

AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

17 February 2016 – 39th International Fair of Agricultural Machinery FIMA, Zaragoza, Spain

Challenges and Opportunities in the Digitization of European Agriculture

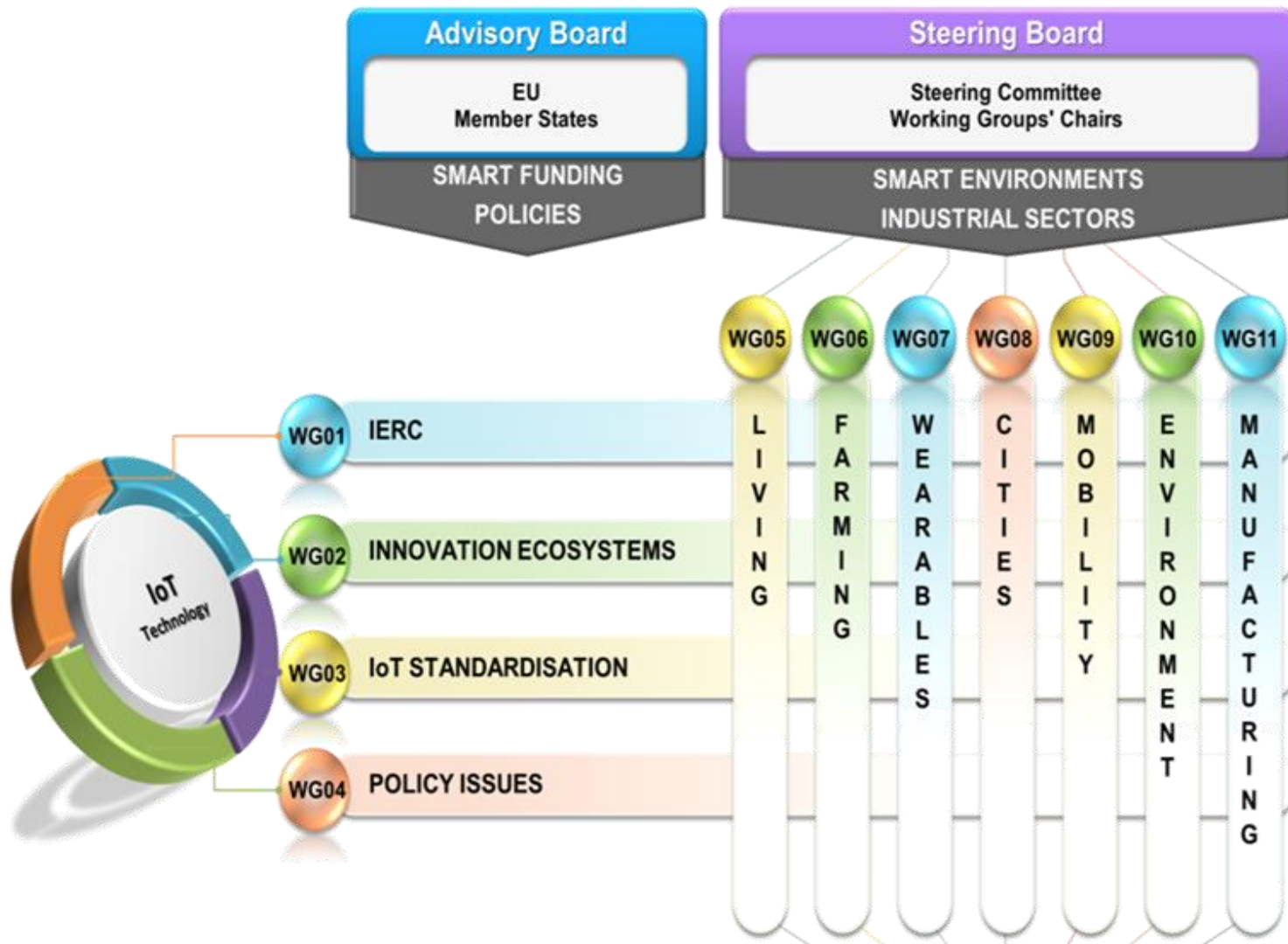
Luis Pérez-Freire - GRADIANT

AIOTI – Alliance for Internet of Things Innovation

- AIOTI (<http://aioti.eu/>) initiated by the EC and the IERC in 2014
- Officially launched by the EU Commissioner for Digital Economy & Society, Günther Oettinger (Brussels, March 2015)
- AIOTI main goals:
 - Dynamic European IoT Ecosystem
 - Facilitate deployment and adoption of IoT technologies in Europe



AIOTI structure



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AIOTI WG06 “Smart farming and food security”

AIOTI WG06 **vision**: to become the **key meeting point** of EU-based stakeholders interested in developing and exploiting the benefits of the IoT (technologies, ecosystem and infrastructure) in the domains of farming for food production.

Chaired by **GRADIANT**

Co-chaired by **Orange**

> **200 members**

- Universities
- Research institutes
- ICT companies
- Agri-food sector companies



Key concepts:

Smart/precision farming – Food security -- Food safety --
“from farm to fork”

Smart Farming and Food Safety Internet of Things Applications – Challenges for Large Scale Implementations

> Publicly released on 26 Oct. 2015, available online [here](#)



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AIOTI WG06: areas of work



Plants



Livestock



Sea farming



Food safety and traceability



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Digital farming is here



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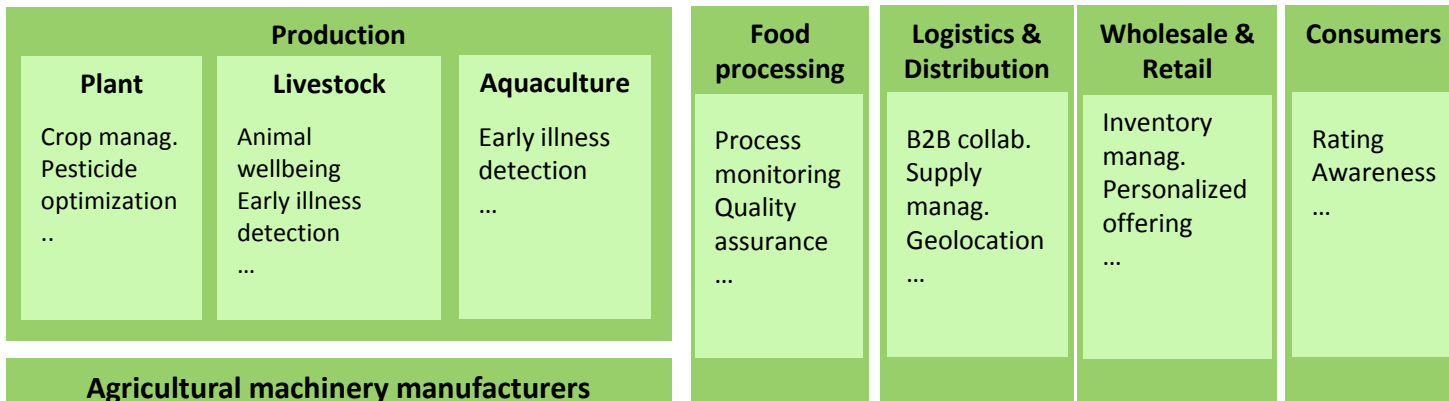
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Digital farming: opportunities

Data-centric food chain

Fine-grained measurement, analysis, prediction, decision-making, actuation

Precision farming



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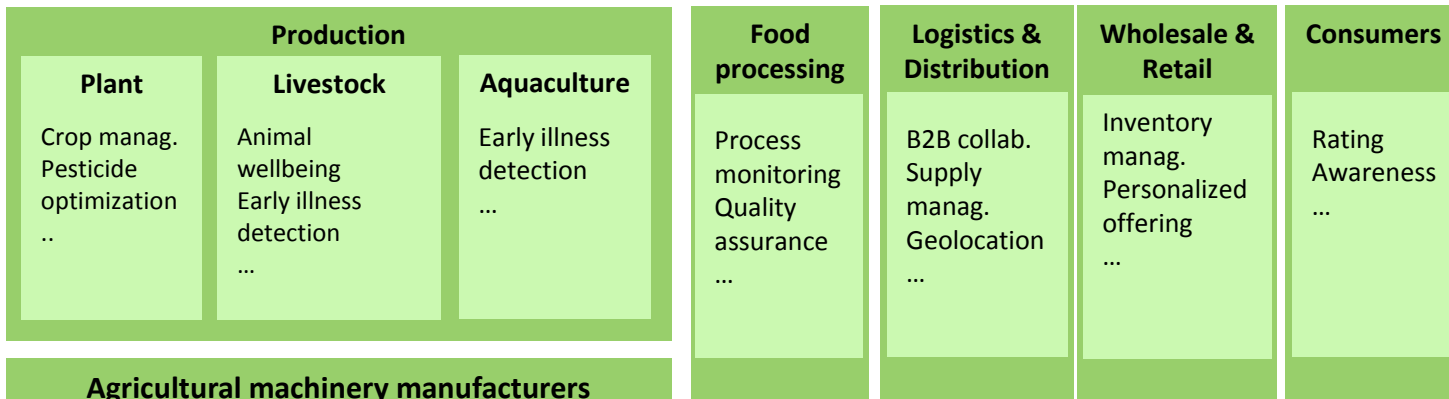
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Digital farming: opportunities

Data-centric food chain

Fine-grained measurement, analysis, prediction, decision-making, actuation

Precision farming



Traceability and safety (data transparency)

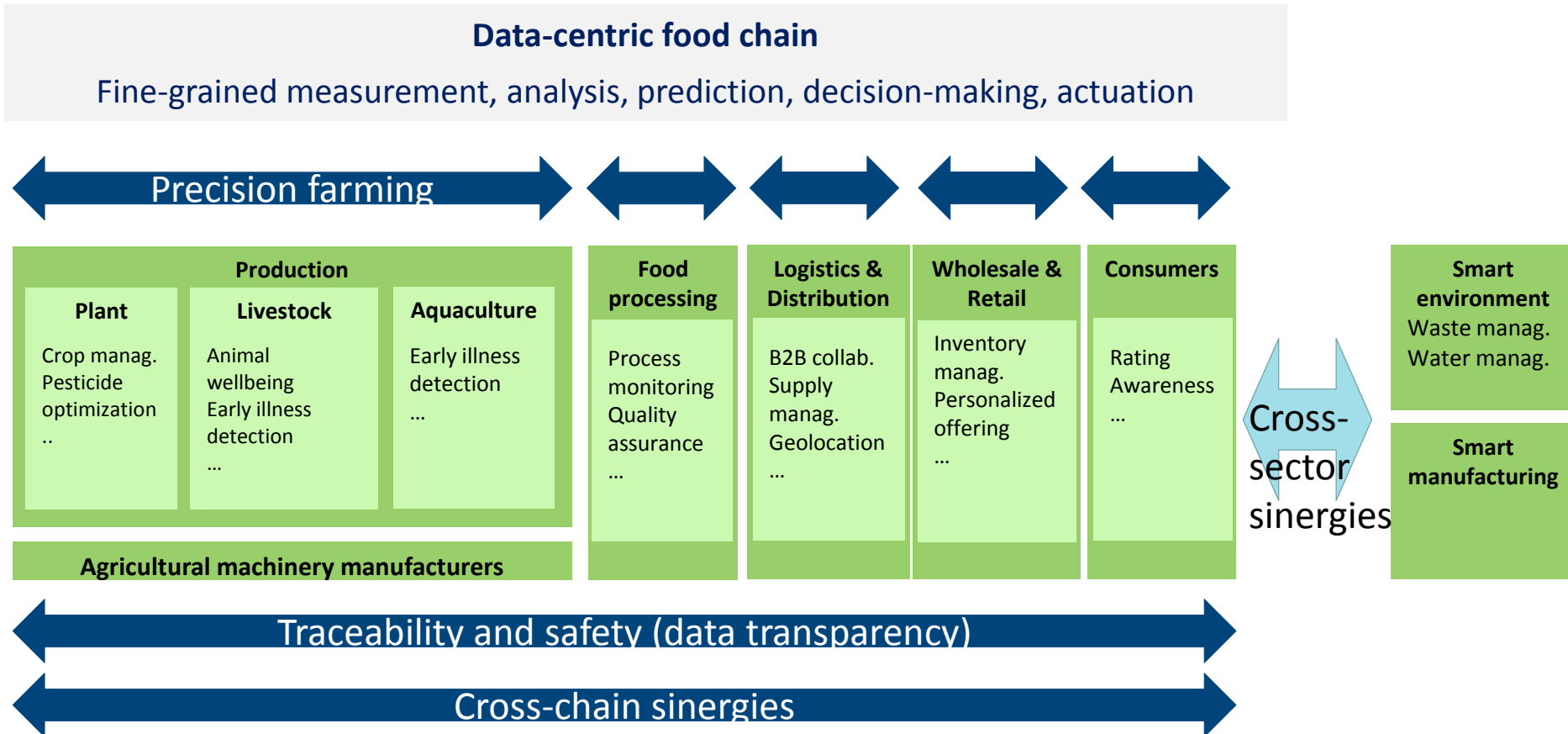
Cross-chain synergies



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Digital farming: opportunities

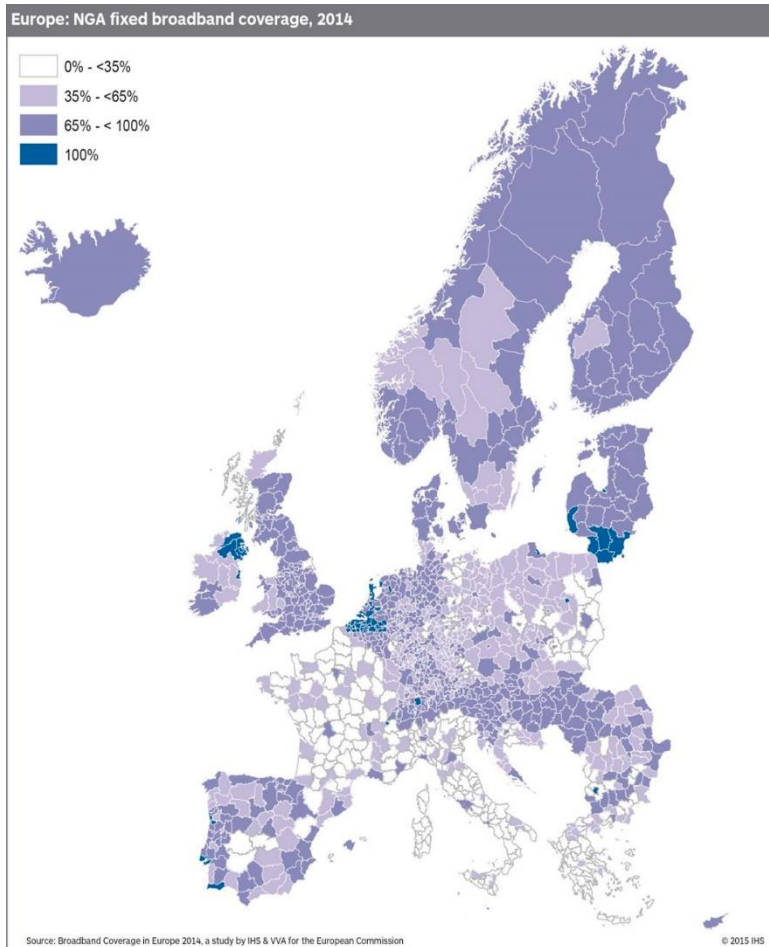


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Challenges: 1) technology level

Connectivity



Interoperability and standards

Service layer

Data layer

Communications layer

HW layer



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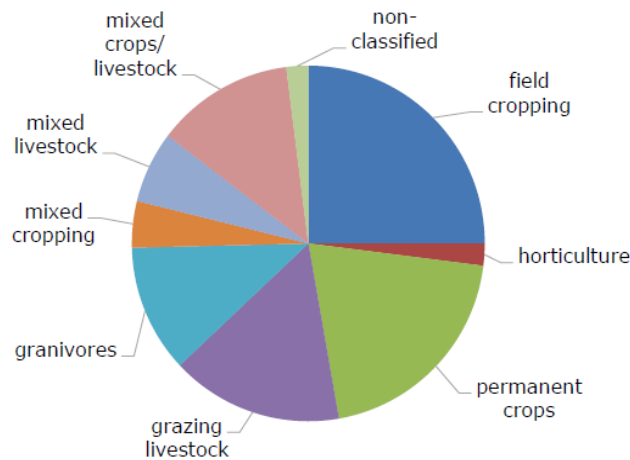
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Challenges: 2) user level

- **Perceived value and user acceptability:** no more technology *per se*, data must be “beneficial to and useable for farmers” and all the stakeholders across the value chain

Heterogeneity of the value chain:

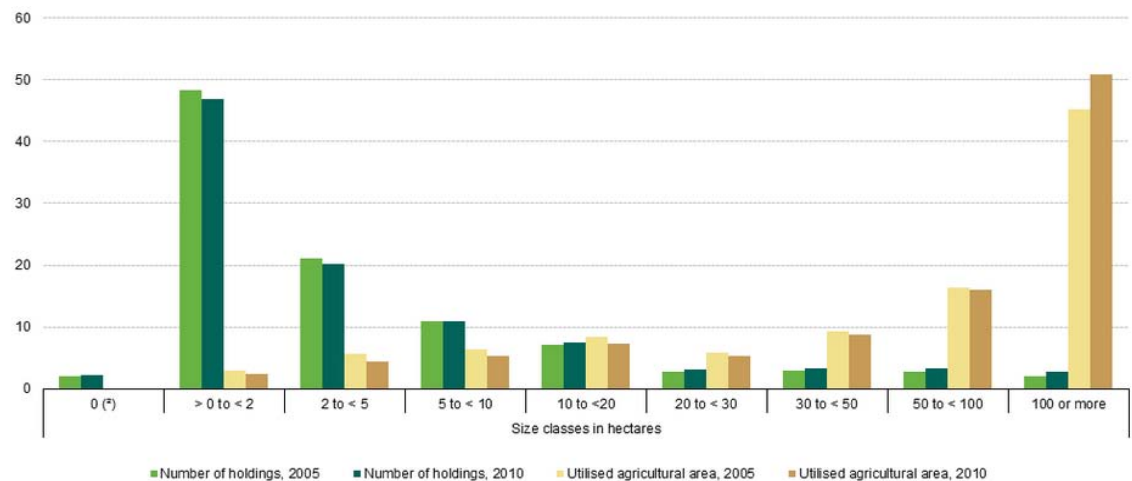
- **Large, conventional farming exploitations vs. small/family exploitations**
- **Variety of holdings**



Source: Eurostat

Training, dissemination and awareness – avoid digital divide

47% of EU population is not properly digitally skilled, yet in the near future, 90% of jobs will require some level of digital skills (source: Digital Agenda for Europe)



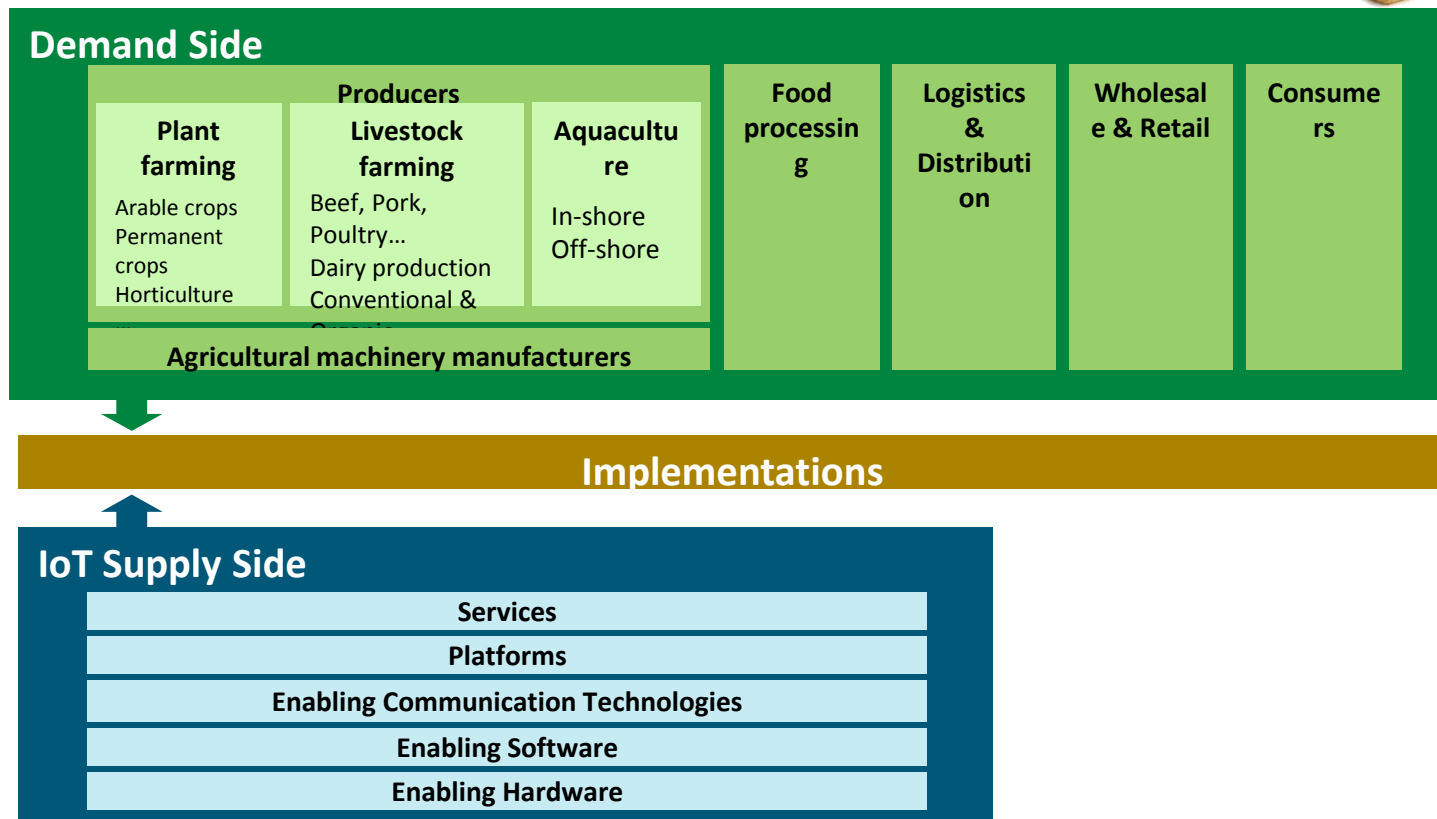
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Challenges: 3) business level

- Ensure **business sustainability** (supply and demand sides)
- **Cost** of solutions vs. **profitability**
- **Disruptive models**: from selling products to selling data services

Data is the new **gold**



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Challenges: 4) data management level

Data protection and ownership

- **Who owns the data?**
- Who determines **how it is used and shared?**
- **Security and privacy**
 - Data in the cloud?
 - Trade secrets at risk?
 - Private vs. open data?
 - Trusted data?
 - Need for policies but also technological solutions

Data aggregation and sharing



Example: NYC subway plague map by Weill Cornell Medical College
Source: <http://www.dailymail.co.uk/>



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IoT for Farming 4.0

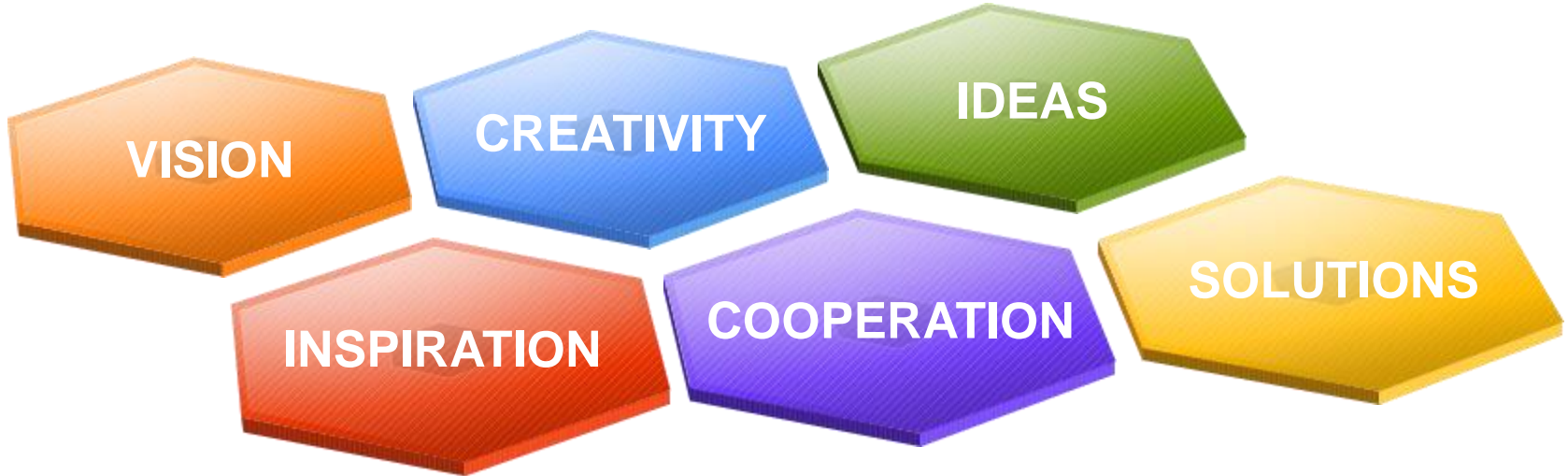
- Sustainable farming. Higher productivity, lower footprint
- Boost rural areas and economy



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Thank you!



www.aioti.eu

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Questions to: Luis Pérez-Freire, AIOTI WG06 Chair (lpfreire@gradient.org)



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