

Beyond Data and Quality - Unlocking the Value of Citizen Contributions

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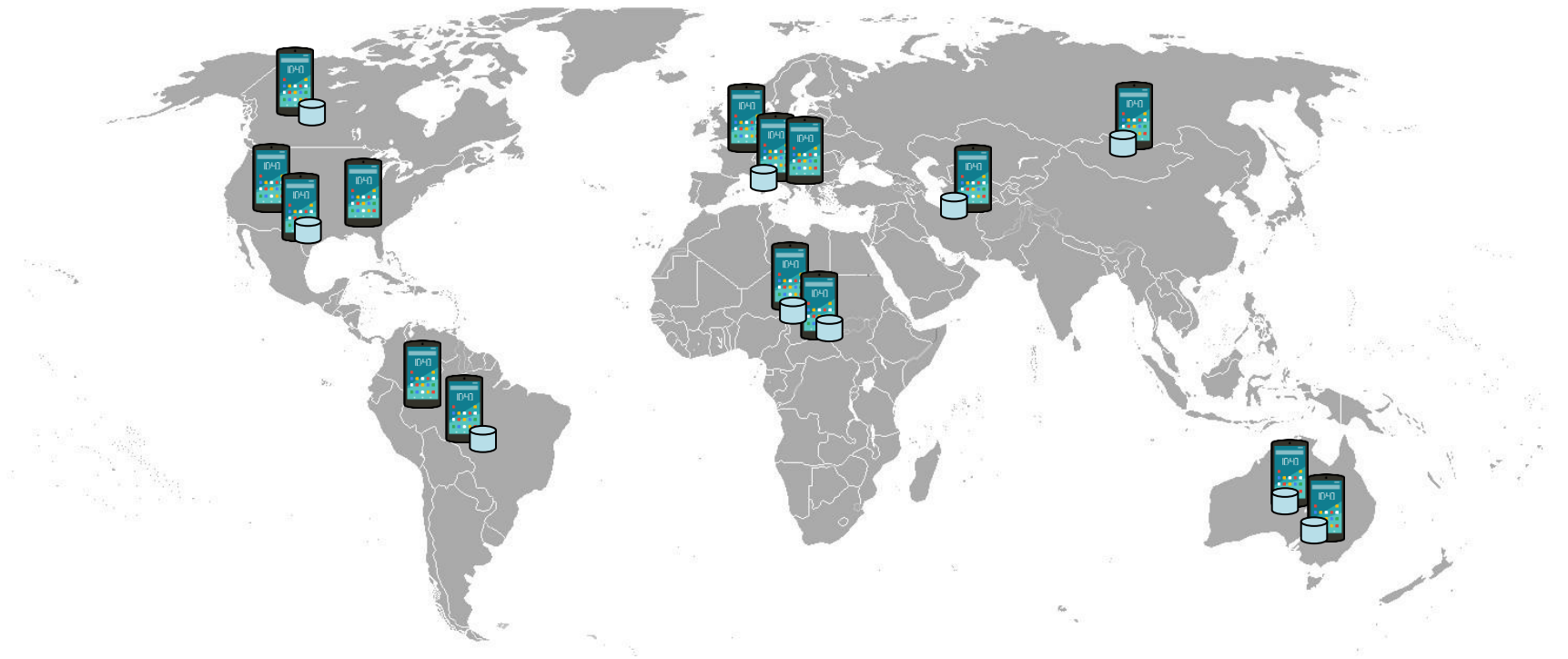
10th Intl. Conf. on Ecological Informatics
Session 3.2 Citizen Science
Jena, Sep 24th 2018



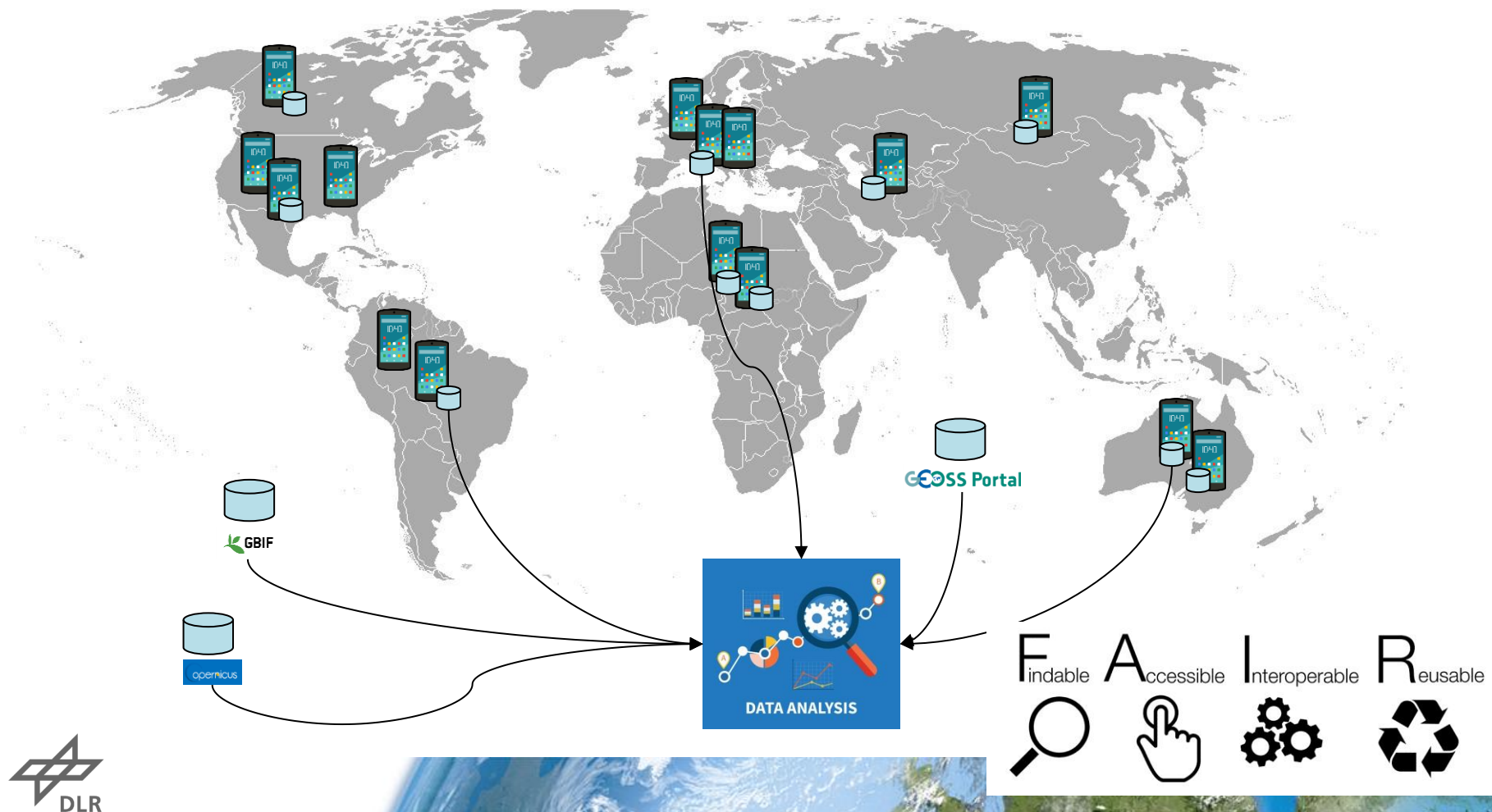
Wissen für Morgen



Challenge 1: Data Islands



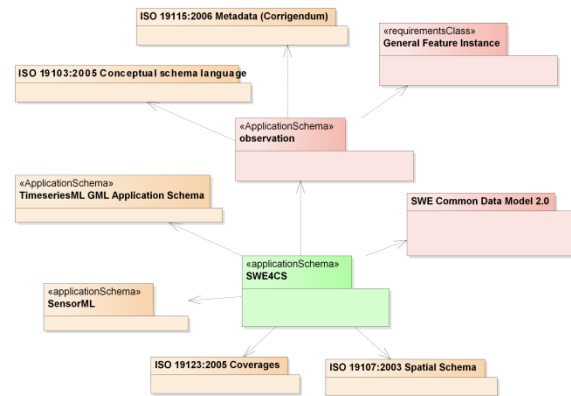
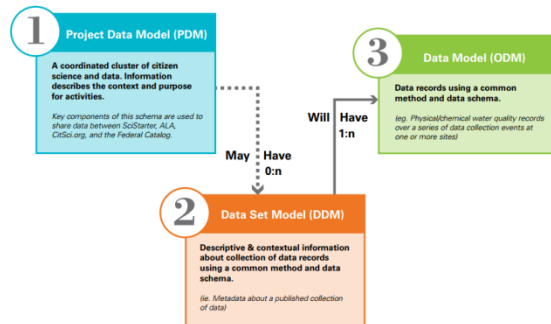
Challenge 1: Data Islands



Standardization & Semantic Attribution of CS Data

Introducing PPSR CORE: A Common Data Model (CDM) with three main schemas

Overview



Standardization of Citizen Science Data + Metadata



About Standards Innovation News & Events Membership Resources

Citizen Science Interoperability Experiment

The goal of this OGC Interoperability Experiment (IE) is to demonstrate the interoperability within Citizen Science (CS) projects and the way OGC standards can be applied to Citizen Science. This IE specifically addresses the following topics:

- The use of OGC standards or (e.g. Sensor Web Enablement (SWE)) to support data integration among CS projects, and with other sources, esp. authoritative data (e.g by following SWE4CS);
- The integration of CS projects/campaigns in Single Sign-On system (SSO) federation;
- The relationships between OGC standards and data and metadata standards currently used by CS projects.

This IE is promoted by the OGC Citizen Science Domain Working Group, and the WeObserve[1] and NextGEOS[2] H2020 projects. This IE contributes not only to the interoperability and possibly standardization program of the OGC, but also to the Global Earth Observation System of Systems (GEOSS). There is also the newly emerging Citizen Science Global Partnership (CSGP) first call for participation. Regional and national Citizen Science Associations will equally benefit from the results of this OGC IE.

Biodiversity Information
Standards (TDWG)

Australian
Citizen Science
Association

RDA
RESEARCH DATA ALLIANCE

CITIZEN
SCIENCE
COST ACTION

OGC®
Making location count.

W3C®

EUROPEAN
CITIZEN SCIENCE
ASSOCIATION

CITIZEN SCIENCE
ASSOCIATION

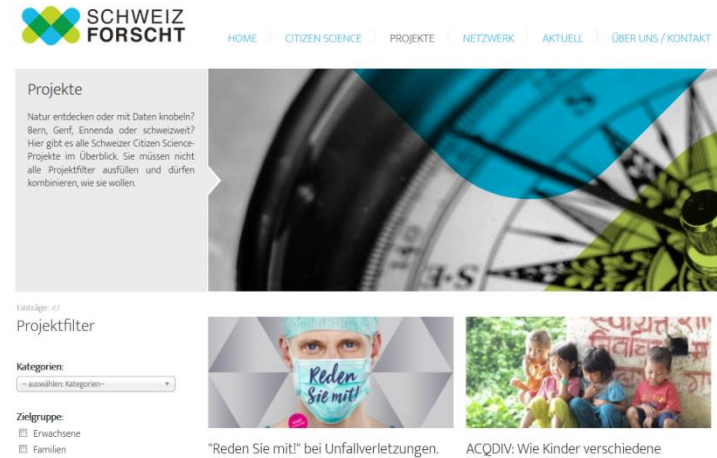


Challenge 2: Project Islands

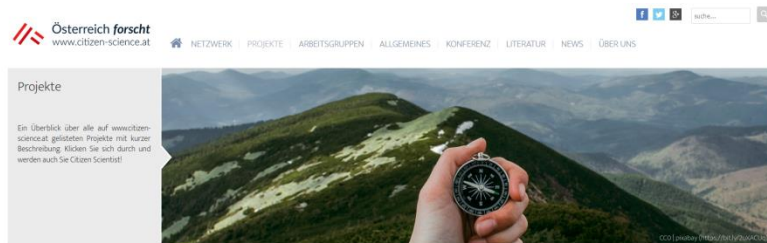


Vor genau vier Jahren sind wir mit **zehn Projekten** an den Start gegangen. Seitdem ist viel passiert und immer mehr Projekte aus den verschiedensten Bereichen laden euch zum Mitforschen ein. Als Online-Plattform Bürger schaffen Wissen unterstützen, vernetzen und präsentieren wir Citizen Science in Deutschland, gefördert vom Bundesministerium für Bildung und Forschung. Auf unseren Veranstaltungen sowie auf unserer Plattform bringen wir online und offline Menschen zusammen, die vom Konzept der Bürgerforschung begeistert sind.

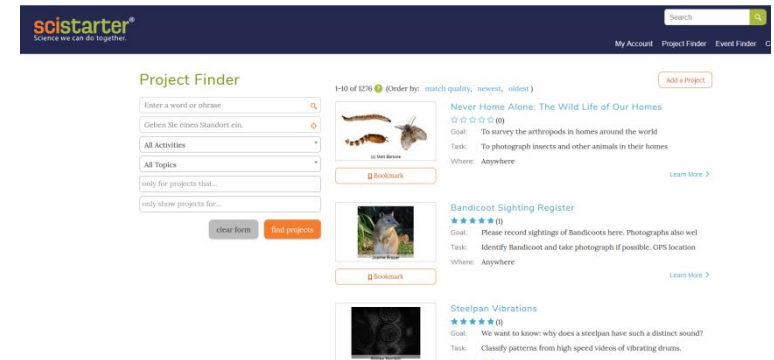
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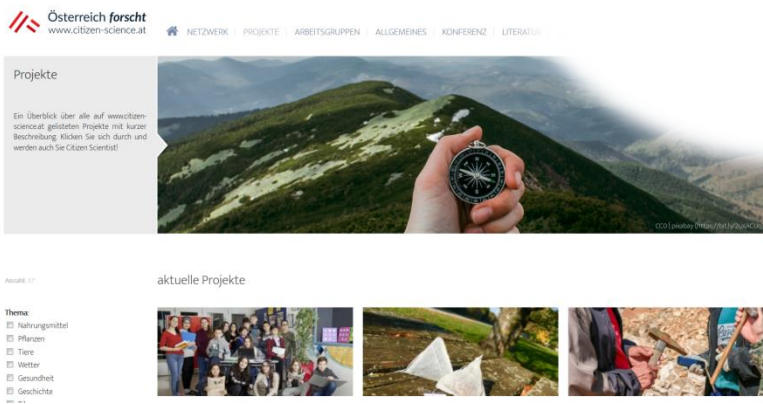
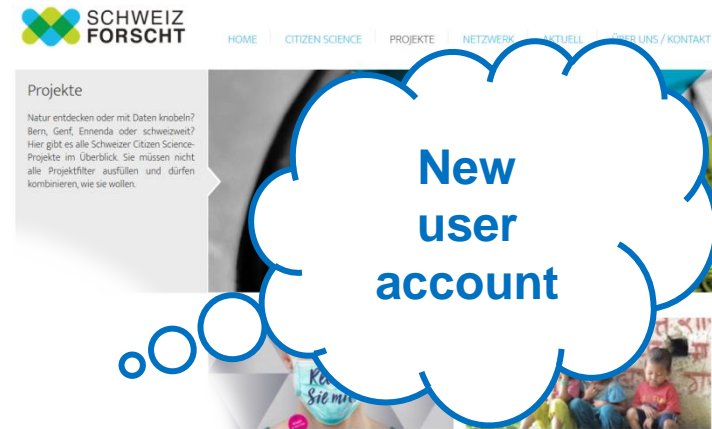
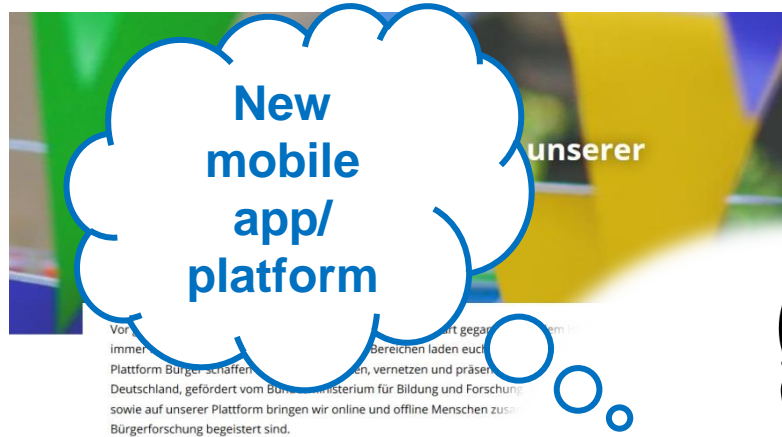


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1276

Challenge 2: Project Islands



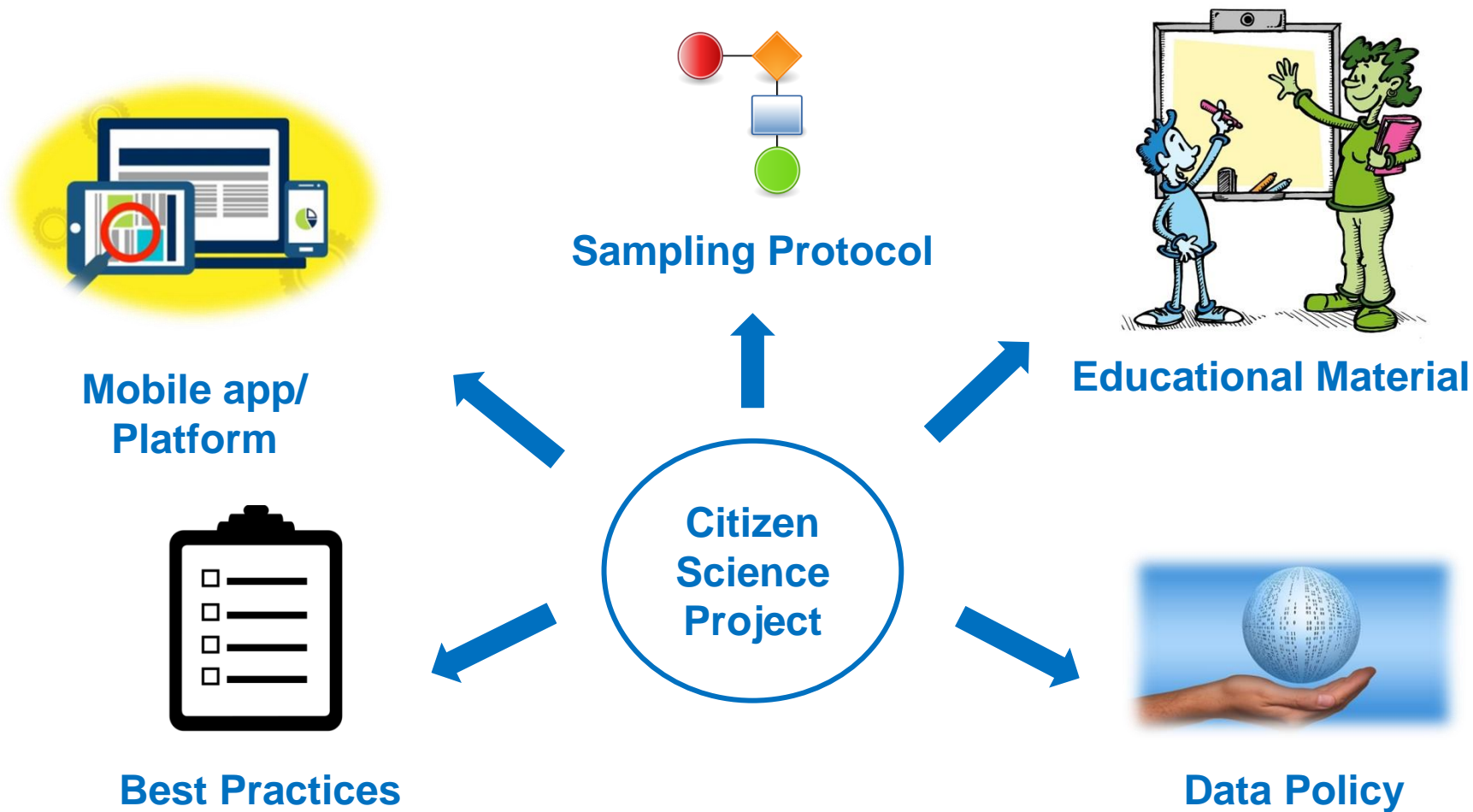
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Challenge 3: Ressource & Knowledge Islands



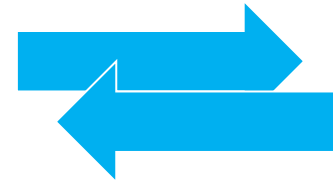
Reusable Software (Components) & Best Practices



saves time
and money



preserves knowledge
and experiences made



fosters interoperability



Reusable Software (Components) & Best Practices



BioCollect

Advanced data collection for biodiversity projects

What is 'BioCollect'?

BioCollect is a sophisticated, yet simple to use tool developed by the Atlas of Living Australia (ALA) in collaboration with over 100 organisations which are actively involved in field data capture. It has been developed to support the needs of scientists, ecologists, citizen scientists and natural resource managers in the field-collection and management of biodiversity, ecological and natural resource management (NRM) data. The tool is developed and hosted by the ALA and is **free for public use**.

Open Data Kit

Community Software Help

The standard for mobile data collection

The Open Data Kit community produces free and open-source software for collecting, managing, and using data in resource-constrained environments.



EpiCollect.net

Home Instructions Create Project Handsets FAQ Developers About us

Mobile / Web Application for Smartphone data collection

EpiCollect.net provides a web and mobile app for the generation of forms (questionnaires) and freely hosted project websites for data collection. Data are collected (including GPS and media) using multiple phones and all data can be viewed centrally (using Google Maps / tables / charts).

EpiCollect
For simple projects:

- Features:**
- Drag and Drop form Builder
 - Define a single form for survey
 - Any number of text questions
 - Add a single GPS location + photo



EpiCollect+
For complex projects:

- Features:**
- Drag and Drop form Builder
 - Define multiple linked form(s)
 - Any number of text questions
 - Any number of media fields:



Defining principles for mobile apps and platforms development in citizen science

▼ Ulrike Sturm, Sven Schade, Luigi Ceccaroni, Margaret Gold, Christopher C. M. Kyba, Bernat Claramunt, Muki Haklay, Dick Kasperowski, Alexandra Albert, Jaume Piera, Jonathan Brier, Christopher Kullenberg, Soledad Luna

Forum Citizen Science 2018
Workshop: Re-Use vs. Redundanz - Aussichten und Rahmenbedingungen für die Wiederverwendung von Software in bürgerwissenschaftlichen Projekten
Ulrike Sturm, Friederike Klan

Challenge 4: Data Fitness for Use

Precision
Accuracy
Coverage
Subjectivity
Consistency
Objectivity
Distribution
Trustworthiness
Resolution

Significance

Completeness



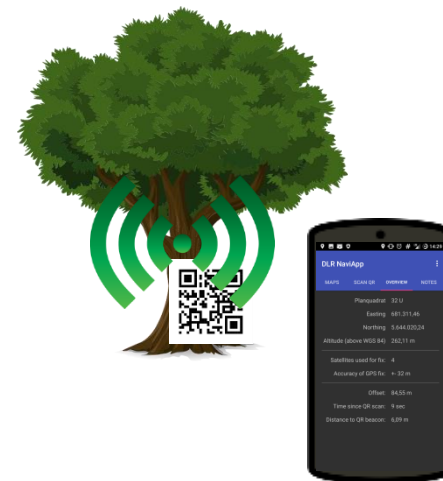
Challenge 4: Data Fitness for Use

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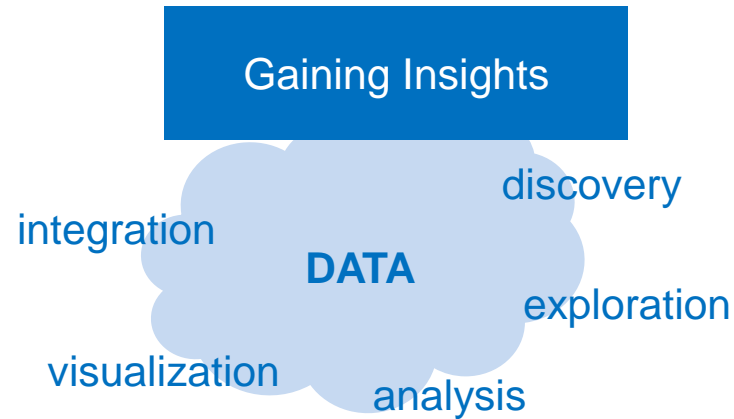
supporting
software

enabling
learning

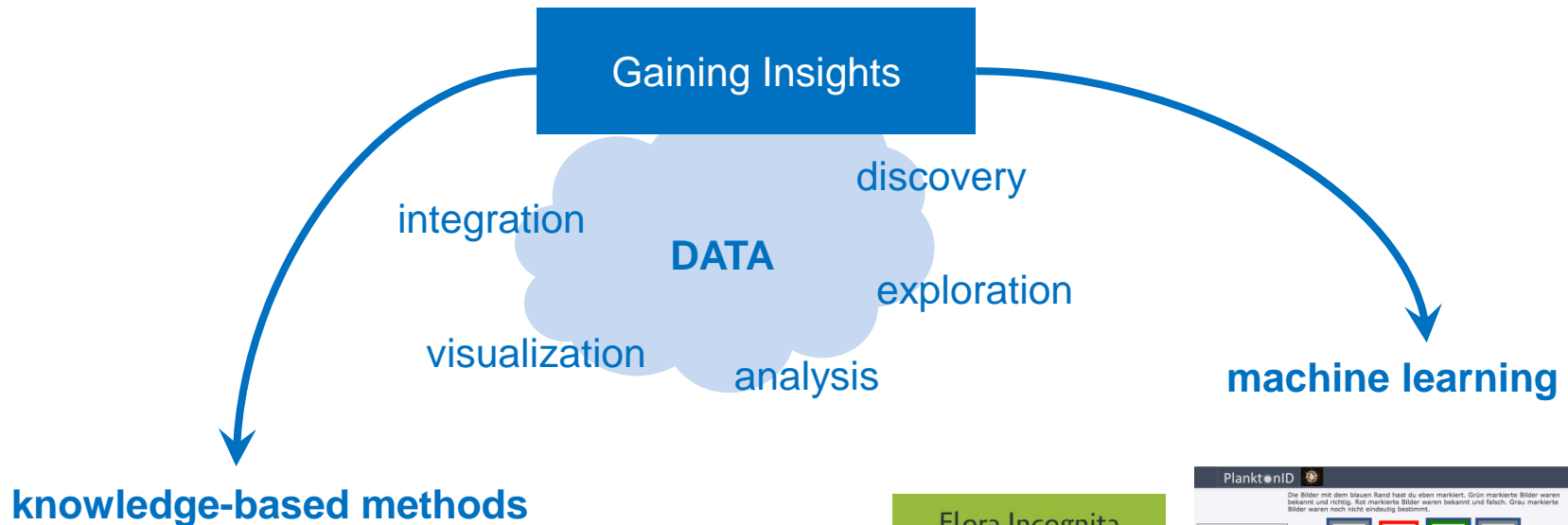
proper
project
design



Challenge 5: From Data to Insights



Challenge 5: From Data to Insights



S1.6 Semantics for Biodiversity and Ecosystem Research

Sep 27th, 2018

start 10:30 am in lecture hall 4





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Image Sources

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- p.4
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 - **PPSR_Core: Citizen Science Association Data & Metadata Working Group:** Report from CSA 2017 and Future Outlook by Anne Bowser, Peter Brenton, Rob Stevenson, Greg Newman, Sven Schade, Lucy Bastin, Alison Parker, Jessie Oliver, 2017
 - OGC Interoperability Experiment: <http://www.opengeospatial.org/projects/initiatives/citsci-ie>
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 - <https://scistarter.com/>
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 - https://www.ala.org.au/biocollect/#BioCollect_Apps
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 - <http://www.epicollect.net/>
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 - Sturm U, Schade S, Ceccaroni L, Gold M, Kyba C, Claramunt B, Haklay M, Kasperowski D, Albert A, Piera J, Brier J, Kullenberg C, Luna S (2017) Defining principles for mobile apps and platforms development in citizen science. Research Ideas and Outcomes 3: e21283. <https://doi.org/10.3897/rio.3.e21283>
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