CS TRACK
Investigating Citizen Science

Universitat Pompeu Fabra Barcelona
TIDE Grup de Recerca en Tecnologies Interactives i Distribuides per a l'Educació

CS Track database

"Understanding the nature of Citizen Science in a rapidly changing world"

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 872522.

CS Track database

One central database aiming to compile **a comprehensive collection of CS projects**, mainly visible on the Web, as complete as possible.

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

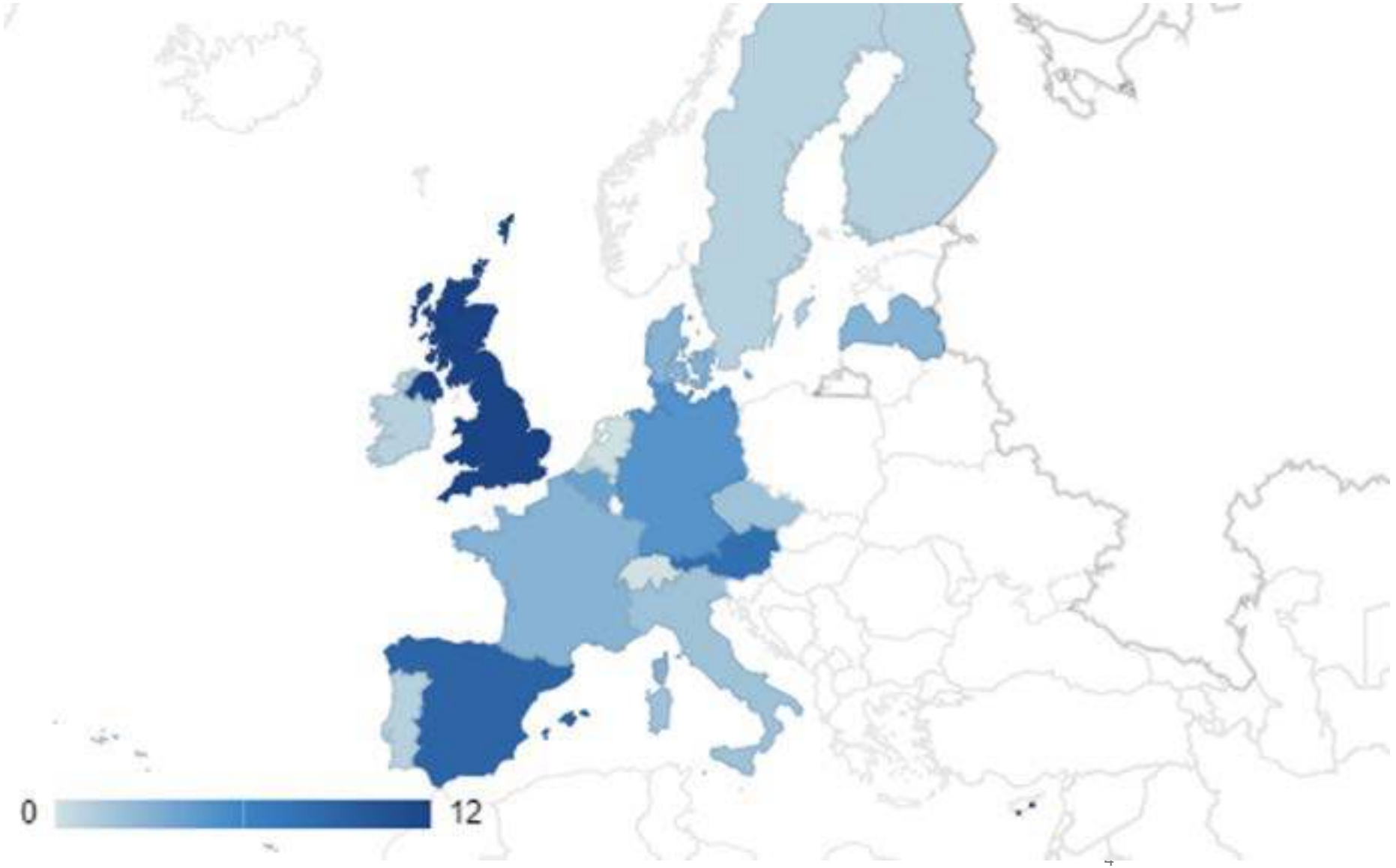
- Key national CS platforms and other organizations from the European Union and H2020 Associated Countries have been analysed using web scraping and manual extraction techniques.

CS Track database - overview

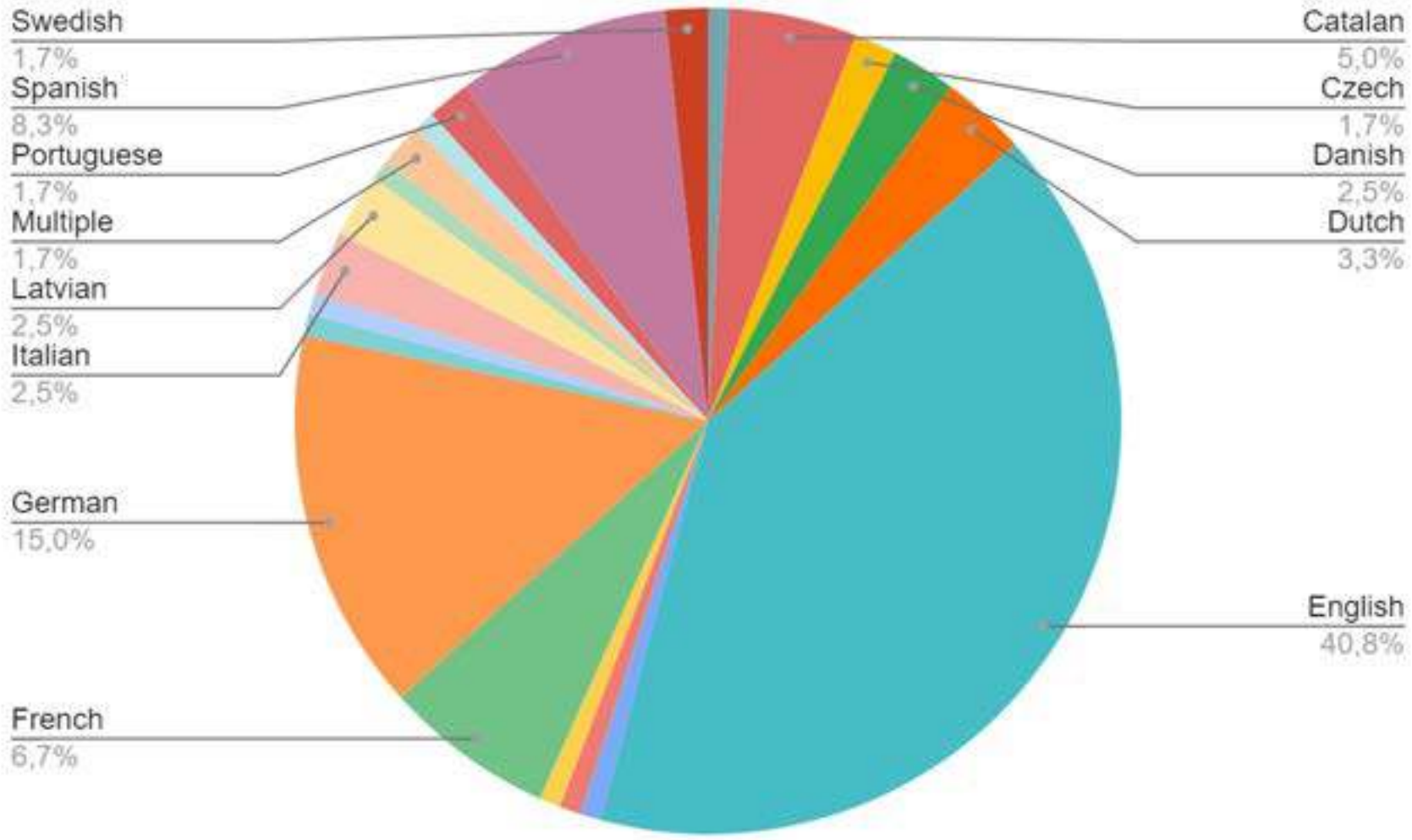
- **Database (2022)** overview

http://database.cstrack.upf.edu/public/dashboard/daf5167e-7023-4d76-8059-064cd1219476

CS Track database - countries distribution

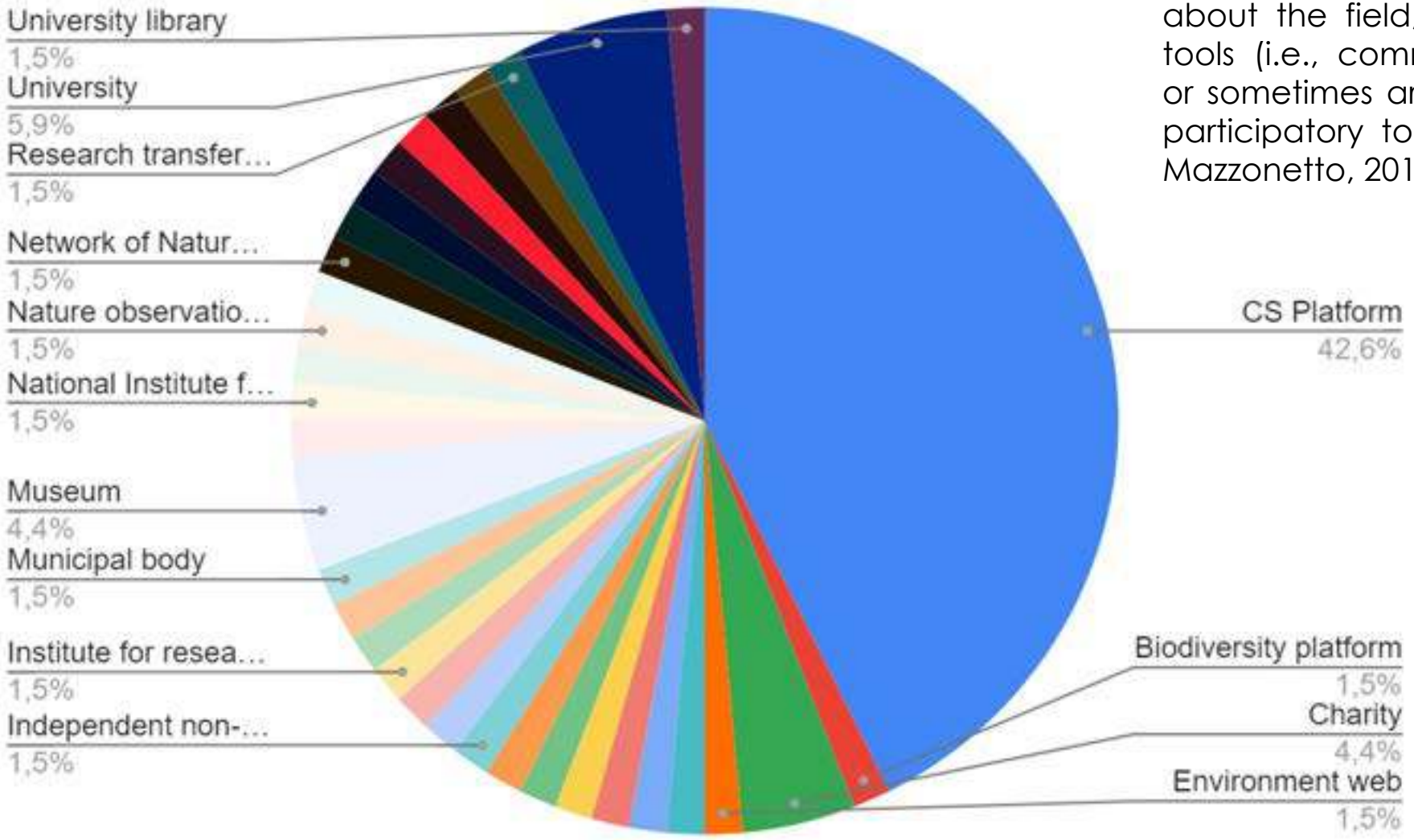


CS Track database - websites languages



CS Track database - Overview

CS platforms are digital platforms that share information about CS projects, activities, events, material or resources, news about the field, communication tools (i.e., comments or forums) or sometimes are also used as a participatory tool (Sanz, Gold & Mazzonetto, 2019)

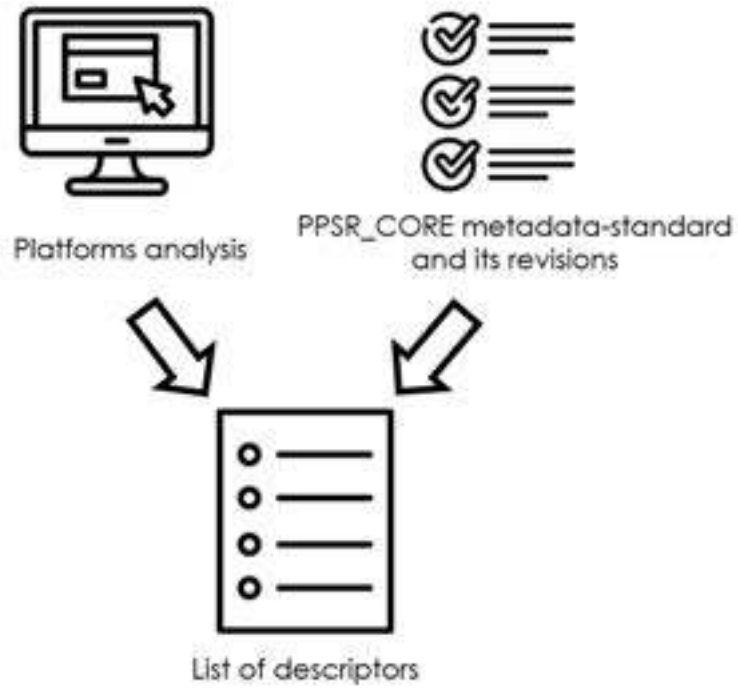


Database descriptors

A **descriptor** is an item that describes a characteristic of a citizen science project or data related to the project information.

The **list of descriptors** selected to build the CS Track database has been defined by analyzing:

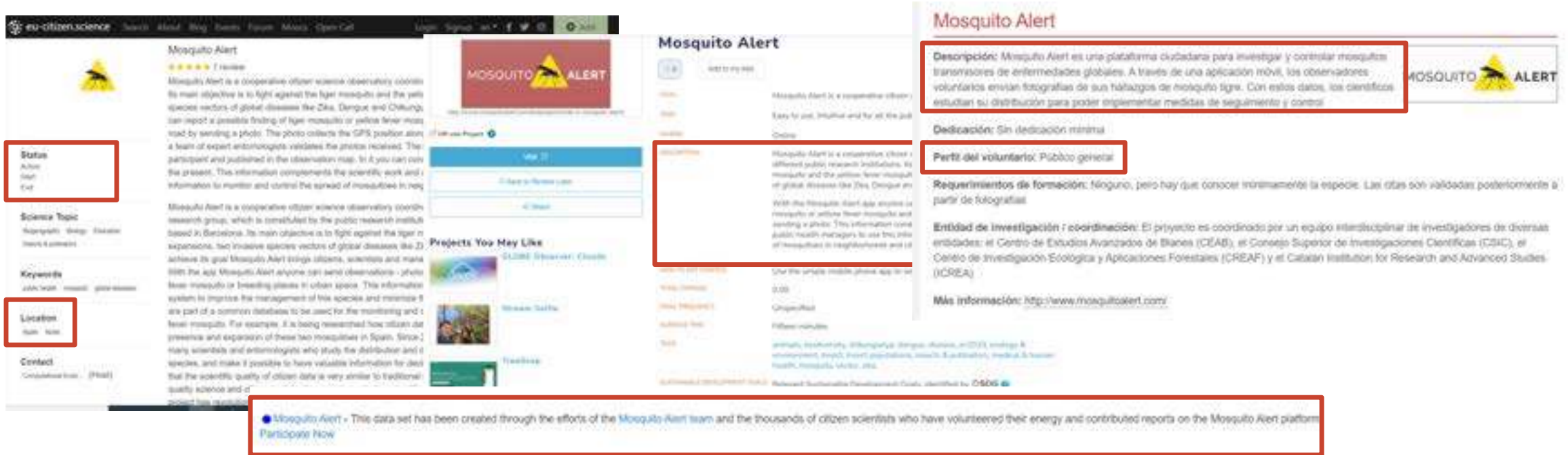
- Websites and online platforms that contain CS project information
- PPRS_CORE metadata-standard [1] and the revisions made by Data and metadata working group [2][3]



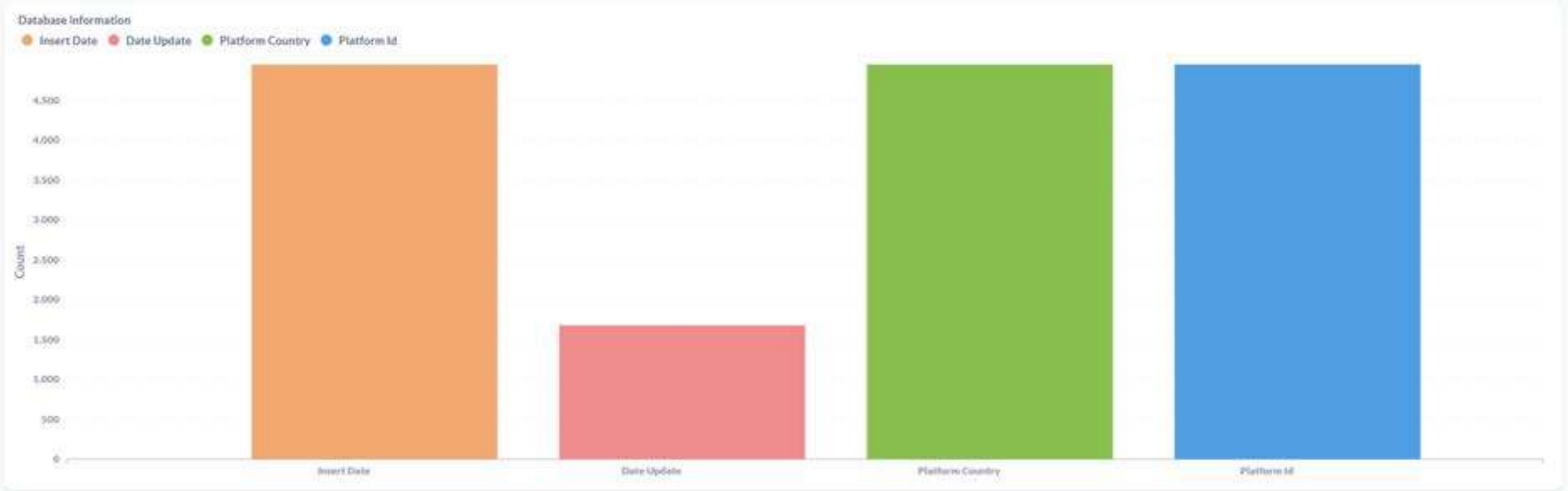
Database descriptors - example

The **Mosquito Alert** CS project, information extracted from Eu-citizen.science, Scistarter, Parcs de Catalunya and World Environment Situation Room Citizen Science portal.

From these, we obtained the following descriptors *Description, Status, Location, Volunteers profile*, etc…



Data categories about project information



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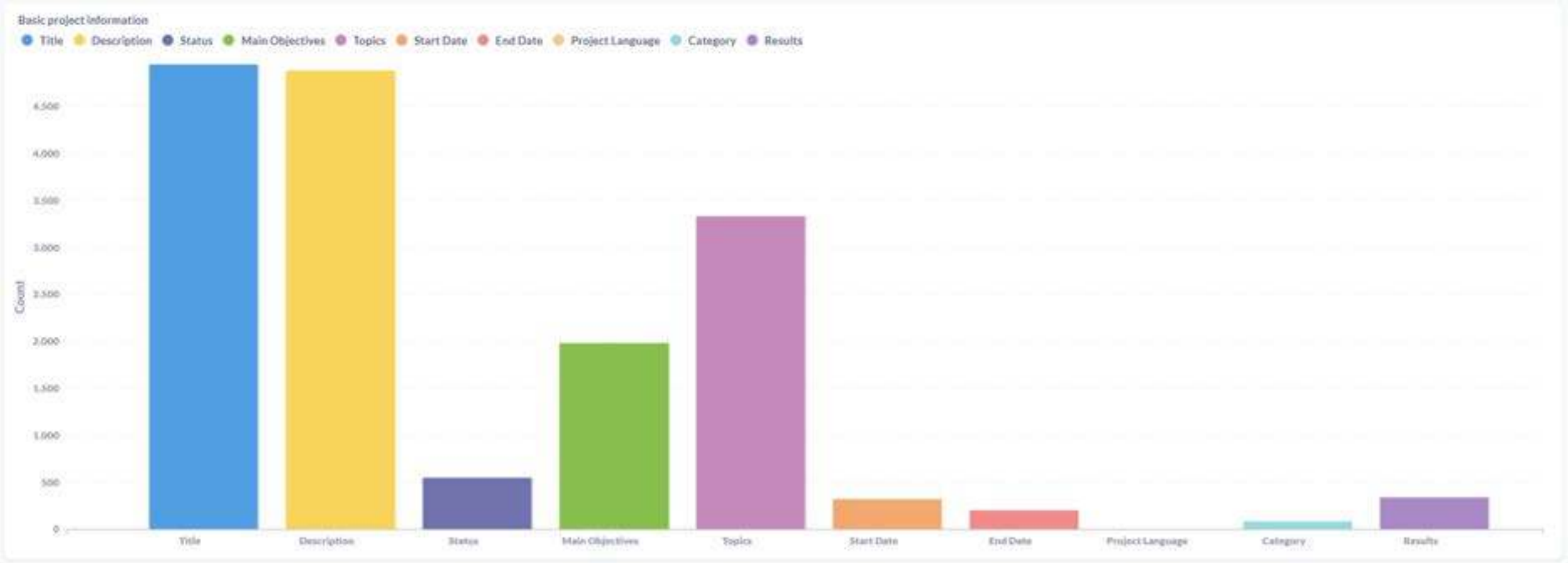
Data categories about project information



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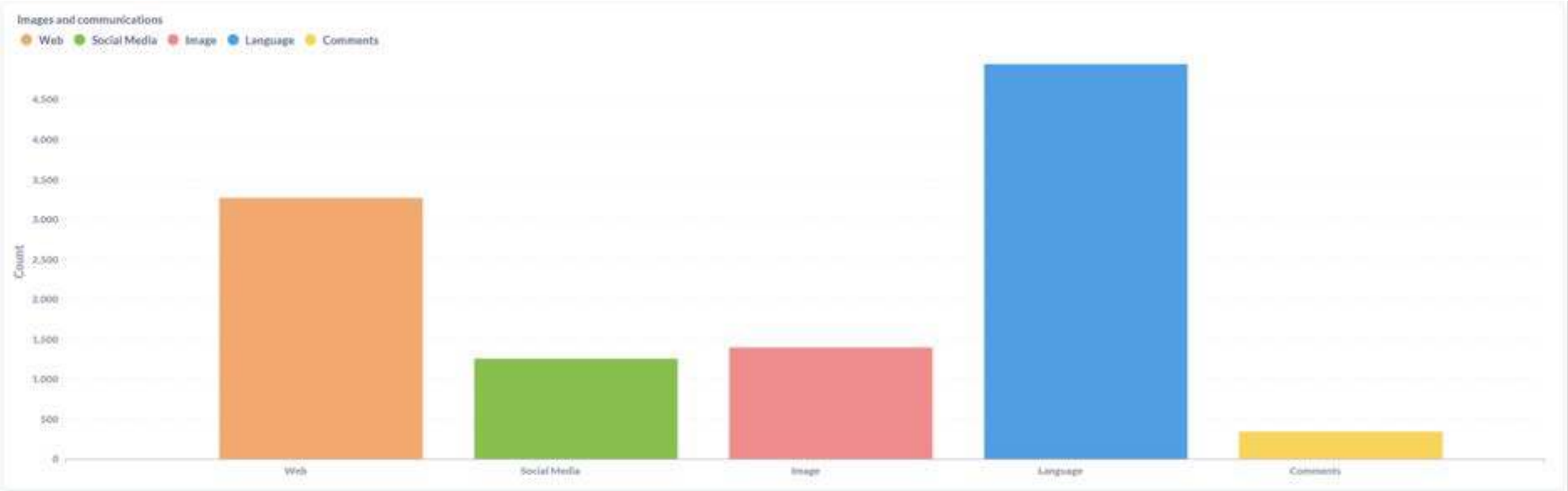

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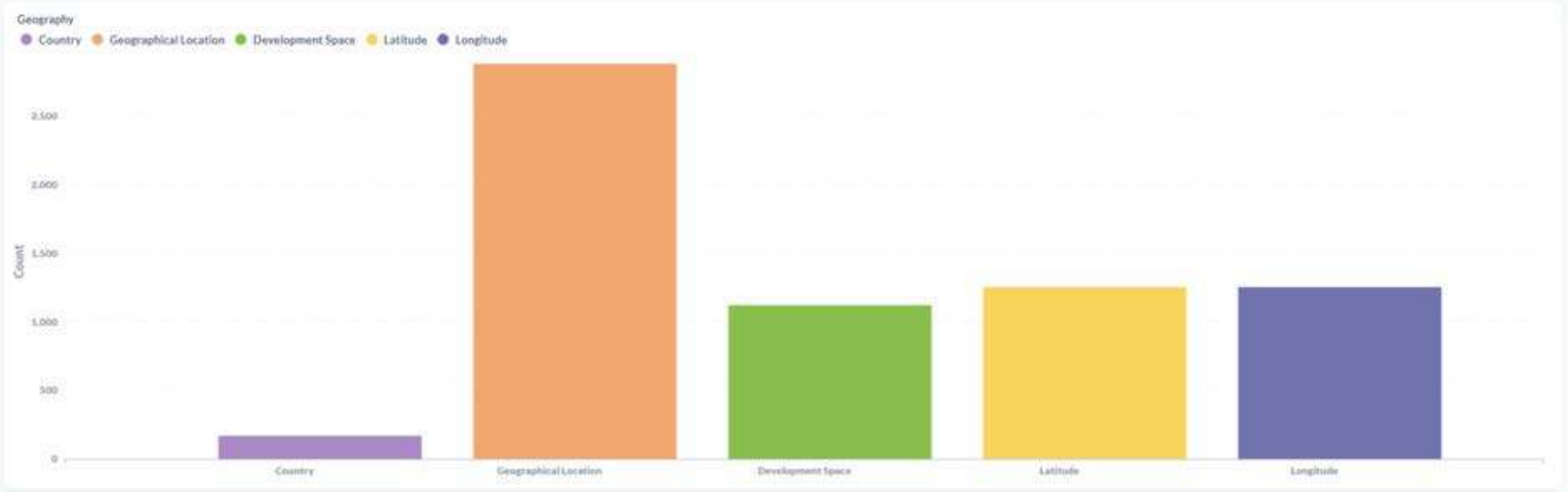

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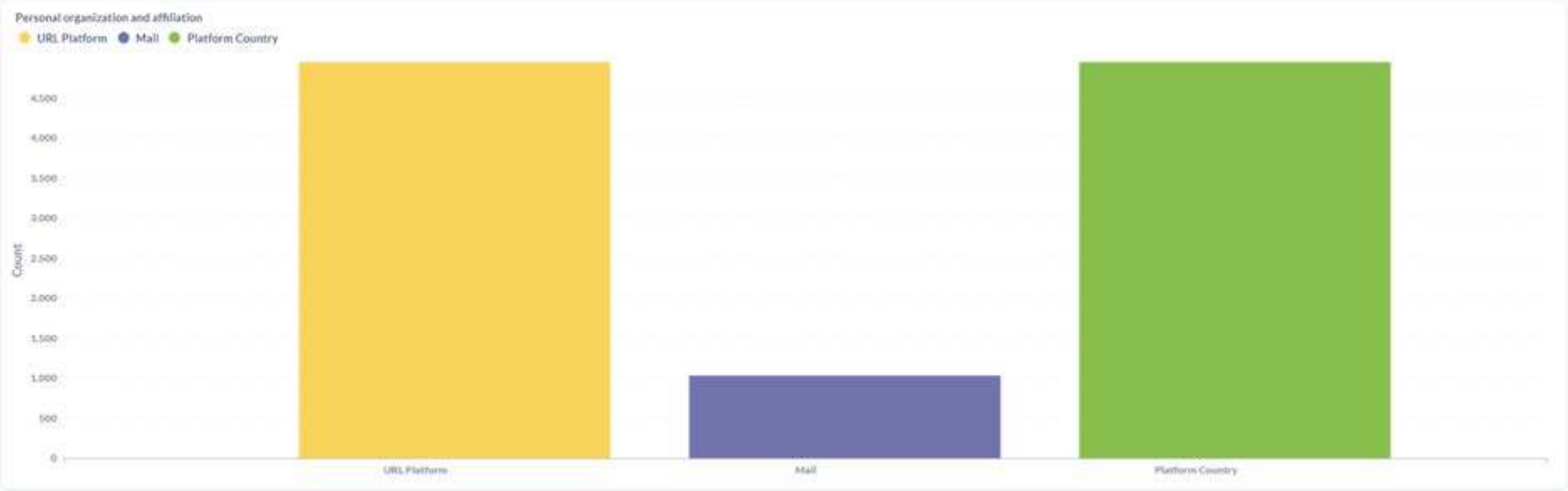

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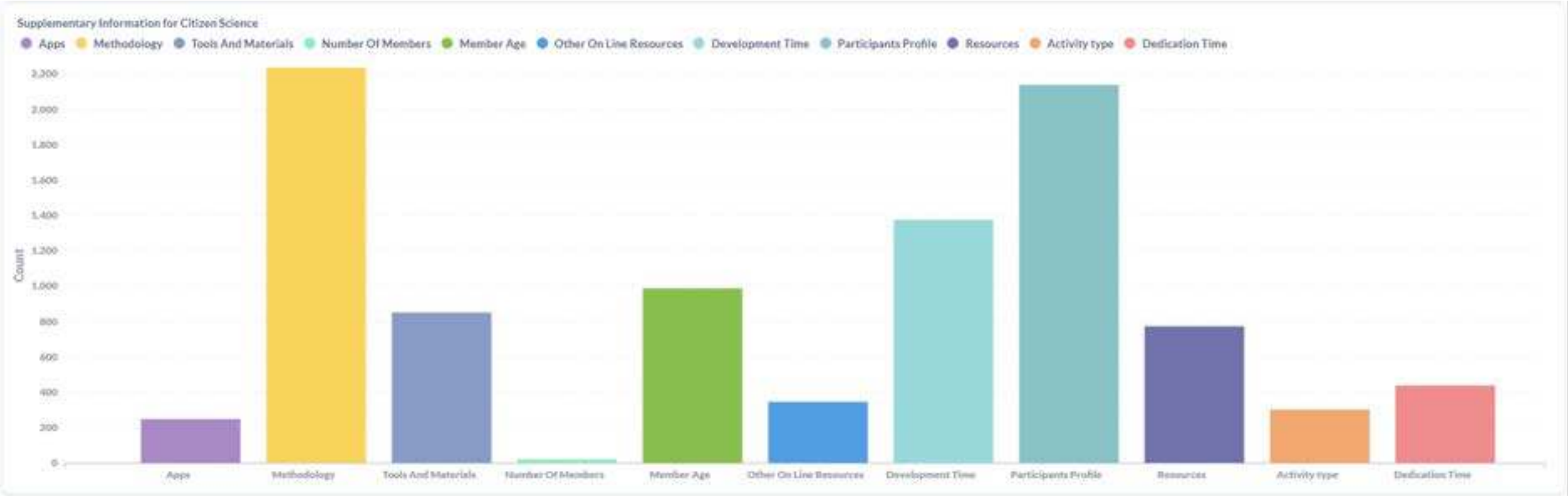

http://database.cstrack.upf.edu/public/dashboard/8ebd08b0-94f0-4fc4-9551-51028aa9c29f

Main Challenges and Conclusions

Challenges:

- The quality and variety of data collected from CS platforms >> different webpage structures and metadata standards
- Different languages

Conclusions:

- There is still work to be done to standardize the data structure of CS Platforms/Projects visible online
- Obtain extra information by applying advanced computational analysis techniques

    - Research areas, SDGs, skills of CS practice, learning outcomes

- Defining a data vocabulary for each descriptor to standardize information

More details, read: Calvera-Isabal, M., Santos, P., Hoppe, H., & Schulten, C. (2023). How to automate the extraction and analysis of information for educational purposes. [Cómo automatizar la extracción y análisis de información sobre ciencia ciudadana con propósitos educativos]. *Comunicar, 74*. https://doi.org/10.3916/C74-2023-02

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Questions?
Thank you!

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