			
Project acronym:		ENFUGEN			
Project title:		Enlarging fuel cells and hydrogen research co-operation			
Project number:		510435			
Instrument:		SPECIFIC SUPPORT ACTION			
Thematic priority		6.1 – “Sustainable Energy Systems”			
Publishable final activity report					
Period covered: from	M1	to	M24	Date of preparation:	31/03/2007
Start date of the project		01/10/2004		Duration:	24 months
Project coordinator organisation name		LABOR Srl		Revision	0

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SECTION 1 Project execution

1.1 Project objectives

ENFUGEN Project is a Specific Support action funded under the Priority 6 – Sustainable Energy Systems of the 6th Framework Programme .

The action intends to maximize the participation of research centres and researchers from **3 New member States: Poland, Czech Republic and Slovakia**; and 2 Associated Candidate Countries : Romania and Bulgaria in the European research Area in the field of **fuel cells and hydrogen energy**.

The objectives of the projects can be summarized as follows:

- 1. Improving NMS and ACC R&D competences visibility by**
 - Mapping R&D competences in the 5 reference countries
 - Creating a database of researcher and research performers
 - Developing and widely disseminating a visibility catalogue containing all the relevant information (profiles, expertise, facilities, contacts, etc.) of at least 40 hydrogen and fuel cells actors in the 5 reference countries

- 2. Creating a collaborative virtual environment (Enfugen Portal) for the exchange of experience, knowledge sharing, the development of project ideas and partnership building. The platform will allow for :**
 - Documents exchange
 - News and document publication
 - Partner search posting
 - Expertise and CVs publication
 - The creation of thematic forums
 - The concurrent development of documents and project proposals (Wiki Tool)

- 3. Improving NMS and ACC actors capability in promoting their expertise, accessing to funds and building partnership. This will be done through:**
 - An in-depth analysis of the needs and barriers which impacted on the low participation of NMS and ACC actors in the European research
 - The development of training modules and guidelines based on the needs analysis
 - The organization of 3 national workshops in Poland, Czech Republic and Slovakia
 - The activation of a Skype based help desk made available through the Enfugen platform

- 4. Directly supporting the creation of MS and NMS/ACC partnerships through:**
 - The organization of at least 1 large brokerage event
 - The large dissemination of the visibility catalogue
 - Direct brokerage and mediation activities
 - Networking and promoting Enfugen Community to other initiatives at EU level

The quantitative outputs of the actions are the following:

Output	Quantitative Target
Database of researchers /research bodies	approx . 210 records
Workshops	3 events involvement of 100 stakeholders
Training	3 sessions
Brokerage	1 event
Visibility Catalogue	Approx. 40 profiles disseminated to 200 stakeholders
Consortium building	2 Consortia read to submit a proposal

The expected deliverables for the whole project are the following:

Del. no.	Deliverable name	Nature	Dissemination level	Delivery date
D 0.1	Six-monthly management report	R	RE	6-12-18-24
D 0.2	Annual costs statements and progress reports	R	RE	12-24
D 1.1	List of confirmed members of Scientific Advisory Board.	R	RE	4
D 1.2	R&D competencies mapping report-basis for database content	R	PU	12
D 1.3	List of Scientific Forum members	O	PP	12-22
D 2.1	Needs analysis report – basis for guidelines towards entrepreneurial university	R	PU	12
D 2.2	Web site and Database	O	PU	14-24
D 3.1	Report on Scientific Forum activities	R	RE	24
D 4.1	Guidelines towards building <i>entrepreneurial university</i>	O	PU	14
D 4.2	Brokerage implementation report (containing reports of the 3 workshops held in NMS Countries)	R	PP	24
D4.3	Visibility Catalogue	R	PU	21
D 5.1	Dissemination results' report	R	PP	24
D 5.2	Exploitation Plan	R	PP	24

Contractors involved

Partic. Role	Partic . No.	Participant name	Participant short name	Country
CO	1	LABOR S.r.l.	LABOR	IT
CR	2	Institute of Fundamental Technological Research - Polish Academy of Sciences	IFTR PAS	PL
CR	3	Czech Technical University in Prague, the Faculty of Electrical Engineering	CVUT FEL	CZ
CR	4	BIC Bratislava, spol. S.r.o.	BIC Bratislava	SK
CR	5	Instytut Energetyki	IEn	PL
CO	6	Energy Centre Bratislava	ECB	SK
CR	7	Enviros s.r.o.	Enviros	CZ
CR	8	Technical Support for European Organisations Sprl	TESEO	B
CR	9	Università di Roma "Tor Vergata" – Dept. Physiscal and Energetic Sciences and technologies	UniTorvergata	I

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1.2 Work performed

The activities foreseen for the accomplishment of the project target have been organized in 5 operative work-packages.

1) WP1 Mapping Competencies

The first work-package was meant to “prepare the ground” for the implementation of the Support action.

On one side, the New Member State Partners have been, in fact, in charge of mapping of the competences in their respective countries, enlarge the study also in Bulgaria and Romania, and preparing a first list of references and therefore create a database to be used for the contacting activities.

A first round of direct contacts were foreseen also in this preliminary phase to directly ask to R&D actors all the possible information on the R&D activities in the field concerned and collect information for the needs analysis carried out in WP2.

A list of 120 R&D and industry actors operating in the Hydrogen and Fuel Cell field ready to be contacted for the involvement in the Scientific Forum activities:

On the other side, the Italian and Belgian partners worked at the identification of the key actors from the member states to be involved in the knowledge sharing and brokerage activities. The work consisted in the:

- Identification of the running and under negotiation projects in the field concerned
- Identification of the contact details of the coordinators
- Identification of the most active organizations in the field (ranking according to the number of participation in EC projects)
- Identification of NMS/ACC participants in EC project
- Analysis of the “Expression of Interests” published at the beginning of FP6 on Cordis and identification of the promoting organization
- Identification of the Energy NCPs in Europe
- Identification of major initiatives (projects, networks, technology platforms, etc.) operating within the European Research Area.

2) WP2 Needs assessment

In parallel with the mapping exercise the Consortium the project planned an analysis of the needs, trends and market possibilities for fuel cells and hydrogen energy development in the New Member and Candidate Countries in order to :

- use this knowledge for the development of the training modules and the guidelines for a better participation of NMS and ACC actors in the European Research Area
- disseminate this knowledge to the largest number of European stakeholders which could use it to improve their approach and plans towards these countries

In this framework the NMS partners have worked at the realization of the present task mostly through a desk survey. Direct contacts have been furthermore established with researchers to collect fresh information on the barriers they are encountering in having access to the European Funds. For this purpose questionnaires have been prepared and sent out.

The present block of activities also included the realization of the Project platform

The first activity of this task consisted in the development of the project groupware for the project document exchange and storage. Then Labor identified a reliable subcontractor able to develop the project Platform.

Following to a first analysis of the tools necessary to implement the platform Labor worked at the definition of the graphics and static text of the platform.

For the database: a first excel file has been prepared by the consortium with the references of the relevant actors to be involved in the action.

The final database was then integrated in the platform MySQL database system.

3) WP3 Stimulating the researchers' interaction

According to the original project workplan the interaction among stakeholders had to happen on the project platform. The Scientific form and the wiki tool implemented by the project were the tools to be used for the presentation of project ideas, to start discussions on the proposed research themes and for the “concurrent” drafting of project proposal.

Unfortunately the response to the initial involvement activities in which the researchers were invited to register in the platform and independently use the tools didn't give the expected results. The Consortium, therefore decided to promote to interaction among the stakeholders using more traditional means such as :

- the involvement of researchers through direct contact
- the collection of project ideas
- the collection of profiles
- match-making and mediation activities

Within the present block of activities the Consortium organized and implemented the 3 Workshops:

- 13 October 2006, Bratislava, Slovakia
- 16 November 2006, Warsaw, Poland
- 23 January 2006, Prague, Czech Republic

4) WP4 Assistance to research performers

The first step of the workpackage consisted in the the finalization of the Guidelines to entrepreneurial university: A set of guidelines concerning EU funding to research projects, mainly in the context of the Framework Programme for research and technological development. The guidelines have been made available for download from the platform.

The training activities have been then implemented during the 3 workshops organized by the project. Support on proposal writing and financial rules has been provided on request of the researchers on a one to one basis during the second year of project life.

The work continued with the creation of the Enfugen visibility catalogue containing the profiles and expertise of researchers and research centers in the targeted NMS and ACC to potential project coordinators.

In parallel the Consortium proceeded at the collection of project ideas and expression of interest and at the circulation of partner searches through the website and in the network

The Enfugen Brokerage Day was organized in Prague on the 31st of January 2007 during the Czech National Hydrogen Day and was attended by the same participants of the HFP/EC Brokerage event planned for the day after.

5) WP5 Dissemination and Visibility

The main objective of this WP5 was to give visibility of ENFUGEN activities and results and therefore maximize the visibility of NMS research potential.

This has been done by:

- networking the action to the major initiatives in the field at national and European level
- presenting the project in the largest number of national and international events
- distributing and presenting promotional material (leaflets, posters, etc.)
- widely disseminating the exploitable project deliverables
- promoting the website

In particular Enfugen project was presented :

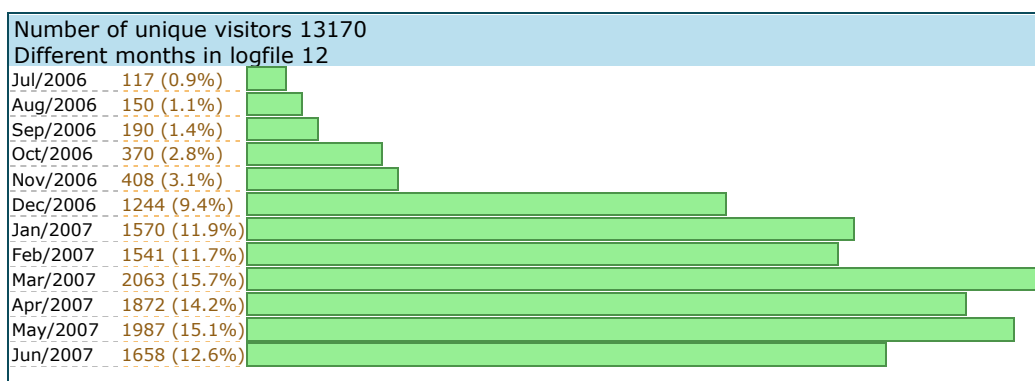
- a) On 14/05/2005 the Workshop on Fuel Cells and Hydrogen at the Czech Technical University, Faculty of Electrical Engineering
- b) HFP Operations Technical Review Days 2005 (8-9 December 2005)
- c) 3 Information days = regional workshops in Slovakia organized on:

- 7th February 2006 in Bratislava
 - 9th February 2006 in Košice
 - 10th February 2006 in Žilina
- d) FP6 Workshop and supported projects 6th April 2006, in Bratislava
 - e) FP6 Workshop, supported projects in Košice 4th May 2006
 - f) The Kick-off Event in Vienna - Food, Agriculture and Biotechnology in the 7th EU-Framework Programme for Research on 16–17th May 2006
 - g) Media briefing on 09/05/2006 to disseminate information on establishment of the Hydrogen Technology Platform in the Czech Republic.
 - h) On 16th November 2006 a 10 minutes project presentation has been given to an audience of during the Polish FP7 launch event.
 - i) 11/04/2007 – the Conference “ Climate Change – responsibility of generations organized in cooperation with the British Council and British Embassy in the Czech Republic”.

The following statistics generated Maximum visibility of ENFUGEN activities and results and therefore maximum visibility of NMS research potential was achieved by wide internet dissemination on relevant platforms:

- https://www.hfpeurope.org/uploads/1102/1605/ENFUGEN_PICANO_TechDays05_06DEC2005_rev10_FINAL.pdf
- https://www.hfpeurope.org/uploads/1741/Poster_ENFUGEN_GA06_A3.pdf
- <http://www.irc-slovakia.sk/projects.php?id=35&tid=258>
- www.powerwiki.cz/wiki/Enfugen
- www.biomatnet.org/secure/FP6/S2081.htm
- <http://www.kpk.gov.pl/projekty.html>
- www.cplsps.net/biomatnet/records.php?area=&cou=&orgs=EC+Research+Project
- <http://www.ist-world.org/ProjectDetails.aspx?ProjectId=e16320249a464df9b1acb4829fdb3c12>
- <http://e-zine.eic.sk/modules.php?name=News&file=article&sid=3328>
- www.tzb-info.cz/download.py?file=docu/zpravy/0023/002347_Eltherm2007WorkshopEnfugen2301.pdf

with VISITORS Web Log Analyzer version 0.7 give evidence of the numbers of visitors of the internet platform since the platform launch and for 4 months following to the project end . The increasing number of visitors (with the peak in March 2007) is the result of the massive dissemination given to the web site .



1.3 Final Results

The main results achieved by the ENFUGEN project are:

1.3.1 Needs Analysis

The document, made of about 70 pages, presents the situation in Poland, Czech Republic, Slovakia, Bulgaria and Romania in terms of needs and barriers for the development of Fuel cells and Hydrogen economy. The document analyzes the research activities and the initiatives in the field concerned giving priority, for each country, to the most specific relevant aspects.

1.3.2 Mapping report

The mapping report contains, for each of the 3 counties directly involved in the action the references of the major actors in the field of Hydrogen and Fuel cells: technology platforms, experts, associations, dedicated press, industries, private and public research bodies, research projects, fairs and events, etc.

1.3.3 Enfugen Platform

The Enfugen platform is based on the WordPress system and it is hosted on a secure server system.

The Platform allows the subscribers for the following actions:

- Posting news and pieces of information
- Browsing information & downloading documents
- Posting and answering to partnersearch
- Consulting the Enfugen Skipe based Helpdesk
- Ask for the activation of a Wiki-based collaborative environment for the preparation of project proposal
- Register to the project Database



1.3.4 Database

The database , mysql based, presently contains the data of 184 researchers.

- 61 from Czech republic
- 31 from Bulgaria and Romania
- 50 from Slovak republic
- 42 from Poland

The database is structured to execute queries on the following data:

- Name and surname
- Title
- Gender
- Email
- Organization name
- Organization type
 1. Private Research organization
 2. Public research organization
 3. Manufacturing/service industry
 4. Teaching/Education
 5. Consultancy/Business support
 6. Other
- Department
- Address
- Country
- Web site
- Field of research
 1. Fuel cell electrochemistry
 2. Fuel cell integration
 3. Fuel cell system components
 4. Fuel processors
 5. High temperature fuel cells
 6. Low temperature fuel cells
 7. Hydrogen distribution
 8. Hydrogen fuelling infrastructure
 9. Hydrogen production
 10. Hydrogen safety
 11. Hydrogen storage
 12. Other
- Notes (Free text)

1.3.5 Guidelines towards building entrepreneurial university

The guidelines aim at supporting researchers with no experience in the EC funding schemes to implement the necessary actions to either present their own proposal or to participate in others' proposal.

The document contains relevant information on

- EC funds
- Sources of specific information and documentation
- Structure of a proposal
- Legal framework
- How to take part to the EC programmes : step by step

1.3.6 Visibility Catalogue

The Visibility catalogue is a promotional publication containing the profiles of 36 research organizations from Poland, Slovakia, Czech Republic, Bulgaria and Romania.

The information provided in each profile consist in:

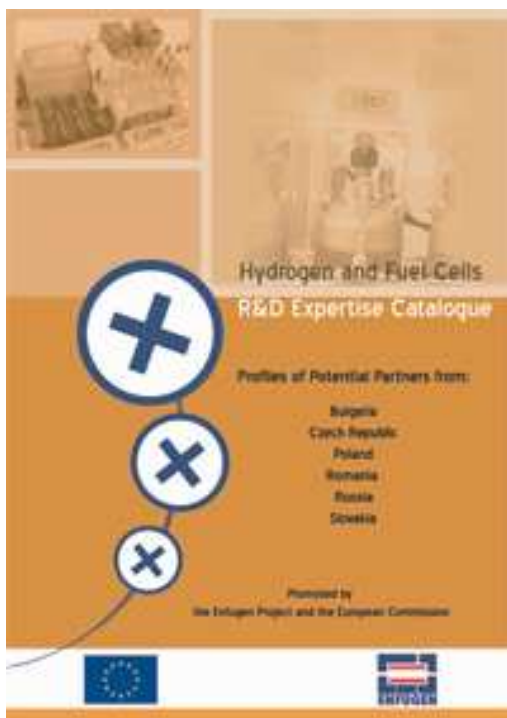
Organization description A general description of the research group, with information such as: when and how it has been formed, location in the university/institute personnel involved prof., associated professors, research, scientists, PhD students, undergraduate students, technical staff.

R&D Activities Synthesis of the relevant activities carried out by the group. Research areas , goals, results achieved and collaboration with other Research organization and Industry.

Expertise An overview do the laboratory facilities and expertise

Project, Patents & Publications a selection of 3 t/ 5 relevant items

Contacts a name and details of the contact person.



1.3.7 Other quantitative results

- 16 project ideas collected and circulated
- 3 Consortia ready to submit a proposal
- Project presentation given in 11 Events (Enfugen workshops excluded)
- 200 copies of the catalogue distributed to major stakeholders
- Electronic version of the Catalogue emailed to 570 stakeholders
- Printed paper version of the catalogue sent to 300 stakeholders
- Promotional letter for the web site and deliverable download to 270 major stakeholders
- 7653 visitors on the website from July 2006 to March 2007

1.4 Impact of the project on its industry or research sector

The Enfugen Consortium is confident that all these activities put in place by the project will contribute to the integration of the Eastern Europe research actors in the European Research Area; in details the impact of the project on the research sector have to be considered according 2 different time frame :

- in the short term
- and in the medium long term.

In the short term an impact on the research sector has been produced by the partner search, brokerage and mediation activities directly implemented during the project life.

The collection and circulation of 16 project ideas and the support given to the proposal preparation give as a direct output the constitution of 3 Consortia with a strong participation of Eastern Europe partners.

In terms of medium-long term effects the consortium conceived and produced among its deliverable a tool allowing for long lasting effects. The expertise catalogue will be in fact available to the most relevant FC&H sector actors and hopefully used in the next years when selecting research partners. Furthermore Enfugen project, during its dissemination and awareness activities has largely promoted the European Hydrogen and Fuel Cells Technology Platform (HFP Europe) and stimulated the Eastern Europe researchers to step forward and actively take part to the HFP and possibly to the newly born Technology Initiative.

SECTION 2 Dissemination and use

2.1.1 Needs Analysis

The present document has been published by the Consortium and it can be freely used as a reference for further actions aiming at improving the new member states research capacities. It has been made available for download from the project website.

2.1.2 Mapping report

The present document has been published by the Consortium and it can be freely used as a reference to have a overview of the actors, major initiatives and infrastructures, etc in the reference countries (Poland, Czech republic, Slovakia, Bulgaria and Romania) It has been made available for download from the project website.

2.1.3 Enfugen Platform

The Enfugen platform will be active for one year after the end of the project. Given the large numbers of visits, the partners are evaluating the possibility to maintain active the platform.

2.1.4 Database

The database is not a public deliverable . It is shared by the Consortium and it will be used internally for further initiatives or made available to third parties on request.

2.1.5 Guidelines towards building entrepreneurial university

The present document has been published by the Consortium and disseminated during the Training sessions. Specifically created to be largely and freely used by the researchers to acquire basic information on how to take part to the EC funding it has been made available for download from the project website.

2.1.6 Visibility Catalogue

The visibility Catalogue has been published by the Consortium and massively disseminated during the last months of the project . Specifically created to be largely and freely used by the European FC&H Community for partner search purposes. It has been made available for download from the project website.