noted above must be dealt with a way that ensures both production line operability at the rated production capacity and with a safe way for the employees and with minimum cost and effort.

The first issue of high energy consumption can be dealt with by trying to decrease the consumption and therefore costs. But his cannot be done in the expense of production capacity. So one of the easiest way to do it is to see whether equipment are run in an energy efficient way and to introduce energy management processes. The second issue of equipment reliability has to do with the way and the rate of equipment fail. This is directly related to maintenance and how is this applied. But maintenance can also help solve the first issue as well as well maintained equipment of good operating condition are the most energy efficient ones. Therefore by applying proper maintenance activities along with the application of an energy management process can solve both problems in hand in one go.

Maintenance can be a costly activity even if it can save money and cut down costs related to equipment failures and their energy efficient operation. Therefore a maintenance strategy is required that is low cost and easy to be

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implemented. Currently there are three (3) major maintenance strategies or models that can be used to achieve the previous mentioned goals:

- *Preventive Maintenance or Time Based Maintenance* where all maintenance activities are scheduled on a time predetermined intervals and damaged equipment are replaced or repaired before serious problems occur. Studies have shown that using this model the cost of operating any equipment can be up to $ 13/HP/year when this is applied in the industrial sector and in particular in production lines. This model works very well when applied to equipment that do not run continuously and the industrial facility has high skilled and experienced personnel that can perform the preventive maintenance.

- *Predictive Maintenance or Condition Based Maintenance (CBM)*, where all maintenance activities are conducted under certain conditions. Equipment and machinery are monitored usually using wireless sensor networks for excessive vibrations, temperature, lubrication degradation, power consumption (fuel or electricity) and other physical or mechanical properties. The idea behind CBM is that when a property of a monitored component, device or equipment exceeds a pre-determined level then this is shut down and it is replaced or repaired. In a more general way one can apply the motto "do not fix what is not broken". If CBM is applied correctly the cost of operating machinery in an industrial environment does not exceed $ 9/HP/year. CBM has the advantage that can be conducted by personnel with adequate skills, knowledge and time and it can allow equipment repairs to be scheduled in such a way that the lead time of purchasing the replacements can be predicted and so an inventory of expensive replacements is not required.

- *Reliability Centered Maintenance (Pro-Active or Prevention Maintenance),* where all maintenance activities combine the characteristics of Preventive and Predictive Maintenance models plus a root cause failure analysis. The application of this maintenance model not only predicts, detects and pin-points possible failures or problems but also can be applied in the original design and installation of equipment and machinery to avoid potential failures and problems. If the model is applied correctly and by skilled and experienced personnel, the cost of operating machinery or equipment in an industrial environment does not exceed $ 6/HP/year. The big advantage of this maintenance model is that apart from scheduling maintenance activities in an orderly fashion, actions can be taken to prevent same or similar failures re-occurring in the same environment as the root cause of each problem can be identified and fixed. In this way maintenance actions are performed when they are

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actually needed and the reliability of all equipment, machinery or components is increased.

It is evident that the highest savings per power and year can be achieved by applying the third strategy which is focused to pro-active maintenance. Even in this case the maintenance activities can still cost money. But there is a solution which is low cost, easy to implement and it does not require human intervention. Technological developments in recent years have enabled the combination of wireless networks with sensor technology to produce Wireless Sensor Networks (WSN). These networks are used to monitor physical parameters of a critical part of an equipment or a machine and produce data that can be used to a) identify whether the equipment or machine runs at an energy efficient way and b) to predict whether the equipment or machine will fail.

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