

SC2 Dissemination Event

Environment-smart and climate-smart primary production
Brussels, 27 June 2016

ICT-AGRI-2 ERA-NET Project Information and Communication Technology and Robotics for Sustainable Agriculture

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ICT-AGRI-2 ERA-NET Project

- Project Outline
- Consortium Overview
- Project Results
- Impact
- Lessons Learnt





Challenge addressed by ICT-AGRI

Modern agricultural engineering tools are necessary to enable agriculture to meet great challenges:

- Global demand for food, feed & bio-based products
- Reduce environmental footprint of agriculture
- Respond to customer demands for healthy food
- Combine precision livestock farming with high animal welfare standards





Why does it matter?

There are many areas where innovative ICT and robotic applications can help pave the way towards agricultural production systems that are more sustainable and efficient:

- Farm Management Information Systems (FMIS)
- Variable rate application (VRA)
- Controlled traffic farming (CTF)





Approach used by ICT-AGRI-2

Mutual Learning

Long term planning

Mapping



Agreed
Strategic
Research
Agenda



Joint
Transnational
Funding Call(s)

Communication & Dissemination





Approach used by ICT-AGRI-2

- **Mapping and analysis** of research and innovation in the area of **precision farming**
- Update of the **Strategic Research Agenda**
- Development of **transnational joint calls** for coordinated research and innovation
- Coordination within the **European Research Area**
- **Dissemination**, online tools, sharing of best practice
- **Impact assessment** and **evaluation** of ERA-NET effectiveness





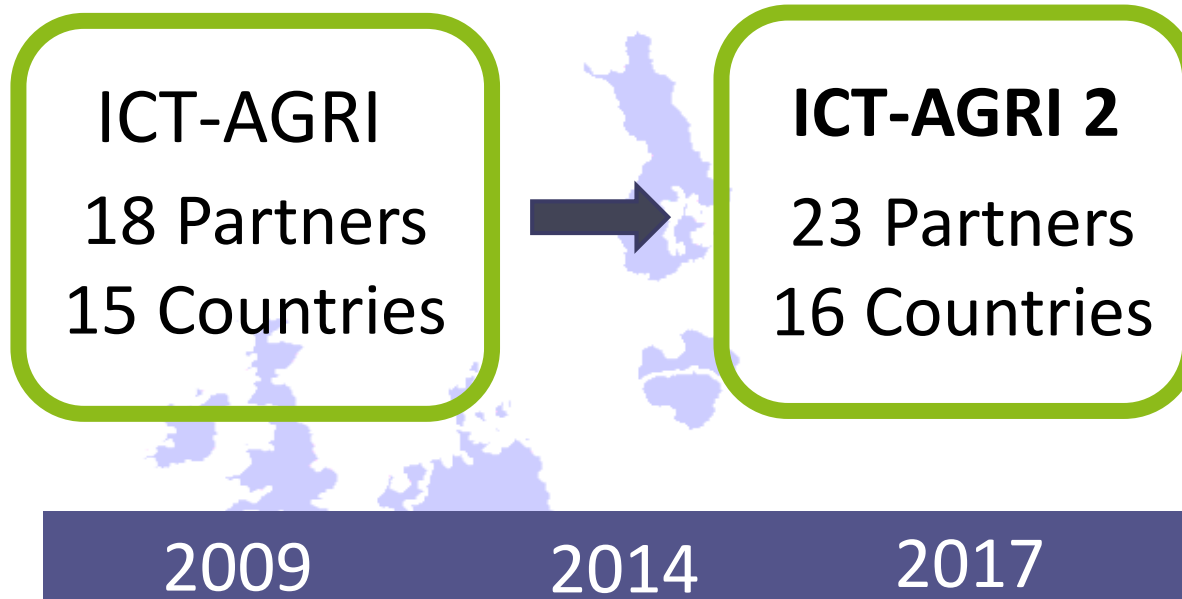
Main objectives of ICT-AGRI

- To contribute to the development of an eco-efficient, resource-efficient and competitive agriculture through an enhanced and improved use of ICT and robotics
- Contribute to European collaboration within ICT and robotics for a sustainable agriculture





Consortium overview





List of Partners

No	Partner	Country
1	Innovation Fund Denmark	Denmark
2	Ministry of Food, Agriculture and Fisheries, Danish AgriFish Agency	Denmark
3	Institute for Agricultural and Fisheries Research	Belgium
4	Flanders Innovation & Entrepreneurship	Belgium
5	Ministry of Agriculture and Forestry	Finland
6	National Research Institute of Science and Technology for Environment and Agriculture	France
7	Federal Office for Agriculture and Food	Germany
8	Federal Ministry of Food and Agriculture	Germany
9	Greek Research & Technology Network	Greece
10	Teagasc – Agriculture and Food Development Authority	Ireland
11	Ministry of Agriculture and Rural Development	Israel





List of Partners

No	Partner	Country
12	Ministry of Agriculture, Food and Forestry Policies	Italy
13	Latvian Academy of Science	Latvia
14	Aleksandras Stulginskis University	Lithuania
15	Ministry of Economic Affairs, Agriculture and Innovation	Netherlands
16	Netherlands Organisation for Applied Scientific Research	Netherlands
17	Stichting Dienst Landbouwkundig Onderzoek	Netherlands
18	Federal Office for Agriculture – Bundesamp für Landwirtschaft	Switzerland
19	Instituto de Formento de la Region de Murcia	Spain
20	Corporación Tecnológica de Andalucía	Spain
21	General Directorate of Agricultural Research and Policies	Turkey
22	Scientific and Technological Research Council of Turkey	Turkey
23	Department for Environment, Food and Rural Affairs	UK





Number of partners per type of organisation

Type of organisation	No. of partners
Public Body	13
Research Organisation and Public Body	6
Research Organisation	2
University	1
Enterprise	1
Total	23

Type of organisation	No. of partners
National Ministries	9
Funding Agencies	8
Universities/Research Institutes	6
Total	23





Project Results

Mapping



Strategic
Research
Agenda



Joint
Transnational
Funding Calls





Mapping



- Online data management tool for mapping
- Published information about funded projects
- Manual import of data from funder websites
- Preparing for automatic import by Open Access technology
- Advanced full text search for identifying similar projects



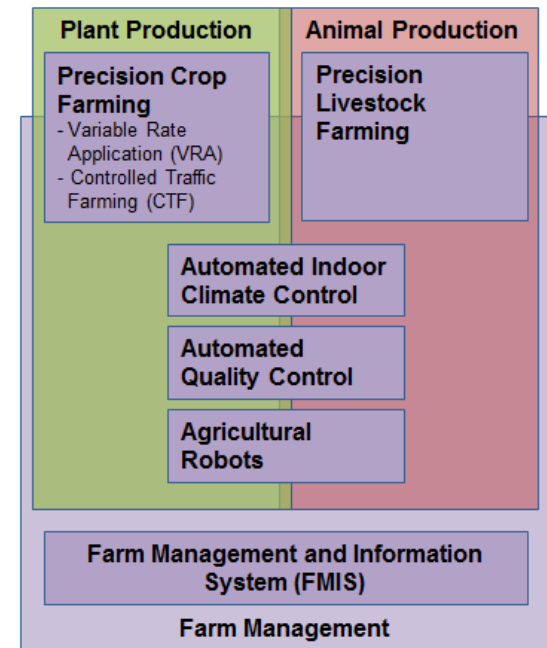


Strategic Research Agenda



- Global food security
- Sustainable resource management
- Energy consumption
- Food quality and safety
- Climate change
- Social aspects and demands

- Increase productivity
- Reduce waste in the food chain
- Optimize fertilizer and pesticide use
- Optimize water management
- Maintain soil quality
- Protect and promote biodiversity
- Minimize air pollution
- Increase energy efficiency
- Ensure food quality and safety
- Food traceability and information
- Reduce greenhouse gas emissions
- Increase animal welfare and health
- Less tedious and hazardous work





Joint Transnational Funding Calls



Joint Transnational Funding Call





Joint transnational funding calls

- 2010 Integrated ICT and automation for sustainable agriculture (7 projects)
- 2012 ICT and automation for a greener agriculture (8 projects)
- 2014 Applications for smart agriculture (with SmartAgriFood) (9 projects)
- 2015 Enabling Precision Farming (8 projects)
- 2016 Farm Management Systems (Partnerships)
- 2017 Farm Management Systems





Impact of ICT-AGRI-2

- A broad acceptance and use of standards leading to (a) reduced costs and improved quality of robotic machines and associated software and (b) enhanced uptake and use of ICT and robotics by farmers
- A faster and safer implementation in practice of new knowledge produced by interdisciplinary agricultural research and development





Impact of ICT-AGRI-2

- Improved knowledge at national and EU funding bodies on the state of the art, current RTD projects and future needs of ICT and robotics in agriculture, providing improved possibilities for coordinated funding
- Critical mass, better use of limited resources and reduced overlaps in activities to produce solutions to strategic topics of mutual interest with regard to ICT and robotics in agriculture





Impact of ICT-AGRI-2

- Effective networking amongst all relevant players and improved access to scientific and technical information
- A significant contribution to effective management and operation of ERA-NETs





Impact assessment

- Definition of objectives and indicators
- Data collection
 - Targeted questionnaires and monitoring tools
 - Monitoring online activity of Meta Knowledge Base
 - Reporting from funding projects
 - Questionnaires aimed at stakeholders (applicants, platform users, partners, etc)
- Impact evaluation and recommendations
 - Quantitative and qualitative analysis
 - Report with results and recommendations





Dissemination of results

- Scientific channels
- Open Access encouraged for all results
- Interactive website and Meta Knowledge Base +2000 users www.ict-agri.eu
- Newsletters, public deliverables
- Networking between ICT-AGRI partners
- Networking between ICT-AGRI and other transnational research coordination initiatives
- Networking amongst ICT-AGRI funded researchers





Measures taken to ensure uptake of results beyond consortium

- Networking with transnational research coordination initiatives
 - Other ERA-NETs (ERA-NET SusAn, ERA-GAS)
 - JPI FACCE
 - EIP AGRI Operational Groups
 - Relevant EIT KICs
- Collaboration with European and national PPPs
- Interactive platform and Meta Knowledge Base

<http://ict-agri.eu>





Measures taken to ensure uptake of results beyond consortium

- Supported interaction with stakeholders: ICT suppliers, food chains, public services, advisory services, software houses, machine manufacturers
- Support of Open Access for mapping and exchange of scientific and technical information
- Results of impact assessment integrated into ERA-NET funding activities and networking activities






Success Factors: Lessons Learnt

- Heritage from ICT-AGRI ERA-NET 2009-2014
- Experience in launching and administering transnational joint calls
- Recognition and goodwill among stakeholders
- Support of funding agencies
- ICT-AGRI Strategic Research Agenda
 - Research and innovation requirements, recommendations for implementation
- ICT-AGRI Meta Knowledge Base
 - Includes mapping, stakeholder consultation, partner search, submission of applications, administration of calls





Benefits from participation in international consortium

- Cross-thematic ERA-NET spanning 3 FP7 themes
- Ministries and funding agencies bring political support, experience in policy development, operation of funding programmes, stakeholder engagement, topic expertise
- Universities and research institutes have in-depth expertise in topic area, strong record of industry collaboration





Knowledge gaps and further research needs

- Research and innovation – involving more SMEs and private companies
- Update to Strategic Research Agenda (2017) will identify knowledge gaps or further research needs in the area of precision farming





Thank You



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