

# CITIZEN SCIENCE SDG CONFERENCE

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Knowledge for Change: A decade  
of Citizen Science (2020–2030)  
in support of the Sustainable  
Development Goals

## **CS Track database: a central database of CS projects in Europe that can be key to understand the connection of CS and SDGs**

**Patricia Santos (UPF), Miriam Calvera (UPF),** Laia Albó (UPF), Julia Lorke (WiD), Ulrich Hoppe (RIAS), Davinia Hernández-Leo (UPF)



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# Content

- Context
- CS Track: Expanding our knowledge on Citizen Science through analytics and analysis
- CS Track database
- How the CS Track database can contribute in the reporting of SDGs?
- Limitations
- Conclusion and next steps

# Context: typical data sources for SDG reporting

- Traditional data sources are not sufficient for measuring the United Nations Sustainable Development Goals - SDGs (Fritz et al, 2019; Fraisl et al, 2020)
- Data are sourced primarily from global databases maintained by international organizations, national statistical offices and other government agencies → these data are costly to obtain and not sufficient

Recent studies show the value of using data from Citizen Science for the SDGs

# Context: Data from CS for the SDGs

- Promote dialogue on data quality, data management including standards, metadata and interoperability are key actions
  - In this context the [PPSR core metadata standard](#) is proposed (Cavalier et al 2015)
- This is a relative slow process, for this reason in the meantime...



# **CS Track:** Expanding our knowledge on Citizen Science through analytics and analysis

**Main goal:** to broaden the existing knowledge about Citizen Science (CS)

See: <https://cstrack.eu/>

**One main contribution** from CS Track is the development of one central database aiming to compile a comprehensive collection of CS-projects, mainly visible on the Web, in the European Union and Associated Countries as complete as possible

→ **The CS Track database** opens a new perspective on CS knowledge by observing and characterizing initiatives through a quantitative approach that relies on web-based data mining and network analytics

# CS Track database

- **First version of database (2020) with:**
  - Basic information extracted and validated from 42 CS platforms
    - Identifying the platforms with the help of the CS track partners and experts from countries in which the platforms could not be identified (language barrier)
    - Key national CS platforms have been analysed using web scraping and extraction techniques.
    - Additionally, we plan to contact experts to find information about projects not visible on the Web.
  - Data from 12782\* projects stored in the DB
  - Structure of the database aligned with the [PPSR CORE metadata standard](#)

\* database version October 2020

# CS Track database



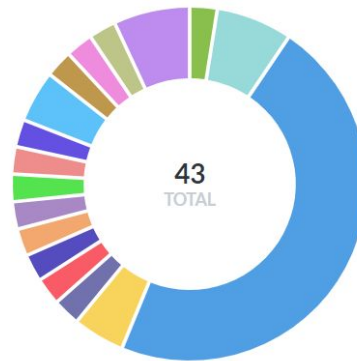
**CS TRACK**  
Investigating Citizen Science

**42**  
Number of platforms

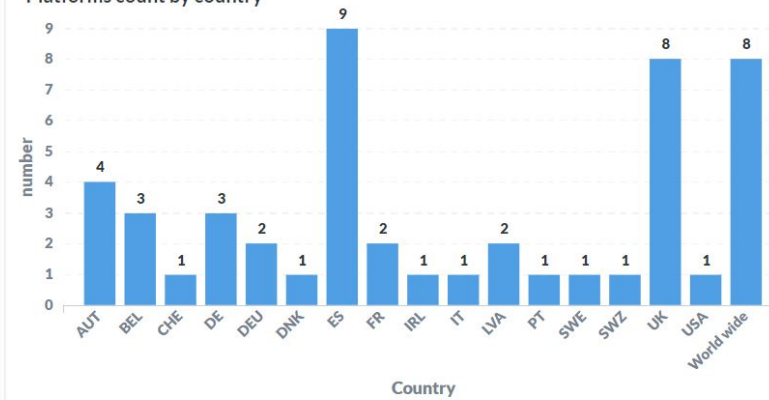
**17**  
Countries with platform

**12**  
Platforms languages

Platforms by type



Platforms count by country

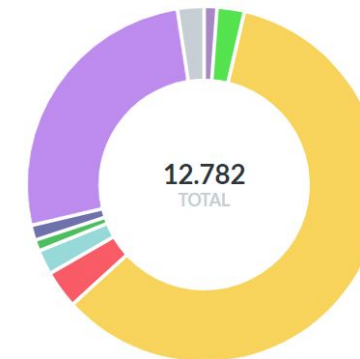
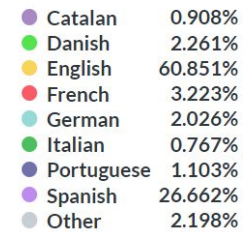


**12.782**  
Number of projects

**1.171**  
Projects with email information

**1.059**  
Projects with social media information

Projects count by Language



<http://bit.ly/CSTRACKdashboard>



# How the CS Track database can contribute in the reporting of SDGs?

1. Identify [targets and indicators](#) : number of citizen involved, societal problems solved, citizen learning, etc.. (Fraisl et al 2020)

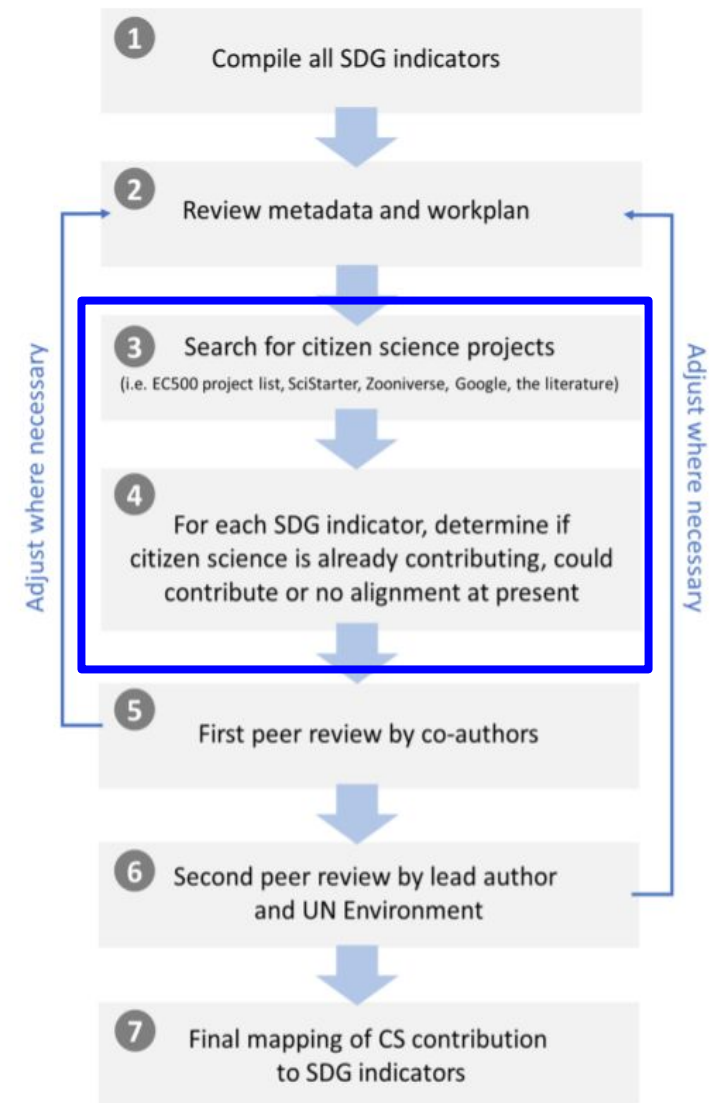
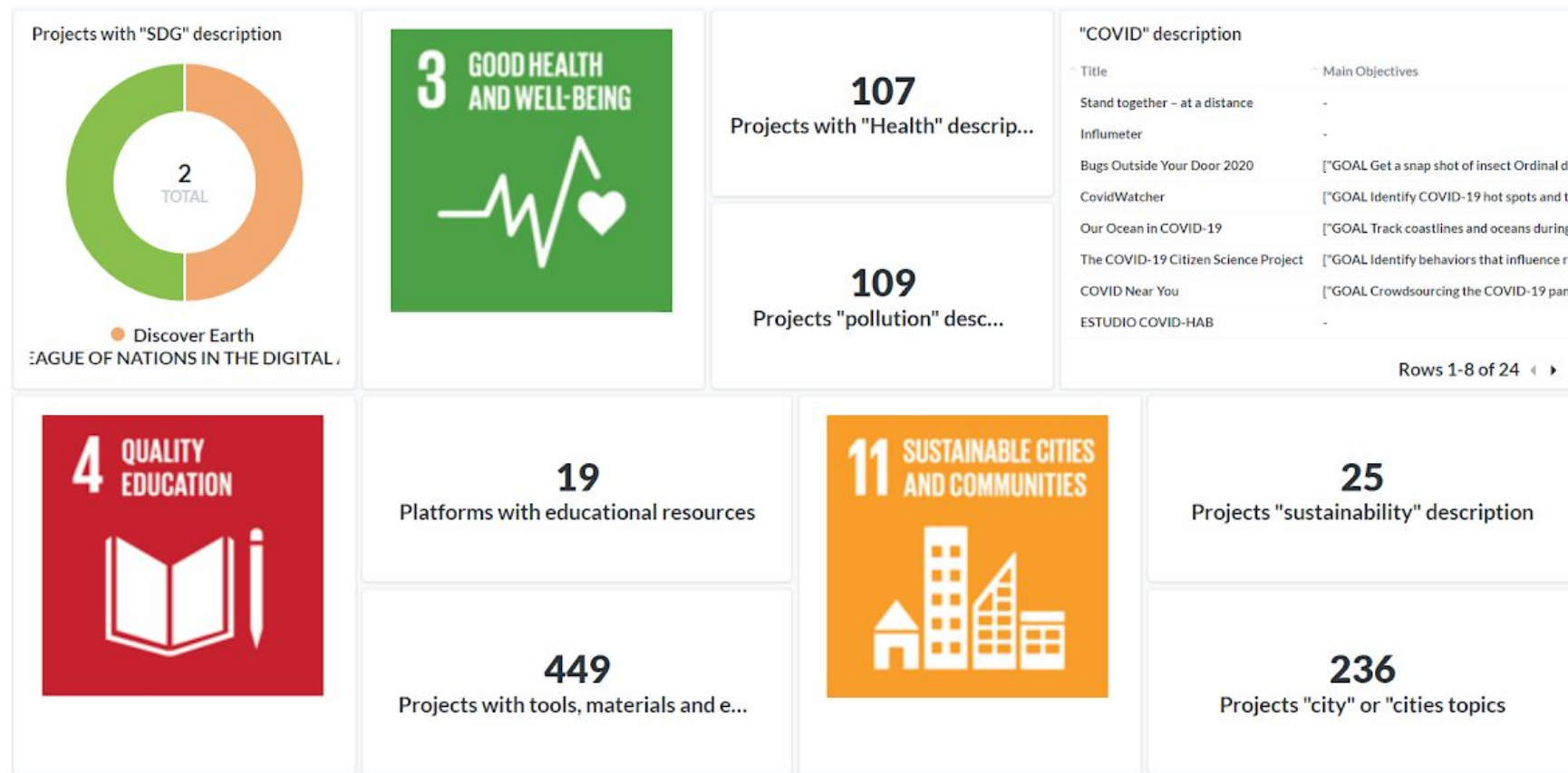


Fig. 1 Methodology for the systematic review of the SDG indicators for citizen science

# How the CS Track database can contribute in the reporting of SDGs?

2. Identify the descriptors to elaborate the metrics (GOALS)



# Limitations

1. Broad definition of CS (session by Muki Haklay today)
2. Selection criteria applied:
  - a. Platforms / associations web pages which identifies projects as CS projects (excluding research projects about CS)
  - b. From European and associated countries or world wide online projects
3. One major barrier is the quality of data collected from CS platforms because of the different webpage structures and metadata

# Conclusion and Next Steps

- ★ There is still work to be done to standardize the data structure of CS Platforms/Projects visible online
- ★ Obtain extra information on applying advanced data analysis; Defining a data vocabulary for each descriptor to standardize information that comes from different origins
- ★ An alignment between the PPSR metadata standard with the SDG indicators is necessary
- ★ Data from the CS TRACK database can be analyzed considering a set of SDG indicators and published as:
  - Open datasets
  - a Dashboard

# References

- Fraisl, D., Campbell, J., See, L., Wehn, U., Wardlaw, J., Gold, M., ... & Masó, J. (2020). Mapping citizen science contributions to the UN sustainable development goals. *Sustainability Science*, 1-17
- Fritz, S., See, L., Carlson, T., Haklay, M. M., Oliver, J. L., Fraisl, D., ... & Wehn, U. (2019). Citizen science and the United Nations sustainable development goals. *Nature Sustainability*, 2(10), 922-930
- Cavalier D, Newman G, Bowser A, Shirk J (2015) PPSR\_CORE Metadata standards. <https://www.wilsoncenter.org/article/ppsr-core-metadata-standards>



**CS TRACK**  
Investigating Citizen Science



Universitat  
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Barcelona

TIDE Research Group  
on Interactive and Distributed  
Technologies for Education

wissenschaft  im dialog



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## Thank you for your attention!

Project info: <https://cstrack.eu>

Twitter: [@cstrackproject](https://twitter.com/cstrackproject)

Contact me: [patricia.santos@upf.edu](mailto:patricia.santos@upf.edu)

Twitter: [@pati\\_santos\\_r](https://twitter.com/pati_santos_r)