

3|4 DEC
MÁLAGA
SPAIN

S³ DIGITALISATION AND NEW TECHNOLOGIES IN AGRI-FOOD



AGRI-FOOD

AGENDA



#SMARTSPECIALISATION
s3platform.jrc.ec.europa.eu

Digitalisation and New Technologies in Agri-food

3 – 4 December 2019

Palacio de Ferias y Congresos de Málaga, Málaga, Spain

Digitalisation and New Technologies in Agri-food event is co-organised by JRC and Junta de Andalucía. It is composed of four different parts:

- 2019 Autumn Working Committee Meeting (3 December 2019)
- Exploring synergies between Digital Innovation Hubs and Agri-food Partnerships (4 December 2019)
- Field visit (4 December 2019)
- B2B event (3-4 December 2019) organised by EEN

The objective of the first day is to showcase activities related to exploration, exploitation and deployment of digital services and technologies by the AF Partnerships. What is added value and contribution of the Partnerships? How important new technologies are for AF Partnerships and how the AF Partnerships go about their mapping and use? Focus will be also on specific technologies (not yet) used by the Partnerships, market needs and matching demand with offer. Significant space will be given to companies that will pitch successful collaboration within AF Partnerships, successful uptake of technologies by agri-food sector, possible technological solutions for agri-food or promising new emerging technologies for agri-food.

The second day will focus on Digital Innovation Hubs. Between three and five Digital Innovation Hubs will present their overall and specific strategies and activities addressed to help the digitisation of agri-food industries and businesses in their own regions and beyond borders. Two H2020 transversal projects will present their efforts to help creating a pan-European community of DIHs that may ease interregional collaboration with AF Partnerships. The DIHs presentations will be followed by roundtable discussions on challenges related to agri-food digitisation that will be pre-defined by the AF partnerships. A facilitator will lead each group to deepen its challenge and envisage possible solutions, solution providers and DIHs ready to facilitate the process from end to end.

In addition, a B2B event will be organised by the Andalusian branch of the Enterprise Europe Network (EEN). Short pre-scheduled meetings will take place simultaneously to the main event. In the afternoon of the second day field trip(s) are organised.

Thematic S3 Platform on Agri-Food Working Committee Semi-annual Meeting

3 December 2019

Thematic Smart Specialisation Platform on Agri-food was launched on 1 June 2016 during the Smart Regions conference, and it counts with support of DG AGRI, DG JRC, DG REGIO and DG RTD. From June 2016 to October 2019, five partnerships qualified. Each existing Partnership has its own dedicated webpage with contact details, hosted by the S3 Platform website:

- [Consumer involvement in agri-food innovation](#) (leading regions: Province of Gelderland, The Netherlands and Östergötland, Sweden)
- [High-tech farming](#) (leading region: Tuscany, Italy)
- [Nutritional Ingredients](#) (leading regions: Wallonia and Flanders, Belgium)
- [Smart sensors for agri-food](#) (leading regions: Flanders and Wallonia, Belgium)
- [Traceability and Big Data](#) (leading regions: Andalusia, Spain and Emilia-Romagna, Italy)

A total of 49 territorial administrative units have committed and participate in one of five existing Agri-food Partnerships. Austria, Estonia and Slovenia are three EU countries that have joined the Agri-food Partnerships at the national level. In particular, four administrative units take part in the Consumer Involvement in Agri-food Innovation, 27 administrative units in the High-tech Farming, 10 administrative units in the Nutritional Ingredients, 15 administrative units in the Smart sensors for Agri-food, and 21 in the Traceability and Big Data. The majority of participating entities are located in Italy (9), Spain (8), France (4), Hungary (4) and the Netherlands (4). Some of these participate in more than one partnership; for example Galicia participates in 4 out of 5 partnerships. Furthermore, one non-EU region from Turkey (Middle Black Sea Region) is taking part in the Traceability and Big Data.

The Working Committee consists of all regions participating in Agri-food thematic partnerships. Agri-food Working Committee Meetings bring together the European Commission services and representatives of all Agri-Food thematic partnerships. Information about the past Agri-food Working Committee Meetings is available on this webpage: <https://s3platform.jrc.ec.europa.eu/working-committee-meetings> .

09:00 – 11:00

Technical meetings

- 5 AF Partnerships will meet and hold their regular technical meetings

11:00 – 11:30

Registration & Coffee

11:30 – 11:45

Welcome and Opening

- **Carmen Cristina de Toro Navero**, General Director of Industries, Innovation and Value Chain of the Regional Ministry of Agriculture, Livestock, Fisheries and Sustainable Development of Andalucía
- **Daniel Escacena**, Project Director, Andalusian Knowledge Agency
- **Alessandro Rainoldi**, Head of Unit, European Commission, JRC, Growth and Innovation

11:45 – 13:00

Contribution of AF Partnerships to digitalisation and technology deployment

Five Agri-food Partnerships will present their current activities and plans related to exploration, exploitation and deployment of digital services and technologies. What is added value and contribution of the Partnerships? Focus will be also on specific technologies (not yet) used by the Partnerships, market needs and matching demand with offer. Also, the Partnerships will talk about the support that is needed and is currently lacking. Finally, the Partnerships will report from their technical meetings.

- Consumer Involvement in Agri-food Innovation (**Thomas Högman**, Region Östergötland, Sweden)
- High Technology Farming (**Fabio Boscaleri**, Tuscany, Italy)
- Nutritional Ingredients (**Sophie Bourez**, Wallonia, Belgium)
- Smart Sensors for Agri-food (**Veerle Rijckaert**, Flanders, Belgium)
- Traceability and Big Data (**Judit Anda Ugarte**, Andalusia, Spain)

13:00 – 14:00

Networking lunch

14:00 – 15:15

Private companies presenting existing or promising technical solutions for agri-food

Private companies pitching successful collaboration within Partnerships, successful uptake of technologies by agri-food sector, possible technological solutions for agri-food or promising new emerging technologies.

- **Ellinor Eineren**, Agricam AB, Sweden
- **Maartje Bakker**, Applied Drone Innovations, Netherlands
- **Niccolò Bartoloni**, DroneBee | Smart Agriculture, Italy
- **Ricardo Arjona Antolín**, ec2ce, Spain
- **Nikolaos Tsotsolas**, Green Projects SA, Greece

- **José Luis Molina Zamora**, Hispatec, Spain
- **Zoltán Beke**, Mortoff Informatikai Tanácsadó és Szolgáltató Kft., Hungary

15:15 – 16:45 Roundtable EC services and other EU institutions

EU institution representatives and the Partnerships will discuss needs and support for the period 2019 – 2021

- **Nikos Pantalos**, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, European Commission
- **Wim Haentjens**, Directorate-General for Research and Innovation, European Commission
- **Alexia Rouby**, Directorate-General for Agriculture and Rural Development, European Commission
- **Magdalena Szwochertowska**, Directorate-General for Communications Networks, Content and Technology, European Commission
- **Valentina Pinna**, Directorate-General for Regional and Urban Policy, European Commission
- **Elvira Domingo**, European Institute of Innovation & Technology (EIT) Food

Questions & Answers & Discussion

16:45 – 17:00 Conclusions and closing

- **Karel Herman Haegeman**, European Commission, JRC, Growth and Innovation

17:00 – 18:00 *Networking cocktail*

Moderators: **Katerina Ciampi Stancova** and **Fatime Barbara Hegyi**, European Commission, JRC

Exploring synergies between Digital Innovation Hubs and Agri-food Partnerships Workshop & Field Visit

4 December 2019

For Europe to remain competitive internationally, its companies must be able to benefit from digital opportunities. This will lead to higher value products and smarter processes.

The digital revolution brings opportunities for big and small companies, but many of them still find it difficult to know in which technologies to invest and how to secure financing for their digital transformation. Small and Medium Sized Enterprises (SMEs) are particularly slow in integrating digital technologies: **only one out of five SMEs in the EU are highly digitised**, yet they represent over 90% of all businesses in Europe.

To bridge the current divide the European Commission launched on 19 April 2016 [the first industry-related initiative of the Digital Single Market package](#). Building on and complementing the various national initiatives for digitising industry, the Commission will act to trigger further investments in the digitisation of industry and support the creation of better framework conditions for the digital industrial revolution. One of the more important pillars of the Digitise European Industry effort is the activity to develop a network of [Digital Innovation Hubs](#) (DIH).

Digital Innovation Hubs are **one-stop-shops** that help companies to become more competitive with regard to their business/production processes, products or services using digital technologies. They are based upon technology infrastructure (Competence Centre - CC) and provide access to the latest knowledge, expertise and technology to support their customers with piloting, testing and experimenting with digital innovations. DIHs also provide business and financing support to implement these innovations, if needed across the value chain. As proximity is considered crucial, they act as a first regional point of contact, a doorway, and strengthen the innovation ecosystem. A DIH is a regional multi-partner cooperation (including organizations like RTOs, universities, industry associations, chambers of commerce, incubator/accelerators, regional development agencies and even governments) and can also have strong linkages with service providers outside of their region supporting companies with access to their services.

The rationale behind this initiative is to help European Industry, small or large, high-tech or not, to grasp the digital opportunities. It is the Commission's ambition that all companies should have a DIH within their region, through which they should be able to access competences in order to digitise their organisations and their products and services. Furthermore, the services provision by existing Hubs can be strengthened by the establishment of a pan-European network of DIHs.

The [Digital Innovation Hubs catalogue](#) tool hosted under the S3P (Smart Specialisation Platform) serves as "yellow pages" of DIHs listing more than 250 fully operational DIHs all over the EU.

09:00 – 09:30

Registration

09:30 – 09:45

Introduction and setting the scene

A brief introduction on the main policy developments in the DIH initiative within the Digitising European Industry (DEI) policy setting, on the JRC's analytical work results and setting the scene of the workshop.

Speaker: **Gabriel Rissola**, European Commission, JRC

09:45 – 11:15

Digital Innovation Hubs meeting Agri-food needs

Between three and five Digital Innovation Hubs will present their overall and specific strategies and activities addressed to help the digitisation of agri-food industries and businesses in their own regions and beyond borders. Two H2020 transversal projects will present their efforts to help creating a pan-European community of DIHs that may ease interregional collaboration with AF partnerships.

Moderator: **Annita Kalpaka**, European Commission, JRC

- DIH Andalucía Agrotech (**Judit Anda Ugarte**, Andalusia, Spain)
- DIH Agrifood – ITC Cluster (**Daniel Copot**, Slovenia)
- DIH Agro Poland (**Łukasz Łowiński**, Poznan, Poland)
- AgriFood DIH Lithuania (**Kristina Sermuksnyte-Alesiuniene**, Augustas Alesiunas, Lithuania)
- Smart Agri Hubs, *Unleashing the innovation potential for the digital transformation of the European Agrifood Sector* (**George Beers** – Scientific Project Coordinator, Univ. of Wageningen)
- DIHNet.EU, *Potential synergies between networked DIHs and AF partnerships* (**Begona Sanchez** – Project Work package Coordinator, Tecnalia)

Questions & Answers

11:15 – 11:30

Coffee break

OPTION 1:

11:30 – 13:00

DIH Parallel Discussion Groups

Participants are organised in five small groups around pressing agri-food digitisation challenges posed by AF partnerships. A facilitator will lead each group to deepen its challenge and envisage possible solutions, solution providers and DIHs ready to facilitate the process from end to end.

NB. This session is limited to 70 registered participants.

OPTION 2:

11:30 – 13:00

SmartAgriHubs' Innovation Portal

The goal of the SmartAgriHubs Innovation Portal is to expand and better

connect the network of key AgriTech stakeholders across Europe. During this session, the participants will be able to learn about and test the Portal.

NB. This session is for 20-40 registered participants. Participants are asked to bring their personal computers with them.

13:00 – 13:30 **Groups Reporting & Closing**

Rapporteurs appointed by the Discussion Groups report in plenary the outcomes of the discussions

Concluding remarks by the European Commission

13:30 – 14:30 *Networking lunch*

14:30 – 15:00 *Bus transfer to field visit sites*

15:00 – 17:00 **Field visits**

The Enterprise Europe Network and the Andalusian regional government organise parallel field trips.

Field Visit 1: Business accelerator “La Farola” (15:00-17:00)

La Farola is one of the hubs of the open innovation network of *Andalusia Open Future, located in Malaga*, as a project to support innovation-based entrepreneurship. The space of La Farola is a meeting point for people, entrepreneurship, companies, ideas and projects.

La Farola provides support for growth (scaling-up) process as well as access to a local, regional and global market. Administrative and traditional services are also given to complete their portfolio of advanced services.

Any team consisting of a minimum of 3 people with 100% dedication of at least 2 people from the team and with development of a business project in Andalusia, has possibilities to access La Farola.

Field Visit 2: TROPS company, producer of mango and avocado (15:00-18:00)

TROPS is a producer organisation specialised in the production and marketing of avocado and mango. They have been selling fruit all over

the world since 1979, mainly to Europe. They are a company that operates in international markets successfully competing at a very high level of quality and service. They are located in the Malaga municipality of Vélez-Málaga, capital of the Axarquía region.

With 20,000 m² of facilities, the sorting, selection and packaging plant has incorporated the latest technologies in the different fruit processing areas.

The visits are made throughout the year, although the production season covers from September to May (in September and October you can observe their production plant in the middle of the mango campaign, from November they start with the avocado), dates on which they will be able to observe the machinery of the warehouse in full operation.

Field Visit 3: DCOOP, agrifood cooperative (15:00-18:30)

Field visit to DCOOP, 2nd degree agrifood cooperative, owned by 75.000 farmers and stock breeders. Dcoop, located in Antequera (Malaga), is the biggest olive oil producer in the world and leading wine producer, in addition to operating supply, stock breeding, nuts and cereals sectors.

Visit Agenda

1 Welcome

2 Presentations: (30 min)

Brief introduction to Dcoop and digitalization projects' presentations

- IOF2020 Project: Internet of Food and Farm 2020 (IA) (<https://www.iof2020.eu/>). Project with more than 100 partners from more than 20 countries that aims to expose the use of IoT technology in the European agricultural sector. Focusing on the Use Case 3.3: Automated olive chain whose objective is to demonstrate the possibility of implementing IoT technology along the entire value chain of virgin olive oil through the use of smart sensors olive groves, agricultural machinery and oil mill.

- MED-GOLD Project: Turning climate-related information into added value for traditional MEDiterranean Grape, OLive and Durum wheat food system (RIA) (<https://www.med-gold.eu/>). Explanation of the project that seeks to prove the concept of climate services in agriculture. Emphasizing the Use Case of the olive grove where an ICT tool of a climate service for the olive grove has been designed, with the aim of

adapting to possible changes in the trends of pests and productivity of the olive grove; consequence of climate change. In addition to the presentation of MED-GOLD COMMUNITY, an open community in which anyone can participate and which aims to be a means of communication between farmers and climatologists / researchers.

- DOSAOLIVAR Operational Group: Dosing of phytosanitary products in olive groves (<https://dosaolivar.es/>). Project by which a mobile APP has been developed that connects with a sensor KIT that can be deployed in any atomizer and tract to achieve a correct dosage of phytosanitary products.

- Integraporc Operational Group: Development of a pig farm management tool for cooperative integration (<https://integraporc.grupooperativo.es/>). Its objective is the development of a mobile APP that assists in the decision-making of the pig production through the IoT that allows to know the traceability of the animals and to model the evolution of the growth of the same considering environmental, technical and economic parameters.

3 visits to the Dcoop oil museum (30-60 min). You can visit the museum virtually by clicking on the following link: <https://www.dcoop.es/museo>

S3P Agrifood's International B2B meetings

*Organised by Agencia Andaluza del Conocimiento (AAC) and Enterprise Europe
Network (EEN)
3-4 December 2019*

[Short pre-scheduled meetings will take place simultaneously to the main event]

Presentation

Within the framework of the event on “Digitalisation and New Technologies in Agri-food”, Agencia Andaluza del Conocimiento as member of the Enterprise Europe Network organizes International bilateral meetings. This matchmaking event will be mainly focused to technology transfer in the fields of digitalisation of the agrifood sector.

Objectives

The aim of this Brokerage Event is to provide participants with the opportunity to meet with companies (SMEs, large companies, start-ups,...), entrepreneurs, research organizations and public administrations active in research and technology to discuss through bilateral meetings:

- Transfer of Technology and exploitation of research results
- Ideas for joint research projects
- Opportunities for R&D funding
- Licensing, production and distribution agreements
- Internationalization

Main topics

- Automation and robotics
- Artificial Intelligence and predictive systems in agrifood
- Autonomous vehicles
- Big data
- Food safety
- Agrifood blockchain
- Logistic chain
- Cybersecurity in the agrifood chain
- Open data
- Sensorization
- Food traceability

How does it work?

All the process is managed online through a matchmaking tool following these steps:

1. Registration and insertion of cooperation profiles (technology offer, technology request, know-how/experience, research). Create a strong research and cooperation profile upon registering to raise your visibility amongst the other participants of the event.
2. Selection of those profiles of interest with which you would like to hold a meeting during the days of the event. Browse through the published participant profiles and send meeting requests to those who you would like to meet at the event. Adding a meaningful remark as to why you are interested in a meeting with a particular person will increase the chance that your request will be accepted.
3. Once the preliminary agenda of meetings has been received, participants must confirm the participation, the meetings and the availability during the days of the event. A few days before the event you will receive an email with your detailed meeting schedule. You can also check your meeting schedule online.
4. On 3rd and 4th December 2019, attendees should arrive with enough time to register and meet their potential partners according to their agenda.

Costs

Participation in the brokerage event is free of charge.

Location

FYCMA - Palacio de Ferias y Congresos de Málaga (<https://fycma.com>)

Av. de José Ortega y Gasset, 201, 29006 Málaga

<https://goo.gl/maps/Du95HusuZHGWfasN7>

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LIST OF COMPANIES PRESENTING THEIR EXISTING OR PROMISING TECHNICAL SOLUTIONS FOR AGRI-FOOD ON 3 DECEMBER 2019

AF Partnership 'Consumer Involvement'

Name of the company:	AGRICAM AB
Web page:	www.agricam.se
Speaker:	ELLINOR EINEREN , M.Sc. CEO/Co-founder

Short description of company and of technology:

Agricam is a software company based in Sweden, specialized in image analysis, machine learning, deep learning and big data.

Agricam has a patented system solution that classifies bacteria in milk (for all lactating animals such as dairy cows, camels, sheep etc) using image analysis and deep learning. In addition, the solution provides automatic standard operating procedures and treatment suggestions to the farmer and the veterinarian based on the bacteriological findings that reduces the usage of unnecessary antibiotic drugs. Agricam is co-operating with SVA and their state-of-the-art laboratories.

AF Partnership Traceability and Big Data

Name of the company:	APPLIED DRONE INNOVATIONS (ADI)
Web page:	https://applieddroneinnovations.nl
Speaker:	MAARTJE BAKER

Short description of company and of technology:

Applied Drone Innovations (ADI) is operating an “eye in the sky” service for growers in the horticultural sector, using drones and other robotic platforms to gain an advantageous aerial perspective. The product they actually sell to growers is the addressable data sets, which allow them to become more efficient and effective. ADI supplies an end-to-end service, from Data Collection, Data Interpretation to the final Data Presentation.

Their first customers are benefiting from Fusarium detection and localisation maps, these maps enable the growers to find and remove infected crops in 25% of the time it takes without ADI’s technology. In other greenhouses, they are working on harvest and inventory management software to enable a smart supply chain. There are currently no solutions, which provide a similar end-to-end service for greenhouse horticulture. The project has an average TRL level of 8. The Fusarium detection and localisation maps are already being provided as a service; they have been demonstrated and sold successfully to the industry (TRL 9). Automation and machine vision to remove the human in the loop has been demonstrated but is not yet ready to be fully implemented in operations (TRL 7).

AF Partnership High Technology Farming

Name of the company:	DRONEBEE SMART AGRICULTURE
Web page:	https://www.dronebee.it/
Speaker:	DR. NICCOLÒ BARTOLONI, AGRONOMIST

Short description of company and technology

DroneBee | Smart Agriculture is an Italian company founded in 2018 that offers high-tech services of precision farming and agronomic advices to farmers, farmers' cooperatives, research institutions and agronomists. We offer a range of products for precision farming such as drones, sensors, photogrammetry software and decision support systems. We also give assistance and training both on theoretical and practical side of precision agriculture. The technical manager of the company is Simon-Paolo Kartsiotis, aerospace engineer with several experiences in the industrial sector. The business development manager is Niccolò Bartoloni, an agronomist with twenty years of experience in wine company management.

Various researches with University of Pisa using uav and remote sensing for vigor and water stress assessment (vineyards, pear orchard), biostimulant verification and chlorophyll content assessment (corn, potato, wheat);

AF Partnership Traceability and Big Data

Name of the company:	EC2CE
Web page:	
Speaker:	RICARDO ARJONA ANTOLÍN

Short description of company and technology

The company has developed an A.I. technology to support the decision-making process in the agro sector, optimizing productivity, pest control, logistics and everything improving sustainability. ec2ce is included within the best ten companies in the Agro-tech arena in the main reports about the sector:

- https://cbi-blog.s3.amazonaws.com/blog/wp-content/uploads/2017/07/AI_robotics_Agriculture1.png
- <https://www.cbinsights.com/research/agriculture-tech-market-map-company-list/>

ec2ce is providing services to main olive oil producers, berries producers, horticulture producers and commercialization companies, oil refiners, hops, etc., and operating in Europe and South America, with plans to start selling in USA and South Africa.

Their sophisticated artificial intelligence algorithms and methodologies are embedded into an operative platform, creating a standardized tool that is easily customized for real-world applications.

AF Partnership High Technology Farming

Name of the company:	GREEN PROJECTS SA
Web page:	
Speaker:	NIKOLAOS TSOTSOLAS

Short description of company and technology

Green Projects SA analyses and develops integrated software systems supporting the implementation of complex multi-sided operations by using cutting edge approaches and technologies. During the last six years we are focused on developing software platforms and IoT solutions in the field of agriculture and agro-logistics.

Green Projects SA has developed an electronic platform, named KalaΘos, which aims to facilitate online B2B collaboration between sellers of fresh produce and traders focusing on quality and traceability from farm to fork. It fully supports the implementation of full-path tracing through the whole distribution channel from farm to trader following GS1 standards. Furthermore, the platform shares important information concerning the products with the consumers providing a unique experience of transparency concerning food safety and traceability. KalaΘos incorporates also a module called “KalaΘos – IoT Module”. Towards the automatic capturing of “big data” directly from the farm, but also from other points of the fresh produce supply chain, KalaΘos infrastructure is consisted of open APIs, which have been developed using JSON and REST services as part of a telemetry system, developed also by Green Projects SA, called GP CoreIoT.

AF Partnership Traceability and Big Data

Name of the company:	HISPATEC
Web page:	
Speaker:	NIKOLAOS TSOTSOLAS

Short description of company and technology

Integrated solutions of management software for the agri-food sector (pre and post-harvest) both in operational processes and advaced analytics/ AI:

- 30 years of experience in software for the Agri-food sector, with special focus on fruit, vegetables, olive crop and vineyard.
- More than 400 Agro clients (businesses and cooperatives) and their ecosystem of technicians and farmers.
- More than 10.000MM € of agriculture production/ commercialisation managed with solutions from Hispatec.
- More than 100 professional experts in ICT and agro solutions.
- Leader in Spain and with operational and commercial presence in Mexico, Peru, Chile, Portugal and Morocco.
- Part of the business group Smart Agro de AMETIC (CEOE).

AF Partnership Smart Sensors for Agri-food

Name of the company:	MORTOFF LTD – REACH SOLUTIONS LTD
Web page:	
Speaker:	ZOLTAN BEKE

Short description of company and technology

Mortoff is a mid-sized IT service company in Hungary, mainly focus in Manufacturing, Financial and Telecommunication industries. Mortoff has more than 170 employees. REACH solution is a spinoff of Mortoff focusing on using BigData, Machine learning and other innovative technologies in smart factories. REACH is a pioneer in Industry 4.0.

REACH Solution (a spinoff of Mortoff) has a Real-time Event Based Collaboration Hub (REACH), which is a real-time data collection and analytical platform for manufacturing and food industry. With collecting and analyzing machine data we are able to recognize anomalies in the working conditions, product quality and process as well. Visualizing the real-time performance of the factory / line / machine is also help improving the Overall Equipment Effectiveness (OEE) even of the entire factory.