

#### Colophon

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'A Vision & Framework for Research Cultures: Improving the Condition for Researchers, Research ideas, and the Research Endeavour'

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## A VISION & FRAMEWORK FOR RESEARCH CULTURES

Improving the Condition for Researchers, Research Ideas, and the Research Endeavour

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### Introduction and Context

In 2021, as part of a new strategic orientation, Science Europe adopted 'contributing to the evolution of research cultures' as one of its three strategic priorities. At the time, the term 'research culture' was not commonly used in many national research systems in Europe and was hence variably understood. This necessitated a scoping exercise to explore the different perceptions of – and perspectives – on research cultures across institutions throughout Europe.

Using the 2018 definition from the Royal Society: "Research culture encompasses the behaviours, values, expectations, attitudes and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated", an initial scoping discussion was launched amongst the Science Europe membership in 2021. This resulted in a shared recommendation to begin collaboration by determining common values.

Following a year-long discussion between member organisations, a set of shared values was published to serve as a reference to advance the policies and practices implemented by research funding and performing organisations in Europe and as a foundation for collaboration on

international and systemic actions. Over the past three years, with these shared values as a basis, Science Europe has conducted a series of projects and actions to contribute to the evolution of research cultures on a topic-by-topic basis (see Figure 1). Reflecting on the plethora of work done in recent years on research cultures, it is timely to knit together these topic-based discussions and advances, identifying synergies and potential conflicts to ensure that individual and collective actions contribute coherently to the evolution of research cultures across Europe and beyond, in support of excellent and impactful research.

At this point of reflection, Science Europe presents a vision for research cultures to guide future actions of its members and other stakeholders. This vision is complemented by a supporting framework that builds on the knowledge and insight gathered from Science Europe's previous activities. Together, these provide a number of considerations that should be taken into account to ensure that future actions to improve research cultures are effective, efficient, and inclusive.. Finally, this document presents several commitments by Science Europe to support actions that aim to realise the vision presented.



Values lie at the centre of the research system and therefore underlie rigorous research processes and activities, outputs and outcomes, research management, and governance.

#### A VALUE FRAMEWORK FOR THE ORGANISATION OF RESEARCH (2022)



Starting with what we value – applying values to the entire research process

#### OPEN SCIENCE AS PART OF A WELL-FUNCTIONING RESEARCH SYSTEM (2022)



Striving for open, equitable, & seamless collaboration between all actors

#### RECOGNISING WHAT WE VALUE (2023)



Aligning recognition systems to shared values

#### ACTION PLAN SUPPORTING COARA (2024)



Supporting research assessment reform for the benefit of all

#### CONTRIBUTING TO THE EVOLUTION OF RESEARCH CULTURES

#### PRACTICAL GUIDE TO SUPPORTING DIVERSITY IN RESEARCH ENVIRONMENTS (2024)



Placing diversity & inclusion at the centre of research quality & impact

#### INTEGRITY AT THE HEART OF HEALTHY AND EFFECTIVE RESEARCH CULTURES (2024)



Ensuring integrity is a cornerstone of the evolution of research cultures

#### SURVEY REPORT STRATEGIC APPROACHES TO, AND RESEARCH ASSESSMENT OF, OPEN SCIENCE (2024)



Exploring common actions for open science & research assessment reform

#### ATTRACTIVE CAREERS IN RESEARCH: THE EXPECTATIONS & ROLES OF DIFFERENT STAKEHOLDER GROUPS (2024)



Enabling attractive conditions for talented professionals

**Figure 1** – An overview of the diverse actions Science Europe has conducted in 2021 - 2024 as part of its work towards the strategic priority of 'contributing to the evolution of research cultures'.

#### **CHAPTER ONE**

# AVISION FOR RESEARCH CULTURES

# A Vision for Research Cultures

Building upon the work done by Science Europe and others on the topic of research cultures, Science Europe proposes a vision that supports knowledge advancement and the quality and impact of research, for the benefit of all.

The evolution of research cultures is a dynamic process, contingent upon many factors, and requiring actions that are in many cases interdependent. Cultural change takes time; this vision provides an outlook towards 2040, reflecting the need to direct action for a sustained period of time to achieve. It sets out a concrete list of goals that will require both individual and collective action to achieve. In reaching this vision, we will ensure that the research sector is a cornerstone of – and a valued and trusted component within – our societies.

#### In the coming decades, we aim for research cultures where:

Careers in research are attractive, sustainable, and well-supported both publicly and privately.

There is space for many different roles and research career trajectories, and the sector welcomes people with a variety of different backgrounds, skills, and competencies. All research professionals are supported in their personal and professional development across these varied career tracks. They are recognised and rewarded for all types of contributions. Individuals are evaluated based on competencies and skills in addition to outputs. Inter- or multisectoral careers are valorised by a diverse array of public and private organisations and investments.

 Key Values: Autonomy & Freedom; Care & Collegiality; Equality, Diversity, & Inclusion

Research systems are diverse and inclusive. They lead to a broad range of research ideas, as well as a diverse array of contributions.

The demographics of people working in the research profession at all career stages reflects the diversity present in our societies. This diversity pervades across research ideas, activities, outputs, and impact. The value of all experiences and competencies pertinent to research are considered in hiring, promotion, and other evaluations; a broader range of experiences and competencies is fostered in training and professional development as well. Research professionals are empowered and protected by their organisations to act against any discrimination or unfair treatment in the work environment. While knowledge advancement is still the main output of research, all valuable contributions to research are recognised adequately.

Key Values: Openness & Transparency;
 Equality, Diversity, & Inclusion

Research is embedded in society and seen as a shared endeavour where all domains/forms of knowledge production are valued, and everyone can play a role.

The public understands the value of research and the scientific method. Public engagement is deeply embedded across the research life cycle, and society participates as a valued collaborator wherever meaningful and possible. In the same vein, the public are engaged in – and trusting of – research systems as the primary source of knowledge and its uses. New tools and technologies (such as artificial intelligence) are used responsibly, whilst threats are proactively mitigated. This will allow co-creation, creativity, and collaboration across all levels of the research process.

 Key Values: Collaboration; Openness & Transparency

The research sector acts as a role model, setting examples of transparent, effective, fair, and sustainable policies and practices.

The global research system leads the way, offering not only pioneering solutions, but also models for their implementation and impact. As a norm, research contributions are shared globally in a FAIR way using sustainable infrastructure, platforms, and tools, thus facilitating research progress and transparency, promoting equal opportunities, and fostering trust in science. Further, it supports the responsible and transparent application of knowledge security and open strategic autonomy in research. Research is climate-friendly and sustainable.

Key Values: Care & Collegiality;
 Collaboration; Openness & Transparency

All research is done at the highest levels of integrity and ethics, ensuring that research processes are trustworthy, and outputs most effectively contribute to knowledge advancement.

Research integrity and ethics are of central importance when conceiving and implementing research activities, ensuring that the derived results, outputs, and communications are rigorous and trustworthy, regardless of whether they break paradigms or contribute to furthering consensus. Incentives and recognition structures are focussed on enabling integrity and ethics as a priority.

 Key Values: Integrity & Ethics; Care & Collegiality; Collaboration; Equality, Diversity, & Inclusion; Openness & Transparency

Research professionals and institutions have full academic freedom and autonomy to pursue their ideas, supported by adequate funding, infrastructure, and support mechanisms.

National and international research spending targets are ambitiously set and met, and institutions and individuals have the freedom and autonomy to advance knowledge across all research domains in a way deemed most suitable. Decision makers and national ministries value and defend this academic freedom and understand its vital role in knowledge advancement and innovation. Research professionals and institutions use the trust and autonomy bestowed upon them appropriately in their standing towards society.

 Key Values: Autonomy & Freedom; Equality, Diversity, & Inclusion The research system is collaborative and supportive, where everyone involved values each other for what they bring to the system.

Research professionals work in environments conducive to their needs. Diverse and collaborative teams that aim to advance knowledge and solve the many societal challenges are supported effectively. Single-/multi-/inter-/trans-disciplinary approaches are supported and enabled equally. More experienced research professionals support and provide guidance and mentorship to early-career research professionals, empowering them to actively shape the future of the research cultures together. Junior research professionals are exposed to and value diverse knowledge and experiences. All research professionals contribute to conditions for shared growth and development.

 Key Values: Collaboration; Care & Collegiality; Equality, Diversity, & Inclusion

Discussions on research cultures are considered an integral aspect of group, institutional, and international research endeavours.

Research ecosystems reflect, in all aspects, the shared values they are built upon. People working across all research-related roles are driven and fulfilled, well-supported, and proud to contribute to the sector. The processes that support healthy research cultures are effective, and responsive to an ever-shifting landscape. Management and governance structures enable the development and implementation of policies and practices that are innovative, structured, and supportive of the sector. Research is focussed on a globally shared mission: to advance knowledge for the betterment of society and the world around us.

 Key Values: Autonomy & Freedom; Integrity & Ethics; Care & Collegiality; Collaboration; Equality, Diversity, & Inclusion; Openness & Transparency

#### **CHAPTER TWO**

A FRAMEWORK
TO SUPPORT THE
ADVANCEMENT OF
RESEARCH CULTURES

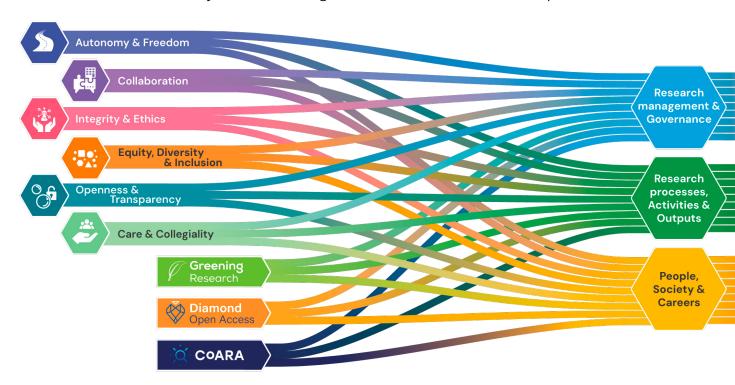
# A Framework to Support the Advancement of Research Cultures

As the use of the term 'research culture' becomes more prevalent in research systems across Europe and the world, it is important to reflect upon and review the concept itself: what it encompasses, how it is and can be used, and what value it brings to discussions and advances across the research (policy) landscape.

As a shared understanding of the concept of research cultures has developed within Science Europe and across its Member Organisations, the breadth of possible activities and actions has expanded (as highlighted in the introduction). Importantly, the concept of research cultures has served as a centre-point and foundation for actions allowing links and bridges to be developed between once independent policy discussions, moving away from siloed thinking to a more holistic approach to research policy advancement. It has enabled collaborative discussions between stakeholder groups, recognising common priorities whilst simultaneously accommodating

differences in expectations, and promoting reflections of effects and unintended consequences of policy and practice change proposals.

Science Europe has placed shared values at the core of its work on research culture, and the concept of 'starting with what you value' (see the **INORMS SCOPE framework**) has enabled international dialogue. The common objective of supporting knowledge advancement and enabling research quality and impact guides the implementation of these shared values and links different components of research systems, from 'people, society, and careers', to 'research governance and management', and to the 'process, outputs, and outcomes of research'. It is with this structure in mind that Science Europe approaches the many policy positions, initiatives, and movements that are changing our research systems, from the Coalition for Advancing Research Assessment (CoARA) to the open science movement, and from the European Code of Con-



**Figure 2** – An overview of the levels, components, and actions that shape research systems, including examples of key international intiatives, highlighting the role and position of research cultures as the fabric that connects concepts.

duct for Research Integrity to the initiatives for greening research systems, ensuring that our collective work serves the needs of our shared research ecosystem, research professionals, and wider society.

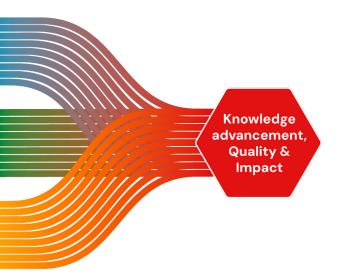
The concept of research cultures can be viewed as the glue that holds the many facets of our R&I systems together. Based on Science Europe's mature discussions on the concept, to contribute to the evolution of research cultures, these general framework actions should be considered:

- State what is valued openly, why it is valued, and how it can be translated into policy and practice.
- Incorporate research culture perspectives into organisation-wide mission and vision statements, transparently communicating specific areas of competency and responsibility.
- Safeguard knowledge advancement and the enablement of research quality and impact as core priorities, while broadening perspectives and remaining open to new advances and initiatives across the research landscape.
- Promote policy and practice coherence whenever it is beneficial whilst allowing for differing expectations and priorities, divergent and diverse approaches, and ensuring collaborative, constructive discussions and joint actions between stakeholder groups.

- Contribute to an open evidence pool, experimenting and piloting actions, and sharing analyses, success stories, and lesson learned wherever possible for the benefit of research communities and the research system.
- Invest in and support platforms, tools, and facilities that can enable systemic change, involving stakeholders in their co-creation and management whilst ensuring their longterm sustainability.
- Embed community feedback mechanisms and change management processes into adaptations to ensure engaged, open, and responsive advances are made.
- Establish short-, medium-, and long-term objectives, recognising that actions to change research cultures are often interdependent and take time to initiate, embed, and normalise.
- Advocate and transparently communicate about the actions being undertaken and their objectives and outcomes.
- Implement actions in a careful and considered manner, working collaboratively with those implicated.
- Ensure that interventions proposed to improve research cultures enable research professionals to focus on their daily work and contributions to knowledge advancement and do not create additional or unnecessary burden.

These framework actions are applicable to all components of our research systems, where actors contributing to each component have specific roles and responsibilities towards the framework actions. They are here denoted by:

- People, society, and careers
- The research process, activities, outputs, and outcomes
- Research management and governance



This supporting framework emphasises how strategic priorities should be translated through shared values across all components of the research system, and how policy and practice movements across a multitude of policy topics can be viewed and approached in interconnected ways to ensure that they collectively contribute to further embedding shared values and promote the core mission of knowledge advancement, and quality and impact.

### The Way Forward

The vision presented offers a direction and target for action by research stakeholders. The supporting framework highlights conditions that can help ensure the effectiveness and utility of these actions. However, unless we act on our words, research cultures will not evolve and our shared ecosystem will not reach its potential. As such, Science Europe makes the following commitments:



Establish and engage in community dialogue with research professionals, projects, institutions, and policy initiatives that have a stake in the realisation of this vision. Whenever relevant, actions will be co-developed and collaboratively implemented.



Bring together, centralise, and maintain a select list of existing good practices, policies, and initiatives through a public map and observatory of key actions that contribute to the evolution of research cultures towards our vision.



Support this map by linking and adding analyses and evidence of how such actions positively impact upon research cultures, thus further contributing to evidence-based advances.



Work with all relevant stakeholders to share knowledge, promote advancement, and collaboratively support initiatives and actions that hold potential for significant progress towards this vision.



Periodically reflect on and review the values that guide our work: adapting, updating, and transparently communicating any changes in line with the needs of research cultures.



Take a co-ordinating role in ensuring that current and future initiatives are implemented in a co-ordinated way, through a research culture lens (as highlighted in the framework).



Establish a qualitative progress barometer towards the vision, updated annually by Science Europe. Engage research stakeholders to track and communicate progress, and offer a forum for Science Europe Members to discuss challenges and lessons learned during the implementation of actions.



Ensure that all activities and actions align with the values that underpin Science Europe's work to contribute to the evolution of research cultures.





Science Europe is the association of major research funding and research performing organisations in Europe

Our vision is for the European Research Area to have the optimal conditions to support robust education and research & innovation systems.

We define long-term perspectives for European research and champion best-practice approaches that enable high-quality research for knowledge advancement and the needs of society.

We are uniquely placed to lead advancements to the European Research Area and inform global developments through participation in research initiatives where science is a strong and trusted component of sustainable economic, environmental, and societal development.

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