2.3

Data Brokerage Service and Decision Support System for Farm Management

LOCATION

Czech Republic, Poland, Latvia and Norway

PARTNERS

asplan viak internet

PSNC

WODR

CHALLENGE

Farming related data is produced by several suppliers, using different systems, data models and APIs. This data varies from machinery data, satellite data, meteorological data, land parcel information systems, water bodies data, erosion data, soil data and more. For farmers, it is important to have access to the complete data to help decision-making, which is currently not available. The challenge is to integrate this data allowing analysis and visualisation applications for a Decision Support System.

AIM

This pilot will establish a trust-based and compliant data market for agricultural enterprise data that sits between the owners and operators of agricultural data clouds and the farmer. This will include both a technical platform and advisory services that will ensure easy adoption of data and technology by farmers.

HOW

Pilot farms will implement relevant data generated in the process of managing their farm, as well as indicating expectations and comments regarding the functionality of the system. Three main groups of input information are used. First, data from precise online and long-term measurements on the farm (e.g. meteorologic stations, IoT sensors on the farm etc.). Next, external data specific to the farm such as satellite picture and information, external weather forecasts etc. Finally, data from other sources used at the farm (e.g. governmental regulations, subsidy calculation, work planning information). This data is combined and adjusted to a format that will describe all inputs in one application. Visualisations using a combination of charts and meteograms/multi-charts for sensor and meteorological data will be developed. This more effective utilisation of the data provides support for the decision-making process. Furthermore, a mobile application will provide alarms and warnings with information about suitable/ unsuitable conditions for defined interventions.

BENEFIT

Using the Data Brokerage Service and Decision Support System will enable farmers to have access to complete and integrated data, providing support for decision-making; something currently not available. This will have a positive influence increasing efficiency, reducing time and effort, and delivering cost savings.

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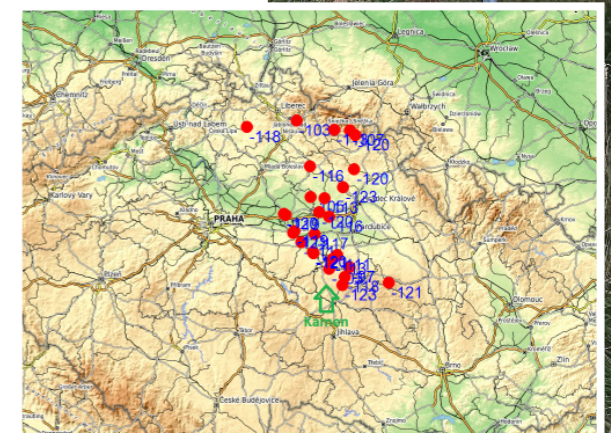
DEMETER Integration

Pilot 2.3 established a trust-based and compliant data market for agricultural enterprise data which sits between the owners and operators of agricultural data clouds and the farmer. It includes both a technical platform and advisory services that ensure easy adoption of data and technology by farmers. Lesprojekt adopted an approach to utilise DEMETER enablers without the need to significantly change the data models and data flows used on the portals operated by the company.

Feedback From Farmers

One of the most limiting factors for farmers adopting technologies is the time they perceive it to take. Typically farmers did not assess the benefits of DEMETER enablers in isolation and rather viewed the whole solution as time consuming until they adopted the pilot. To date, farmers have provided positive feedback while outlining the benefits of being able to access available farm data in advance which in turn allows them to customize their outputs and address any issues the data illustrates. These process improvements provide the farmer with more time to spend on different aspects of the farms, such as on field operation planning.

Outcomes

Lesprojekt developed decision support tools which are made available to farms and agricultural advisors. To facilitate the decision-making process the user must have all the data and services. These datasets and services in many cases have different owners and use different standards, formats, and protocols. The infrastructure used by Lesprojekt includes portals for farmers and other agricultural data users based on the HSLayers NG map client, using Micka as a metadata catalogue, and sensor solutions made available through Senslog. To expand the functionality and data resources available on Lesprojekt platforms, DEMETER enablers were tested to offer added value to the services created by Lesprojekt.