

Programme Excellency Research CEEEX 2006			CEEEX/ Form B	
Module	3 – The promotion of participation at the European and international research programs		Type of Project	P-INT-VIZ
Proposal's Acronym	ProMPC		Proposal's Number	GEC-3-1

Thematic Fields S/T*)	Code	6 / 6.2	Title	Natural environment / Sustainable management of resources / Conservation and sustainable management of natural and man-made resources
Technological Platform (**)	Code	PT. 13	Title	Manufuture

*) according to Annex 1 – Activities / Thematic Fields S/T

***) according to Annex 1 – Activities / Technological Platforms (for complex projects)

B - PROJECT PROPOSAL DESCRIPTION

(max. 15 pages, Arial 10, 1.5 lines)

1. PROPOSAL'S TITLE IN FULL

Proposal's title in full and acronym:

„The participation of Romanian research to the international scientific partnership for promoting the clean production models” - **ProMPC**

1.1 Thematic fields S/T according to Annex 1:

6 / 6.2 - Natural environment / The sustained management of resources / The conservation and the sustained management of natural and artificial resources; Technological Platform **PT.13- Manufuture**

1.2 Proposal's summary

The Excellency Research Programme CEEEX 2006 follows the increasing of compatibility and competitiveness of Romanian research regarding the integration in the European research area and the preparation for participation at the future FW7. In this context, the **ProMPC** is in line with the request of increasing through large dissemination of the assimilation degree, application and development of the knowledge, advanced services and technologies, by the Romanian economic environment, to be able to face the international evolution and concurrency. The project's elaboration team proposes the development of the **CNPC** multiplication network, with the purpose of transferring scientific ideas and solutions to the economic and social environment, to make it closer to the European Union's requests and settlements. The project's activities and actions sustain the increasing of capacity of the partner organizations to the project and the ones attracted, to participate in a performant way at the international scientific, technical and technological collaboration projects. The team is also concerned by the aspect of consolidation of the Romanian CDI institutes, in the field of promoting the concept of *clean production*, in the European and international networks (CNPC, EEB, ERA-Net and others).

The project's particular objective is the achievement of the methodological and conceptual support necessary for the connection of Romanian activities and sectors to *the world-wide clean production movement*, through large dissemination and public information regarding the eco-efficient strategies for sustainable development, with the purpose of improving the environmental performances in accord with the regional, national and sectoral policies. There will be disseminated new practices, based on advanced scientific knowledge, ecological viable, as a request of promoting the sustainable development.

The project's activities are: the organization of the project's team visit at **EEB** (Bruxelles), establishing international contacts in the *clean production* field, the organization of work-shops and the conference with international participation **“CleanProd-2007”**, the organization of the knowledge dissemination sessions **“ProMPC”** (8 development regions), the development of the **CNPC** network – the **“The clean production at the EU frontiers”**, the organization of the

2. PRESENTATION OF NATIONAL AND INTERNATIONAL CONTEXT WITHIN THE MENTIONED THEMATIC FIELDS:

- **orientation, directions, known targets, actual stage;**

The Excellency Research Programme CEEX follows the intensification of increasing of compatibility and competitiveness of Romanian research regarding the integration in the European research area. Also, a special attention is accorded to the preparation for participation at the future Frame Work 7 of the European Union in 2007-2013 (FW7). According to the FW7, the major options of the European policies regards the science and technology as key instruments for the European future (*The CE communication CE „Science and technology, the key to Europe’s future – Guidelines for future European Union policy to support research”*). The European Council has marked out the essential role of scientific research and the technological development for the increasing of European economic competitiveness. In this context there had been outlined special requests, between which the one for increasing the degree of assimilation, application and development of knowledge, services and advanced technologies, in the economic and social environment, for keeping the pace with the European and international evolution and concurrency. The necessity of achieving this desiderates becomes more important in the perspective of Romania’s adhesion to the European Union, which imposes the structuring the Romanian scientific research area, regarding its integration in the European research area, which is manifesting through evolutions and transformations of the organizations with a research profile, in the meaning of development and general and particular improvement.

A main objective of the CEEX program is to sustain the formation, development, integration and consolidation of some research networks in the fields concerning the FW7. It is desired that the activity of this networks to reach the level of Excellency accepted according to the international norms. Also, it is expected that the acceleration of the process of technical line-up and integration of the economic and social agents, resulted from the development of Romanian research networks capable to transfer scientific technologies and solutions to the economic and social environment, to bring them closer to the requests and settlements of European Union. This concentrated activities and actions concern the increasing of Romania’s capacity of attracting performant partners in all the international programs of scientific, technical and technological collaboration. Important is also the aspect of consolidation of the position of Romanian CDI institutions in the concerned fields, as part of the European and international networks.

The interest declared by the governmental authorities and academic personalities known for the promotion of participating of Romanian units and institutions of research-development at the European and international programs of research and the alignment at the European area of research, including the integration in the technological platforms of European level is well-known. The scientific community from our country is connected with the preoccupation of the international communities regarding the conservation and the protection of environment. The sustained development cannot be achieved only through decision of the governmental factors and declarations of well intentions; it requires the participation of all the society’s sectors. Between these, a distinguished role relies on the research. In Romania, the implementation of the *clean production* concept is only at the beginning; this was tackled tangential in few projects, especially in the energetic and water protection fields, as part of some partnerships with the United Nations Development Organization, Norway’s government, Austria’s government etc. Although that in the majority of technological developed countries exists a clear and well based environmental legislation, the effect of industrial activities is, mostly, very unpredictable. This can created unpleasant effects to the environment and collectivities. The international scientific community acknowledges the signification and the dimensions of the vastly problematic of environment protection and it is manifesting as pressure factor, together with the legislative and financial pressures, in the establishment of their

strategies of enterprises development.

The impact of technology through the industrial fabrication processes on the natural environment constitutes one of the principal problems of the actual period. The difficult problem of sustaining the economic growth and the social development simultaneously is approached with through the *sustained development* concept. The sustained development represents the human's capacity of ensuring continuously the requests of the present generation, without compromising the ones of the next generations (*definition: The World's Commission for Natural Environment and Development*). *Sustained development* is defined as the complex of models of the industrial development which concerns economic and social benefits for the present and future generations without putting in danger the basic ecological processes. The analysis of the last decades efforts demonstrated a positive evolution in the general attitude. For this purpose there have been developed "win-win" strategies. One of these strategies is the "clean production", concept defined also as: eco-efficiency, minimizing the wastes, preventing the pollution, green production etc.

The clean production is the continuous application of the preventive integrated strategies concerning the environment, regarding processes, products and services, for increasing the efficiency and reducing the risks for humans and environment. *The clean production is a world-wide movement* to which numerous organism, institutions and organizations had adhered. Through the promotion of international cooperation in this field, the project supports the construction of a scientific founded strategy, important contribution for reaching the purpose of imposing the ecological initiative in the dissemination of the solutions imposed by the complex problematic of environmental protection.

The success of the 3rd millennium enterprise depends on the existence of some *eco-efficient strategies*. The improvement of the environmental performances through *clean production* is part pf the competitive enterprise strategy in a globalized society.

- **significant results achieved and application methods;**

The project's estimated results are:

- the increasing of the international visibility of the organizations which elaborates the project's proposal, and also their research projects/programs;
- the increasing of CDI units and universities which take part at dissemination programs and contact important scientific personalities from outside of our country;
- the inclusion of the research projects achieved by the partners from the project's proposal deposit consortium in the international projects of correlation at European level, ERA-Net, EEB and CNPC sorts.
- the increasing of the international impact of the researches achieved by the partners from the consortium and the attracted units, through scientific contributions indexed/enrolled in the European and international databases;
- the line-up at the international preoccupations for public informing and dissemination of the *clean production* practices;
- the promotion of the *clean production* concept through actions of support for the development of products/services, efficient from the human and environment health protection point of view;

- **C-D units with field's preoccupation;**

United Nations Industrial Development Organization (UNIDO) elaborated a program for the initiation and coordination of the clean production, with the goal of encouraging the national capacities of clean production, improving the dialog between industries and governments and the amplification of the investments for the transfer and development of friendly technologies for the environment. Through this program, **UNIDO** makes a connection between the competitive industrial production and the care for the environment. The **UNIDO** program represents an innovative approach, which promotes the increasing of competitiveness of the economic and social agents and the improvement of the national capacities for

economic development, taking in consideration the two dimensions of the sustained development, the conformity with the environment and the social development. Starting with the premise the implementation of *clean productions*, especially in the countries in the adhesion process stage, must be adjusted at the concrete, local conditions, through the **UNIDO** program the creation of Clean Productions National Centers (**CPNC**) was encouraged. There were started over 30 centers like this, which will be contacted.

The project will be achieved by an interdisciplinary team, formed by outstanding specialists, with experience in the research and projection activities in the sustained development and ecology fields. The project's coordinator **GEC Bucovina** (P-CO), has a considerable tradition in the activity of research-development in the environment protection field, global sustained development, maintaining the integrity and the perennality of the ecosystems, nonpolluting and advantageous recycle of the secondary products etc. The scientific association GEC Bucovina is a *titular member* of **EEB** (*European Environmental Bureau*), with the headquarters in Brussels, since three years ago, participating/organizing together scientific manifestations, workshops, dissemination actions and elaborating European publications. In the past years it coordinated large projects (SAPARD, World Bank, PHARE, DFID UK, FSD-Soros, FDSC, MCT etc.).

The project's partner, **IPA** (P1) is a national research-development unit, with a prestige builded up through remarkable achievements in the field of scientific projection and research, with preoccupations and experience relevant in the project's field, had achieved studies, independent researches, implementations, actions and activities similar or related to those included in this project. **IPA** had coordinated many national and international projects of scientific research (SAPARD, BERD, PHARE TTQM and EUREKA projects). It is the founder of the IST-Net network as a Romanian network in the IST field, result of the international financing. It is a participant instructed at FW6 projects (e.g. RoDI, REGInNET, ROMANIAN IRC 4 D, CREATING), and also in national projects of scientific research, had conducted dozens of consortiums as a part of the national programs of scientific research and development and is the coordinator of a Module III type project from the 2005 CEEEX competition. **IPA** received six awards at prestigious events in Brussels and Geneva. **RoDI** (*"Romanian Research and Innovation Days"*) is a FW6 SSA project, coordinated by **IPA** starting from January 2004 (the end of the project was in December 2005). One of the project's objectives is to settle a network type innovative structure in the IST field. The network was established and it is in its early steps. The goal of this project is to build on the basis of this European project's results, which is on its way to be completed, and to improve the current network to the level of one with profoundly innovative characteristics and a high competitiveness. The viability of the network's developments through the current project is due the participation to it of the principal European actors in the field of renewable energy sources: Genie des Procèdes Industriels (Universite de Technologie de Compiègne, France); Equipe Energie Renouvelable (Universite de Corse, France); Departement Energetique Industrielle (Ecole des Mines Douai, France), Department of Electrical Engineering (Dublin Intitute of Technology, Ireland), Dipartimento di Ingegneria Civile e Ambientale (University of Trento, Italy), Department of Civil and Environmental Engineering (University of Cyprus, Nicosia, Cyprus), University of Science and Technology Trondheim, Norway.

The vastly experience, the access to an enormous scientific data base, the implication in the conceiving and implementation of large projects and complex consortiums, competent and well known on national and European level specialist, confers value and credibility to the partnership with **USV** (P2 – *The "Ștefan cel Mare" University*), tested on many collaborations previously to this project proposal. **USV**, as a research-development unit and technical university, reports a laborious activity in the field of environmental factors evaluation, prevention and integrated control of the pollution, the proposition and elaboration of standards and methods of analysis, BAT (*best available technologies*) etc. – in which they already collaborate with European partners: Instituto Politecnico do Porto, Portugal, KaHo University Gent, Belgium and Università di Catania, Italy.

All the project's proposal consortiums members together with the attracted partners (the mentioned international institutes and organizations), will be involved in activities and they will bring their scientific contribution based on the experience and competence which defines them, and also their immediate contribution to the effective results, through a plus of prestige.

- potential users.

The users of the project's results are defined as the *Romanian economy's activities, sectors and fields* which apply the results of the research and information's dissemination of international value, through the implementation of this project. In perspective, *the beneficiaries* of the **ProMPC** project's application will be all *the Romanian enterprises* (especially small and medium ones) interested in adopting some continuous development strategies based on the improved practices for sustainable use of resources and satisfying the consumers' requests in an ecological way. The project's proposal elaboration team, through the organization of the new **CPNC** node, *will connect a vastly area of users to the world-wide clean production movement.*

3. OBJECTIVES

- proposed problems to solution concerning the actual situation of the area and the thematic of the project

The project's main objective is to strengthen the S/T collaboration on long term, in the specific field of the conservation and sustainable management of resources, through the modern concept of *clean production*, based on the S/T partnership development between the research teams, institutes and networks from Romania and the similar structures from the international research space (CNPC, ERA-Net, EEB etc.).

The **ProMPC** project's elaboration team had analyzed the problems of the integration in the European and international research area of the Romanian institutes; as part of this studies and analyses, they wanted to find out the development level and concrete ways of improvement of activities and their effects. There was identified the necessity of fulfillment of some special requests in the general view of Romania's adhesion at the European Union, which imposes simultaneous the dynamic and competitively development of the economic environment, oriented to the high technology fields, and the increasing of its capability to respond to the strategic requests of the sustained development, in the context of the globalized economy. The project sustains the collaboration of the Romanian public and private research organizations (the specialized scientific organization **GEC Bucovina** – P-CO, the CDI national institute – **IPA Bucharest** – P1 and **USV** – The "Ștefan cel Mare" University – P2) with international partner organizations in other scientific collaborations or attracted. Also, the project's proposal team had identified the need of ensuring a more visible impact regarding the quality of Romanian research, by involving the researchers in international projects and teams, in the dissemination of scientific knowledge. This desiderates will be materialized through actions and activities of information transmission, of international experience and good practices, and also the scientific cooperation for the elaboration and promotion of some eco-efficient strategies for sustained development, with the purpose of improving the environmental performances according to the business politics of the organizations. The application of some new practices of production and consumption, based on the most advanced scientific knowledge, especially the ecological viable ones, is a major request of the promotion of the sustained development, of the increasing of economic-financial and environmental efficiency, for the improvement of the market position and winning new market segments.

Eco-efficiency is an evolutionary concept, which allows the companies to adapt to the dynamic changes of the globalization. The dissemination of the modern concept of the *clean production* assumes a laborious activity of information spreading, of working in mixed international teams for the promotion of the implementation performances of this scientific solutions, establishing the assemble of measures which should be recommended. The assistance accorded by international experts of this complex assemble of actions and the integration in a results monitoring system, will ensure

the success of the dissemination of the concept of eco-efficiency in the context of the Romanian small and medium enterprises preparation for facing the requests of the globalization.

The project proposes the following **scientific and technical priorities**:

- the insurance and development of an international scientific partnership, constituted by institutions and organisms prepared to become sources of scientific and technical competence, in the very newly field of *clean* production, and also the one of general development of society based on knowledge;
- the achievement of a support for increasing the degree of assimilation, application and development of the advanced knowledge in the Romanian economic and social environment, for facing the European and international evolution and concurrency;
- the elaboration of some advanced solutions for promoting the technical, environmental and economic-financial feasibility of the *clean* production models, in the context of sustained development and globalization;
- the promotion through practical actions of the increasing of the level of compatibility and competitiveness of the project's participants, necessary for the integration in the international research area;
- the preparation of the participant organizations and those attracted in this project, for the participation at the future FW7;

- **measurable objectives**;

In this project there will be achieved the following measurable objectives and results:

- the organization of the visit of the project's team at **EEB** (*European Environmental Bureau*), the headquarters in Bruxelles,
- the establishment and the organization of international contacts in the field of *clean production*; there already are established contacts with: **CPNC** network (*Clean Production National Centers*), Instituto Politecnico do Porto (Portugal), University of Limerick and Dublin Institute of Technology (Ireland), Universite de Technologie de Compiègne si Universite de Corse (France), Departamento KaHo University Gent (Belgium), Universita di Catania (Italy), Centre for Environmental Information and Education Sofia (Bulgaria), GEOTA (Environmental and Land Use Planning Study Group, Lisboa) and others.
- the organization of workshops (in Bruxelles and Suceava) and the conference with international participation „**CleanProd 2007**“, in Suceava;
- the organization of eight „**ProMPC**“ knowledge dissemination sessions, in the eight development regions;
- the construction, operation and evaluation of a new information multiplication *point* in the **CPNC network – the „The Clean Production at the EU frontiers“** and the organization of the network connected at the newly created node;
- the redaction of a **Guide for accessing international** funds, dedicated mostly to the research and academic environments;
- the elaboration of specific documentation and web pages for the presentation and the dissemination of results.

- **explaining the conformity of the proposed objectives to the objectives and priorities of the program.**

The proposed „**ProMPC**“ project is according to the **P-INT-VIZ** category. Through the proposed thematic and objectives the project is according to the general objectives of the *National program CEEEX 2006*, and in the specific objectives of the 3rd Module – „*The promotion of participation at the European and international research programs*“.

The project's complexity derives from the scientific diversity, from the difficulties of the organization of contacts and manifestations with international participation and the management of a diversity of activities, resources and personalities. The project's proposal is in line with the actual trend of promoting the development through knowledge, trend reflected in

European and national strategies on medium and long term; also, the project's activities are according with the objectives from the action plans for environment protection and the development of an economy which should integrate and copy the nature (*industrial metabolism*). Accessing this advanced and newly concept, in a project with large public participation, proves the reaching of the concentration level and the increased performances in the scientific activities which proposes *Programme Excellency Research CEEX* proposes. The presented project proposal is integrated as solutions in the European area for research and is conformable to the preparing strategies for Romania's participation on the future CDT Program Frame 7 of the European Union.

The sustains the collaboration of public and private Romanian research organizations (the scientific specialized association **GEC Bucovina** – P-CO, the CDI national institute - **IPA Bucharest** – P1 and **USV** - The „Ștefan cel Mare” University from Suceava – P2) with the international partner organizations in other scientific cooperation or attracted ones. Also, the project's proposition team will ensure a more visible impact regarding the quality of the Romanian research, through the involvement of the researchers in international teams and projects, in the large dissemination of the scientific knowledge. These objectives will be materialized through actions and activities of transmitting the information, the international experience and good practices, and also the scientific cooperation for the elaboration and the promotion of some eco-efficient strategies for continuous development.

Through the construction of the realization consortium which reunites partners from the scientific research environment and academic staff, the project *encourages the active collaboration between unit and institutes of CD*, public and private ones, mixed research team insuring the transfer of knowledge between experienced and with national recognized competences staff and the young researchers, engaged in the achievement of amply opened and new activities. During the project, there will be developed support actions, for sustaining and promoting the activities and results, including information dissemination, instructing, scientific manifestations, international mobility and partnership – the structure of the partnership ensuring the necessary competences.

Through the thematic and the objectives proposed, the project integrates in Thematic Fields S/T 6 – *Surrounding Environment / 6.2 Sustainable Management of Resources / The Conservation and the Sustainable Management of Natural and Artificial Resources*, and it is complying to the technological platform *PT.13 Manufacture*.

4. SCIENTIFIC AND TECHNICAL PRESENTATION OF THE PROJECT:

- the degree of novelty and complexity;

The increase of the compatibility and competitiveness level on the Romanian research having as aim the integration in the European research and training for the participation at the future PC7 proposed through the excellence research program CEEX 2006 are the objectives of great complexity assumed by the proposal of the **PromPC** project. This project aligns to the requests of increasing through large dissemination, of the degree of assimilation, appliance and development of knowledge, of the advanced services and technologies by the Romanian economic medium, in order to face the international evolution and competitiveness. The team for the project elaboration proposes the development of the multiplication web **CPNC**, through the initiation of a new knot – “**The Clean Production at the UE Frontiers**” with the purpose of transferring ideas and scientific solutions to a social and economic medium, of aligning it to the requests and the settlements of the European Union. The activities and the actions of the project sustain the increasing the capacity of the organizations partners to the project at of those attracted to participate in a sustained way to the international programs for scientific, technical and technological collaboration. The team has in view the consolidation aspect of the position of the CDI Romanian institutions in the field of promoting the concept of *clean production*, in the field European and international webs (CNPC, EEB, ERA-Net and others). Through the practical actions of accomplishment of the particular and general objectives of the project, the project remarks itself through novelty and originality, proposing new

activities for the experience valuation and cooperation already internationally known of the consortium members.

The main objective of the project for accomplishing the methodological and conceptual aid necessary to the connection between the Romanian fields to the *world-wide clean production movement*, through large dissemination and public information regarding the eco-efficient strategies for continuous development, also constitute an element of novelty.

Clean production is a “win-win” strategy, which aims the protection of the environment, of the consumers and of the workers in the same time with the increasing of industrial efficiency, profitability and competitiveness, acting upon the principles: precaution, prevention, integration. The main difference between the pollution control and *clean production* is timing: pollution control is a “post event” approach – “*react and treat*”, while *clean production* is a philosophy which looks into the future – “*anticipate and prevent*”. Promoting this new project implies that the project team proposes the development of an systematic program of identifying the loses, of discovering the possible options and applying the best solutions. The assistance of the implementations by the economic and social interested agents requests a new approach, which will encourage the large spread of this concept.

Through the activities of dissemination of this new concept, the projection team, to which international experts in the field will join, will present the phases of elaboration for the eco-efficiency strategy, the identification of the environment problems, the resources quantification, the development of the ideas of *clean production*, the options evaluations. Each option will be evaluated on the base of economic and un-economic criteria. *Eco-efficiency* approaches the economic development objectives in connection with a healthy environment, through the creation of some connections through which the strategies could support the durable development or, put it in another way, the integration of economic growth with the increase of the environmental performances. *Eco-efficiency* is an evolutional concept which allows the companies to adapt to the dynamic changes of the market, to anticipate the needs of the customers, while protecting the environment, meaning “to produce more using less.” *Eco-efficiency* is a necessary approach for the sustainable development which the project team proposes to promote. The novelty and the complexity of the project results from the novelty of the concepts disseminated and from the originality of the concrete used actions.

- the methodology and the techniques which shall be used-up, instruments, equipments, software, the contribution of each partner

The following techniques, methods and procedures will be used:

- *procedures of demonstrative experimentation*;
- *algorithmization methods* for programming the work agenda and the resources;
- *active-participative and creator conceptual models* (they are found in the educational approach as formation of competences, attitudes and friendly actions);
- *techniques for maximum resource exploitation* (using IT&C technologies ensure the closest capitalization to exhaustive of some availabilities for operating/processing, which corresponds to environment and competitiveness standards);
- *referential models* (methodical suggestions, use models, standards etc.);

There will be used packages of software programs for high level development, licensed, the newest ones.

The requests, regulations, international and European standards for quality, environment, risk, evaluation and audit will be respected.

The system which will logistically sustain the proposed project will have the next components:

Hardware structure: local servers, web servers, local systems as assisting stations of the multimedia presentations, audio-video equipments for demonstrations and public exhibits, office and communication equipments.

Software structure: data base which will contain specific services for the activities and particular functions, modules which ensure servers, services and applications cooperation, appliance for management/controller, application for acquisition and return, appliances for educational software etc. The coordinative partner and, also, all the members of the project team, poses the latest Microsoft licenses.

The proposed hard&soft structure is based on standards, communication protocols and advanced technologies. The academic partner poses software use rights licensed in scientific/didactic public interest.

The tasks for activities development for the project had been established in a prestigious consortium, formed by three Romanian partners from Suceava and Bucharest: The **GEC** Bucovina Association (P-CO), **IPA** Bucharest and USV (P2 - The „Ștefan cel Mare” University, Suceava). All partners of the consortium are CD units with scientific national and international prestige, the partnership ensuring the necessary competences. The Romanian organizations from the consortium have already established international contacts in the project field (*clean production*). The following organizations will participate at the activities: European Environmental Bureau (Bruxelles), Instituto Politecnico do Porto (Portugal), University of Limerick (Ireland), KaHo University Gent (Belgium), Universita di Catania (Italy), Centre for Environmental Information and Education Sofia (Bulgaria), GEOTA (Environmental and Land Use Planning Study Group, Lisboa), Université de Technologie de Compiègne (France), Université de Corse (France), Dublin Intitute of Technology (Ireland), the world-web CNPC s.o. For achieving the project’s objectives, the activities developed by the consortium’s partners and their contribution are reflected in the execution Plan.

5. THE PROJECT JUSTIFICATION:

- **the relevance of the project for that specific area /domain and implicitly the way in which the national politics acts in this field:**

The project’s relevance consists in the innovation of the thematic which it propose: the realization of a large national and international dissemination, concerning the high present interest concept of clean production / eco-efficient strategies of industrial development making agree to long lasting development demands. This project subscribes to the national environment policy and in the National Program for the Adhesion of Romania to European Union. The **"ProMPC"** project integrates itself in the **P-INT-VIZ** category. Through the proposed subjects and objectives, this project harmonize with the general objectives of the national *Programme Excellency Research CEEX 2006* and in the specific objectives of the *Module 3 – Promotion of the participation to the European and international research programs*.

This project proposal is relevant for its domain because it lines up to the present tendency of promoting the development through knowledge, reflected in European and national strategies on a medium or long term; also, the project activities line up to the objectives of the action plans for the environment protection and development of an economy that integrates and copies the nature (*industrial metabolism*). The project proposal integrates in the European research area and it corresponds to the preparation strategies for Romania participation to the future *CDT Program, Framework 7*.

Through its subjects, actions and proposed objectives, this project is relevant for the Thematic field S/T 6 – *Environment (including Climate Change) / 6.2 Sustainable management of resources / Conservation and sustainable management of natural and man-made resources* as part of the technological platform *PT.13 Manufature*.

- **the viability and the successful chances of the project (the hypotheses and risk)**

The viability and success chances of the project consist in:

- the working team is formed by specialists with international aknowledge, with prestige and experience in research, scientific activities and ecology fields; to the well-known names from romanian research we can add those of partners from Portugal, Belgium, Ireland, Italy, France, Germany and Bulgaria;

(*Virgil Olaru* from P1-IPA is implementing a project for CEEEX 2005-Module 3, he has a great experience in organization of international contacts, conferences, dissemination meetings. *Dr. Gabriel Vlăduț*, manager of the Center of Excellency and Technological Transfer in Automatizations, coordinator of many BERD, PHARE, TTQM and EUREKA projects, with works published in Romania, Finland, Japan and Spain; *Sorin Baban*, implied in many international projects of IPA, developed in PHARE and EUREKA programs, vicepresident of the prestigious international conference E_COMM LINE; *Mara Silina* – Enlargement Co-ordinator European Environmental Bureau/EEB Brussels – Belgia; *Jose Oliveira e Sa* – Instituto Politecnico do Porto – Portugalia; *Timothy Hall* – University of Limerick - Irlanda; *Luck de Backer* – KaHo University Gent – Belgia; *Nicola Pitrone* – Universita di Catania – Italia)

- the existence of some logistic bases suitable for the project's realization (equipments, endowment, tools, utilities etc.);
- good collaboration tested in time between the participants at the project (partners of this consortium collaborated before in other competitions and PHARE or CEEEX programs);
- the large dissemination concerning the application of the clean production concept, as a practical demonstration of the idea that the environmental requests and enterprise maintaining in the competitiveness area on the market are objectives that can and must sustain each other.

From the risks regarding the project's realization we mention two categories:

- the risks regarding the project's participants – human and time resources. To counteract them we should do as follow: the project's working teams are made by specialists of high competence, their level of schooling in the field being uniform enough for ensuring covering the eventual lack of availability of a team's member;
- the risks regarding the constrains identified in the zone, which can be:
 - attitudinal constrains: indifference to well careful management and resistance to changes;
 - system barriers: inadequate and inefficient management system – at local level;
 - organizational barriers: exaggeratedly underline the production and the personnel's lack of involvement;
 - technical barriers: limited technical capacities and limited access at the news and technical information.

6. DIAGRAM OF PROJECT EXECUTION:

The unfolding of the activities specific to the project was established by a prestigious consortium, composed by three Romanian partners, from Suceava and Bucharest: The **GEC** Bucovina Association (P-CO), **IPA** Bucharest and USV (P2 - The „Ștefan cel Mare” University, Suceava).

The following organizations will participate at the activities, having competences recognised in the project's field: EEB-European Environmental Bureau (Bruxelles), Instituto Politecnico do Porto (Portugal), University of Limerick (Ireland), KaHo University Gent (Belgium), Universita di Catania (Italy), Centre for Environmental Information and Education Sofia (Bulgaria), GEOTA (Environmental and Land Use Planning Study Group, Lisboa), Université de Technologie de Compiègne (France), Université de Corse (France), Dublin Intitute of Technology (Ireland). These organisations have the quality of partners and participate at the achievement of the objects, but do not receive finances for the contribution at the project's activity.

For the achievement of the objectives, the actions developed by the consortium partners and their aid is reflected in the acgievements scheme, containing the steps, activities and objectives which are accomplished, as well as responsibilities of each partner in every step of the project's elaboration (*Tabel 6.1.*)

Table 6.1 Diagram of the project excusion

Activities / Stages	Objectives	Term / Results	Partner's responsibilities	
<i>Phase 1 – The assurance and the development of an</i>	The creation of an	Dec.2006 -Research	<i>P-CO</i>	- will coordinate the activity's phases - will initiate and coordinate the identification of concrete problems, for the purpose of launching and organizing the project;

<i>international scientific partnership for the promotion of a "clean production" and the society development based on knowledge</i>	international partnership in the scientific field of the promotion for the concept of <i>clean production</i>	report, - Protocols, scientific collaboration -Launching the conference,		- will coordinate the activities of the international contact accomplishments - will elaborate protocols of international cooperation, in the field of clean production - will coordinate the launching of the " <i>CleanProd 2007</i> " conference ; - will elaborate documents of reporting phase
			P1, P2	- will participate at the activity's phases - will contribute to the identification of concrete problems, for the purpose of launching and organizing the project; - will sustain and participate at activities of accomplishing international contacts; - will participate at the elaboration of protocols of international cooperation, in the field of <i>clean production</i> - will participate at the " <i>CleanProd 2007</i> " conference
Activity 1.1 – Organisation and international contact establishments in the field of research-development and the signing of protocol contracts	-the establishment of contacts between researchers who develop competences in the field of clean production, from Romanian and abroad	Oct. 2006 - Protocols, collaboration with experts and organizations having international scientific and technical competence	P-CO	- will coordinate and participate at the accomplishment of international contacts; - will participate at the elaboration of the protocols of scientific cooperation in the "clean production" field and promoting the new concept; - will put at the disposal of the project's team the own scientific data base and the one with partners; -will assure scientific contacts with EEB--European Environmental Bureau (Bruxelles), Centre for Environmental Information and Education Sofia (Bulgaria), GEOTA (Environmental and Land Use Planning Study Group, (Lisboa), the PNPC web and s.o.
			P1,P2	-will show consultancy and will give the necessary dates for the accomplishing of protocols of scientific collaboration; -will assure scientific contacts with: Université de Technologie de Compiègne and Université de Corse (France), Dublin Institute of Technology and University of Limerick (Irlanda), Instituto Politecnico do Porto (Portugal), KaHo University Gent (Belgium), Università di Catania (Italia) s.o
Activity 1.2 – Organising the conference with the international participation of " <i>CleanProd 2007</i> ", from Suceava	-organizing the scientific manifestation in the field of <i>clean production</i> (conference with international participation)	Nov. 2006 -BD guests ; - web page; - P/P presentations, invitations, leaflets; Activity raptor;	P-CO	- will coordinate the activities of official launching of the conference; - will participate at the elaboration of the Data base with guests (experts and organizations which develop competences in the field of the conference thematic); -will participate at the elaboration of the web page, of the formularies (invitations, leaflets, program) and the P/P presentations; - will organize the press conference; -will elaborate the press communications; - will elaborate the reports documentations
			P1,P2	Will participate at the elaboration of the Data base with guests (experts and organizations which develop competences in the field of the conference thematic); - will show consultancy to the elaboration of the web page, of the formularies (invitations, leaflets, program) and the P/P presentations; - will organize the press conference; - will collaborate the elaboration documents of reporting
Activity 1.3 – Supporting activities for financing <i>CNPC – knot "The Clean Production at the UE Frontiers"</i>	-the initiation of creation of a new knot in the CNPC web	Dec. 2006 - technical documents to accomplish; - intermediary activity report	P-CO	- will coordinate the contact activities and initiation, initiation of knot in the CNPC web; - will participate at the elaboration of creating the plan of the new knot; - will participate in monitoring of the actions; -will coordinate and collaborate the specific actions;
			P1	-will collaborate at the elaborating the plan of creating the new knot CNPC; - will collaborate at the elaborating web page for presentation;
			P2	- will show consultancy and will give the necessary dates at the setting of the new knot of the CNPC; - will collaborate the elaboration of the technical documentation of accomplishment;
Phase 2 – The increase of the degree of assimilation, appliance and development of the advanced knowledge in the Romanian economic and social field	-the elaboration and implementation of the degree's increase actions of the assimilation and applicability of the advanced knowledge in the field of <i>clean production</i>	Oct. 2007 -research report -posters, paper cases, leaflets - presentations;	P-CO	- will coordinate the activity's phases - will elaborate the documentations and the materials of the activity's phases and will coordinate the documentation in the field of the clean production; - will coordinate the launching of the " <i>CleanProd 2007</i> " conference ; - will coordinate and participate at the sessions of disseminating knowledge " <i>ProMPC</i> ", in the 8 regions of development; - will accomplish the setting of the new knot in the web CNPC; - will organize and participate at the visit and work-shops from Bruxelles (EEB's headquarter) and Suceava, named " <i>CleanProd 2007</i> "; -will elaborate documents of phase report - will participate at other scientific manifestations;
			P1	- will elaborate the documentations and the materials of the activity's phases and will coordinate the documentation in the field of the <i>clean production</i> ; - will participate at the sessions of disseminating knowledge " <i>ProMPC</i> ", in the 4 from 8 regions of development (South); - will participate at the visit and work-shops from Bruxelles (EEB's headquarter) and Suceava, named " <i>CleanProd 2007</i> "; - will collaborate at the demonstrative implementation of the new knot of the CNPC web;
			P2	- will participate at the official launching of the " <i>CleanProd 2007</i> " conference ; - will participate at the sessions of disseminating knowledge " <i>ProMPC</i> ", in the 4 from 8 regions of development (North); - will contribute at the setting of the new knot of the CNPC web; - will participate at the visit and work-shops from Bruxelles (EEB's headquarter) and Suceava, named " <i>CleanProd 2007</i> "; - will participate at the elaboration of the documents of phase report - will participate at other scientific manifestations;
Activity 2.1 – Organising the visit	-the increase of the assimilation degree,	April 2007 -activity report; - web page;	P-CO	- will coordinate the travel activities to Bruxelles and Suceava of the Romanian and foreign participants; - will coordinate the activities of elaboration of the web page, of the formularies (invitations, leaflets, program) and the P/P presentations;

latest results of science, economy and informational systems. The application of this concept leads to *economic benefits* on a long term, through the conciliation of the production / pollution ratio. The large dissemination of this concept will provide the premise for integration of the Romanian industrial units in the competitively context of the market economy.

Since the entire project aims the large dissemination and revaluation of scientific knowledge, the revaluation scheme concur with the realization plan of its activities. The dissemination methods are: the conference, dissemination sessions, workshops, web pages, guides, PowerPoint presentations, press conferences and communications.

The intellectual property rights, of distribution and commercialization, over the results, will be distributed between partners this way: P-CO – 40%, P1 – 30%, P2 – 30%.

8. TECHNICAL, ECONOMICAL AND SOCIAL IMPACT

The estimated impact is mainly a *scientific* one, the project proposing to contribute at the growth of the Romanian scientific community visibility and the growth of the compatibility and competitiveness level of the Romanian research for the integration in the international research area. Because the project applies to a domain of great interest, the environment protection, promoting the advanced concept of *clean production* by the Romanian small and medium enterprises, there are also expected elements of *economical, social and ecological* impact.

Economical approach leads to the concept of maximum gain variations which can be generated through the maintenance of the product's quality that generated the gain. From *the ecological* perspective, the *clean production* is axed on the systems biological and physical stability. *The socio-cultural approach* consists in promoting the equity for the same generation (especially eliminating the poorness) and for the next ones (ensuring the rights of the next generations to a healthy environment).

A series of economical analyses presents the costs of the measures against pollution in the price structure of a product. It is known that the cheapest treatment is the preventing and the cheapest energy is the energy economy. Extending this reasoning, the cheapest product will be the one obtained with clean and sure technologies from the operating point of view. The society will be in danger as long as the economical success will be more important than the social justice and protecting the natural environment. The present project, through the promotion of the practices of *clean production*, eco-efficient ones, has the purpose to counteract these negative effects of industrial development.

9. PROJECT MANAGEMENT

– methods/ modalities of management, co-ordination and communication for achieving the project;

The implementation of the project will be realized using rigorous methods for planning, monitoring and evaluation, organize and collaboration. In the purpose of optimizing the use of all resources (human, material, financial, informational and time) for achieving the proposed indicators there will be utilized ***the method of structure on elementary tasks***, in fact dividing the whole project in elementary tasks which will ensure the achievement of costs and resources models on different task levels.

The projects leader consists in a director comity and a technical comity, formed by experienced specialists in developing projects and experts in the environment protection and informatics fields, and together they will elaborate a detailed action program, which will include all the aspects of project's achievements: coordination, collaboration, planning, establish working comities, responsibilities distribution, establish the execution terms, formalities of discount for the project's stages, evaluate the partial and final results of the project's stages deducted in three ways:

- *qualitative evaluation*, through which there will be established the corresponding scientific and technical level, for each activity and time period monitored by the project's coordinator;
- *quantitative evaluation*, which establishes the possibilities of in time achievement of the objectives presented in the program,

- *economical evaluation*, with the purpose of following the estimated budget of the program, (eventually exceeding and eventually savings), and also measurements that should be taken.

The stages and phases from the project's realization scheme can be considered working packages in the project's development. For the project's management, because its complexity, leaders and working team for each phase/working packages will be appointed, and also a quality insurance responsible will be appointed. The working teams will be formed by each partner's specialists, with clear responsibilities and tasks according to the realization scheme.

The Directional Comity establishes the project's developing strategy, sends the decisions to the Technical Comity and gets back information regarding the project's stage. The Technical Comity sends technical decisions for the project's realization to the working teams and receives information about the results of their activities (reports, studies, solutions, achievements).

Supporting actions for the project's leading will be realized on 4 bearings: stage leader – once at 2 weeks; quality insurance responsible – as many times as necessary; the technical comity – once in a month; the directional comity – at the beginning and the ending of each stage/phase and in critical situations. The coordination and the correlation between partners are followed by the stage's leader and the technical comity. The technical comity follows the results' correlation with the phases' objectives and also the usage of financial resources according to their initial destinations.

The communication between partners will take place at periodical working meetings (2 weeks) and via e-mail.

10. DESCRIPTION OF REQUIRED RESOURCES FOR PROJECT EXECUTION

Necessary resources for the project's realization are:

- *human resources*: the realization of the project will be made by the common team formed by partners' specialists, a necessary of 59 man/month is estimated;
- *time* – the developing period of the project is 22 months;
- *material resources* – equipments from the three partner's endowment and equipments acquired in the project's development;
- *financial resources* the total cost of the project is 160,000 RON;
- *expense deducted* by categories depending on their destination:
 - information's dissemination): 3,600 RON;
 - manifestations – workshops, conferences) 6,240 RON;
 - international partnership (foreign guests): 12,500 RON;
 - services (project management: 94.400 RON, translation services: 900 RON, administration expenditures: 6.600 RON): 101.900 RON;
 - logistic support: (transport: 12.750 RON, daily fee: 5.660 RON, accommodation: 6.750 RON, inventory objects, spare parts, consumable materials: 10.100 RON, telecommunications and post: 500 RON): 35.760 RON.