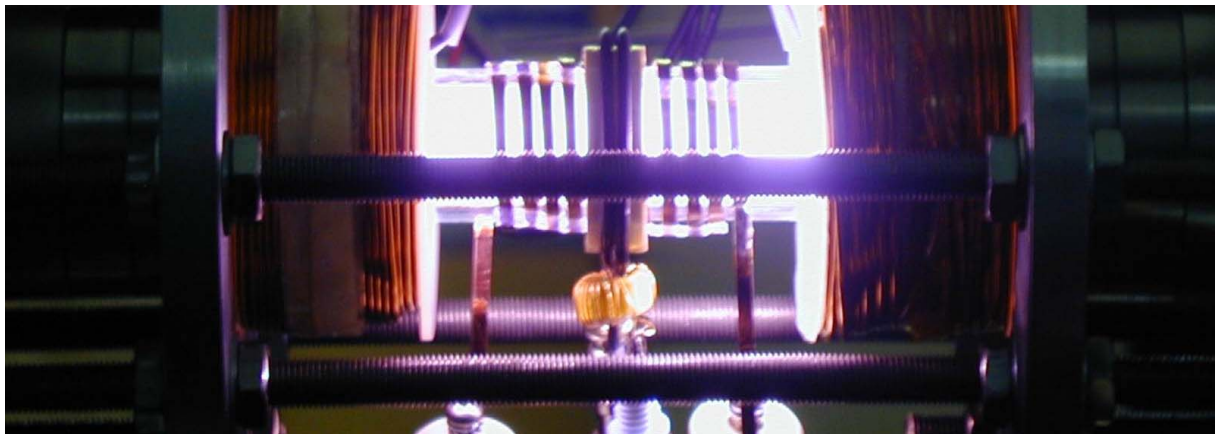


Towards the Next Generation of Spacecraft New Space Plasma Thruster Technology (Project HPH.com)

The objective of the HPH.com research project is to design, optimize and develop a new type of space plasma thruster based on helicon-radio-frequency technology, which allows for higher versatility and lower costs compared with current systems.



Towards the next generation of spacecraft

A new age of space travel is approaching. The bulky rockets of yesteryears may be replaced by new electric engines allowing more flexible use while using less fuel. These high-efficiency engines could pave the way for bigger payloads at lower cost, significantly enhancing mission capabilities. The HPH.com project aims at making an important step forward in this field. Using the same engine for small manoeuvres and for long trips makes sense on Earth, but what about with spacecraft? In fact, most spacecraft today use separate propulsion systems for making fine adjustments and major orbit changes. The project HPH.com strives to simplify this situation, by developing a more flexible engine which is capable of doing both.

What are the applications?

HPH.com is intended to increase the performance level and capability of future propulsion systems. Such enhanced performance makes new mission scenarios possible, enhancing European strategic non-dependence. This technology will allow for bigger payloads, leading to increased “mission capabilities” in new mission scenarios; hence new services at lower costs. Moreover, this technology could be applied to other industries, strengthening the competitive advantage of European companies.

Who are the actors?

HPH.com brings together industry and research institutions from across Europe in a consortium led by Università degli Studi di Padova / Centro Interdipartimentale Studie Attività Spaziali (CISAS), Italy. List of partners:

- Office national d'études et de recherches aérospatiales , France
- Università degli Studi di Roma "La Sapienza" , Italy
- Thales Alenia Space Italia S.p.A. , Italy
- Ente per le Nuove Tecnologie, l'Energia e l'Ambiente , Italy
- National Aerospace University Kharkiv Aviation Institute , Ukraine
- Universidad Politécnica de Madrid , Spain
- Alma Mater Studiorum - Università degli Studi di Bologna (UNIBO), Italy
- Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences , Russia
- Advanced Operations and Engineering Services Group B.V. , The Netherlands
- LMS Imagine S.A. , France
- Roving A/S , Denmark
- Bradford Engineering B.V. , The Netherlands
- Studio Progettazione e Realizzazione di Apparati Elettronici di Selmo Antonio , Italy
- Centre national de la recherche scientifique - Laboratoire de physique des gaz et des plasmas , France

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Additional Information

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Starting date: 1 December 2008

Duration: 36 months

Estimated total cost: EUR 4.900.545 million

EU Contribution: EUR 3.572.011 million

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