



AEF

Providing electronic communication to the Ag sector

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ICT-AGRI-FOOD Forum – BEST PRACTISES TO GOING TO MARKET

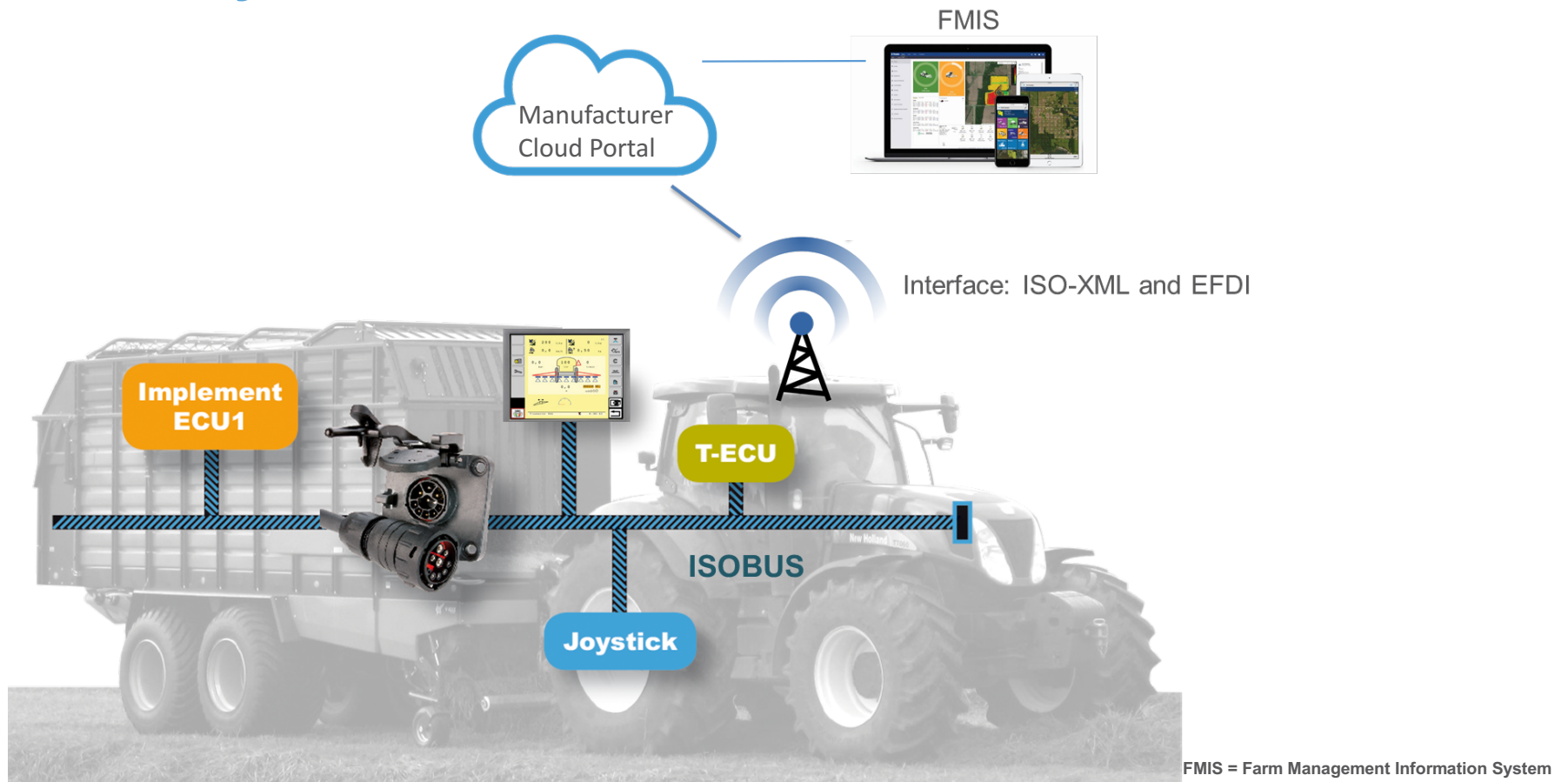
November 19, 2020

Who are the AEF?

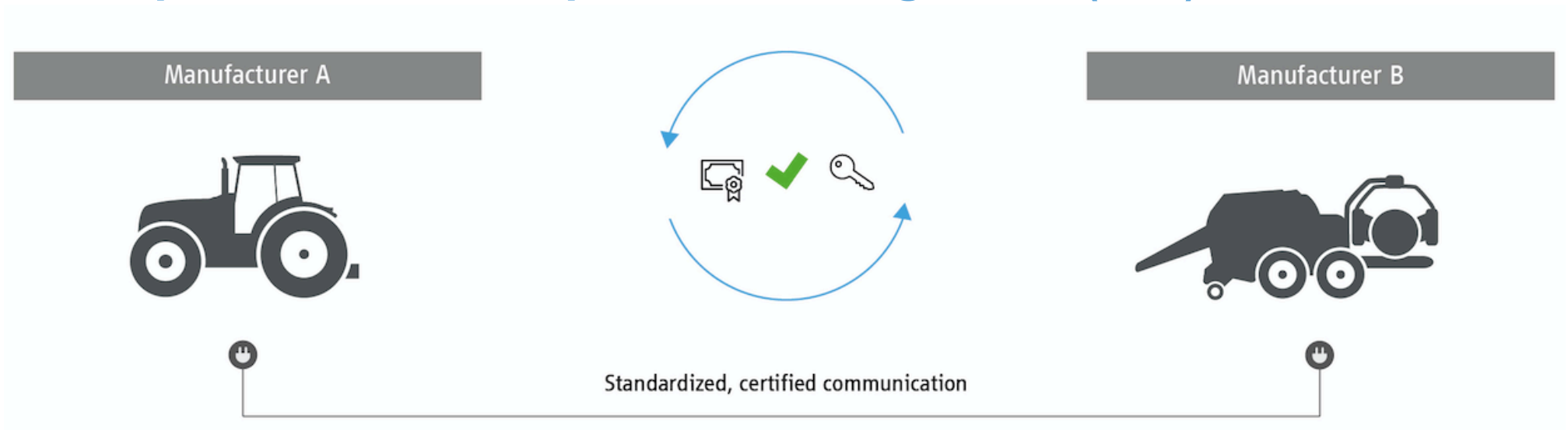
- Agricultural Industry Electronics Foundation
 - Founded in 2008; Celebrated our 10th anniversary in 2018!
 - 8 major agricultural equipment manufacturers and 3 trade associations
 - Over 230 member companies
- Worldwide support of ISOBUS implementation
 - Structured in 13 project teams
 - Supported by 5 international test labs to certify products
- Define guidelines and standards and for Ag industry
 - Focus on Tractor – Implement connection using ISOBUS
 - Coordinate activities and developments



Typical ISOBUS system



Principles of Tractor Implement Management (TIM)



- Standardized and certified communication based on ISOBUS
- Certificates necessary to verify trusted systems → PKI in place
- Optimize working process

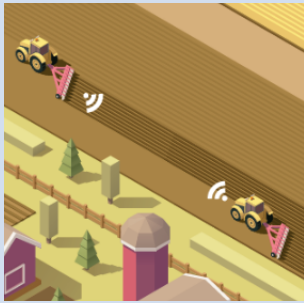



PKI = Public Key Infrastructure

ISOBUS machines moving into digitized world

- Working with systems of mixed fleet is challenging
- Communication in rural areas is even more challenging
- Robust solutions for farming needed
- Interoperability depend on communication
 - Key success factor

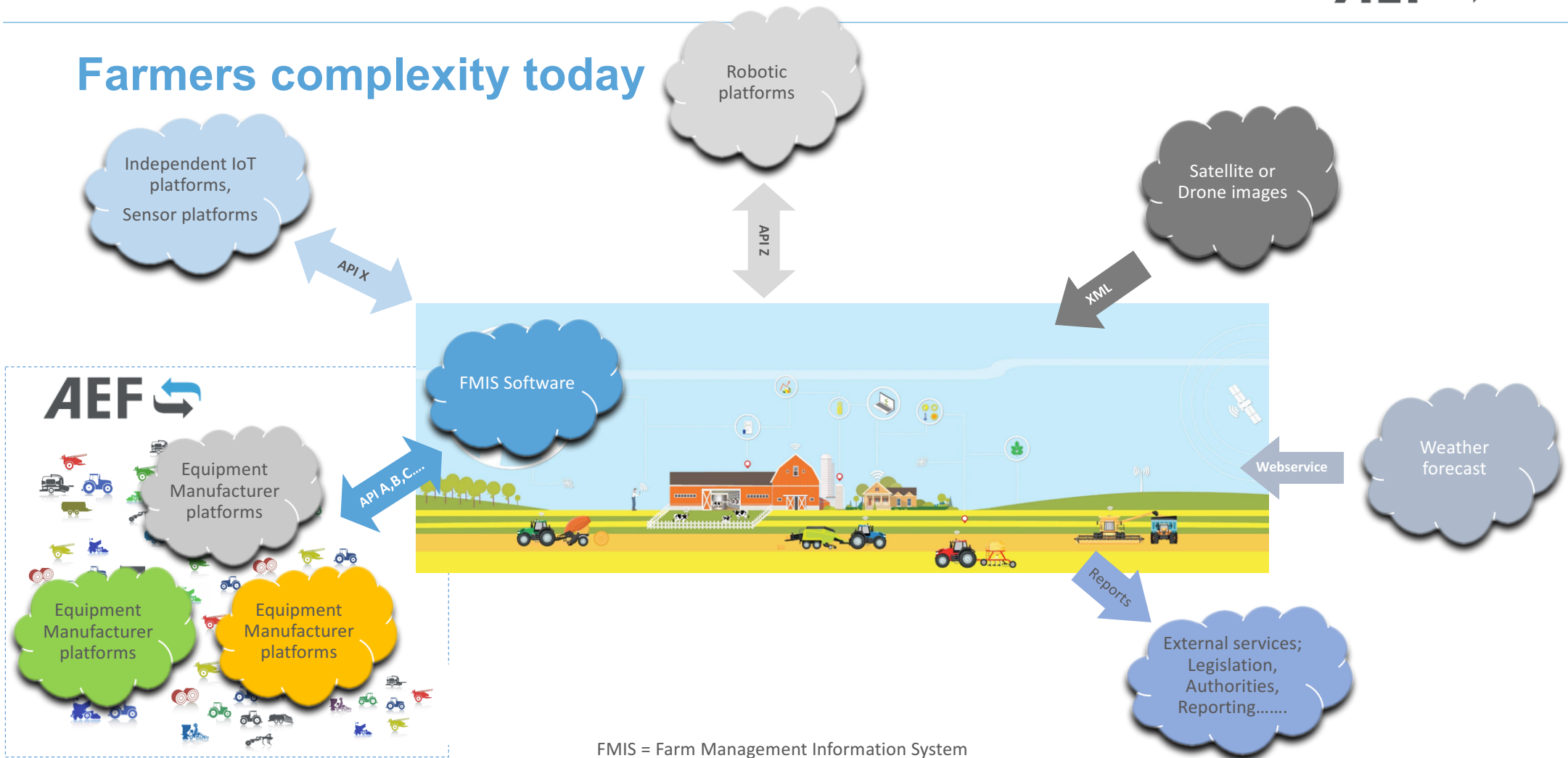


Motivation & Use Cases

	Process Data Exchange (Coverage)	Cooperative Machines (Platooning)	High Volume Data Streaming (Camera)	Road Safety
				
<i>Range</i>	High (2/6 km)	Low (up to 50 m)	Medium	High
<i>Bandwidth</i>	Medium	Low	High	Low
<i>Latency</i>	Average	Low	Low	Low
<i>Relationship</i>	n to m	1 to 1	1 to 1	n to m

Standardized M2M communication in mixed fleets creates high value opportunities for customers worldwide by enhancing work efficiency, quality and safety even in rural areas.

Farmers complexity today



Farmers complexity today

Robotic
platforms

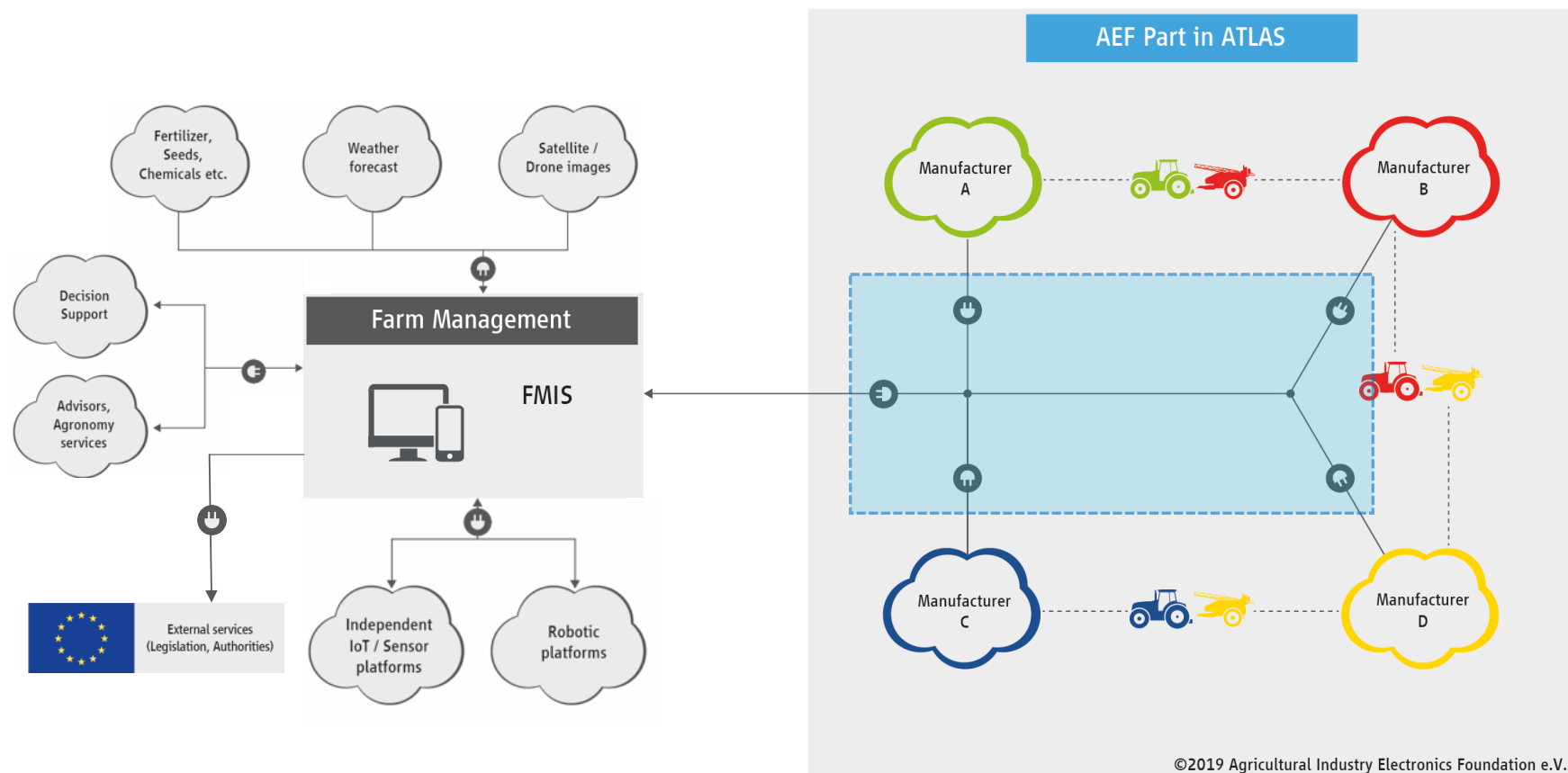
- Data collection and connectivity
 - Most manufacturers have own software platform or uses joint platforms connecting vehicles
 - Using different data models
- Farmer needs to manage their machines
 - Capable to use multi-branded fleets with standard for cloud communication
 - Data and reports need to be in the system directly after the work on the field is done

Interface to connect different platforms needed

AEF is working on a solution to reduce interoperability issues!

FIVIS – Farm Management Information System

AEF is working on Platform-2-Platform communication standard



Summary

- Connectivity and data are key to guarantee interoperability
- Data has to be easily manageable by the end customer
- Farmers/Contractors expect seamless connectivity
- Continue the legacy of safe and secure Ag Machines
- Ag Industry / Cross Industry cooperation is a must



Thank you

