



# Cos4Cloud

Co-designing Citizen Observatories Services  
for the European Open Science Cloud

## Open science in practice: Boosting citizen science technologies September 20th, 2021



This project has received funding from  
the European Union's Horizon 2020  
research and innovation programme  
under grant agreement No 863463

### COORDINATION



### COLOMBIA



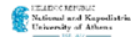
### FRANCE



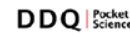
### GERMANY



### GREECE



### NETHERLANDS



### SPAIN



### SWEDEN



### UNITED KINGDOM





9 citizen science platforms focused on biodiversity and environmental monitoring will test Cos4Cloud's cutting-edge technological services with their users.



## Our goals:



Integrate citizen science in the  
**European Open Science Cloud  
landscape.**



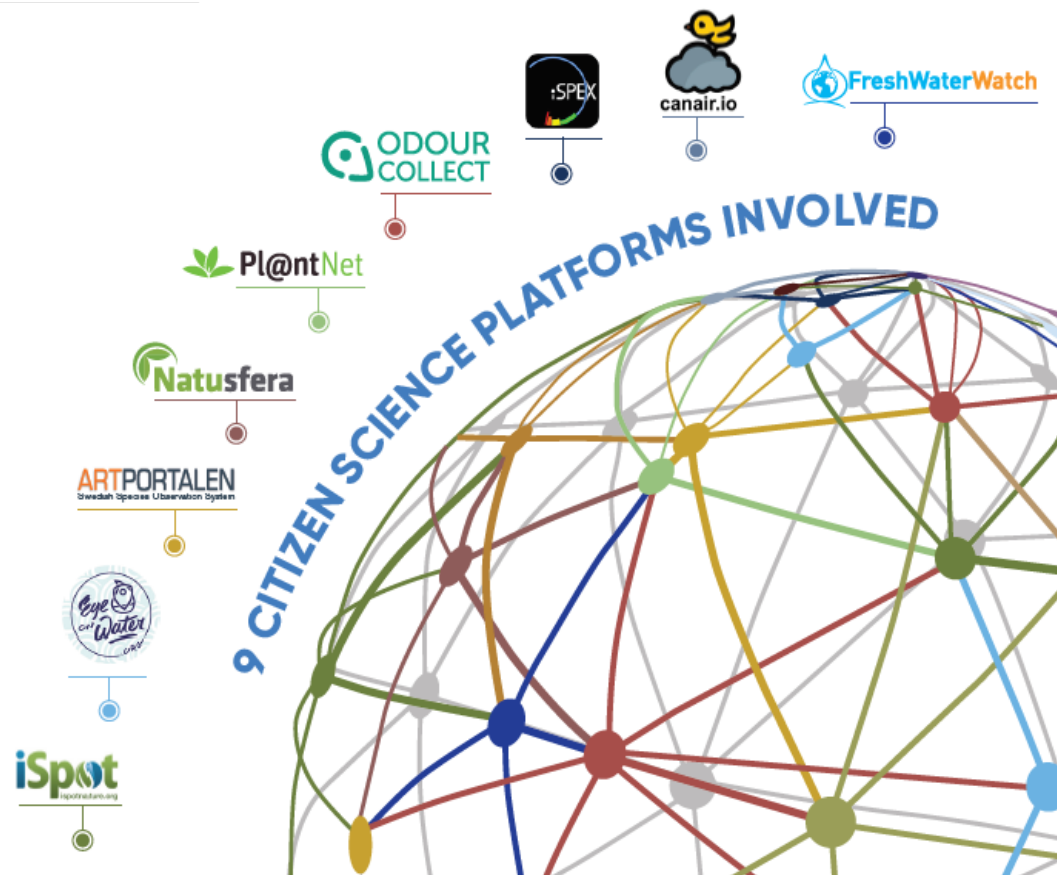
Provide **user-centered and  
innovative services** to the citizen  
observatories.

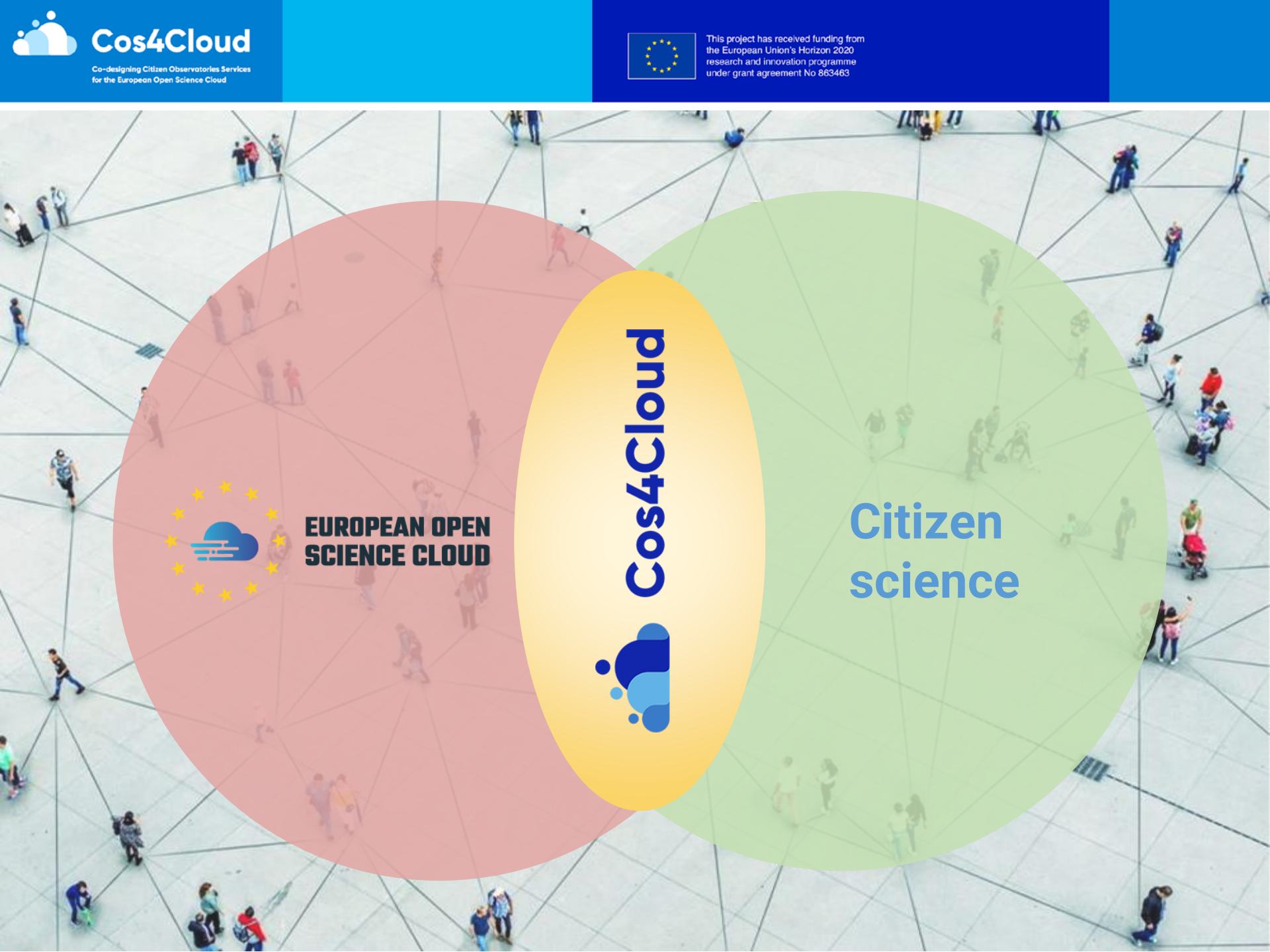


**Facilitate the networking**  
and knowledge management  
processes across organizations,  
people and initiatives working on  
citizen observatories.



Contribute to **ensuring the  
sustainability of the citizen  
observatories.**





**EUROPEAN OPEN  
SCIENCE CLOUD**

**Cos4Cloud**  


**Citizen  
science**



## EUROPEAN OPEN SCIENCE CLOUD

BRINGING TOGETHER CURRENT AND FUTURE DATA INFRASTRUCTURES

A trusted, open environment  
for sharing scientific data

Open and seamless  
services to analyse and  
reuse research data

Citizen science data

Linking data

Connecting across borders  
and scientific disciplines

Connecting scientists  
globally

Citizen scientists

Long term  
and sustainable

Improving science



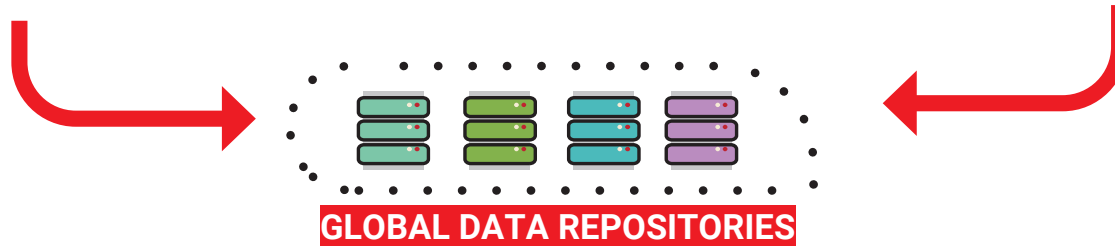
# WE NEED MORE DATA, EVERYWHERE AT ALL TIMES

## Potential Observational Solutions:

### ADVANCED TECHNOLOGIES



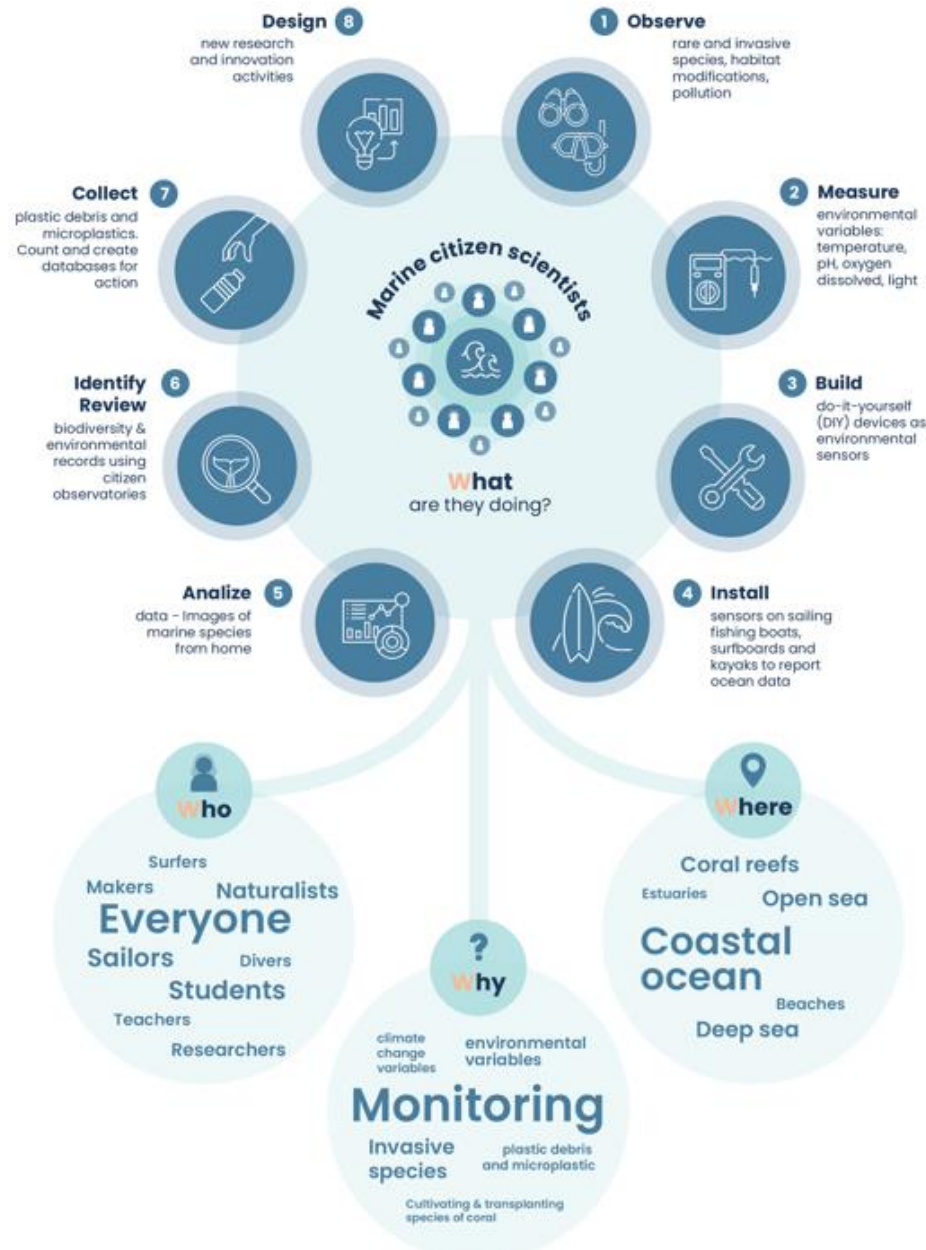
### CITIZEN OBSERVATORIES





## The four **Ws** of marine citizen science

What? Who? Why? Where?



# Challenges-highlighted

- 1) Low interoperability / standardization
- 2) Low levels of data validation
- 3) Low technological capacity
- 4) Lack of recognition to observers

- Cos4Cloud Consortium. (2019) Co-designed citizen observatories services for the European Open Science Cloud. Grant Agreement No. 863463.
- Gold, M. (2018). D2.1 EU Citizen Observatories Landscape Report—Frameworks for mapping existing CO initiatives and their relevant communities and interactions. We Observe An ecosystem of citizen observatories for environmental monitoring. [https://zenodo.org/record/3670895#.XpdqKplS\\_b0](https://zenodo.org/record/3670895#.XpdqKplS_b0)
- Palacin-Silva, M., Seffah, A., Heikkinen, K., Porras, J., Pyhälähti, T., Sucksdorff, Y., Anttila, S., Alasalmi, H., Bruun, E., & Junttila, S. (2016). State-of-the Art Study in Citizen Observatories: Technological Trends, Development Challenges and Research Avenues. Finnish Environment Institute. <https://helda.helsinki.fi/handle/10138/164810>



## Cos4Cloud TECHNOLOGICAL SERVICES

Pl@ntNet-API

MOBIS

AI-Naturalist

Authenix

AI-GeoSpecies

FASTCAT-Cloud

Biodiversity-DL

FASTCAT-Edge

MECODA

Cos4Bio & Cos4Env

DUNS







## Cos4Cloud services



An **online portal to download and identify observations** from multiple citizen observatories.



A **mobile interface that will allow citizen scientists to customize their own project** by collecting and combining useful information from photographs or from low-cost sensors linked to a mobile website or a native app platform.



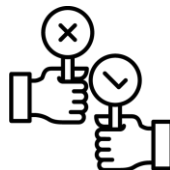
A **data-use notification to acknowledge and reward citizen scientist's participation** by recognizing their authorship and track use of the data they collected in a global context



**MECODA (*Module for Citizen Observatory Data Analysis*):** A service to **facilitate analysis and viewing of citizen science data.**



## Cos4Cloud services



A platform that will be able to **automatically filter out unwanted pictures from camera traps** and propose the species name.

A platform to **automatically filter unwanted images from video streams** and propose the species name.



Pl@ntNet as a service will allow users to **query the Pl@ntNet identification engine** and get access to Pl@ntNet data.



A similarity-search based identification **service that will allow citizen science platforms to develop automatic identification tools** adapted to their needs.



# Cos4Cloud services



**A service that allows users to create a training artificial intelligence set on a particular group of living organisms on-demand.**

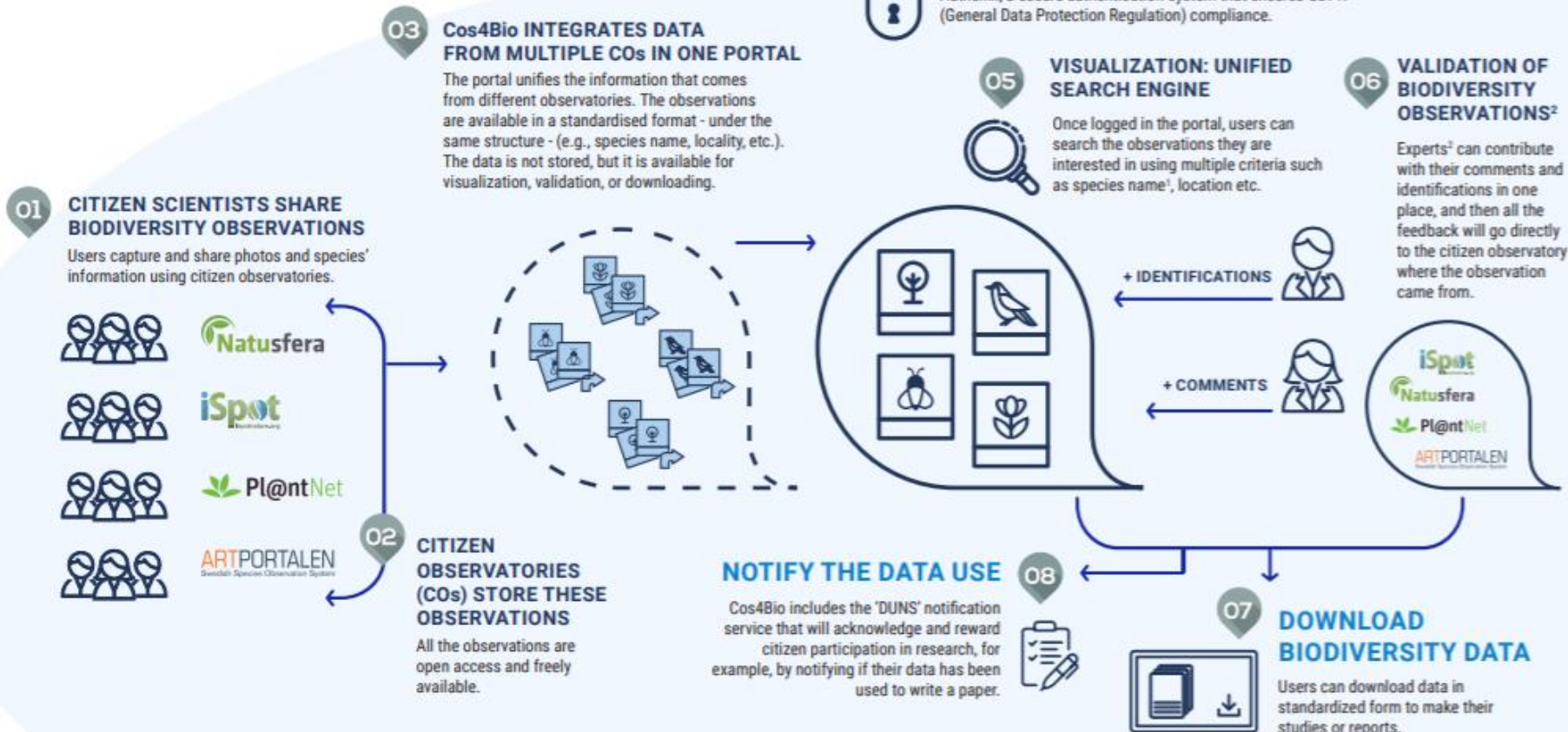


**A web service that shows potential species to be observed in a set area. Works on a scale of 50 thousand species on a Europe-wide level.**



**Authenix: Authentication as a service to accomplish the GDPR in all the services related to citizen science & the EOSC.**

A service that integrates biodiversity observations from multiple citizen observatories in one place: save time in the species identification process and get access to an enormous number of observations.





# Open science?

## INSIDE

## OUTSIDE



We share problems we share solutions

*Community*

More connections less silos

*Interoperability*

“Quality is a verb”

*Engagement  
Governance*





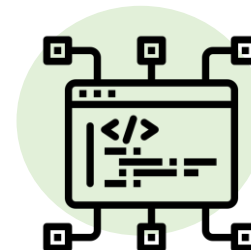
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# *code*esign hackathon



OPEN  ACCESS

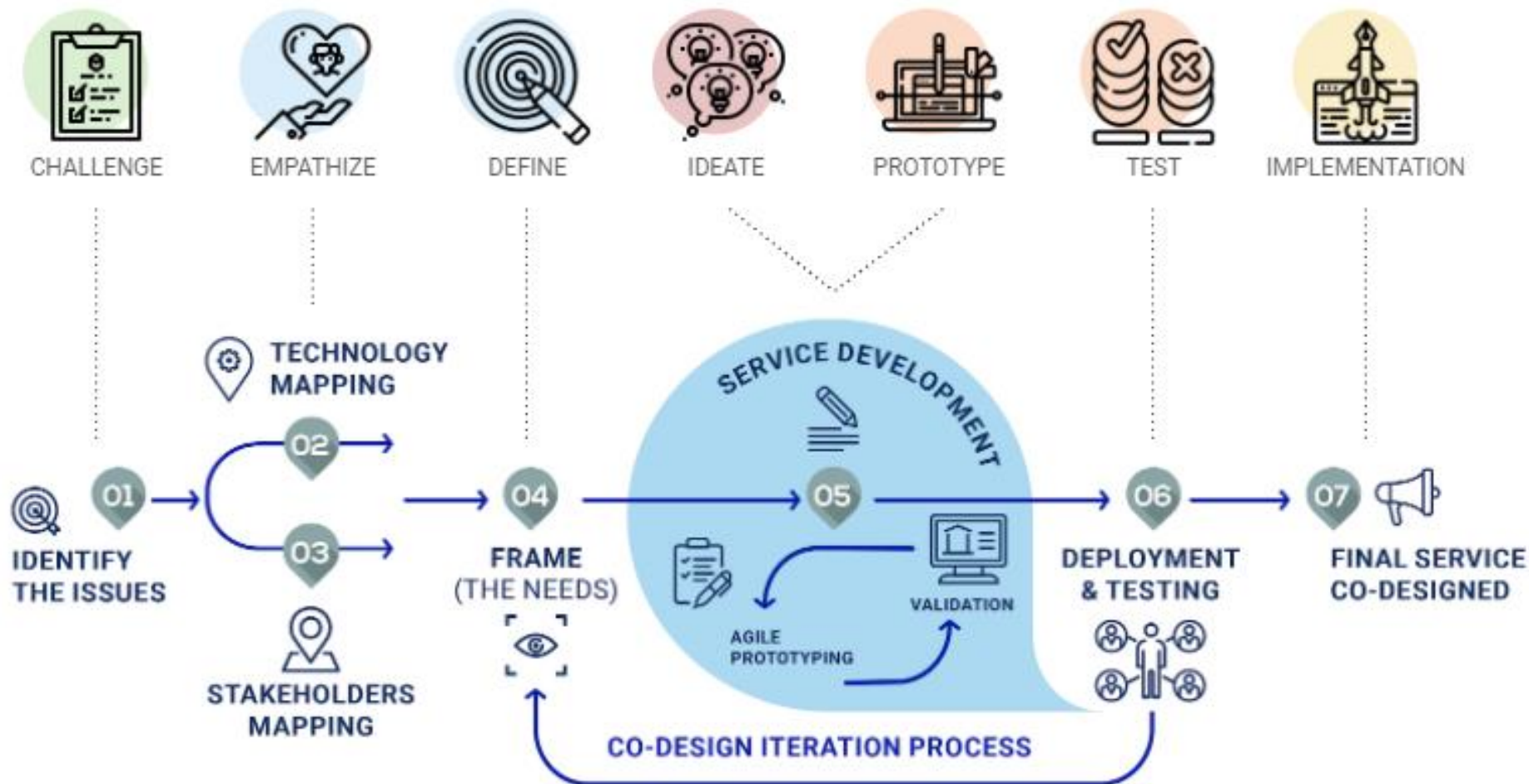




## UNDERSTAND

## EXPLORE

## MATERIALIZE







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# Cos4Cloud

We are looking for people to join our  
co-design and testing community.  
Check out our website to see how to join:

**<https://cos4cloud-eosc.eu/>**

Follow us:



@Cos4Cloud



@Cos4Cloud



@Cos4Cloud



@Cos4Cloud-Project



## Join our community!

We will keep you updated about the workshops, activities, and news related to the co-design process in Cos4Cloud.



**Fill this form**



**Join our Telegram  
Channel**

