

INTRODUCTION TO WORKSHOP CROWDSOURCING IN NATIONAL MAPPING 2020

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Introduction

- EuroSDR in a nutshell
- Workshop Crowdsourcing in National Mapping (April 2017)
- Tour de Table
- Workshop 2020 (Rationale/Program/Logistics)

EuroSDR – European Spatial Data Research



- Non-profit organization since 1953
- Provides a pan-European network
- Brings together NMCAs, academia + Private sector
- Purposes
 - jointly perform applied research
 - secure timely, research-based knowledge
 - provide educational activities ensuring the dissemination of the research-based knowledge gained
- Keep NMCAs updated on technology developments
- 20 member countries
- Members are NMCAs & Research / Academic institutes
- Several companies as associate members

Operations and activities

- Technical Commissions
- Board of Delegates meetings
- Workshops
- Research projects
- Publications and info dissemination
- Educational activities



Six technical commissions



- Data Acquisition – Jon Mills (UK)
- Modelling and Processing – Norbert Haala (D)
- Updating and Integration – Martijn Rijdsdijk (NL)
- Information Usage – Bénédicte Bucher (FR)
- Business Models and Operations – Joep Crompvoets (BE)
- Knowledge Transfer – Markéta Potůčková (CZ)

Board of Delegates meetings

- Meet twice per year in the member countries
- Reports from research activities (Commissions)
- Keynote presentations
- Breakout sessions and focussed discussions – sharing best practise



Workshops



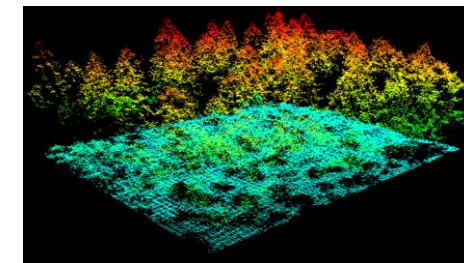
- Dialogue-based events on state-of-the-art topics
- Presentations by experts in the field
- Small, focussed groups (usually < 50 participants)
- May result in identification of research topics
- Planning and dissemination of information on research activities
- Documentation and information is available for members
- Short term approach (< 6 months from idea to realisation)

Research activities

- Applied research (1-3 years) carried out through projects and workshops
- Real-world problem of members (NMCAAs)
- Securing timely, research-based knowledge
- Knowledge transfer through active participation
- Experiments using data acquired/provided by participants
- Research activities are be executed by EuroSDR alone or in collaboration with other organizations and companies.
- Publication of results in official EuroSDR book series

Research – Example of research projects

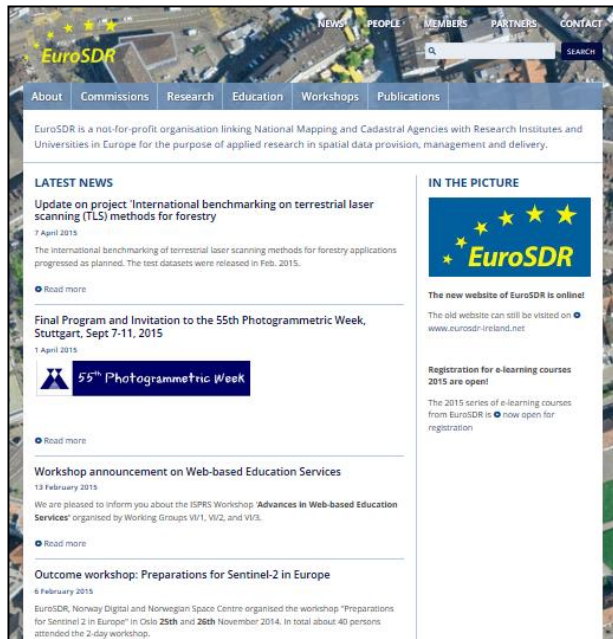
- UAVs/Remotely Piloted Airborne Systems (RPAS) – sensors and data acquisitions, potential for NMCAs
- Oblique imagery – changing the production pipeline
- GeoBIM
- Single Photon LiDAR (SPL)
- Updating national databases project with crowdsourcing
- Archiving - long term preservation of digital Geographic Information
- Economic value of 3D (geo)data
- Integration of Laser Scanning and Photogrammetry
- Dense Image Matching
- Linked data
- Camera calibration
- etc.



Educational activities

- EuroSDR Educational Service (EduServ):
 - four two-weeks courses in the field of GeoInformation (GI)
 - 1 day introductory course and 2 weeks or e-learning course
 - past topics: oblique imagery, land-use land-cover, mapping with high-resolution satellite imagery, standards in the geofield, forestry mapping, Open Spatial Data Infrastructures, etc.
 - 18th edition will take place at IGN-France, Paris, France
- Course on-demand
 - short course on Photogrammetry
 - Target Group: staff of NMCAs, public authorities and other organisations dealing with photogrammetric production, PhD and Master students seeking an introductory course in photogrammetry.

Publication and information dissemination



www.eurosd.net



Official
publication series

EDUCATION

EduServ 13

The 2015 series of e-learning courses from EuroSDR will begin with a **pre-course seminar**, hosted by the Federal Office of Metrology and Surveying (BEV) in Vienna, Austria, **from 9th to 10th March 2015**. During the seminar, background material of four e-learning courses will be presented by the tutors, participants will meet the tutors and fellow participants, and the learning platform - Moodle - will be demonstrated. Local organiser of the pre-course seminar is Michael Franzen, head of the Surveying Service Division, BEV.

The seminar will be followed by four **distance e-learning courses**, designed for knowledge transfer from the research to the production domain (see details below). EduServ courses are designed so that they can be followed over the Internet from any location, thereby allowing participants to update their knowledge with minimum disruption. Courses require about **thirty hours of online study** and are completed over a period of **two weeks** during spring 2015.

The fee for attending the pre-course seminar is 100 €. This fee will be deducted from the course fee in case of later subscription to the e-learning courses.

Fees:

- 600 € for pre-course seminar + 1 or 2 courses
- 700 € for pre-course seminar + 3 or 4 courses
- 100 € for pre-course seminar only

You can register for the e-learning courses until the **20th of February 2015**.

A limited number of scholarships will be available to fully cover the course fee and to partially support the travel costs to the pre-course seminar (up to € 500). The scholarships are intended to Ph.D./Master students and other applicants with no or very limited financial support from their university or public institution.

In order to proceed with the application

- [Register to EduServ13](#)
- Fill in the [application form](#) that includes a motivation letter, information about professional experience and calculation of travel costs. It is recommended to support the application with a reference letter. Both documents shall be submitted to eurosd@soc.kuleuven.be not later than on 30th January 2015.

Distance e-learning course
(EduServ)

EuroSDR network



...and more...

EuroSDR has much to offer...

- Functioning **network** linking NMCA's with research institutes and private sector
- Modern relevant **research programme**
- Ability to propose, undertake and disseminate **timely research and benchmarking projects**
- Hosting and co-hosting **focussed workshops**
- Publication of project and workshop **results** in professional standard **publication series**
- **Guidelines** and best practices
- **Educational Service (EduServ)**

More information?

<http://www.eurosdrr.net>

<https://twitter.com/eurosdrr>



*Crowdsourcing in National Mapping



Workshop Leuven, 3-4 April 2017

registrations: 60

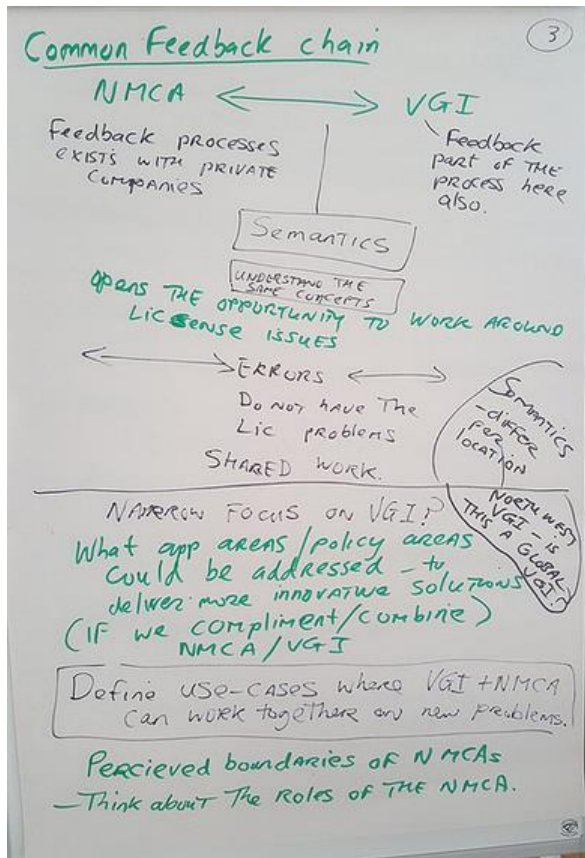
NMCAs: 11

Other representatives from SMEs, Academia, NGOs, OSM

Crowdsourcing in National Mapping



Breakout Sessions provided excellent opportunities for frank and open discussions



- USE CASES - Shared NMCA & VGI
- end to end journeys (multimodal travel)
 - demographics - WHO MAPS? WHAT DO THE IS PROFILE THE SAME IN MAP? VGI and NMCA
 - Fluxes
 - POPULATION - good building descriptions but NOT population (right use Day time census)
 - SMART Cities
 - URBAN FORMS AND FUNCTIONS (some cities have NO DATA ON THIS) but VGI CAN supply something
 - RESILIENCE (RESPONSE TO EMERGENCIES)
 - AGRICULTURE (precipitation coverage)
 - PLACE VRS location (informal geographies)
 - POI, neighborhood scales
 - VISUALISATION
 - MISSING BUILDINGS / Demolished buildings / illegal settlements (in flood areas for example)

Many very interesting and thought provoking hackathon topics developed

Group	Title
1	The Postman always checks twice
2	Comparison of OpenStreetMap road data and official data for annual updating
3	A VGI application for alternative energy
4	Where is the door?
5	OS Routes
6	Improving the timeliness of NMCA basemaps using VGI through trustworthy check algorithm
7	What does your place sound like?
8	Automated Change detection of buildings
9	To your doorstep
10	Platform for sharing and integrating 3D geodata for emergency purposes
11	VGI application for flood map validation
12	A VGI application for quality improvement of cadastral parcel data
Group	Abstract
1	NMA field checks by postmen
2	Automatic geometric and topological comparison of OSM and government data
3	Volunteers indicate wind turbines and solar panels present based on aerial images
4	Map all entrances of buildings with possibility to add photos
5	Improvement of OS core content (better path networks)
6	Citizens perform field checks of spatial changes through geo-localised photographs and textual c
7	Pronunciation of placenames
8	Citizens detect illegal and missing buildings
9	Producing an accurate map of the footpaths that connect the road-network to the actual doorste
10	App providing 3D info for Emergency responders
11	Validation of flood maps. Citizens are informed about flood events.
12	Mobile App to collect and improve the parcel data as a proposal for later legal approval

★ ★ ★ ★ ★ Key messages – in one slide?

- **“Wins” and “Losses” in crowdsourcing for NMCAs**
Obvious places where crowdsourcing can help – but NMCAs cannot always adopt these
- **A⁴C⁴ quality requirements can guide adoption of crowdsourcing by NMCAs**
Authority, Accuracy, Availability, Actuality, Completeness, Coverage, Consistency, Correctness
- **Initial way forward may involve identifying problems or projects which are of mutual interest and benefit to both VGI communities and NMCAs**
For example disaster response, mapping actual building use
- **More real engagement and interaction urgently needed**
Events such as a workshop bringing NMCA, Government, VGI, Academia, SME etc demonstrate that collaboration and integration is possible in the future.

Funded/organised by

We are very grateful for the sponsorship and support of this workshop from the following organisations:



We are very grateful for organisational support from our academic institutions:



UNIVERSITY OF TWENTE.

This workshop is fully endorsed by the
International
Cartographic Association



Publication

Mooney, P., Crompvoets, J., and Lemmens, R., 2018. Crowdsourcing in National Mapping. European Spatial Data Research network Official Publication. Workshop report. 26 pgs.

Tour de Table

- Name
- Organisation
- Link with the topic
- Expectations

*Crowdsourcing in National Mapping

- **Crowdsourcing in National Mapping 2020**

Title workshop “VGI Map of Europe: The State of Play”

Lead: Joep Crompvoets, Peter Mooney, Rob Lemmens

Dates: 16 (Full) -17 (Half) January 2020 (Leuven, Belgium)

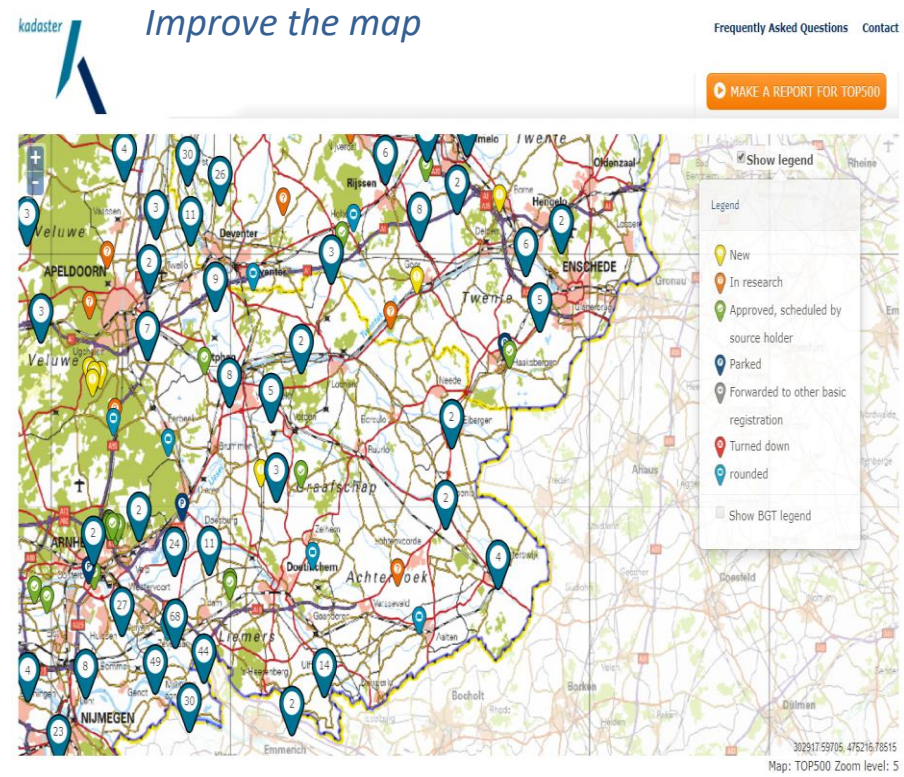
Program: Hackathon & VGI Map



Hackathon Crowdsourcing Apps in National Mapping

We invite NMCAs who were/are active in developing crowdsourcing applications (mobile and web) to:

- present their software, the data produced with it and its use in the organization's workflow
- Identify opportunities for extending/improving these tools
- together with software developers, workout challenges for a hackathon to extend/improve these tools





*Submissions

- Submission of overview reports (maximum 1 A4) describing software development approaches to the design, implementation, delivery and maintenance of a web-based inventory system to manage information about crowdsourcing projects
- Submission of a short report (max 1 A4) including the experiences with crowdsourcing in NMCAs and relevant projects where citizens are actively involved

PPT

- Submission of hackathon challenge to create/adapt a crowdsourcing application

Program I

Day 1 – Thursday January 16th 2020.

Time	Activity
08:30 – 09:30	Registration and arrival – The Irish College, Leuven.
09:30 – 10:00	Welcome to the Crowdsourcing in National Mapping 2020 Workshop – Joep Crompvoets and Rob Lemmens. This will include a brief ‘tour de table’ for all delegates to introduce themselves.
10:00 – 10:30	VGI-ME concept – explaining purpose, hackathon, etc. Presentation on previous hackathons, Living Textbook, etc Rob Lemmens
10:30 – 11:00	Coffee Break

Program II

Session: Developments and Overviews of Crowdsourcing Approaches Chair Joep Crompvoets

11:00 – 11:25	Crowdsourcing at the Dutch Cadastre Magdalena Grus, Kadaster NL.
11:25 – 11:50	Feedback on the collaborative program managed by the French National Mapping Agency Yolene Jahard 1 , Ana-Maria Olteanu-Raimond 2 , Marie-Dominique Van Damme 2 , Bénédicte Bucher 2 1. Collaborative program, Direction of Programs, IGN, F-94160 Saint-Mande, France 2. Univ. Paris-Est, LASTIG MEIG, IGN, ENSG, Saint-Mande, France
11:50 – 12:15	Research Developments in Crowdsourcing and National Mapping, Peter Mooney, Dept of Computer Science, Maynooth University, Ireland.
12:15 – 12:40	Crowdsourcing Opportunities at the OS Ross Muir, Ordnance Survey-GB, Southampton, UK
12:40 – 12:50	Short time for additional questions, comments from delegates.
12:50 – 14:00	LUNCH – At venue in Irish College Leuven.

Program III

Session: Crowdsourcing in practice – spotlight on projects. Chair Peter Mooney	
14:00 – 14:25	Slovenian applied research project to utilise volunteered images for the national topographic map updating in scales 1:5000 and 1:50000 Mihaela Triglav Čekada, Geodetic Institute of Slovenia, Ljubljana, Slovenia
14:25 – 14:50	Crowdsourcing gardens in Flanders. Pieterjan De Geest, KU Leuven, Belgium
14:50 – 15:15	Crowdsourcing projects in the National Land Survey of Finland Sakeri Savola and Risto Ilves, National Land Survey of Finland, Finland
15:15 – 15:40	The OpenVetMap project Bonato P., Mazzucato M., Trolese M., Lorenzetto M., Casarotto C., Bassan M., Ferrè N. Istituto Zooprofilattico Sperimentale delle Venezie, Viale dell'Università 10, Legnaro (PD), Italy
15:40 – 15:50	Short time for additional questions, comments from delegates
15:50 – 16:15	Coffee Break

Program IV

Session: The VGI Map of Europe (VGI-ME)	
16:15 – 17:15	Session Leader. Rob Lemmens What is VGI-ME? Working with the conceptual model – how to capture metadata about VGI projects. Hands-on in small working groups.
17:15 – 17:30	Wrap up and finish for Day 1
19:00	Dinner at Irish College

Program V

Friday 17 January 2020

Time	Activity
09:00 - 09:05	Scene Setting Day 2 –Joep, Rob and Peter
09:05 - 09:35	Lightning talks <ul style="list-style-type: none"> • Michael Kölle, Institute for Photogrammetry (ifp), University of Stuttgart, Germany • Lena Norberg and Elin Gyllenhammar, Lantmäteriet (The Swedish mapping, cadastral and land registration authority), Sweden. • Eszter Kiss, Federal Agency for Cartography and Geodesy, Germany (To be confirmed)
09:35 - 10:45	VGI-ME Continuation Requirements for conceptualisation; Suggest usability improvements; Suggest other ways to manage VGI-ME.
10:45 - 11:15	Coffee Break

Program VI

11:15 - 13:00	Plan the design and delivery of a VGI Hackathon event in the second half of 2020 which will feature the creation of new crowdsourcing applications (mobile and web) and extending/improving existing ones.
13:00 - 13:15	Workshop Close - Wrap up, farewell and next steps (Joep, Rob and Peter)
13:15 - 14:00	LUNCH
14:00	Departures