ECSA & EU-Citizen.Science webinar:

Lessons and insights from WeObserve

30 March 2021, 14:00-15:30 CEST

The project WeObserve has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 776740.

Accelerating the uptake of Citizen Observatories:

Massive Open Online Courses and the Open Data Challenge

Prof. Mel Woods (presenter)
Dr Saskia Coulson, Dr Raquel Ajates, Andy Cobley (University of Dundee)

Stimulating and extending the value of citizen observatories

1. **MOOC learning infrastructure** to spread and scale **best practices, tools and resources** for citizen observatories

2. **Open Data Challenge for social good** releasing licensed open datasets from citizen observatories and scoping real world environmental challenges

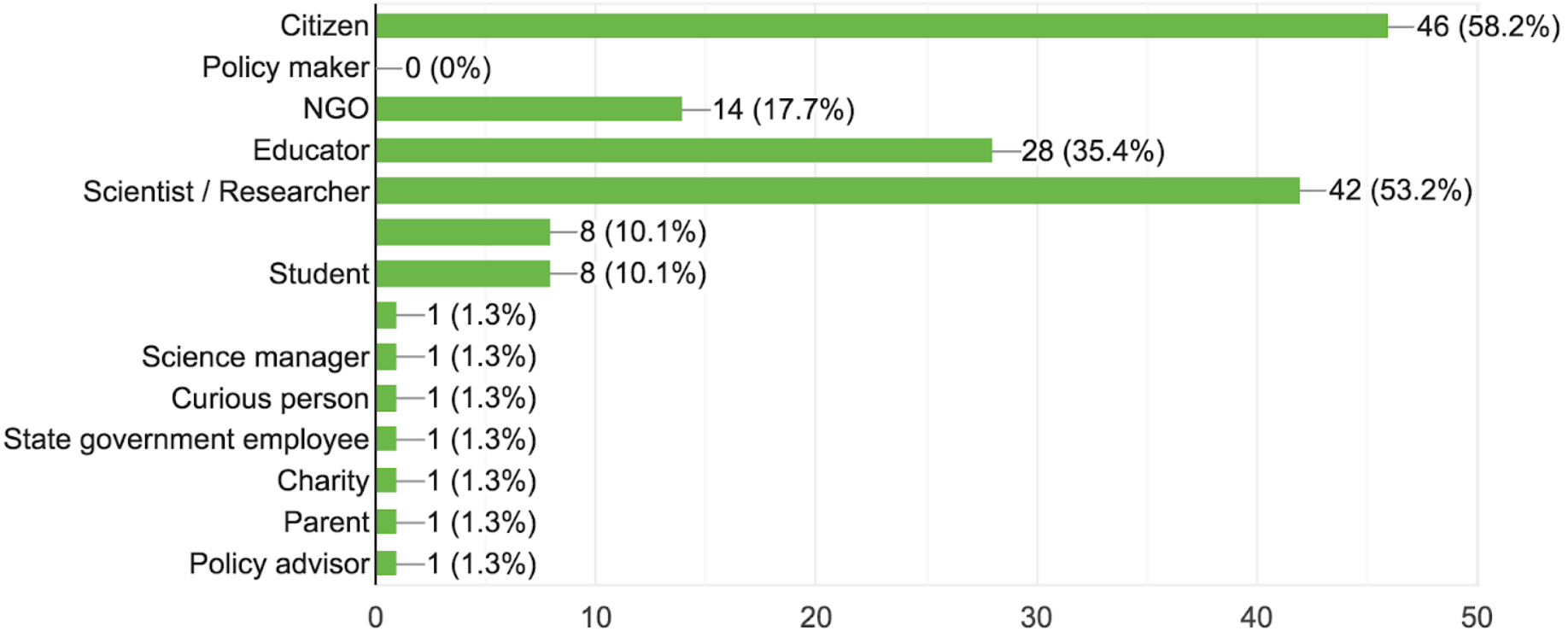
MOOC learning infrastructure
to spread and scale **best practices, tools and resources** for citizen observatories

- Deliver two iterations of a MOOC
- Provide skills training for citizen observatories
- Scale up and engage citizens in participatory science and decision making relevant to multiple actors
- Sustain the resources

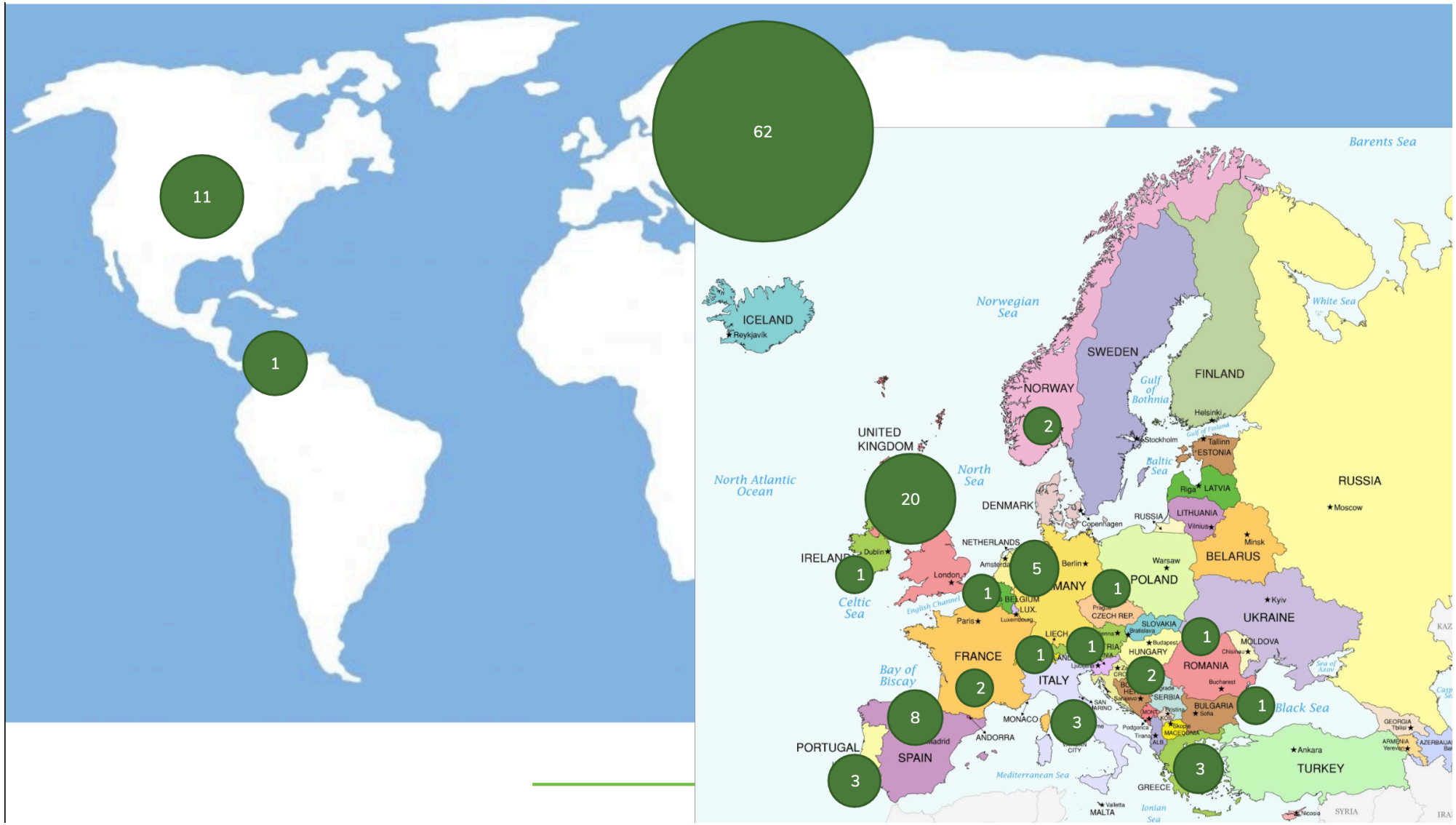
MOOC Online Survey

Please state which of the follow describes you (select all that apply)

79 responses



MOOC Survey


62
11
1
ICELAND
Reykjavik
Barents Sea
Norwegian Sea
White Sea
SWEDEN
FINLAND
NORWAY
Gulf of Bothnia
Helsinki
Stockholm
Tallinn
ESTONIA
2
UNITED KINGDOM
North Atlantic Ocean
North Sea
Baltic Sea
20
DENMARK
Copenhagen
RUSSIA
Moscow
Riga
LATVIA
LITHUANIA
Vilnius
Minsk
BELARUS
NETHERLANDS
Amsterdam
Berlin
Warsaw
POLAND
IRELAND
Dublin
London
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Celtic Sea
English Channel
BELGIUM
LUX.
Paris
Prague
CZECH REP.
SLOVAKIA
Bratislava
Budapest
HUNGARY
Kyiv
UKRAINE
MOLDOVA
Chisinau
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1
1
1
LIECH
FRANCE
ROMANIA
Bucharest
2
2
Bay of Biscay
ITALY
SERBIA
BULGARIA
Sofia
1
Black Sea
8
2
3
MONACO
ANDORRA
Madrid
PORTUGAL
SPAIN
3
3
Mediterranean Sea
GREECE
Ankara
TURKEY
Valletta
MALTA
Ionian Sea
Nicosia
SYRIA

MOOC Online Survey Findings

What were some of the most **prevalent challenges** faced?

• Keeping motivated in the project	43.8%
• Understanding how to use the data collected	41.7%
• Knowing how to communicate the data	35.4%
• Discovering ways to develop a project	35.4%
• Understanding measurement protocols	31.3%
• Understanding how to use the technology	31.3%

Added by respondents (examples)

- **Getting data back from the project**
- **Not understanding the 'bigger picture'**
- **Accessibility to technology**

WeObserve Survey on Tools

Tools and resources gathered during the research were evaluated on criteria factors:

1. **Open source:** Software or ‘soft tools’ which have less strict licensing agreements which allow for others to use and adapt the material

2. **Downloadable:** The ability, or potential ability, to download assets that would assist anyone in using or help others in using the tool

3. **Participatory methods:** Enabling citizens to play an active and influential part in decisions which affect their lives

University of Dundee

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Citizen Science Projects: How to Make a Difference

4.7 (7 reviews)

Discover how to build your own citizen science project to address global challenges and create positive change.

Join course for free

1,794 enrolled on this course

Duration
4 weeks

Weekly study
3 hours

100% online
Try this course for free

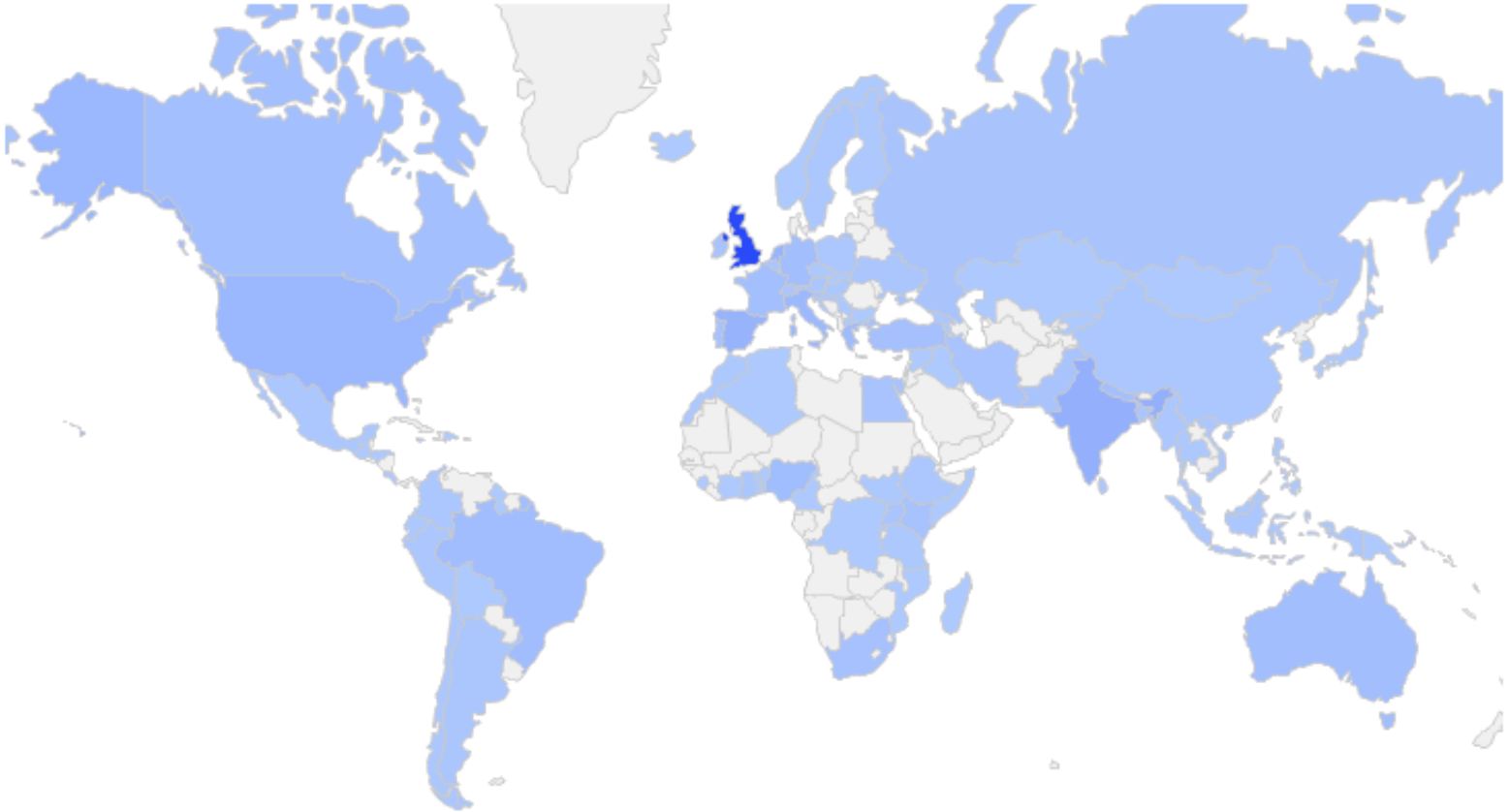
Extra Benefits
From £32
Find out more


Save our Soils
OUR LAND OUR FUTURE

Demographics

Citizen Science Projects: How to Make a Difference - 5 Oct 2020

COUNTRY AGE



Run 3 2021
Currently Open

Run 2 2020

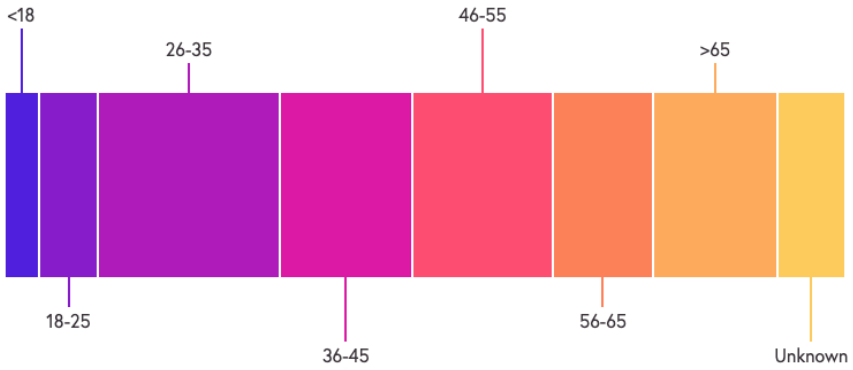
Visit: 16,695
Enrolments: 733
Countries: 102
New Learners: 532
Positive Feedback: 100%

Run 1 2019

Visits: 25,427
Enrolments: 975
Countries: 108
New Learners: 817
Positive Feedback 73.1%

Citizen Science Projects: How to Make a Difference - 5 Oct 2020

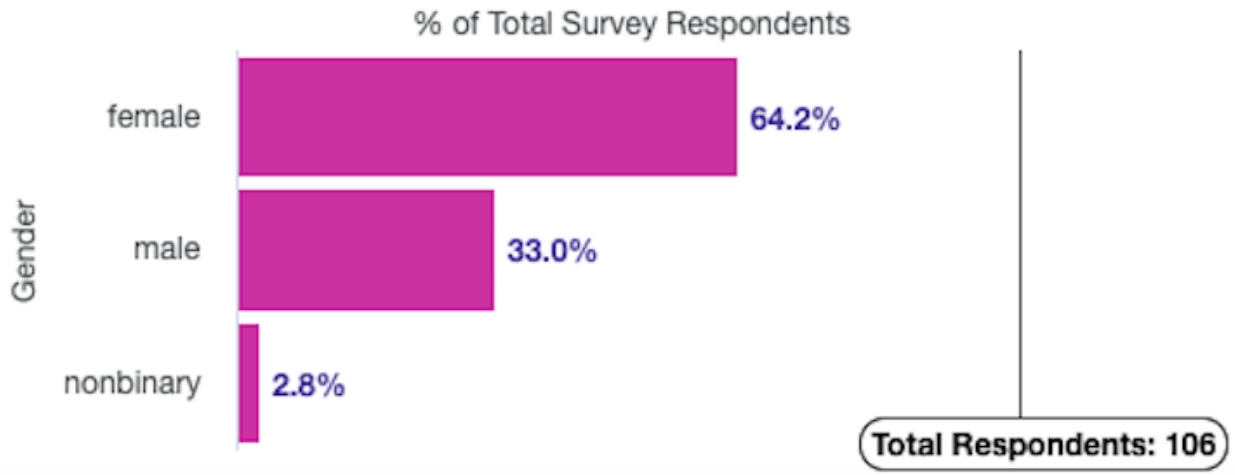
COUNTRY AGE



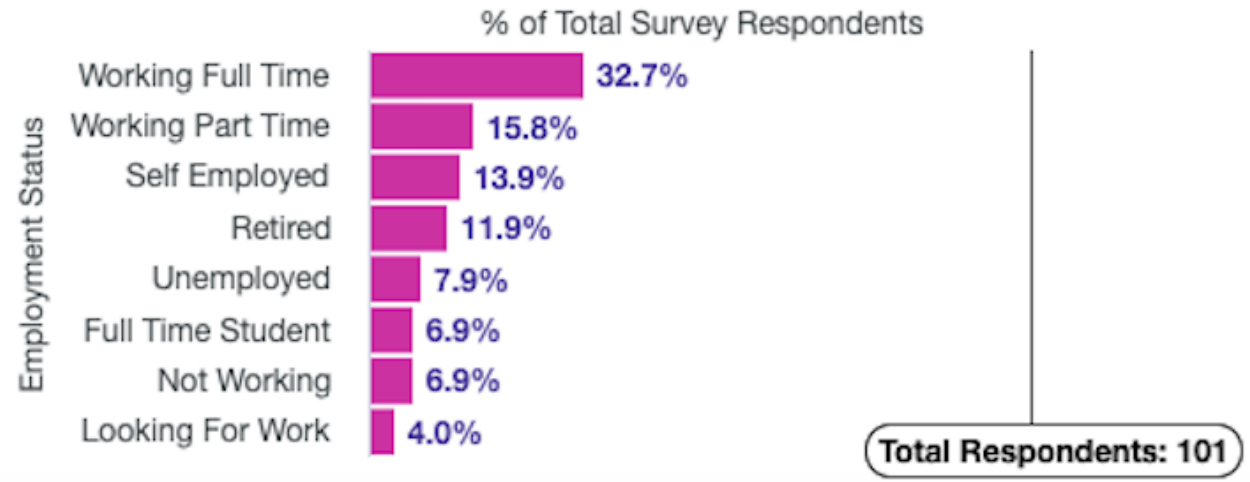
Enrolments by age range

		Average
<18	4%	3%
18-25	7%	29%
26-35	22%	26%
36-45	16%	15%
46-55	17%	9%
56-65	12%	7%
>65	15%	4%
Unknown	8%	7%

Enrolments by Gender



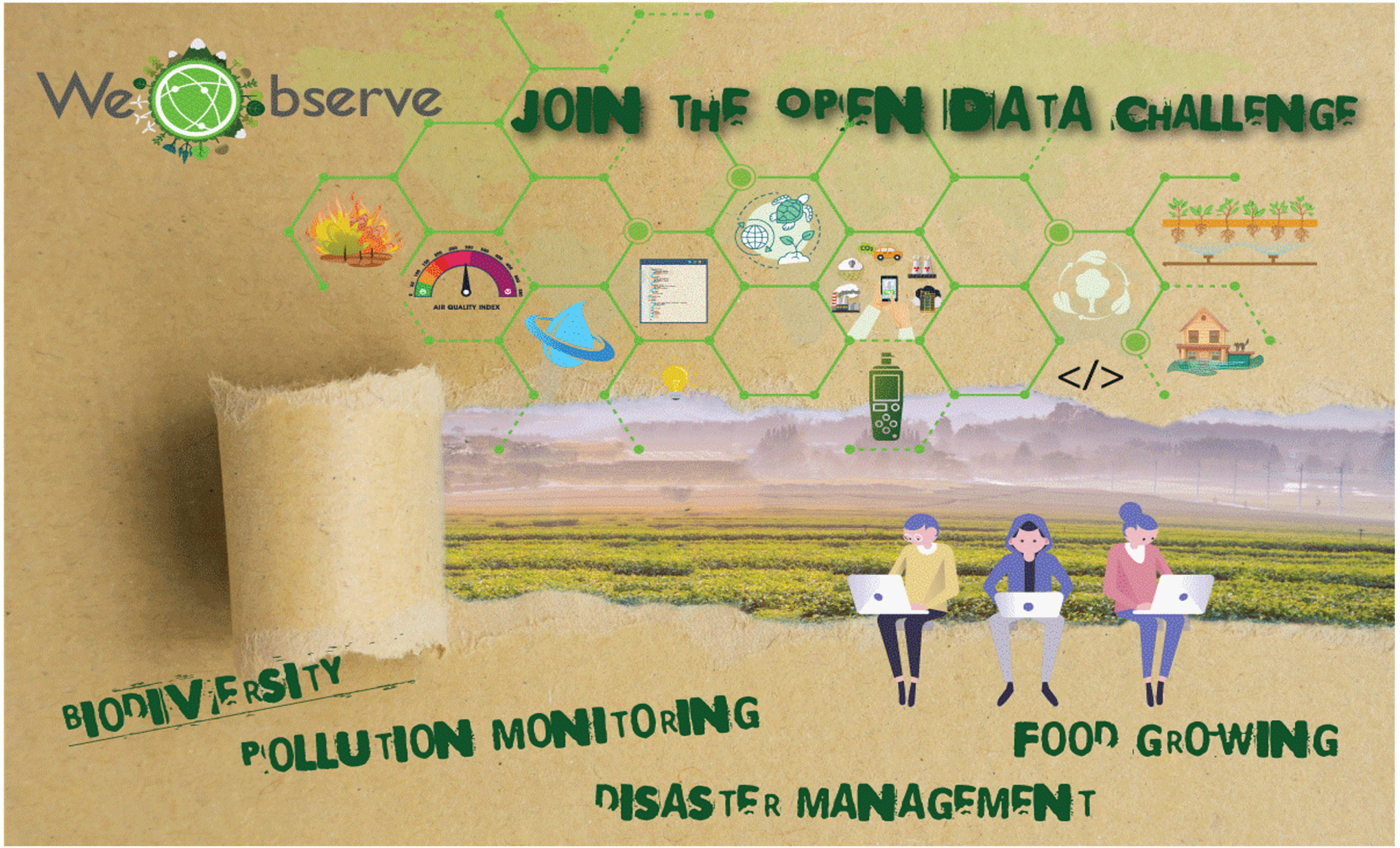
Enrolments by Employment Status



Citizen Science Projects: How to Make a Difference Testamonials

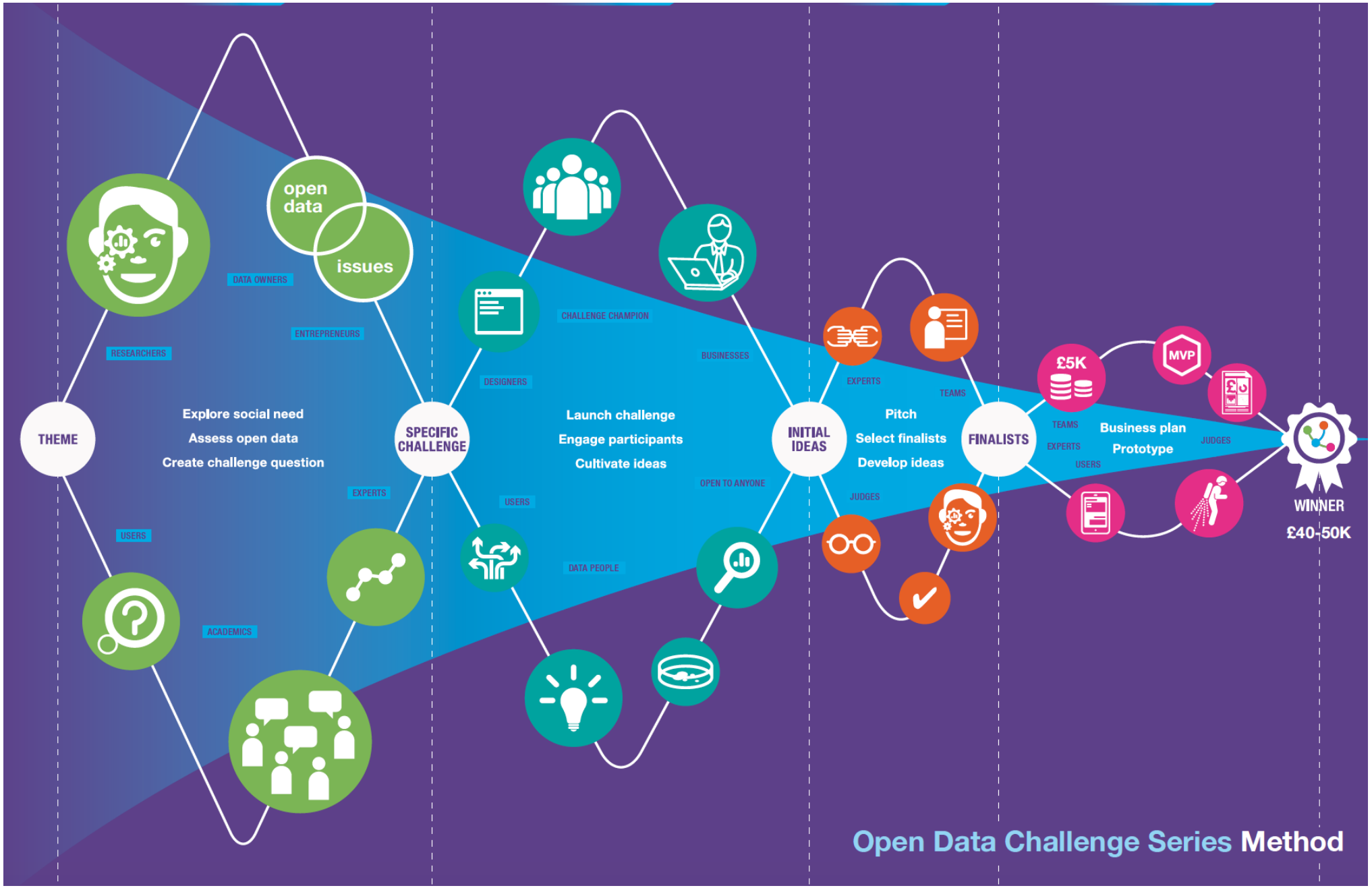
This is just amazing. I have shared these links to all my family and friends and my children's school. All these ideas for sharing data about anything are amazing. Once my project is up and running I'm going to use the data postcard tool. I think I'm going to try it out with one of my friends about leopard geckos or something that we can do now.

I will let you know how it goes.


We Observe
JOIN THE OPEN DATA CHALLENGE
AIR QUALITY INDEX
</>
BIODIVERSITY
POLLUTION MONITORING
FOOD GROWING
DISASTER MANAGEMENT

Open Data Challenge (online)

- Promoting uptake of CO open datasets
- Show individual & combined potential of CO data
- Produce innovative applications
- Scoping real world environmental challenges
- Showcasing open data solutions for social good
- Open-source downstream applications


open data
issues
DATA OWNERS
RESEARCHERS
ENTREPRENEURS
THEME
Explore social need
Assess open data
Create challenge question
SPECIFIC CHALLENGE
EXPERTS
USERS
ACADEMICS
CHALLENGE CHAMPION
DESIGNERS
BUSINESSES
USERS
OPEN TO ANYONE
DATA PEOPLE
Launch challenge
Engage participants
Cultivate ideas
INITIAL IDEAS
EXPERTS
TEAMS
JUDGES
Pitch
Select finalists
Develop ideas
FINALISTS
£5K
MVP
TEAMS
EXPERTS
USERS
Business plan
Prototype
JUDGES
WINNER
£40-50K
Open Data Challenge Series Method

Challenge Areas

- **Ecosystem monitoring**: Phenology, biodiversity and land cover
- **Public infrastructure management**: Soil moisture and drainage, flood mapping
- **Community-Based Disaster Management: Flood, fire, drought, heatwave services, landslide**
- **Regenerative food growing**: Yields, sustainable practices and natural pest control
- **Pollution monitoring and health**: Water quality, air quality
- **Engaging young people on open data and climate**: Education

- **Other**: Innovative applications of WeObserve data e.g. COVID19

Datasets

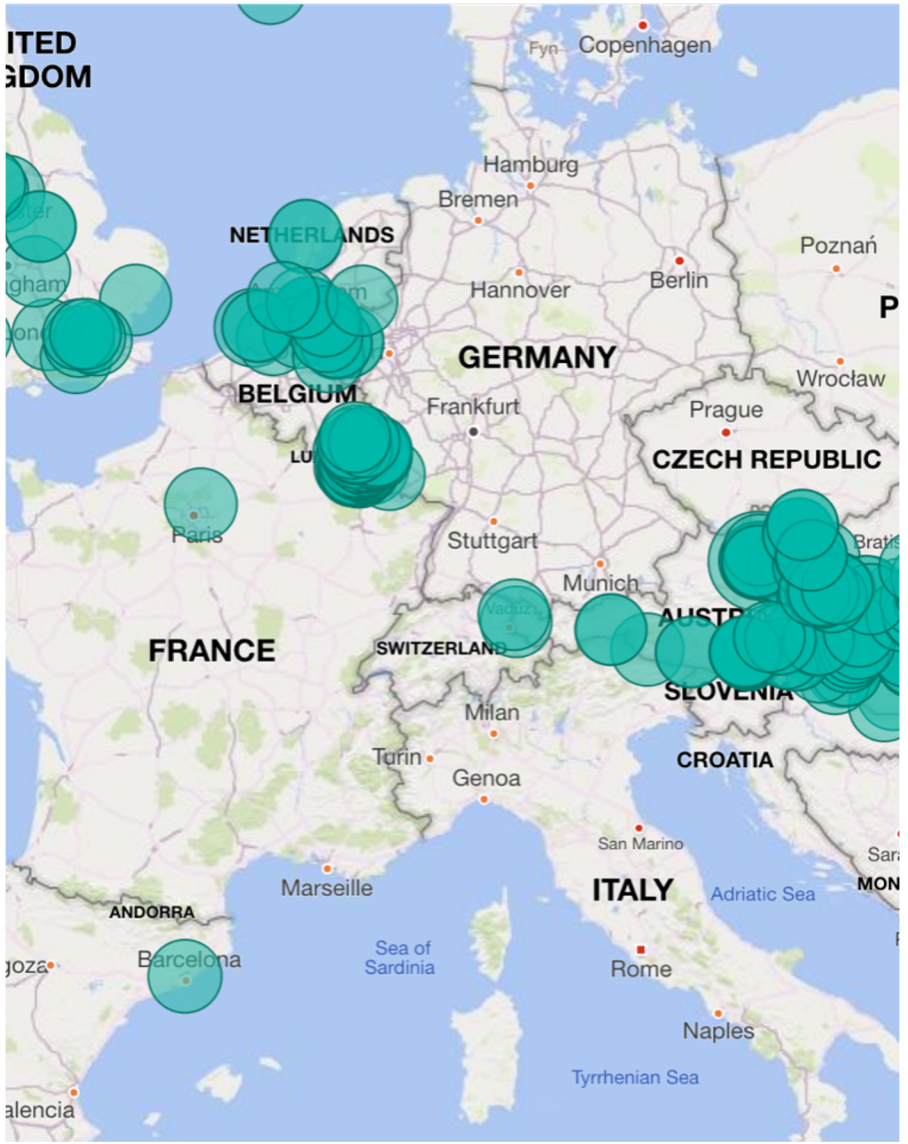
LANDSENSE	
Amsterdam - Rembrandt Park Serbia - Agricultural Land Use	
Toulouse - Land Use Land Cover Dynamics Global Land Use - Land Cover Ref	
Vienna - City Oases Global Field - Size Distrib.	
GROW	
Soil Moisture	Edible Plant Database
SCENT	
Land Use	Land Cover data
GROUNDTRUTH 2.0	
Mechelen (air quality)	Ritme Natura (phenological data)

GROW / Soil Moisture Data

6502 sensors in the ground (2019)

- 24 geographic dispersed GROW places
- Over 500 million rows in the GROW database.
- 4 Parameters: Soil Moisture, Temperature, Light Level, Battery Level
- Time Span: Oct 2016 - Nov 2019
- Overall datasets are 14.4 GBytes

https://growobservatory.org/grow-observatory-sensor-location-map/



Open Data Challenge Evaluation and Criteria

- Solution and Data: Technology Readiness Level of 3. With 1 or more WeObserve datasets at the heart of the concept. Datasets can be combined with other data. Uphold FAIR Principles.
- Concept: Address 1+ challenge areas provided or outline a new one.
- Team and Market

Each criteria was judged on a scale of 1-5.

Each submission was awarded a maximum score of 15.

Open Data Challenge Submissions

- **A video** introducing the concept and demonstrating the solution
- **Software artefacts** uploaded to Github repository
- **Project and team information**

- Winning teams updated the documentation of their idea, prototype and resources as part of the tender award

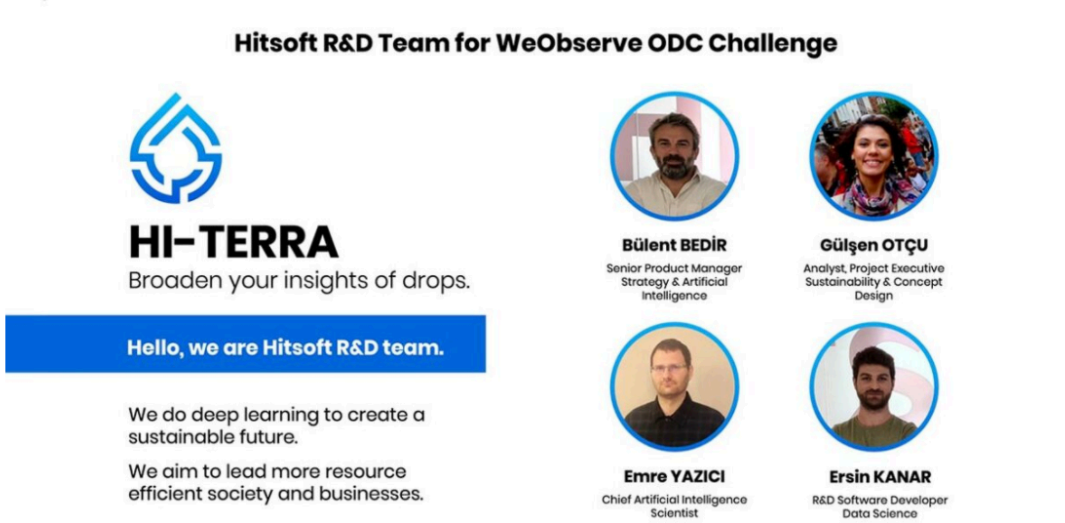
- 44 teams (global), 11 full submissions, 2 awards, 1 highly commended

Open Data Challenge Winners

CitSci Manager

+ Project Overview
+ Source code
+ Relevant material

HI-TERRA



+ Project Overview
+ Source code
+ Relevant material

Open Data Challenge Insights and Opportunity

1. **Accelerate** uptake with a focus on increased openness e.g. raw data, shared and accessible code,
2. **Quality** of innovative propositions generated
3. **Value** of multi-stakeholder approaches
4. **Intensity** of the support required for fully online delivery

- These are potential indicators of **novel services** for citizen observatories' sustainability and business modelling

MOOC Insights

1. Huge interest in the provision of **open-source, accessible** and **collaborative** tools and methods for citizen science and citizen observatories, both from experts and those new to the field
2. **Sustainability** of the MOOC content e.g. educational content, best practices and insights, case studies, and participant contributions
3. **Community** has established through the MOOC

- Need sustainability objectives to be built in to project planning
- Facilitation and delivery competencies are required

MOOC Sustainability

- The course (complete programme and pedagogy) available during 2021 on Futurelearn Platform
- Reuse of content e.g. steps, tools, videos, case studies: available on EU-Citizen.Science
- Permanent record: all content and steps assigned a DOI
- Authorship / Roles: WeObserve Consortium
- Licensed as CC-BY-SA

Open source and downloadable resources

Provided within the WeObserve MOOC:

- Empathy Timeline Tool – DOI 10.20933/100001177 297 downloads
- Community Level Indicator Tool – DOI 10.20933/100001178 192 downloads
- Data Postcard Tool – DOI 10.20933/100001181 130 downloads
- Future Newspaper Tool – DOI 10.20933/100001179 125 downloads
- Co-Evaluation Tool – DOI 10.20933/100001180 169 downloads

- MOOC – DOI 10.20933/100001193 21 videos and 45 articles

Further tools and toolkits on the WeObserve Knowledge Hub

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Thank you

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