

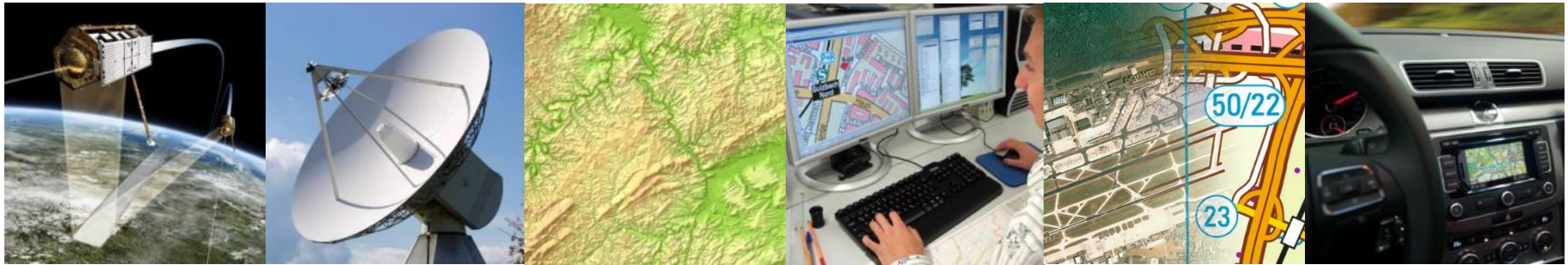


Federal Agency for
Cartography and Geodesy

Terms and definitions used in crowdsourcing

Eszter Kiss

Federal Agency for Cartography and Geodesy



Content

- Study "Options for dealing with crowdsourcing geodata for use within the federal administration"
- Terms and definitions that outline the field of action of crowdsourcing and show its variations

Options for dealing with crowdsourcing geodata for use within the federal administration



Germany's participation in the Open Government Partnership (OGP)

First National Action Plan 2017-2019

Cornerstones of open government



Commitment 4: "Better access to and easy use of spatial data"

Measurable milestones:

No.	Description	Implementation (by)
1.	Promoting implementation of INSPIRE in Germany by connecting the GDI network to federal and state bodies through contact points of the conferences of specialized ministers and mentors from GDI-DE	continuous
2.	Carrying out expert conferences and discussions e.g. "Knowing where" event of the Federal Agency for Cartography and Geodesy, National Forum for Remote Sensing and Copernicus (March 2019)	regularly, several times a year
3.	Providing Copernicus data/services via the IT platform CODE-DE	continuous
4.	Transition of the IT platform CODE-DE from pilot to effective operation	March 2019
5.	Developing a recommendation on how to handle crowdsourcing data for use within the federal administration	June 2019



Options for dealing with crowdsourcing geodata for use within the federal administration



Quelle: GettyImages-gremlin-1081165980

MELDUNG - GEO-FORTSCHRITTSBERICHTE · 06.01.2020

Crowdsourcing-Geodaten in der Bundesverwaltung

Handlungsoptionen zum Umgang

Die heutigen Technologien befähigen auch Laien, eine Vielzahl unterschiedlicher Fachdaten zu erheben. Solche außerhalb der Verwaltung freiwillig erfassten Daten werden als Crowdsourcing-Daten bezeichnet. Sie bieten eine wertvolle Ergänzung zu amtlich erhobenen Daten. Nutzungsbedingungen, unterschiedliche Datenmodelle und Zweifel an der Qualität der Crowdsourcing-Daten erschweren allerdings derzeit die Nutzung innerhalb der Bundesverwaltung. Dies trifft auch auf den Bereich der Geodaten zu.

Mit dem vorliegenden Dokument hat die Zentrale Arbeitsgruppe (ZAG) des Interministeriellen Ausschuss für Geoinformationswesen (IMAGI) eine Handlungsempfehlung erarbeitet um die Nutzung von Crowdsourcing-Geodaten innerhalb der Bundesverwaltung zu unterstützen und zu verbessern. Zahlreiche Beispiele wurden zusammengetragen und zeigen, dass Daten aus Crowdsourcing bereits jetzt für viele Anwendungen eingesetzt werden. Die Beispiele unterstreichen damit das große Potential von Crowdsourcing.

DOWNLOAD

Handlungsoptionen zum Umgang mit Crowdsourcing-Geodaten zur Nutzung innerhalb der Bundesverwaltung

Download PDF ↓

2MB, Datei ist nicht barrierefrei

Angeichts der vielen Ausprägungen von Crowdsourcing fällt es schwer, allgemeingültige Empfehlungen für den Umgang mit diesen Daten zu formulieren. Die Beispiele aus der Bundesverwaltung zeigen, dass Lösungen jeweils spezifisch für die individuelle Aufgabe und angepasst an die jeweiligen Rahmenbedingungen entwickelt werden.

ALLE KURZMELDUNGEN >

Terms and definitions used in crowdsourcing

Citizen-contributed Geographic Information

Extreme citizen Science

Opt-out contract

Geocollaboration

Ambient Geographic Information (AGI)

Citizen science

Crowd sensing

Professional crowd

Collaborative mapping

Collaboratively contributed Geospatial information (CCGI)

Crowd mapping

Map Hacking

Geographic citizen science

Amateur crowd

Citizen Cyberscience

Volunteered Geographic Information (VGI)

Opt-in contract

Crowdsourcing

Contributed Geographic Information (CGI)

Terms and definitions used in crowdsourcing

Amateur (nonprofessional) Crowd / Volunteers &



- people who are not specifically educated for the task.
- comparable level of expert knowledge is possible

Expert (professional) Crowd



- network of specialists

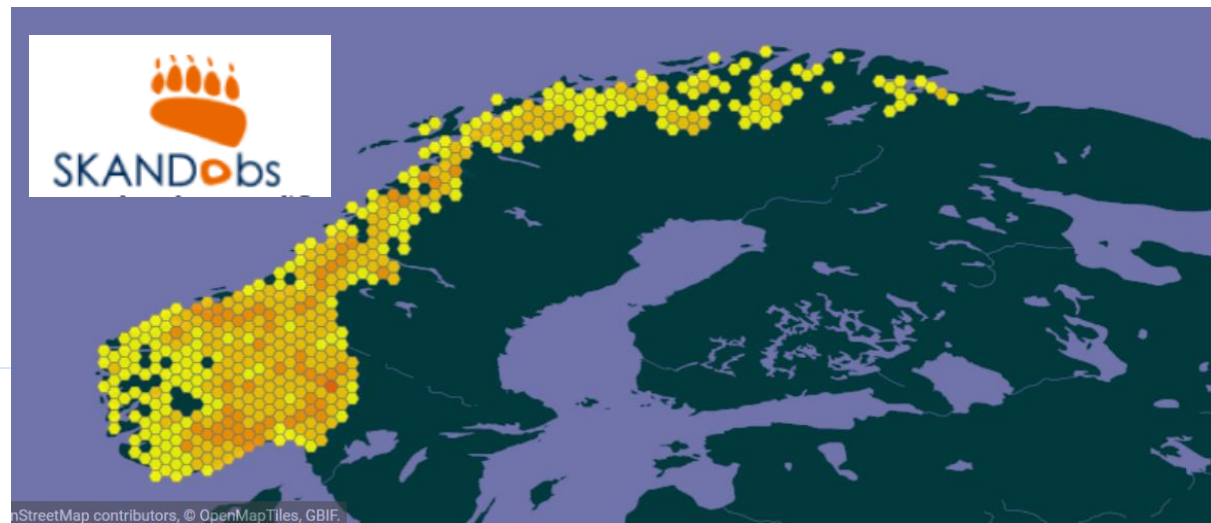
Terms and definitions used in crowdsourcing

Amateur (nonprofessional) Crowd / Volunteers &

Expert (professional) Crowd

Project example for a nonprofessional crowd:

- [SKANDOBS](#): Project in Sweden and Norway to monitor the lynx, bear-marten, brown bear and wolf populations.



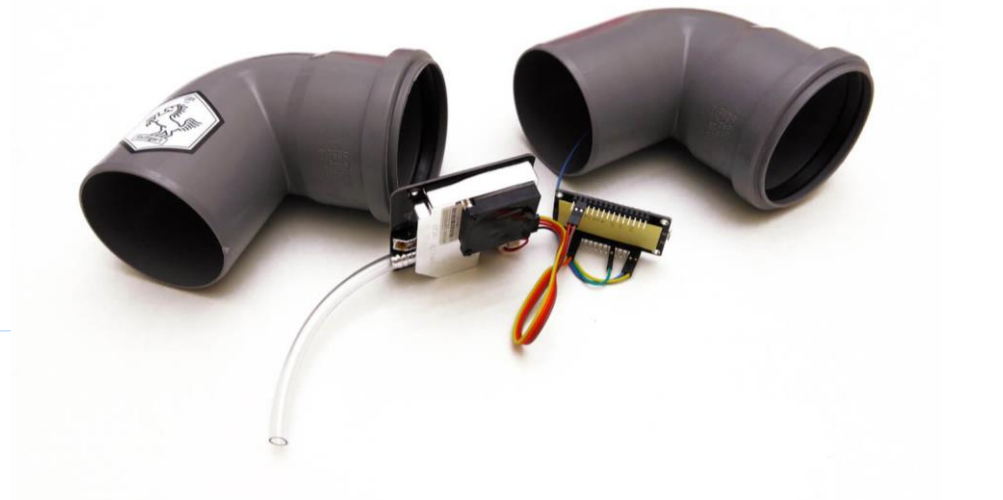
Terms and definitions used in crowdsourcing

Amateur (nonprofessional) Crowd / Volunteers &

Expert (professional) Crowd

Project example for a nonprofessional crowd:

- In the Luftdaten.info project, private individuals build sensors, for measuring air quality. The measured data are automatically forwarded, collected and published.



Terms and definitions used in crowdsourcing

Amateur (nonprofessional) Crowd &



Expert (professional) Crowd

Project example for an expert crowd:

- The ADEBAR project was a project of the Association of German Avifaunists. The expert crowd of ornithologists mapped bird species and published the results in the Atlas of German Breeding Bird Species.

<https://www.dda-web.de/index.php?cat=adebar&subcat=hintergrund>

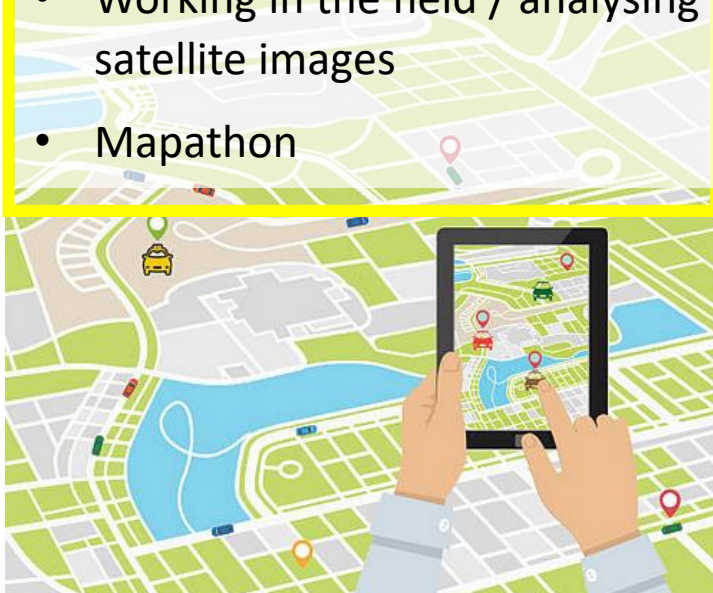
Terms and definitions used in crowdsourcing

Active and passive participation

active

Active participation

- Open calls to win volunteers for specific tasks
- Manpower, own devices
- Working in the field / analysing satellite images
- Mapathon



passive

Passive participation

- Information is not collected through active work on the part of the volunteers
- Mobile phones / networked sensors



Terms and definitions used in crowdsourcing

Active and passive participation

Project example for crowdsourcing with active participation:

- DWD - data collection projects with volunteer observers: Measurement of meteorological standard parameters and weather observation



Terms and definitions used in crowdsourcing

Active and passive participation

Project example for crowdsourcing with active participation:

- [Lake&Seawiki](#) (Finland): Järviwiki is a web service that is built and maintained in cooperation between authorities and citizens.

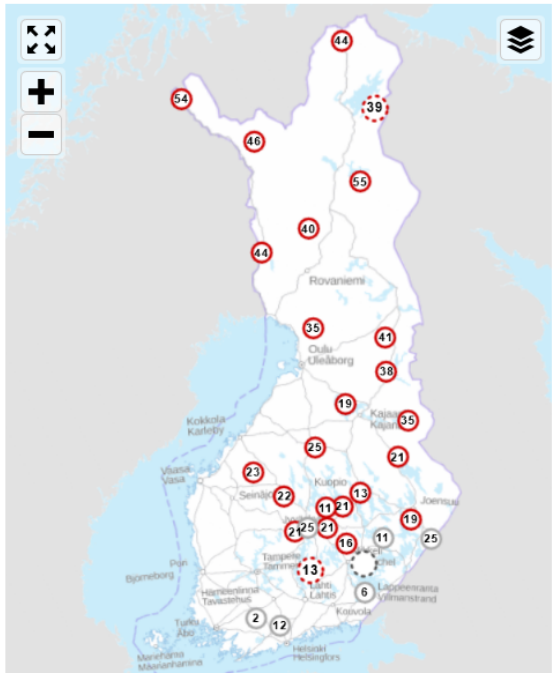
Järviwiki is about Finnish lakes and sea areas

Järviwiki (Lakewiki) is a web service which is built and maintained in cooperation by authorities and common people. In Järviwiki there is basic information of each Finnish lake over 1 ha in extent and tools for sharing i.e. observations and pictures.

In addition to the Finnish lakes, the different parts of the **Baltic Sea** are also present. You might as well upload observations and other information for marine areas as for lakes. [More >](#)

Tuoreet havainnot

Viranomainen Asiantuntija Kokenut Käyttäjä



Follow us

- Järviwiki [Like Page](#)
- Mitä Itämerell... [Like Page](#)
- SYKE's hydrologists on Twitter [Follow](#) 1,674 followers

Current discussions

Meren nurmi
Tuomasma started a new thread on page [Itämeri](#)
9 days ago

Kelujärvi - Matalajärvi (65.896.1.001)
Miika commented on a thread on page [Kahvihuone/Virheet ja korjaukset](#)
10 days ago

Kokemäenjoen vesistön vaellusesteet näkyviin
Stream2020 started a new thread on page [Kokemäenjoki \(35\)](#)
28.12.2019

NMISSÄ ravut ja nahkaiset luuraa?
Jarkko76 started a new thread on page [Koskinen](#)
17.11.2019

[Kahvihuone](#)

Did you know?

Terms and definitions used in crowdsourcing

Active and **passive participation**

Project example for crowdsourcing with passive participation:

- Fleet weather map DWD: A three-year research project between AUDI AG and DWD to research environmental data from passenger cars



Terms and definitions used in crowdsourcing

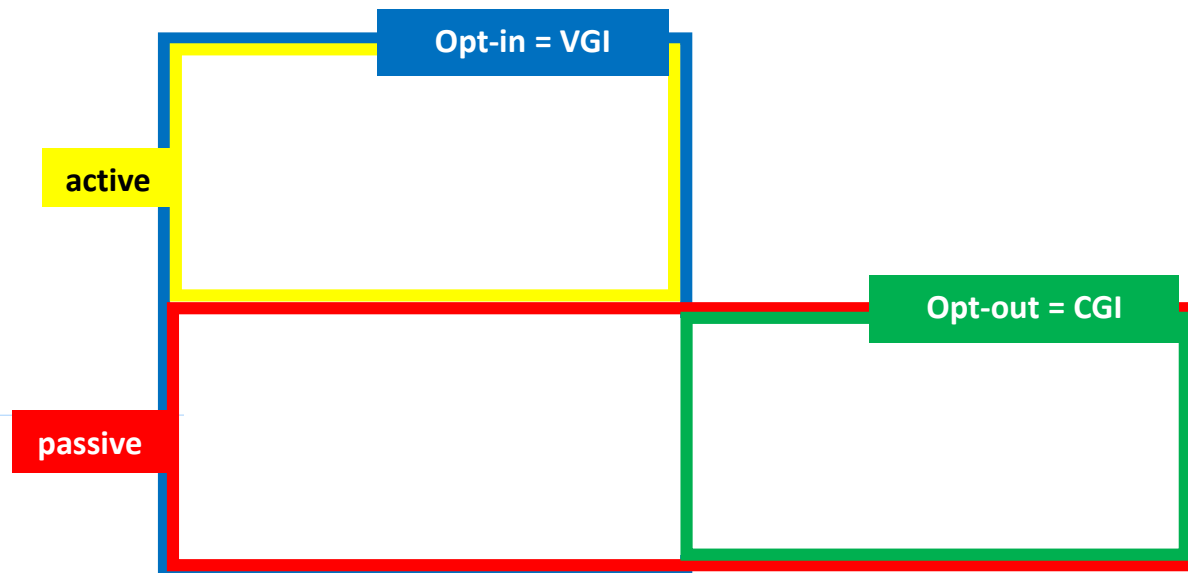
Conscious and unconscious data acquisition

Opt-in agreement

- Conscious decision
- Volunteered Geographic Information (**VGI**).
- Active or passive

Opt-out agreement

- Automatic collection
- Contributed Geographic Information (**CGI**).
- Passive

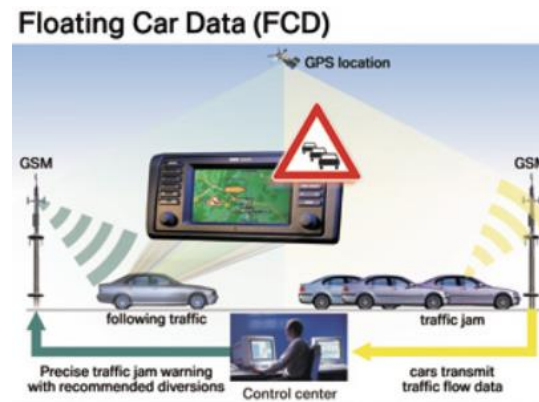


Terms and definitions used in crowdsourcing

Conscious and unconscious data acquisition

Examples of Contributed Geographic Information (with opt-out agreement):

- Floating car data are automatically collected by tracking and used for mapping the movement pattern in traffic, the traffic flows including speed information, as well as the environmental noise

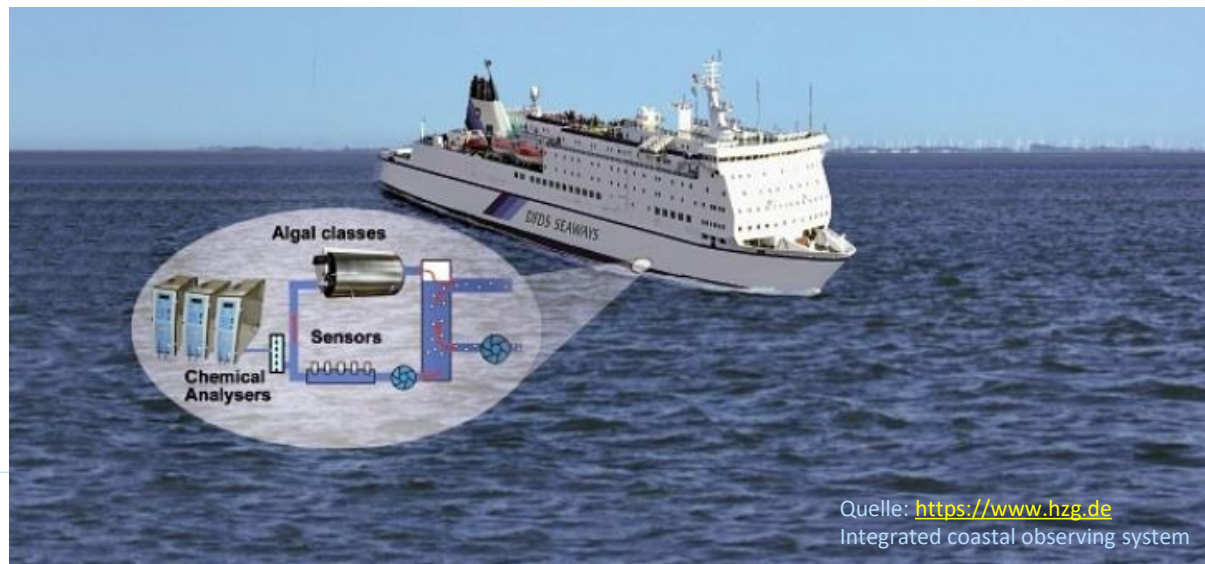


Terms and definitions used in crowdsourcing

Conscious and **unconscious data acquisition**

Examples of Contributed Geographic Information (with opt-out agreement):

- "[FerryBox](#)" system: On board of merchant ships travelling along regular routes (e.g. ferries or cargo ships), so-called FerryBoxes are installed to measure oceanographic data.

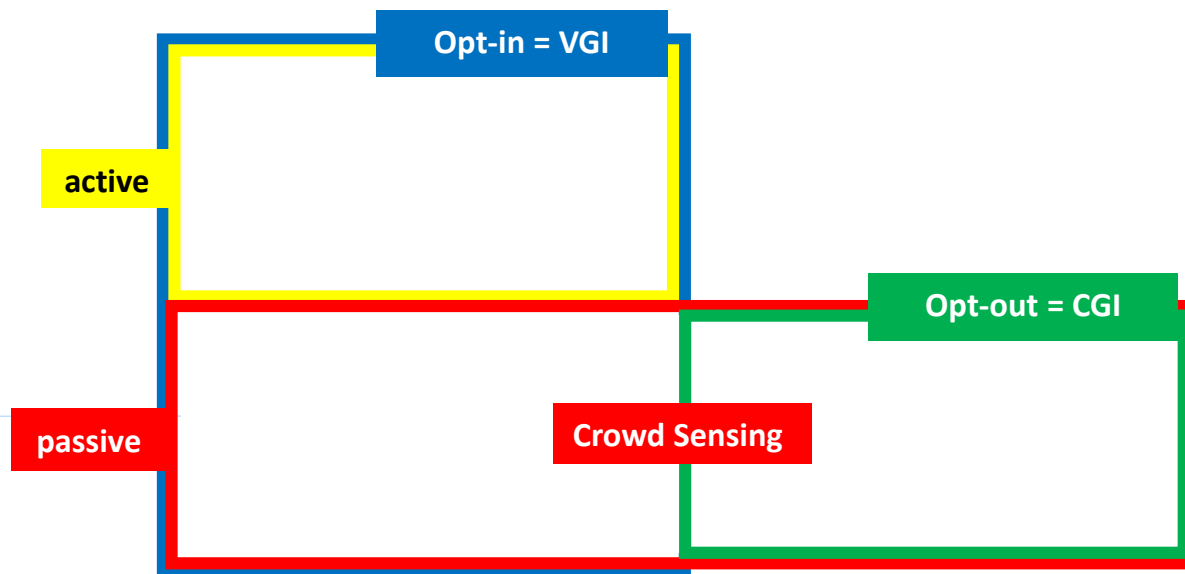


Terms and definitions used in crowdsourcing

Devices as sensors: Crowd Sensing

Mobile devices

- Data about their location
- Crowd Sensing
- Active or passive
- With or without approval



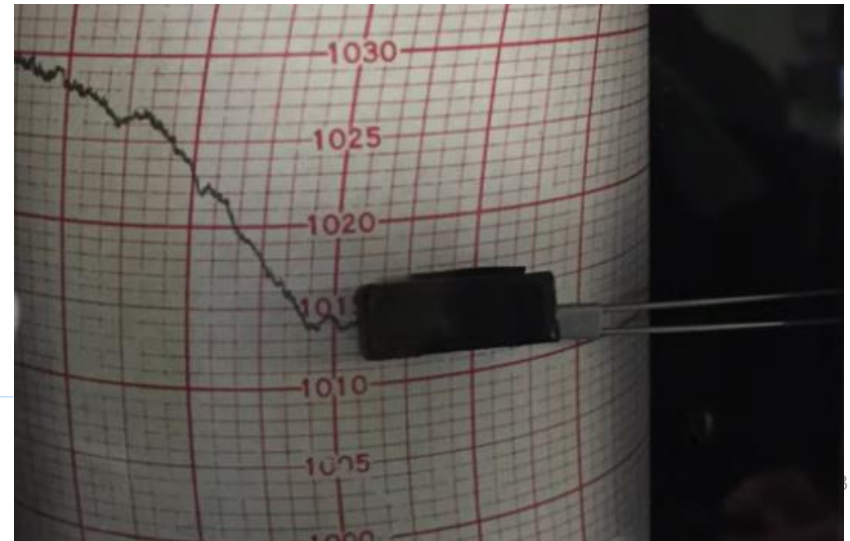
Terms and definitions used in crowdsourcing

Devices as sensors: Crowd Sensing

Project example for crowd sensing:

- Voluntary Observing Ships (VOS): Meteorological and oceanographic standard parameters measured at met stations on merchant ships densify the measuring network of the World Meteorological Organisation (WMO) and hereby increase maritime safety.

https://vos.noaa.gov/vos_scheme.shtml

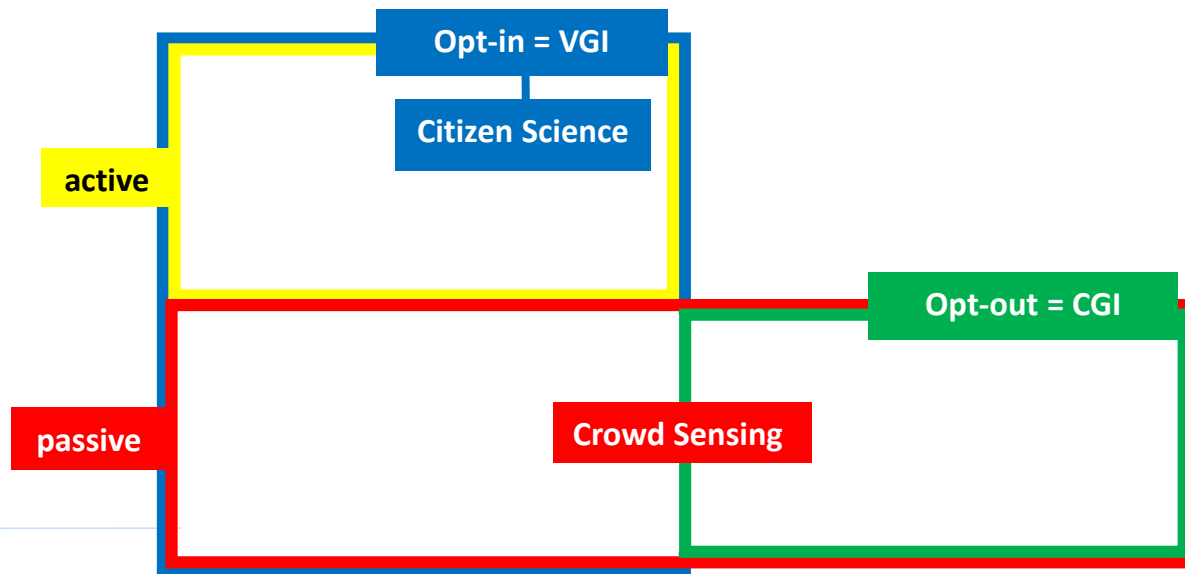


Terms and definitions used in crowdsourcing

Citizen Science (CS)

“Scientific work undertaken by members of the public, often in collaboration with or under the direction of professional scientists and scientific institutions” (Oxford English Dictionary)

- Active contribution to science



Terms and definitions used in crowdsourcing

Citizen Science (CS)

Project example for Citizen Science:

- LandSense: Project with participation of many European countries, in which data on land use and land cover or biodiversity is collected.

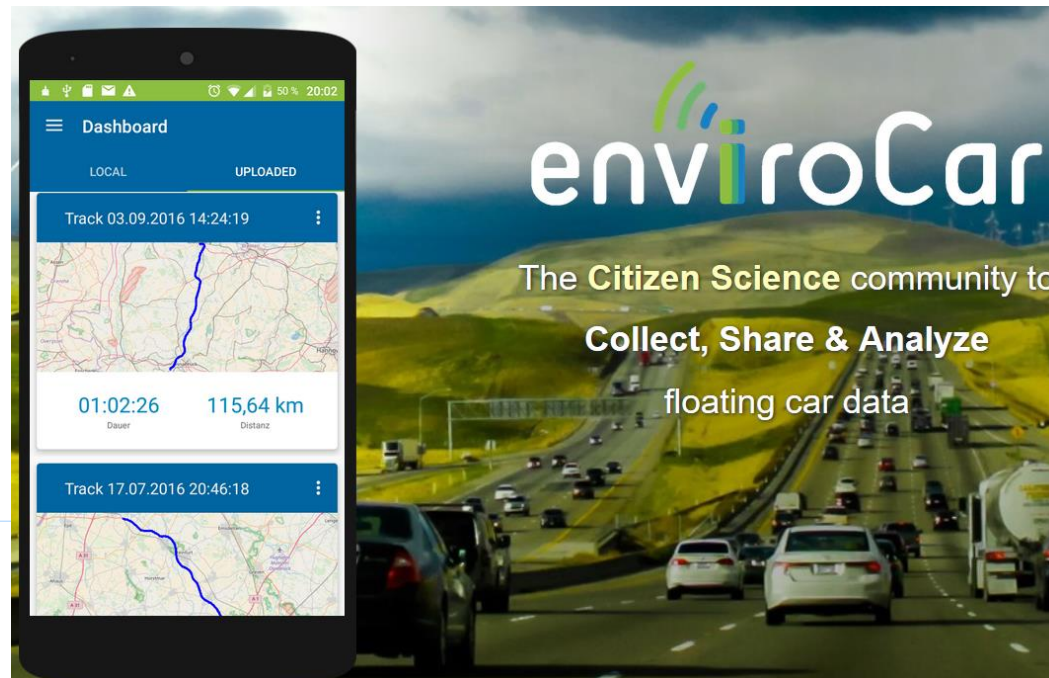


Terms and definitions used in crowdsourcing

Citizen Science (CS)

Project example for Citizen Science:

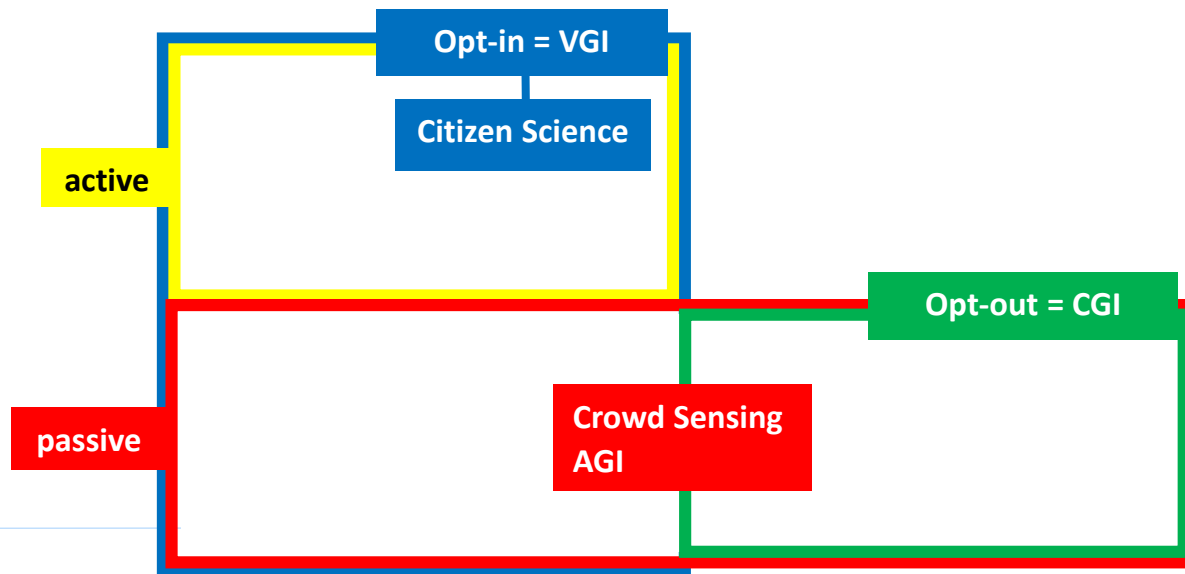
- EnviroCar is an open Citizen Science platform that collects sensor data from vehicles, makes it available anonymously, analyses it and determines the analysis results.



Terms and definitions used in crowdsourcing

Ambient Geographic Information (AGI)

- People = observable phenomena
- Social media data → human behaviour, patterns of social systems
- Analysis of mobile devices

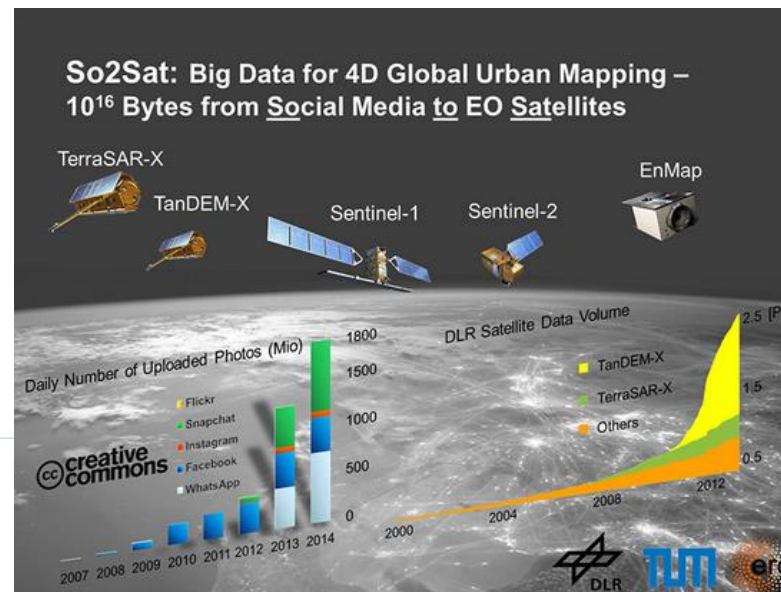


Terms and definitions used in crowdsourcing

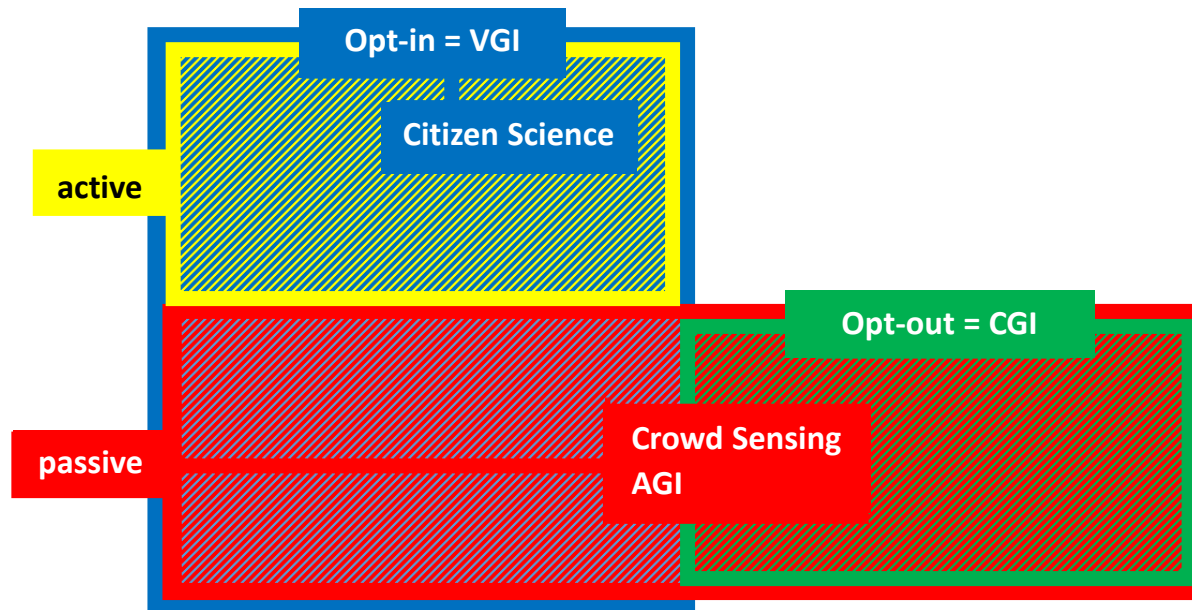
Ambient Geographic Information (AGI)

Project example for Citizen Science:

- Project so2sat: The project of DLR (German Aerospace Centre) and TU München (Technical University Munich) combines data from social media with satellite observations to create worldwide 3D/4D maps for city modelling. Infrastructural development, urban morphology and population density can be derived from the data.



Terms and definitions used in crowdsourcing



Thank you for your kind attention!

Contact:

Bundesamt für Kartographie und Geodäsie
Referat GDL1
Richard-Strauss-Allee 11
60598 Frankfurt

Direct contact:
Eszter Kiss
eszter.kiss@bkg.bund.de
www.bkg.bund.de
Tel. +49 (0) 69 6333-321