

# Citizens create knowledge - Knowledge creates citizens

Aletta Bonn  
Katrin Vohland, Lisa Pettibone & Anett Richter

Helmholtz- Center for Environmental Research-UFZ,  
German Centre for Integrated Biodiversity Research (iDiv) Halle-Jena-Leipzig  
Museum for Natural History, Berlin

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# Citizen Science

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“Goal to motivate 5 Mio citizens within the next 5 years to participate...”

EU-Forschungskommissar Janez Potočnik

Founding of European Citizen Science Association (ECSA) 2013

“... highly valuable opportunities for citizen science ..., offering enhanced levels of participation in assessing (and determining) the success of EU environment policies.”  
Commission Staff Working Document SWD (2013)

“And don‘t forget the people...,  
to engage them in biodiversity research“

Prof Dr Klaus Töpfer

Eröffnung iDiv Halle-Jena-Leipzig 2013

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# Citizen Science in Germany

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*We want to involve citizens and stakeholders from civil society consistently in the discussion about future projects and the design of research agendas. We want to develop new forms of citizen participation and the communication of science and merge them into an overall concept.*

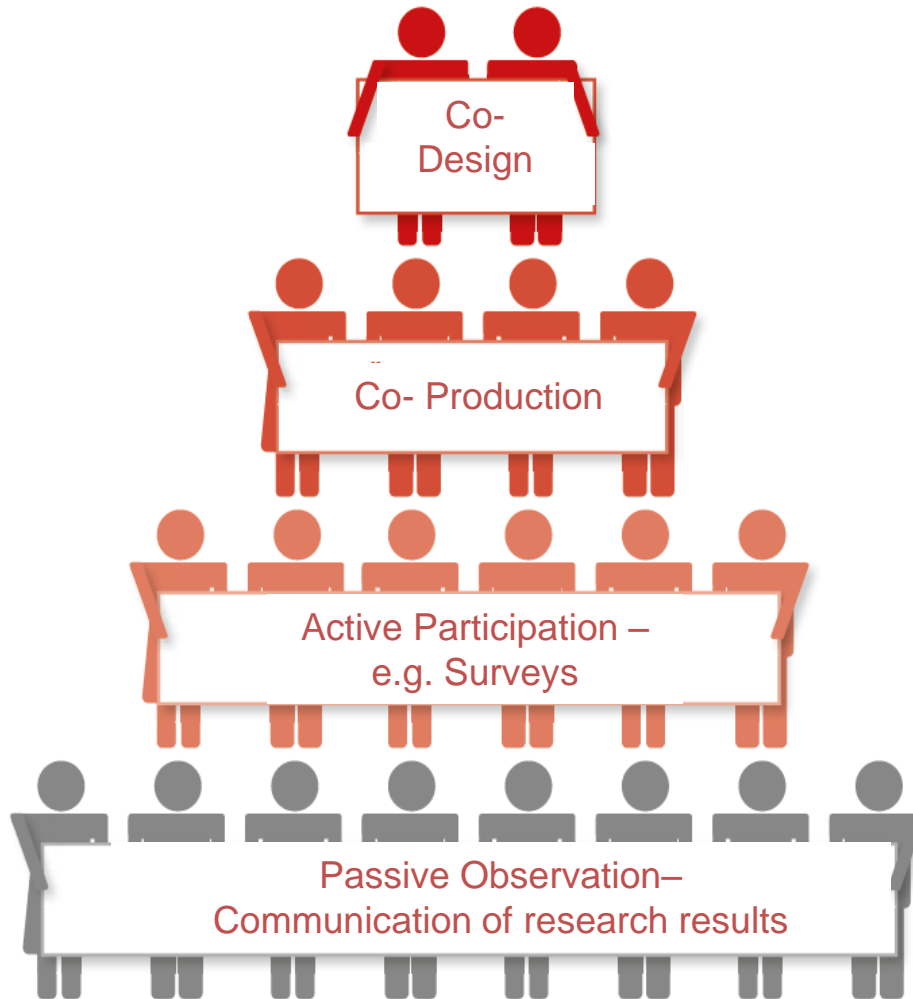
Coalition contract of the German Government 2013

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# Citizen Science

## Goals

- Active participation of citizens in scientific processes from data acquisition & processing to co-design & coproduction of research
- Increasing scientific literacy & empowerment  
Understanding, acceptance, uptake and implementation of transparent and responsive research in society
- Innovation for scientific research  
by engaging with a variety of knowledge domains and introducing new perspectives and information as well as new partnerships



(after Sonja Kreft (MfN) after Bonney et al 2009)

# Citizen Science Motivation

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Scientific Knowledge Generation



Citizen  
Science

Personal Interest

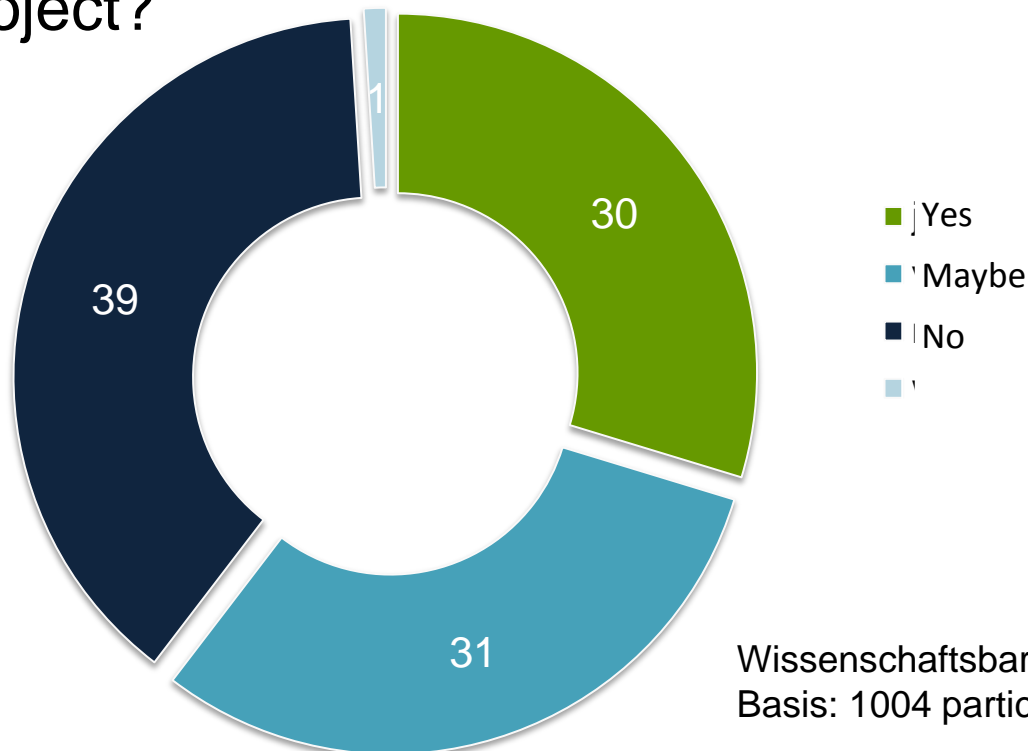
Engagement

Societal Relevanz

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# Citizen Science Motivation

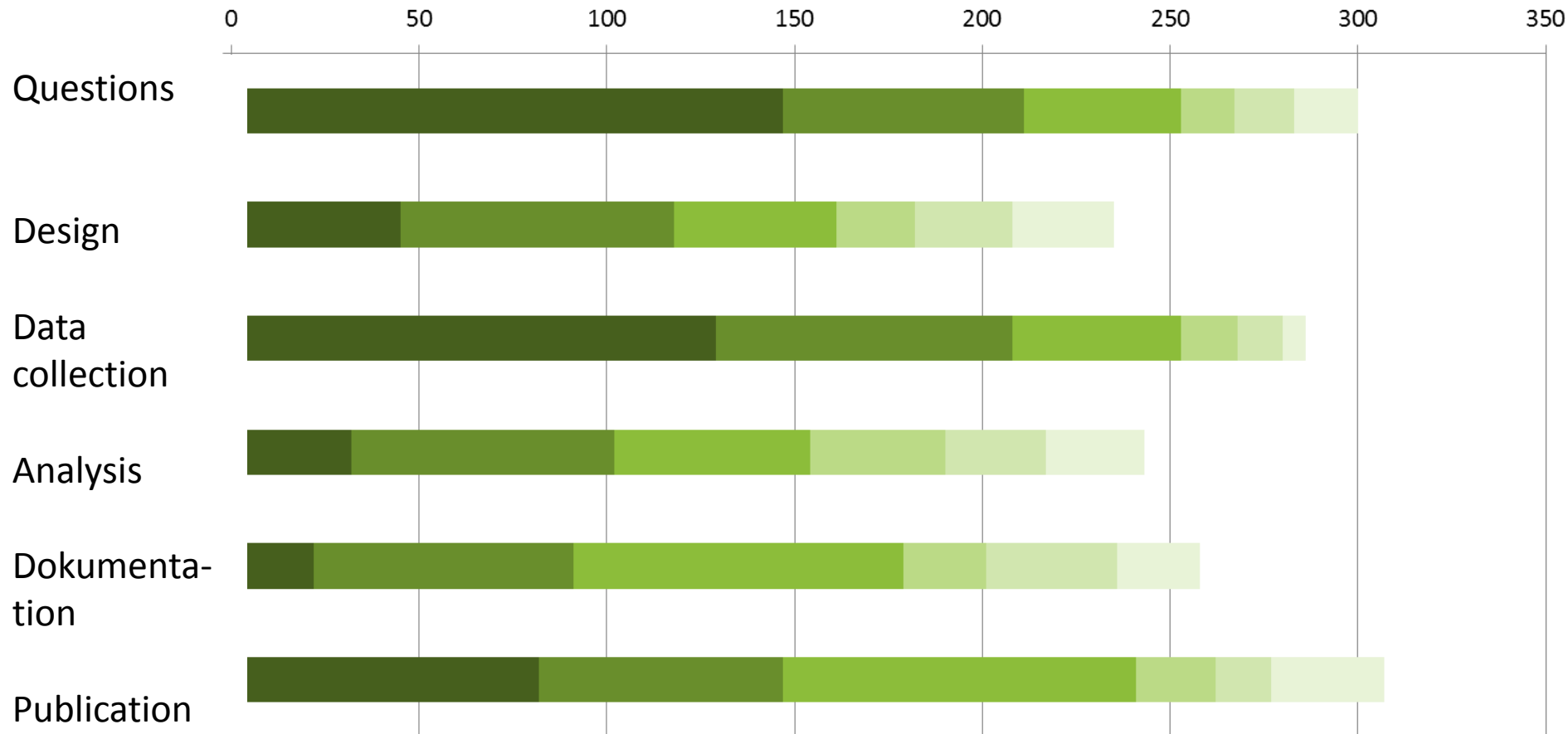
Would you be interested – in general –  
in participating in a scientific research  
project?



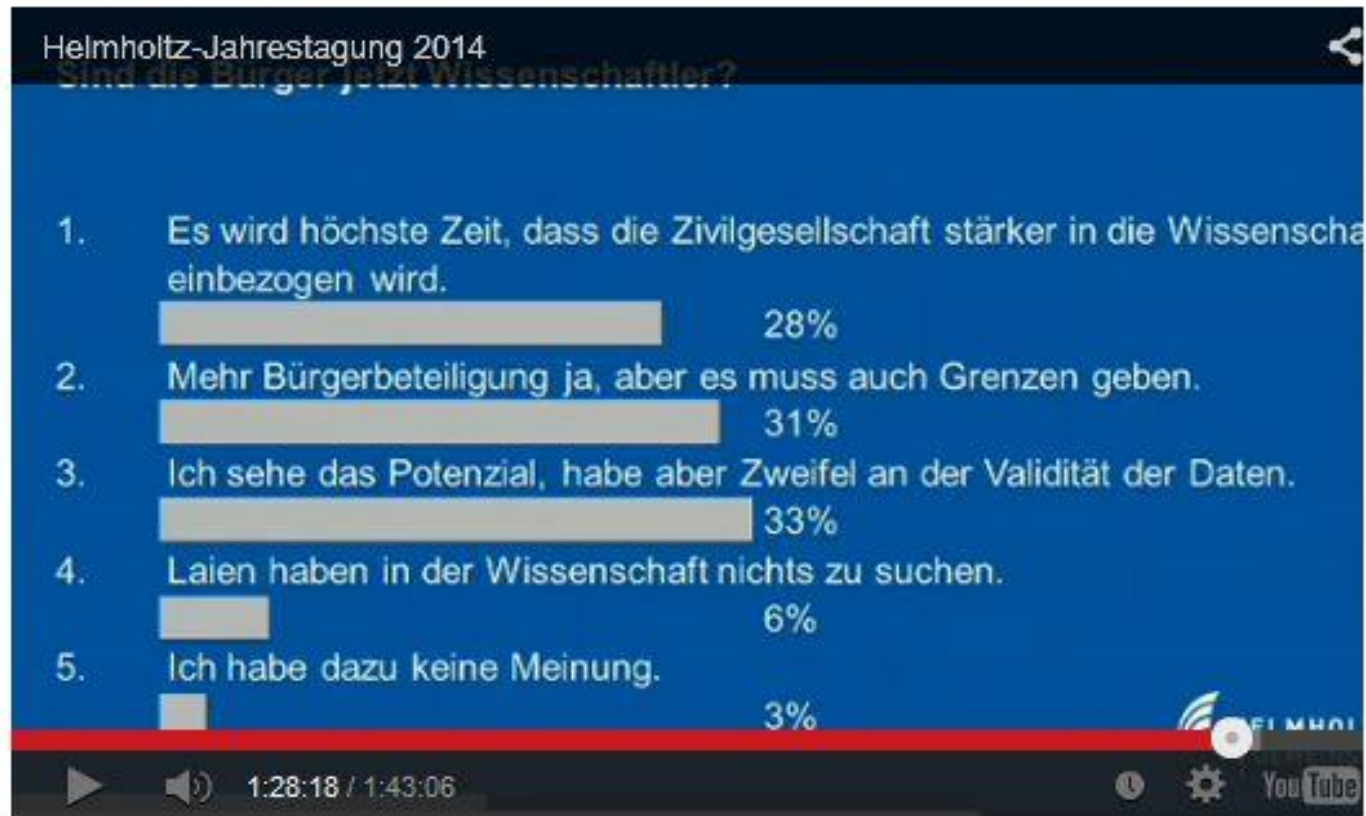
Wissenschaftsbarometer 2014  
Basis: 1004 participants



# Citizen Science Motivation



# Citizen Science Motivation



# Avanti Dilettanti?

Forschung von Laien für Laien: Nach der Rede von Akademiepräsident Günter Stock wird

Vielleicht ist es ja nur Zufall, dass in der Stunde der Bürgerforscher (citizens) die Wissenschaftler fürchten...

...die Arbeitslosen der 1970er Jahre – eine Kom Stagnation Keynesian: seine wirts gen nicht n füllten neue facht gesag dass Akteu und mit Bli

## Peter Finke Neue Aspekte einer alten Sache

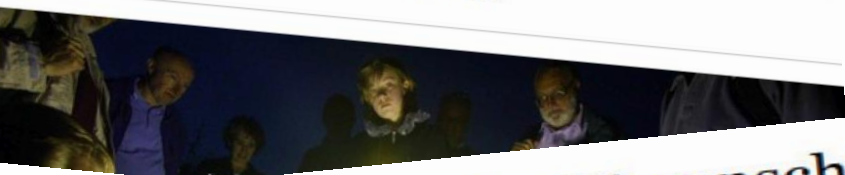
Über den entbehrlichen Nimbus der Wissenschaft: Ist Citizen Science?



- POLITIK
- GESELLSCHAFT
- KULTUR
- SPORT
- BERLIN
- NORD
- WAHRHEIT

## Bürgerwissen ist gefragt Forschungs-Hiwis oder Partner?

Die erste Citizen-Science-Konferenz in Berlin beriet über Bürgerwissenschaftler, die nicht nur als Hilfskräfte dienen sollen.



## Meinungsbeitrag Mehr Bürger in die Wissenschaft

von Gert G. Wagner



Bürgerwissenschaft (Citizen Science) muss heißen, dass Forscher und Laien auf Augenhöhe kooperieren. Das fordert Gert G. Wagner vom Deutschen Institut für Wirtschaftsforschung in einem Meinungsbeitrag für den Tagesspiegel.

bonn | Update und R...

## Uwe Schneidewind Bürgeruniversität spiegelt den Dialogwunsch

Konzept der „Bürgerhochschule“ – ein Katalysator für eine starke Bürgerwissenschaft

Die große Resonanz auf die Idee der Bürgerwissenschaft ist auch Ausdruck für den Bedeutungswert der Hochschule in der Gesellschaft. Hochschulen scheinen kaum nur

34/2014

Bürger schaffen Wissen  
Wie Citizen Science in Deutschland ausgebaut werden soll  
Helmholtz- und Leibniz-Gemeinschaft wollen zusammen mit außeruniversitären Partnern...



7. Juli 2014

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Dateien send

Adobe Send  
Große Dateien online  
Datei senden:  
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An...

Verknüpfu

Dateien speichern

# GEWISS



## German Citizen Science Capacity Building Programme

- › Citizen Science Platform  
Dialogue forum, Networking, Advisory Board
- › Scientific evaluation  
Opportunities & challenges / capacity & demand
- › Development of *Citizen Science* resources  
*Citizen Science* guide, film, training workshops, web portal
- › Citizen Science Strategy 2020 for Germany





**iDiv**

**Deutsches Zentrum für integrative  
Biodiversitätsforschung (iDiv)  
Halle-Jena-Leipzig**



**BBIB**

Berlin-Brandenburgisches Institut  
für Biodiversitätsforschung



**HELMHOLTZ  
ZENTRUM FÜR  
UMWELTFORSCHUNG  
UFZ**



seit 1558

**Friedrich-Schiller-Universität Jena**

**Bürger  
schaffen  
Wissen**



**Die Citizen Science Plattform**

**museum für  
naturkunde  
berlin**



**wissenschaft im dialog**



**Leibniz-Institut für Zoo-  
und Wildtierforschung**  
IM FORSCHUNGSVERBUND BERLIN E.V.

*Leibniz*  
Biodiversität



**Leibniz-Institut für  
Gewässerökologie und Binnenfischerei**

GEFÖRDERT VOM

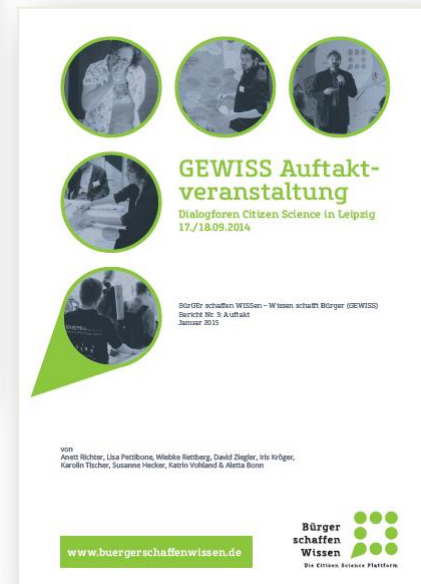
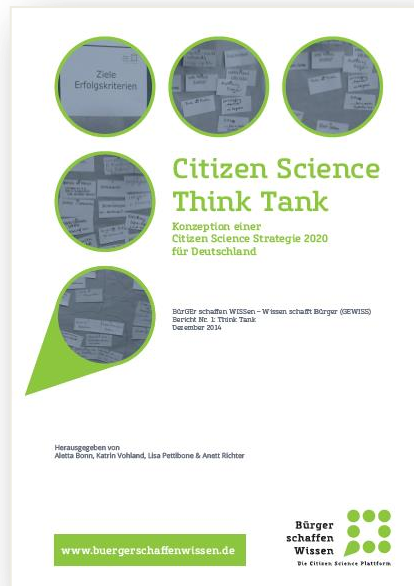


**Bundesministerium  
für Bildung  
und Forschung**

# Think Tank / Dialogue Forum



# Think Tank / Dialogue Forum





## Suche



### GOV - Genealogisches Ortsverzeichnis

**📍 ortsunabhängig**  
Geschichte, Genealogie, Ortsverzeichnis, Familienforschung  
Erschaffung einer zentralen Informationsquelle für Ortsinformationen

[Weiterlesen](#) ▶



### KLEKs

**📍 ortsunabhängig**  
Kulturlandschaft, Landschaftsgeschichte, Geodatenbank, Heimatforschung, Naturschutz  
Das Kulturlandschafts-Wiki

[Weiterlesen](#) ▶



### Einstein@Home – Astrophysik für alle

**📍 ortsunabhängig**  
Astronomie, Verteiltes Rechnen, Smartphone, Gravitationswellen, App  
Neutronensterne mit Heimcomputer und Smartphone entdecken

[Weiterlesen](#) ▶



### naturgucker.de

**📍 ortsunabhängig**  
Artbestimmung, Biodiversität, Fotografieren, bundesweit, beobachten  
Naturgucken macht Spaß!

[Weiterlesen](#) ▶



### Insekten Sachsen

**📍 ortsunabhängig**  
Insekten, Artbestimmung, Biodiversität, Naturschutz, Sachsen



### Anymals + plants

**📍 ortsunabhängig**  
Tiere, Natur, Biodiversität, Artenvielfalt, App  
Artenvielfalt für Dein



### Mückenatlas

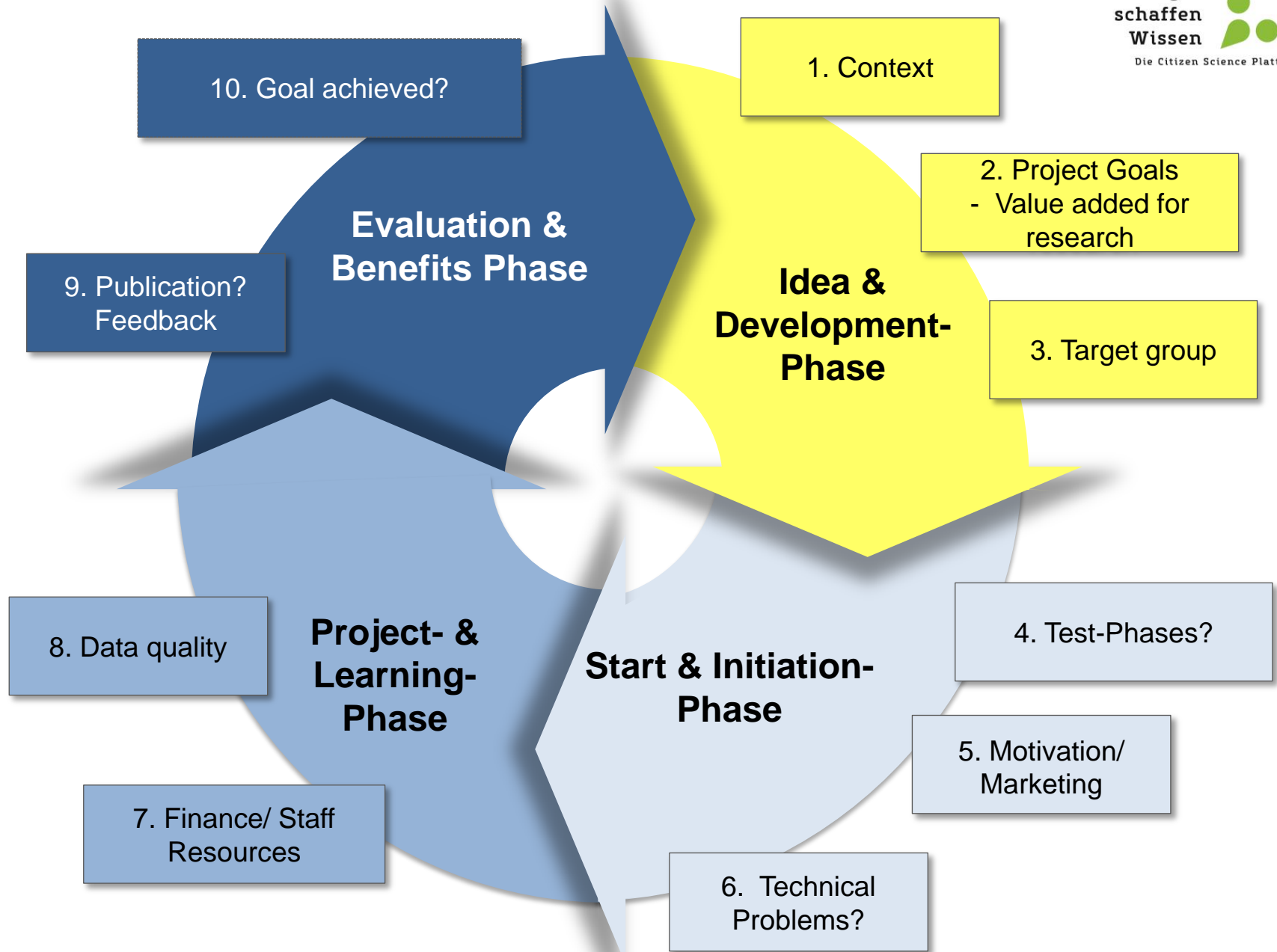
**📍 ortsunabhängig**  
Mücken, Insekten, invasiv, Fangen, Klima  
Fangen, Frosten, Forschen!



### artigo - Laien beschreiben Kunstwerke

**📍 ortsunabhängig**  
Spiel, Training, Kunst





# Citizen Science Strategy 2020 for Germany

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science

policy

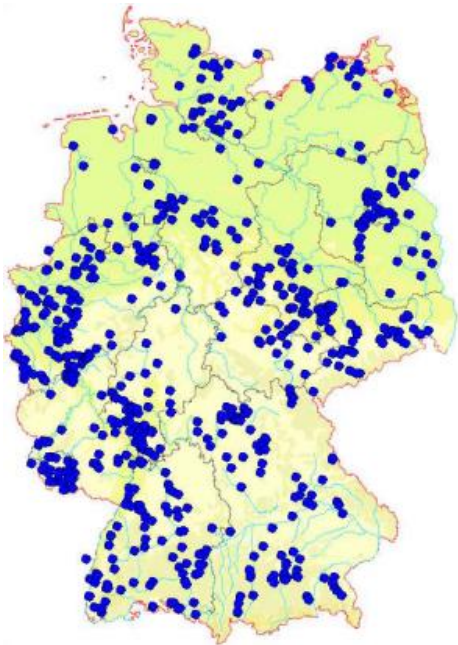
society

Science  
2.0

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# Vision

## In 2020 Citizen Science is ...



- an integral part of German society, with active co-design and co-production of research in science and society that is **valued, rewarded and alive**.
- a recognized, supported and regularly practiced approach to research. It brings **innovation potential** by integrating diverse knowledge pools and extensive involvement for the collection and analysis of large-scale data sets in space and time.

# Vision

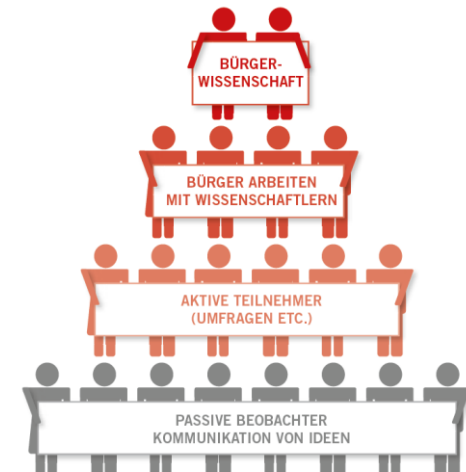
## In 2020 Citizen Science is...



- a widely used approach in **all areas of science**, which also includes disadvantaged and marginalized groups in research processes, is well communicated to the public and is funded based on newly developed evaluation criteria.
- a **reliable science approach** with **web-based infrastructures** that support both quantitative and qualitative citizen science projects as a trusted and privacy-compliant environment.
- a **motivation for the participation of 2 million people** in Germany in research projects.

# Opportunities and Demand

- **Role of citizens**
  - **Level of participation** : passiv , participative, active, co-creative
- **Role of institutional scientists**
  - Ressourcen
  - Opportunities & Barriers
- **Role of citizen science in society**
  - Opportunity for innovation and transformation
  - Systemic change?
  - Communication & networks



# Citizen Science Strategy 2020 DE

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## Develop capacities

- Capacities in science
  - Capacities in society
  - Capacities in education / media
  - Structural capacities
-

# (1) Capacities in Science

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- **Science culture for citizen science**
    - Academic excellence criteria
    - Flexibility for co-design/ co-production
    - Guidance / Training
    - Award mechanisms
    - Career options
  - **Strong data infrastructure: Data quality, validation, database management**
    - Quality standards for data management
    - Simple protocols for the collection
    - Semi-automated quality assurance protocols
    - Repositories (evt. larger research institutions / networks etc)?
  - **Quick feedback mechanisms to involved citizens**
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## (2) Capacities in Science

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- **Technical infrastructure / Science 2.0**
    - established infrastructure, advisory services and arrangements for Citizen Science 2.0
    - Citizen Science 2.0 is part of the scientific evaluation system for researchers and research institutions
    - Potential for innovation and creativity
  - **Development of new instruments**
    - New sensors that are easy to use
    - Apps for data acquisition and dispatching
    - increased use of new media
  - **Appropriate funding instruments for Citizen Science 2.0**
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# (1) Capacities in Science

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- **Legal security**
  - Copyright in terms of data collection / dissemination
  - Portals, metadata, basic accessibility of data
  - Insurance (eg accidents in data collection)

## (2) Capacities in society

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- **Evaluation criteria for volunteering management**
  - Quality Management for volunteering
  - Appreciation of volunteers / recognition for Citizen Scientists
- **Strengthening of existing structures**
  - NGOs / learned societies as coordinators
  - Networking / training
- **Promoting motivation and all forms of participation**
  - Low entry barriers
  - Involvement of experts in data analysis & communication
  - Taking into account age and social structures / time



## (3) Capacities in education /media

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- **Integration of existing education programs in CS Approaches**
  - Exploration of possibilities and limitations
  - Role of museums / archives /libraries etc.
  - Young Scientists formats etc
- **Sustainable learning in new formats**
  - Integration of extracurricular learning sites in curricula
  - Learning by Doing: deep understanding of e.g. environmental processes
- **Communication through media**
  - Science communicators as mediators



## (4) Structural capacities

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- **Development of training and education**
  - Guidance / Train the trainer 'workshops
- **Financing and development of new funding structures**
  - (financial) remuneration of volunteer researchers
  - Establishment of CS coordinators
  - Scoping phase to initiate and co-design new collaborative projects
  - Long-term funding for (existing) CS projects
  - Subsidy funds for small projects with low-threshold application conditions
- **Networking of citizen science activities**
  - Platform for linking existing citizen science projects and exchange of expertise (website/ dialog forum)
  - Public events / competitions / International ECSA Conference 2016



# Partners to implement strategy

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## **Science**

Universities and research institutes

## **Society**

NGOs / Learned societies

Citizen Science projects

Citizens (non-organised)

## **Education**

Education organisations/ schools

Museums, Botanical Gardens, Zoos, Archives

## **Research Councils and Funding Bodies**

Research councils

Trusts

Business

National governments/ EC DG Research and Innovation

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# Citizen Science Strategy 2020 for Germany

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science

policy

Public Consultation 2015  
Launch 2016

society

Science  
2.0

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science

policy

Thank You

society

Science  
2.0

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