Building an Interoperable, Data-Driven, Innovative & Sustainable European Agri-Food Sector

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Project’s OBJECTIVES (and collaboration possibilities)

**Objective 1:**
Analyse, adopt, enhance existing (and if necessary introduce new) Information Models in the agri-food sector easing data sharing and interoperability across multiple Internet of Things (IOT) and Farming Management Information Systems (FMIS) and associated technologies. Use the information models to create a basis for trusted sharing / exposure of data between farmers.

**Objective 2:**
Build knowledge exchange mechanisms, delivering an Interoperability Space for the agri-food domain, presenting technologies and data from different vendors, ensuring their interoperability, and using (and enhancing) a core set of open standards (adopted across all agri-food deployments thereby) coupled with carefully-planned security and privacy protection mechanisms (also addressing business confidentiality).

**Objective 3:**
Empower the farmer, as a prosumer, to gain control in the data-food-chain by identifying and demonstrating a series of new IoT-based, data-driven, business models for profit, collaboration and co-production for farmers and across the value chain, leading to disruptive new value creation models.
Project’s OBJECTIVES

Objective 4:
Establish a benchmarking mechanism for agriculture solutions and business, targeting end-goals in terms of productivity and sustainability performance of farms, services, technologies, and practices based on a set of key performance indicators that are relevant to the farming community.

Objective 5:
Reverse the relationship with suppliers, through an innovative model in which suppliers are responsible for ensuring that a final solution is optimal to the farmer’s existing context and expressed needs.

Objective 6:
Demonstrate the impact of digital innovations across a variety of sectors and at European level.
CONSORTIUM COMPOSITIUM

https://h2020-demeter.eu/partners/

https://h2020-demeter.eu/pilots/
METHODOLOGY

Technical Architecture
- Reference architecture
- Tech interoperability and service provisioning
- Application service integration and deployment tools
- Connectivity and security framework
- DEMETER Hub

Data & Knowledge
- Common data models, semantic interoperability
- Data management and integration
- Data fusion, analytics and knowledge extraction
- Data protection, privacy, traceability, governance

Performance Indicator Monitoring, Benchmarking and Decision Support
- AI Based decision making
- Benchmarking on performance of farms, services, tech and practices
- Adaptive visualisation for dashboards
- Decision support enablers and advisory support tools
- Stakeholder open collaboration space implementation

Piloting
MAA Ecosystem Development
Business Models and Exploitation

[Logos of Union Europeia, Diálogos, Ministérios]
METHODOLOGY

Multi-Actor Engagement (requirements)

Architecture, Enablers, Hub

Pilots v1

Impact Assessment v1

Open Call 1

Architecture, Enablers, Hub

Pilots v2

Impact Assessment v2

Open Call 2
EXPECTED RESULTS/IMPACTS

➤ **Technology** - DEMETER will transform the technology ecosystem for agriculture by reinforcing and establishing agreed standards, an agreed common information model, an interoperability space combined with our online/physical networked ecosystem and a set of interoperability components which will make the use of IoT technology effective and easy.

➤ **Business** - DEMETER will make available a set of business models together with the associated analysis of opportunities / challenges which will enable a range of new enterprises across the agri-food and IoT technology sectors to emerge. We will provide evidence based ROI. We will use our pilots to collect data and to benchmark against previous years, thus giving a clear and comprehensive analysis of the benefits of the new solutions.

➤ **Adoption** - DEMETER will provide the foundation for a secure and sustainable European IoT ecosystem specifically in the agri-food sector by leveraging the multi-actor approach and the consortium’s expertise in behaviour change and knowledge transfer.
FUTURE COLLABORATION

Working Group
Establish an EU/Brazil ICT-AGRI working group, bringing the most recent projects from ICT and AGRI into a common forum. Quarterly video calls to present project progress, and identify synergies. Annual physical meeting (co-located with project meeting if possible).

White Papers / Publications
Develop a suite of white papers/publications which address common topics across the projects in this group (need to set a target to make this happen), e.g. interoperability/standards, business models, architectures.

Technology
Identification and (potential) reuse of early code releases across projects – potential evaluation of “competing” solutions across trials – avoid re-inventing the wheel.

Communications
Establishment of a common platform for communication – to be used for cross project news – e.g. LinkedIn group tied to the working group above. Agreement to cross pollinate our social media content. Joint stands/booths at relative events.

Pilots and Open Calls
It could be interesting to see if we can utilise our open calls to get our pilots trialled with different technology sets from other projects.
THANK YOU