**TITLE DETAILS**

Workshop title: Open Data, VGI and Citizen Observatories INSPIRE Hack II

Workshop length: Three hours

Workshop type: Hackathon/demonstration

Expected number participants: 60

**WORKSHOP FACILITATOR DETAILS**

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**WORKSHOP DESCRIPTION INCLUDING LEARNING OBJECTIVES**

Last year, the first VGI and Citizen Observatories INSPIRE Hack was organised in the frame of the INSPIRE Conference in Barcelona. This workshop aims to be the second hackathon which will be a continuation of the activities from the first year with a different set-up. The hack will start before the conference, already in July 2017, and this session will be a showcase of the hack results. The hackathon itself and the team work will be done remotely.
Introduction to the hackathon topic

The current society requires an easy, reliable and quick access to environmental information published by various organisations and initiatives. The environment questions cover many activities that produce various sorts of data. They are connected with agriculture, forestry, fishery, natural risks and hazards (e.g. floods, forest fires), pollution and contamination of air, soil or water, degradation of landscape (e.g. deforestation, erosion, slide processes), scientific research (ecology, geographical sciences), historical landscape memory (landscape ecological research), education and raising public awareness and business.

Local and community activities capture local knowledge in multimedia forms including videos, photos or oral histories. The collected information can contribute to up-to-date data. Volunteer geographic information (VGI) is the harnessing of tools to create, assemble, and disseminate geographic data provided voluntarily by individuals. In the context of voluntary data collection, an important part is the way how data are processed. An example can be Neogeography (New Age Geography) focused on combining geotagged data (e.g. KML) with a map interface for contextualised exploration. In Neogeography data can be from volunteers (VGI) or from professionals and can be open or with restricted access. Neogeography is closely related to Application Programming Interfaces (APIs), Web 2.0 and mapping capabilities of the geospatial web.

Recent development around sensors and sensor platforms has led to an approach of DIY (Do It Yourself) sensors based on low cost hardware, as well as an increasing availability of Bluetooth connected sensors that easily can be connected to smartphone and together with existing smartphone sensors provide a large amount of spatio temporal sensor data.

The Open Data movement covers many issues of using existing data sets without any limits or restrictions - “A piece of data is open if anyone is free to use, reuse, and redistribute it — subject only, at most, to the requirement to attribute and/or share-alike.” Open Data activities mean open-source, open-content and open-access. They are focused above all on technical solutions (open APIs, standardised formats etc.) or on legal issues. Open Data sets are often provided by governmental bodies, but also by scientists or international organisations and bodies (e.g. European Commission, World Bank).

Young generation representing smartphone users is one of the enablers of new GI based applications. Spatial information helps young generation to learn about relation of environment, history and culture of different regions, but it could also support learning about European territories not only from a natural environment, history and cultural point of view but also from a socio-economical point of view, at global level thanks to Internet. Online sharing of spatial information goes beyond the linguistic barriers, which are one of the most important constraints for the communication between different regions. VGI INSPIRE Hack will support creativity, technical capabilities, skills, knowledge and also relations, through the sharing the spatial based content around environment. Using new methods of digital cartography enables to go beyond
linguistic frontiers. VGI and Citizen Observatories INSPIRE Hack will be focused on methods where citizens are able to contribute to different environmental and social issues through smart phones possibly with associated mobile sensors.

**Problems will derived from H2020 project(s) pilots and the INSPIRE Hack will contribute to the work done in these pilots**

**Open Data, VGI and Citizens Observatories INSPIRE Hack** will be the second hackathon combined with the INSPIRE conference with the aim to create a space, where those with the interest in the potential of VGI and citizen observatories and European projects can meet, present their data sets, tools and components and discuss and explore how results, ideas and knowledge can be combined in possible ways for new applications and new project ideas.

The **Open Data, VGI and Citizens Observatories INSPIRE Hack** will run remotely already from July and an important objective will be to build a long time cooperation between projects, initiatives and data sets. In July, a call for ideas and remote team building will be organised. The work will start immediately after that and finish by the INSPIRE Conference. This workshop at the INSPIRE conference will provide a space for teams to meet physically and to present the hackathon results and ideas.

**The INSPIRE Hack is supported by next organisations and projects**

**Plan4all** ([http://www.plan4all.eu/](http://www.plan4all.eu/)) - Plan4all is a non-profit association sustaining and further enhancing the results of multiple research and innovation projects. It aggregates large open datasets related to planning activities in different specialisms areas **transport, spatial and city planning, environment** and **tourism**. Plan4all makes sure that open data are easily accessible for reuse, data are maintained and their quality is improved.

**DataBio** ([http://databio.eu/](http://databio.eu/)) - The data intensive target sector selected for the DataBio project is the Data-Driven Bioeconomy, focusing in production of best possible raw materials from agriculture, forestry and fishery/aquaculture for the bioeconomy industry to produce food, energy and biomaterials taking into account also various responsibility and sustainability issues. DataBio proposes to deploy a state of the art, big data platform "on top of the existing partners” infrastructure and solutions - the Big DATABIO Platform. The work will be continuous cooperation of experts from end user and technology provider companies, from bioeconomy and technology research institutes, and of other partners. In the pilots also associated partners and other stakeholders will be actively involved. The selected pilots and concepts will be transformed to pilot implementations utilizing co-innovative methods and tools where the bioeconomy sector end user experts and other stakeholders will give input to the user and sector domain understanding for the requirements specifications for ICT, Big Data and Earth Observation experts and for other solution providers in the consortium.

**NextGEOSS** ([http://nextgeoss.eu/](http://nextgeoss.eu/)) - The NextGEOSS project will implement a
federated data hub for access and exploitation of Earth Observation data, including user-friendly tools for data mining, discovery, access and exploitation. This data hub will be supported by a strong commitment to the engagement of Earth Observation and related communities, with the view of supporting the creation of innovative and business oriented applications. The main general objectives for NextGEOSS are to 1) Deliver the next generation data hub and Earth Observation exploitation for innovation and business; 2) Engage communities, promoting innovative GEOSS powered applications from Europe; and 3) Advocate GEOSS as a sustainable European approach for Earth Observation data distribution and exploitation. NextGEOSS engages main providers of Earth Observation data, including Copernicus Collaborative Ground Segments and Core Services.

SKIN – (Short Food Supply Chains Knowledge and Innovation Network) - is an ambitious initiative of 20 partners in 14 countries in the area of Short Food Supply Chains (SFSCs). It intends to systematise and bring knowledge to practitioners, promote collaboration within a demand-driven innovation logic and provide inputs to policymaking through links to the EIP-AGRI. Partners will scout, analyse and classify a significant number of cases in different countries. “Good practices” (at least 100) will be systematised, processed into highly usable formats and made accessible to stakeholders via the web and through the set-up of regional nodes, to allow a deeper penetration of existing knowledge into practice. The work on good practices will also allow identifying key issues (hindrances or opportunities) around SFSCs. Such issues will be the main themes of 6 “innovation challenges workshops” the purpose of which is to stimulate stakeholders to propose new ideas for innovation based research or innovation uptake. These will be supported in a coaching phase where consortium partners deliver guidance to stakeholders for the full development of those innovative ideas.

The available catalogues, tools or data sets for the INSPIRE Hack II

Open Land-Use Map (http://sdi4apps.eu/open_land_use/) - Open Land-Use Map is a composite map that is intended to create detailed land-use maps of various regions based on certain pan-European datasets such as CORINE Land Cover, Urban Atlas enriched by available regional data.

Smart Point of Interest (http://sdi4apps.eu/spoi/) - Open and seamless SPOI data set, which is based on Linked data principles, contains over 27 million Points of Interest important for tourism from around the world.

Open Transport Map (http://opentransportmap.info/) - Open Transport Map allows routing and visualization of traffic volumes of the whole EU (and many other ways of innovative exploitation) The underlying data come from OpenStreetMap and are accessible in a scheme compatible to INSPIRE Transport Network.

Open Transport Net Hub (http://opentransportnet.eu/create-maps) - Turn your open geospatial data into insights and easy-to-read, visually appealing maps. Help your city or business solve transport related challenges by applying
innovative insights and co-creating new services together with developers, data providers and community representatives.

**IoT Discovery View** ([http://portal.sdi4apps.eu/iot-view](http://portal.sdi4apps.eu/iot-view)) - The application IoT Discovery View is a visualization client for a sensors catalogue built on the IoT Discovery Generic Enabler. The IoT Discovery View enables users to preview locations of sensors, to filter the sensors according to observed phenomenon and to pick out appropriate sensors identified by the described attributes.

**Micka** ([http://micka.bnhelp.cz/](http://micka.bnhelp.cz/)) - Open Micka is a web application for management and discovery geospatial metadata. It is

- OGC Catalogue service (CSW 2.0.2)
- Transactions and harvesting
- Metadata editor
- Multilingual user interface
- ISO AP 1.0 profile
- Feature catalogue (ISO 19110)
- Interactive metadata profiles - management
- WFS/Gazetteer for defining metadata - extent
- GEMET thesaurus built-in client
- INSPIRE registry built-in client
- OpenSearch
- INSPIRE ATOM download service - automatically creation from metadata

**INSPIRE CKAN extensions** ([https://github.com/CCSS-CZ/ckan-ext-inspire](https://github.com/CCSS-CZ/ckan-ext-inspire)) - There are two modules: These extensions are designed for work with INSPIRE metadata in CKAN. inspire_harvester - This module extends csw_harvester and spatial_metadata extensions to support harvesting of all INSPIRE required metadata elements from CSW 2.0.2 ISO AP 1.0. Inspire_theme - This extension enables: Display INSPIRE metadata user friendly form at CKAN interface. Export INSPIRE metadata in extended GeoDCAT-AP 1.0 RDF format.

**WebGlayer** ([http://webglayer.org/](http://webglayer.org/)) / WebGLayer is JavaScript, WebGL based library for coordinated multiple views visualization. The library is focused on spatial data and large datasets (up to hundreds of thousands of features).

**SensLog** ([http://www.senslog.org/](http://www.senslog.org/)) - SensLog is solution for static as well as mobile sensors and VGI. SensLog is web-based sensor data management system. SensLog is a solution that is suitable for static in-situ monitoring devices as well as for mobile devices with live tracking ability.

General tasks of SensLog can be summarized in following points:

1. Receives measured data either directly from sensor device or indirectly from any Front-End Elements;
2. Stores sensor data in SensLog data model implemented in RDBMS;
3. Pre-processes data for easier querying if necessary, and/or analyzes sensor data;
4. Publishes data through system of web-services to other Front-End Elements, or to other applications.
SensLog provides system of web-services exchanging messages in JSON format or provides standardized services using core methods of OGC SOS version 1.0.0. The latest version of REST API is following CRUD schema.

**DESCRIPTION OF TARGET WORKSHOP AUDIENCE**

Projects, public sector, any enthusiasts (students, researchers, companies) willing to show, what can be done with available tools, open data, VGI, citizen observatory components and services and open data and information and communication technologies, anybody with the interest in improvement or sharing the knowledge and support of standardization of VGI data in related topics are more than welcome. The same applies for those willing to present available VGI solutions.

**WORKSHOP REQUIREMENTS**

AV requirements we need computer and projector

Room setup standard

Instructions for participants: (laptop, pre-workshop preparation) bring your laptops with you

**DETAILED WORKSHOP AGENDA**

15 minutes Karel Charvat – introduction of the hack, brief demo of results from last year, purpose of the second hackathon and brief introduction of the results

1 hour – brief presentation of cooperating initiatives, projects and used data sets. Max 5 minutes per presentation

1, 5 hour – presentation of the 2017 results

15 minutes plan for future cooperation