talkingfields – the Project and its Data Needs
Supporting Precision Farming through integrative use of satellite techniques and intelligent services

Concept of talkingfields in the frame of IAP
Integration of crop information from Earth Observation and capabilities for machine guidance from Satellite Navigation into services for agriculture
Summary of TF Services and Products

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Improved Soil Mapping – TF Base Map and TF Zone Map

- **TF Base Map** shows long-term relative fertility based on multi-year satellite images.
- **TF Zone Map** allows optimization of soil sampling strategy for an improved soil mapping.
- Use of satellite information for selective instead of raster sampling.
- Specific zones for soil sampling are created according to TF Base Map.
How accurate are these satellite-based model results?

The TF Biomass Map and TF Yield Map are calculated using EO data assimilation into a crop growth model.

Wheat Grain
- 4.5 t/ha
- 6.0 t/ha
- 7.5 t/ha
- 9.0 t/ha
- 10.5 t/ha

Measured yield

Input and Output Data for the Process Model

- Input: Tables and GIS-Layers
- Output: Raster and Tables

- Meteorology: Station data as well as forecast: several commercial providers
- Soil: DEM (e.g. SRTM), Soil Map (e.g. HWSD)
- Vegetation: Land Use (either specific to farm or available data sets like CORINE), EO Data (e.g. Landsat TM/ETM+/OLI, RapidEye)
Input Data – Benefits of Open Linked Data

The optical EO data needs to be:
- Of the right geographic location and the right time
- Of the right spectral and spatial resolution

So far:
- Acquisitions by a predefined set of sensors are searched every day during crop season
- Every sensor has a different archive, different metadata formats
- Automatic search not possible

Additional Data:
- Additional Data (e.g. soil maps) for the locations have to be found and processed
- No two archives or metadata are the same
- On top of the necessary additional data, in the future an extension of the use of additional data is foreseen (e.g. for nature conservation purposes)

⇒ Use of open linked data hopefully can reduce the effort for these pre-processing steps!

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Thank you for your attention!

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