



# CORDIS Results Pack on science communication

A thematic collection of innovative EU-funded research results

January 2024

## Empowering citizens in the public discussion of science



Research and  
Innovation

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# Editorial

## Empowering citizens in the public discussion of science

A solid understanding of science is an essential tool for citizens and society alike. Curating a healthy public discussion of scientific issues means empowering scientists, public authorities, communicators and the public to engage in meaningful dialogue. This updated Results Pack on science communication showcases nine innovative projects building towards this goal.

As the world grows more complex, citizens in Europe and worldwide are increasingly called upon to make decisions that require a clear understanding of the underlying science. Making informed choices on topics such as climate change, energy, COVID, food and vaccination necessitates a public conversation that is built on facts and that responds to the concerns of citizens.

Two concurrent developments underlie the growing need to ensure the quality and reliability of science communication. Firstly, [dwindling resources in science journalism](#) lead to reduced critical assessment and reporting of science. Secondly, the explosive growth of online media – [termed an “infodemic” by the UN](#) – has allowed scientific information to reach large audiences, but often without editorial oversight and fact-checking established in the traditional media.

[Research carried out by Eurobarometer](#) shows that EU citizens have a very positive view of science and scientists overall, but more than half feel that researchers should engage more with policymakers and the public. The European Commission supports a policy of [open science](#), which focuses on spreading knowledge as soon as it is available. Science communication is critical to this goal.

This Pack showcases nine projects that further this aim. Eight were funded under the Horizon 2020 [Science with and for Society programme](#). This represents an investment of almost EUR 10 million made through the [‘Taking stock and re-examining the role of science communication’](#) call for proposals. The ninth project, COALESCE, is funded through a dedicated policy call under Horizon Europe European Research Area.

The projects examine issues such as quality of science communication, trust in science, and the mitigation of the spread and impact of misinformation, disinformation and fake news. Bringing together journalists and science communicators, researchers, civil society groups, industry experts, and policymakers – the quintuple helix – they have delivered innovative ways to open up science to society.

Each of these projects approached a specific aspect of science communication. Trust in science is a key issue for democratic resilience, and [CONCISE](#), [ENJOI](#) and [TRESKA](#) all worked to identify how this trust can be strengthened and used to defend against misinformation. [GlobalSCAPE](#) and [QUEST](#) carried out research and development for science communicators to provide them with more effective tools. The remaining projects focused on how the public could be more effectively engaged by science communication efforts. [NEWSERA](#) and [ParCos](#) examined efforts to engage citizens in the scientific process through participatory workshops, and [RETHINK](#) explored how science communication should evolve in response to an increasingly digital society.

In addition to their individual successes, the projects showed exemplary collaboration, working together to seize the opportunities and face the hurdles presented by the pandemic and delivering a [joint publication of their findings](#). Drawing from all these projects, the EU-funded [COALESCE](#) project is building a European Competence Centre for Science Communication.

A well-informed public is the bedrock of a free society. Through improved science communication, we can increase the quality and effectiveness of interactions between scientists, general media and the public, and build more resilient democracies.

# Who Europeans trust when it comes to science

Public consultations across five European countries have provided insights into how citizens develop relationships with science and its implications. The CONCISE project aimed to spark a Europe-wide debate on science communication.

Since the days of the Royal Society's 1985 [Public Understanding of Science](#) report, science communication has shifted from a bias prioritising the needs of scientists, towards models of citizen participation.

"But for participation to be most productive, we need to understand what citizens actually bring to the table in terms of their knowledge, beliefs, opinions and perceptions," says Carolina Moreno-Castro, coordinator of the EU-funded [CONCISE](#) project.



To achieve this, CONCISE analysed data from consultations across five countries, with almost 500 citizens, concerning four burning science topics, and has already [published](#) several papers, book chapters and a book.

## Consulting European citizens on science

CONCISE conducted consultations in three southern European countries (Italy, Portugal and Spain) and two central European countries (Poland and Slovakia). Almost 500 citizens were engaged, and questions were focused on four science issues: vaccines, complementary and alternative medicine (CAM), climate change and genetically modified organisms (GMOs).

Participants were grouped according to similar educational levels, while reflecting a diversity of gender, age and social grade. The discussions were moderated, with an observer recording proceedings, which included making notes about group behaviours.

After coding the transcripts, CONCISE conducted quantitative analysis based on a [lexical-metric approach](#) using specialist software, alongside qualitative analysis using [NVivo software](#).

The methodology enabled the team to include the social aspects of communication. “We looked at how participants used language to achieve specific effects, such as building trust, creating doubt, evoking emotions and expressing consent or

dissent,” Moreno-Castro from the [University of Valencia](#), the project host, explains.

## Key findings on Europeans’ views of science

Overall, participants were found to feel that while they had ready access to plenty of science information, they lacked specific knowledge when it came to making science-related decisions.

Analysis also revealed that generally citizens of all countries trusted scientists, public institutions (such as governments and

universities), close sources (such as family, friends and clinical doctors) and those with topic familiarity. However, many were wary of vested interests, such as research funders.

NGOs played a more critical role for trustworthy information on environmental issues than on health issues, whereas commercial companies were trusted as sources of information about CAM, but not about vaccines or GMOs.

Regarding information channels, social networks, as potential breeding grounds of fake news, were perceived as less reliable. “However, citizens recognised it depended on ‘whom you followed’, with closed networks like WhatsApp more highly valued due to personal connections,” adds Moreno-Castro.

Concerning the role of the broadcast media, participants valued science sections in the news, science programmes on prime time and scientists appearing in programmes with large audiences.

“Interestingly, participants also highlighted the influence of format and design on the message, if poorly packaged it seems less reliable,” she remarks.

Citizens evidenced sophisticated strategies for verifying information, citing the assessment of source reliability, confirmation from other sources and using their own experience. “When debating CAM, distrust focused on the lack of scientific evidence, with treatments not subjected to the same laboratory testing as pharmaceutical drugs,” adds Moreno-Castro.

When comparing the findings between countries, the team found more similarities than differences. But as Moreno-Castro notes: “Each country has its own cultural and social context. For example, Poland and Slovakia don’t have professional science communication in the way that the other countries do.”

## Policy implications for better science communication

CONCISE hosted an online [EU Policy Dialogue on Science Communication](#) attended by 157 stakeholders, including regional, national and European-level representatives, during which the team shared their Policy Briefs. They also shared recommendations for both policymakers as well as communicators.

In all the countries, including those with associations of science communicators, citizens asked for more skills and training for



*For participation to be most productive, we need to understand what citizens actually bring to the table in terms of their knowledge, beliefs, opinions and perceptions.*

journalists who report on science. Likewise, in the five countries, citizens demanded that the science information be obvious, transparent and official, eliminating the possible biases of the companies that finance studies or research.

CONCISE findings are also applicable to other European countries and can improve the communication of science. "Citizens should get science communication skills while obtaining their university degrees regardless of their field of study, and scientific and public institutions should hire specialised science communicators to disseminate and communicate science," concludes Moreno-Castro.

**Note: this article was last updated in November 2022.**

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**PROJECT**

**CONCISE – Communication role on perception and beliefs of EU Citizens about Science**

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**COORDINATED BY**

University of Valencia in Spain

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**FUNDED UNDER**

Horizon 2020-Science with and for Society

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**CORDIS FACTSHEET**

[cordis.europa.eu/project/id/824537](https://cordis.europa.eu/project/id/824537)

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**PROJECT WEBSITE**

[concise-h2020.eu](https://concise-h2020.eu)



# Developing a manifesto for strong science journalism

In the face of global crises and a rise in disinformation, the EU-funded ENJOI project developed standards, principles and indicators for open science communication , plus a manifesto to improve science journalism.

Effective science communication supports democratic principles, ensuring citizens have access to high-quality information in order to make judgements based on evidence.

Yet often citizens face what the [UN](#) calls an “infodemic”: a flood of information in digital and physical environments, where competing voices often contribute to alarmism, polarisation or even real disinformation, instead of nurturing a healthy information environment.

In the face of global challenges such as the climate crisis, a framework of principles, standards and appropriate indicators for science journalism and communication is clearly needed.

In the ENJOI project, a collaborative network of researchers, journalists and civic engagers across Europe established a set of [Standards, Principles and Indicators](#) (SPIs) to identify and guide effective science journalism. The project also developed a [Manifesto for Outstanding Open Science Communication](#).



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“ENJOI’s project outputs align very well with the idea of promoting open and transparent science and science communication as a key asset to contrast disinformation in Europe,” says Elisabetta Tola, CEO at [formicablu](#) in Italy, and ENJOI project coordinator.

## Discovering best practices in science journalism

The ENJOI project ran two different lines of research. The first was a literature review to list existing journalism standards suggested by authors, projects and institutions. The second focused on an analysis of relationships between scientists and the media, to identify whether there are specific incentives that can support the communication activities of scientists. This second strand also sought recommendations that could facilitate scientists’ commitment towards communication.



*One of the most relevant findings of ENJOI was a demand for real inclusiveness.*

The SPIs were developed through a series of workshops between more than 50 practitioners, target users and other stakeholders of science communication. These workshops took place in Belgium, Italy, Portugal and Spain, exploring differences between southern European countries and those in northern and central Europe.

Through this combined, multidisciplinary effort, ENJOI created a [matrix of SPIs for Outstanding Open Science Communication](#). These include key points on methodology and practice, ethics and acting in the public interest.

“One of the most relevant findings of ENJOI was a demand for real inclusiveness,” notes Tola. “Not merely as a buzzword, but as a thorough process that acknowledges discrimination in contemporary science at many levels, works to remove barriers and gives a voice to diverse perspectives.”

## A manifesto for science communication

The ENJOI project built on the SPIs to write the Manifesto for Outstanding Open Science Communication, which fosters critical thinking, media literacy and digital awareness among those in science communication.

Finally, the ENJOI team created the ‘[Observatory](#)’, a central online location to promote training and collaboration across the science communication ecosystem that will remain beyond the project completion.

The team are exploiting, testing and expanding on ENJOI’s results to develop, test and evaluate two sets of innovative practical tools, including training courses, toolkits, guidelines to fight mis- and disinformation, inspirational e-books for scientists and webinars.

With the project’s completion, these outputs will be integrated into the EU-funded [COALESCE](#) project, building towards ENJOI’s ultimate goal of improving science communication and fostering capacity building and collaboration. The result will be a better informed public and a more resilient democratic society.

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### PROJECT

**ENJOI – ENgagement and JOurnalism Innovation for Outstanding Open Science Communication**

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### COORDINATED BY

formicablu in Italy

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### FUNDED UNDER

Horizon 2020–Science with and for Society

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### CORDIS FACTSHEET

[cordis.europa.eu/project/id/101006407](https://cordis.europa.eu/project/id/101006407)

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### PROJECT WEBSITE

[enjoiscicomm.eu](https://enjoiscicomm.eu)



# Diary studies reveal global science communication realities

The EU-funded GlobalSCAPE project turned up the volume of lesser heard voices in science communication, by mapping the diversity of efforts around the world, while highlighting those countries with particular challenges.

Given the increasingly prominent role that science plays in the daily lives of people around the world – affecting decisions in the health, energy, agriculture and industrial sectors, to name but a few – the ability to explain scientific principles and procedures is paramount in securing public support.

Despite the global impact of science endeavours, most large-scale research into science communication has been

concentrated in the United States and Europe, which have invested significantly in this field.

“This has resulted in a somewhat biased representation of science communication, despite incredible work being carried out all over the world,” says Joseph Roche, project coordinator from [Trinity College Dublin](#) in Ireland, host of the [GlobalSCAPE](#) project.



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“With GlobalSCAPE we focused on regions of the world that have been given less focus in science communication research, especially the Global South.”

## The diary studies

GlobalSCAPE used a diary study methodology. Over a period of around a year, participants were invited to provide short weekly reflections on the challenges and opportunities they experienced as science communication professionals.

“Most research in this field relies on cross-sectional surveys which only give a snapshot of what is happening at one point in time. Diary studies provide more fine-grained data over a much longer period, reflecting detail and patterns over time,” explains Roche. The data was collected using proprietary software from project partner [Qualia Analytics](#).

The team also partnered with the Network for the Public Communication of Science and Technology (PCST) to [map science communication in higher education globally](#).

Science communication modules for science degree courses [were also developed](#) and endorsed in two partner universities:

Trinity College Dublin and [Leiden University](#) in the Netherlands, embedding the project’s findings into education.

Additionally, with the help of global partners – [Ecsite](#), [SciDev.Net](#) and [Springer Nature](#) – GlobalSCAPE offered six in-person science communication [training workshops](#) in different regions of the world, with some also online.

Informed by co-creation sessions held with stakeholders, a GlobalSCAPE [white paper](#) was also developed to inform policymakers and funding bodies of the support required to improve the current landscape of science communication. The

white paper has been [translated into the nine major languages](#) of the world to promote uptake on a global level.

## Enhancing the field

Understanding the challenges and opportunities faced by science communication professionals working around the world is key

to building trust between science and society, and it is a critical EU objective.

“GlobalSCAPE’s work to better represent the range of science communication techniques around the world will give practitioners the chance to learn from each other and share best practice, leading to richer and more adaptive science communication,” concludes Roche.

Some key project results have already been published, including an outline of the [overlap between the fields of science communication and citizen science](#), as experienced by the diary study participants who work in both.

Another paper explores [issues of inclusion](#) that science communication professionals face when attending conferences, sharing the experience of members of the Science & Society Research Group at Trinity College.

The GlobalSCAPE team also worked with the Journal of Science Communication to offer a Special Issue, ‘Science Communication in Higher Education: Global Perspectives on the Teaching of Science Communication’. Sixty-four initial proposals have resulted in seven peer-reviewed papers to be published by the end of 2023.

Along with the seven other SwafS-19 projects, GlobalSCAPE has joined the Horizon Europe project, [COALESCE](#), set up to establish a European Competence Centre for Science Communication.

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### PROJECT

**GlobalSCAPE – Global Science Communication and Perception**

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### COORDINATED BY

Trinity College Dublin in Ireland

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### FUNDED UNDER

Horizon 2020-Science with and for Society

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### CORDIS FACTSHEET

[cordis.europa.eu/project/id/101006436](https://cordis.europa.eu/project/id/101006436)

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### PROJECT WEBSITE

[global-scape.eu](https://global-scape.eu)



*GlobalSCAPE’s work to better represent the range of science communication techniques around the world will lead to richer and more adaptive science communication.*

# Smells like team spirit: how citizen science can succeed

By engaging citizens as co-researchers, they can participate in the production of scientific knowledge. The EU-funded NEWSERA project has rolled out co-creation Labs for shared solutions.

Both science and society can benefit from citizen science (CS), which brings the two closer together. Opening up science to industry, commerce, policymakers and journalists sparks funding and collaboration opportunities, and the prospect of gathering large data sets through citizen participation. At the same time, developing greater scientific literacy increases citizens' ability to counter misinformation, increasing their trust in science.

"CS also lends credibility to awareness-raising campaigns, with an informed public contributing to decision-making, policies and behavioural change," says Rosa Arias, coordinator of the [NEWSERA](#) project, and CEO and founder of [Science for Change](#). "But CS initiatives operate within complex stakeholder ecosystems, facing multiple challenges, summarised as a lack of trust, of knowledge and of resources."



To help overcome these barriers, NEWSERA developed the [CitSciComm Labs](#), to co-design, implement and validate CS communication strategies, targeted at clearly defined stakeholders.

The five 'Labs', piloted over three years, operated through communities of practice composed of CS practitioners, including members of 39 projects in Italy, Portugal and Spain.

NEWSERA undertook over 240 hours of mentoring, alongside 90 activities – including [workshops and training sessions](#) – engaging over 140 stakeholders.



*I'd say to any new citizen science project, it's not easy, you need to plan ahead, especially for policy impacts. But we've shown it can be done!*

A programme matching projects with journalists led to the publication of [several articles in the international press](#) (website in Portuguese), "demonstrating the potential of citizen-generated data to produce socially relevant newsworthy stories where visual storytelling is key," according to Arias.

The NEWSERA [guide to science communication](#) has been released for those starting out in this field, and a series of [policy briefs](#) has also been launched which outline science communication best practices.

When it comes to engaging the public sector, Arias recalls her time as the coordinator of [D-NOSES](#), a project where citizens monitor odour pollution: "First, we mapped the affected communities with the [OdourCollect app](#), before running local pilots. Next, engaging policymakers led to national [policy briefs](#), then revision of EU directives, and a [green paper](#) presented at the European Parliament."

This resulted in citizens' data being approved as a technical standard for the first time by [UNE](#), the Spanish Association for Standardisation. Other NEWSERA pilots – GEOVACUI-2, RIUS and Mosquito Alert – have also been recognised with Honorary Mentions in the [European Prize for Citizen Science](#).

"I'd say to any new CS project, it's not easy, you need to plan ahead, especially for policy impacts. But we've shown it can be done!" notes Arias.

## Labs without borders

NEWSERA's Data and Science Journalist Lab also offered opportunities for [innovative collaborations](#), further showcasing CS journalism. The team collaborated with the ENJOI project to organise the DATA4CitSciNews [flagship conference](#).

The NEWSERA coordination team are now engaged as the scientific coordinators of the Horizon Europe-funded [COALESCE](#) project, established to create the [European Competence Centre for Science Communication](#).

## Labs to cater for the quintuple helix

The NEWSERA Labs were developed to address the needs of the so-called 'quintuple helix' group of stakeholders: citizens; academic scientists; industry and SMEs; the public sector and policymakers; and journalists.

Each Lab identified barriers to effective CS, providing a forum to explore, co-create, test and share the results of solutions. Contributors included the 39 project members, scientists working in academic institutions, science communication and journalism experts, and NEWSERA team members.

To take one example: the 'Citizens and society at large Lab' acknowledges that while citizens can play multiple CS roles – such as acting as human sensors – projects often struggle to recruit beyond those already interested in science or specific issues, especially true for hard-to-reach groups.

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### PROJECT

**NEWSERA – Citizen Science as the new paradigm for Science Communication**

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### COORDINATED BY

Science for Change in Spain

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### FUNDED UNDER

Horizon 2020-Science with and for Society

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### CORDIS FACTSHEET

[cordis.europa.eu/project/id/873125](https://cordis.europa.eu/project/id/873125)

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### PROJECT WEBSITE

[newsera2020.eu](https://newsera2020.eu)



# Making sense of science through storytelling

Participatory science stories give the public opportunities to investigate scientific sources and interpret evidence for themselves. The EU-funded ParCos project explored a range of artistic forms and innovative communication methods.



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To the public, science can seem like a 'black box', less a process and more a finished product, with specialised language and inscrutable peer-reviewed journals. At the same time, social media now makes it easier to spread unevidenced theories and claims.

An effective way of achieving scientific literacy to counter misinformation and build trust in science, is through participatory techniques that engage the public, while setting science in a more familiar context.

"Science communication should become less a formalised educational exercise and more a cultural activity, prioritising interactive, iterative and co-creative experiences," says [ParCos](#) project coordinator Antti Knutas.

This EU-funded project's [three cases studies](#) – in Belgium, Finland and the United Kingdom – were designed to enable audiences to interpret scientific data for themselves, with diverse perspectives encouraged.

## Making data meaningful

Inspired by the people-led [Bristol Approach](#), in each ParCos case study local stakeholders developed stories, with data at their heart, to reflect community concerns.

"We want to bring science to people, not the other way around," explains Knutas. "Data is typically considered objective, but to be useful it has to be interpreted, which can be subjective. Our methods encourage discussions, making data meaningful to communities."

In Finland, ParCos worked with [LUT University](#) to facilitate the co-creation of a [data drama](#) featuring school students from Finland's Lahti area, joined by members of Theatrum Olga.

The group used data collected from the local Lake Vesijärvi by an environmental agency to tell the story of Näkkitär, a mythical character who arrives to ask how the lake became polluted. The play explored the impact of social and economic activities on the lake's water quality from the 1970s to the present day.

"Data can be manipulative, it's not outside political or commercial interests. It can also spotlight what's hidden. But drama can critique things we take for granted. Citizens need the imaginative tools to ask the right questions and to feel empowered to come to their own conclusions," says Knutas.

In the United Kingdom, ParCos has partnered with the [Knowle West Media Centre](#) (KWMC), which works with local communities to find data-driven solutions to the problem of avoidable waste.

Twenty-two households completed audits of materials they typically throw away, to investigate the scale and impact of waste. Participants then suggested sustainable alternatives, helped by three practical ReThink ReMake ReCycle sessions, where tips and experiences were shared.

To present the results interactively, KWMC launched a [free digital magazine](#), featuring tutorials, activities and stories. "As its creator, Chelsea Galloway, explained, the zine acknowledges the audience's different sustainability journeys, giving them support to take part and progress," notes Knutas from LUT University, the project host.

In Belgium, the public broadcaster [VRT](#) co-created an interactive weather app with youngsters, enabling them to revisit weather conditions on the day of their birth, and over time, guided by a presenter who explains the related charts and graphs.

"As weather predictions are a part of daily life, this personalised approach makes larger themes, such as climate change, more relatable for a younger audience," remarks Knutas.

## Rolling out and scaling up

To help others benefit from these techniques, ParCos developed open access [digital support tools](#) for use by the scientific community. These include an overview of each of the [case studies](#) with summaries of objectives, methodology pursued and key lessons learned.

There is also general guidance on [how to adopt the Bristol Approach](#) as a 'people- and issue-led approach to problem-solving', with further information available about its specific adoption in the [Finnish and British case studies](#).

While the [Data Explorer](#) identifies and combines interconnected data sets to tell stories, the [Storyteller](#) provides



*We want to turn science communicators into science enablers, giving the public the critical skills and confidence to challenge unsubstantiated science claims in public discourse.*

a set of data storytelling techniques and strategies and the [Trainer](#) consists of self-reflection cards to help professional science storytellers improve the quality of their stories.

There is also information about [curating data](#) to turn it into stories and adopting [arts-based approaches](#).

“We want to turn science communicators into science enablers, giving the public the critical skills and confidence to challenge unsubstantiated science claims in public discourse,” concludes Knutas.

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**PROJECT**

**ParCos – Participatory Communication of Science**

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**COORDINATED BY**

LUT University in Finland

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**FUNDED UNDER**

Horizon 2020-Science with and for Society

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**CORDIS FACTSHEET**

[cordis.europa.eu/project/id/872500](https://cordis.europa.eu/project/id/872500)

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**PROJECT WEBSITE**

[parcos-project.eu](https://parcos-project.eu)



# Read all about it: a toolkit for quality science communication

A series of toolkits for those working in science communication has been created by the EU-funded **QUEST** project, with advice for academics and journalists alike.

Digital media has opened up a multidirectional information flow in science communication. Citizens have more access to science, from increasingly diverse sources. This connectivity could elicit higher levels of engagement between science and society. But it also poses risks in terms of the quality of the information being shared.

Against this backdrop, the EU-funded **QUEST** project investigated quality across the whole science communication ecosystem

– from scientists and (R&I) stakeholders, through traditional journalism, social media and in museums, to engagement with policymakers and citizens.

QUEST focused on three areas: climate change, vaccines and artificial intelligence. The ultimate goal was to offer citizens more effective and reliable communication on scientific topics that generally have a significant impact on their daily lives.





“This means supporting scientists in dealing with the complexity and uncertainty of science when communicating directly with the general public,” explains [Alessandra Fornetti](#), executive director of the [TEN Program on Sustainability](#) at Venice International University in Italy. “It also means supporting the effective engagement of citizens in scientific debate,” she says.

## Creating the QUEST community

QUEST partners initially started with desk research, supported by interviews. The team then held a series of workshops and focus groups with science communication stakeholders. This included invited professionals from scientific institutions such as [CERN](#), and media practitioners from the BBC and science journalist associations.

This work led to a series of reports on the theory and practice of science communication in Europe. The project also developed a curriculum on science journalism as well as policy recommendations for quality science journalism. These findings, together with the results from the co-design activities, fed into a series of co-created [toolkits](#) to help scientists, journalists, museum facilitators and social media managers better communicate science.

## Co-developing science communication toolkits

The toolkits were based on [12 indicators of quality](#) in science journalism, including values based on trustworthiness, presentation and style, and connection with society. They provide KPIs for measuring and assessing the quality of science communication, something which did not exist before.

One particularly popular co-created toolkit was a [checklist for scientists](#), with lessons to help them craft and fine-tune their message, and effectively deliver it to the public.

Others included a [handbook on academic writing](#) for museum curators, a [checklist for science communicators](#) navigating the world of social media, and [explainers and suggestions](#) covering scientific and statistical concepts for journalists.

“QUEST research, with its [outputs](#) and [publications](#), has significantly contributed to the academic, interdisciplinary debate

*Each of us has the opportunity to listen to science researchers and science communicators confront the current challenges of science and science communication itself.*

on current science communication in Europe,” says Fornetti.

## Sharing best practices around the world

The QUEST team also created a podcast to discuss their findings, with six episodes covering a variety of scientific topics.

“Each of us, as a citizen, has the opportunity to listen to science researchers and science communicators – mostly female – confront the current challenges of science and science communication itself,” Fornetti remarks.

They created an online network to share their findings, including a project website to host the materials, QUEST newsletters with over 400 subscribers, and social media presence with more than 2 300 followers.

“We are proud of the interest that the project continues to attract, especially in the toolkits, from institutions, stakeholders and countries that were not part of the project,” adds Fornetti. “They include countries also from outside Europe, especially in Africa.”

The QUEST project outputs will form part of the new [European Competence Centre for Science Communication](#), as part of the upcoming EU-funded COALESCE project.

**Note: this article was last updated in November 2022.**

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### PROJECT

**QUEST – Quality and Effectiveness in Science and Technology communication**

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### COORDINATED BY

Venice International University in Italy

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### FUNDED UNDER

Horizon 2020-Science with and for Society

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### CORDIS FACTSHEET

[cordis.europa.eu/project/id/824634](https://cordis.europa.eu/project/id/824634)

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### PROJECT WEBSITE

[questproject.eu](https://questproject.eu)





# Breaking down the barriers between science and society

Digital media continues to change the way information spreads through society.

The **RETHINK** project explored how science communication should best evolve and adapt.

Science communication no longer follows a linear pathway from science to the public. An ever expanding world of digital media has added new complexities into the relationship, coinciding with an exponential growth in content.

"We all have to find our way amidst a vast and overwhelming amount of information that is hard, if not impossible to assess independently," says [Frank Kupper](#), associate professor of Science Communication & Public Engagement at Vrije Universiteit Amsterdam (VU Amsterdam). "People make sense of scientific

information based on their own experience, emotions, values and world view," he adds.

In this context, the EU-funded [RETHINK](#) project surveyed the overall science communication landscape, to see what scientists and communicators could do differently when engaging with the public.

"Often, a public conversation about science is already taking place," explains Kupper, RETHINK project coordinator. "Instead



of telling people what they should know, scientists, journalists and communicators should find ways to intensify the dialogue that is already there.”

## Creating spaces to RETHINK science communication

RETHINK organised a series of [Rethinkerspaces](#) across Europe, in Italy, the Netherlands, Poland, Portugal, Serbia, Sweden and the United Kingdom. In these workshops, scientists, communicators and other stakeholders came together to engage in self-reflective inquiry about science communication.



*Instead of telling people what they should know, scientists, journalists and communicators should find ways to intensify the dialogue that is already there.*

“One thing that we observed during the entire RETHINK project was that many scicomm practitioners experience a disconnect between science and the public,” says Kupper. “This perceived disconnect could be related to experiences online, a more general feeling of a polarising society, the reflection that the same people were reached by science communication activities and specific other groups were not, and so on.”

Through discussions, RETHINK participants explored how to connect more with the public, including with audiences that may disagree with them. They highlighted alternative roles for communicators – beyond sharing knowledge – and also assumptions, values and world views, and listening to expressed needs and concerns of others.

## Building trust in science communication

In the wake of the COVID-19 pandemic, climate change and other polemic scientific topics, the role of public trust in science has been thrust into the limelight.

RETHINK revealed how social experiments such as co-creation labs and reflective practices can contribute to a more open way of doing science and help to build this trust. “We should do more than explaining science,” adds Kupper.

“We should ask questions, challenge assumptions and help imagine a better future, while embracing the messiness of the world’s major challenges and the plurality of perspectives involved.”

## Open access to science communication training

RETHINK created a series of [open access policy briefs](#) highlighting results from the project, to help train future practitioners of science communication.

For example, the RETHINK project [revealed most science communicators](#) use mainstream social media to reach a broader audience in new ways, and that scientists indicate that online communication fosters more conversations – things which could be used to improve the quality of interaction between science and society.

The briefs also set out a series of six [virtues](#) to encourage best practice in reflective science communication.

In addition, RETHINK produced a [science communication ‘Training Navigator’](#) to share the latest insights, and a [Tool for mapping the online science communication ecosystem for specific fields of science](#), which allows users to map individuals and organisations that communicate about a specific field of science online.

“I believe it is too easy to point at deficiencies or problems on the side of the public,” concludes Kupper. “I find it more stimulating to think about what we as a scientific and science engagement community could do differently.”

**Note: this article was last updated in November 2022.**

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**PROJECT**  
**RETHINK**

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**COORDINATED BY**  
VU Amsterdam in the Netherlands

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**FUNDED UNDER**  
Horizon 2020-Science with and for Society

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**CORDIS FACTSHEET**  
[cordis.europa.eu/project/id/824573](https://cordis.europa.eu/project/id/824573)

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**PROJECT WEBSITE**  
[rethinkscicomm.eu](https://rethinkscicomm.eu)



# Building public trust in science communication

An EU-funded project explored the reasons behind trust in science, and how journalists, social scientists and policymakers can communicate it better.

Digital media has been a double-edged sword for science communication. While more people are engaging with science online, many are increasingly finding – and sharing – misinformation. The EU-funded [TRESCA](#) project sought to uncover how trust can be fostered in the digital ecosystem.

“A lot of public trust is based on the credibility that you give to certain organisations,” says [Jason Pridmore](#), TRESCA project coordinator. “You’re more likely to trust an organisation if somebody in your general social network trusts them, which is also how misinformation can spread,” he explains.



## Assessing trust through pan-European surveys

TRESCA launched a series of qualitative and quantitative research efforts, including a questionnaire exploring the reasons behind trust in science communication completed by more than 7 000 people across France, Germany, Hungary, Italy, the Netherlands, Poland and Spain.

“Adding a personal story to the scientific communication increased the willingness of people to say this is trustworthy,” remarks Pridmore, vice-dean of Education at the Erasmus School of History, Culture and Communication, in Rotterdam, the Netherlands. He adds that certain countries were less responsive to these stories though.

The team also found high-quality production and strong visual aesthetics to have tangible benefits to levels of trust. “We didn’t anticipate that it would be such a critical issue.” This too holds potential for well-crafted misinformation to spread, he adds. “So you end up with this flip side.”

## The importance of visual communication

One of the outcomes of the TRESCA project was a [video](#) created by consortium partner [Kurzgesagt](#), which explores the challenges in communicating scientific developments to the general public, including the risks of oversimplification.

The video was a tremendous success, and has been viewed by Kurzgesagt’s audience over 10 million times.

“The end product was the culmination of a self-reflexive process,” explains Pridmore, which is necessary in both scientific research and its communication.

## Building greater defences against online misinformation

The team also developed a massive open online course (MOOC), [Science Communication: Communicating Trustworthy Information in the Digital World](#), to help scientists, policymakers and science

communicators learn about each other’s goals, agendas and methods of communication. “The implication is this spills over into the general public, because all three of those different groups are speaking to the public in different ways,” Pridmore notes.

The project also investigated the feasibility of a [misinformation widget](#), an online tool able to quickly assess the trustworthiness of information found online. The team found this sort of system is highly valuable and possible technically – but would require significant financial investment to turn it into an efficient tool aimed at digital media.

There is a follow-up project, [Inspiring and anchoring trust in science](#) (IANUS), which will aim to understand how to foster ‘appropriate scepticism’ in science among the general public.

From April 2023, all projects related to TRESCA will be joined together in the EU-funded COALESCE project, to develop a [European Competence Centre for Science Communication](#). “The intention is that we will have a self-funded organisation that will act as the point of departure for trust in science,” Pridmore says.



*You’re more likely to trust an organisation if somebody in your general social network trusts them, which is also how misinformation can spread.*

**Note: this article was last updated in November 2022.**

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### PROJECT

**TRESCA – Trustworthy, Reliable and Engaging Scientific Communication Approaches**

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### COORDINATED BY

Erasmus University Rotterdam in the Netherlands

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### FUNDED UNDER

Horizon 2020-Science with and for Society

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### CORDIS FACTSHEET

[cordis.europa.eu/project/id/872855](https://cordis.europa.eu/project/id/872855)

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### PROJECT WEBSITE

[trescaproject.eu](https://trescaproject.eu)



# A European network for science communication excellence

To develop and advance science communication within Europe and beyond, the EU-funded COALESCE project aims to strengthen connections between academics, journalists, policymakers and citizens.

Science communication is a vital link between research and society. In order to make informed personal and political choices on issues such as food, technology, medicine, health, the environment, and many more, the public needs access to the best scientific knowledge, communicated effectively.

Yet citizens' access to science faces evolving challenges, both in Europe and around the world. These include a rise in disinformation, a fragmentation of the media landscape, and a general polarisation of views regarding scientific discourse.



In addition, science communication itself is an increasingly varied and democratised practice, with research findings more easily accessible and a proliferation of ways to communicate this to a range of audiences, including via social media, podcasts and blogs.

In recognition of this, the COALESCE project was launched to build a sustainable European Competence Centre for Science Communication, and an associated Science Communication Academy. Together they will foster connections between scientists, journalists, policymakers and citizens across Europe and beyond, and act as a focal point for training, discussions and collaboration in science communication activities.

Coordinated by [Erasmus University Rotterdam](#) in the Netherlands, COALESCE brings together a consortium of 13 European partners. The project draws from a broad section of scientific input, incorporating social sciences and indigenous knowledge, and will work beyond project partners in Europe, with contributions from academics and practitioners in countries as far away as South Africa and New Zealand.

## A European-wide network for excellence

Working together, COALESCE partners will create a virtual Competence Centre represented by national and regional hubs across Europe. The Competence Centre will gather relevant expertise, including projects funded through the EU Science with and for Society (SwafS) programme, as well as other EU-funded and national science-communication projects.

Working with relevant stakeholders, COALESCE will transform this knowledge into tools and best practices to achieve high-quality, evidence-based and interdisciplinary science communication, made available through open access resources.

Recognising the essential role of journalists, editors, press officers, film and audio producers and other creators of scientific content, COALESCE will also set up a Science Communication

Academy under the umbrella of the Competence Centre. This will provide bespoke, tailored science communication training, both self-guided and delivered by experts, directing practitioners to best resources and advice.

To support these twin projects, COALESCE will also establish a library of resources, tools, handbooks and training opportunities in the EU. The COALESCE project will additionally work to translate research, materials and resources, making them available to a broader array of EU citizens and strengthening international connections.

COALESCE acts as a beacon for the future of science communication in Europe, lighting the way to a more connected, informed and engaged society, where citizens are able to access and make use of scientific knowledge in their daily lives. Ultimately the work will ensure a wide range of scientific evidence is more effectively integrated with policymaking across Europe, improving citizens' lives.

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### PROJECT

**COALESCE – Coordinated Opportunities for Advanced Leadership and Engagement in Science Communication in Europe**

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### COORDINATED BY

Erasmus University Rotterdam in the Netherlands

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Horizon Europe Reforming and enhancing the European R&I System

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### CORDIS FACTSHEET

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### PROJECT WEBSITE

[coalesceproject.eu](https://coalesceproject.eu)



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## Celebrating women in science

In 2021, 41 % of those employed in science and engineering were women, up on the year before. Can we do more to encourage young women into careers in science? Episode #32 invites three female researchers to offer insights into what helped, and hindered them, in the development of their careers.

Tune in and enjoy: [cordis.europa.eu/article/id/448411](https://cordis.europa.eu/article/id/448411)



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