



smart **AKIS**
Smart Farming Thematic Network

CEMA



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

Jerome Bandry
Secretary General, CEMA
05 June 2018

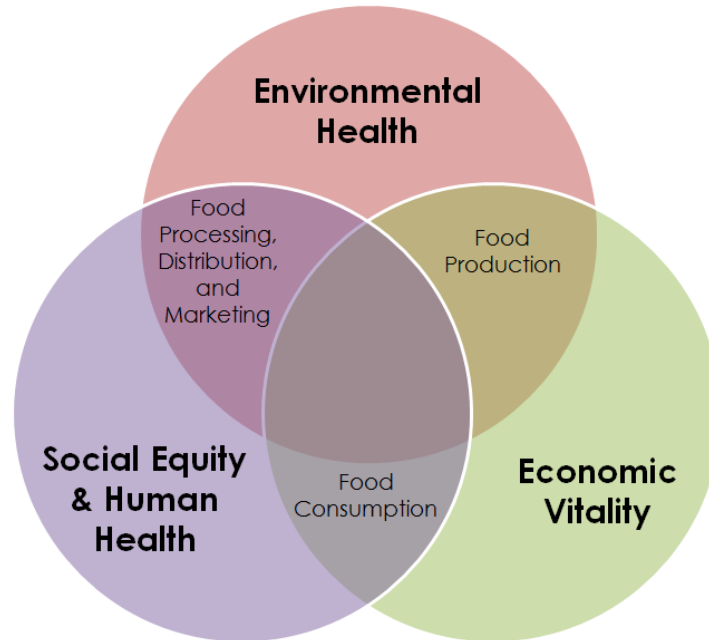
The voice of Agricultural Machinery manufacturers in Europe



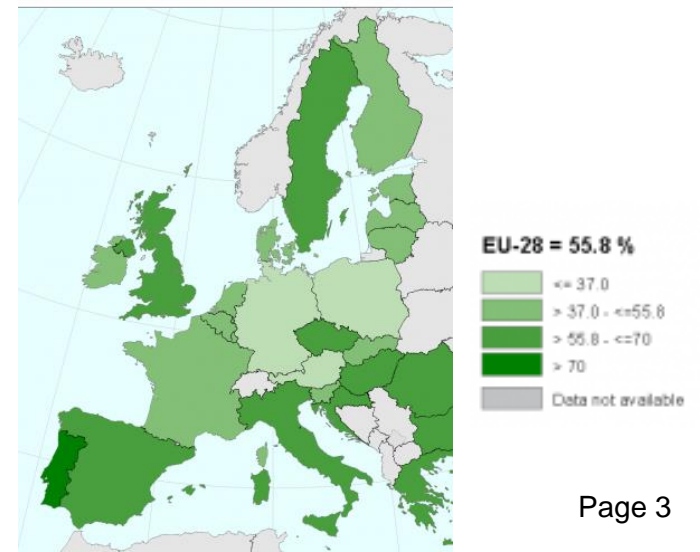
1. **4,500 manufacturers**
From a handful of large multinationals to multiple SMEs
2. **450 machine types**
From tractors & combine harvesters
to plant protection equipment and precision seed drill
3. **€26 billion annual turnover & 260,000 people employed**
Including 125,000 in related distribution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



Challenges in agriculture



Share of farm managers aged 55 years or more



Responses

Mechanization

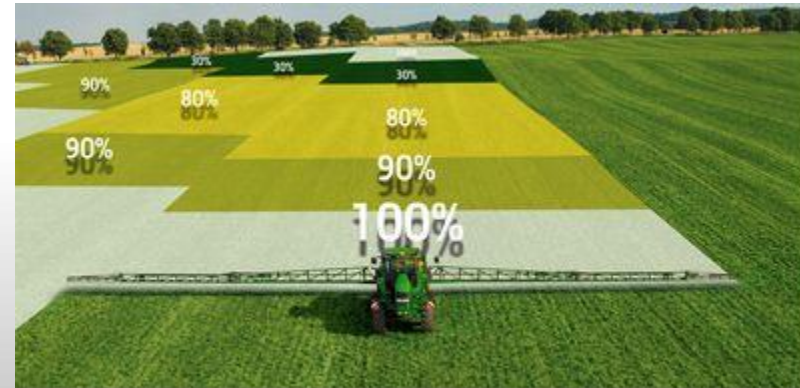
Ag. 2.0

FOCUS: Maximum output through maximized input

Smart - precision technology

Ag. 3.0

FOCUS: Maximum output through optimized input



Ag. 4.0

Make the connection

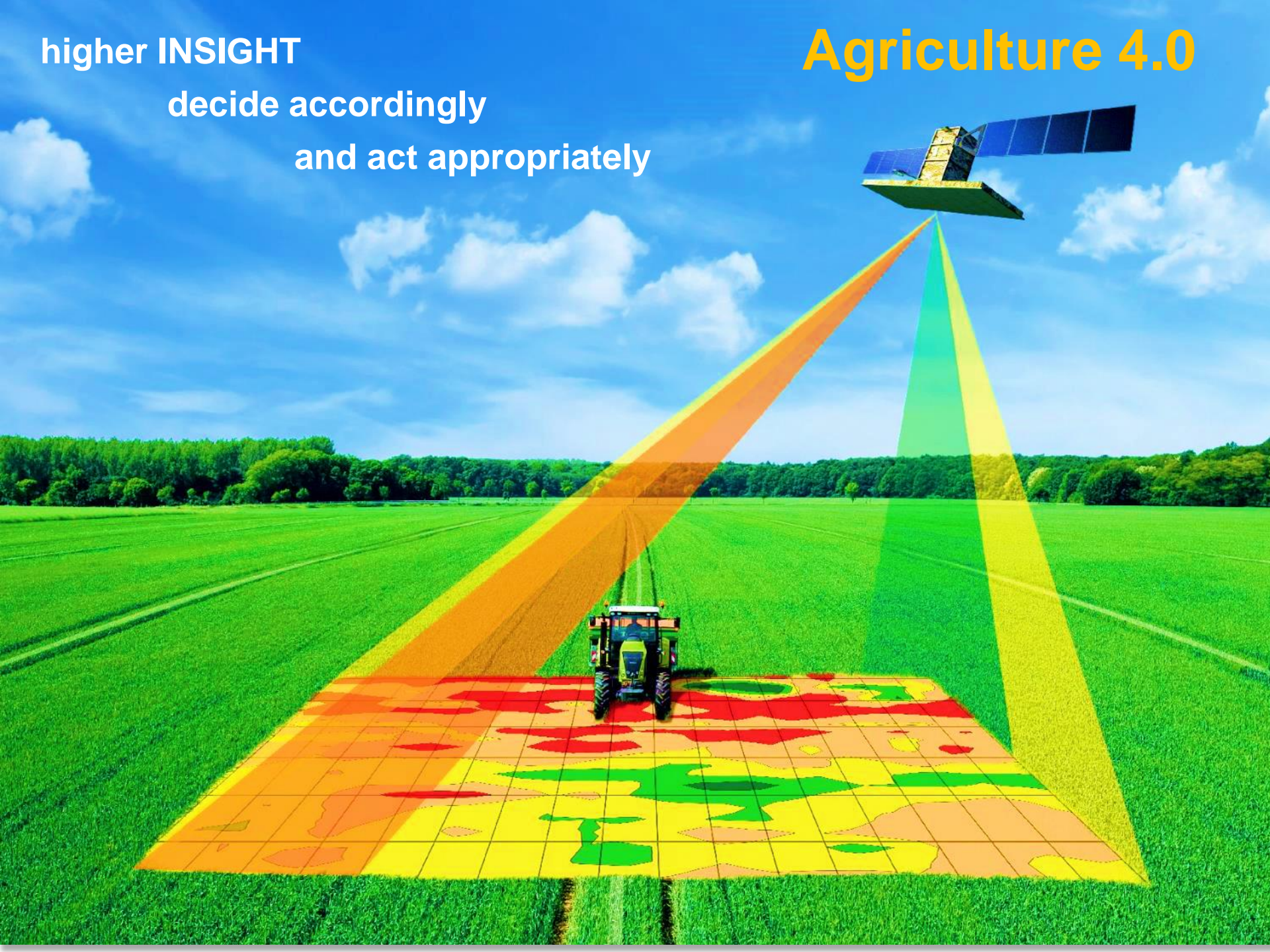
FOCUS: plant optimized treatment / traceability over the food chain

higher INSIGHT

decide accordingly

and act appropriately

Agriculture 4.0

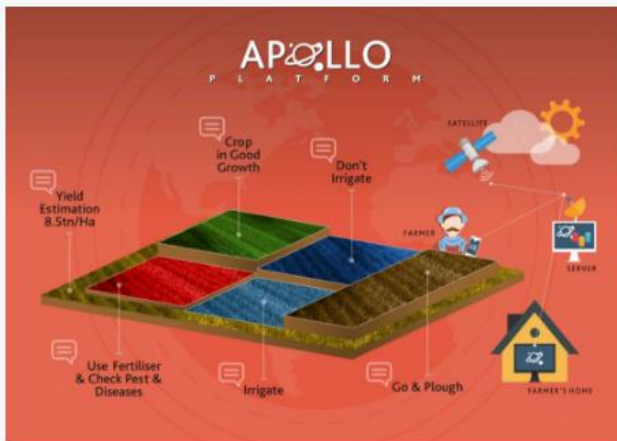


thematic network focusing on the **dissemination of Smart Farming Technologies (SFT)** in Europe, backed up by **EIP-AGRI** and funded by the Horizon 2020 programme.



smart **AKIS**
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



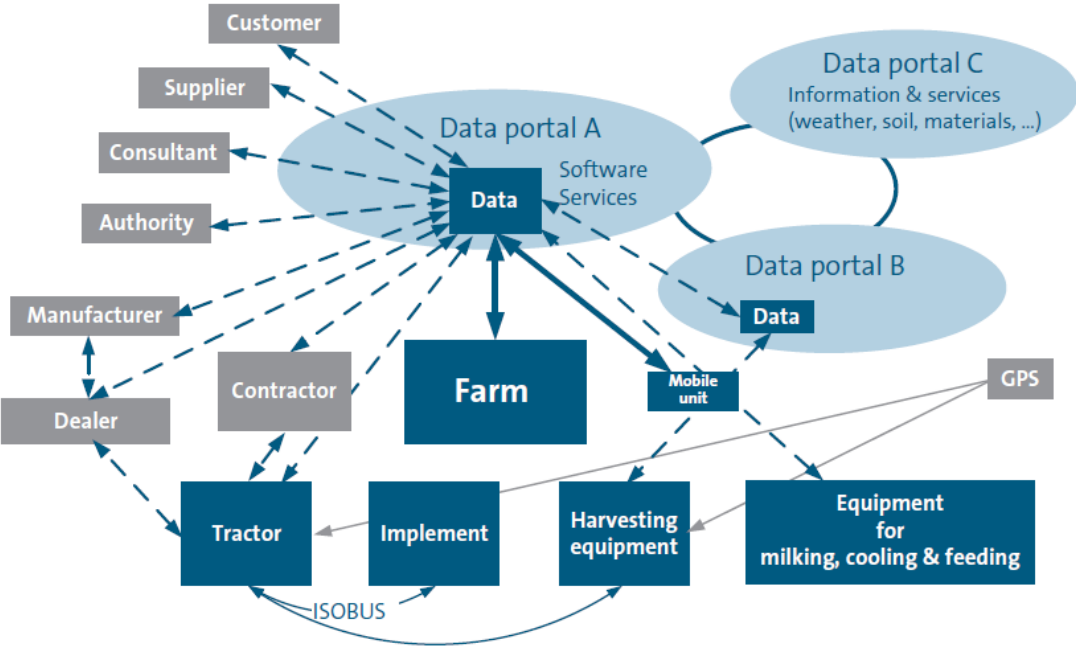
Volume / Speed / distance



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?



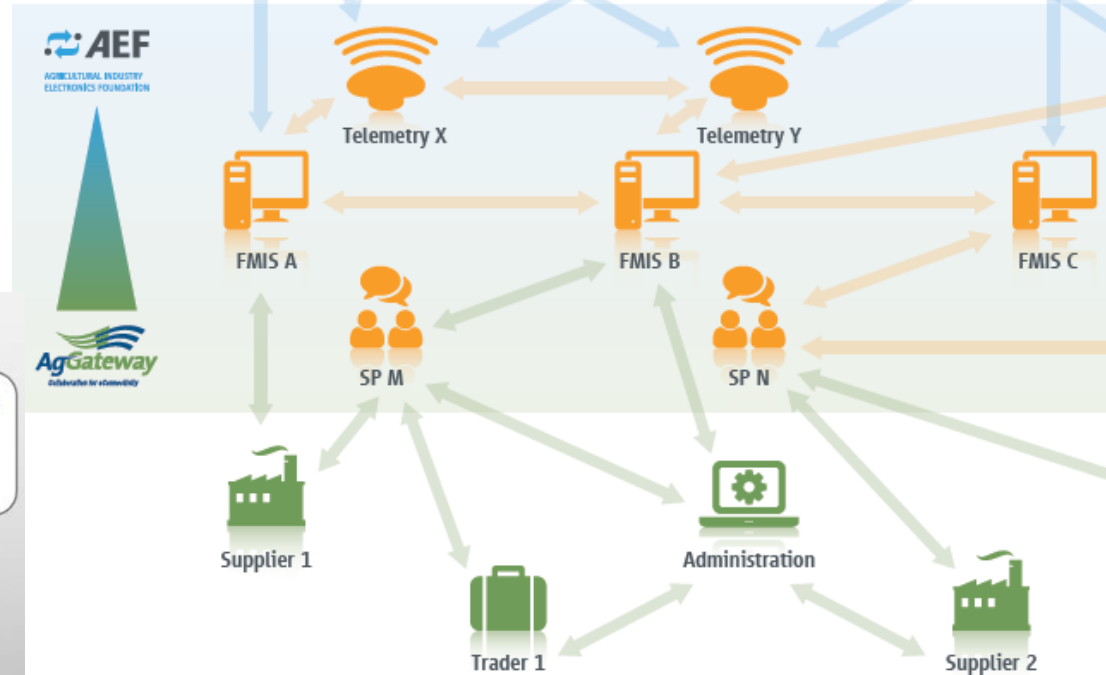
Trust / willingness to share data

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

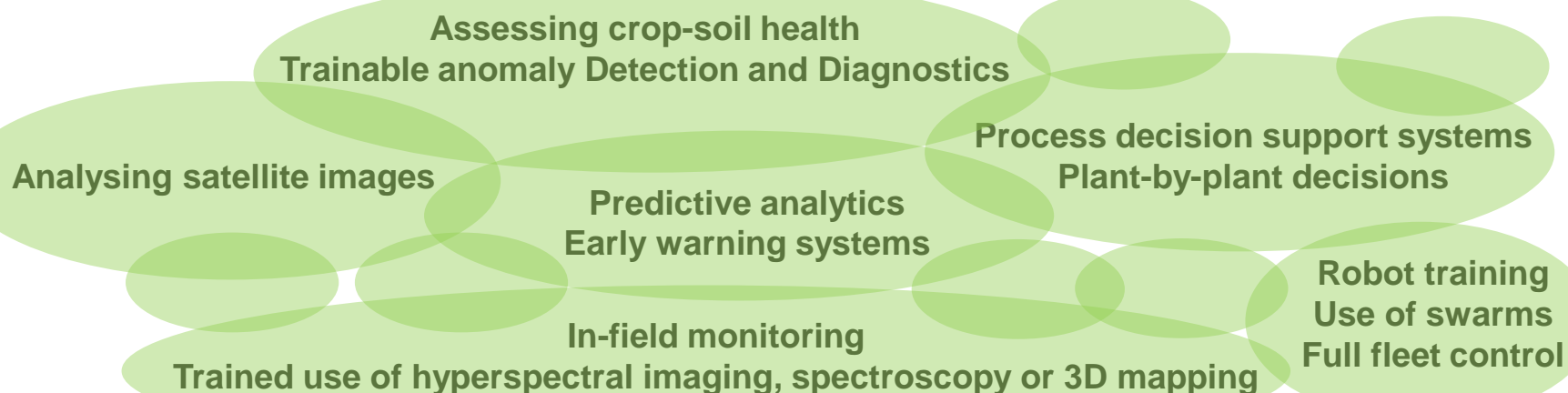
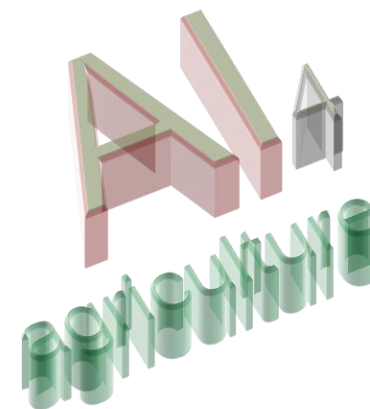


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DIGITAL FARMING – what is needed?



- 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!

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