

EXTERNAL VALIDATION REPORT - YEAR 2

MARCH 2014



DELIVERABLE

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D2.4.1 EXTERNAL VALIDATION REPORT - Y2

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EXECUTIVE SUMMARY

This is a report on validation activities that started in the middle of the second year of the SDI4Apps project. It started with making the pilot apps publicly available. The strategy for the first six month validation was heavily focused on getting users know the applications and receive some feedback on further progress.

The validation was done through a series of events including workshops and hackathons. The SDI4Apps participants got valuable feedback from the users. Sometimes, the feedback was expressed by enormous interest in the pilot applications or data available through the SDI4Apps platform. In some cases, recommendations or comments that can improve the pilot applications were raised. These were captured and after internal discussion inserted into the Redmine system for developers.

A summary from all the events are included as well as selected recommendations for future development.

1 INTRODUCTION

The potential of geographic information (GI) collected by various actors ranging from public administrations to voluntary initiatives of citizens is not fully exploited. The advancements of information and communication technologies and shift towards Linked Open Data (LOD) give an excellent foundation for innovation based on reuse of GI. The establishment of spatial data infrastructures has largely been driven by the “traditional” GI community and the national and European policies governing this sector. However, GI is no longer a separate information space but finds itself part of a larger European information space where the ultimate objective is the creation of value-added services based on reuse of public sector information as defined by the PSI and INSPIRE directives rather than exchange of “layers” between different GI software.

Establishing an infrastructure to meet this new and wider objective puts greater strain on local authorities and institutions that traditionally were users of GI but now find themselves in an environment where they are also expected to be data and service providers, a role that is far more demanding in terms of technical knowledge and resources.

The main target of SDI4Apps is to build a cloud based framework that will bridge the gap between:

1. the top-down managed world of INSPIRE, Copernicus and GEOSS, built by SDI experts, and
2. the bottom-up mobile world of voluntary initiatives and thousands of micro SMEs and individuals developing applications (apps) based on GI.

SDI4Apps will adapt and integrate experience from previous projects and initiatives such as HABITATS, Plan4business and EnviroGrids, to build its cloud based platform with an open API for data integration, easy access and provision for further reuse. The solution will be validated through six pilot applications focused on easy access to data, tourism, sensor networks, land use mapping, education and ecosystem services evaluation.

The aim of this deliverable is to report on ongoing external validation of the SDI4Apps solutions and pilot applications. This is conducted in cooperation with dissemination activities, organised hackathons and stakeholder management group.

2 VALIDATION STRATEGY

The external validation begun in the second cycle of the community building. The intention of SDI4Apps is to attract external developers such as students and small companies to the process of utilisation of the platform. The goal is to extend the community around the platform and get some feedback on the technical development as well as usability of the solutions.

Social validation principles defined in Task 2.2 were used for validation. The focus was primarily on communicating the project results and getting feedback from various stakeholders through a series of events. The SDI4Apps platform should serve different users from various domains. Therefore, a series of workshops and hackathons have been organised in order to attract different user groups.

The validation took place during the following events:

- Danube Open (Geo) Data Hackathon & Developers' Workshops in Bratislava
 - 15 - 17 October 2015
- OTN/SDI4apps Technical meeting in Brussels
 - 11 - 13 January 2016
- Workshop: Open Data as an Opportunity for Commercial Sector in Prague
 - 18 January 2016
- Workshops in Latvia
 - 26 and 27 January 2016
- Workshop: Open Data for Regional and Local Development in Klatovy
 - 17 February 2016
- Data management and Value-added Applications Workshop in JRC Ispra
 - 22 - 23 February 2016
- Baltic Open (Geo) Data Hackathon 2016 in Riga
 - 16 - 18 March 2016

Reports from these events are included in Chapter 3. Recommendations for future development resulting from the discussions are part of Chapter 4.

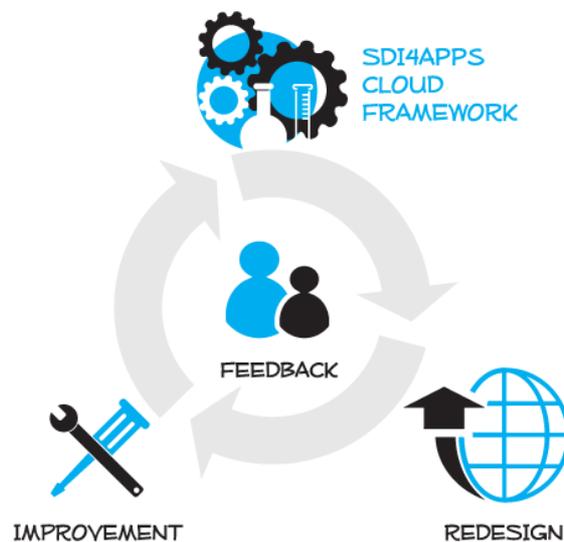


Figure 1 General principle of the SDI4Apps validation

3 EXTERNAL VALIDATION

3.1 Danube Hack, 15 - 17 October 2015

A full report on the Danube Hack is included in D7.2 Developer's Workshop Report from December 2015. The report includes the feedback of the participants in the form of a survey.

3.2 Brussels Meeting, 11 - 13 January 2016

Technical experts from the SDI4Apps and OpenTransportNet projects discussed some technical aspects of linked open data with the main standardisation body in the area of web technologies and data, the World Wide Web Consortium (W3C).

The meeting took place in Brussels at the premises of the OpenTransportNet coordinator, the Flemish Region authority. A three day workshop provided a lot of interesting discussions when some open issues were solved and many other issues emerged.

SDI4Apps and OpenTransportNet recently signed a Memorandum of Understanding to cooperate on open datasets including:

- Open Transport Map (OTM),
- Smart Points of Interest (SPOI),
- Open Land Use Map (OLU).

Data management, which is the main point of the cooperation, is time consuming and requires a lot of resources. Sharing data management tasks will mean that users will have access to more and up-to-date data.

A lively debate was about the Smart Points of Interest dataset, especially what concerns the persistent identifier of POIs. Otakar Cerba (UWB) designed the identifier as a combination of the following items:

- Country code (based on ISO 3166-1 alpha-2)
- Category of POI (based on the Waze navigation data)
- Coordinates (longitude and latitude)

An example can be:

```
<rdf:Description rdf:about="http://www.sdi4apps.eu/poi/ML_NAT_0.8712_14.9746">
```

where **ML** refers to Mali, **NAT** refers to Natural features and **0.8712** is longitude and **14.9746** is latitude.

Phil Archer (W3C) argued that this identifier is not unique for every point of interest, which is the main principle of Linked Open Data that every resource has a unique identifier. If there will be two cash machines next to each other and each of them will be mapped as a point of interest, then the country code will be the same, category will be the same and coordinates might be the same as well for both points of interest.

Moreover, Phil said that the coordinates of a point of interest might change in time and the same applies to the country code. In the end, the only persistent part of the identifier is the category.

The experts haven't come to a solution of this problem. However, a viable solution seems to be to use a code (a running number) instead of the human readable identifier.

Runar Bergheim (AVINET) presented the current status of the API development for the SDI4Apps project. OpenTransportMap decided to reuse some of the features and implement them in the open data hub that is developing.

The SDI4Apps developers also discussed a problematic behaviour of Virtuoso, the engine used for data storage and publication as SPARQL endpoints in SDI4Apps. They agreed to perform a testing of other open source solutions.

3.3 Prague Workshop, 18 January 2016

The workshop took place during a cold winter day of 18 January 2016 at the premises of the Czech Association for Geoinformation in Prague. The main aim of the workshop was to introduce new developments and innovations as a result of 3 currently running EU projects including SDI4Apps, OpenTransportNet and FOODIE.

Nearly 150 participants keen to hear some news from the field of open geospatial data. The audience comprised of representatives from ministries (Ministry of Interior, Ministry of Transport, Ministry of Environment), environmental agencies (Agency for Nature Conservation and Landscape Protection, Czech Environmental Information Agency), academia and public administration from the whole country as well as institutions dealing with spatial planning and development (IPR of Prague, Czech Office for Surveying, Mapping and Cadastre). This event attracted a lot of attention between professionals from academia, researchers, representatives of GIS and/or IT commercial sector, data producers, remote sensing stakeholders, map makers, students and also public.

The key question was to identify the European business models for open data. A numerous open data projects are financed from the European Union's budget. However, the end of a funded phase of a project very often means that created data are not available any more. Karel Charvát therefore opened this workshop with this question and asked the audience to start finding answers and solutions.

Other three presenters then briefly introduced datasets developed in the above mentioned projects including (Figure 2):

- Smart Points of Interest (SPOI) - a global dataset counting almost 24 million points of interest ordered by the Waze as well as OSM classifications; compiled from 500 different data sources, distributed in the RDF format.
- Open Land Use (OLU) - a dataset, so far, covering the Czech Republic, with the ambition to reach pan-European coverage. The OLU dataset provides land use data as detailed as possible in a unified data model. Currently, it combines data sources from Corine Land Cover, the Czech Registry of Territorial Identification, Addresses and Real Estate, Urban Atlas and the Czech Land Parcel Identification System (LPIS). Data are available for download in a vector format at administration level LAU2 (municipalities).
- Open Transport Map (OTM) - provides data from the OpenStreetMap in a way applicable for routing tasks with added information on the modeled near real time traffic intensity. Modelling of pan-European traffic intensity is the ambition for the year 2016. Data are available for download for NUTS3 areas or through OGC WMS; near future plan is to provide OGC WFS and routing API.

A business model was also described to overcome the abyss between a funded and non-funded phase of a project.

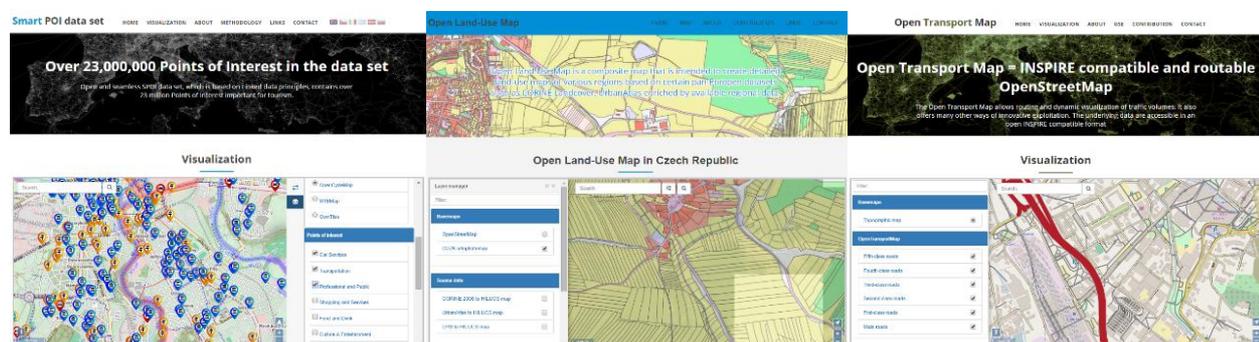


Figure 2 Open databases (from left): SPOI, OLU and OTM

Based on the presentations and following discussions, it seems that datasets may be persistent after a funded phase of the projects. Harmonisation, development of so-called data pumps and establishment of periodic updates are the preconditions in this sense. Datasets will then offer added-value data and services during the non-funded phase of the projects. Such datasets should be maintained within the non-profit

Plan4all association which targets at the development of a platform bridging EU organisations interested in open data.

Tomáš Řezník introduced a new platform for precision agriculture as one of the results of the EU project called Foodie. This platform integrates open and commercial data into one unified user-oriented portal to satisfy daily needs of farmers; from reference data (cadastral maps, aerial images, LPIS) through telemetry of machinery to application of fertilizers and pesticides.

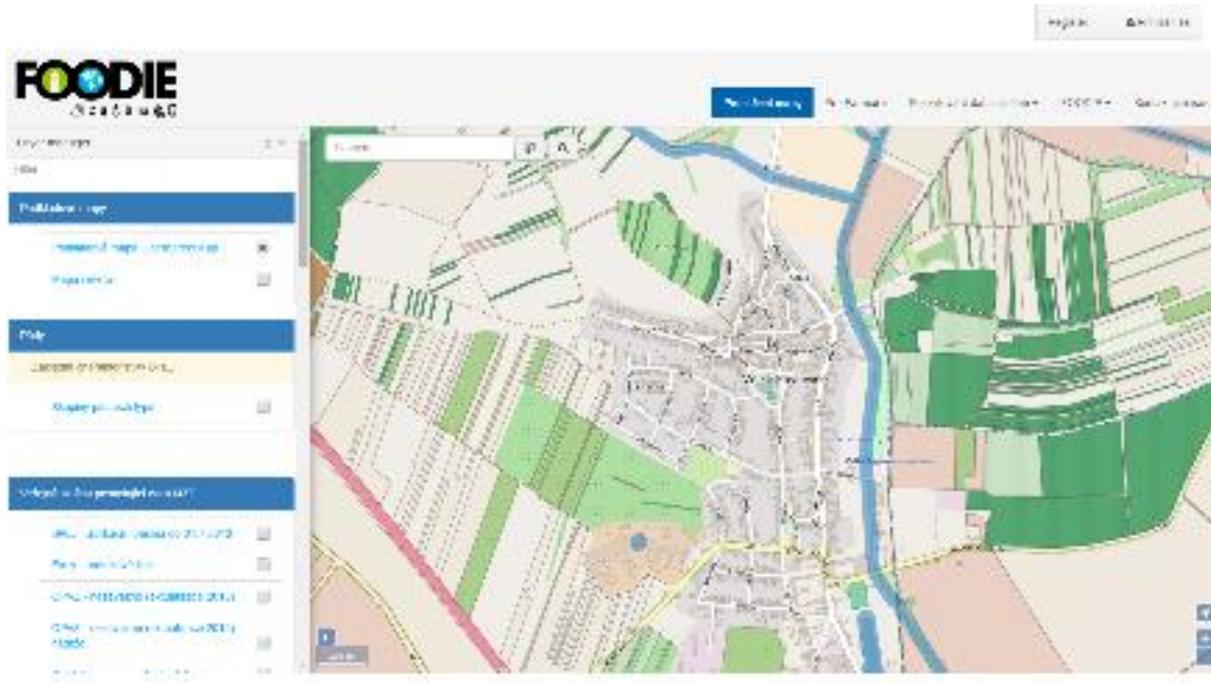


Figure 3 User interface of the FOODIE platform

Karel Charvát Jr presented business and environment oriented analytical tools based on agricultural machinery fleet monitoring. Similarly to his predecessor, also he described the outputs of the FOODIE project. The red line of the presentation was dedicated to increase the economic efficiency for (proof-of-concept) farms.

The last presenter, Štěpán Kafka, closed the first session with his contribution called “Quo vadis metadata?” His slides demonstrated possibilities of linking the world of open data and INSPIRE legislation to enrich metadata of spatial data through technologies of semantic web.

The whole day was closed with round table discussions on the topic “Will we initiate the Czech public-private partnership for open data?” Such an ambitious goal has not been achieved, however, many interesting ideas were expressed:

Participants generally agreed that opening of (geo) data in the Czech Republic belongs to one of the best in Europe. However, a way to reach 5-star rating of open data is rather still a long one.

Several discussions dealt with an idea whether all data should be open - and if not - which data should be closed and encrypted (especially when taking into account the current security situation in Europe).

Other debate focused on the differences between the RDF format and relational databases. Otakar Čerba quoted a colleague, Runar Bergheim from the Norwegian company Avinet, that real-world objects and their relationships can be far better expressed by a network graph than the relational model.

Finally, the ongoing question “Will the most detailed Czech reference database - ZABAGED - be offered to users as open data?” was raised. The answer was: “maybe one day, as soon as the Czech Office for Surveying, Mapping and Cadastre will cover the expenses for data maintenance with its own profits”.

All presentations (most of them are in Czech) are online available at <http://www.wirelessinfo.cz/en/prezentace-z-workshopu-otevrena-data-jako-prilezitost-pro-komercni-sektor-18-1-2015-praha/>.



Figure 4 Series of photos from the validation workshop

3.4 Latvian Workshops, 26 and 27 January 2016

At the end of January 2016 two workshops were organised in Latvia - on 26th at Jēkabpils and on 27th at Jelgava. The aim of these workshops was to discuss possibilities to open data created by municipalities and to introduce results of the SDI4Apps pilot activities and validate them by participants.

Altogether roughly 50 representatives of different municipalities from Zemgale Planning Region, Ministry of Environmental Protection and Regional Development and NGO participated in the workshops. Audience had the opportunity to hear story about open data from three different points of view.

Toms Ceļmīllers, who is a senior consultant at the Digital Administration Department of the Information Society Policy at the Ministry of Environmental Protection and Regional Development informed audience about political stance, legislation and planned future actions regarding Open Data at the national level.



Figure 5 From the left - Toms Ceļmīllers, Agris Ameriks, participants, Karel Charvat

The deputy of the Riga City Council Agris Ameriks shared Riga municipality's experience with opening data. Agris described that in Riga case the most difficult aspect was to find data sets that have no restrictions regarding publishing. He also shared some examples of how published data have been already used.

Karel Charvat and Raitis Bērziņš presented the SDI4Apps project aim and already achieved results. SPOI that consists of 24 million points of interest was demonstrated. Presenters introduced Open Land Use Map, described how it is created and compared available data in Czech Republic and Latvia.

The audience was impressed with the achieved results, especially in terms of data that were combined and made available for reuse. Pilots 2 and 4 were presented and discussed in detail. Raitis showed available data and possibilities to use them. Raitis and Karel introduced also the Smart POI database. Participants found this huge data set with wide coverage very interesting. Karel explained how the Open Land Use Map was created by combining different data and talked about plans to add more data about brownfields in Latvia. Participants were approving this idea. Karel showed also example of the Open Transport Map. Some of the participants expressed worries about the sustainability and reliability of the data and services.

On 27th January, the second workshop with the same agenda and presenters was held in Jelgava. It was also attended by more than 20 people, mostly representatives of municipalities and ministry. In this second workshop, the video made by Raitis was demonstrated: https://www.youtube.com/watch?v=ukllvDu_l7E (Figure 6)

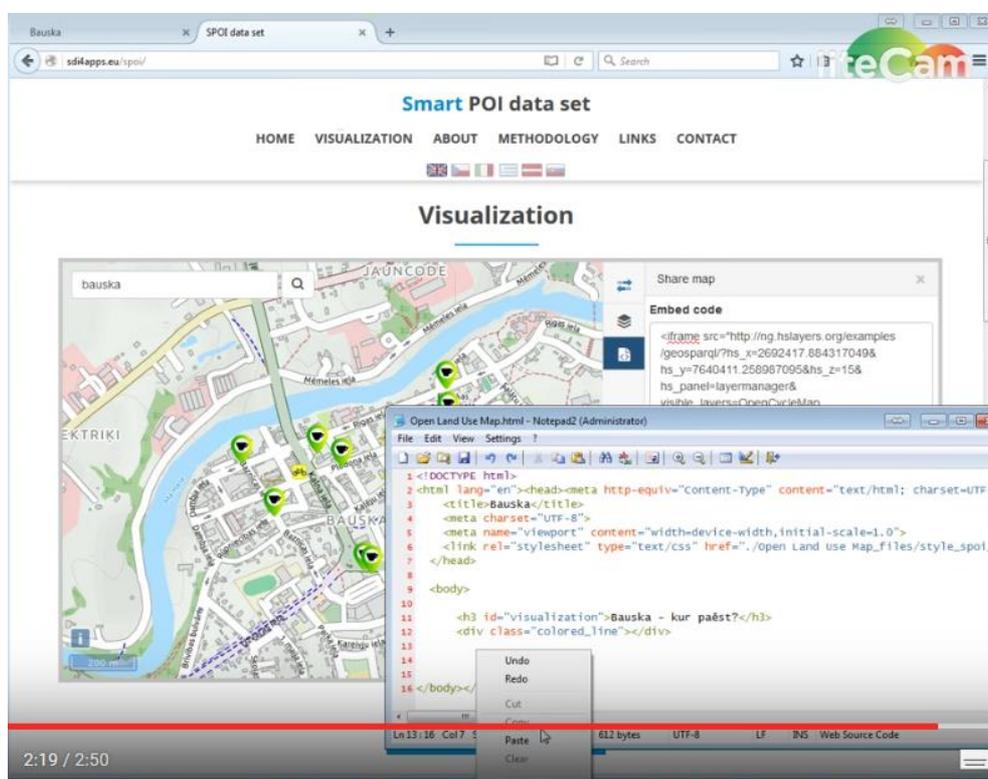


Figure 6 Screenshot from the short video

After the first workshop Karel came up with idea that it could be a simple way how to present SPOI in more interesting way. Participants of the seminar seemed to find this video interesting and useful. It appears that such simple instructive videos may be well accepted by end users of created services.

During both workshops participants were asked to answer a set of questions:

1. What kind of organisation (and what specialization) you represent?
 - a) National authority
 - b) Municipal authority
 - c) SME
 - d) Large company
 - e) Other

2. What is your connection with open data?
 - a) Curator
 - b) Publisher
 - c) User
 - d) Other
3. Have you found any topic of today's workshop interesting?
4. Would any SDI4Apps results including data and software be helpful for you or your organisation?
5. What should be added/changed regarding Pilot 2, to make it more interesting/useful for your organisation?
6. What should be added/changed regarding Pilot 4, to make it more interesting/useful for your organisation?
7. Is there anything that was missing or hasn't been discussed during the workshop?

27 participants filled in the questionnaire. A big part of the respondents indicated that the most interesting topic of the workshop was the information about already available possibilities to use open data and Riga example about how to begin to open municipalities' data. A bit more than half of respondents pointed that either one or both of the demonstrated pilots would be useful for their organisation. Regarding Pilot 2 suggestions as additional information about transport movement, more detailed information about tourism offers, tracking of sports events as velo marathons or car races etc. were expressed. Regarding possible development of Pilot 4 suggestions as land cover by type of ownership (state, municipalities or private), possibilities to add information were expressed.

3.5 Klatovy Workshop, 17 February 2016

This section reports the main issues presented and discussed during the Czech joint workshop of three EU projects including SDI4Apps, OpenTransportNet and FOODIE held in Klatovy, Czech Republic on 17 February 2016.

Ivo Šašek from the Czech NGO Úhlava welcomed all the participants and introduced the main objective of the workshop and the current situation of open data in public administration.



Figure 7 IVO ŠAŠEK opening the workshop

Ivo spoke about the problems of opening data, mainly the missing legislative framework which is currently in preparation.



Figure 8 IVO ŠAŠEK opening the workshop

Ota Čerba from the University of West Bohemia in Pilsen opened the series of presentation with information on what open data mean, how should be presented, interpreted and described. Ota stressed that opening data of public administration is not only about making them simply accessible on the Internet. It is important to bear in mind that for successful reuse, data must be published using open standards and the terms and conditions of use must be clearly described.

The core of Ota's presentation were points of interest (POIs) widely used mainly in navigation devices and for tourism including travelling, cycling, walking, hiking and skiing. The Smart Points of Interest (SPOI) database, licenced under the ODbL licence, count nearly 24mi POIs, which makes it the largest open database of POIs in the world. For your information, the second biggest open POI database is managed by the Open Geospatial Consortium and counts about 10mi POIs.



Figure 9 OTAKAR ČERBA presenting Smart Points of Interest

Ota spoke about the variety of data sources used for the SPOI database including OpenStreetMap, dataset from the EU project Citadel on the Move and Natural Earth. Some data sources could not be used for the SPOI database as there are not compatible with the ODbL licence.

Ota concluded his presentation introducing the tourist portal where all POIs are visualised including the possibilities of access to data though Virtuoso SPARQL Query Editor and embedding a map window into any HTML pages. All further information can be accessed at <http://sdi4apps.eu/>.

Ivo Šašek commented that update of POI data, especially those which are not coming from public administration, is a problem as data become outdated and the reuse is very limited.

Karel Charvát from the Czech Centre for Science and Society spoke about open data in education, an important topic for many of the workshop participants. Karel highlighted the role of INSPIRE focused on access to geographical data in Europe. Such data can be used for educational purposes using the online map portal where students or teachers can create their own thematic maps that can be saved, printed, shared (using a permalink) or embedded into any HTML pages. The thematic maps can be created from numerous data layers available not only on the SDI4Apps portal, but also from other map portals using a standardised web services for data sharing.



Figure 10 KAREL CHARVÁT and open data in education

Karel briefly presented the GeoGame accessible through the Liberec Region website: <http://env.kraj-lbc.cz/mapserv/geohra/?lang=eng>.

Pavel Hájek from the University of West Bohemia in Pilsen introduced the main features of the Open Transport Map. It is a map derived from the OpenStreetMap data transformed into an INSPIRE based data model and its main advantage is the map is routable, i.e. can be used for navigation. Another advantage is that data are available through various means including the INSPIRE services.

Within the frame of the OpenTransportNet project an application enabling calculation of traffic volumes in the entire Europe was designed and implemented. Traffic volumes show the density of traffic in the transport network. Traffic volumes are a key part of Open Transport Map and its data model.

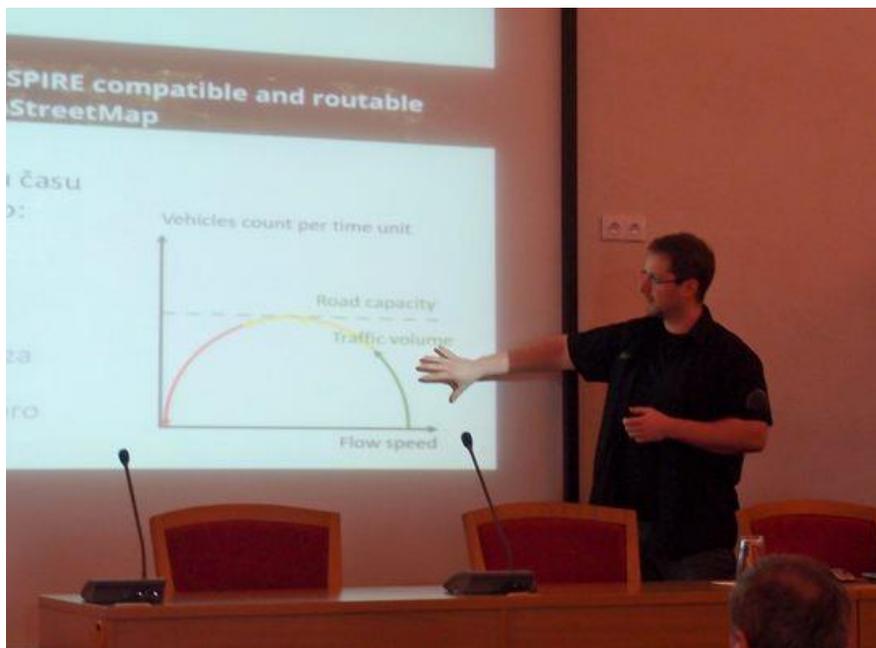


Figure 11 PAVEL HÁJEK explaining the details of traffic volumes

Pavel spoke about the details of traffic volumes, how they are calculated and how they can be visualised and used in practice. Pavel also mentioned the problem of data update between the two databases (OpenStreetMap and Open Transport Map) and the software components used for creating Open Transport Map.

A participant from the city of Český Krumlov asked whether data could be used for traffic analysis in Český Krumlov. Pavel said that the transport network could be used. Other data or parameters needed for traffic volumes would need to be analysed. The discussion continued during the lunch.

Another participants asked whether data from mobile network providers are used. This was commented that currently not but this idea will be shared with other colleagues.

Tomáš Řezník from the Masaryk University and the living lab WirelessInfo presented some of the results from the FOODIE project. The main focus of this project is on farming and how open geographical data can help farmers to monitor and plan their yields.

This includes use of fertilisers in the right amount and at the right time on the right place, subsidies and other funds for farmers and management of machinery and increasing its efficiency. Optimisation was the key word of Tomáš's message to the audience.



Figure 12 Workshop participants

Tomáš then presented the common data model for geographic data used for farming and their attributes. Farming portal based on this data model is available at <http://foodie-data.wirelessinfo.cz> where data can be visualized, downloaded and reused. The background maps include OpenStreetMap and ortophotomaps of the Czech Republic including data from Land Parcel Identification System. The main application data include data sensed from tractors used at farms. Special units mounted on every tractor send data to the central portal and then farmer can make further analyses before he/she takes a decision. In this way, the optimisation of machinery efficiency, reduction of costs and increase of yields are secured.

Tomáš also spoke about the pros and cons of using imageries for farming purposes, especially in the context of currently released images from Sentinel 2 (Copernicus programme).

Dmitrij Kožuch from Help Service Remote Sensing presented the last presentation of the workshop focused on land use. Dmitrij described the evolution of the idea and initiative of Open Land Use Map, which dates back to 2012 (Plan4business project).



Figure 13 DMITRIJ KOŽUCH describing the methodology of merging land use data of different level of detail

Dmitrij described the main features of the Open Land Use Map, its source data, data model, used classification (HILUCS), methodology for data harmonisation and data merging, data licencing and how data can be accessed and downloaded.



Figure 14 Discussion and closing session

3.6 JRC Ispra Workshop, 22 - 23 February 2016



Figure 15 Workshop participants

The Danube Region and the [EU Strategy for the Danube Region \(EUSDR\)](#) are the main topic of the Data Management & Value-added Applications workshops held now (22-23 Feb 2016) at the Joint Research Centre in Ispra (Italy).



Figure 16 Workshop discussion

The workshop began with demonstrating the added value of harmonising and reusing open geographic data. The first session was dedicated to results of the SDI4Apps, OpenTransportNet and FOODIE projects presented by the Czech team.

Štěpán Kafka presented the Geo-DCAT application profile and its implementation in the OpenTransportNet data hub. The Geo-DCAT implementation will be used also in SDI4Apps.



Figure 17 ŠTĚPÁN KAFKA

Tomáš Řezník presented how FOODIE helps farmers to innovate their farm management using open data.



Figure 18 TOMÁŠ ŘEZNÍK

Tomáš Mildorf introduced the Open Land Use Map initiative, its current status and future developments. Otakar Čerba presented the Smart Points of Interest dataset and Jan Ježek the OpenTransport Map and advanced visualisation techniques.

The workshop now continues with presentations of pilots in the Danube Region such as the cross-border harmonisation between Moldova and Ukraine.

The workshop is conducted under the Danube Reference Data and Services Infrastructure¹ (DRDSI) initiative of the JRC in Ispra.

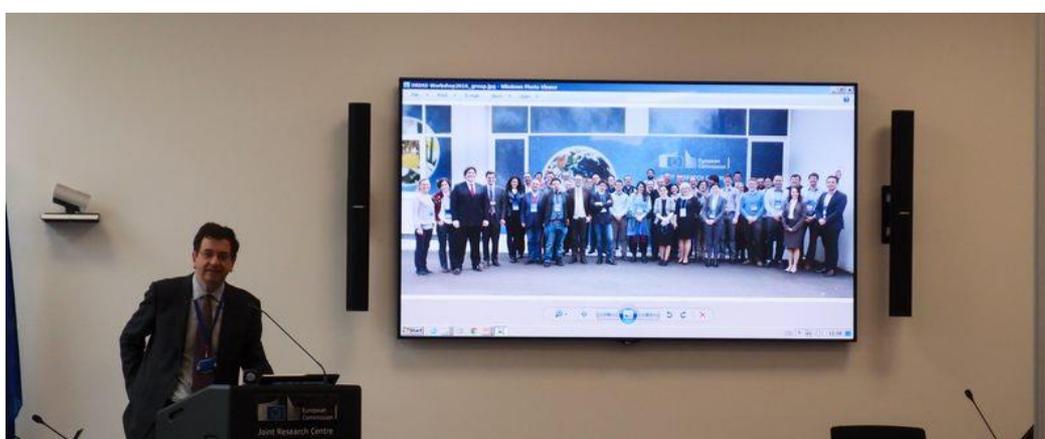


Figure 19 Closing session

3.7 Baltic (Geo) Hackathon, 16 - 18 March 2016

Toms Ceļmillers from the Ministry of Environmental Protection and Regional Development of the Republic of Latvia, which is responsible for implementing policy in three areas - environment protection, regional development as well as information and communication technologies, opened the public workshop.

Toms spoke about the legislative and policy background introducing the right to access public sector information in the form of open data.

¹ <http://drdsi.jrc.ec.europa.eu/>

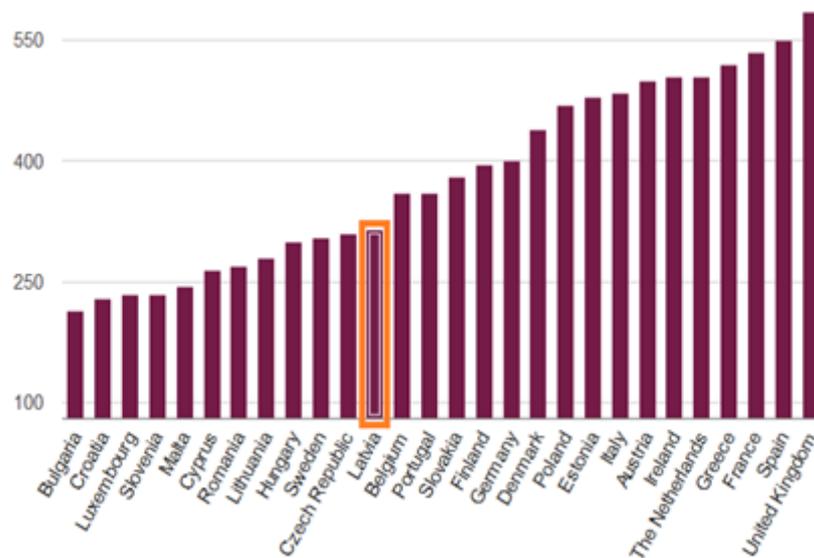


Figure 20 Open data in the EU scale (ePSI Platform scoreboard)

Karel Charvat from the Czech Centre for Science and Society gave thanks to the organisers, mainly to Zemgale Planning Region and Riga Technical University, and supporters including Open Riga.

Karel gave thanks also to all the 'hackathors', the ones who took the challenge in the hackathon as active participants. Karel then introduced the idea of SDI4Apps, its objectives and potential for Europe. The key part of his presentation was the Open Land Use Map, Smart Points of Interest and Open Transport Map as key data sources used for the hackathon.

The public workshop organised at the end of the hackathon showed the hackathon results including:

- Martin Tuchyna, Tomas Kliment (PRONATUR. E-PRO) - Ecosystem Services (ESS)
- Pavel Hajek, Jan Macura, Jakub Kocica, Irena Koskova, Rinor Shala - 3D model of buildings automatically created from open datasets
- Dmitrii Kozuch, Irena Košková, Otakar Čerba, Dainis Keilis, Raitis Berzins - Use of Linked Open Data for Educational Purposes
- Karel Charvat Jr - Estimation of Crop Yield Potential
- Martin Tuchyna, Tomas Kliment Jakub Kocica, Dmitrii Kozuch - Slovakian Open Land Use
- Pavel Hajek, Jan Macura, Frantisek Kolovsky - Ideas and Data from Open Riga
- Richards Gailums, Klavs Taube, Frantisek Kolovsky, Pavel Hajek - Drivenet Maps
- Aldis Bulis, Martins Dudelis - IT system for development of national economy in the 21st century

A full report on the hackathon will be included in D7.3 Sprint Codes Report due in November 2016.

4 CONCLUSIONS

The series of events described in Chapter 3 showed big interest in the SDI4Apps topics. In total more than 1000 participants heard the news of the SDI4Apps development and tens of them tried the developed tools and mainly the data including Open Land Use Map (OLU), Smart Points of Interest (SPOI) and Open transport Map (OTM).

The participants were from different sectors including the private and public domains. The main groups include:

- Universities including students and researchers
- Ministries and governmental organisations (ministries of interior, environment and transport)
- Regional authorities (spatial and environmental planning and GIS departments)
- Geodetic institutes and mapping agencies
- IT companies
- GIS, geodata and map companies
- Banks
- Consultancy in data and GI domains

In addition to the series of events, there was an interest in the project results expressed by other

- Dynavix - the Czech car navigation developer for mobile devices - interest in the SPOI data for car navigation.
- The Olomouc University - for an analysis of the Open Land Use Map as one of the inputs for computing urban sprawl indexes.
- Joint Research Centre - there is a big interest in extending the OTM and OLU concept by Linked Open Data principles. SDI4Apps together with the OpenTransportNet project will submit a proposal for a pilot converting OLU and OTM INSPIRE datasets into RDF. In addition to this, there is an interest to include the project results in the DRDSI initiative².
- Data analysts from Barcelona for a seminar on tourism at a global scale.
- Copernicus programme - how data such as Urban Atlas and Corine Land Cover are reused for various purposes.

During the validation process, many comments and issues were raised and discussed. Some of them are of general character, some of them are concrete. A selection of these issues is shown below:

- How to query SPARQL endpoint? Such and similar questions were raised using the SDI4Apps tools and datasets.
- Finding open data is a problem in many countries. There is usually no central register for open data and resources are scattered on the Internet using different languages and ways to access it.
- A lot of data which are open are published without any metadata or any data description. In many cases, geographical data are published without any link to attribute data. Visualisation of such attribute data on a map is impossible.
- Can SDI4Apps assure the access to services and mainly to data related services? This is a crucial issue that was raised by several organisations interested in the SDI4Apps products. This was very much concern for the commercial companies, as reliable data access is key for their success. For example the SPOI database can be accessed via SPARQL endpoints. An ideal use for a satellite navigation company could be using Linked Data approach and simply connect to the SPARQL

² <http://drdsi.jrc.ec.europa.eu/>

endpoint. Can SDI4Apps make sure that data are up to date and the services are running 24 hours a day?

Many issues were not related to the problems which are addressed by SDI4Apps and were of different scope.

ANNEX 1

Agendas of the following meetings:

- Workshop: Open Data as an Opportunity for Commercial Sector in Prague, 18 January 2016
- Workshops in Latvia, 26 and 27 January 2016
- Workshop: Open Data for Regional and Local Development in Klatovy, 17 February 2016
- Data management and Value-added Applications Workshop in JRC Ispra, 22 - 23 February 2016

OTEVŘENÁ DATA JAKO PŘÍLEŽITOST PRO KOMERČNÍ SEKTOR

18. ledna 2016

10.00 - 15.00 hodin

Novotného lávka 5 (místnost č. 217)
116 68 Praha 1



Registrace na <http://bit.ly/1036rfj>

Hlavním tématem workshopu je prezentace datových sad a nastavení spolupráce mezi uživateli, výzkumníky a vývojáři zabývajícími se využitím otevřených dat (*Open Data*) pro nejrůznější komerční aplikace v oblasti dopravy, vzdělávání, životního prostředí, územního plánování, cestovního ruchu, turistiky, zemědělství a podpory obchodu s realitami. V rámci workshopu se účastníci seznámí s možnostmi, jak využít vzniklá otevřená data pro jejich aktivity a aplikace.

Cílem workshopu je především podpořit aktivity vedoucí k lepší spolupráci mezi veřejným sektorem, výzkumem a malými a středními podniky.

Klíčová témata workshopu:

- *Open Data a Linked Open Data*, nové příležitosti pro malé a střední podnikání
- porovnání situace v ČR a v Evropě
- integrace otevřených dat
- otevřená data z pohledu vývojáře
- otevřená data jako příležitost pro potenciálního investora
- otevřená data pro zemědělství
- otevřená data pro cestovní ruch a turistiky
- otevřená data v územním rozhodování a investicích
- otevřená data v dopravě
- metadata, cesta k otevřeným datům

Komu je workshop určen:

- malým a středním inovačním firmám v oblasti vzdělávání, životního prostředí, cestovního ruchu a realit,
- studentům a nezávislým vývojářům pracujícím s otevřenými daty,
- orgánům veřejné správy včetně státních institucí, regionů a obcí, které chtějí prostřednictvím otevřených dat podpořit rozvoj na místní, regionální a národní úrovni,
- uživatelům a provozovatelům systémů o životním prostředí,
- provozovatelům turistických portálů a turistických aplikací, regionálním sdružením zabývajícím se podporou cestovního ruchu, provozovatelům turistických zařízení a cestovním kancelářím,
- všem v realitním obchodě od provozovatelů realitních kanceláří k vývojářům a správcům portálů,
- potenciálním investorům.

Předběžný program:

- 9:00 – 10:00 Registrace, káva
- 10:00 – 10:10 **Přivítání a účel workshopu**
Karel Janečka, CAGI
- 10:10 – 10:20 **Krátké představení projektů SDI4Apps, OpenTransportNet a FOODIE**
Karel Charvát, CCSS
- 10:20 – 10:50 **Smart Points of Interest – otevřená turistická data z celého světa v RDF**
Otakar Čerba, ZČU
- 10:50 – 11:20 **Open Land Use – jsme schopni vytvořit jednotnou evropskou databázi land use?**
Dmitrij Kozuch, HSRS
- 11:20 – 11:50 **Open Transport Map – Open Street Map podle INSPIRE**
Karel Jedlička, ZČU
- 11:50 – 12:30 Přestávka s občerstvením
- 12:30 – 13:00 **Český portál FOODIE – přístupový bod k integrovaným informacím pro farmáře**
Tomáš Řezník, WirelessInfo
- 13:00 – 13:30 **FarmTelemetrie – nechme naše stroje pracovat efektivněji**
Karel Charvát Jr, CCSS
- 13:30 – 14:00 **Quo Vadis Metadata – integrujeme INSPIRE metadata pro Open Data?**
Štěpán Kafka, HSRS
- 14:00 – 15:00 **Round Table - nastartujeme české PPP pro otevřená data**
otevřená diskuze

Součástí workshopu budou i praktické ukázky řešení dále uvedených evropských výzkumných projektů. Tyto projekty jsou podpořeny programem *Competitiveness and Innovation Framework Programme*.

SDI4Apps (2014 – 2017, CIP-ICT-PSP-PB 621129)

Projekt SDI4Apps je zaměřený na využití otevřených geografických informací pomocí inovativních služeb založených na propojených datech (*Linked Data*). Cílem je vytvoření platformy a podmínek na podporu tvorby inovativních služeb a aplikací nad geografickými daty.



OpenTransportNetwork (2014 – 2017, CIP-ICT-PSP-PB 620533)

Cílem projektu OpenTransportNet je vytvoření virtuální služby pro agregaci, harmonizaci a vizualizaci otevřených dat související s dopravou. Tato platforma napomůže jak lepšímu řízení dopravy, tak i tvorbě nových inovativních aplikací a služeb pro potřebu dopravy. Tato řešení budou založena na veřejných datech, dobrovolnicko pořizovaných datech a lokalizačních službách.



FOODIE (2014 – 2017, CIP-ICT-PSP-PB 621074)

Projekt FOODIE si klade za cíle vybudování otevřené a interoperabilní internetové platformy pro zemědělství, která bude určena pro správu faremních záznamů z nejrůznějších zdrojů (satelitní snímky a další prostorová data, evidenční údaje, senzorové záznamy, apod.), včetně LPIS a dalších povinných databází.



ÚČAST BEZPLATNÁ VČETNĚ OBČERSTVENÍ PO PŘEDCHOZÍ REGISTRACI NA
<http://bit.ly/1036rfj>



Agenda

Open data and use of it

Date, time: 26.01.2016

Place: Krustpils county administration, Jēkabpils, Rīgas street 150a, 2nd floor

Target groups: municipalities IT specialists, development planners and other interested parties

10.00 -10.30	Registration, coffee	
10.30 – 12.00	What is Open data, Linked open data?	<i>Toms Ceļmillers / Ministry of Environmental Protection and Regional Development, Electronic Government Department, Information Society Policy Unit</i>
	Open data types - from public available information to linked open data with standardized metadata	
	Best examples for opening and using data	
	Data opening basis: the public's right to obtain information and data business potential	
	How municipalities can open their data?	
	Planned Projects in field of open data	
	Data users' involvement and cooperation	
	Practical experience of municipality in data opening/ https://opendata.riga.lv/	<i>Agris Ameriks / Rīga municipality</i>
12.00 – 12.45	Lunch	
12.45 – 15.00	Results demonstration of Project “SDI4Apps” 6 pilots, availability of data, discussions	<i>Karels Charvats/ Čehijas Zinātnes un sabiedrības centrs, projekta pārstāvis</i>
	Work language for session: ENG/RUS	<i>Raitis Bērziņš / Sia”Baltic Open Solutions Centre”</i>

More about project <http://sdi4apps.eu/>



Agenda

Open data and use of it

Date, time: 27.01.2016

Place: Jelgava, Svētes street 33 , ZRKAC

Target groups: municipalities IT specialists, development planners and other interested parties

9.30 -10.00	Registration, coffee	
10.00 – 11.30	What is Open data, Linked open data?	<i>Toms Ceļmillers / Ministry of Environmental Protection and Regional Development, Electronic Government Department, Information Society Policy Unit</i>
	Open data types - from public available information to linked open data with standardized metadata	
	Best examples for opening and using data	
	Data opening basis: the public's right to obtain information and data business potential	
	How municipalities can open their data?	
	Planned Projects in field of open data	
	Data users' involvement and cooperation	
11.30 – 12.00	Practical experience of municipality in data opening/ https://opendata.riga.lv/	<i>Agris Ameriks / Rīga municipality</i>
12.00 – 12.45	Lunch	
12.45 – 15.00	Results demonstration of Project “SDI4Apps” 6 pilots, availability of data, discussions	<i>Karels Charvats/ Čehijas Zinātnes un sabiedrības centrs, projekta pārstāvis</i>
	Work language for session: ENG/RUS	<i>Raitis Bērziņš / Sia”Baltic Open Solutions Centre”</i>

More about project <http://sdi4apps.eu/>

OTEVŘENÁ DATA PRO MÍSTNÍ A REGIONÁLNÍ ROZVOJ

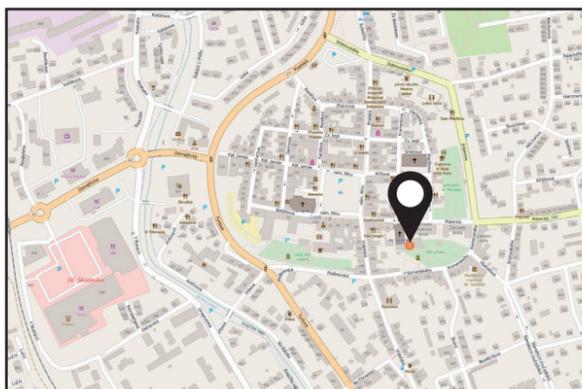
17. února 2016

10.00 - 15.00 hodin

Regionální centrum sociální integrace a celoživotního vzdělávání (bývalý Dominikánský klášter)

Plánická 174, Klatovy

Registrace na <http://bit.ly/1OIOpBF>



Hlavním tématem workshopu je prezentace dat a výstupů z projektu, které mohou být snadno využity jako nástroj místního a regionálního rozvoje, pro rozvoj cestovního ruchu, vzdělávání, při řešení dopravních úloh a plánování a při rozvoji zemědělské produkce a při ochraně přírody.

Cílem workshopu je především podpořit aktivity vedoucí k lepší spolupráci mezi, místní samosprávou, regionální samosprávou, místním podnikatelským sektorem, vzdělávacími a výzkumnými organizacemi a malými a středními podniky.

Klíčová témata workshopu:

- co to jsou otevřená data,
- jak se místní samospráva může podílet na budování sad otevřených dat,
- jak mohou lokální organizace profitovat z otevřených dat,
- otevřená data pro zemědělství,
- otevřená data pro turistiku,
- otevřená data v uzemním rozhodování a investicích,
- otevřená data v dopravě.

Komu je workshop určen:

- místní a regionální samosprávě,
- akčním skupinám,
- malým a středním inovačním firmám v oblasti vzdělávání, životního prostředí, cestovního ruchu a realit,
- studentům a nezávislým vývojářům pracujícím s otevřenými daty,
- uživatelům a provozovatelům systémů o životním prostředí,
- provozovatelům turistických portálů a turistických aplikací, regionálním sdružením zabývajícím se podporou cestovního ruchu, provozovatelům turistických zařízení a turistickým kancelářím,
- všem v realitním obchodě od provozovatelů realitních kanceláří k vývojářům a správcům portálů,
- potenciálním investorům.

Předběžný program:

- 9:00 – 10:00 Registrace, káva
- 10:00 – 10:10 **Přivítání a účel workshopu**
Ivo Šašek (Úhlava, o.p.s.)
- 10:10 – 10:40 **Otevřená data a cestovní ruch**
Otakar Čerba (ZČU Plzeň), Ivo Šašek (Úhlava, o.p.s.)
- 10:40 – 11:10 **Otevřená data a vzdělávání**
Irena Košková (Liberecký kraj), Karel Charvát (CCSS)
- 11:10 – 11:30 **Kde mohou pomoci otevřená data v dopravě**
Pavel Hájek, Karel Jedlička (ZČU Plzeň)
- 11:30 – 12:00 **Otevřená data pro zemědělství, jak můžeme pracovat efektivněji, jak můžeme pracovat ekologicky**
Tomáš Řezník, Vojta Lukas, Karel Charvát Jr. (WirelessInfo)
- 12:00 – 13:00 Přestávka s občerstvením
- 13:00 – 13:30 **Otevřená data a územní plánování – proč data otevřít, čemu to může napomocť**
Dmitrij Kozuch (HSRS)
- 13:30 – 15:00 **Diskuze**

Součástí workshopu budou i praktické ukázky řešení dále uvedených evropských výzkumných projektů. Tyto projekty jsou podpořeny programem *Competitiveness and Innovation Framework Programme*.

SDI4Apps (2014 – 2017, CIP-ICT-PSP-PB 621129)

Projekt SDI4Apps je zaměřený na využití otevřených geografických informací pomocí inovativních služeb založených na propojených datech (*Linked Data*). Cílem je vytvoření platformy a podmínek na podporu tvorby inovativních služeb a aplikací nad geografickými daty.



OpenTransportNetwork (2014 – 2017, CIP-ICT-PSP-PB 620533)

Cílem projektu OpenTransportNet je vytvoření virtuální služby pro agregaci, harmonizaci a vizualizaci otevřených dat související s dopravou. Tato platforma napomůže jak lepšímu řízení dopravy, tak i tvorbě nových inovativních aplikací a služeb pro potřebu dopravy. Tato řešení budou založena na veřejných datech, dobrovolnicky pořizovaných datech a lokalizačních službách.



FOODIE (2014 – 2017, CIP-ICT-PSP-PB 621074)

Projekt FOODIE si klade za cíle vybudování otevřené a interoperabilní internetové platformy pro zemědělství, která bude určena pro správu faremních záznamů z nejrůznějších zdrojů (satelitní snímky a další prostorová data, evidenční údaje, senzorové záznamy, apod.), včetně LPIS a dalších povinných databází.



ÚČAST BEZPLATNÁ VČETNĚ OBČERSTVENÍ PO PŘEDCHOZÍ REGISTRACI NA
<http://bit.ly/1OIOpBF>



Data management and Value-added Applications Workshop

Draft Agenda

Ispira, 22-23 February 2016

Monday, 22 February 2016 – JRC Visitor Centre, meeting room (tbd)

09:30 – 11:00 **Session # 1. Open Data for Open Innovation (open to all)**

- Opening (A. Annoni, JRC)
- Introduction to the workshop; Agenda (J. Dusart, JRC)
- Tour de table
- Open Data for Open Innovation (Karel Charvat, Tomas Mildorf, Tomas Reznik, Otakar Cerba, Karel Jedlicka)
- Open discussion

11:00 – 11:15 **Coffee Break**

11:15 – 12:00 **Session # 2 DRDSI Data management pilots (open to all)**

- INSPIRE and Are3na (R. S. Smith)
- Danube Reference Data and Services Infrastructure (DRDSI)
- Danube region data pilots - Rationale and expected outcomes (JRC)

12:00 – 13:00 **Guided tour, JRC visitor centre**

13:00 – 14:00 **Lunch break**

14:00 – 15:30 **Session #3 DRDSI Data management pilots, continued (open to all)**

- Data harmonization based on INSPIRE - Ukraine and Moldova (M. Ovdii and A. Kovalyova)
- Infrastructure components in Ukraine (A. Kovalyova)
- SDI components in Serbia (M. Kilibarda, University of Belgrade)
- Natural Hazards and Cultural Heritage in the Danube Region (M. Migliorini, SiTi, Italy)

15:30 – 15:45 **Coffee Break**

15:45 – 17:00 – **Session # 4. DRDSI Data management pilots, continued (open to all)**

- Urban Agriculture webapp (B. Ivanegova, Slovakia)
- Macro-regional indicator creation (S. d'Oleire-Oltmanns, Z_GIS Austria)
- WeTransform.to (T. Reitz, Germany)

20.00 Social dinner

Tuesday, 23 February 2016 – JRC Visitor Centre, meeting room (tbd)

09:30 – 11:00 Session #5 Developments from JRC

- JRC support to the Danube Region (JRC Nexi flash presentations)
 - Air in the Danube Region
 - "Emission scenarios and evaluation of short-lived pollutants impact on air quality and human health in the Danube Region" (Marilena Muntean, Rita Van Dingenen)
 - "Use of measurements and models to identify pollution sources" (Claudio Belis, Denise Pernigotti)
 - LUISA and JRC knowledge centre for territorial planning, Carlo Lavallo
 - Bioenergy Nexus activities in the Danube Region, N.Scarlat, M.Banja, JF Dallemard
 - Soil Nexus (exact title tbd), A. Jones
 - Danube Water Nexus, O. Vigika
- JRC Data Policy and JRC Data Catalogue (Lorenzino Vaccari)

11:00 – 11:30 Coffee Break

11:30 – 12:30 Session #6.1 Discussions on possible synergies (parallel session)

11:30 – 12:30 Session #6.2 Training for new Danube_Net experts on DRDSI tools (parallel session)

12:30 – 13:30 Lunch break

13:30 – 15:30 Session #7 Danube_Net progress meeting (closed session)

15:30 – 15:45 Coffee Break

15:45 – 16:30 Session # 8 Danube_Net progress meeting (closed session)

16:30 – 17:00 Session # 9 Wrap-up and way ahead