

Ruse University Department “Thermo Technique, Hydraulics and Ecology” Participation in The Cross Border Cooperation Program Romania – Bulgaria 2007 – 2013

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Abstract: *The participation of the Ruse University Department “Thermo Technique, Hydraulics And Ecology” in three projects (CLEANDANUBE, SANDI and ELECTRRIVER) financed by The Cross Border Cooperation Program Romania – Bulgaria 2007 – 2013 is described in the paper.*

INTRODUCTION

Ruse University is a partner of 11 projects financed by European Commission in the frame of *The Cross Border Cooperation Program Romania – Bulgaria 2007 – 2013*. Three of these projects are implemented by a team from the Ruse University department “*Thermo Technique, Hydraulics and Ecology*”. The work done for these three projects is described in the present publication.

STATEMENT

The first project is **№ 2(2i)-2.2-5, MIS ETC 653 “COMMON STRATEGY FOR PREVENT THE DANUBE’S POLLUTION TECHNOLOGICAL RISKS WITH OIL AND OIL PRODUCTS - CLEANDANUBE”**

Lead partner of the project is National Research & Development Institute for Gas Turbines COMOTI, Bucharest, Romania and Partner 2 of the project is Ruse University «Angel Kanchev».

The executive team is

- **from COMOTI Institute** - Puscasu Cristian, Stefanescu Mariana, Voicu Raluca, Axene Ghita, Grigorescu Mihaela, Adam Liviu, Cretu Mihaela, Precob Luminita, Toma Emilian, Teleaba Victoria, Antonescu Marilena
- **from Ruse University** - Ivanka Zheleva, Gencho Popov, Piter Russev, Peter Kopchev, Krasimir Tuzharov, Kliment Klimentov, Ivaylo Nikolaev, Yana Kraleva.

Project manager is **d-r Cristian Puscasu** from COMOTI Institute and project coordinator of the second partner Ruse University is assoc. **prof. Ivanka Zheleva, PhD.**

Priority Axis 2	<i>Environment - Sustainable use and protection of natural resources and environment and promotion of efficient risk management in the cross-border area</i>
Key Area of Intervention 2.2	<i>Development of joint infrastructure and services to prevent natural and man-made crises, including joint emergency response services</i>
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PROJECT OBJECTIVES

- Approaching the scientific communities, of people from cross-border region of Romania – Bulgaria aiming to solve a common environmental problem, like the one of Danube water pollution with oil products.

- Romanian - Bulgarian activities harmonization by creating a common structure for crisis situation management.
- Common strategy to prevent technological Danube pollution with oil products based on a new solution by one step centrifugal processing and separation in ecological products.
- Romanian – Bulgarian common strategy for accidents and technological risks pollution management of the Danube water with oil products
- One step efficient solution for centrifugal processing of contaminated water with oil products in order to reduce pollution risks

PROJECT ACTIVITIES

- Study regarding the opportunity of a common strategy elaboration, to prevent pollution of the Danube with petroleum products,
- description and establishment of constructive and technological parameters that must be followed,
- possible constructive variations,
- and technological implications.
- Establishing the complete project theme and elaboration of the technical project for the new solution for cleaning contaminated water with oil products and of the common strategy for preventing technological risks.
- Wide dissemination of the project's results

PROJECT RESULTS

- One step efficient solution for centrifugal processing of contaminated water with oil products in order to reduce pollution risks.
- Romanian – Bulgarian common strategy for accidents and technological pollution risks management of the Danube water with oil products.

TARGET GROUPS

Economic agents from regional and local level; National Companies of Administration of Danube River Ports; Public Authorities and Municipal Councils; Departmental Agencies of Environment Protection, etc.

The second project is ***№: 2(3j)-2.1- 5 MIS ETC 128 “JOINT STUDY REGARDING AN ELECTRO-GENERATOR SYSTEM POWERED BY WATER TURBINE FOR CROSS-BORDER ECOLOGICAL ELECTRICAL TRANSPORT SYSTEM - ELECTRO RIVER”***,

Lead partner of the project is National Research & Development Institute for Gas Turbines COMOTI, Bucharest, Romania, Partner 2 of the project is Ruse University «Angel Kanchev».and partner 3 is Institute INCDIE ICPE-CA Bucharest, Romania

The executive team is

- ***from COMOTI*** Institute – Valeriu VILAG, Jeni POPESCU, Romulus PETCU, Elena BANEA, Radu MIHALACHE, Razvan CATANA, Octavian ANGHEL, Mihai BORZEA, Dragos MIHAI, Gheorghe MEGHERELU, Gabriel DEDIU, Ion VATAMAN
- ***from Ruse University*** - Ivanka ZHELEVA, Gencho POPOV, Hristo BELOEV, Piter RUSEV, Krasimir TUZHAROV, Kliment KLIMENTOV, Ivaylo NIKOLAEV.
- ***from INCDIE ICPE-CA Institute*** - Sergiu NICOLAE, Ionel CHIRITA, , Daniela SANDU, Andreea MITULET, Rares CHIHAIA Mihai MIHAIESCU, Ion DOBRIN, Nicolae TANASE, Gabriela OPRINA, Corina BABUTANU Carmen MATEESCU, Mihail POPESCU, Cristinel ILIE

Project manager is **Valeriu Vilag from COMOTI Institute** and project coordinator of the second partner Ruse University is **assoc. prof. Ivanka Zheleva, PhD** and project coordinator of third partner is **Sergiu NICOLAE**

<i>Priority Axis</i>	<i>2: Environment</i>
<i>Key Area of Intervention</i>	<i>1 - Development of joint management systems for environmental protection</i>
<i>Indicative Operation</i>	<i>(1) Improve nature protection and conservation of cross-border environment</i>

PROJECT OBJECTIVES

- Collaboration between a Romanians and Bulgarians in the cross-border environment issue
- Joint study regarding energy used for cross-border transport for people
- Technical project for a possible ecological electrical transport system
- Technical project and design for the power generating system
- Joint study regarding Danube flow evaluation
- Technical project for turbo-generator pilot system
- Dissemination and evaluation of the opportunity to install a complete electrical transport system in the Giurgiu-Rousse bridge region

PROJECT ACTIVITIES

- Evaluation of cross-border transport
- Design of power generating system
- Danube flow evaluation
- Technical project for pilot installation
- Dissemination and evaluation

PROJECT RESULTS

- Study concerning the cross-border people transport in the Giurgiu-Rousse region
- Technical project of a power generating system
- Study concerning the Danube flow in the Giurgiu-Rousse region
- Technical project of a pilot installation
- Report on dissemination

TARGET GROUPS

- Local authorities
- Regional energy production companies
- Regional transport companies

The third project is ***№ 2 (3i) -3.1-13, MIS ETC 211“SUPPORT ACTIONS TO CREATE NEW RDI PARTNERSHIPS IN TRANS-BORDER AREA IN ORDER TO BRING TOGETHER BUSINESS AND RESEARCH FOR ACCESSING EUROPEAN FUNDS - SANDI”***

Lead partner of the project is National Research & Development Institute for Gas Turbines COMOTI, Bucharest, Romania and Partner 2 of the project is Ruse University «Angel Kanchev».

The executive team is

- ❖ ***from COMOTI Institute*** - Silviu IONESCU, Victoria TELEABĂ, Matache GHEORGHE , Mihaiela CREȚU, Luminita DRAGASANU, Mariana MANEA , Raluca VOICU, Cleopatra CUCIUMITA, Marian NITULESCU, Elena BANEA
- ❖ ***from Ruse University*** - Ivanka ZHELEVA, Gencho POPOV, Hristo BELOEV, Piter RUSSEV, Krasimir TUZHAROV, Kliment KLIMENTOV, Ivaylo NIKOLAEV, Natasha KIRILOVA.

Project manager is ***d-r Silviu IONESCU*** Project manager is from COMOTI Institute and project coordinator of the second partner Ruse University is assoc. ***prof. Ivanka Zheleva, PhD.***

<i>Priority Axis:</i>	<i>3: Economic and Social Development - Economic development and social cohesion by joint identification and enhancement of the area's comparative advantages</i>
<i>Key Area of Intervention:</i>	<i>1: Support for cross-border business cooperation and promotion of a regional image and identity</i>

The CBC Partners is one of the main SANDI Initiatives which have the following objectives:

- ❖ Creating a joint network formed by specialists from all technological fields is the main objective of SANDI project. Having specialists from different entities will cover a large knowledge area by connecting different entities (research, university and economic agents) in order to access and invest new founds in trans-border area.
- ❖ The project aims to identify the trans-border needs / necessities and to correlate the specific partners from the joint network with the opportunity created through organizing a series of events like workshops, conferences and a caravan.
- ❖ The project and the network will have an interactive website (www.cbc-partners.ro) dedicated to the local needs.
- ❖ Through these objectives we intend to improve the support for cross-border business cooperation, promotion of a regional image and to attract new founds in the local area by submitting project proposals to access European Funds and projects for business field.

PROJECT ACTIVITIES

- ❖ Identify and establish the potential network members, the set of priorities / needs and objectives, the RD programs and European requirements regarding the specific environmental legislation in the trans-border area.
- ❖ Organizing workshops and a caravan to identify new projects ideas in trans border area and to disseminate the results obtained by the network members in support of the local economical agents.
- ❖ Creating an informational interactive website dedicated to the local needs and formulating new projects proposal to access European funds for the local area.

PROJECT RESULTS

- ❖ Joint research informational network (including a database of European universities and research institutes);
- ❖ Support actions (workshop / round tables / caravan);
- ❖ Young research specialists;
- ❖ European project proposals.

TARGET GROUPS

- ❖ Scientific researchers (to develop innovative products/ opportunities for communities and local economical agents needs);
- ❖ Professors and PhD students (to disseminate and to be formed as future specialists);
- ❖ Foreign specialists (to transfer their knowledge information and experience).

CONCLUSION

The strategy in which the partners in “Common strategy to prevent the Danube's pollution technological risks with oil and oil products” – CLEANDANUBE project are aiming to promote, establishes the technique to solve by a Romanian-Bulgarian common unit of environmental issues that arise once with Danube's water pollution with oil and oil products. The proposed strategy in the project involves processing, on-site contaminated water with oil products and reintegration into the natural circuit of water and solid components, oil obtained being taken into special tanks, total and immediate problem solving. In conclusion the proposed solution by the new strategy, a Romanian-Bulgarian independent and joint unit has a high degree of sustainability; practically it can support itself by revaluation of collected oil. By developing this strategy were detailed and supported, at a knowledge level that we have at this time, the objectives and principles which, we believe, is a new approach way to prevent pollution of the Danube with oil and oil products.

After the end of the project ELECTRO RIVER and cease of EU financing the results of the project can be widely exploited by the local authorities in the cross-border area of Giurgiu-Rousse. They can continue the strategy regarding environmental protection and energy issues by launching project proposals for using the Danube river flow in the way proposed by the present project. The consortium commits to stay close to the local authorities involved in the exploitation of the results of the project and to help them in proper choosing possible scale application of the proposed way of extracting green electric energy from the Danube flow. The consortium also commits of finding new partners capable to form a bigger consortium capable to submit a “hard” project proposal for the current program of cross-border cooperation between Romania And Bulgaria.

SANDI project main objective is to create new RDI partnerships in trans-border area in order to bring together business and research for accessing European Funds, and we express our confidence that after the European funds will cease, the informational networking and the new partnerships will continue. The lead partner is assuming the responsibility to maintain the server and the website even after the project will end. We are strongly convinced that the necessary funds will be found in order to develop the new created partnerships and to maintain the informational network. The consortium believes that the SANDI project has future high perspectives due to the fact that once the local needs/necessities and the potential beneficiaries are identified, attracting new funds in the area is only a question of time. The estimated results, the young researchers formatted, the joint informational network, the support of the international experts will increase the chances to continue the activity and to submit other projects proposals.

Contacts

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