Data sharing in agriculture. Towards a European agriculture data space.

Organised by:

[AIOTI]
Alliance for Internet of Things Innovation

[CREATE-IoT]

[IoT]
European Large-Scale Pilots Programme

[Link]
Data sharing in agriculture.
Towards a European agriculture data space.

Luis Pérez-Freire
Executive Director - Gradiant
Chair “Smart farming and food security” - AIOTI
Data sharing in agriculture. Towards a European ag. data space
Data sharing in agriculture. Towards a European ag. data space

European Data Space

a genuine single market for data, open to data from across the world where personal as well as non-personal data, including sensitive business data, are secure and businesses also have easy access to an almost infinite amount of high-quality industrial data, boosting growth and creating value, while minimising the human carbon and environmental footprint.
Data sharing in agriculture. Towards a European ag. data space

European strategy for data

European Data Space
a genuine single market for data, open to data from across the world where personal as well as non-personal data, including sensitive business data, are secure and businesses also have easy access to an almost infinite amount of high-quality industrial data, boosting growth and creating value, while minimising the human carbon and environmental footprint.

What data?
For what?
By whom?

How to implement it?

Environment Safety
Productivity

Co-organised and supported by:
IoT Large-Scale Pilots Programme
European Commission
AIOTI
CREATE-IoT
Data sharing in agriculture. Towards a European ag. data space

AIOTI WG06 white paper: IoT data marketplaces for the agri-food sector: a first look to use cases for smart farming and across the food chain

Data sharing in agriculture.
Towards a European agriculture data space.

Joel Bacquet
European Commission
DG CONNECT
Data sharing in agriculture. Towards a European agriculture data space.

Doris Marquardt
European Commission
DG AGRI
During the webinar:
questions for the speakers

After the webinar:
questionnaire for helping in the definition of the agriculture data space

Join at
slido.com
#40905

http://www.agridataspace.eu/
# Afternoon session agenda

## Welcome and Introduction

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00-15:20</td>
<td>Luis Pérez-Freire. <a href="https://www.gradiant.com">Gradiant</a>, executive director. <a href="https://aioti.eu">AIOTI</a>, chair of WG06 “smart farming and food security”</td>
</tr>
<tr>
<td></td>
<td>Joel Bacquet. European Commission. DG CONNECT</td>
</tr>
<tr>
<td></td>
<td>Doris Marquardt. European Commission, DG AGRI</td>
</tr>
</tbody>
</table>

## Presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:20-15:30</td>
<td>High-level distributed architectures for agriculture data sharing</td>
<td>Tom de Block. <a href="https://www.nearcom.com">Nearcom</a>, <a href="https://aioti.eu">AIOTI</a>, chair of “distributed ledger technologies”</td>
</tr>
<tr>
<td>15:50-16:10</td>
<td>Approaches for data sharing in current agriculture Large Scale Pilots</td>
<td>Stefan Rilling. <a href="https://www.fraunhofer.de">Fraunhofer IAIS</a>, <a href="https://atlas-project.eu">ATLAS</a> project coordinator. Kevin Doolin. <a href="https://www.tssg.org">TSSG. DEMETER</a>, project coordinator.</td>
</tr>
</tbody>
</table>

## Roundtable discussion

<table>
<thead>
<tr>
<th>Time</th>
<th>Moderator</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:10-16:50</td>
<td>Grigoris Chatzikostas. <a href="https://www.biosenseinstitute.eu">Biosense Institute</a>. Senior Advisor for EU Initiatives, Deputy Coordinator of <a href="https://www.smartagrihubs.eu">SmartAgriHubs</a> project.</td>
<td><a href="https://www.biosenseinstitute.eu">Biosense Institute</a>. Senior Advisor for EU Initiatives, Deputy Coordinator of <a href="https://www.smartagrihubs.eu">SmartAgriHubs</a> project.</td>
</tr>
</tbody>
</table>

## Closing of the afternoon session

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:50-17:00</td>
<td>Summary/wrap-up and closing</td>
</tr>
</tbody>
</table>
15.20 High-level distributed architectures for agriculture data sharing

Tom de Block
Nearcom
AIOTI, chair of “distributed ledger technologies”
Contributing to a dynamic European IoT ecosystem
We aim to strengthen the dialogue and interaction among Internet of Things (IoT) players in Europe, and to contribute to the creation of a dynamic European IoT ecosystem

180 members
14 working groups

Founding members:
## Working Groups

<table>
<thead>
<tr>
<th>WG 01</th>
<th>IoT Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>WG 02</td>
<td>Innovation Ecosystems</td>
</tr>
<tr>
<td>WG 03</td>
<td>IoT Standardisation</td>
</tr>
<tr>
<td>WG 04</td>
<td>IoT Policy</td>
</tr>
<tr>
<td>SME Interests</td>
<td></td>
</tr>
<tr>
<td>Distributed Ledger Technologies</td>
<td></td>
</tr>
</tbody>
</table>

- WG 05: Smart Living Environment for Ageing Well
- WG 06: Smart Farming and Food Security
- WG 08: Smart Cities
- WG 09: Smart Mobility
- WG 10: Smart Water Management
- WG 11: Smart Manufacturing
- WG 12: Smart Energy
- WG 13: Smart Buildings and Architecture
The DLT empowered Data Economy


- Federated market model
- (cross domain) model & terms
- Sustainable DLT driven business models
- AGRI use cases
No “Data sharing” without “Data discovery” upfront

Covid crisis is an “eye opener”, and recovery is an opportunity for the sector to work together in common public interest.

Detected Problems:

- Platforms and the IoT sector failed upon its promise to deliver crucial ‘live’ data
- The rerouted sector fails to deliver on daily up-to-date data for mitigation
- No cross-platform data interoperability (to many overlapping standards)

Priorities:

- Focus on data discovery to unlock the markets
- Enable a fair and federated market information system
The impact of COVID-19 on supply chains and FOOD SAFETY

When:
June 30, 16.00h – “IoT solutions World congress” (online event)

Detected Problem:
The rerouted sector fails to deliver on daily up-to-date data for mitigation

Solution:
A federated market information system based on High Level Reference Architecture

Builds upon:
15.30 Practical implementation of data sharing in agriculture and lessons learned. The case of Gaiasense

Nikos Kalatzis
Technical project manager
Neupublic
PRACTICAL IMPLEMENTATION OF DATA SHARING IN AGRICULTURE AND LESSONS LEARNED
THE CASE OF GAIASENSE

Data sharing in agriculture. Towards a European agriculture data space.
Online Workshop - 10 June 2020

Co-organised and supported by:

NIKOS KALATZIS, NEUROPUBLIC - TECHNICAL PROJECT MANAGER, RESEARCHER
N_KALATZIS@NEUROPUBLIC.GR
SUMMARY

- Gaiasense - Smart Farming As a Service
  - Irrigation
  - Fertilisation
  - Crop protection

- Agriculture data sharing – Crop protection example
- Barriers
- Practical solutions
GAIASENSE:
SMART FARMING AS A SERVICE (I)

- A technological solution offering a range of innovative smart farming services that provides advice to farmers based on data collected from the field.

- It is offered as an inexpensive service with zero technological related investment for farmers, making it accessible even to farmers with small holdings.
  - Smart farming infrastructure owned and operated by the service provider.

- How much water and when?
- When do I have to spray?
- What is the risk level?
- What is the precise type and the exact amount of fertilizers needed?
SMART IRRIGATION

Aims
- Definition of the critical minimum-maximum Soil Moisture limits
- Definition of the most appropriate time for initiating the irrigation
- Optimum irrigation dose calculation

Based on
- Soil quality characteristics
- Soil moisture measurements
  - Real time - Different depths
  - Mapping of the active root system
- Precise recording of precipitation and performed irrigations
- Calculated Evapotranspiration
SMART FERTILIZATION

Aims:
- Address precisely the nutritional needs of a given crop
- Avoid excess or deficiency of nutrients

Based on:
- Soil sampling and analysis
- Consideration of the specific crop’s needs
- Use of other data types (e.g. plant growth stage)
SMART CROP PROTECTION (I)

Aims
- Avoid unnecessary applications
- Ensure the timely application of pesticides

Based on
- Precise recording of atmospheric conditions that favor the infection/infestation of a given crop, plants phenological stage, applied cultivation practices
- Scientific models specialized for each pest / disease of a given crop and adapted to the microclimatic conditions of an area
The following example presents a sample of the gaiasense’s User Interface (Pest management)

- Calculated risk
- Unnecessary vs Accurate Pesticides Applications

**Downy mildew (Plasmopara viticola)**

**High risk**

**Low risk**

**Applications**
SMART FARMING PROJECTS

- >26 pilot sites
- >200 IoT Stations
- >24,000 ha
- >11 different crops
- Pest Management/
  Hazard warnings against 15 pests and 29 diseases
- 6 European countries
AGRICULTURE DATA SHARING – CROP PROTECTION EXAMPLE (I)

- Pest and diseases risk estimation models/algorithms
  - Difficult to be trained
  - Protected by IPR
  - Existing models need continuous calibration due to climate change e.g. behavior of insects is affected by changes of temperature.

- Gaisense has an extensive network of collaborators for developing such models in Greece
  - Agricultural Universities, Research Centers

- Accurate Pest Management Models is an issue when trying to expand and apply pest management to other European Countries
  - Example: Infestation prediction models developed and trained in Greece may not work for Poland’s climate

- Necessary to collect infestation evidences in untreated parcels for one cultivation period and retrain/calibrate the models
  - Expensive and time consuming
AGRICULTURE DATA SHARING – CROP PROTECTION EXAMPLE (II)

IoT

Data Collection

Atmospheric Soil Data

Satellite

RPAS

Sensors

Weather

Data Analysis

Decision Making

Data Fusion

Agro-Environmental Measurements

Pest Infestation Estimation

Smart Farming Services

Information Mediation Layer

Farmer

Pest & diseases Forecasting Service

3rd Party Service

Semantic & Syntactic Interoperability Enabler

Gaiasense
Data Interoperability mechanisms and adoption of standards is currently a dominant approach for data sharing.

Barriers from a technical perspective:

- Harmonized information models, vocabularies and APIs.
  - Lack of common accepted standards or different standards for the same application domain

- Implementation effort for standards integration within operational systems
  - Hardware/Software engineers are struggling to make a smart farming system operate in 24/7. Interoperability enablers introduce additional complexities while the envisioned benefits are not always clear to them.

- Data volume optimization
  - Data modeling standards are usually based on complex structures e.g. ontologies. Increase of data volumes.

- Control of information flow – Data governance
  - The administrative entity that owns or manages the IoT data should have the means to control which information elements are leaving their cyber-premises and how it will be utilized.

- Security and Access Control
Solutions

- **Internet of Food and Farm 2020 Large Scale Pilot** - System of Systems Approach
  - GaiaSense achieved data sharing using interoperability enablers based on FIWARE Orion Context Broker (Connecting Europe Facility) and NGSIv2 data model-vocabularies
  - “Offline data translation” combined with “Real time data-sharing”

- **AIOTI Whitepaper**: “IoT data marketplaces for the agri-food sector: a first look to use cases for smart farming and across the food chain” - AIOTI WG06 –Smart Farming and Food Security
  - Interesting approach, technical elaboration towards implementation is necessary

- **H2020 DEMETER and ATLAS Large Scale Pilots**
  - Waiting for the first results

- Standardization initiatives focusing (also) on agriculture
  - ETSI-NGSI-LD (Agriculture vocabulary), SAREF4AGRI, UN-eCrop, ISOBUS, AgGateway's ADAPT
THANK YOU

Nikos Kalatzis

Email: n_kalatzis@neuropublic.gr

Twitter: @nikoskala
15.30 Practical implementation of data sharing in agriculture and lessons learned. The case of DJustConnect

Jurgen Vangeyte
Scientific director
ILVO
DjustConnect: Digitizing the Ag Code of Conduct to create a Digital Data Ecosystem with the Farmer at the Steer
• Ag. Engineer fascinated by all farm machinery and equipment
• Director of the Agrifood Technology department at ILVO
• (Technical) expert in precision and digital farming with interest in the business aspect

• Ambassador for Precision farming and Digital AgriFood
• Digital Farming is part of the solution towards sustainable food production
• Support our ecosystem to bring valuable products for the end-users
Data sharing 4.0
Data sharing 1.0
Data sharing 2.0
Data sharing 3.0
Data sharing 4.0
Data sharing 4.0
TRUST INFRASTRUCTURE RESECT AUTHORIZATION ACCESS CONTROL CONNECTORS RESPECT CLEARING HOUSE
Infrastructure
Our first new member 2019 is @ILVOvlaanderen!
We welcome you to our unique ecosystem.

ILVO performs multidisciplinary, innovative and independent research aimed at economically, ecologically and socially sustainable agriculture and fisheries.

@HelmutVossmann

We are happy to welcome our first new member in 2019!
Standards for Data Exchange

Common Governance Models

Architecture
Respect
Data originator:
- created/colllected the data either by technical means or by himself or commissioned data providers for this purpose
- initial rights
- gives access rights
- benefits or compensation
- data portability

Data provider
- delivers the data to the user/originator

Data user
- Receives data form orginator or provider
What Data?  
With Whom?  
Why?  
How Long?
Kies hieronder hoe u wil aanmelden. Klik op “meer info” voor uitleg over die manier van aanmelden. Klik op de knop “hulp nodig?” (rechts) voor veelgestelde vragen over aanmelden of om contact op te nemen met de helpdesk.

- **itsme®**
  - *Uw Laatste Kiezen*

- **eID en aangesloten kaartlezer**
  - *Vlekoste Kiezen*

- **Beveiligingscode via mobiele app**
  - *Gemakkelijkste Kiezen*

  Eerste gebruik? Manier van aanmelden eerst [activeren](#)

- **Beveiligingscode via SMS**

  Eerste gebruik? Manier van aanmelden eerst [activeren](#)

- **VO-token (Vlaamse overheid)**

- **Federaal token**
<table>
<thead>
<tr>
<th>#</th>
<th>Request received at</th>
<th>Data User</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10/06/2019</td>
<td>IKM</td>
<td>Administrative Simplification</td>
</tr>
</tbody>
</table>

Details

- MilControl GetReports: Overzicht meet- en adviesrapporten
- MilControl GetReportDocument: Meet- en adviesrapport ophalen (pdf)
- DGZ GetVeterinary: Bedrijfsveterinaren ophalen
SOVEREIGNTY
SECURITY
CLEARING HOUSE
SOVEREIGNTY
API MARKET
API MANAGEMENT
CONNECTORS
INFRASTRUCTURE
RESPECT
## Exchanged data (Clearing House)

Showing all data requests from third parties and the corresponding platform action.

<table>
<thead>
<tr>
<th>Data</th>
<th>API</th>
<th>Retrieved on</th>
<th>Retrieved by</th>
<th>Purpose</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>LabResults</td>
<td>/Data_v2/API</td>
<td>2019/05/15 10:00</td>
<td>App Builder #Y</td>
<td>Retrieve milk volumes on a daily basis</td>
<td>Allowed</td>
</tr>
<tr>
<td>LabResults</td>
<td>/Data_v2/API</td>
<td>2019/05/16 10:00</td>
<td>App Builder #Y</td>
<td>Retrieve milk volumes on a daily basis</td>
<td>Allowed</td>
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<tr>
<td>LabResults</td>
<td>/Data_v2/API</td>
<td>2019/05/17 10:00</td>
<td>App Builder #Y</td>
<td>Retrieve milk volumes on a daily basis</td>
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<tr>
<td>LabResults</td>
<td>/Data_v2/API</td>
<td>2019/05/17 23:51</td>
<td>App Builder #Z</td>
<td>Detect illness based on milk production</td>
<td>Denied</td>
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<tr>
<td>LabResults</td>
<td>/Data_v2/API</td>
<td>2019/05/18 10:01</td>
<td>App Builder #Y</td>
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<td>/Data_v2/API</td>
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<td>App Builder #Y</td>
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<tr>
<td>LabResults</td>
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<td>App Builder #Y</td>
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<td>App Builder #Y</td>
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<tr>
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SOVEREIGNTY
SECURITY
SOVEREIGNTY
TRANSPARENCY

INFRASSTRUCTURE
CONNECTORS
API MANAGEMENT
API MARKET

RESPECT
Does not build apps
Provides the sector with strong foundations for doing this
Roll-out
10/10/2019: Launch event
PERSOONLIJKE UITNOUDIGING

Netwerkbijt met lancering IKM-NET
- 1ste applicatie powered by DyustConnect-

28 februari 2020
8u30 – 10u
Agredagen Ravesels

Geldzak het een actief van 2020 niet meer zijn geweest, want IKM en ILVO lanceren een nieuwe app. Het is geërgerd een nieuwe aanpak van de netwerkbrug en zijn dat je een deel van de inzet van de sociale netwerkbrug. De resolutie van de digitale gelinieerde aangeleerd.

Veelgoed u gegeven tijdens het lanceringswerk het voor de start van de Agredagen in Ravesels.

Welke functies hebben de nieuwe app heeft?
waarom dit zo'n grote aandacht is voor de betrokkenen?

Veraan dito, is er een link om te netwerken bij een heerlijk ontbijt.

Gelieve uw komst te bevestigen vóór 21 februari via deze link.

IKM-NET wordt mogelijk voluit door de mediavoor de Agredagen verstoorn te ontvangen kan u dit ook via de link lenen velen.

18/02/2020:
1ste application
12 data providers
4000 users (farmers)
Future: Connected data – soil passport

Djust Connect

Open data

Soil passport

Dashboard

Facilitate soil advice tools
DjustConnect - Conclusion

- B2B-platform
- Funding Partners are cooperatives
- We have a neutral party in the middle for the governance
- We do not build applications
- Eu code of conduct on Agricultural Data Sharing is the centre: Farmer can decide and change opinion
15.50 Approaches for data sharing in current agriculture
Large Scale Pilots

Stefan Rilling
Fraunhofer IAIS
ATLAS project coordinator
ATLAS Reference Architecture for Data Exchange in Agriculture

Stefan Rilling
Fraunhofer IAIS
Farming is complex!

Example: One Farm, 7 different Software Systems
  - This will probably increase in the future
Lots of things to manage
Heterogeneous fleets
Interoperability in digital Agriculture

Very heterogeneous landscape of machines, sensors and data platforms
Exchange of data between all entities is a key-capability
Interoperability between
  o Agricultural machines, sensors and data services
ATLAS Interoperability Architecture

Trusted and autonomous participants
- Data sovereignty and full control over the data
- Certification mechanisms for security critical applications

Minimum of centralized components
- No data silos, no central data hubs

Data Exchange through dedicated connectors (Services)
ATLAS Interoperability Architecture

High-level reference architecture Designed along concrete use-cases
- Collaborative development process between industry partners, software developers, agricultural service providers

Two basic concepts complementing each other:
- Data-platform based data exchange and processing
- On-board / on-site computing and processing capabilities
Each participant stays autonomous
  o Responsible for implementing and providing services

Central components kept to a minimum
Participants are defined through

- Own software and proprietary services
- ATLAS Data Services
- Identity Provider (IDP) service to store and authenticate service identities
- Consent management system
- Data storage capabilities
Service Registry

Central Component serving as a trusted directory
- Identified participants can register services upon request
- Provided and required service capabilities are part of the request

Service capabilities are granular endpoint accesses
- Type of resource and operation (CRUD)
- Service verifies that requested operation is within the capability scope
Data Service Instances as the central participant component

- Data- and transport-technology agnostic

Multiple Layers defined by ATLAS or (optionally) by participant
ATLAS AppEngine for on-board Computing

Provides a platform for executing applications
- with little or no internet connectivity
- apps that require very low latency when processing nearby sensor data to actuate adjustments in real-time on local devices
ATLAS Apps

Apps run within the AppEngine on an onboard computer
Different type of Apps: Real-time apps, job-apps, utility apps, platoon apps
Apps come with a cloud-based companion service registered to the Service Registry
Certification and Safety

Different AppEngine instances may offer different type of features
- AEF ISOBUS certification required for AppEngine implementations destined to be installed on tractors and connecting to ISOBUS, TIM or Steering/Sequence Control

Some app functions can impact machinery operations in a potential hazardous way
- Example: setting tractor’s speed, unfolding implements

Apps requiring high safety class permissions will have to undergo a stricter certification process before being approved
Summary

ATLAS interoperability reference architecture with two basic concepts:
- Data platform based data exchange and processing
- On-board computing and processing capabilities through a self-contained computing platform

Only two central components
- Service Registry and AppCenter

Implementations of the architecture will be conducted along concrete use cases
Thank you!

WP3 - ATLAS Reference Architecture

Stefan Rilling
Fraunhofer IAIS
stefan.rilling@iais.fraunhofer.de
Data sharing in agriculture. Towards a European agriculture data space.

16.00 Approaches for data sharing in current agriculture Large Scale Pilots

Kevin Doolin
TSSG, Waterford Institute of Technology. Director of Innovation
DEMETER project coordinator
DEMETER Reference Architecture Overview

Kevin Doolin
TSSG, Waterford Institute of Technology
**Pilot(s) Overview**

**Sector: Arable Crops**
Focus: Water & Energy Management
- Water savings in irrigated crops
- Smart energy management in irrigated & arable crops
- Optimal Quality Rice Irrigation
- IoT Corn Management & Decision Support Platform

**Sector: Arable Crops**
Focus: Agricultural Machinery, Precision Farming
- In-Service Condition Monitoring of Agricultural Machinery
- Automated documentation of arable crop farming processes
- Farming Data Brokage Service and Decision Support System for Farm Management
- Benchmarking at Farm Level Decision Support System

**Sector: Fruit & Vegetables**
Focus: Health and high-quality crops
- Decision Support System to support olive growers
- Precision Farming for Mediterranean Woody Crops
- Pest Management Control on Fruit Fly
- Open platform for improved crop monitoring in potato farms

**Sector: Livestock**
Focus: Animal Health, High Quality
- Dairy Farmers Dashboard for the entire milk and meat production value chain
- Consumer awareness: Milk quality and animal welfare tracking
- Proactive milk quality control
- Optimal chicken farm management

**Sector: Cross-sectorial**
Focus: Full supply chain, interoperability, robotics
- Disease prediction and supply chain transparency for orchards/vineyards
- Farm of things in extensive cattle holdings
- Pollination optimisation in apiculture
- Transparent supply chain in poultry industry
**Architecture from a height**

**Knowledge sharing and co-creation space**
- Farmers/service advisors express their needs and
- Service advisors and providers team-up to define the most appropriate combination of tools.

**DEMETER Enabler Hub**: The available collaboration spaces (SOCS and AIS) are built around this hub that enables access to all resources that are available for integration and deployment.

**DEMETER Dashboard**: Sole entry point to the DEMETER ecosystem for all DEMETER Stakeholders.

**Implementation Space**: A virtual space where providers team-up and interoperate to develop and deliver the appropriate combinations and customisations of tools to the farmers ensuring interoperability with existing solutions.
Architecture from a height

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DEMETER Enablers

DEMETER-enhanced Entity

DEMETER Core Enablers
- Communication & Networking Enabler
- Functional Interoperability Enabler
- Semantic Interoperability Enabler
- Security Protection Enabler
- DEMETER Hub Client

DEMETER Core Model

DEMETER Advanced Enablers
- Service Management Facilities
- Service Integration Facilities
- Device Management Facilities

Integrated Delivery Enablers
- Decision Support Facilities
- Performance Monitoring and Alerting Facilities
- Benchmarking Facilities
- Visualization Facilities

Decision Support & Performance Monitoring Enablers
- Data Collection and Preparation Facilities
- Data Integration and Linking Facilities
- Data Management Facilities
- Data Analytics and Knowledge Extraction Facilities
- Data Fusion Facilities

Data Security

& Governance
Functional Architecture and AIM

Dashboard

SOCS

AIS

App1

App2

App3

DEMETER Core Enablers

DEMETER Advanced Enablers

DEMETER SDK

DEH Management Facilities

DEMETER Deployment Facilities

DEMETER Runtime Facilities

For co-creation process

For DEMETER-enhanced resource discovery & access

Usage of DEMETER-enabled apps

Each Component has an AIM compliant wrapper

Direction of Information Flow

DEMETER Provider → AIM → DEMETER Consumer
Status and Next Steps

- Started Sept 2019
- Multi Actor Approach fully underway
- Initial requirements and architecture ready
- Piloting starting (with Covid delays)
- Open Calls in preparation
- Webinar June 18th with ATLAS

- www.h2020-demeter.eu
- twitter.com/H2020DEMETER
- facebook.com/H2020Demeter
- linkedin.com/company/h2020-demeter
- Youtube
Thank you

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Data sharing in agriculture. Towards a European agriculture data space.

Organised by:

Have your say!!!

http://www.agridataspace.eu/

Open until June 17th
Some preliminary results

A European Data Space should be deployed (federated) on top of:

- Existing OEM data repository (mainly private cloud) (SQ001)
- Existing Farm Information Management Systems (SQ002)
- National and regional public systems
- Open data portals
- Other
Some preliminary results

A European Data Space should be deployed (federated) on top of

- Open data portals
- National and regional public systems
- Existing Farm Information Management Systems (SQ002)
- Existing OEM data repository (mainly private cloud) (SQ001)
- Other

Which implementation options are most viable?

- Distributed among companies and public sector (SQ001)
- Centralised in a non-profit actor established by the public sector (SQ004)
- Centralised in a non-profit actor established by industry (SQ003)
- Centralised in a private actor (SQ002)
- Other
Thank you!