



smartAKIS
Smart Farming Thematic Network



Agriculture 4.0: The way forward for the ag. machinery industry in Europe

Jerome Bandry
Secretary General, CEMA
05 June 2018

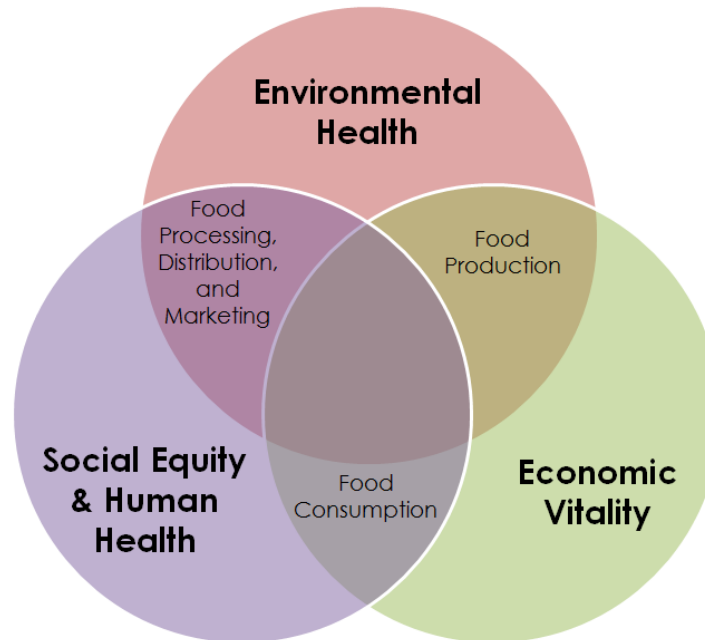
The voice of Agricultural Machinery manufacturers in Europe



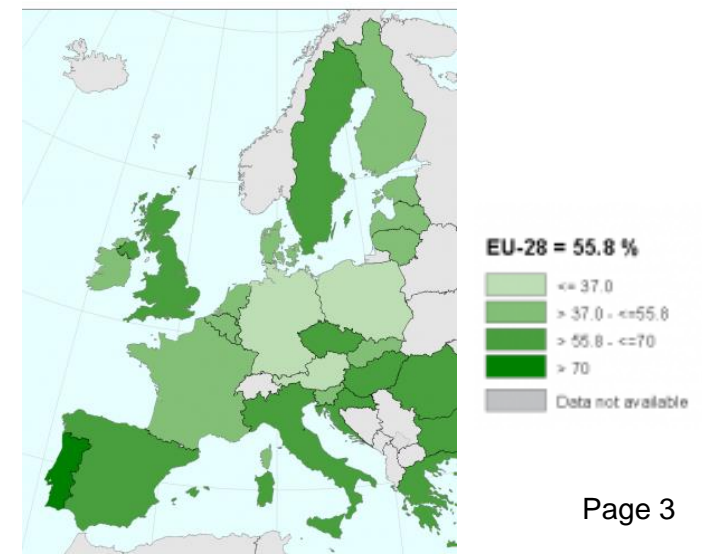
1. **4,500 manufacturers**
From a handful of large multinationals to multiple SMEs
2. **450 machine types**
From tractors & combine harvesters
to plant protection equipment and precision seed drill
3. **€26 billion annual turnover & 260,000 people employed**
Including 125,000 in related distribution and service areas
4. **10 national associations**



Challenges in agriculture



Share of farm managers aged 55 years or more



Responses

Mechanization

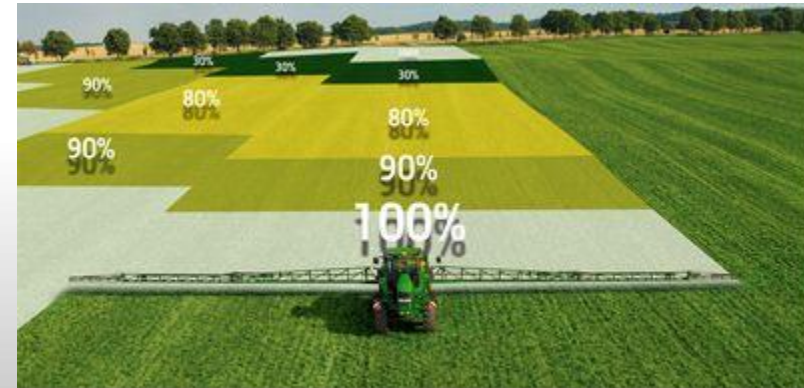
Ag. 2.0

FOCUS: Maximum output through maximized input

Smart - precision technology

Ag. 3.0

FOCUS: Maximum output through optimized input



Make the connection

Ag. 4.0

FOCUS: plant optimized treatment / traceability over the food chain

higher INSIGHT

decide accordingly
and act appropriately

Agriculture 4.0



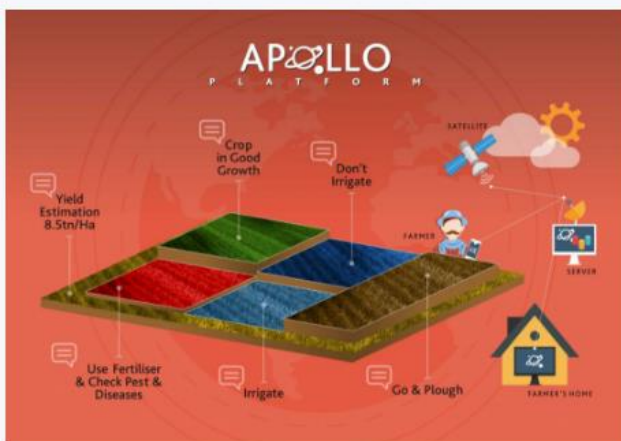


thematic network focusing on the
dissemination of Smart Farming Technologies
(SFT) in Europe, backed up by **EIP-AGRI** and
funded by the Horizon 2020 programme.



smartAKIS
Smart Farming Thematic Network

Technologies



Advisory platform for small farms based on earth observation

Serbia Spain

Arable crops Tree crops

< 2 ha 2 - 10 ha 11 - 50 ha

tillage weed control

pest and disease control

irrigation

TRL 3

Coming soon to the market



Combination active optical and passive thermal infrared sensor for low-level airborne crop sensing

European Union

51 - 100 ha 101 - 200 ha

201 - 500 ha > 500 ha

scouting of crop and/or soil

TRL 7

Available on the market



Automatic Water Quality Sampling System for Irrigation

European Union

Arable crops

11 - 50 ha

irrigation

TRL 3

Coming soon to the market

Knowledge of soil and environment enables farms to make accurate decisions



- Increase yields**
Reduce the use of resources by 20% while increasing yields by 20%.
- Connectivity**
Global SIM, powered by Deutsche Telekom, provides constant, reliable connection to your farm.
- Plug & Play**
Install it yourself in minutes.
- Long operation life**
Sensor continues to function with little or no maintenance due to its power efficient electronics.
- Affordable**
Effective monitoring and analytics at a fraction of the cost.

ART3 Lab

European Union Spain

Tree crops Open field vegetables

< 2 ha 2 - 10 ha 11 - 50 ha

51 - 100 ha

irrigation

TRL 9

Available on the market

<https://smart-akis.com/SFCPPortal/#/app-h/dashboard>

DIGITAL FARMING – what is needed?



Trust / willingness to share data



DIGITAL FARMING – what is needed?

Trust / willingness to share data
Data communication infrastructure
Data communication technologies

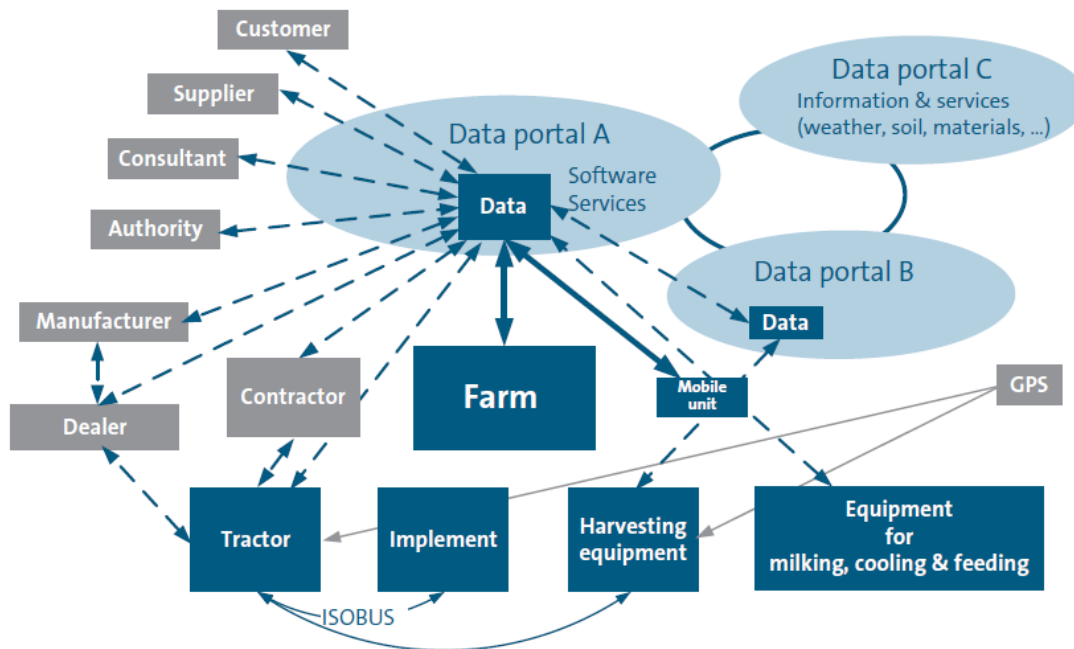
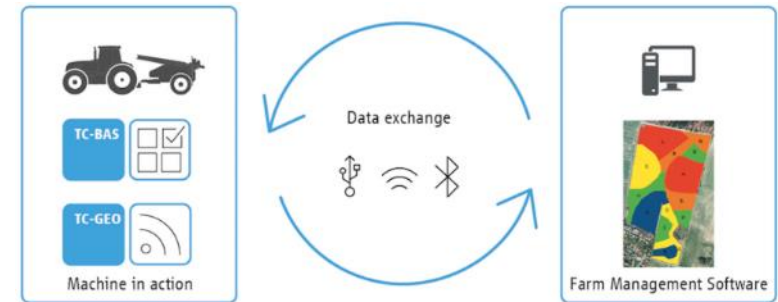


Volume / Speed / distance



DIGITAL FARMING – what is needed?

Trust / willingness to share data
Data communication infrastructure
Data communication technologies
Seamless data transfer - interoperability



DIGITAL FARMING – what is needed?



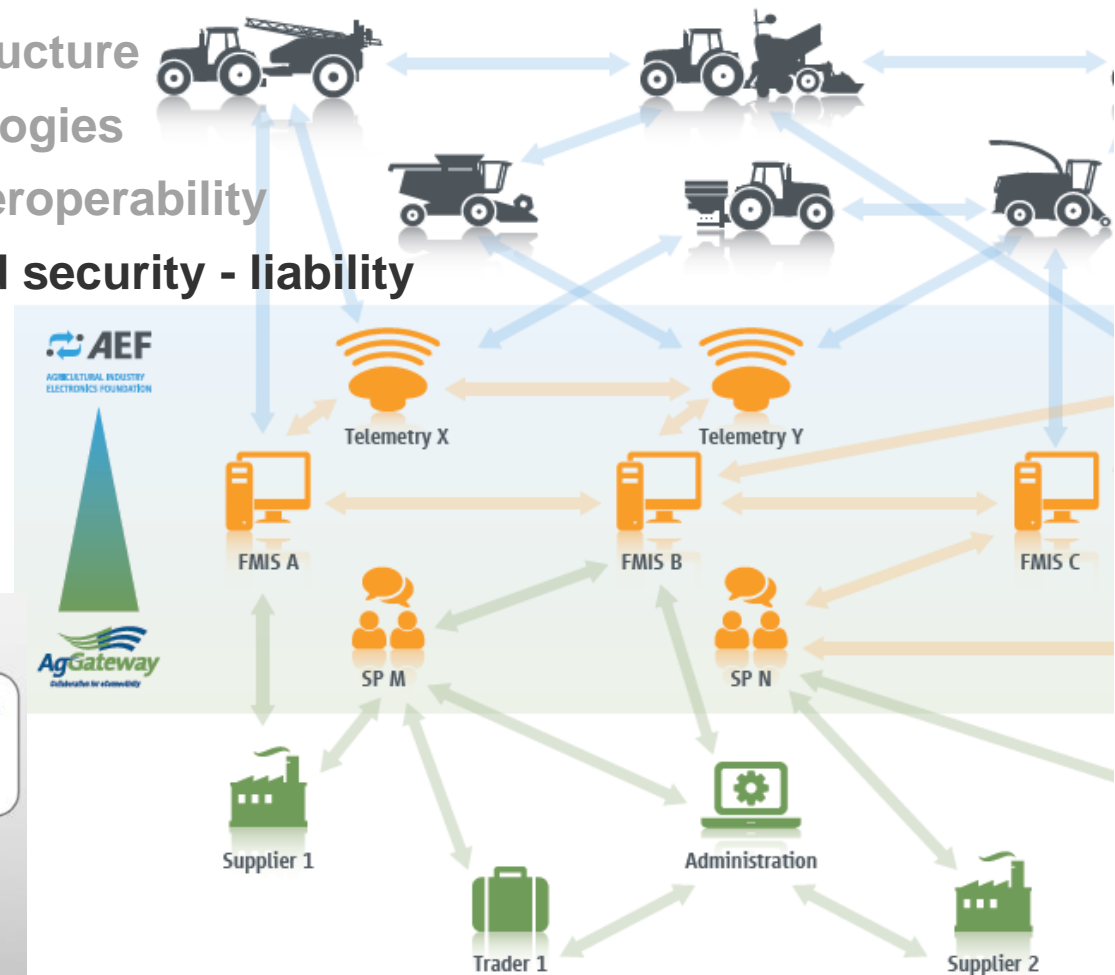
Trust / willingness to share data

Data communication infrastructure

Data communication technologies

Seamless data transfer – interoperability

Ensuring machine safety and security - liability



Safety ——— **Liability**

Security

Every manufacturer is responsible for safety of operators and bystanders!

Who is responsible for injuries caused by a multi-brand TIM system?

Ensure that only "trusted" equipment works together

DIGITAL FARMING – what is needed?

Trust / willingness to share data
Data communication infrastructure
Data communication technologies
Seamless data transfer – interoperability
Ensuring machine safety and security – liability
Preparing the future for autonomous vehicles



Source Rauch



Source Claas



Source CNHi



Source Amazone

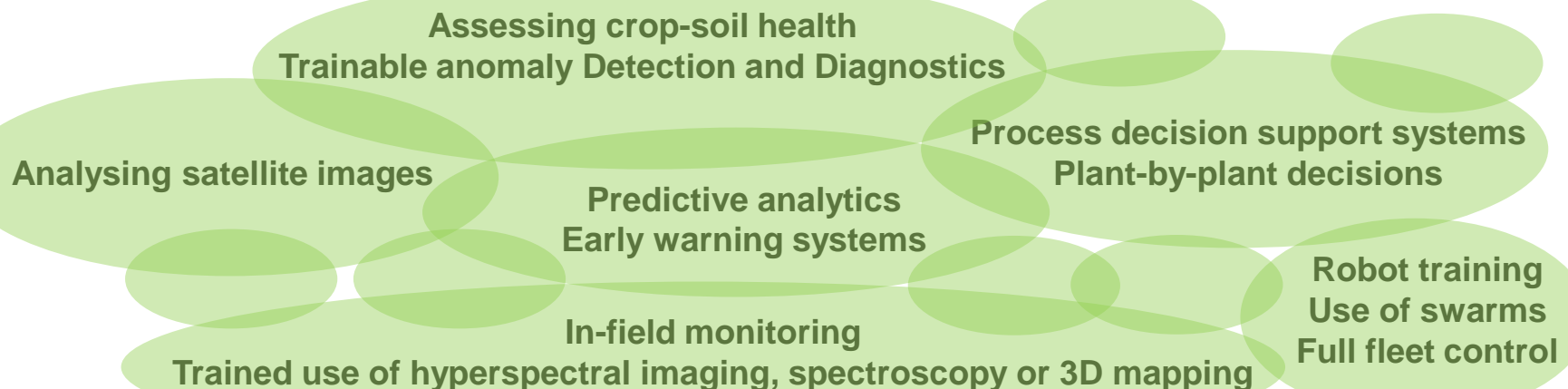


Source Fendt

DIGITAL FARMING – what is needed?



Trust / willingness to share data
Data communication infrastructure
Data communication technologies
Seamless data transfer – interoperability
Ensuring machine safety and security – liability
Preparing the future for autonomous vehicles
Supported by Artificial intelligence





Thank you!

CEMA Secretariat

T +32 (0)2 706 82 27

secretariat@cema-agri.org

Boulevard A. Reyers 80

B-1030 Brussels

www.cema-agri.org

