

Theme:

Promoting the integration of Romanian research teams from the field of technologies based on hydrogen and fuel cells in research programs developed under the aegis of the European technology platform for hydrogen

Contract: CEEEX 172/01.08.2006

Contractant Authority: CORINT Program - National Centre of Programs Management

Subcontractor: INCDIE ICPE-CA, Bucharest

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Program: CEEEX - Excellence Research

Project category: Module III - PROMOTING PROJECTS OF PARTICIPATION IN EUROPEAN AND INTERNATIONAL RESEARCH PROGRAMMES

Project type: P-INT-VIZ

Project's acronym: EuRoGrove

Project's duration: 01.08.2006 – 20.08.2008

Involved partners in the project:

Coordinator: University "Ovidius" Constanta – Centre for Advanced Engineering Sciences,
Project Director: Prof. Dr. Eng. Eden MAMUT

Partener 1: National Institute for Research and Development for Cryogenic and Isotopic Technologies - ICSI Râmnicu Vâlcea, Project Responsible: Inf. Elena CARCADEA

Partener 2: INCDIE ICPE-CA Bucharest, Project Responsible: Dr. Eng. Elena ENESCU

Partener 3: University of Bucharest, Project Responsible: Conf. Dr. Ioan STAMATIN

Thematic fields:

- Hydrogen and fuel cells
- Knowledge for elaboration process of energy politics

Technological platform:

- Hydrogen and fuel cells

General objective:

Promoting the integration of Romanian research teams from the field of technologies based on hydrogen and fuel cells in research programs developed under the aegis of the European technology platform for hydrogen.

The increasing of the visibility and international representation of the Romanian scientific community and research programs in this field for the correlation and integration in European research programs is carried out by the following **activities**:

- participation of the Romanian specialists to work meetings of HFP;
- evaluation of the situation on national level and defining of some priorities in the field of researches based on hydrogen and cells;
- development of some strategic partnerships with European famous institutes and organization of some visits to these institutes;
- elaboration of the action plan for integration of the Romanian research teams in FP7 projects;
- info-day sessions and meetings for preparation of the specialists to elaborate some FP7 research project proposals;

- development of specific activities under the aegis of “National Platform for hydrogen and fuel cells” and of association “Alliance for Hydrogen and Fuel Cells” to involve a wider community in research projects and technology transfer;
- administration and updating of the web pages of the research activities in the field of hydrogen and fuel cells.

Project’s accomplishment:

- elaboration of a project proposal and its submission in the 7th Framework Program within Theme – Hydrogen and fuel cells

Realization scheme of the project / Time schedule:

2006 – Stage I – Phase 1: Analysis of the current structure of the HFP Platform, identifying issues of interest to Romania and defining a strategy for integrating of the Romanian research teams in FP7 projects. *Time period:* 01.08.2006 – 08.12.2006.

2007 – Stage II - Phase 2: Defining of an action plan in order to integrate the Romanian research teams in FP7 projects. *Time period:* 08.12.2006 – 01.09.2007.

2007 – Stage II - Phase 3: Support activities to integrate in FP7 research projects. *Time period:* 01.09.2007 – 10.12.2007.

2008 – Stage III - Phase 4: Dissemination. *Time period:* 10.12.2007 – 20.0.2008.

Potential users:

- producers of specific products for electrical engineering.

Scientific, technical, economical and social impact:

- formation of a long lasting and efficient multidisciplinary partnership in the field of new energy sources and hydrogen storage materials;
- efficient capitalization of the Romanian research ability in the aimed field;
- increasing of the rate of materials production with applications in electrical engineering;
- dissemination on a large scale of the results: published and communicated scientific papers, organization of workshops, participation at national and international fairs, exhibitions and brokerages;
- increasing of the skills of the involved specialists;
- creation of new specializations in the electrical engineering faculties;
- increasing of new work places;
- reducing of pollution and preservation of natural resources by using hydrogen as a source of clean energy.

Results Stage I – Phase 1/2006:

- participation of two Romanian specialists at two working meetings of HFP: Eng. Seitan Cristian: A meeting in the 5 HYCO Group "SOFC Fuel Cells", **Berlin, Germany, 05.09.2006** and Dr. Eng. Enescu Elena: The Third General Meeting of the Mirror Group of the European Platform for Hydrogen and Fuel Cells "**3rd HFP General Assembly, Exhibition and Drive & Ride 2006 (GT'06), Belgium, Brussels, 4 - 6.10.2006.**
- organizing of a Technical Debate "**Fuel cells and hydrogen - alternative energy sources**" and a Round Table "**European Platform for Hydrogen and Fuel Cells - research objectives and implementation plan for the time period of 2007 - 2015**", by INCDIE ICPE - CA with ICEMENERG and "POLITEHNICA" University of Bucharest, Faculty of Materials Science, 16.11.2006 in "Politehnica" University of Bucharest - Faculty of Materials Science;

- participation of some Romanian specialists at a Technical Debate and a Round Table on 16.11.2006 to communicate some scientific papers in the project's field in "Politehnica" University of Bucharest - Faculty of Materials Science

Results Stage II – Phase 2/2007:

- training of four Romanian researchers from INCDIE ICPE-CA at the International Summer School on Fuel Cells - Fundamentals - Materials & Electrochemical Aspects - Sibiu, July, 17th – 20th, 2007;
- training of two Romanian researchers from INCDIE ICPE-CA at the specialization courses organized in Thessaloniki, Greece, namely at the Summer School on "Nanosciences & Nanotechnologies" NN07, 14 - 20.07.2007;
- participation of some Romanian specialists from INCDIE ICPE-CA at three international conferences to communicate scientific papers in the project's field.
- inviting by INCDIE ICPE-CA of two specialists in this field: **Prof. Haluk Gorgun from the Technical University of Yildiz, Turkey, and Prof. Ali Ata, Project Director - UNIDO-ICHET (International Centre for Hydrogen Energy Technologies) from Turkey**, at the International Summer School on Fuel Cells - Fundamentals - Materials & Electrochemical Aspects - Sibiu, July, 17th - 20th, 2007.

Results Stage II – Phase 3/2007:

- participation of some Romanian specialists from INCDIE ICPE-CA at two Round Tables, three national conferences, from which one with international participation and a national symposium to communicate scientific papers in the project's field;
- organizing by INCDIE ICPE-CA of two Round Tables:
 - **"Fuel cells and hydrogen storage materials"**, Sept. 5 – 7, 2007, Sibiu, in the Conference "New Research Trends in Material Science - ARM 5";
 - **"Current stage and perspectives in Romania on using hydrogen and fuel cells"**, 1 - 3.11.2007, Bucharest, the Romanian Academy, during the VIIIth edition of the National Conference of New and Renewable Energy Sources, CNSNRE 2007;
- development and promotion of co-operations at regional level through gaining by INCDIE ICPE-CA of two CEEX projects and two PNCDI II projects;
- **participation of INCDIE ICPE-CA at two FP7 project proposals**, which did not obtain the score needed for contracting:
 - in the call **FP7-ENERGY-2007-RTD-1**: Proposal's title: **"Hydrogen storage in novel nanostructured solid materials,"** acronym: HYSOMAT; registration number of the project proposal: **211910**, INCDIE ICPE-CA – partner;
 - in the call **FP7-REGPOT-2007-1**: Proposal's title: **"Developing Romanian RTD Capacity and Potential in the Field of Renewable Energy Technologies, to Improve the Economic, Social Cohesion and Competitiveness in the European Research Area"**, acronym: CERES, registration number of the project proposal: **205279**; Coordinator: INCDIE ICPE-CA;

Results Stage III – Phase 4/2008:

- participation of two Romanian specialists from INCDIE ICPE-CA at the Regional Salon of Research, in the time period of 26 - 28.06.2008, Timisoara, to communicate two scientific papers in the project's field;
- **participation of INCDIE ICPE-CA (Coordinator) in the call FP7-REGPOT-2008-1 with a FP7 project proposal (proposal no.: 229906), which earned in the evaluation 14.5 points of the 15 points needed; it is an ongoing contract.**

Indicators of project's accomplishment/partner P2:

- organisations and respectively number of research personnel involved in the project: 4
 - organisations types: P2 – INCD
 - no. of researchers / project: 5
- value of new acquisitions per program: 7881,38 lei
- published papers: 4
- posters: 8
- scientific communications: 18
- web page: 1
- work visits and long term probations of some scientific renowned specialists from abroad: 2
- project proposals submitted to international programs: 3
- approved international project proposals: 1
- new created partnerships: 1
- formation of specialized personnel: 6