ROBOT FLEETS FOR HIGHLY EFFECTIVE AGRICULTURE AND FORESTRY MANAGEMENT

Fact Sheet

Project Information

RHEA
Grant agreement ID: 245986

Funded under FP7-NMP

Project website

Status
Closed project

Overall budget € 8,892,394.80

EU contribution € 6,599,286

Start date 1 August 2010

End date 31 July 2014

Coordinated by AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS

Spain

This project is featured in...

RESEARCH*EU MAGAZINE
Women in science — and research to improve women’s lives

NO. 20, MARCH 2013
Objective

In the last two decades, a precise management of agricultural land has been made possible due to the availability of new technologies, including global positioning systems (GPS), geographic information systems (GIS), sensors, automation of agricultural machinery, and high resolution image sensing. As a result, the concept of Precision Agriculture has emerged as the management strategy that uses information technologies to collect and process data from multiple sources in order to facilitate decisions associated with crop production. Moreover, the EU’s sixth environmental action programme addresses the need to encourage farmers to change their use of plant protection products’.

RHEA is focused on the design, development, and testing of a new generation of automatic and robotic systems for both chemical and physical –mechanical and thermal– effective weed management focused on both agriculture and forestry, and covering a large variety of European products including agriculture wide row crops (processing tomato, maize, strawberry, sunflower and cotton), close row crops (winter wheat and winter barley) and forestry woody perennials (walnut trees, almond trees, olive groves and multipurpose open woodland).

RHEA aims at diminishing the use of agricultural chemical inputs in a 75%, improving crop quality, health and safety for humans, and reducing production costs by means of sustainable crop management using a fleet of small, heterogeneous robots – ground and aerial– equipped with advanced sensors, enhanced end-effectors and improved decision control algorithms. RHEA can be considered as a cooperative robotic system, falling within an emerging area of research and technology with a large number of applications as reported by the FP6 Network of Excellence EURON, Special Interest Group on Cooperative Robotics, funded by the European Commission.

RHEA will be a unique opportunity to gather a very large number of multidisciplinary research groups with adequate funds to accomplish an authentic step forward in applying precision agriculture techniques in a massive way. This consortium joints a number of multidisciplinary, experienced researchers capable of improving individual scientific knowledge, but a large cooperation project is demanded to sum up the individual efforts in a holistic manner. The success of RHEA could bring a new means of applying automatic systems to agriculture and forestry crops with an important impact in improving the economy and environment as well as in maintaining the sustainability of rural areas by launching new technological jobs.

Field of science

/social sciences/economics and business/economics/sustainable economy
/agricultural sciences/agriculture, forestry, and fisheries/agriculture/plant protection
/agricultural sciences/agriculture, forestry, and fisheries/forestry
Programme(s)

Topic(s)

Call for proposal

FP7-NMP-2009-LARGE-3

Funding Scheme

CP-IP - Large-scale integrating project

Coordinator

AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

Address

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28006 Madrid
Spain

Website

Administrative Contact

Ana Maria De La Fuente (Ms.)

Participants (14)

COGVIS SOFTWARE UND CONSULTING GMBH

Address

Wiedner Hauptstrasse 17 3 A
1040 Wien

Activity type

Private for-profit entities

EU contribution

€ 321 464
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<th>EU Contribution</th>
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<th>Activity Type</th>
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<td>FTW FORSCHUNGSZENTRUM TELEKOMMUNIKATION WIEN GMBH</td>
<td>Austria</td>
<td>€ 424 049,50</td>
<td>Donau City Strasse 1/3 1220 Wien</td>
<td>Research Organisations</td>
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<td>CYBERBOTICS SARL</td>
<td>Switzerland</td>
<td>€ 499 740</td>
<td>Epfl Innovation Park, Building C 1015 Lausanne</td>
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<td>UNIVERSITA DI PISA</td>
<td>Italy</td>
<td>€ 352 098,20</td>
<td>Lungarno Pacinotti 43/44 56126 Pisa</td>
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UNIVERSIDAD COMPLUTENSE DE MADRID
Spain
EU contribution
€ 373 344

Address
Avenida De Seneca 2
28040 Madrid

Activity type
Higher or Secondary Education Establishments

Website
Contact the organisation

Administrative Contact
Andrea Peruzzi (Prof.)

Tropical S.A.
Greece
EU contribution
€ 310 881

Address
Kifissou Avenue 98
12132 Athens, Peristeri

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website
Contact the organisation

Administrative Contact
Maribel Rodriguez Villa (Ms.)

SOLUCIONES AGRICOLAS DE PRECISION S.L.
Spain
EU contribution
€ 372 363,75

Address
Avenida Menendez Pidal
14004 Cordoba

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website
Contact the organisation

Administrative Contact
George Kaplanis (Mr.)

Contact the organisation
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<td>€ 545 939,70</td>
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<td>AIRROBOT GMBH &amp; CO KG</td>
<td>Germany</td>
<td>€ 425 100</td>
<td>Werler Strasse 4 59755 Arnsberg</td>
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<td>UNIVERSITA DEGLI STUDI DI FIRENZE</td>
<td>Italy</td>
<td>€ 257 228</td>
<td>Piazza San Marco 4 50121 Florence</td>
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<td>INSTUT NATONAL DE RECHERCHE EN SCIENCES ET TECHNOLOGIES POUR L'ENVIRONNEMENT ET L'AGRICULTURE</td>
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France
EU contribution
€ 360 001

Address
Rue Pierre Gilles De Gennes 1
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Website
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Gilles Rabatel (Dr.)

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CNH INDUSTRIAL BELGIUM
Belgium

EU contribution
€ 339 010,80

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Leon Claeysstraat 3 A
8210 Zedelgem

Website
Administrative Contact
Bart Missotten (Dr.)

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BLUEBOTICS SA
Switzerland

EU contribution
€ 374 850

Address
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1015 Lausanne

Website
Administrative Contact
Nicola Tomatis (Dr.)

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C.M. SRL
Italy

EU contribution