RESEARCH INFRASTRUCTURES FOR CITIZENS IN EUROPE (REINFORCE)

FUTURE OUTLOOK

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FRONTIERS e- Summer School
13-24 July 2020


Minimizing the knowledge gap between Large Research Infrastructures and Society through Citizen Science
Citizens engagement to contribute to online frontier science
Impact assessment of frontier citizen science in science and society
Creation of an active community of citizens who actively participate in scientific endeavors
GOALS
Creation of a policy roadmap for other large RI willing to implement citizen science projects
Introduction of Responsible R&I in frontier Citizen Science Landscape
Explore the potential of frontier citizen science for inclusion and diversity

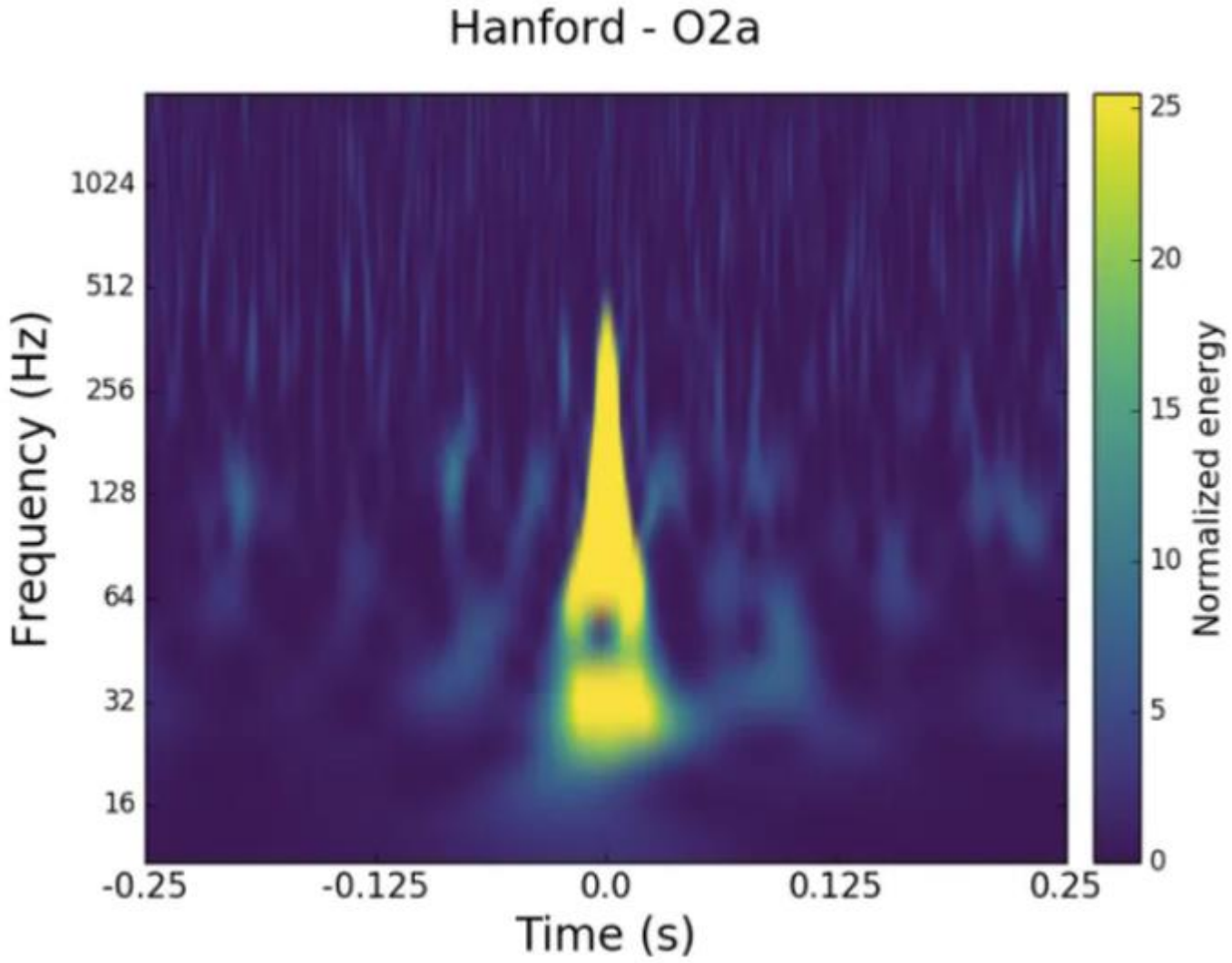
How?

Introducing the next generation REINFORCE Citizen Science Demonstrators!

GRAVITATIONAL WAVE NOISE HUNTING

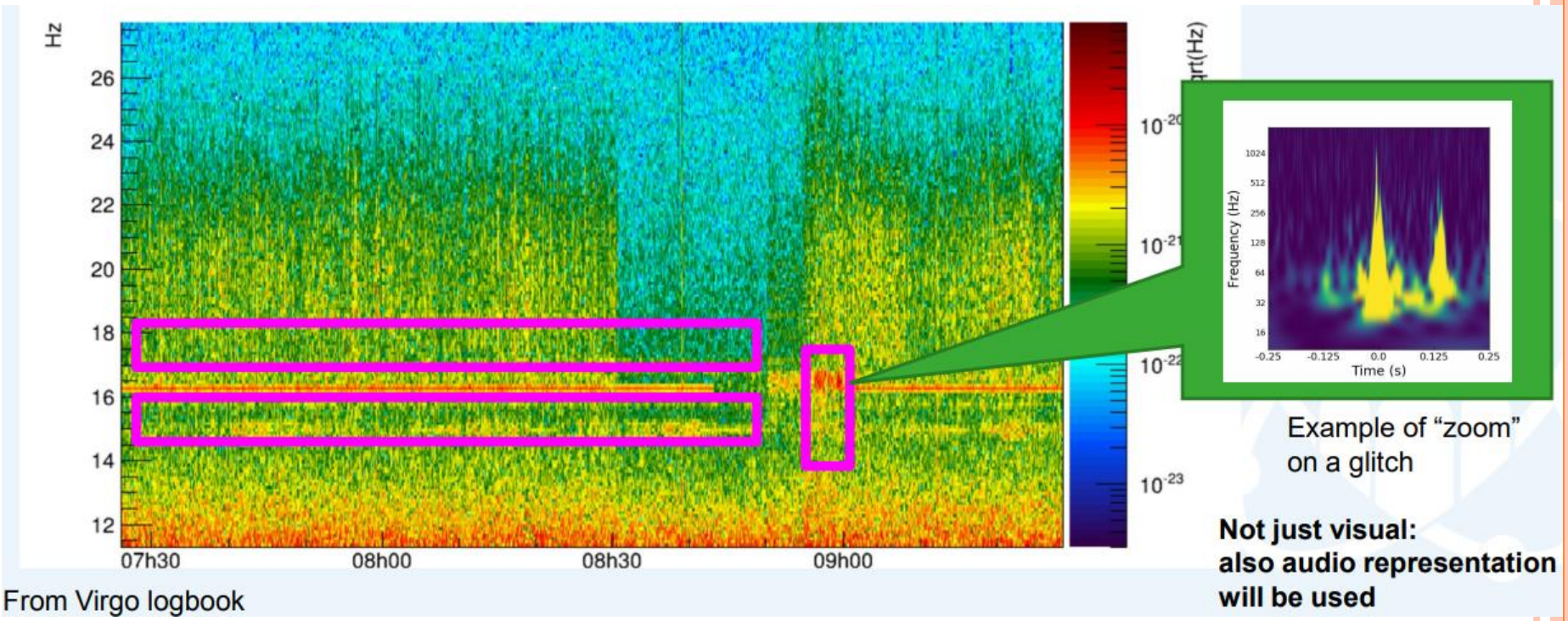
Citizen scientists will look at chunks of Gravitational Wave data and identify the presence of noise which limits the sensitivity of detectors.

We have already learned about glitch hunting..



We now introduce gravitational wave noise hunting

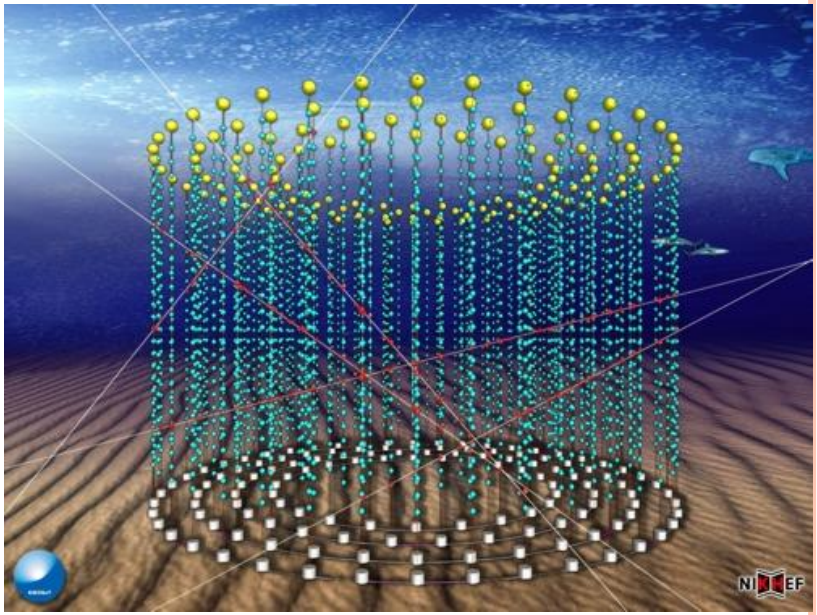
- You will share findings and find new features



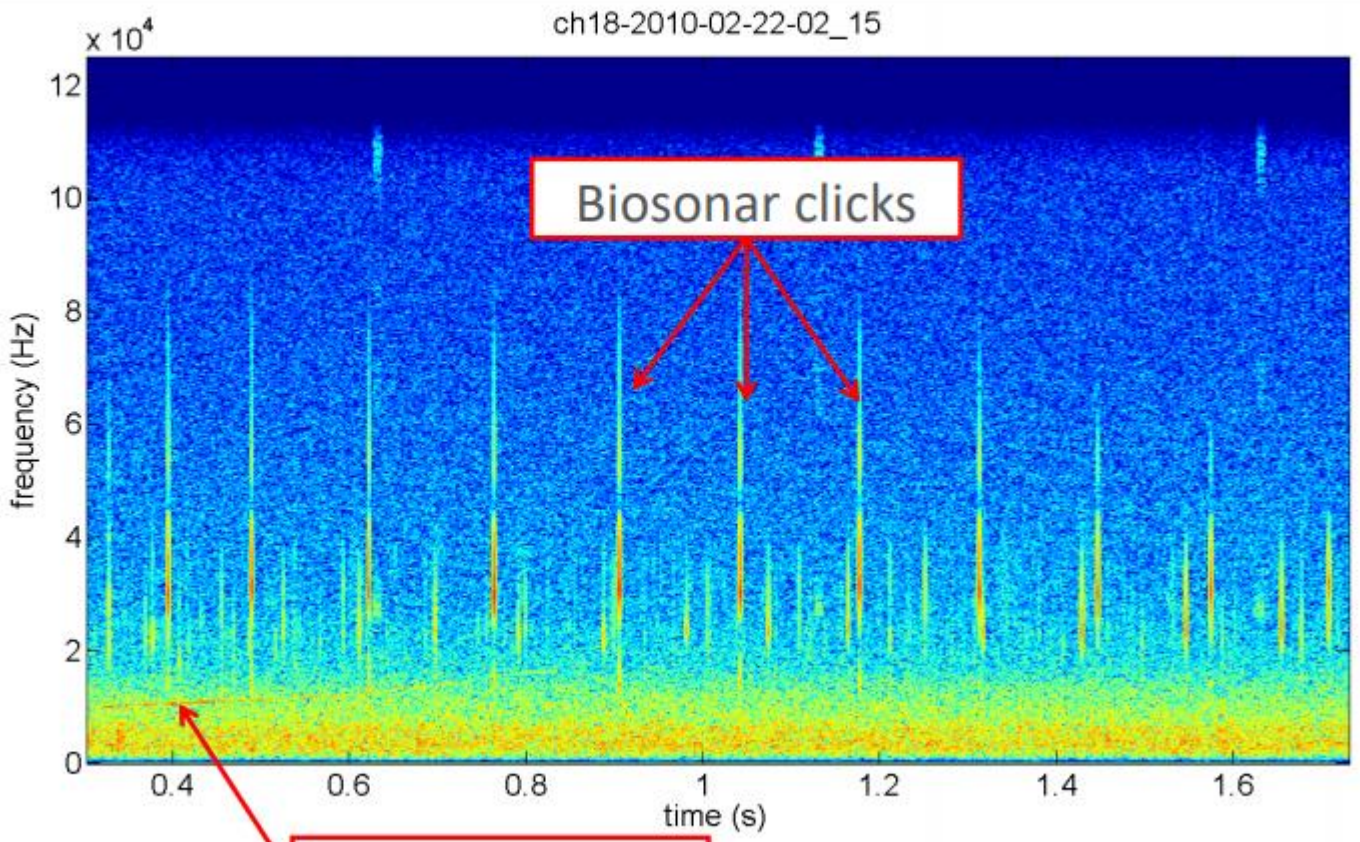
Images adapted from M. Razzano's (UniPI) presentation:
https://www.reinforceeu.eu/sites/default/files/2020-06/Gravitational%20Wave%20Noise%20Hunting.pdf

DEEP SEA HUNTERS

Citizens will help to improve neutrino detection algorithms, while gaining a greater insight of the unexplored deep marine environment.



Example Acoustic signals



Images adapted from Paschal Coyle's (CNRS) presentation:
https://www.reinforceeu.eu/sites/default/files/2020-06/Deep%20Sea%20Hunters.pdf

Citizens will..

- Help us to understand our optical and acoustic backgrounds
- Help us to improve our sensitivity to neutrinos
- Learn about the new field of neutrino astronomy
- Appreciate the biodiversity in the deep sea even at these enormous depths

Such studies have not been done before-really unexplored territory!

big potential for interesting discoveries!

SEARCH FOR NEW PARTICLES AT THE LHC

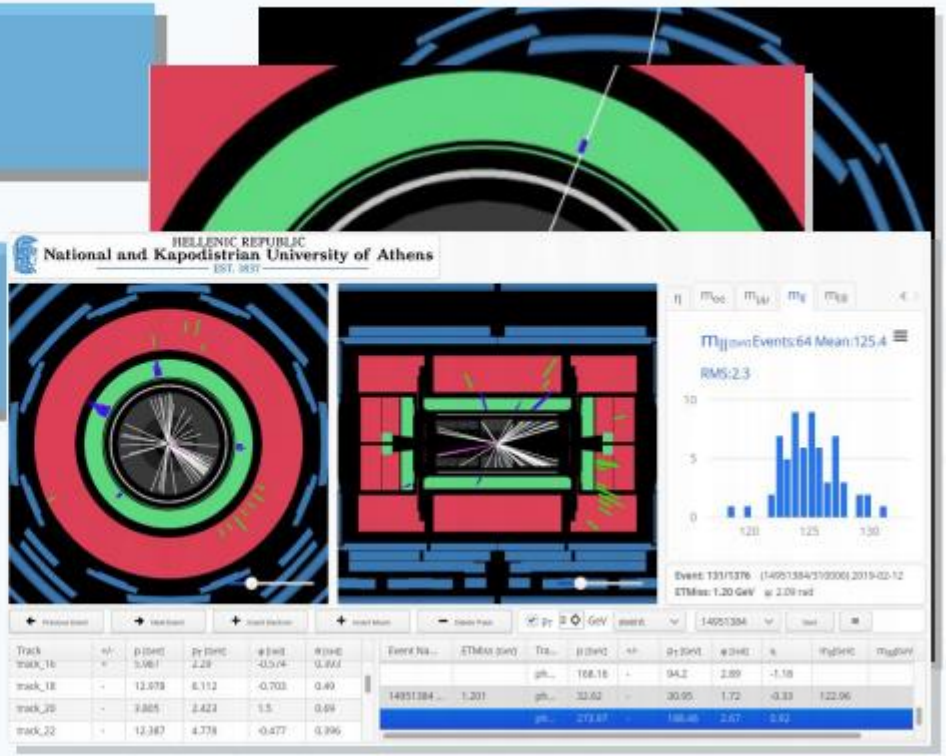
Citizens will be engaged in the quest of the Large Hadron Collider of CERN for the discovery of the ultimate structure of matter as well as particle theories beyond the Standard Model.

In a nutshell

1. Learn about the different kinds of particles and identify them among collision products.

2. Learn to identify traces of new physics.

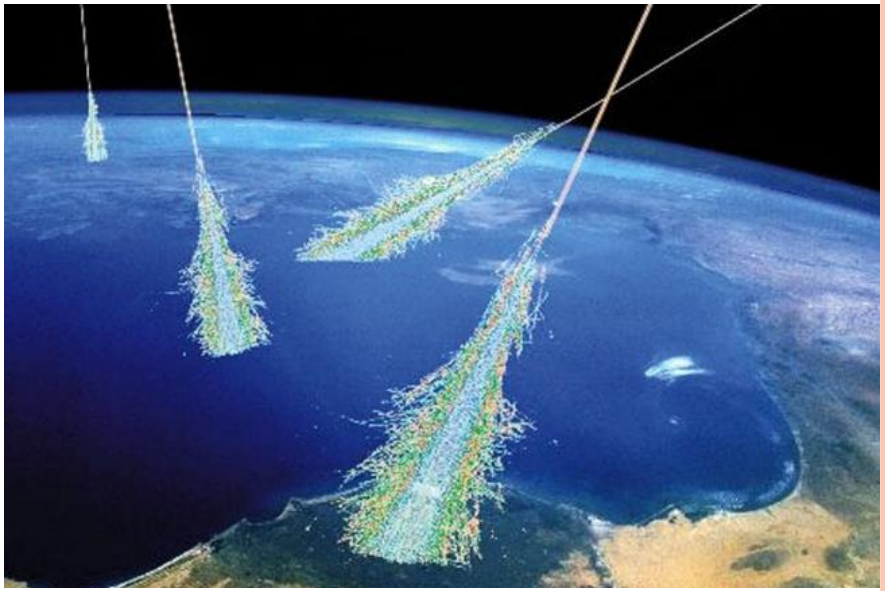
3. Scan a large sample of real data to discover new-physics signatures.



Images adapted from Stylianos Angelidakis's (IASA) presentation:
https://www.reinforceeu.eu/sites/default/files/2020-06/Search%20for%20New%20Particles%20at%20the%20LHC_0.pdf

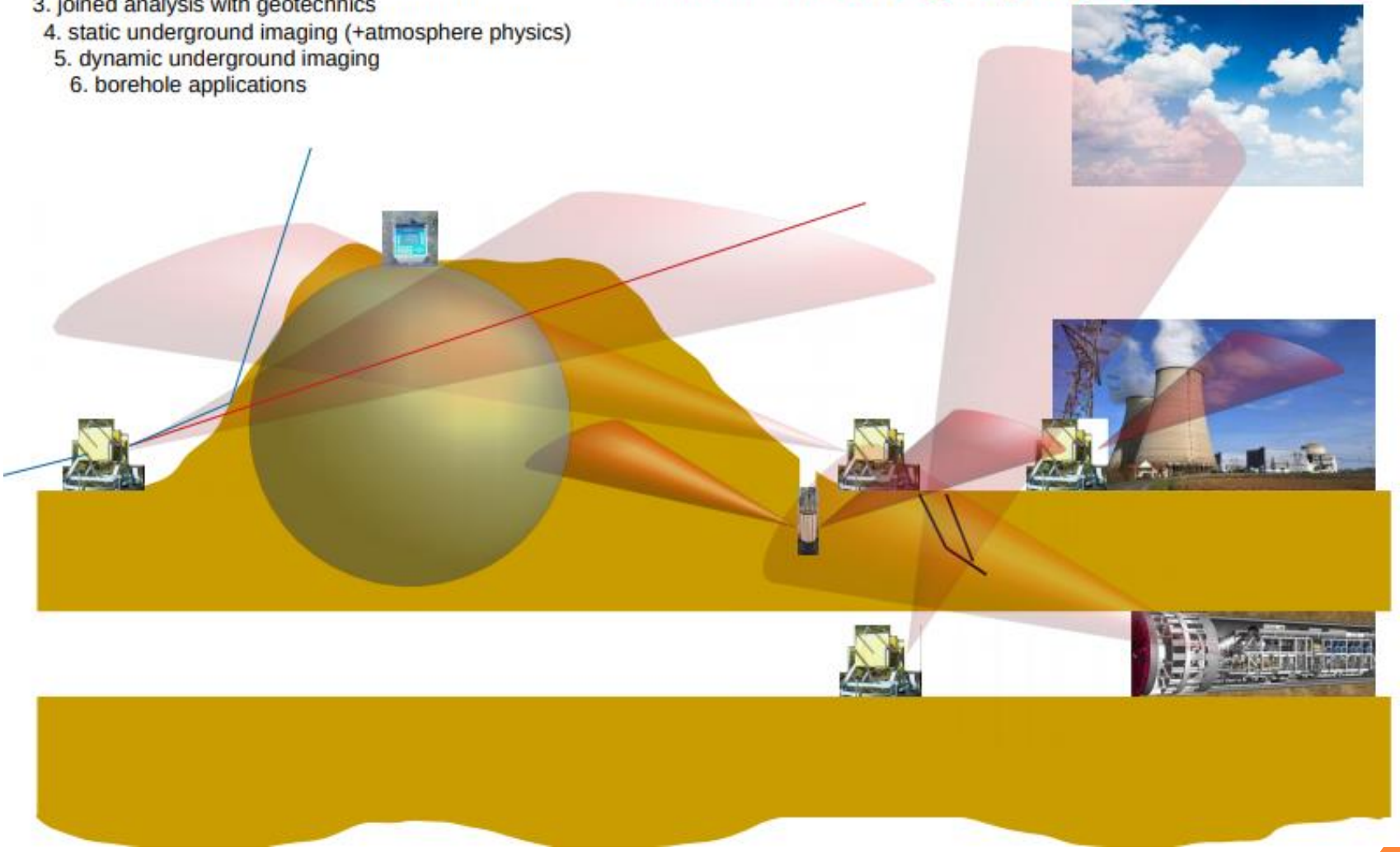
COSMIC MUONS IMAGES

Citizens will help explore the connections across the fields of cosmic ray physics, geology, volcanology and archaeology through the use of data and simple experimental devices.



Muon Tomography use cases

1. “radio”-like structural imaging & monitoring
2. “scanner”-like structural imaging & monitoring
3. joined analysis with geotechnics
4. static underground imaging (+atmosphere physics)
5. dynamic underground imaging
6. borehole applications



- In order for citizens to help explore the connections across the fields of cosmic ray physics, geology, volcanology and archaeology, REINFORCE will focus on interdisciplinary efforts for a multimessenger study of the Earth, and its climate, contributing to the understanding of topics such as climate change, volcano, monitoring and marine life, as well as their societal impact.

Next steps

- A series of workshops will be organized within the following year to introduce citizens to the subject topics of REINFORCE and obtain feedback on the design of our citizen science activities.

- The REINFORCE demonstrators will be finalized and deployed for every citizen to use!

- A series of participatory engagement activities will be launched in order to support and train citizens across Europe!

  STAY TUNED!

Find out more

- Website: www.reinforceeu.eu
- Join our mailing list and Subscribe to newsletter: http://eepurl.com/g3Zz8D

Social Media

- Twitter: www.reinforceeu.eu
- Facebook: www.reinforceeu.eu
- Youtube: https://www.youtube.com/channel/UCzW_cNupPFmM2BO7lfE6mPQ