



FARM-ORIENTED OPEN DATA IN EUROPE

Issue 3 (March 2015)

FOODIE Newsletter

FOODIE Team's corner

Dear Members of FOODIE Community,

FOODIE Team is pleased to welcome you to the third issue of the FOODIE newsletter, providing you with all the relevant news and progresses to keep you aware with the project development, upcoming events and summaries of the past events attended.

After the first year of activities, the project reached relevant outcomes which will be presented in the following sections.

FOODIE project in brief

The FOODIE project aims at building an open and interoperable agricultural specialized platform hub on the cloud for the management of spatial and non spatial data relevant for farming production and for integration of existing and valuable European open datasets related to agriculture. Moreover the FOODIE service platform serves the data publication and data linking of external agriculture data sources contributed by different public and private stakeholders, and for providing specific and high-value applications and services for the support in the planning and decision-making processes of different stakeholders' groups related to the agricultural and environmental domains. FOODIE concepts and objectives have been being demonstrated in three different pilot scenarios across Europe: Spain, Czech Republic and Germany.

MILESTONES ACHIEVED

After the first year of activities the phase of pilots' execution has been reached. It has been divided into 3 stages in order to follow the agile and iterative development approach adopted by FOODIE: proof-of-concept, test stage and production stage. Currently, the execution is focused on the first stage (proof-of-concept), with a narrow scope covered, and a small, for the moment, number of participants involved, but with the idea of having all the capabilities to demonstrate the utility of the FOODIE platform.

- **Spanish Pilot:** it focuses on precision viticulture, i.e. the appropriate management of the inherent variability of crops. At this stage, a process involving interviews with the technical direction of the wine company, a pre-analysis of the information provided by the final user and in-situ observation of the vineyards has been accomplished. As a result three main needs were identified: a) register and geo-localize the operations and information regarding the vineyard; b) a decision support system based on recommendations and predictions taking into account different measures, indexes; c) representation of all this information in a spatial and temporal dimension.
- **Czech Pilot:** its key element is the use of open data for strategic and tactical planning of farms. In the first year of the FOODIE project were selected requirements for the three planned scenarios on Czech Pilot: A. Improving efficiency of transport in agriculture, B. Tracking the movement of farm machinery on pilot farms and C. Monitoring of in-field variability for site specific crop management on arable land. Currently first stage of the project is executed, which is focused on the collection of input data during next vegetation period at pilot farms. Current activities related to tracking movements of farm machinery are focused on deployment of devices on farm machinery and installation of infrastructure for processing data from the machinery. Within activities connected with improving of efficiency of transport in agriculture we are now focused on reverse logistics which involves obligatory take-back of empty packaging from pesticides.

- **German Pilot:** it deals with the integration of the German machinery cooperatives systems with existing farm management and logistic systems. After a roadshow users will get training in technologies (WinGIS, DokuPLant, Logistics) including explanation of planned new FOODIE possibilities (platform for data, platform for download software, platform for planned new API's) and will have the possibility to use free of charge the technology until 31/12/2016 on condition that they provide a user-report every 6 months.

EVENTS

FOODIE team will be attending the following events:

- 4 May 2015, **GIVS 2015 - Geoinformatics in public administration**, Prague, Czech Republic
- 25-29 May 2015, **INSPIRE – Geospatial World Forum**, Lisbon, Portugal
- 29 June- 2 July 2015 **EFITA/WCCA/CIGR 2015** Poznan, Poland

FOODIE Project was presented at:

- **Czech and Slovak INSPIRE conference**, 25-26 November 2014, Pruhonice, Czech Republic. It was a traditional annual national INSPIRE conference for the Czech and Slovak Republic.
- **SDI4Apps project Code Camp**, 01-03 December 2014, Brno, Czech Republic. It was an occasion for FOODIE experts to discuss about the technical challenges of the Cloud Environment for Geographic Information. FOODIE experience related to data models and interoperability issues was presented and shared with all the attendees.
- **GIS Ostrava 2015**, 26-28 January 2015, Ostrava, Czech Republic. The main objective of the conference was to present and discuss new methods, issues and challenges encountered in all steps of gradual development, maintenance and utilization of digital surface models and their integration with various spatial data and models.
- **Open Europe: Open Data for Open Society**, 18-19 February 2015, Riga-Jelgava, Latvia.
This conference promoted the development and strengthening of the Information Society in Europe. This high-level international conference was attended by 200 participants from 16 EU Member States. The conference was financed by the Latvian State and is part of the official agenda of the Latvian Presidency of the Council of the EU.
- **15th Turkey Map Scientific and Technical Congress**, 25-28 March 2015, Ankara, Turkey.

FOODIE is bringing new data model

The foundation stone from the perspective of any information system is a data model. For that reason the first year of FOODIE development was, among others tasks, devoted to the establishment of an innovative data model that enables the integration of data from field sensors, operating machines, humans- as-sensors, aerial and satellite images, maps as well as other systems, such as Farm Management Information Systems (FMIS), Land Parcel Identification Systems (LPIS) etc. Shortly said, FOODIE enables a farmer to see all relevant spatial and non spatial data at one place, no matter whether (s)he follows the principles of the precision farming or is interested "only" in the monitoring of the environmental burden through pesticides, fertilizers etc. The FOODIE data model was already presented at several conferences and is intended also an input for the standardization efforts of the Joint Research Centre of the European Commission.



Workshop about Czech pilot with end users in MJM

In the first year, a debate within the Czech pilot team primarily went on. The topic of the debate was "the FOODIE project description of work projection into the reality of CZ pilot". It means "how to match deliverables from other FOODIE work packages to the time dimension of end-user's agricultural work schedule during the field season".

A conclusion from the last Czech pilot meeting (27th January 2015) stated definitely the description of field-monitoring process of agricultural machinery as well as a schema of field-monitoring for precision farming. The last mentioned tested activity represents a tool of meteorological data collecting, evaluation, synthesis and creation of new quality level of outputs as the basis for farmer's decisions. This is a good start position for practical activities that are coming up with the second year of FOODIE project run.

News about German pilot

The German pilot was negotiated in detail with the Machine Cooperatives – this is the Headquarter of 250 German individual machine cooperatives supporting 250.000 German farmers throughout the whole country and focus on making machines available for farmers that do not have machines but also do for their members advise as well as also organize social services and contract large agreements with large stakeholders, e.g. support winter service on all railway stations in Germany with more than 1.000 farmers) due to several meetings with them in Neuburg/Donau, Germany (14.4.2014, 18.07.2014, 6.-7.10.2014, 12.01.2015)

The meetings finalized with following decisions:

- With March 6th 2015 PROGIS will send the advertising content to the machine cooperatives for the 250.000 pieces printed machine cooperative newspaper. The paper will be delivered to all members beginning April;
- During April/May PROGIS will make a FOODIE roadshow covering 5 locations in Germany from North to East to South to train and educate farmers and machine cooperative office members in technology available with the FOODIE project;
- Download of WinGIS, DokuPlant and Logistics for registered users free of charge during the FOODIE project period and use during the next two years also the FOODIE platform for updates, new API's developed by FOODIE partners. PROGIS will focus on API's for GIS and Logistics. Moreover, they consider the FOODIE platform as dissemination tool for the local expert models needed for farm management in all countries. The expert data module will be made in a way that experts from different countries can upload their data and related know-how (resources and costs, organic and inorganic fertilizer and contents, pesticides and active substances, seeds and variety, methods for different crops for the use in DokuPlant or also in other applications).
- Further PROGIS will setup during the FOODIE project several pilot projects together with the German Agromachine Producers Association DEK to manage together with several farmers and their machines some precision farming pilot models.
- At the end of the project and during the project duration PROGIS will ask the members to get written feedback of the use of FOODIE platform for updates and upgrades as well as the expert model that must be regularly updated. Further PROGIS will ask in a questionnaire also the participating farmers and farmer organizations about the benefits from the FOODIE platform.

With the start of the pilot project PROGIS in coordination with the other two pilot partners will do a mailing to all the collected stakeholders' contacts (then around 40.000).

FOODIE cloud infrastructure

The core infrastructure for the deployment of FOODIE platform is already in place. PSNC, as IaaS provider, has de-ployed an IaaS platform for the provision and management of virtual machines (VMs) and their associated virtualized resources (e.g., compute, storage, and network). Currently, FOODIE cloud includes nine VMs, hosting different base applications and services. PSNC has also configured and deployed a scalable and reliable Cloud Database as a Service (DbaaS) on top of the VMs providing functionalities of both relational and non-relational database engines. In particular, the DbaaS includes Postgres-XL, one of the PostgreSQL clustered solutions, which supports natively PostGIS extension of PostgreSQL for spatial objects, allowing storage and query of information about location and mapping; Virtuoso universal server that provides a semantic database (triplestore); and Rasdaman, an array database system for multi-dimensional spatio-temporal sensor, image, simulation, and statistics data of unlimited volume. Other base applications configured on top of the VMs include Mapserver (in cluster mode), Geoserver (in cluster mode), Moodle and Swagger.

PSNC collaboration with Polish stakeholders

PSNC has met with key stakeholders in the region, including the Wielkopolska Agricultural Advisory Center (WODR), the Wielkopolska Chamber of Agriculture (WIR) and experts in water management (former representatives of Institute of Meteorology and Water Management (IMGW) Poznan branch). As part of the results from such meetings, a strong collaboration has been established particularly with WODR, who provided the description of potential use cases in the region, user requirements and priorities, as well as valuable information regarding demonstration farms, where results of FOODIE could be tested, and relevant events and the regional and national level where FOODIE results could be disseminated.

PUBLICATION, ARTICLES AND PRESS RELEASES

Take a peek at the FOODIE Repository that gathers all the articles published on magazines of interest in order to disseminate and raise people awareness on the project objectives, activities and progresses. Click [here](#) to learn more!

Join FOODIE on [Twitter](#), [Facebook](#), [slideshare](#) and [LinkedIn](#) and share your comments and opinions with us!

Are you interested in getting involved within FOODIE project? Do you know any interesting connection between your sector and your team? Write us and we will explore the opportunity to collaborate.

Should you be interested in receiving further information about the project to forward and hand out to interested parties, please let us know and we will provide you with a brief presentation.

Download the FOODIE brochure and learn about the project's goal, its background and its strategy.

For the English version click [here](#).

For the Spanish version click [here](#).

For the German version click [here](#).



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