



CORDIS Results Pack on ethics and integrity in research

A thematic collection of innovative EU-funded research results

May 2024

Building a culture of trust and excellence



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Building a culture of trust and excellence

Scientific and technological advancements raise complex ethical questions and may have significant societal impacts. The responsible and ethical use of scientific discoveries and novel technologies requires that reflection on the impacts and potential misuse of new technological developments is incorporated into the research process. The eight Horizon-funded projects featured in this Pack invite a rethinking of research governance systems, to ensure that scientific and technological progress, in all areas, goes hand in hand with the values we hold dear.

Ethics and research integrity are [prerequisites](#) for research excellence and for maintaining the trust of society in science, and a critical factor in delivering human-centred green and digital innovations that incorporate our European values. Therefore, advancing ethics and research integrity is of utmost importance in ensuring the EU delivers high-quality science. As demonstrated by the COVID-19 pandemic, amid unprecedented uncertainties, all eyes turn to science to provide guidance and answers. At the same time, the loss of trust in science can impact public health directly. When these crises pose new ethical and societal dilemmas, the consequences can be detrimental. Ensuring a high level of integrity and a high standard of ethics is not only necessary when designing and conducting research, it is of prime importance when making use of research results in a policy context.

World-leading ethical practices

Scientific and technological advancements, including artificial intelligence, new genomic techniques, biomedicine and geoengineering, synthetic biology, and neurotechnology raise complex ethical questions. Responsible research must reflect on the societal impacts and potential misuse of new technological developments. This requires a collective, wide-ranging and inclusive process of reflection and dialogue, based on the values around which we want to organise society and on the role that technologies should play in it.

The European Union is duty-bound to protect and promote its fundamental values and principles, both at home and in [international research and innovation \(R&I\) cooperation](#). Therefore, the Horizon Europe framework requires full adherence to ethical principles, fundamental rights and applicable legislation, promotes an ethics-by-design approach for all relevant Horizon Europe actions, and leads the way in preventing ethics dumping and promoting equitable research partnerships.

Addressing these challenges, the projects highlighted in this Pack illustrate how the EU is actively promoting the development of training, education and capacity-building regarding research integrity principles, and continuously supporting projects that analyse the ethical dimensions and implications of emerging technologies. The projects also promote a dialogue with global partners on ethics and integrity in research, building a constructive culture through improved frameworks, tools and operational procedures supporting the research community, institutions, funders and ethics bodies.

The projects featured in this Pack address a range of aspects related to ethics and integrity in research. While the projects **TechEthos** and **iRECS** are supporting the ethical development and deployment of new technologies with potentially high socio-economic impact, the **HYBRIDA** project analyses the ethical and normative aspects stemming from organoids and their ethical governance.

With **ROSIE**, the focus is instead on the importance of open science as a mechanism for reinforcing research integrity. Guidance has been provided on how to conduct responsible Open Science following ethical and integrity principles and values.

The **SOPs4RI** project developed research integrity standard operating procedures for prevention, detection and handling of research misconduct in research institutions, and **PRO-Ethics** defined a new ethics framework for involving non-traditional stakeholders in research and innovation.

Finally, **ETHNA System** developed an ethics guidance system for responsible research and innovation, while the **PREPARED** project is working on a framework to safeguard ethical values during accelerated research efforts undertaken in crisis situations.

Ethics by design in cutting-edge tech development

Identifying and addressing ethical challenges is a critical step to ensuring that the whole of society can benefit from innovation. The EU-funded TechEthos project offers guidance for the development and deployment of critical new technologies.

While emerging technologies often bring important social, economic and environmental benefits, their development and use can also raise significant ethical concerns and questions. What if it leads to widespread job losses and the need to reskill workers, or creates new data breaches and vulnerabilities for cybercriminals to exploit?

To address these concerns, prioritising ethics and societal values in the design, development and deployment of new technologies is a critical consideration. The [TechEthos](#) project sought to provide guidance on how this can be achieved.

“For the first six months, we analysed and identified new and emerging technologies with high economic and ethical relevance,” explains project coordinator Eva Buchinger, a sociologist at the [AIT Austrian Institute of Technology](#). “We ended up focusing on three areas of innovation that interact with the planet, with the digital world, and with the body.”

Weather control

The first technology of focus was [climate engineering](#), covering innovations designed to help mitigate the impacts of climate change such as carbon dioxide removal and solar radiation modification. Ethical concerns surrounding these technologies include regulation, social inequality, environmental impacts and the imposition of innovations on communities.

A second area was [extended reality](#), advanced computing systems that change how people connect with one another and their surroundings. Key ethical concerns here include content manipulation, and the dangers of digital responses that are indistinguishable from human reality.

Finally, the team looked at the ethical considerations surrounding [neurotechnologies](#), for example, brain computer interfaces for control of prosthetic devices. Ethical concerns include ensuring that humans retain their free will and autonomy, along with privacy issues regarding sensitive data.



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Gauging societal awareness levels

The project team next examined issues such as societal awareness levels and key regulatory issues. Existing guidelines were analysed in order to identify gaps and put forward suggestions, while a major emphasis was placed on citizen interaction. The ethical, legal and societal analyses conducted on the three technologies are [accessible](#) on the project website, along with [fact sheets](#) summarising the findings.

Around 15 science cafes were held across the six project partner countries, and the [TechEthos game](#) developed, with the aim of capturing societal attitudes, values and concerns. “More than 700 citizens were involved in total,” says Buchinger.



Citizens are trusting so long as someone is taking responsibility.

These initiatives resulted in important key insights. The team found that people's concern was not so much about the technology itself, but rather about who is responsible for implementation and oversight. "Citizens are trusting so long as someone is taking responsibility," notes Buchinger. "We didn't expect this sentiment to come out so clearly."

Citizens also expressed concern that decisions are too often driven by financial or populist interests, at the expense of people and the planet.

"These findings underline the importance of having independent research ethics bodies in place, to act as intermediaries," adds Buchinger.

Integrating ethics into tech design

Among the results of the project is the [TechEthos Anticipatory ethics Matrix](#) (TEAeM), a detailed framework that supports the effective governance of new technologies using a combination

of existing frameworks such as [ATE Plus](#), the [Ethical Impact Assessment](#) and a Future Studies approach.

The project website offers suggestions for the revision of existing operational guidelines for climate engineering, neurotechnologies and digital extended reality technologies, and the [Social Readiness Tool](#). The team also contributed to the revision of the [European Code of Conduct for Research Integrity](#) released in June 2023.

PROJECT

TechEthos – Ethics for Technologies with High Socio-Economic Impact

COORDINATED BY

Austrian Institute of Technology (AIT) in Austria

FUNDED UNDER

Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/101006249

PROJECT WEBSITE

techethos.eu



Integrating ethics into emerging technologies

Technological innovation is bringing huge benefits to healthcare and other critical sectors. Robust training and high-level expertise are needed to ensure that this is not at the expense of ethics.

The way research and innovation are conducted is constantly evolving due to emerging new technologies, such as artificial intelligence (AI), extended reality, genome editing and biobanking. In this context, researchers need to preserve the highest ethical standards in order to maintain public trust in their work. The aim of the EU-funded [IRECS](#) project is to address this by developing a robust training programme to prepare a new generation of

researchers and ethics experts to anticipate and mitigate ethical issues in emerging technologies effectively.

The project, which was launched in October 2022 and runs until September 2025, builds on previous work to create a globalised community of research ethics practitioners. These initiatives include the EU-funded [SIENNA](#), [TechEthos](#) and [ENERI](#) projects.

Focus on emerging technologies

Based on the initial mapping of the current and forecast needs of ethics experts and researchers around emerging technology, the project focuses on four emerging technology areas.

The first area is extended reality, a broad term for technologies that create virtual and simulated experiences, including natural language processing models, such as ChatGPT. The second is AI for health. This covers technologies that can automate everything from diagnostics to treatment recommendations and decision-making.

Thirdly, the project examines genome editing technology such as CRISPR, which involves strategically changing DNA to introduce new traits or suppress unwanted ones. The fourth area of focus is biobanks – large-scale collections of human tissue samples that can be used for genealogy, disease research and much more.



Training in ethical research

iRECS is developing robust training for ethics experts to widen the pool of ethics reviewers with expertise in these new technologies and educate on the risks of globalised research. iRECS will train at least 600 ethics experts to evaluate ethical issues in research projects that use these new technologies, to lay the foundation for a permanent training programme.

The project has developed case studies to create the [training materials](#), and published [policy recommendations](#).

Based on this initial work, training programmes looking into the potential ethical impacts of new technologies in four target areas were developed. The materials will eventually be available in six languages and offered in the EU, China, South Korea and West Africa.

Recommendations for an ethical future

Building upon the experience and insights from practitioners, the project has published recommendations and policy briefs for

improving the relevant ethics review and research governance processes. These publications are designed to promote dialogue with global partners on ethics and integrity in research. The publications include [Extended Reality](#), [AI in Healthcare](#), [Genome Editing](#) and [Biobanking](#).

PROJECT

iRECS – improving Research Ethics Expertise and Competences to Ensure Reliability and Trust in Science

COORDINATED BY

Rhenish Friedrich Wilhelm University of Bonn in Germany

FUNDED UNDER

Horizon Europe-Ethics and integrity

CORDIS FACTSHEET

cordis.europa.eu/project/id/101058587

PROJECT WEBSITE

irecs.eu



Ensuring ethics and integrity in organoid research

New guidelines and an ethical code of conduct developed by the EU-funded HYBRIDA project aim to clarify ethical uncertainties and ensure the highest standards for organoid research.

Scientific research continues to advance, opening new perspectives on disease research and delivering innovative new treatments. But with these advances come new issues of ethics and integrity.

Take organoids, for example. These miniaturised and simplified versions of organs are produced in laboratories, and can be grown using human cells, typically stem cells. The question is, are organoids subjects or objects?

"This distinction is important, as scientific research has traditionally been governed by a dualistic ethical framework, with different requirements being applied for the study of objects versus animals or human participants," explains [Søren Holm](#), a professor of Bioethics at the [University of Oslo](#) in Norway.

Organoids challenge our traditional understanding of biological entities, in particular neural organoids and embryo models, which raise contentious ethical issues.

Trying to make sense of this uncertainty is the EU-funded [HYBRIDA](#) project. The project is investigating the ethical and integrity issues raised by new organoid technologies and proposing solutions for addressing these issues.

Uncertain regulatory environment

At the heart of the project was an intense investigation of the ontological, moral and legal status of organoids. This involved philosophical analysis and comparative legal analysis of the status of organoids in EU legislation, as well as in EU Member States and selected foreign jurisdictions. This was combined with stakeholder engagement events with experts, and with citizens in three EU countries.

Holm says the biggest challenges the project faced was dealing with the very rapid scientific developments in the field, and the implications of an uncertain regulatory environment.



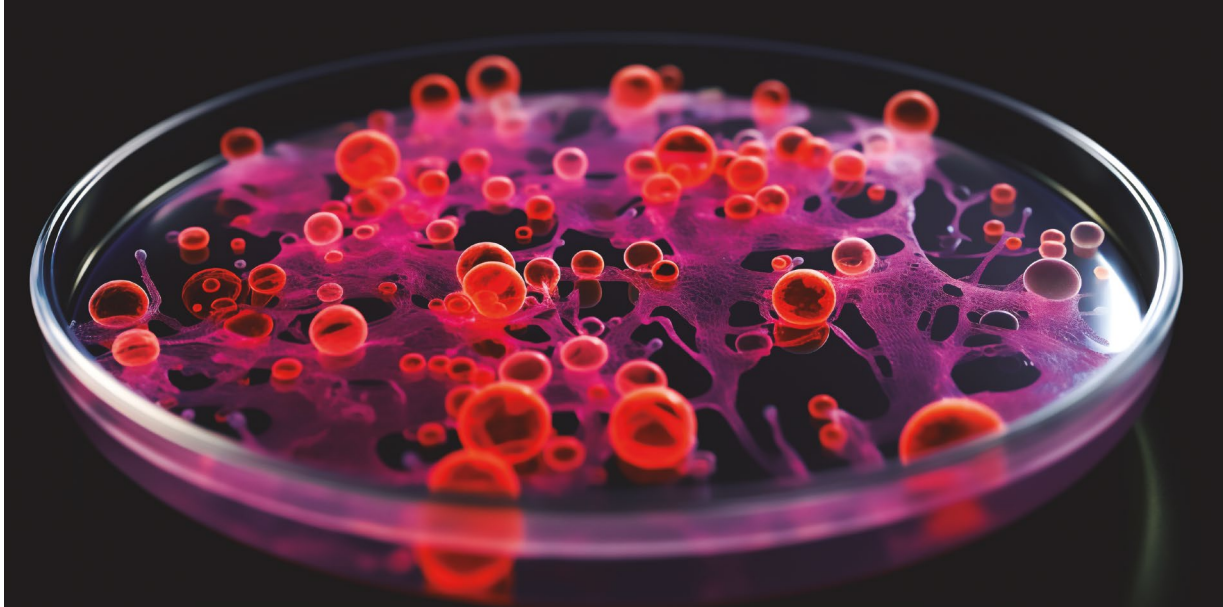
Not only has our work contributed to ensuring integrity in organoid research, it will also help guide further regulatory developments in the field.

"Addressing these issues took a lot of time and effort but was helped considerably by the [project team](#) having some very insightful organoid researchers and some philosophers who were really interested in science," he says.

Guidelines for organoid research

The HYBRIDA team successfully identified different forms of conceptual uncertainty found across organoid research. They also gained a better understanding of the worries, fears and expectations of the general public, vulnerable groups, patients, donors and civil society organisations.

A thorough mapping of existing regulatory, ethics and integrity frameworks regarding organoid research and similar technologies has been conducted in Europe and beyond followed by a comparative analysis.



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Based on these findings, the project produced a number of important outcomes, including [operational guidelines](#) on organoids and organoid-related technologies, a Code for Responsible Conduct for Researchers on Organoids and related fields currently in the process of being implemented by the [European Bank for induced pluripotent Stem Cells](#), and a complement to the [ALLEA European Code of Conduct for Research Integrity](#) (ECoC) to embed the ethical dimension of organoids-based research and related technologies.

HYBRIDA guidelines and the work done to enhance the existing ethics and normative frameworks will greatly support the work of research ethics committees, associated integrity bodies, research organisations and the general public that address concerns and challenges related to organoid research studies and practice.

The work also contributed to the publication of several [peer-reviewed articles](#).

Tools to help improve integrity

The HYBRIDA project demonstrates the possibility of developing implementable tools to help researchers improve integrity in their research.

“Not only has our work contributed to ensuring integrity in organoid research, it will also help guide further regulatory developments in the field,” concludes Holm.

PROJECT

HYBRIDA – Embedding a comprehensive ethical dimension to organoid-based research and resulting technologies

COORDINATED BY

University of Oslo in Norway

FUNDED UNDER

Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/101006012

PROJECT WEBSITE

hybrida-project.eu



Tools to achieve responsible and ethical open science

A knowledge hub, training materials and field-specific guidelines developed by the EU-funded ROSiE project are helping to establish Europe as a centre of responsible open science.

Open science aims to democratise science, providing better access to research data to wider audiences. Furthermore, it is about making science more relevant to society, and reducing the gap between society and the scientific community.

“A key challenge here is meeting the ambition of this openness,” says [ROSiE](#) project coordinator Rosemarie de la Cruz Bernabe,

identify new forms of misconduct and questionable practices brought about by open science.

As not all countries have the same resources or levels of expertise, there is a danger that open science becomes something that only richer countries can invest in. In addition, access to sensitive information can present a security risk, and there are concerns that such information could be used by powerful interest groups to target marginalised groups. When anonymisation is possible, the balance between the benefits of openness and the risks of losing privacy must be carefully evaluated.

All this raises questions about how open science can be achieved in an ethical and equitable manner.

Roadmap towards responsible research

The ROSiE project sought to provide a roadmap towards building open science in Europe in a responsible way. This was achieved through establishing a common understanding of the challenges, building a hub for community practice, and putting in place guidelines complementing the [European Code of Conduct for Research Integrity](#).

The [project team](#) began by carrying out a systematic review of the social and legal implications and challenges facing open science, and conducted consultations with a wide variety of stakeholders.

This led to the development of the [Knowledge Hub](#), a platform which funnels all project results and outputs in a user-friendly



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from the [University of Oslo](#) in Norway. “Open Science can be very expensive because it requires new infrastructures, tools and trained professionals.” Another important challenge is to

way. “We see the Hub as a source for questions about Open Science,” notes Bernabe. “Our ambition is for this to be sustained and built on over the long term.”

Navigating the complexity of open science

One key project resource is the [General Guidelines on Responsible Open Science](#). “This is the first-ever guidance document in Europe on responsible Open Science,” adds Bernabe. The paper focuses on key issues such as the research environment and infrastructure, the protection of participants, ecosystems and cultural heritage, as well as the need for open and reproducible research practices.

Field-specific guidelines on responsible open science were also published in March 2024. The [Discipline-related Guidelines on Responsible Open Science](#) are designed to help researchers navigate the complexity of open science, covering issues such as auditability, responsibility and the protection of personal data.

The ROSiE project also developed training materials to help students, researchers and citizen scientists acquire the skills required for practising responsible open science. Materials were developed for the humanities, health and life sciences, natural sciences and social sciences.

Sustainable Hub, living guidelines

The project, which was completed in February 2024, is now ensuring that the Knowledge Hub is sustainable, and will thrive into the future. The training materials will be made available at the [Embassy of Good Science](#), a community-driven initiative to promote ethics and integrity in research.

Bernabe sees the ROSiE project as a starting point for establishing benchmarks in open science discussions about ethics. “Our hope is that the guidelines become a living document, and will be revised in a few years,” she says.



Our hope is that the guidelines become a living document.

PROJECT

ROSiE – Responsible Open Science in Europe

COORDINATED BY

University of Oslo in Norway

FUNDED UNDER

Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/101006430

PROJECT WEBSITE

rosie-project.eu



Promoting responsible research practices at the institution level

A new Toolbox from the EU-funded SOPs4RI project offers research performing and research funding organisations a wealth of procedures and guidelines to support responsible research practices.

Research integrity is at the heart of reliable and trustworthy science. The good news is that serious violations of good research practices, such as falsification, fabrication and plagiarism, are relatively rare. Some studies have estimated that 1–2 % of scientists are engaged in such practices. Unfortunately, when they do happen, they tend to get considerable attention by the media.

More concerning is the frequency of questionable research practices, including bad research design, methodology and analyses. And there's also the issue of waste, with [one influential paper](#) estimating that 85 % of all clinical research funding is wasted.

"Intended and unintended breaches of integrity and good research practice reduce the quality of the research produced

and the trustworthiness of the results," explains Mads P. Sørensen, a professor at [Aarhus University](#) in Denmark. "If scientific institutions and practices are perceived to be faltering, public trust in science may be jeopardised."

According to Sørensen, research performing organisations (RPOs) and research funding organisations (RFOs) play a key role in promoting responsible research practices. "These organisations play a decisive role in empowering and enabling researchers to act responsibly in their research practices and in



Intended and unintended breaches of integrity and good research practice reduce the quality of the research produced and the trustworthiness of the results.



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detecting and handling breaches of the principles of research integrity,” he says.

But cultivating a responsible research culture and responsible research practices requires that RPOs and RFOs have appropriate policies, procedures and structures in place – which is where the EU-funded [SOPs4RI](#) project comes in.

“SOPs4RI created a collection of easy-to-use standard operating procedures and guidelines that RPOs and RFOs can use to develop their own research integrity promotion plans,” adds Sørensen, who served as the project coordinator.

Addressing research integrity

These procedures and guidelines are provided via the [SOPs4RI Toolbox](#), an open, free and practice-oriented platform designed to support responsible research. “The idea behind the Toolbox is that institutions can use it to create their own research integrity policies and plans,” explains Sørensen.

To start, the project defined the research integrity topics that should be addressed within the research integrity promotion plans. To ensure the Toolbox met actual RPO and RFO needs, it is built on a comprehensive research and development process – a process that included scoping reviews, a Delphi survey, cross-national focus group interviews, co-creation workshops, a multinational survey and pilot testing at 15 institutions.

The outcome of this work is a comprehensive Toolbox that today contains 131 guidelines addressing all research integrity topics and subtopics, including existing high-quality guidelines as well as new guidelines developed within the SOPs4RI project.

The SOPs4RI Toolbox is already being used by several European and international institutions. It is also referenced in the EU’s [Horizon Europe framework programme](#), as well as in the new version of the [ALLEA European Code of Conduct for Research Integrity](#).

In addition to the Toolbox, the project published a number of high-quality academic papers, including in [‘Nature’](#).

Promotion plans

Sørensen says he is confident that more institutions will leverage the Toolbox, using its guidelines as inspiration for creating their own research integrity promotion plans.

“If we really want to do something about research misconduct, questionable research practices and research waste, we can’t only focus on individual researchers – we have to look at the science system, our research culture and what institutions can do,” he concludes. “Our Toolbox and guidelines cover the institutional level.

PROJECT

SOPs4RI – Standard Operating Procedures for Research Integrity

COORDINATED BY

Aarhus University in Denmark

FUNDED UNDER

Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/824481

PROJECT WEBSITE

sops4ri.eu



Rethinking ethics and citizen participation in research and innovation

A new framework and set of guidelines developed by the EU-funded PRO-Ethics project help facilitate the responsibilities of involving citizens and other non-traditional stakeholders in scientific research.

The goal of research funding organisations (RFOs) is to support research and innovation processes to address complex societal needs. To do this effectively, they are increasingly seeking the input of non-traditional stakeholders such as everyday citizens, people affected by relevant issues, NGOs and social entrepreneurs, among others.

“While this inclusion can be vital to creating more relevant and effective processes of research and innovation, the ways citizens and other non-scientific stakeholders are included and the extent to which ethical issues are taken into account are not formalised and differ widely across countries and organisations,” says [Stefanie Schuerz](#), a researcher at Austria’s [Centre for Social Innovation](#).

By means of the EU-funded [PRO-Ethics](#) project, Schuerz led an effort to help fill this gap in scientific practice. “Our goal was to tackle the ethical issues that arise when non-traditional stakeholders participate in research and innovation and, in particular, in the activities of research funding organisations,” she adds.

A testing ground for new approaches to stakeholder participation

To achieve this goal, the project implemented 11 participatory pilots at various research funding agencies. These pilots, which involved a variety of stakeholder groups and employed a diverse set of formats, served as a testing ground for new approaches to stakeholder participation.

The pilots were divided into two phases. In Pilot Phase I, the existing participative programmes and processes of the four involved RFOs were analysed based on a common set of questions. “With the help of analytical partners, the involved RFOs reflected on and gathered learnings from these first experiments, which fed into a training to prepare and implement new pilots during Pilot Phase II,” explains Schuerz.



PRO-Ethics filled an important gap and took a first step in a long path towards rethinking ethics and participation in research and innovation.

Through this iterative methodology, PRO-Ethics was able to create guidelines and assessment tools that were close to the experiences of research funders, and able to achieve quantifiable results.

A framework on ethics in research

The pilots provided project researchers with valuable information to produce the [Ethics Framework and Guidelines for Participatory Processes in the Activities of Research Funding Organizations](#), one of the main outcomes of the project.

Ethics committees and research integrity bodies were actively engaged via interviews and workshops to collect ideas and needs where PRO-Ethics could make a novel contribution.

The Framework supports the ethical preparation, implementation and evaluation of participatory processes in research funding. Specifically, it addresses different contexts, resources and needs that impact how participatory processes can be conducted in an ethical manner, and provides guidance to ensure stakeholder participation takes into account values such as fairness, transparency, equality and privacy.



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“With the Ethics Framework and Guidelines, PRO-Ethics filled an important gap and took a first step in a long path towards rethinking ethics and participation in research and innovation,” remarks Schuerz.

A foundation for more open science

Work continues to ensure funding organisations fully leverage the Ethics Framework and Guidelines, and to expand the project’s research through such Horizon Europe-funded projects as [CHANGER](#), [ECS](#), [IMPETUS](#) and [CitiObs](#).

“We developed an array of materials to share the rich experience made in our pilot projects and built vast networks that will benefit from our work,” concludes Schuerz. “In doing so, we have laid a solid foundation for ethically involving non-traditional stakeholders in research that others can build on.”

PROJECT

PRO-Ethics – Participatory Real Life Experiments in Research and Innovation Funding Organisations on Ethics

COORDINATED BY

Centre for Social Innovation in Austria

FUNDED UNDER

Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/872441

PROJECT WEBSITE

pro-ethics.eu



Seven steps to strengthen research ethics governance

The EU-funded [ETHNA System](#) project has devised ethics governance guidelines to help institutions deliver on commitments to responsible research and innovation.

The [ETHNA System](#) project delivered a step-by-step guide on how to design ethics governance systems, building on internal resources and leadership, and monitor the system once this is in place.

To develop this approach, ETHNA System looked at the latest management practices and tools that are designed to improve integrity, gender perspectives and public engagement in research and higher education, and that are gaining traction. These practices include developing codes of ethics and good practices, setting up ethics committees and implementing an effective means of reporting bad practices.

However, there is still a lack of awareness of how these practices can facilitate research ethics governance, as reflected in the notable lack of integration of such methods.

Designing an integrated ethics system

The ETHNA consortium sought to devise an ethical governance system, to help research organisations put such practices in place.

“Our aim was to develop an easy-to-use and implementable guide, based on recent advances in European and international research,” explains project coordinator Elsa González-Esteban, from [Jaume I University](#) in Spain.

To achieve this, the project brought together an interdisciplinary team with expertise in fields including organisational ethics, gender equity theory, public engagement and open access.

“During the first year, we shared theoretical and practical sources fundamental to designing an integrated system of research

and innovation ethics governance,” says González-Esteban. “We wanted this system to be implementable across different types of organisations, for example those that fund and those that conduct research or innovation.”

Ethical governance system for researchers

This collaborative work resulted in an approach called the [ETHNA System](#). This system involves seven steps, and includes four



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integrated instruments that are needed to deliver responsible research.

These instruments are: a code of ethics and good practices for researchers or people involved in research and innovation (R&I) processes; an ethics committee on R&I; an ethical line (communication channel for involved stakeholders); and a system of performance and monitoring indicators for annual or biannual reporting.

The system was piloted at six organisations in Bulgaria, Estonia, Norway, Portugal and Spain. Key insights gleaned from these pilots have been summarised in the project's [Five-year Sustainability Plan](#), along with an accompanying manual on how to coordinate and train staff.

Making ethical governance a reality

"We were able to develop and publish a number of practical guides and resources for the development of an ethical governance system," notes González-Esteban. These include a seven-step [toolbox](#), which covers issues such as creating an action plan, establishing monitoring indicators and putting in place an internal communication plan.

[Three handbooks](#) on stakeholder engagement have also been published, along with a [blueprint for institutional change](#). In addition to the various project resources published, project milestones and examples of the latest research on integrity, open access and public engagement have been made [available](#).



We wanted this system to be implementable across different types of organisations, for example those that fund and those that conduct research or innovation.

"I think that among the project's results, our [Open Access](#) book on ethics and responsible research and innovation in practice also really stands out," adds González-Esteban. "This is the culmination of over three years of dedicated project work."

González-Esteban and her team believe that the ETHNA System – along with its impressive list of resources – will help to make ethical governance within research institutions far more feasible and implementable.

PROJECT

ETHNA System – Ethics Governance System for RRI in Higher Education, Funding and Research Centres

COORDINATED BY

Jaume I University in Spain

FUNDED UNDER

Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/872360

PROJECT WEBSITE

ethnasystem.eu



Ethics and integrity in times of crisis

In acute emergencies such as the COVID-19 pandemic, researchers are under pressure to deliver results, fast. The EU-funded PREPARED project is designing a framework to safeguard ethics and integrity in a context of accelerated research.

From climate change to war, global pandemics and natural disasters, it can seem like there's a crisis around every corner. Regardless of what the problem is, time is always of the essence. The faster we learn about a crisis, the faster we can come up with solutions.

As was seen with the rapid development of a vaccine during the COVID-19 pandemic, these solutions often demand that scientific research deliver rapid results. But how do we balance the need for quick research with the ethical duty of protecting research participants and producing sound science? How can the



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processes and institutions that are responsible for protecting ethics and integrity in research be better prepared for dealing with crises and accelerated research?

That is the question asked – and being answered – by the EU-funded [PREPARED](#) project.

“Research during global crises needs to be fast, streamlined, unbureaucratic and not duplicative,” says project coordinator Doris Schroeder, professor of Moral Philosophy at [UCLan Cyprus](#) School of Law. “The PREPARED project will look at existing mechanisms and ask whether they can be accelerated and streamlined without endangering the protection of research participants and the trustworthiness of science.”

Global crises affect everyone

Crisis situations often leave researchers, decision makers, governments, industry and the public in uncharted waters.

To help stakeholders better navigate these waters, the PREPARED project has created a network of researchers, funders, policymakers, NGOs, citizens and publishers. Together, this network is actively engaged with those on the frontlines of crises, including healthcare workers and emergency first responders. What is more, the project systematically and actively involves marginalised populations, to ensure that all voices are heard. “Global crises affect all aspects of humanity,” adds Schroeder. “We therefore cannot ignore the human, social, economic and political contexts in our work.”

A framework for crisis research

[During a June 2023 conference held at UNESCO headquarters in Paris](#), the project presented some of its early findings and its innovative approach to policy briefs. How to bridge research ethics and research integrity and how to involve marginalised populations in equitable research were two of the main topics covered.

One presentation highlighted the need for respectful scientific communication during a pandemic. “Scientific communication is fundamental during a pandemic, but responsibility lies with

both the citizens, who need to be careful about what they share on social media platforms, and with scientists, who need to be mindful of the language they employ,” said a speaker.

This time we’ll be better prepared

In addition to the framework, the project also plans to produce a code of conduct, guidelines, case studies, training programmes and fast-track procedures. All of these will then feed into policy options that the project will propose to EU decision makers, helping to promote a dialogue with global partners.

“While it’s only a matter of time before the next crisis hits, our work looks to ensure that when it does, we’ll be better prepared,” concludes Schroeder.

The PREPARED project builds on the work of the EU-funded [TRUST](#) project, whose [Code of Conduct for Equitable Research Partnerships](#) has been adopted by high-profile organisations around the world and recognised as an important reference document by the Council of the European Union, in its conclusions from 2021 on the [Global approach to Research and Innovation](#).

PROJECT

PREPARED – Pro-active Pandemic Crisis Ethics and Integrity Framework

COORDINATED BY

University of Central Lancashire in Cyprus (UCLan Cyprus)

FUNDED UNDER

Horizon Europe-Ethics and integrity

CORDIS FACTSHEET

cordis.europa.eu/project/id/101058094

PROJECT WEBSITE

prepared-project.eu



Further research

The projects featured in this Results Pack illustrate the diversity and impact of recent efforts undertaken by EU-funded researchers to address the issues of ethics and integrity in research. The work builds upon a rich tradition of projects that have generated impactful long-lasting results. Notable examples:

The **TRUST** project aimed to foster adherence to high ethical standards in research globally. Its [Code of Conduct for Equitable Research Partnerships](#) was translated into eleven languages, adopted by several international organisations, including the European Commission, and [endorsed by the Council of the EU](#).

SIENNA developed ethical protocols and codes in three technology areas: human genomics; artificial intelligence (AI) and robotics; and human enhancement. The developed [Ethical Guidance for Research with a Potential for Human Enhancement](#) became a reference document for Horizon Europe applicants, and for the Horizon Europe ethics appraisal process.

The **SHERPA** project developed [recommendations](#) to ensure that ethical and human rights issues regarding AI are recognised and addressed, produced guidelines on ethical development and use of AI, and contributed to the preparation of the Horizon Europe reference guidance on [Ethics By Design and Ethics of Use Approaches for Artificial Intelligence](#).

The project **PANELFIT** contributed to the development of a new ethical and legal framework for the governance of information and communication technologies.

The vivid storytelling and role play in the **Path2Integrity** project's [Learning Card Programme](#) help teach the fundamentals of research integrity to students and early-career researchers, while training modules developed by the **INTEGRITY** project present real-life academic and research dilemmas.

The **BEYOND** project takes a behavioural and evidence-based approach to promote research ethics and research integrity in Europe, with robust methodologies for impactful training.

In addition to individual projects, several networks have resulted from project activities. The [European Network for Research Ethics and Integrity](#) (ENERI) was set up as a permanent platform to facilitate communication and host practical recommendations and tools for researchers. The [European Network of Research Ethics Committees](#) (EUREC) promotes capacity building and assistance for Research Ethics Committees to cooperate in the EU's European Research Area.

The [European Network of Research Integrity Offices](#) (ENRIO) is an informal network that brings together experts dealing with questions about research integrity, while the [Network for Education and Research Quality](#) (NERQ) is a new initiative that resulted from the Path2Integrity and INTEGRITY projects, which aims to increase the quality of teaching in research integrity, research ethics and open science.

Finally, the [Embassy of Good Science Platform](#) was set up as a result of EU-funded projects [EnTIRE](#) and [VIRTZUE](#). The community platform offers support in handling day-to-day research practices and dilemmas, and hosts materials developed by other relevant EU-funded projects.

The European Commission continues to fund projects that support researchers, research ethics committees, research integrity offices, policymakers and other relevant stakeholders. The recently launched **RE4GREEN** project aims to establish a research ethics and integrity framework in the European Research Area to facilitate the transition to a sustainable economy, while **CHANGER** aims at promoting changes in research ethics reviews by supporting researchers and Research Ethics Committees in addressing new challenges posed by new technologies and new research practices.

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