

# CITIZEN SCIENCE HUBS EXPLAINED: NEEDS, RESOURCES, BEST PRACTICES

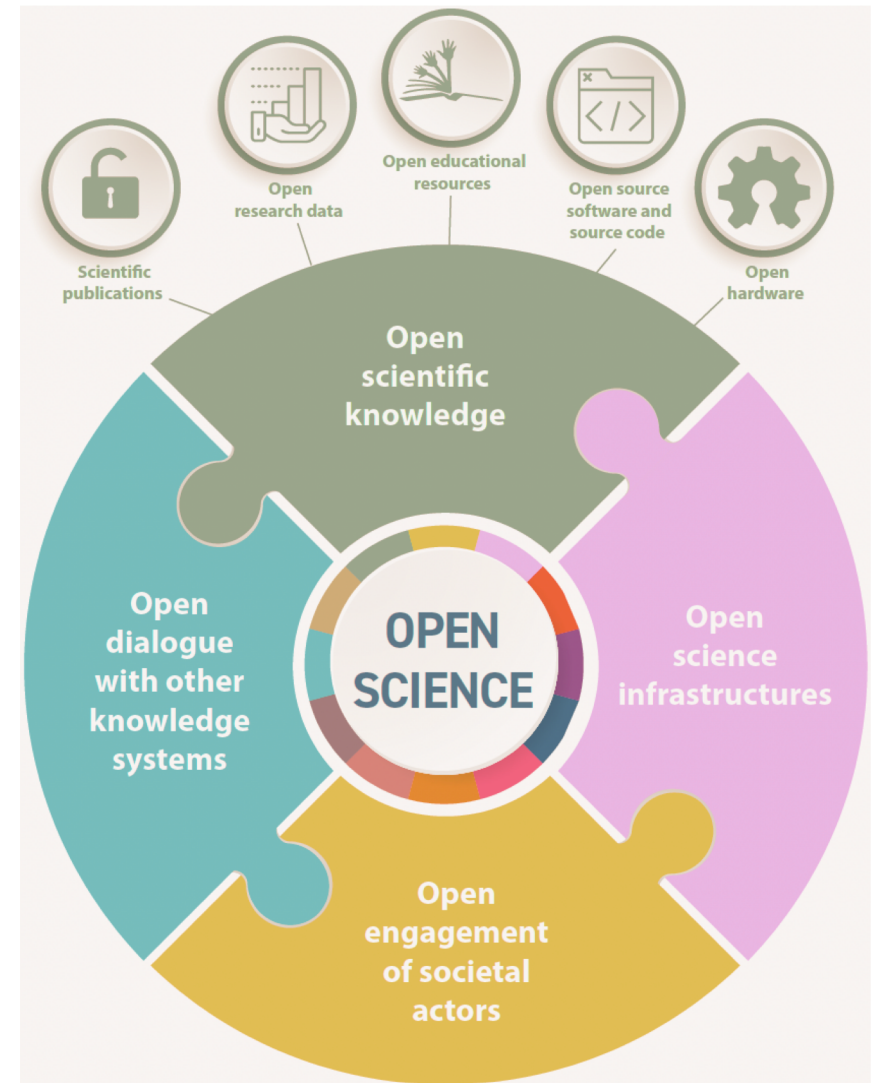
2023/08/29



# CITIZEN AND OPEN SCIENCE IN EU

H2020 = pilots of Open Science and citizen engagement activities  
Horizon Europe = the importance of openness in science established

Open science is not limited to freely available research data and open-access databases. Openness is also sought through collaboration - by expanding the audiences, developing new methods of research organization and engaging the public in various forms.



Source: OpenAIRE

# THE ROLE OF INSTITUTIONAL CONTACT POINTS

The increasing emphasis on citizen engagement in research activities, as advocated by the EU, highlights the need for institutional contact points for citizen science in European universities. These contact points serve as dedicated hubs or centers that facilitate and promote collaboration between researchers, citizens, and various stakeholders.



# THE ROLE OF INSTITUTIONAL CONTACT POINTS




## BRIDGING THE GAP

CITIZEN SCIENCE AIMS TO BRIDGE THE GAP BETWEEN THE **SCIENTIFIC COMMUNITY** AND THE **GENERAL PUBLIC**. INSTITUTIONAL CONTACT POINTS ACT AS **INTERMEDIARIES**, MAKING RESEARCH MORE ACCESSIBLE TO CITIZENS AND ENABLING THEM TO ACTIVELY PARTICIPATE IN SCIENTIFIC ENDEAVORS.



## FOSTERING COLLABORATION

BY CREATING A **DEDICATED PLATFORM** FOR CITIZEN SCIENCE ACTIVITIES, UNIVERSITIES ENCOURAGE COLLABORATION BETWEEN RESEARCHERS, CITIZENS, POLICYMAKERS, AND INDUSTRY PARTNERS. THIS COLLABORATION, OFTEN REFERRED TO AS THE "QUADRUPLE-HELIX" MODEL, BRINGS DIVERSE PERSPECTIVES AND EXPERTISE TO RESEARCH PROJECTS.



## PROMOTING OPEN SCIENCE and RRI

INSTITUTIONAL CONTACT POINTS CAN PLAY A CRUCIAL ROLE IN PROMOTING **OPEN SCIENCE PRINCIPLES**. THEY FACILITATE THE SHARING OF RESEARCH DATA, METHODOLOGIES, AND OUTCOMES WITH THE PUBLIC, FOSTERING TRANSPARENCY AND ACCOUNTABILITY IN THE SCIENTIFIC PROCESS.



# BARRIERS IN SETTING UP THE HUBS



**Funding:** Establishing and maintaining contact points require financial resources for infrastructure, personnel, and outreach activities. Securing sustainable funding can be a challenge.

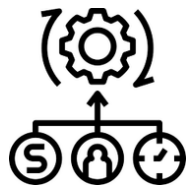


**Coordination:** Bringing together multiple stakeholders with varying interests and expertise requires effective coordination. Ensuring clear communication and collaboration can be complex.

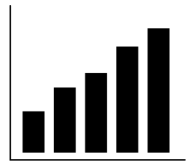


**Cultural & Tradition:** In regions where the tradition of collaboration between science and society is limited, there might be cultural barriers to citizen participation in research. Overcoming these barriers requires dedicated efforts in education and awareness.

# BARRIERS IN SETTING UP THE HUBS



**Resource Constraints:** Limited human resources can hinder the establishment and effective functioning of contact points. Adequate staffing and training are essential for successful implementation.



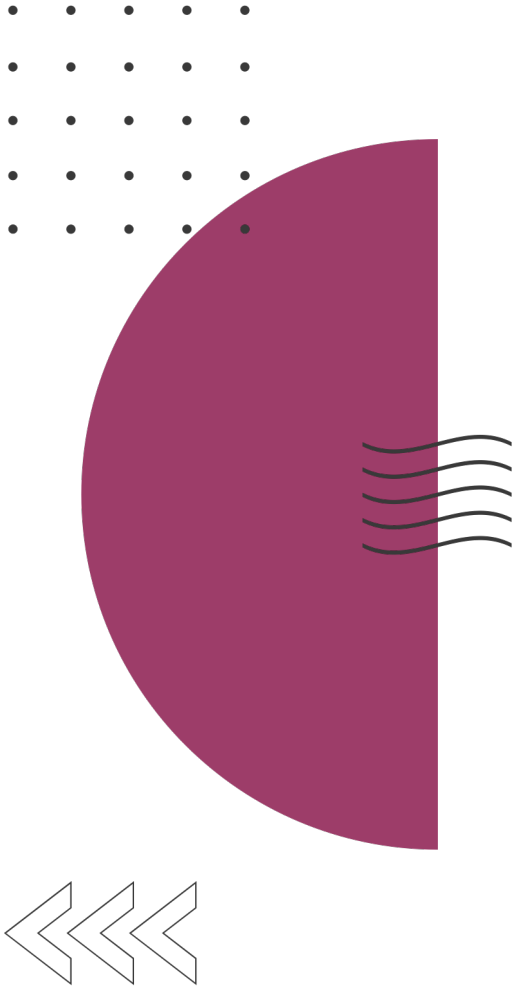
**Data Quality and Ethics:** Ensuring the quality and ethical handling of data collected through citizen science projects can be challenging. Addressing these concerns is essential to maintain the credibility of the research.



**Sustainability:** The long-term sustainability of institutional contact points can be a challenge. They need to continuously adapt to changing needs and expectations to remain relevant.

# DEVELOPMENTS RELATED TO CITIZEN SCIENCE IN LITHUANIA

- Public policy debate and legislation related to Citizen Science in Lithuania are still limited (focus mostly Open Access aspects);
- BUT > plenty of initiatives by scientists, librarians, university administrations and citizens themselves.



# CITIZEN SCIENCE ASSOCIATION ESTABLISHED IN 2020



[pilieciumokslas.lt](http://pilieciumokslas.lt)

[PILIEČIŲ MOKSLAS](#)

[BENDRUOMENĖ](#)

[TARPTAUTINĖ PATIRTIS](#)

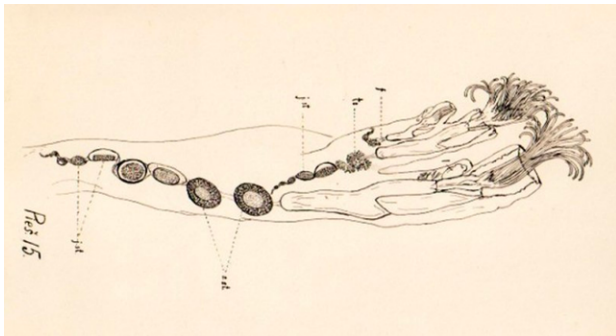
[NAUJIENOS](#)



# EXAMPLES OF LARGE SCALE EUROPEAN PROJECTS WITH LITHUANIAN BENEFICIARIES FROM LITHUANIAN RESEARCH INSTITUTIONS



## PROJECTS INITIATED BY INDIVIDUAL RESEARCHERS, COMMUNITIES, CITIZENS



BRONĖS  
PAJIEDAITĖS  
TAKAIS (@Vytautas  
Magnus University)



RŪŠIŲ RALIS (annual  
event)



Birdlife.lt

# RESOURCES IN LITHUANIAN ON CITIZEN SCIENCE



monograph



methodological  
guidelines



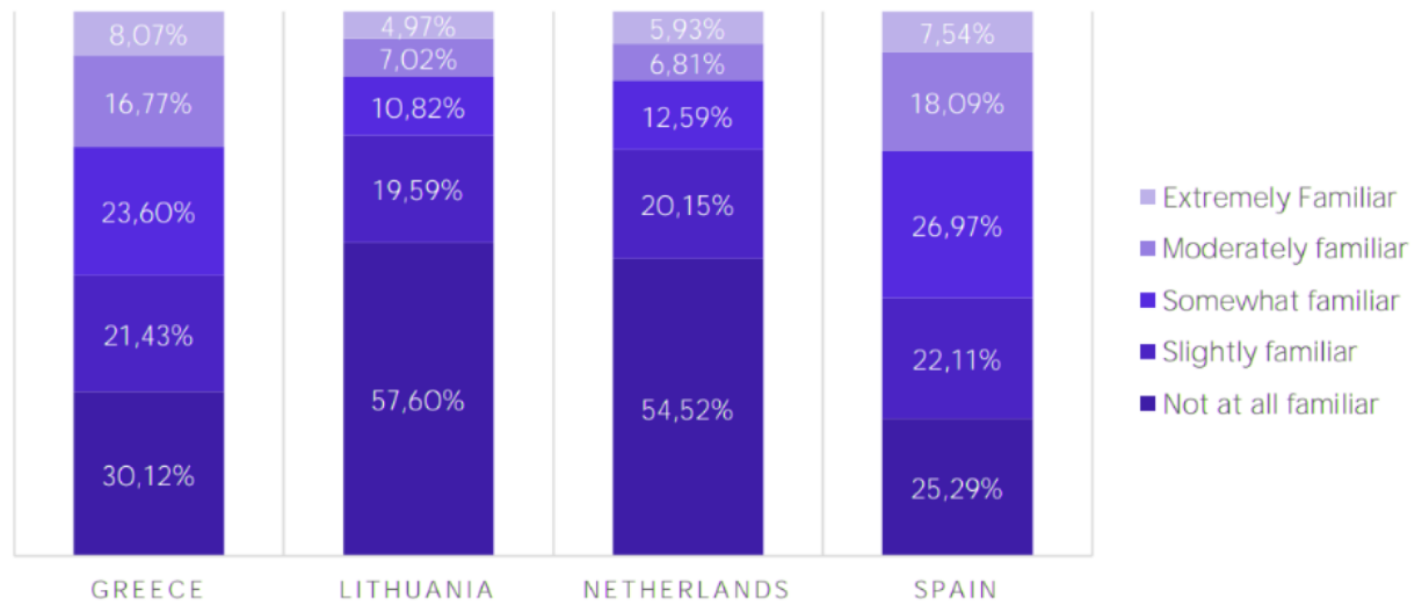
public policy  
recommendations

\*\*all available on [www.pilieciumokslas.lt](http://www.pilieciumokslas.lt)

## Results of large-scale survey conducted in the context of INCENTIVE project in 2021 in Greece, Lithuania, Netherlands and Spain.

Total sample: 1936; Lithuanian sample: 342

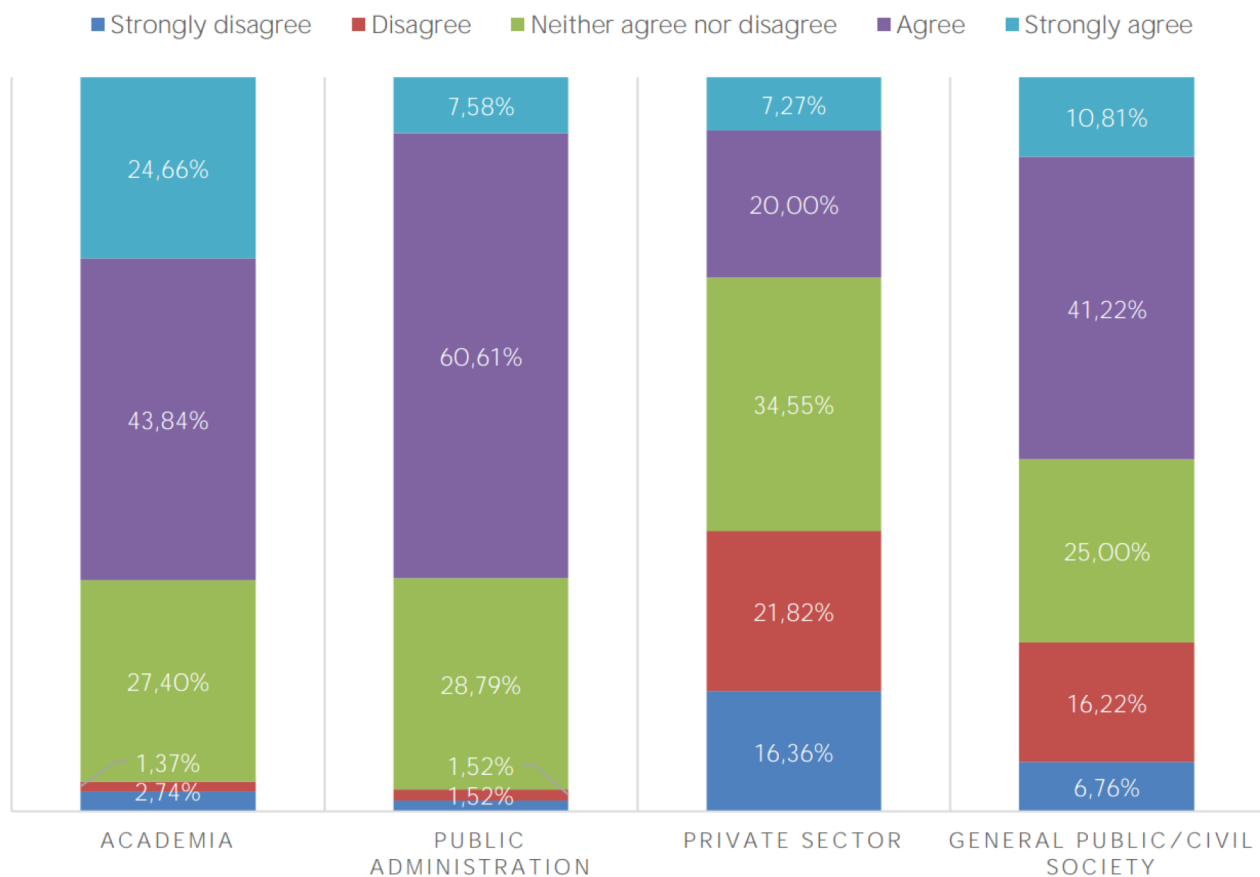
Respondents: quadruple-helix groups (industry, public administration, academia and civil society)



### Level of familiarity with the term "Citizen Science"

Source: INCENTIVE project report "[Requirements and motivations of quadruple helix stakeholders for active engagement in the Citizen Science](#)"





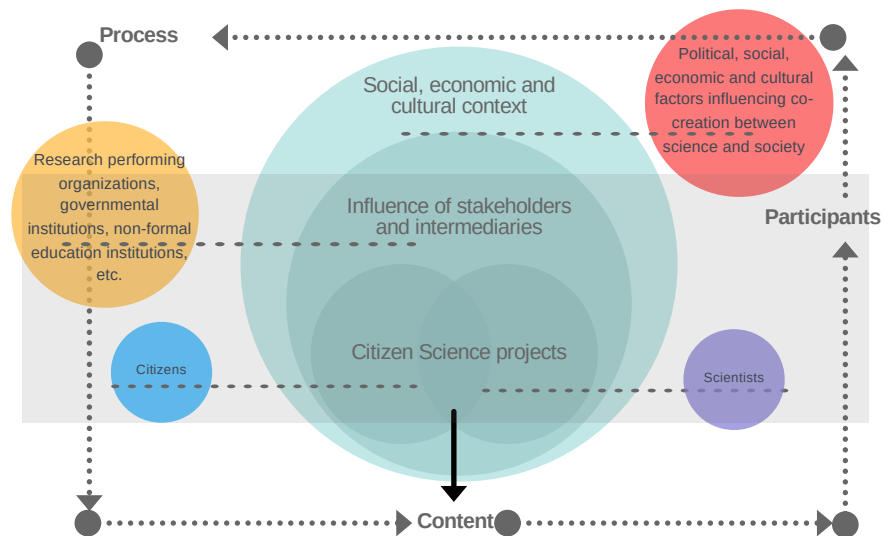
## Willingness to join Citizen Science activities in Lithuania (per stakeholder group)

Source: INCENTIVE project report "[Requirements and motivations of quadruple helix stakeholders for active engagement in the Citizen Science](#)"

# BARRIERS AND DRIVERS OF CITIZEN SCIENCE IMPLEMENTATION IN LITHUANIA

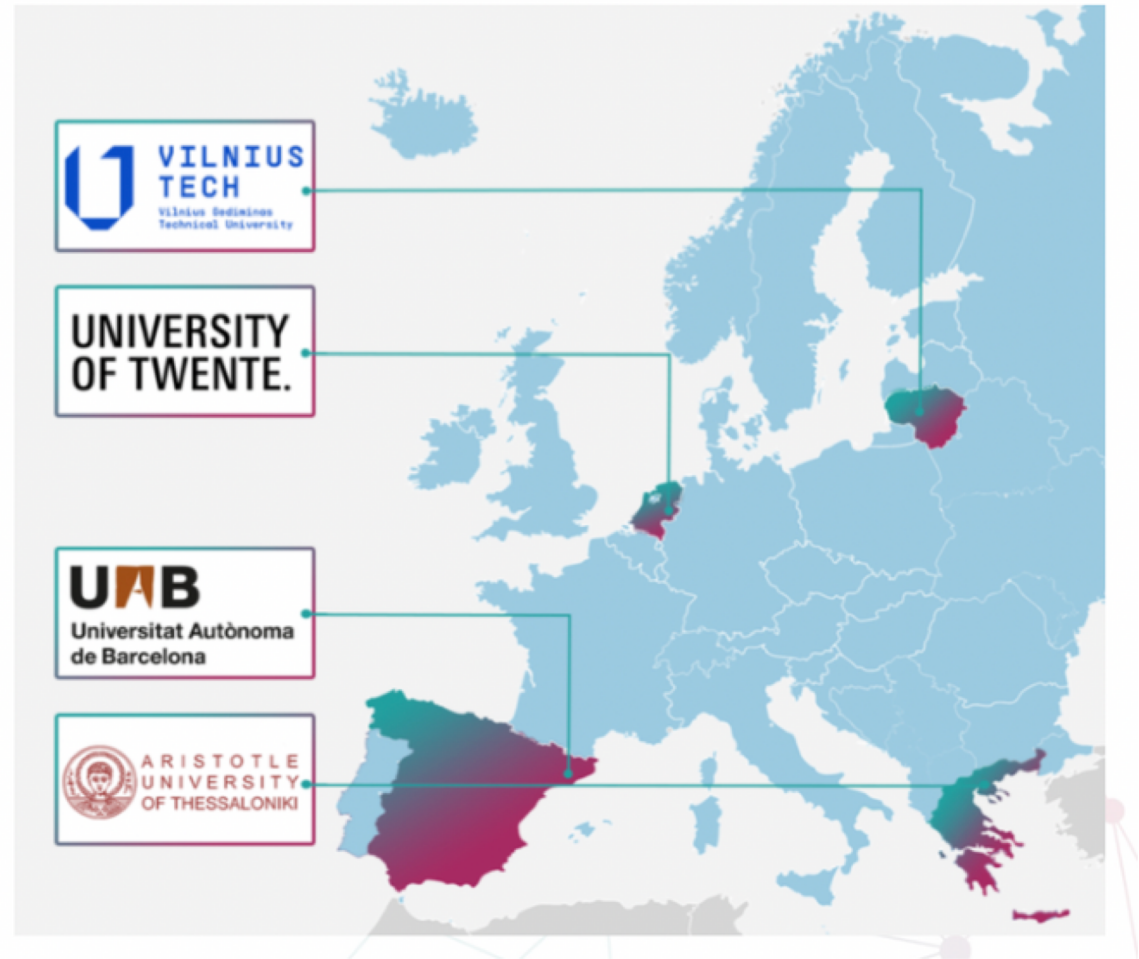
Findings from CS4Welfare project

Methodology used: 30 interviews with stakeholders (scientists, policy-makers, teachers, librarians, etc.)



- Fragmented understanding of the concept of citizen science;
- Limited institutional support;
- Evaluation focused on articles in high-impact journals and not the Open Science related activities > Lack of motivation by scientists;
- Limited understanding among stakeholders on the principles of the design, implementation and management of citizen science projects;
- Limited skills in communication and science outreach;
- Lack of cooperation between different stakeholder groups.

# THE CASE OF **INCENTIVE** AND VILNIUS TECH CITIZEN SCIENCE HUB



# THE CONTEXT OF VILNIUS TECH CITIZEN SCIENCE HUB

## LITHUANIAN R&I ECOSYSTEM.

Stakeholder engagement is increasingly encouraged in strategic documents shaping the national research infrastructure, but actual involvement is still limited.

Responsible institutions: Agency for Science, Innovation and Technology; Knowledge Economy Forum; Open R&D Lithuania network; Fab lab `Technarium.

The Lithuanian research and higher education institutions participate in international projects and initiatives on open access: 7th Framework Programme projects OpenAIRE and OpenAIREplus.

## PRE-INCENTIVE STRUCTURES @VILNIUSTECH

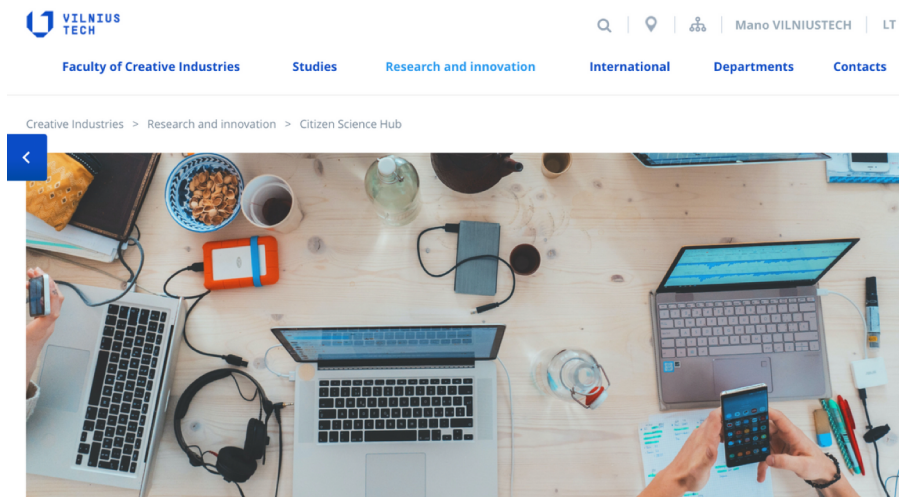
Long-term experience in engagement of quadruple helix stakeholders and partnerships with local high-schools, municipalities, national government institutions, NGOs (e.g. Lithuanian Innovation Center, UNESCO, Algojimas)

Online courses on Open Science (e.g. FOSTER Open Science).

Open structures are promoted through publishing Open Access journals in VILNIUS TECH Press, hosting Open Access week and Open research seminars at VILNIUS TECH Library



# CITIZEN SCIENCE HUB IN VILNIUS TECH LAUNCHED



## VILNIUS TECH - CITIZEN SCIENCE HUB

**Vision:** To create a platform supporting community and partners of Vilnius Tech in conducting Research & Innovation based on active engagement of civil society and principles of RRI

### THE LAUNCH OF VILNIUS TECH'S CITIZEN SCIENCE HUB (2023-04-24)

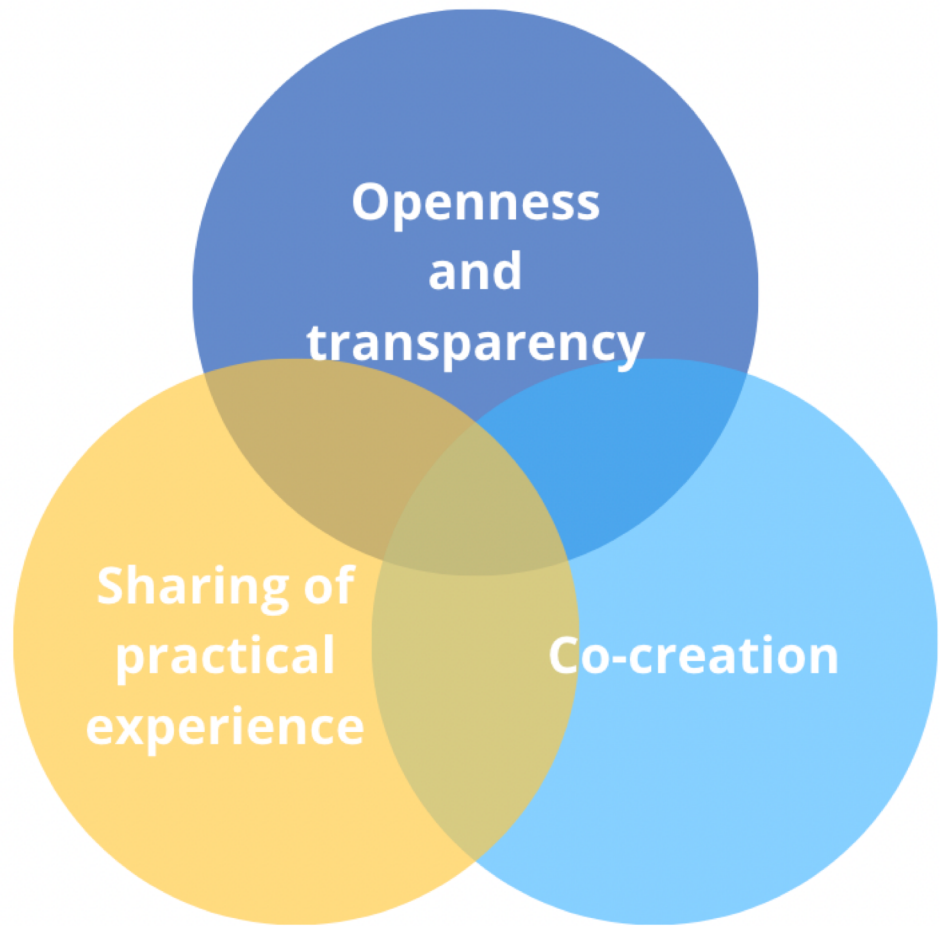
On April 19th, 2023, Vilnius Gediminas Technical University (VILNIUS TECH) hosted a series of pre-conference events as part of the Internat Conference "Visuality 2023: Media and Communication in the Age of (Dis)Information".

One of the highlights of the day was THE LAUNCH OF VILNIUS TECH'S CITIZEN SCIENCE HUB. The launch included a welcome speech from Vice-Rector of Studies Dr. Živilė Sederevičiūtė-Pačiauskienė, Dean Dr. Vaida Asakavičiūtė, and Head of Citizen Science Hub Dr. Monika Mačiulienė. Following the launch, there was a vignette of Citizen Science-focused projects at VILNIUS TECH including Erasmus+ FabCitizen (presented by Dr. Jan M. Pawlowski, Horizon Europe project CLIMAS (presented by Dr. Aelita Skaržauskienė, H2020 project INCENTIVE (presented by Dr. Monika Mačiulienė) and Erasmus+ project CHILD (presented by Vaida Nedzinskaitė-Mitkė on the CHILD project).

Afterward, there was a World Cafe Seminar with stakeholders of the Citizen Science Hub on the future of Citizen Science in VILNIUS TECH, Lithuania, and the Baltic region. The seminar was chaired by Prof. Dr. Aelita Skaržauskienė and included participation by Jan Pawlowski, Dr Kristina Kovaitė, and Prof. Dr. Vytis Valatka. The day concluded with a roundtable discussion with policy-makers on Citizen Science initiatives in the context of Lithuanian R&I policy. The discussion was chaired by Dr. Monika Mačiulienė.

The event also marked the finale of synergies between VILNIUS TECH and the teacher community as there were several sessions focused on Citizen Science applications in schools. First, teachers received training on how to adapt Citizen Science Scenarios at school and later participated in the discussion on how to multiply the effect of Citizen Science in Schools.





The values of VILNIUS TECH Citizen Science HUB



**01**

Sharing experiences among community members in engaging the public in research

**02**

Creating value for all parties involved: citizens, researchers, university.

**03**

Openness and transparency in citizen involvement, data collection and publication





Community with skills and knowledge to develop Citizen Science projects and engage citizens in other initiatives.



Organization of networking activities aimed to create synergies between stakeholders

Organization of training events for researchers of various levels

Outreach and dissemination activities (events, newsletters, social media)

Development of materials in Lithuanian on Citizen Science, RRI, Open Science



**IMPLEMENTING CS PROJECTS**

**PROVIDING SUPPORT IN ENGAGING CITIZENS**

**ENGAGING COMMUNITY**

**RAISING AWARENESS**

Long-term goals

Short-term goals

# BEST PRACTICES

- Collaboration with other projects and initiatives (not necessarily related to Open Science and Citizen Science) for broader institution reach and buy-in



**ATHENA**  
EUROPEAN UNIVERSITY

**ATHENA Talks**

 **Citizen Science in Lithuania: does our science and innovation ecosystem anticipate citizens' input?**

June 9th  
10:00 CET

Dr. Monika Maciulienė  
(VGTU, Lithuania)

**ATHENA**  
EUROPEAN UNIVERSITY





**Į APYMA  
KRYPTIEDON  
MOTYVACIJĄ**  
**IKY**





# BEST PRACTICES

- Engagement of lecturers/professors and students
- Integration of CS related activities into curricula



[Search](#) [Learning Scenarios](#) [Welcome](#) [Latest posts](#) [Intellectual Outputs](#) [About us](#)

## Welcome

The main goal of FabCitizen is to provide schools, especially teachers, parents, and students, with the opportunity to participate in high-quality Citizen Science projects in both school and out-of-school contexts. Citizen Science (CS) has attracted much interest in recent years. The main goal is to involve citizens in different types of science projects, especially to 1) improve engagement and 2) increase research capacity, e.g., through collaborative data collection. Many projects have integrated a citizen science approach. While citizen science works well for educational purposes (e.g., in inquiry-based science education), the uptake of CS at the scientific level is low to questionable. Although the European Association for Citizen Science has clear guidelines and support mechanisms, many CS projects are not taken seriously. This is the main starting point for the FabCitizen project: we want to provide tools to increase the quality of CS projects, especially in schools. To this end, we will include FabLabs as the most important educational environment, as they can provide both technological and methodological expertise.



**VILNIUS TECH**

**Sustainability Summer School**  
September, 2023

Application now open!

Funded by the European Union  
NextGenerationEU

The banner features a man and a woman smiling and looking at a wind turbine against a blue sky with clouds. The Vilnius Tech logo is in the top left, and the European Union logo and NextGenerationEU logo are in the top right.

# BEST PRACTICES

- Engagement of students and schools

## Activities – Events of AUTH Citizen Science Hub

- **Citizen Science Projects:** Citizen science in classrooms: measuring the quality of the air we breathe
- **Duration – Short Description:** The event lasted 2.5 hours. Participants experimented with AQ sensors (“playing and learning activity”). Short presentations followed. The event closed with a questionnaire and open discourse to share ideas and knowledge between the CSH and the participants.
- **Objectives:** Present the first results of the citizen science project activity; Explain how data collected by students can be understood from first principles of the research methodology; Familiarize the students with the indoor air quality sensor devices.
- **Methodology:** Prior to the event the following actions were implemented: Discussions to define objectives and procedures; Monitoring AQ in 5 classrooms with low-cost sensors; Daily activity reporting calendar; Visualization and qualitative correlation between measurements and activities; Presentation and analysis to the stakeholders.



Air quality sensors in the experimental school classrooms



## CITIZEN SCIENCE IN LITHUANIAN SCHOOLS



# Citizen Science Hub in KTU:

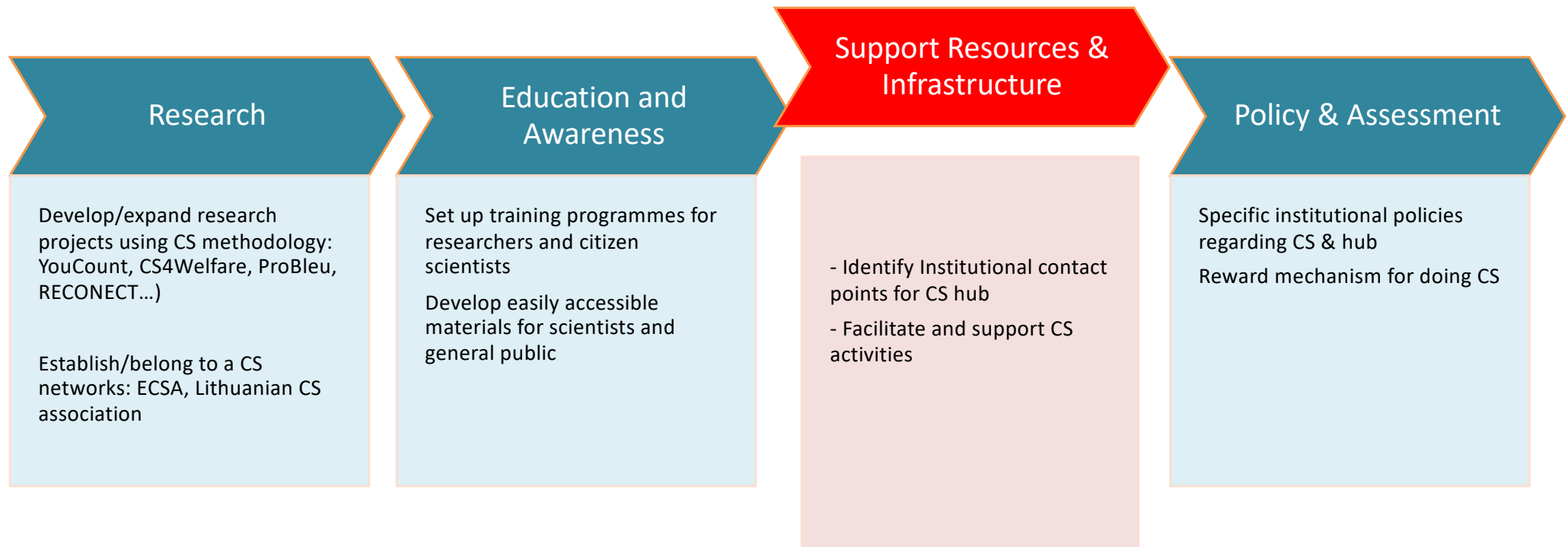
## *Insights from TIME4CS project*



**TIME4CS**

SUPPORTING SUSTAINABLE INSTITUTIONAL CHANGES TO  
PROMOTE CITIZEN SCIENCE IN SCIENCE AND TECHNOLOGY

# Citizen science hub: overview of the actions



**The overall goal is to establish infrastructure and organizational arrangements that enable and facilitate the development of CS.**

**The specific objectives of the GA3 are as follows:**

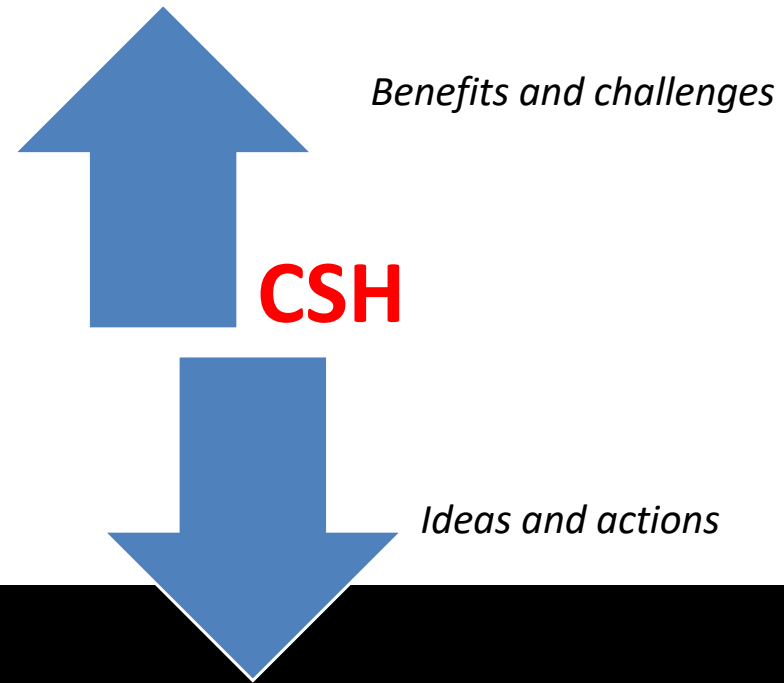
1. To establish a virtual hub for the CS projects and appoint a contact point for the CS initiatives.
2. To sustain a virtual hub for the CS projects and embed it into international networks.



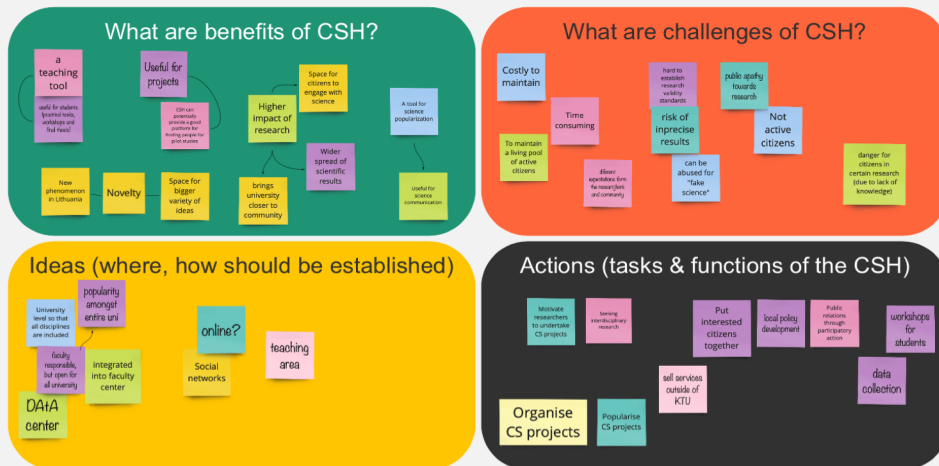
**WHY WE NEEDED IT?**

- to close the gap – the lack of dedicated personnel that could answer the CS related issues and coordinate the actions towards the CS projects development on a University level.
- lack of a CS hubs in Lithuania that could serve as arena for CS community building and CS projects outreach.

# Co-creative approach to Citizen Science Hub



## Group No. 2



- University level (other faculties, administration, library)
- Faculty level (different RGs)
- Internal expert consultations
- External expert consultations

## Barriers/obstacles



**Motivation: why do we need it?**

**High level management**

**Scientists**

**Lay people/citizens**



**Sustainability of Funding: what is next?**

**strategic investments in CS hub/ Open science hub**

**sustainability after the project**

## Next steps:



1. Communicate clearly the added value of the CS for institutions and the value of Hub for different stakeholder groups: lay people, researchers, management of institution.
2. Creating sustainability plans to keep the GAs running after the project will be finished
3. Foresee financial recourses and non-financial rewards to stimulate and incentivize scientists and lay people to engage in CS projects



# DISCUSSION

PROCESS

STAKEHOLDERS

NATIONAL CONTEXT

WHAT WERE THE MAIN CHALLENGES FACED WHILE SETTING UP THE CONTACT POINTS?

HOW DID YOU IDENTIFY AND OVERCOME BARRIERS TO ENGAGEMENT AND PARTICIPATION?

WHAT STRATEGIES WERE EFFECTIVE IN BUILDING PARTNERSHIPS AND COLLABORATIONS?

HOW DID YOU TAILOR RESOURCES TO MEET THE SPECIFIC NEEDS OF DIFFERENT STAKEHOLDERS?

WHAT WERE THE MOST SOUGHT-AFTER RESOURCES AND SUPPORT SERVICES BY RESEARCHERS AND PARTICIPANTS?

HOW DID YOU BALANCE PROVIDING RESOURCES WITH PROMOTING AUTONOMY AND SELF-INITIATIVE?

CAN YOU SHARE EXAMPLES OF SUCCESSFUL PROJECTS OR COLLABORATIONS FACILITATED BY THE CONTACT POINTS?

WHAT WERE THE MAIN FACTORS CONTRIBUTING TO THE SUCCESS OF THESE PROJECTS?

HOW DO YOU ENSURE CONTINUOUS IMPROVEMENT AND ADAPTATION OF BEST PRACTICES BASED ON FEEDBACK?



***THANK YOU!***

**CONTACT INFO:**

**MONIKA.MACIULIENE@VILNIUSTECH.LT**

🇪🇺 · The TIME4CS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101006201.

🇪🇺 · The INCENTIVE project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101005330.