

Newsletter 2014



Andrea Olivani, Whirlpool, at THERMAGVI

04/05/2014

ELICiT Gets Going

From 6 to 7 February partners in ELICiT – Environmentally Low Impact Cooling Technology – met for the project kick off meeting at Whirlpool R&D headquarters in Biandronno, Italy.

ELICiT, an EU FP7 project focusing on the application of magnetic cooling technology to the domestic refrigeration appliances, is designed to enhance collaboration between SMEs, global appliance manufacturers while drawing on expertise found in universities and research centres..

During the consortium meeting, partners presented their workpackages within the scope of the project and gathered feed back for establishing an optimal collaborative network.

The involvement of a balanced mix of small companies and large players in the field of magnetic refrigeration ensures a far-reaching range of available competencies. Furthermore industrial know-how is robustly backed by research institutes that support the project development.

The ELICiT project officially started in January 2014 for a period of 36 months.

FP is the short name for Framework Programme which began in 1984. The seventh and last Framework Programme – FP7 for Research and Technological Development ended in December 2013.

10/09/2014

ELICiT receives a warm welcome at THERMAGVI

The buzz created around ELICiT shows a promising future for magnetic cooling in domestic refrigeration.

On 10 September, the first ELICiT workshop took place in Victoria, B.C. Canada. Held at the Victoria Conference Center during the IIR conference THERMAGVI, this highly successful event welcomed over 40 participants from around the globe. Presentations sparked a round of questions for the consortium partners (Whirlpool, Cemafruid, Camfridge, and the IIR) and generated interest in specific standards for magnetic refrigeration.

Alessandro Pastore from Camfridge highlighted the machine development so far and the need to push the technology level forward, including future standards for magnetic refrigeration. Pastore outlined the low-cost, drastically reduced rare-earth Camfridge's magnetic refrigeration solution provides as well as additional steps before accessing the domestic refrigeration market. Didier Coulomb, IIR Director, presented ELICiT's communication and dissemination activities while also focusing on future collaboration between the IIR Working Party on Magnetic Refrigeration and Cemafruid during the standardization phase of the project.

24/09/2014

ELICiT partners meet up in Cambridge

From 18 to 19 September, the ELICiT consortium held their first progress meeting since the kick off meeting in February 2014 in Milan.

Organised by Camfridge, the nine consortium partners met at Trinity Hall College in Cambridge for two days of meetings to discuss developments in the research as well as obstacles and next steps.

Project coordinator, Raffaele Paganini from Whirlpool, was more than satisfied with current headway made in the partners' work. Additionally, energy performance optimisation of the pump and the heat exchanger, from TCS Micropumps and Re/Gent respectively, show favourable progress.

Likewise, Politecnico di Milano (POLIMI) presented a meticulous outline of the life cycle assessment principal in order to obtain relevant information from the partners to carry out the assessment.

Overall, the consortium was pleased with the outcome of the meeting and looks forward to continuing positive advancement. The next progress meeting is planned for March 2015 at IIR headquarters in Paris.



The ELICiT consortium at their first progress meeting



The project kick off meeting at Whirlpool R&D headquarters

Partner News

Cambridge

On 31 October 2014, Cambridge CEO, Neil Wilson, received high praise when showcasing magnetic cooling engine technology to a delegation of global beverage soft drink industry leaders visiting Cambridge University.

Re/gent

Several conceptual heat exchanger designs have been derived and were theoretically validated. From these options, the forced convection plate design is selected as a first step in the optimization process.

TCS Micropumps

TCS has designed a completely new pumping technology, the 'R' Pump. They were also pleased to report significant gains, a result of refinement of existing TCS technology.

Whirlpool R&D

As Coordinator, WRD has proceeded with the launching of the project. However, some of the Y1 planned activities have been moved to Y2 waiting for the availability of the New Magnetic Engine working prototype. In collaboration with Regent and S.C.I.R.E., a preliminary heat exchange design, based on traditional cooling technology, has been completed.

S.C.I.R.E

S.C.I.R.E. has configured a new heat exchanger using metal foam. This was followed by evaluations of thermal performance and pressure drop analysis for cooling liquid. Foam characterization on bench test and testing for first prototype performance evaluation

Politecnico di Milano

POLIMI implemented a specific Decision-Support System to compare performances and environmental and economic impacts between conventional and magnetic refrigeration systems. The team met with ELICiT partners (WRD, Cambridge, Re/gent, S.C.I.R.E., and TCS MicroPumps) to gather data on economic and production processes linked to conventional and magnetic refrigeration components.

Cemafruid

Following an in depth analysis of the existing regulation and standards framework applicable to magnetic refrigerators, Cemafruid has produced a report listing mandatory requirements (health, safety, environmental issues) and specific requirements (energy efficiency). These prerequisites will serve as a basis for further optimization and development activities within the project

The International Institute of Refrigeration (IIR)

The IIR is focusing on future collaboration between the IIR Working Party on Magnetic Refrigeration and Cemafruid during the standardization phase of the project. They have also advanced ELICiT communication and dissemination activities, organizing a workshop at THERMAGVI and creating a range of communication supports.

PSU Tec

PSUtec is keen to assist Whirlpool in the management of this exciting project. This an excellent opportunity for us to provide our expertise, method and tools to the Consortium.

Find more news at: elicit.project.eu



#MagneticCooling

Events

16-22 August 2015 Catch up on the project at the International Congress of Refrigeration (ICR2015) in Yokohama, Japan!



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration.

Cambridge

✓ PSUtec

Cemafruid
L'expertise de la chaîne du froid

POLITECNICO DI MILANO

RE GENT

TCS
Micropumps

S.C.I.R.E.
Scientific Center
Industry Research
and Innovation

Whirlpool

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