AO Agrar-Office – FMIS and the potential use of TELEIOS/LOD

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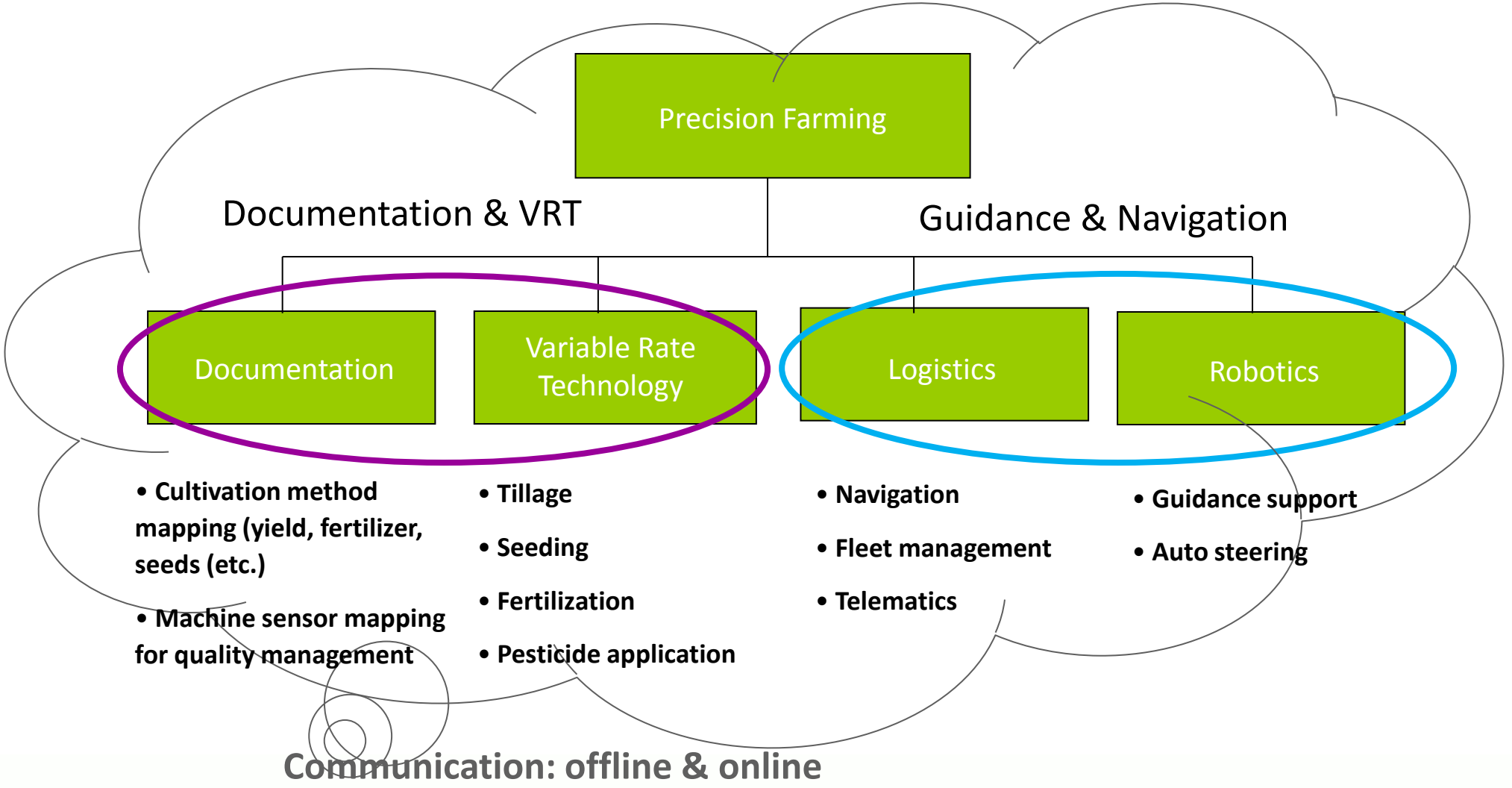
FMIS = Farm Management Information System

History:

- Almost 30 years of development to optimize agricultural organizations by using appropriate soft- and hardware
  - MS-DOS based programs mainly for plant cultivation documentation
  - Single Windows NT programs
  - Nowadays an integrated system: AO Agrar-Office
- Current software requirements:
  - Support common agricultural machinery communication standards (ISOXML/EIC)
  - Billing system
  - Detailed reporting
  - Cadastre management
  - Plant cultivation documentation
  - Communication with mobile devices
  - GIS functionality → **Precision Farming methods**…

Precision Farming: Range of use



Precision farming: requirements to human resources

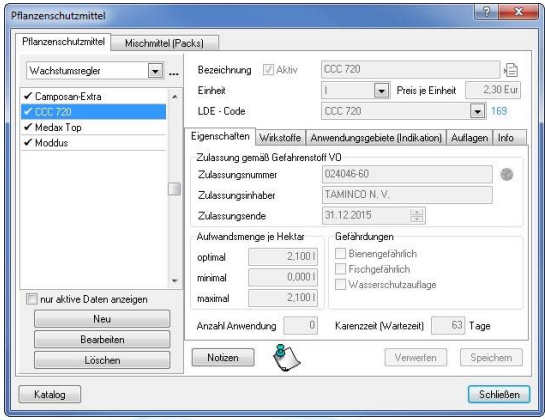
Detailed knowledge about used hard- and software:

- Agricultural machinery and device control
- FMIS system on desktop and mobile devices
- Agricultural terminals

and detailed knowledge about legal restrictions and calculation methods like:

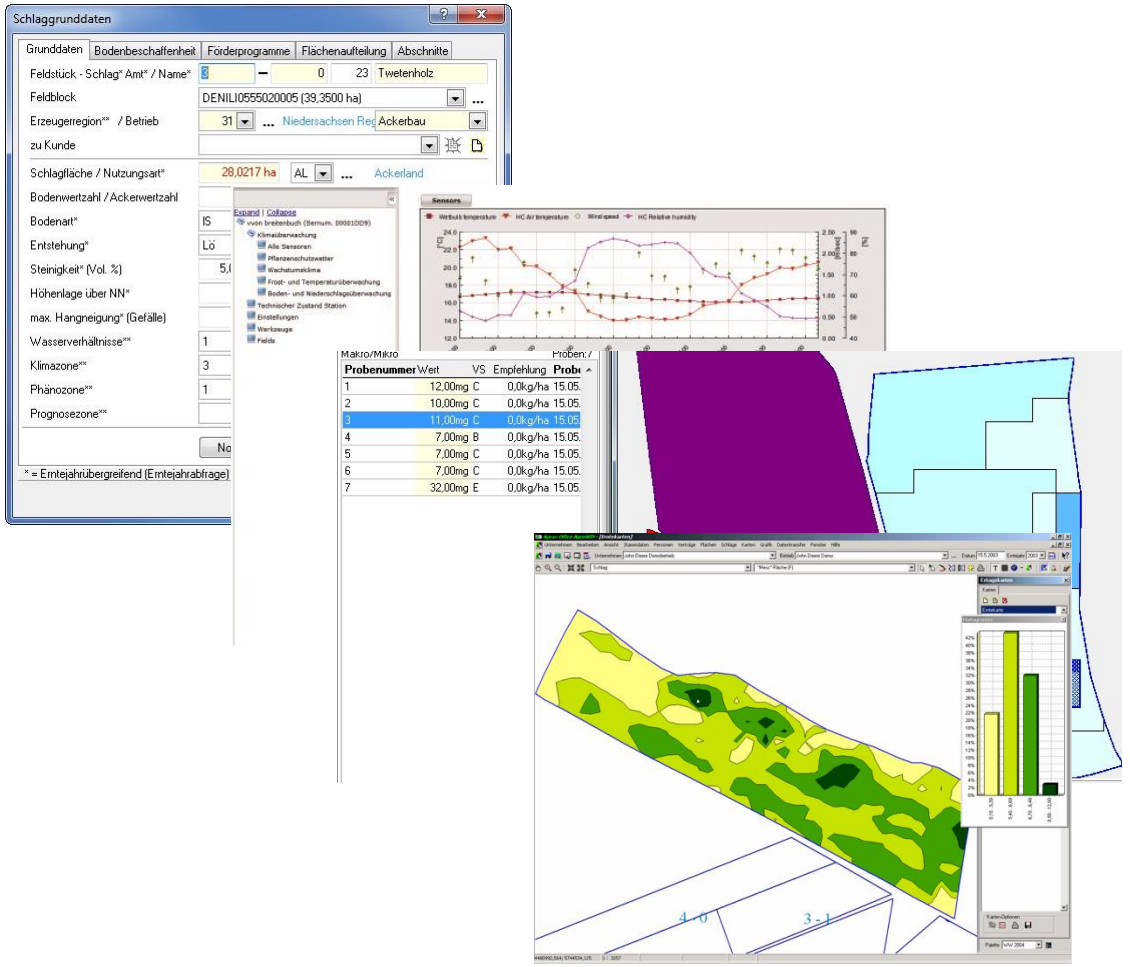
- Requirements on applying plant protection products
- Temporal and nutrient related requirements on fertilization
- Nitrogen application rate

→different public and private knowledge sources



Precision farming: used geospatial data

- Soil conditions
- Weather data
- Nutrient supply
- Crop yield
- Exact field boundaries
- Logged machine data
- Satellite data
- **Talkingfields** – products



Example: Pesticide application requirements in Germany

Needed data providers, data and formats:

- Bundesamt für Verbraucherschutz und Lebensmittelsicherheit: Plant protection products database: MS Access (non-public)
- Julius Kühn Institut: Directory of regionalized small structure shares: PDF (public)
- Bundesamt für Kartographie und Geodäsie: Administrative units: ESRI Shape (public, but low accuracy)
- Federal land surveying office: Administrative units: ESRI Shape (non-public, but high accuracy)

→ Different data with different formats needs to be linked to be used correctly!

Bundesamt für Verbraucherschutz und Lebensmittelsicherheit

JKI Julius Kühn-Institut

Bundesamt für Kartographie und Geodäsie

Bayerische Vermessungsverwaltung

Potential use and advantages of LOD in agriculture:

Concerning non-geospatial data:

- Machine-readable access to public data
- Single source of current data
- Additional benefits by interlinking of data with e.g. geospatial data

Concerning geospatial data:

- Talkingfields: Better access to a broader variety of satellite data for raw data or process chains reduces the searching effort
- Easier compliance with legal restrictions

Problem:

- Needed agricultural information often depends on public sector and their willingness to cooperate or publish data in the right way
- Quality of data (accuracy, resolution)

Thank you for your attention!

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