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Foreword

It is my pleasure to introduce this report on research assessment, which compiles a range of achievements and practices from 30 projects funded under Horizon 2020 and Horizon Europe.

[Research assessment](#) has paramount significance in the realm of academia, research and innovation, and is instrumental in steering knowledge creation and identifying and acknowledging contributions thus fostering a culture of excellence. This topic is of shared concern, as it engages both researchers and researchers' employers and funders collectively.

The European Research Executive Agency (REA), entrusted by the European Commission with the management of significant parts of the EU research and innovation framework programmes, together with the Commission, recognised the need to map activities, showcase tested or implemented approaches and identify promising practices, aiming to inform citizens, stakeholders and policymakers on the current landscape of research assessment activities, and inspire transformations at the institutional, national and European levels.

The report was drafted by a team of independent experts and is based on the analysis of project outputs and deliverables, including the policy briefs provided by the consortia. The report identifies not only promising and good practices, but also aspects that require enhancement and improvement. Therefore, it seeks to elaborate on the transformative impact of both ongoing and future measures, and to shed light on some of the challenges encountered.

With this report, we provide evidence on the implementation of the European Research Area (ERA) policy agenda, specifically on [ERA Action 3](#), which focuses on the reform of the assessment system for research, researchers and institutions.

As research assessment gains prominence, this report facilitates relevant policy feedback from the projects that will contribute to meeting the dynamic needs of the research community.

Marc Tachelet
Director
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Introduction

Aim and focus

This report addresses the contributions of projects funded by Horizon 2020 and Horizon Europe to the reform of research assessment practices. It is part of a series of three reports, produced in parallel, that take stock of the progress and promising practices generated by a selection of EU-funded projects on skills, research assessment reform and by the research and innovation (R&I) activities of the Horizon 2020 ‘Science with and for Society’ (SwafS) projects supporting the [European University Alliances](#) (hereafter alliances). This report is the first to capture contributions of EU-funded projects on research assessment since the publication of the [Agreement on Reforming Research Assessment](#) in 2021. It gives an overview of the evidence relating to the practices implemented so far, on the basis of emerging and interim activities and outputs. While this first report could only include the early-stage developments, many further activities, outputs and outcomes are likely to develop at a fast pace in the coming years.

The report approaches the reform of research assessment practices through the principles enshrined in the agreement. At the core of the agreement is a shared vision for research assessment practices that focuses on a diversity of activities and roles that contribute to the quality and impact of research, entailing a shift towards qualitative assessment supported by the responsible use of quantitative indicators. The agreement sets a common direction for organisations funding and performing research to adapt their assessment practices when it comes to research projects, researchers and research-performing organisations (RPOs) for the purposes of, for example, funding allocation, recruitment and appraisal practices and the design of research strategies. The wider policy context of the topic is described in Section 5.

The aim of the report is to map research assessment activities that are tested, developed and implemented through EU-funded projects, and to support the dissemination of good practices stemming from them, along with analysing their role in contributing to the wider cultural change underpinning the movement towards reformed research assessment. The report serves to share information with EU and national policymakers, research-funding organisations (RFOs) and RPOs. Furthermore, the report presents policy recommendations relating to research assessment, to support the attainment of the commitments enshrined in the agreement on reforming research assessment.

The analysis looked at projects focusing on the R&I activities of the alliances funded under Horizon 2020 SwafS, that address the institutional transformations of universities through integrated and transnational collaboration. Out of 39 alliance projects, 21 were identified as having contributed one way or the other to advancing the research assessment reform and were analysed. The analysis covered nine additional projects that focus on developing solutions for the research assessment reform in a more targeted way, and projects that cover aspects related to it as a part of their wider activities. This means that the report also covers some projects that are thematically focused on building capacity in areas such as open science, research careers and the pursuit of gender equality. Given the diversity of projects that can be seen as linked to research assessment, the report does not claim to

have captured all recent projects funded by the EU that have created relevant knowledge or outcomes contributing to reforming research assessment. It should also be noted that the review only covered materials that were available in December 2023 from completed and ongoing projects. The goal of the report is, therefore, to give a broad overview of the kinds of contributions that relevant projects have made or are currently working on to support reformed research assessment, and to analyse their role and potential need for further work in the area.

Approach

This report reviews research-assessment-related activities from 21 alliance projects funded under Horizon 2020 SwafS working on the R & I dimension, and from nine projects funded by Horizon 2020 and Horizon Europe that were identified by the REA and the Commission's Directorate-General for Research and Innovation for the purposes of the report. These projects were supported through SwafS calls in Horizon 2020, 'Research Infrastructures' projects within the European Open Science Cloud (EOSC) and 'Enhancing the European R&I system' calls under the 'Widening participation and strengthening the European Research Area' (WIDERA) work programme in Horizon Europe. The projects were selected by the REA and the Directorate-General for Research and Innovation via a combination of keyword searches on CORDIS and existing knowledge across the team.

The review of these projects drew on four sources of data:

- project documentation, including grant agreements, interim review reports and deliverables, together with publicly available material on project and institution websites;
- policy briefs that the Commission requested the alliances and their R&I projects to write in 2022 and 2023 as part of the formal reporting processes, and which included the following question: 'In light of the policy process on the reform of assessment of research and institutions, what are your recommendations on how to address academic/researcher career assessment?'
- responses to a further qualitative survey of project coordinators, collected in autumn 2023, seeking information on activities focused on, or relevant to, research assessment that the project had conducted or was planning to conduct, and asking for a summary of any results, to date, from these activities, and indication of good practices that had been identified from these activities;
- online interviews and participation in project-led events focused on research assessment that had been organised during the period of the review (autumn 2023).

To support the analysis of the available project documentation of ongoing projects, the authors of the report conducted two interviews and participated in two events organised by alliances and their projects.

The analysis of these sources was guided by a framework consisting of:

- types of activities and contributions: analysis of the different types of relevant activities and contributions made by the alliances and a selection of funded projects focused on research assessment or related areas;

- contexts of assessment: the assessment of research systems, organisations, research projects or individual researchers.

The principles and commitments for research assessment, as described in the agreement on reforming research assessment, consist of the following: ethics and integrity; scientific freedom; organisational autonomy; independence and transparency; focus on quality; recognition of impacts; recognition of the diversity of research activities, practices and outputs; promotion of criteria and processes that respect the variety of disciplines, research types and career stages; valorising diversity in research roles and careers; gender equality, equal opportunities and inclusiveness. These principles and commitments served as a guide in identifying promising practices among the activities analysed.

Executive summary

Scope

This report maps the contributions of 30 projects funded through Horizon 2020 and Horizon Europe to understanding and enacting the reform of research assessment. It approaches the reform of research assessment practices through the principles enshrined in the agreement on reforming research assessment. The report identifies relevant activities and results, analyses their role in contributing to the wider cultural change underpinning the movement towards reformed research assessment, disseminates promising practices and explores the potential for further work in this area. The sources reviewed include project documentation, qualitative survey responses by the coordinators and information from a small number of interviews and informal conversations, along with participation in events.

Contributions of funded projects

Nine projects funded through SwafS in Horizon 2020, and through the Infra-EOSC and WIDERA calls in Horizon Europe, revealed several clusters of activities contributing to research assessment reform:

- activities to strengthen the evidence base in which to ground systemic reform and organisational change, such as state-of-the-art reviews of literature and practice, development of conceptual tools and theoretical models, conduct of case studies, longitudinal analyses, and findings from trials and pilots;
- development of frameworks and models to inform organisational and system-level practices, along with associated guidance;
- development of infrastructure and dedicated tools and services for research assessment, including artificial intelligence (AI): data storage, analytics, automated assessment tools, reproducibility;
- (less prominently represented, with the exception of) interventions to support organisational change and development, such as cascade funding, awareness raising, engagement and communication.

21 alliance projects analysed also pursued several types of activities:

- gathering, reviewing and sharing evidence about research assessment through internal consultation, surveys and peer exchanges, and through literature reviews and good practice reviews;
- benchmarking and bench-learning activities;
- development or application of frameworks and indicators for research assessment;
- taking steps towards a common approach in supporting the institutional processes for reforming assessment frameworks, such as manifestos, common framework policies, joint participation in the [Coalition for Advancing Research Assessment \(CoARA\)](#), or alignment of the [Human Resources Strategy for Researchers \(HRS4R\)](#) action plans;
 - organising internal or multi-alliance events on research assessment;
 - (less commonly) conducting pilots, trials and feasibility studies;
 - (very rarely) having a dedicated workstream on research assessment.

Features of promising practices

Promising practices across all reviewed projects were characterised, among other features, by alignment with the principles of the agreement on reforming research assessment and more broadly with responsible research and innovation (RRI); embedding and recognising open science; efforts towards catalysing and inspiring organisational change; focus on diversity and fairness; adopting a self-reflective approach, for example through trialling or piloting; engaging in collaborative and synergetic action; consideration of alternative approaches and criteria, of impact and innovation, and of participatory, process-oriented and formative approaches.

Alignment with the principles of the agreement

The analysis of the contributions of the projects in light of the distinctive principles of the agreement revealed a diversity of approaches and different perspectives for measures that can be taken to reform the existing assessment practices (in line with the agreement). This more thematically oriented analysis revealed, in the case of most principles, an uneven coverage of all of their elements, which are broadly defined in the agreement and in most cases describe several different aspects. This is mainly due to the funding calls having emphasised areas such as open science and gender equality in recent years, resulting in a variety of project activities developing related solutions. Areas where contributions seemed to be missing were highlighted in the recommendations, whereas the reasons for the lack of concrete activities focusing on concepts of qualitative assessment or the acknowledgement of cross-sectoral work experience, for example, can reveal valuable insights into the types of challenges research stakeholders are facing in reforming their assessment, and should be further explored.

Recommendations

In the light of the evidence reviewed and the conclusions of the analysis, the authors of the report make recommendations to the Commission, CoARA, RFOs, RPOs and alliances. Overall, these recommendations are aimed at improving alignment with the principles, and implementation of the commitments of the agreement on reforming research assessment. Specific recommendations focus on diversifying and further increasing the effectiveness of funding programmes and instruments supporting the reform of research assessment, including ensuring fuller coverage of the different contexts of assessment; facilitating cultural change in research assessment; and finding solutions to tackle structural limitations and systemic challenges that may otherwise hinder the reform efforts.

1. Policy context

This report provides insights into the early stages of the European movement towards reforming research assessment that has gained momentum since 2021. It takes stock of developments in advancing and reforming research assessment approaches across the EU, but that can also be relevant internationally.

The past 3 years have seen a number of important milestones on consolidating support for a reform of current research assessment mechanisms, criteria and approaches, occurring in parallel at the political level and at the level of the research communities. In early 2021, the Commission started a [consultation of European research organisations](#) to identify how to improve research assessment. Following the publication of a consultation report in November 2021, [Towards a Reform of the Research Assessment System](#), the Commission facilitated a co-creation process to reach an agreement on reforming research assessment that describes common objectives and commitments for changing assessment practices for research, researchers and RPOs. The objective was to support a cultural change towards an assessment system that recognises a diversity of outputs, practices and activities that contribute to the quality and impact of research. The initiative gathered research funders, universities and other RPOs and their associations, national and regional authorities, evaluation agencies, learned societies and researcher associations to define the content of the agreement. The process was driven by a drafting team that included representatives of the European University Association, Science Europe, Dr Karen Stroobants in her individual capacity, and the Commission. The process was also guided by a core group of 20 organisations representing the research sector and consultation with the Member States and associated countries. At the core of the vision was placing qualitative assessment at the centre of evaluation frameworks, for which peer review is considered essential, supported by the responsible use of quantitative indicators.

Subsequently, the Member States referred to research assessment in the Council of the European Union recommendation on the ERA [Pact for Research and Innovation \(R&I\)](#) from November 2021 and emphasised that, in this context, quality should refer to world-class research producing verifiable and reproducible results, and highlighted the transparency of the research process and the related methodologies, along with the need for research management that enables the systematic use of existing results. The pact also called for the further development of research assessment to include the rewarding of impact, open science practices, leadership, engagement with society and other sectors such as industry, along with considering a broad range of research outputs and activities while accounting for a variety of career paths.

In 2022, an ERA action was created to facilitate a dialogue between Member States, the Commission and stakeholders on research assessment as part of the first policy agenda implementing the commitments in the pact for R&I ([ERA Action 3](#), running from 2022 to 2024). This enabled the creation of a platform for analysing administrative barriers to the full implementation of the principles of the reform at the institutional, national and international levels, and facilitating the formation of coalitions to speed up the modernisation of assessment systems. In parallel, related actions were launched that focused, among others, on enabling open science and the EOSC ([ERA Action 1](#)), supporting research careers ([ERA](#)

[Action 4](#)), empowering higher-education institutions ([ERA Action 13](#)) and enhancing research institutions' strategic capacity for research management ([ERA Action 17](#)).

In June 2022, the [Council conclusions](#) noted the momentum gained through such initiatives, calls, reports and recommendations, and stressed the importance of a joint and inclusive approach towards transforming research assessment systems, taking into account developments in open science and promoting diversity, ethics and integrity in research, across the different layers and contexts of assessment (individuals, teams, organisations, infrastructure, outputs, projects), and across different trans/national and inter/disciplinary contexts. The conclusions identified the alliances and other stakeholders as potential testbeds for such transformation.

The agreement on reforming research assessment was published in July 2022, describing the principles, commitments and a timeline for reforms, including principles for establishing CoARA that would focus on bringing together organisations that were motivated to collaborate in order to implement the commitments. The 10 commitments in the agreement included recognising diversity in research, prioritising qualitative evaluation rather than inappropriate uses of metrics and rankings, reviewing and revising criteria and tools for research assessment, and investing in organisational change, exchange and mutual learning, and transparent communication and training.

CoARA was formally constituted in December 2022 to enable a systemic reform of research assessment on the basis of the agreement; as of 22 January 2024, 682 organisations had signed the agreement and 600 organisations worldwide had also joined CoARA. Several working groups and national chapters are already active. Since October 2023, the Commission has been funding CoARA Boost under Horizon Europe, to support, catalyse and extend the work of CoARA through operational support, cascading grants to institutions and outreach activities. Further information on CoARA's activities will be referenced throughout this report in relation to the support provided for them through CoARA Boost. The launch of CoARA and its working groups represents a new stage in the movement towards the implementation of the reform. At the same time, the political support of the Council and the Commission provides a promising starting point for individual and collaborative efforts in adopting concrete measures for changes. The political backing for the movement has already been translated into increased funding opportunities through Horizon Europe, dedicated to facilitating such endeavours through transnational collaboration. These developments constitute the starting point for evaluating the current efforts and the future needs for supporting such efforts from the EU level and beyond.

2. Research assessment activities in Horizon-funded projects

This section focuses on the description and analysis of nine projects funded through the following funding calls: SwafS in Horizon 2020 and Infra-EOSC and WIDERA calls in Horizon Europe, contributing to the research assessment reform. The projects supporting the work of the alliances will be covered in Section 5 of this report.

2.1 Mapping of Horizon 2020 and Horizon Europe projects contributing to research assessment reform

The table in Annex 1 includes short descriptions of the main elements of the work that the nine projects identified and analysed have conducted (or are currently working on) when it comes to research assessment and its reform at the level of research projects, researchers or RPOs, together with summaries of aspects of promising practices identified through these activities and their outcomes.

2.2. Contributions of projects funded by Horizon 2020 and Horizon Europe to research assessment reform

As indicated in Annex 1, the projects analysed are ongoing and many of the activities relevant to research assessment are still at an early stage, with the exception of ‘Open responsible research and innovation to further outstanding knowledge’ (ORION), ‘Supporting the promotion of equality in research and academia’ (SUPERA) and ‘Grant Allocation Disparities from a Gender Perspective’ (GRANTeD). In addition, some of the activities were designed and/or completed prior to the strong momentum around responsible assessment that led to recommendations and conclusions by the Council and ultimately to the crystallisation and formalisation of CoARA. We have retained such activities in the analysis where we deemed them directly or implicitly relevant to research assessment, as they contributed to the wave of initiatives and discursive shifts that enabled the call for reform and subsequent policy action and investment of funds.

The analytic summary below, thus, includes both direct and indirect relevant contributions, from both planned and completed activities. As summarised in the table in Annex 1, most of the projects reviewed focus on contexts of assessment that concern researchers (e.g. in terms of criteria for career progression and of aspects of diversity and fairness) or are at an aggregate, systemic level (including RFOs). Although there is considerable focus on organisations as assessment agents (e.g. by performing researcher assessments), it is not matched by an equally strong focus on organisations as objects of assessment (e.g. in national assessment exercises, excellence schemes or benchmarking exercises). Finally, the level of assessment with the least coverage across the projects reviewed is that of the assessment of research projects.

Across the nine projects reviewed, several clusters of activities were more commonly planned or implemented. These include, firstly, a sustained effort to **strengthen the evidence base** in which to ground systemic reform and organisational change. To do so, many project teams conducted **in-depth, state-of-the-art reviews of literature and practice and on that basis developed conceptual tools** and theoretical models to inform further, more applied measures. For example, 'Sustainable Careers for Researcher Empowerment' (SECURE) completed two state-of-the-art reviews, namely of research career frameworks and tenure track-like models, which incorporated evidence about the extent to which existing career-related research assessment practices and frameworks adequately and transparently include open science, gender equality and different dimensions of diversity. GRANTeD conducted a [literature synthesis on gender equality](#) in grant allocation decisions and in relation to its impacts, which included a review of literature on proposal evaluation, including evidence on gender-assessment criteria and evaluation tools, on potential bias in evaluation processes or arising from panel composition and dynamics, organisational environment and other factors. Further examples come from the 'Next generation research assessment to promote open science' (GraspOS) landscape review of approaches, tools and services for responsible research assessment that addresses open science, and the 'Open and Universal Science' (OPUS) review of evidence on how research and research assessment take into account open science practices. Further forms of evidence include **case studies, longitudinal analyses and findings from trials and pilots**. For example, ORION developed [case studies of the embedding of RRI and open science principles](#) in organisational policies and practice, which are also implicitly relevant to assessment, even if they do not specifically focus on it. GRANTeD generated case studies of European RFOs and [longitudinal analyses of researcher careers](#).

A second cluster of activities relevant to research assessment and common across many of the projects reviewed concerns **the development of frameworks and models** to inform organisational and system-level practices. Ongoing work towards such **frameworks** includes a [research assessment framework with indicators and metrics of open, reproducible and engaged science \(OPUS\)](#); an open-science-aware research assessment framework to be piloted by GraspOS, and a research career framework to be trialled by SECURE in 2024. Further contributions take the form of **guidance** for funding organisations to improve proposal evaluation practices from the perspective of gender aspects (SUPERA), a heuristic **model** of sources of bias in grant allocation, including evaluations (GRANTeD), and a [recognition system for transferable skills](#) ('Transforming Europe Through Doctoral Talent and Skills Recognition' or DocTalent4EU).

Thirdly, some ongoing projects focus on activities aimed at contributing to the **infrastructure and dedicated tools and services** for research assessment, including automated tools. For example, 'Scientific Lake' (SciLake) is developing [data storage and AI-assisted analytic services](#) built on customised takes on scientific merit, and AI-assisted **services for automated assessment** of reproducibility and replication and of scientific, societal or economic impact. GraspOS is also working towards an open and federated research assessment of infrastructure, tools, and services, all in support of responsible assessment approaches that are open-science aware.

The final cluster of activities, i.e. **interventions to support organisational change and development**, is less directly represented across the projects as action directed specifically at research assessment, with the unsurprising exception of CoARA Boost. This was still in its early stages at the time of writing this report, channelling a stream of funding directly towards catalysing the implementation of research assessment reform, through a **cascade funding** programme. It also focuses efforts on the provision of secretariat, membership and **engagement and communication** support for CoARA and its working groups and national chapters, thus indirectly supporting member organisations' awareness of responsible assessment practices, the commitment to implement them, reflection and synergies. Other projects have also made efforts to **raise awareness and develop strategies**, training, and engagement for organisations in relation to issues pertinent to research assessment, such as gender bias in grant allocation and proposal evaluation (GRANTeD) or the importance of citizen science and stakeholder engagement (ORION).

In terms of the aspects of promising practices identified across these projects, a strong and specific orientation towards **embedding and recognising open science practices** is clear in the majority of projects (GraspOS, OPUS, ORION, SciLake, SECURE). There is also evidence of efforts made towards **catalysing and inspiring organisational change** (most directly through CoARA Boost): this may be through the provision of guidance and/or good practice examples (e.g. GraspOS, ORION, SECURE, SUPERA), or the provision of tools and services for use and adaptation by institutions in their benchmarking, analytics and assessment (e.g. GraspOS, OPUS, SciLake). Several projects' activities also focused on **diversity and fairness** (e.g. GRANTeD, SECURE, SUPERA), and adopting a self-reflective approach to the development of their own recommendations and frameworks, for example through **trailing or piloting** (e.g. GraspOS, OPUS, SciLake). Few projects focused on the assessment of impact (e.g. SciLake) or of transferable skills beyond those related to open science (e.g. DocTalent4EU).

Another area where further examples of promising practices would be welcome is that of integration and synergies among different projects and also between projects and existing policy, professional or scholarly frameworks. Notable examples include OPUS' intention to integrate its resulting framework with the [Open Science Career Assessment Matrix \(OSCAM\)](#), and GraspOS' commitment to EOSC integration of its open-science-aware research assessment tools.

In identifying such promising aspects, we considered in particular their alignment with the principles and commitments of responsible research assessment (as indicated in the agreement on reforming research assessment) and more broadly with RRI, along with their methodological strengths. The projects' specific contributions towards the different principles of the agreement on reforming research assessment will be further highlighted in Section 6 of this report.

3. Research assessment activities in European University Alliances' SwafS projects

3.1 Mapping of alliance projects contributing to research assessment reform

The European University Alliances (hereafter alliances) were originally funded by Erasmus+ starting in 2019, and since 2020 their funding has been complemented for capacity-building activities in R&I through two pilot calls in Horizon 2020. The R&I funding of the alliances has so far focused on supporting their work on a range of transformation modules through which they have had the opportunity to develop innovative approaches to building capacity and joint strategies through more integrated collaboration between the participating institutions. The alliances' focus on developing transnational and even harmonised or integrated approaches at the institutional level, together with their connections to EU and national policy development and their mission to serve as role models for the wider higher-education sector, makes them a promising setting for advancing the research assessment reform. In April 2023, the report on the [Progress of University Alliance Projects](#) funded under Horizon 2020 IBA-SwafS-Support-1-2020 Call - Pilot I was published, building on their interim evaluations. This report complements the review process and analysis on their progress and good practices by describing and analysing the activities and contributions relating to research assessment that have so far stemmed from the R&I funded projects of the alliances.

The R&I-focused alliance projects that are currently running (including the ones in their final phases) and are covered by this report have launched activities relating to research assessment and its reform mainly from a bottom-up perspective. This is because the topic of research assessment was not explicitly mentioned in the funding calls as a specific focus area, with the 2020 pilot call having been launched before the European movement for reforming research assessment had been established. However, the funding calls for the R&I component of the alliances have invited them to work on institutional transformation in areas such as open science, gender and diversity, collaboration with non-academic sectors and research careers, which can all be addressed from the perspective of developing integrated approaches to assessment at the institutional, researcher or project levels. In addition, the alliances were invited to work on common R&I agendas, which were approached from a diversity of perspectives, including allocating seed funding to facilitate joint research projects which, in some cases, provided an opportunity to implement or pilot forward-looking assessment practices.

The table in Annex2 identifies the alliance projects' ongoing or completed activities and initiatives relevant to the reform of research assessment and also identifies promising aspects of practice. It should be noted that we took a broad, inclusive view of what counts as relevance to the reform of research assessment, while also making a selection of key or complementary practices from across the different projects. The table thus aims to be more analytical than comprehensive.

3.2. Contributions of alliance projects to research assessment reform

As indicated in Annex 2, the alliance project activities focused on or relevant to research assessment cluster in several categories. While gathering and reviewing evidence, along with developing and/or piloting frameworks, are important clusters of activities that echo those analysed in section 4.2 in relation to the funded projects, other activities are more specific to the nature of the alliances as multi-institutional cooperative structures (e.g. strategy harmonisation, human resources (HR) policies, development of joint processes and mechanisms, or joint action such as signing the agreement on reforming research assessment). The latter types of activities, while essential to the implementation of reform commitments, are more lightly represented in the activities and outcomes achieved to date; we acknowledge that this may also reflect the ongoing nature of the alliance projects at the time of writing this report. The following examples can be considered amongst the most concrete and/or ambitious approaches stemming from the current activities of the alliance projects in the area of research assessment.

‘Research and Innovation Agenda with and for Society’ (ENLIGHT RISE) is one of the few alliance projects that has a **specific work stream dedicated to research assessment**, with ‘innovating on our career assessment schemes’ as one of its objectives under the focus area of improving the attractiveness of research careers. The alliance created a working group for experts on research assessment that fosters monthly meetings approaching the topic from different perspectives. While the start of the activity happened in parallel with the launch of the agreement on reforming research assessment, with several alliance partners joining CoARA as a result, the alliance highlights the added value of gathering experts to obtain an understanding of the diversity of approaches, national practices and institutional starting points in improving the assessment frameworks. In addition to the considerable differences in institutional approaches to research assessment that exists within ENLIGHT, the alliance noted the diversity in roles that different universities have assigned to focus on research assessment, ranging from HR managers to experts on quality assurance, along with different interpretations of the terminology relating to research assessment. The alliance published a statement outlining its commitment to promoting the reform and the inclusion of [open science practices in research assessment](#) in November 2023, together with more concrete commitments for open science and for aligning with CoARA and the [Declaration on Research Assessment](#) (DORA) where possible. ENLIGHT has also organised public workshops on the topic and will publish a report in 2024 to disseminate its insights. The example of ENLIGHT is a highly reflective approach that aims to facilitate the movement of its universities in the same direction, while acknowledging the current limits for the activities of the alliance in this field and maintaining a high level of respect for institutional diversity and the autonomy of its members.

A lighter-touch approach to facilitating collaborative exchange and the development of a shared vocabulary around research assessment and its reform has been at the level of discussion and debate. Several projects have organised **internal or multi-alliance events on research assessment**. In addition to ENLIGHT RISE’s internal and external workshops on research assessment mentioned above, examples include: the forum ‘Science with and for Society in European Universities Alliances: Cross-Alliances Joint Forum 2023’ led by ‘Transforming Open Responsible Research and Innovation through CHARM’ (TORCH) in

Brussels, which included a workshop on research assessment reform and a related session organised by TORCH in its alliance-specific event, in addition to a session on the diversity of academic careers; the collaboration of 'Differences – Artistic Research in the European Union' (EU4ART_differences) with a quality-assurance foundation registered with the European Quality Assurance Register for Higher Education for a dialogue on research assessment; and topical meetings debating research assessment reform and the agreement in 'EELISA Innovation and Common Research Strategy' (EELISA innoCORE). A common type of activity across different alliance projects has been to engage in learning about research assessment, responsible assessment, alternatives to current models and criteria, CoARA and the agreement on reforming research assessment. Some **gathered, reviewed and shared evidence about research assessment** through internal consultation, surveys and peer exchanges, and others through literature reviews and good practice reviews. For example, 'Arqus Research and Innovation' (Arqus R.I.) conducted a review of alternative approaches to research assessment, with a specific interest in qualitative criteria and procedures; 'Planning the future of research & innovation in the European university alliance UNITE!' (Unite.H2020) and 'YUFE transforming research and innovation through Europe-wide knowledge transfer' (YUFERING) conducted reviews or mappings of research assessment frameworks; 'EUTOPIA – Transformation of Research and Innovation' (EUTOPIA-Train) generated background reports on responsible evaluation and on open science and assessment; and EU4ART_differences produced a book considering discipline-specific research assessment in relation to artistic research. Examples of surveys conducted include the 'Fostering institutional transformation of R&I policies in European universities' (FIT FORTHEM) and Unite.H2020 surveys of partners in order to explore understandings of the goals of the reform, of partners' priorities, and of existing frameworks across the alliance, in view of developing shared priorities and approaches. Implications for researcher assessment also arose from a survey conducted by 'Research and engagement for the European reform university alliance' (ReERUA) and a survey on broader indicators for monitoring inclusion and diversity by 'Beyond UNIVERSEH (European University for Earth and Humanity)' (Beyond UNIVERSEH).

Several projects have chosen to focus on **benchmarking and bench-learning activities** when it comes to the topic of research assessment. For example, 'Leading Ulysseus to become a European university excellence model through research and innovation' (COMPASS) is benchmarking key concepts and requirements in ethics, open science and gender (albeit for broader purposes rather than specifically assessment). Other examples include activities by Arqus R.I., 'EU-CONEXUS Research for Society' (EU-CONEXUS RFS), FIT FORTHEM and Unite.H2020. Such efforts can be seen as a feasible starting point for groups of universities working towards more closely integrated collaboration. Approaching research assessment from the perspective of increasing mutual understanding of the differences and similarities in the strategies, frameworks and practices at the institutional and national contexts is understandable when considering that the alliances are still relatively recently established collaborations, with many alliance partners not having had existing or close institutional ties with each other, while also considering the diversity of institutions involved. Such exchanges within alliances can also be seen as timely in the context of the movement towards reformed assessment cultures, given that many alliances used the opportunity to conduct dialogues on the member universities' objectives with regard to the reform as part of these activities. In general, many of the alliance projects that chose to focus on benchmarking have reported supporting their individual members in

advancing in their respective contexts and stated that sharing good practices on the process of reforming assessment has proven to be of added value.

There seems to be widespread interest across the alliances in the **development or application of frameworks and indicators** for research assessment. Some of the alliance projects have adapted, applied or considered adopting existing frameworks, such as the 'Activity framework for researcher evaluation' used by the University of Graz (Arqus R.I.) or VITAE's researcher development framework ('European University for Well-Being – Research' or EUniWell Research). Others have developed frameworks, some with more specialised purposes, and shared them for institutions to trial, even if evidence of such alliance-wide or wider-scale adoption of these was not available at the time of writing. Frameworks developed include the 'EPICUR Research Agenda – Shaping European society in transition' (EPICUR-Research) Qualitative Researcher's Assessment Framework (EPIQAssess), which also comes with gamification in the form of EPIGame. Developments in progress include a self-assessment tool for impact by ENLIGHT RISE; an impact assessment methodology by 'European University of Technology – Experimentation to transform research activities and steering' (Eut EXTRAS); the design of new criteria on open science, citizen science and science communication in 'Research and Innovation Strategy for the CIVIS Alliance' (RIS4CIVIS); co-designing and assessment methodology and a well-being-informed evaluation and reward scheme that includes impact, open science, team learning, leadership, inclusion, quality and social engagement by EUniWell Research; and EELISA innoCORE's plans to develop a common mechanism to incentivise and reward excellence in open science using next-generation metrics and new peer-review methodologies. The latter will support and complete the common open science framework proposed at the EELISA level, with open science evaluation as one of the development directions pursued.

Some alliance projects have taken steps towards a **common approach** in supporting the institutional processes for reforming assessment frameworks. The CHARM-EU alliance chose to approach the topic by developing an action plan for a manifesto on research assessment, that will build on the work of its TORCH project in the respective work stream and result in research assessment pathways for the alliance. With the support of the leadership levels, the alliance aims to pilot a comprehensive researcher assessment framework for all its institutions. The manifesto will address topics such as recognition and rewards linked to open science and the relation between qualitative and quantitative evaluation of results, and it will build on the different areas in which the alliance has fostered pilot activities, such as trans-disciplinarity and citizen science. Similarly, the Unite.H2020 project started with a survey that served as a background for proposing a common framework for the 'open and transparent evaluation of academic merit', which revealed similarities in evaluation criteria for evaluating researchers. The alliance is now working on proposing guidelines for research assessment, building on the agreement on reforming research assessment. YUFERING chose a skills-based approach to contributing to a cultural change in the assessment of researchers, through a comprehensive competence framework that is available for a variety of uses at its member universities and covers many of the elements of the principles underlying the agreement on reforming research assessment. Even though the alliance does not go as far as to propose concrete indicators for a forward-looking assessment framework, the competence approach can be used as a guideline for recruitment processes or staff development.

The Commission's HR Excellence in Research Award, based on the successful implementation of the HRS4R procedure, has provided another feasible starting point for many alliance projects to benchmark and exchange on their commitments towards improved assessment. Some projects have piloted **alignment of HRS4R action plans** under the context of common activities and planned joint programmes. Many projects pointed out that the development and implementation of HRS4R may enable more harmonised criteria for the assessment of researchers and better alignment between institutions nationally and regionally, thus contributing to strengthening research careers (e.g. EU-CONEXUS, INVEST4EXCELLENCE).

For a very few alliances and their projects, such as AURORA, ECIU/SMART-ER, EUTOPIA and ULYSSEUS/COMPASS, the efforts towards developing a shared vision and collaborative approach also led to the **joint decision to sign the agreement on reforming research assessment** and join CoARA. Some also initiated efforts to participate in CoARA activities, albeit with limited success. For example, RIS4CIVIS submitted a proposal for a CoARA working group focused on the activities of alliances and RPOs. Engagement with CoARA and the agreement beyond that of individual institutions (e.g. the University of Graz, contributing to Arqus R.I., participates in CoARA's working group on reforming academic career assessment), together with its barriers and challenges, will be discussed further in the next section.

3.3. Analysing the role of the alliances and their R&I projects

Seeing the alliances as testbeds for innovative solutions through their transnational communities raises expectations for them to feed into the emergence of shared principles that could facilitate the pursuit of harmonised assessment frameworks in the context of universities in Europe. Several alliance projects specifically set up activities to pilot, test or otherwise support peer learning relevant to research/er assessment; for example, Arqus R.I. runs an institutional pilot, while EUt EXTRAS is planning to co-design and pilot a new assessment methodology for iterative (self-) evaluation of the processes and outcomes of societal impact, in specially created integrated testbed laboratories. TORCH has conducted seven pilots (such as on EDI, open science, joint support strategy for R&I cooperation with an emphasis on inter-/transdisciplinarity and research driven by societal challenges, and on citizen science training) which are directly or indirectly relevant to research assessment as a strategic priority. YUFERING's assessment tool focused on impact for academic positions is intended to be piloted in nine different recruitment processes.

At the same time, the alliances' transnational context provides an opportunity to address the possible legal barriers in their national legislative frameworks for achieving a harmonised assessment environment between their institutions, enabling them to act as accelerators for change between the national and institutional levels when it comes to the reform processes. However, whereas there seems to be an acknowledgement of the potential that the alliances have in reaching harmonised approaches, they have generally considered addressing the reforming of research assessment as challenging at the level of the alliance, even though the agreement on reforming research assessment that many universities have either committed to, or are planning to commit to, has provided a momentum and a shared context for this endeavour. In addition, testing, piloting and intervention-based approaches are not always reflected in specific deliverables of the

projects, and a systematic effort to share and reflect on their results beyond the immediate context of the institution or alliance implementing these approaches has yet to be developed. This can lead to fragmented insights, a lack of peer feedback and collective momentum towards evidence-informed research assessment reform.

Diversity in national and institutional approaches, different starting points and the high respect for institutional autonomy are some of the biggest factors affecting how participants in alliance projects see the feasibility of joint action to reform research assessment. Unite.H2020 also mentions that while it might be easy to identify similar evaluation criteria between different institutions, the processes and tools used for evaluation might differ. Even though, as indicated in section 4.2, there are alliances that have jointly signed the agreement on reforming research assessment (AURORA, ECIU/SMART-ER, EUTOPIA and ULYSSEUS/COMPASS), it does not mean that by definition they would adopt a harmonised or coordinated approach to implementing the reform in their institutions. This has also been the approach adopted by ENLIGHT in the framework of its dedicated work stream on research assessment, and AURORA as one of the few alliances that signed the agreement but acknowledged that its members would take a differentiated approach in pursuing the reform. In fact, as the 'FILMEU_RIT – Research | Innovation | Transformation' (FILMEU_RIT) project bringing together universities in the field of arts points out, the goal of the reform in considering the diversity of outputs and tasks in different research fields can be said to require an increased institutional autonomy for RPOs to design their assessment frameworks and recruitment criteria. Still, alliances such as CHARM-EU state in the documentation of their TORCH project that the policies developed together will be implemented in the specific joint activities of the alliance.

However, even without the presence of a shared objective to develop common principles, criteria or practices, the added value of an alliance engaging with the topic can be experienced at individual universities that can still benefit from the exchanges and get support and new insights feeding into their individual reform processes.

Other alliances, after internal discussion, agreed not to sign CoARA collectively and to leave the decision to each individual partner, as a way of respecting institutional autonomy and differences in national contexts; but also, on occasion, due to a sense of limited agency and ownership of the reform agenda and capacity of change given local and national systems and regulation on research assessment. Diversity of internal views and external contexts among partners also prevented agreement on other issues of relevance to research assessment, such as the issue of developing a model tenure-track system at the European level. Some alliance projects reported that the short-term nature of their EU funding and uncertainty about the continuation of the funding in Horizon Europe and beyond had been a further aspect preventing them from launching longer-term work in this area.

4. Principles of research assessment reform: progress and examples of good practices

4.1. Ethics and integrity

In the agreement on reforming research assessment, one of the 10 principles is focused on ethics and integrity and refers to prioritising ethics and integrity and complying with ethics and integrity rules and practices in the assessment process. The projects included in this review approached the principle from different perspectives, with a notably small number of projects having identified ethics and integrity as specific priorities to work on as part of their activities. These were mainly related to the alliances, which can be explained by the central role of universities when it comes to upholding high standards in ethics and research integrity with regard to their employees. A small number of the alliance projects set specific objectives relating to ethics and integrity in research assessment. For example, 'ENGAGE.EU R-I Building Engaged Research and Innovation Ecosystems' (Engage EU R-I) is pursuing a people-centred approach to ethics and, in its survey response for this report, indicated that a task team is considering the ethical dimension of research assessment. As part of its overall objective of strengthening human capital in R&I, Arqus R.I. considers best practices in research evaluation, including around issues of ethics and integrity. TORCH, in turn, chose a pragmatic approach to ethics evaluation through an action plan to pursue the recognition of the partner universities' ethical approvals to facilitate the creation of joint research collaborations between researchers from the partner institutions. As work towards this goal is ongoing, the eventual implementation of this endeavour depends on whether the alliance succeeds in agreeing to recognise and respect each other's existing ethical approval procedures.

4.2. Freedom and autonomy

In the agreement on reforming research assessment, two principles focus on, respectively, the freedom of scientific research and the autonomy of RPOs in evaluating their researchers while implementing the other principles included in the agreement. Freedom and autonomy are shared values across the documentation of the projects included in this report, for example in terms of promoting researchers' scientific independence and agency in selecting topics, theoretical frames and methodologies for research. Specific activities aimed at promoting the above are not usually defined as tasks or deliverables, as they are more at the level of commitment to values and principles.

Across the alliance projects, there are also repeated expressions of recognition of the autonomy of research organisations in selecting and implementing approaches to evaluating their own researchers and self-evaluating their own research contributions, while engaging in dialogue and collaborative action across the alliance and in wider networks. For example, the activity framework developed by Arqus R.I. as a reference framework for researcher evaluation to underpin the alliance's reform pilot and peer learning exercise is designed to be both reflective of the shared commitment to the CoARA agreement, and sufficiently flexible to enable each faculty and institution to select and follow their own approaches to implementation.

4.3. Independence and transparency

The agreement on reforming research assessment defines a principle of independence and transparency as ensuring the independence and transparency of the data, infrastructure and criteria of research assessment and the analysis of research impact, along with the transparency of indicators and data collection. There were projects that considered this principle as a starting point in developing new frameworks for assessment, indicating a conscious effort to contribute to an assessment culture that is founded on transparency. For example, the SciLake project, that is at its early stages of building a service helping in the calculation of indicators for research products such as publications, datasets, and software and for their reproducibility, will be built on the principles of transparency. The project will provide its codes as open source, enabling the consideration of how the indicators are calculated.

The OPUS project also emphasises transparency and a participatory approach in developing a new assessment framework, and it has established a structure for gathering stakeholder feedback during the development of the framework to further define, monitor and validate its content. When it comes to the framework developed by OPUS, each indicator group (research, education, leadership and valorisation) is accompanied by the following five categories of interventions supporting data collection relating to them that will help in fostering transparency and the ownership of the research community over the data collection: senior management support, resources, easily accessible repository or database and raising awareness to ensure researchers know how and why data should be collected and training to support its collection. It also provides detailed guidance for each intervention, to support RPOs and RFOs that want to embark on implementing the assessment framework. Likewise, the state-of-the-art reviews produced by the SECURE project emphasise the importance of transparency in researcher assessment at all career milestones and also across sectors.

The projects considered in this review generally support the goal of transparency in assessment frameworks and some also implement it in the solutions that are being developed. Still, most alliance projects did not systematically address initiatives at the institutional level that focus on improving transparency in the assessment frameworks. Some exceptions include, for example, Unite.H2020's plans for a common framework for assessing academic merit, and Arqus R.I.'s focus on the availability of written assessment criteria for research institutions and researchers, all of which include explicit consideration of transparent merit-based recruitment. This could therefore be considered as an area that could receive more attention from future projects.

4.4. Focus on quality and centrality of peer review

Focusing research assessment on quality is one of the core principles of the agreement on reforming research assessment. It refers to the consideration of the originality of ideas, professional conduct, and also giving priority to qualitative evaluation practices while avoiding the inappropriate uses of journal- and publication-based metrics and rankings of research organisations. The openness of research and its results is mentioned as a contributing factor to the quality of research. While most projects working on research

assessment include considerations of this principle, relatively few of the reviewed projects adopted a specific focus on quality and qualitative evaluation practices, indicating that this could require more dedicated attention in the future.

The SECURE project has produced a state-of-the-art review which identifies barriers and initial examples of good practices from three countries and highlights the most pressing challenges present in researcher assessment practice. The reviews identify as an area for further exploration the role of new metrics and indicators and novel evaluation approaches in addressing these barriers and issues. Examples mentioned in the review include indicators for career progress and career success and for monitoring the success of mentoring, training and career development interventions, along with evaluation approaches via researcher portfolios or using AI solutions.

The draft state-of-the-art report from GrantED notes the complex landscape of responsible research assessment and argues for a place for both quantitative and qualitative approaches, particularly used in combination and in balanced consideration of the level of assessment. It also notes the limitations of existing data used in research assessment (e.g. in terms of interoperability). The OPUS project has responded to this challenge by creating and testing a research assessment framework that builds on both quantitative and qualitative approaches, including both research and non-research activities by researchers and also offering an open science framework for assessment, with metrics focused on open science that can complement the generic framework. For research, the framework proposes indicators for proposals, methodology, data, software, publications (including peer reviews) and materials, and suggests their evaluation at the levels of process, output and outcome. The metrics that the framework is based on should ideally be accompanied by qualitative descriptions that would be reviewed in parallel. However, the framework itself does not provide framing for the qualitative assessment or mention aspects such as the originality of ideas when it comes to research content, leaving the specific articulations to the users to define. The framework's distinctive contribution is in diversifying the scope of research activities being evaluated and their related indicators that can be adjusted to different institutional and disciplinary contexts, and the possibility for including indicators and metrics for open science.

Work on qualitative assessment has also been undertaken by some of the alliance projects. For example, EPICUR developed a qualitative researchers' assessment framework which specifies core and specific criteria as well as personal qualities, in four intersecting domains (research, innovation, learning and teaching, and interaction with society). Notably, each of the domains also includes space for customisation in the light of emerging criteria. The detailed specification of the criteria is, however, only available on demand rather than openly published. Some of the alliance projects also included in their work plans some specific tasks and activities focusing on monitoring, assessing and incentivising open science practices. For example, EELISA Innocore's task on rewarding excellence in open science considers relevant assessment criteria, new generation and progressive metrics and new approaches to peer review.

Some projects also referred to the interlinkages between the different principles of the agreement on reforming research assessment. The recommendations made by the SUPERA project to advance gender equality also point to the fact that increasing emphasis

on the qualitative evaluation of research instead of quantitative aspects of achievements in research can be a way to promote inclusiveness and gender equality.

4.5. Recognising impacts

One of the 10 principles of the agreement on reforming research assessment reflects the recognition of contributions advancing knowledge and the (potential) impact of research results of scientific, technological, economic and/or societal nature while acknowledging the varying timelines in its occurrence, depending on the discipline and type of research.

While the concept of impact has become increasingly important in R&I policy and as a funding criterion, the assessment practices are to a large extent still relying on traditional journal- and publication-based indicators. The adoption of assessment frameworks that acknowledge a broad range of research impacts and the different timelines associated to them require a cultural change at all levels of assessment. The findings from GRANTeD note that traditional bibliometric indicators are still part of assessment practices in grant allocation, despite commitment to, for example [DORA](#), and that broader definitions of research excellence (including, for example, societal engagement, teaching, supervision) play a far less important role, if at all, in the assessment process.

The ENLIGHT RISE project has responded to this challenge with actions aimed at promoting an impact culture within and beyond the alliance, by publishing a repository of good practices on impact and a self-assessment toolkit for universities and researchers to evaluate their [research impact potential](#). The effort of promoting cultural change in the ENLIGHT universities is also supported by awards for ‘impact ambassadors’, who have been selected for their exemplary work in planning and achieving impact in their research. The alliance has also created a working group on impact in the context of the FOREU2 network of alliances, to feed into institutional development in this area. Other alliance projects working on the assessment of impact are EUniWell Research and EUt EXTRAS; for example, the latter is co-designing and testing (using participatory methods and testbed laboratories) an assessment methodology for the evaluation of societal impact.

In order to reduce the reliance on bibliometric indicators and support the cultural change in practice, new approaches to measure and analyse impact are urgently needed. At the level of research projects, new and promising technical tools are being developed that may enable a more nuanced assessment of the scientific and even societal impact of scientific contributions, including publications and other research artefacts.

The SciLake project aims to contribute to the facilitation of forward-looking research assessment practices from the perspective of developing a service relating to the management of heterogeneous scientific content. It aims to contribute to the creation of new methodologies for multi-perspective assessment of research impact by calculating and offering different research impact measures and providing opportunities for customisable assessment strategies. More specifically, it will foster the creation of an impact-based discovery service that will feature the calculation of impact indicators for research outputs such as publications, datasets or software for the analysis of scientific, societal or economic impact. It will offer text mining aspects that can highlight affiliations relating to a particular

publication, projects or connections between datasets and publications. The tools provided by the service are intended to be used for the assessment of research organisations, projects and their reproducibility. The project will also use machine-learning methods for annotating scientific content with terms relating to societal challenges, such as Sustainable Development Goals (SDGs) or blue growth, in order to enable the measurement and quantification of societal impact. The project will also focus on attribution propagation to allow the spreading of impact scores between different research outputs that are connected.

4.6. Recognition of the diversity of research activities and outputs

One of the principles of the agreement on reforming research assessment pursues the recognition of a diversity of research activities and practices ranging from peer review, supervision of PhD candidates to leadership roles, science communication and knowledge valorisation, along with considering a diversity of outputs including scientific publications, data, software, algorithms, policy contributions, etc. The principle also includes rewarding open science practices. Although in principle the agreement on reforming research assessment already reflects a widespread commitment to recognising the full range of research activities, practices and outputs, evidence from the projects reviewed indicates that there are persistent barriers. For example, findings from GRANTeD note the ongoing prominence of traditional bibliometric indicators in assessment practices informing grant allocation, relative to the limited role played by broader definitions of research excellence (including, for example, societal engagement, teaching or supervision). Notably, the survey response submitted by the project team to this review indicates that the study found that some of the applicants themselves, even those using narrative CVs, may perceive bibliometric indicators as being of comparable importance to criteria such as international visibility, independence and fitness to the RFO's strategic orientation.

Nonetheless, several projects are seeking proactive ways to provide tools for changing the assessment culture that is predominantly focused on scientific publications and their impact. For example, the SciLake project aims to provide a technical solution supporting the assessment of a diverse range of research outputs. It will entail a service supporting the production of information that is intended to help in the assessment of the impact and reproducibility of a wide range of heterogeneous research outputs besides scientific publications, such as datasets, workflows and protocols.

In terms of open science, there is a significant number of projects funded through Horizon 2020 and Horizon Europe addressing ways to facilitate the evaluation, rewarding and incentivising practices relating to it, and this was most often the focus of the projects included in this review in addressing this principle. One of them is OPUS, which focuses on supporting the reform from the perspective of defining two research assessment frameworks (of which one is generic, and the other is focused on open science), offering indicators and metrics for RPOs and RFOs to assess the career progression of researchers as well as grant applications, that are currently being piloted. One significant contribution of OPUS has been the creation of a state-of-the-art review on the literature and initiatives on open science, that has served as a starting point for the development of the framework and that can also facilitate the work of other stakeholders. However, the assessment framework developed by OPUS also covers a wide-ranging set of indicators, including those for

research, education, leadership and knowledge valorisation based on metrics that can be coupled with qualitative descriptions. The purpose is to address process, output and outcome indicators to cover all stages of the activity that can or cannot be directly related to research. The organisations using the framework can select, prioritise, rank and weigh the indicators and metrics to tailor their approach, which is consistent with its purpose as a versatile tool that can be fitted into a diversity of national, institutional and disciplinary contexts.

In its state-of-the-art reviews of researcher career frameworks, the SECURE project notes initiatives aimed at strengthening recognition of engagement in open science practices (such as OSCAM – Evaluation of research careers fully acknowledging Open Science practices, 2013). It also emphasises that selection committees should evaluate merit by taking into account all the experiences evidenced by the applicants along diversified career paths, rather than focus exclusively on the volume of publications. Such experiences may include mobilities and changes of sector.

The GraspOS project, currently at an early stage, aims to develop an open, federated infrastructure to support open-science-aware, responsible research assessment. Its draft landscape report identifies open science assessment practices, barriers and priorities. It also comments on the increasing effort in national and international initiatives to recognise research, education and other activities in a holistic way.

Some alliance projects have chosen to develop joint principles (ENLIGHT RISE) or strategic roadmaps (UNITE.H2020) as their contributions for facilitating a cultural change at the institutional level that embraces open science practices. In November 2023, ENLIGHT published [joint principles for open science](#) reflecting its members' commitment to its promotion at the institutional and alliance levels, including promoting the inclusion of such principles in research assessment and incentivising open science practices to improve the quality and impact of research. Some alliances and their projects are also going beyond joint principles to explore forward-looking approaches for incentivising and evaluating practices relating to open science and societal engagement. In terms of public engagement as an element linked to open science, TORCH has addressed incentives and disincentives relating to public engagement from the institutional perspective, focusing also on best practices. Amongst its conclusions, TORCH encourages universities to address public engagement and transdisciplinarity under a broader open science policy at the institutional level and expresses a commitment as an alliance to reconcile scientific excellence with societal excellence, while upholding its respect for academic freedom. Another alliance project that has engaged with a similar topic is RIS4CIVIS, that brought together its work streams on open science and citizen science to conduct a 'research assessment pilot case study' with the aim of designing new criteria addressing open science practices and results, including criteria relating to citizen science and science communication. The eventual publication of the criteria designed in the pilot could serve as a concrete example of ways in which activities related to societal engagement could be evaluated in universities.

The ORION project also addressed the role of research funders and RPOs in incentivising activities relating to RRI. One of its pilot activities included designing an approach for rewarding research projects that have adopted RRI activities relating to governance, science education, public engagement, gender equality, open access and ethics. The goal

of this initiative was to explore an approach for directing funding for RRI and open science activities.

4.7. Criteria and processes that respect the variety of disciplines, research types and career stages

In two principles, the agreement on reforming research assessment highlights the importance of adopting assessment criteria and practices that respect the diversity within the realm of research, while acknowledging, for example, interdisciplinary work and a variety of research roles, including those outside academia. In general, this principle was reflected in the work of several projects. Several of the reviewed projects highlight the need to respect the diversity of contexts in which assessment takes place and warn against adopting a framework that neglects the specificities of certain disciplines or career stages. The OPUS project's forward-looking research assessment framework is built with the expectation that its focus on the assessment of individuals relies on comparative benchmarking of researchers at a similar career stage, the same discipline or a unit of the organisation in question.

Preparatory work in the GraspOS project indicates that best practices need to be contextualised to the assessment use case – its purpose, focus, definition of quality, level of the evaluated entity, etc. – and that identifying universal best practices is not feasible. Drawing on this observation, the project plans to generate multiple assessment portfolios, including customisable dashboard services that can be tailored to funders, institutions, research teams and disciplines, along with templates for collecting and structuring qualitative and quantitative indicators.

A skills-based approach for broadening the scope of the assessment of researchers can combine analysis of past achievements with the opportunity to identify needs for staff development. A competency-based approach was adopted, for example, by YUFERING through a comprehensive framework, that can be adaptable to different career stages and disciplinary contexts and provide the required flexibility while introducing elements that are not necessarily present in the traditional assessment systems. When it comes to the recognition of a variety of skills that are relevant for early career researchers, the DocTalent4EU project focuses on the creation of digital credentials for the diverse skills that early-career researchers can obtain through formal, non-formal and informal learning opportunities on the basis of studying labour-market needs.

Some of the reviewed projects addressed the importance of engaging with different career stages as part of the process leading to a reformed assessment system. When reforming research assessment at the institutional level, ENLIGHT notes that it is essential to include in the process a wide range of researchers representing different academic career stages, so that the implementation aspects are planned in close collaboration with all levels of the academic staff. As starting researchers will have the most at stake in adjusting to the new system, some projects have taken them as a specific target group when designing activities supporting the reform. The FIT FORTHEM project has chosen to address the topic from the perspective of early career researchers, through its dedicated community for early-stage researchers whom it will engage as ambassadors for the reformed assessment systems – after first engaging with the process of identifying needs for adaptations in the existing

assessment practices (within the partner universities). The SECURE project conducted a state-of-the-art review of policy provision for, and evidence on, the extent to which existing approaches to career-related researcher assessment adequately take into account researcher diversity across sectors, disciplines/interdisciplinary fields, qualifications, experiences, career stages and career chronologies. It should be noted that the project expects to identify concrete examples of best practices at a later stage, after the trial implementation of its researcher career framework (currently under development) in October 2024.

Initiatives addressing the diversity of disciplines range from focused activities aiming at identifying, co-producing or refining criteria and practices that reflect the specifics of certain groups of disciplines, to broader interest and aspiration towards better provision for multi-, inter- and transdisciplinary research in research assessment; this latter aspiration has, however, been less represented among concrete tasks and initiatives across the projects reviewed. EU4ART_differences and FILMEU_RIT are examples of projects that, in the long run and as part of their wider activities, aim to contribute to research assessment that is better attuned to the specificities of artistic- and practice-based disciplines. TORCH conducted a publicly available study on balancing excellence-driven research and transdisciplinary research and public engagement, in which it analysed institutional practices and incentives for these aspects. One of the conclusions that it reached was that a broader definition of excellence is needed, to overcome the juxtaposition between excellence-driven and challenge-driven research. One of the findings also points to interdisciplinarity being a prerequisite to transdisciplinarity, which in turn can both be seen as facilitated by a culture of open science.

4.8. Gender equality, equal opportunities and inclusiveness

The agreement on reforming research assessment includes a principle of advancing equality as part of research assessment practices, referring to the consideration of gender aspects but also diversity in the wider sense in research teams and research content. These aspects were mainly highlighted by projects that have a specific focus on themes of gender or equality, whereas the wider considerations of diversity in terms of, for example, race, socioeconomic background or disability did not stand out from their work.

The SECURE project has reviewed literature on the extent to which career-related researcher assessment adequately and fairly takes into account gender equality, along with diversity across demographic backgrounds, qualifications, experiences and career chronologies. It identifies literature evidencing gender bias in recruitment procedures.

The SUPERA project, that ended in 2022, produced resources and guidance tools that are available online for the promotion of gender equality in RFOs. Besides providing concise suggestions on ways to consider gender balance, the project website includes a large number of links for deeper insights into the recommendations that are presented by the project. Examples of the project's recommendations for improving call formulation include training staff members on aspects related to implicit bias, using gender-neutral language and including and flagging gender-relevant or gender-specific topics. For the evaluation of proposals, the project highlights the training of panel members on biases, avoiding subjectively motivated evaluations and establishing explicit criteria for assessing scientific excellence and having gender experts in the evaluation committee. In terms of funding

decisions, 'ex aequo' or bonus criteria for funding were mentioned as ways to promote the selection of projects that foster gender balance.

In terms of RPOs, SUPERA provided guidelines for producing a Gender Equality Plan (GEP) that includes recommendations for assessing the status quo and progress in improving gender equality at the institutional level. The recommendations highlight the need for developing a data collection system and investing in qualitative data collection to understand the organisational culture and identify areas for improvement. Designing a tailor-made accountability system and fostering an inclusive and participatory approach were highlighted as crucial for the monitoring and evaluation of a GEP.

GRANTeD, now in its final phase, analyses gender bias in grant allocation processes in five funding organisations, and its impacts on research careers. Its findings to date indicate gaps between formal gender equality policies (including signing up to commitments such as DORA) and proposal assessment and grant allocation practice; and between organisational policies and reviewer/panel members and staff capacity to articulate the rationale for their implementation. Notably, GRANTeD reports that female applicants were more likely to agree than male applicants that the move to narrative CVs was likely to better recognise contributions to the research community and society. GRANTeD is currently preparing a research paper summarising insights from implementing gender-related policies for reforming research assessment (such as re-ranking applications, introducing gender-in-research as a new excellence indicator or holding chairs accountable for implementing new policies).

Conclusions and recommendations

Whereas the agreement on reforming research assessment focuses on outlining principles and commitments relating to the reform, the responsibility for translating them into concrete policies, practices and criteria is left to the RPOs and RFOs. This has been the request of RPOs, in order to respect institutional autonomy and diversity that needs to be fostered, considering national, institutional and disciplinary contexts. However, the question that arises from this is whether the capacity-building projects that have contributed to supporting the reform by facilitating exchanges and designing forward-looking concepts will be able to lead to the implementation of shared solutions and contribute to a more harmonised landscape.

Analysing which areas relating to the research assessment reform are currently not sufficiently covered is challenging when focusing solely on the EU-funded projects within the scope of this report. The fact that some areas covered by the principles of the agreement on reforming research assessment were not addressed by the projects focusing on research assessment does not mean that RPOs and RFOs are lagging behind in their implementation. It should be noted that some areas of the newly articulated research assessment framework represented by the agreement on reforming research assessment are building on old evaluation principles, and some institutions are already considering complying with all of its principles as things stand (also given that some countries have been promoting aspects such as openness, impact and societal engagement for longer than others). It is natural that some areas can be perceived by the stakeholders as requiring more work through European collaboration, and that some might be better addressed at the institutional or national levels. It is also noteworthy that in recent years the Commission has targeted many funding calls to topics such as open science and the promotion of gender equality, which explains the promising number of innovative concepts and frameworks emerging from these projects, including the targeted 'transformation modules' relating to these activities in the dedicated SwafS calls for the alliances. The European University Alliances, however, have had a bottom-up opportunity to select and target their activities in areas where activities at the level of the alliance have been considered feasible.

Types of contributions

The focus of the activities conducted in the EU-funded projects reviewed tended to gravitate towards strengthening the evidence base and conceptual development, with less emphasis on interventions to support organisational change and development, with the notable exception of CoARA Boost. Across the nine funded projects, and particularly with the addition of CoARA Boost, research assessment is an explicit and well-prioritised strand of work. Research assessment is less prominent as a strategic priority or specific stream of work across the alliance projects (with exceptions such as ENLIGHT RISE). Their activities of relevance to assessment have been more focused on gathering and sharing evidence, benchmarking, debate, raising awareness and seeking to develop frameworks and shared approaches.

One type of activity that was less represented in the projects covered by this report was the joint testing of new frameworks of assessment and systematic reporting of the results that were created, followed by institution-wide implementation. Whereas a large number of

projects focus on the creation or adoption of forward-looking frameworks (e.g. among the alliance projects, ENLIGHT RISE, EUniWell Research, EUT EXTRAS, EUTOPIA, TORCH, Unite.H2020) through collaboration with European partners, fewer projects have reached an implementation stage directly connected to changing the partner institutions' existing practices. Since a wide range of RPOs and RFOs have already engaged in exchanging on existing practices and participated in joint efforts of creating new assessment principles, the (collaborative) piloting, evaluation and scaling up of new frameworks could represent the next stage of their journey towards reformed research assessment. This approach has been integrated, for example, in the OPUS project that engaged in both, i.e. creating an assessment framework and also piloting it in selected organisations. This type of activity is also important for the alliances as testbeds for innovative institutional transformation. Whereas some alliance projects have already tested joint assessment principles at the level of seed-funding initiatives, there are limited examples of scaling up the pilots to the level of institutions within the alliance. The evidence and experiences from different institutional, disciplinary and cultural contexts gathered for jointly co-created frameworks can provide valuable impetus towards a wider cultural change and represent a further step towards the alliances acting as role models for the wider university sector. Building on the outcomes and good practices of the relevant capacity-building projects at the institutional, national and European levels, piloting the implementation of new evaluation aspects could be made easier by initially focusing on individual aspects of the reform, and by starting with certain types of funding or departments.

Some of the documentation from several alliance projects identifies a potential gap in the distribution of internal capacity and expertise to champion and implement assessment reform. This suggests that a model of organisational change that uses accompanying expertise, both internal and external, would be appropriate. This model is being trialled with internal expertise in some projects (e.g. EUTOPIA-MORE), but there have also been some proposals for the creation of a pool of funded experts, internal and external to the Commission and other organisations such as CoARA, which may assist alliances and their member organisations in implementing assessment reform.

Recommendations

- **For the Commission:** consider offering new models of peer and external support for organisational change in alliances, according to their needs.
- **For alliances:** engage in collaborative, joint testing of the new frameworks of assessment developed, and systematic reporting of the results to benefit the wider sector, followed by actions for wider implementation at the level of institutions.
- **For RPOs:** start by making research assessment reform an institutional strategic priority and invest in culture change, capacity building and partnerships to enable implementation.

Principles and commitments with limited coverage in the reviewed projects

One interesting finding of the review undertaken for this report is to consider the assessment aspects relating to the principles in the agreement on reforming research assessment that

are not covered at all, or that are only covered by very few projects funded at the EU level. There may be a range of reasons for the limited engagement with these topics, potentially including the lower emphasis on these issues as specific topics in Horizon calls to date, or the current status that the RPOs and RFOs have in relation to their implementation. The following principles and commitments were not prominently reflected in the reviewed projects.

- **Systematic, in-depth studies and initiatives focused on guidance and concepts for qualitative assessment and for the assessment of the quality of research.** Beyond some reviews of peer review processes and dynamics, the development and piloting of frameworks and practices relating to qualitative assessment seem not to feature prominently in the projects covered by the report. Some projects included activities focused on participatory approaches, iterative self-evaluation or new evaluation practices, such as the use of researcher portfolios or alternative peer review models. Some have considered qualitative criteria for the assessment of research/ers. In moving towards assessment practices that are mainly focused on qualitative assessment and supported by quantitative indicators, more systematic, collaborative and transnational initiatives addressing these topics in more depth and more systematically would bring particular value to the topic.
- **Diversity and inclusion.** This is addressed by the agreement on reforming research assessment as ‘e.g. racial or ethnic origin, sexual orientation, socioeconomic, disability in research teams and in the content of R&I projects. Whereas a good number of projects has been funded in recent years with a focus on gender equality, projects seem to have largely left out the broader scope of diversity and inclusion. As these are important aspects of the assessment of research teams and research content, this is an area that should receive more attention in future capacity-building projects.
- **Team science, interdisciplinarity, intersectoral work experience and roles outside academia.** These do not seem to stand out as particular priorities in many projects, and they represent themes to which further attention could be paid in future projects.
- **Ethics and integrity.** These received relatively limited coverage as key principles of research assessment.

Recommendations

- **For the Commission: consider supporting more studies and initiatives focused on:**
 - concepts and approaches for qualitative assessment,
 - multiple and intersectional aspects of equality, diversity and inclusiveness in research assessment across different contexts,
 - multi-sectoral aspects of assessment, including sectoral diverse or composite research careers and affiliations,
 - ethics and integrity in research assessment, and the assessment of ethical and integrity aspects of research in different contexts.
- **For CoARA and the Commission:**

- consider facilitating dialogue and knowledge sharing among research assessment scholars and practitioners, to enable learning and develop guidance for RPOs and RFOs.
- gather systematic evidence from RPOs on their needs for further funding to be targeted to support specific stages, principles and activities in their journey to reform research assessment, either individually or through collaborative projects; this could inform the priorities of the cascading funding programme of CoARA Boost.

Coverage of the different contexts of assessment

Ongoing work in projects (e.g. GraspOS) indicates the importance of contextualising tools and practices in relation to different stakeholders and levels of assessment. This suggestion chimes with the CoARA agreement's multi-context approach to assessment and with [broader literature](#).

A large proportion of the activities identified appears to focus on the assessment of individual researchers, including through developing and refining research career frameworks and/or through organisational commitments to implementing HRS4R, with much less focus on system-level assessment. In fact, the question of developing alternative ways for assessing the research performance of RPOs as distinct from university rankings did not come up as a major theme addressed by the projects in this review.

Likewise, very few activities that focused specifically on assessment at the project level were identified in the review.

Recommendations

- **For the Commission:** consider supporting more projects focusing on non-ranking alternatives for the assessment of the research performance of RPOs at the institutional level, along with evaluation aspects of research projects.

Facilitating cultural change in research assessment

The analysis revealed that the frameworks, reviews and other documentation produced by the funded projects are not always publicly available, making their wider uptake significantly more limited. Therefore, it is strongly recommended to apply open science principles to the specific outputs of work on research assessment, in order to facilitate the uptake of results for the benefit of wider cultural change and to prevent the duplication of work.

Creating more transparent assessment is a key condition for an improved research culture in RPOs, especially during a transition period where different elements of the assessment system are being revised and new aspects are being introduced to complement old ones. This is also an aspect that might become crucial in the transition period, where new principles might exist, but their implementation might lag behind in practice, or principles existing at the institutional level that are not effectively translated into more concrete evaluation practices at the levels of departments, research teams or individuals. However, the mission of improving the overall transparency of existing evaluation frameworks was not identified as a notable priority by the projects that addressed researcher level and institutional assessment practices. Therefore, this is an aspect that could receive more

focus in the future from projects funded by the EU – also in the context of explicit articulation of how newly formulated assessment principles are translated into more concrete criteria for assessment in the institutions that participate in projects such as those covered in this report.

Several documents from alliance projects – such as policy briefs – note some reservations and a need for further communication about the benefits of moving towards more qualitative assessment. Concerns include bias reduction and the mitigation of the impacts of fast-paced reform (including change in metrics) on institutional positioning, resourcing and planning.

Recommendations

- **For alliances and RPOs:**
 - projects working on research assessment should apply open science principles to their own activities.
 - improve opportunities and the culture of sharing practices and documentation/outputs on research assessment, and transparency related to the implementation of the created concepts.
- **For the Commission:** improve active facilitation of interaction and collaboration between EU-funded projects and alliances, so that synergies between their approaches can be developed from the beginning.

Systemic challenges

The establishment of CoARA and the support for it through CoARA Boost offer great potential for fostering dialogue and using the momentum of advancing the reform, but this review also identified some structural limitations and systemic challenges affecting the contribution and engagement of projects and alliances to the reform of research assessment. These include a potential mismatch between the levels of organisation targeted by the research assessment initiatives led through CoARA, and the trans-national and multi-institutional structures of the projects and alliances. As a result, difficulties could arise for alliances in accessing Boost funding, initiating CoARA working groups or participating in national chapters, leading to a more fragmented type of engagement than strategically desirable, through individual member institutions.

A second challenge concerns the distribution of competence and perception of agency among projects in relation to reform decisions and implementation, and to transnational research assessment agendas. The issue of the distribution of regional and national competence arose in the working of projects and in particular of alliance projects. In the case of the latter, it prevented joint action and harmonised implementation on some issues, such as jointly signing the agreement on reforming research assessment, developing a joint tenure-track model and adopting a shared HR strategy for researchers. This may be an indicator of complexity in terms of structures, competences, legal status and division of labour, which may mitigate against the effective participation of the alliances as anticipated in the Council conclusions (as testbeds of reform) despite their potentially critical position as transnational stakeholders. Some alliances and their R&I projects have taken steps to clarify their intent and specify the limits to their decision-making power. For example, Arqus

R.I.'s collection of best practices in alternative assessment notes that their members 'have no mandate to make policy in the regard of research assessment approaches, whose responsibility strictly pertains to the governance of the individual institutions at the local level, and to the corresponding political bodies at the regional, national and continental levels'. A further implication of this challenge is the limited transferability of peer learning and good practices identified within institutions, projects and alliances, particularly if shared without sufficient contextualisation.

Finally, further challenges arise from the variable level of partnership commitment to implementing assessment reforms and from the barriers to effective collaboration across the different partners. The projects in this review are in different places on a spectrum of commitment to jointly implementing institutional change. Some are committed to articulating and signalling a shared vision, including by jointly signing the agreement on reforming research assessment, while others prioritise support for individual member organisations to do so autonomously, and yet others confine themselves to limited, if any, action in the face of perceived difficulties in acting synergetically as a collective stakeholder in assessment reform. Some alliance projects have also documented broad difficulties in achieving institutional transformation, arising from resistance to change at different levels, including intermediary management, particularly when it comes to longer-term interinstitutional initiatives (as opposed to one-off actions). Other alliance projects reported difficulties in identifying stakeholders able and willing to discuss research assessment reform in depth, in both national and transnational contexts, and in having research assessment externally validated.

Recommendations

- **For CoARA:**
 - join up and capitalise on the collaborative and synergetic approaches piloted by the alliances, both in CoARA Boost activities and other initiatives on research assessment.
 - facilitate participation in CoARA working groups by project / alliance-based groups, so that the ongoing piloting processes and emerging results can be brought directly to the agendas of the working groups.
 - consider specific initiatives that target the transnational level and networks of institutions.
- **For projects working on research assessment:** while it is important to share promising practices, these should be contextualised to the purpose of the assessment and its focus, key definitions, level of evaluation, unit of assessment and context of use.
- **For the Commission and RFOs:** incentivise and support collaboration, mutual understanding and willingness to work synergetically in moving from shared principles, values or strategic priorities to implementation.

Annex 1

Table: Summary of contributions from nine Horizon 2020 and Horizon Europe projects to research assessment reform

Project name and timeline	Activities contributing to research assessment	Aspects of promising practice	Focus of assessment	Status of project
<p>CoARA Boost Horizon-WIDERA-2023-ERA-01-07 (2023–2026) doi not available yet</p>	<p>CoARA Boost aims to contribute to enabling systemic reform of research assessment in line with the Agreement on Reforming Research Assessment and through activities embedded within the Coalition for Advancing Research Assessment (CoARA) structure. The project activities aim to: strengthen CoARA’s operational capacity (including secretariat, membership support and support for governance and CoARA Working Groups); catalyse research assessment reform and implementation (through a cascade funding programme); facilitate the collection and sharing of relevant information (including CoARA members’ self-assessment and action plans); and widen CoARA’s membership in Europe and beyond (via e.g. engagement events, communication, seeking to develop synergies). In all, 11 national chapters are already active (Cyprus, Finland, France, Hungary, Ireland, Italy, Norway, Poland, Spain, Switzerland, Ukraine), along with 13 working groups on open infrastructures, multilingualism, responsible metrics, proposals assessment, careers, experiments in assessment, peer review, etc.</p>	<p>Direct operational support for CoARA; catalysing implementation of the agreement; focus on responsible assessment; focus on institutional transformation and synergies</p>	<p>System Organisations/ Projects Researchers</p>	<p>Ongoing</p>
<p>DocTalent 4EU Horizon-WIDERA-2022-ERA-01-50 (2023–2024) https://doi.org/10.3030/101095292</p>	<p>The DocTalent4EU project is developing a forward-looking recognition system for transferable skills for early-career researchers in the context of doctoral training and research activities. Transferable skills that are attractive to the labour market are studied through engagement with non-academic and industry stakeholders and the analysis of job adverts. The project will develop digital credentials to support the recognition of skills in connection to the ESCO classification. The project also</p>	<p>Recognition of transferable skills</p>	<p>Researchers</p>	<p>Ongoing</p>

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	<p>entails the creation of seven local talent management centres supporting early-career researchers in identifying their skills and helping them in projecting their career options within and outside academia.</p>			
<p>GRANTeD Horizon 2020-SwafS-2018-2020/Horizon 2020-SwafS-2018-1 (2019–2023) https://doi.org/10.3030/824574</p>	<p>The GRANTeD (Grant Allocation Disparities from a Gender Perspective) project aimed to contribute to a gender-fair research funding system by clarifying the concept of gender bias, developing a methodology to investigate gender bias and its impacts, and identifying the factors that potentially create gender bias in the grant allocation process of RFOs; provide a better understanding of gendered career inequalities arising from such bias; contribute to gender equality policies and the management of gender diversity in organisations; and raise awareness of gender bias in grant allocation and research careers. It conducted a literature review, developed a conceptual framework and developed and tested a heuristic model of potential sources of bias in grant allocation. It generated five case studies in European RFOs and longitudinal analyses of researcher careers (Sweden). The case studies draw on interviews with funding organisations’ staff, peer reviewers and panel members; survey of applicants; analyses of RFOs’ gender equality policies, and (planned at the time of writing this report) linguistic analyses of project descriptions, CVs and evaluation reports.</p>	<p>Focus on gender fairness and avoiding gender bias in funding allocation and gendered career inequalities</p>	<p>System (RFOs) Researchers</p>	<p>Completed</p>
<p>GraspOS Horizon-INFRA-2022-EOSC-01 (2023–2025) https://doi.org/10.3030/10109512 9</p>	<p>GraspOS (Next Generation Research Assessment to Promote Open Science) aims to support policy reforms towards an open-science-aware responsible research assessment system, by delivering an EOSC-integrated, open and federated research assessment infrastructure. It will develop an open-science-aware assessment framework and evaluate it through a series of pilots. The framework will guide the development of EOSC-integrated tools and services to support new-generation open-science-aware responsible assessment. The</p>	<p>Open-science-aware research assessment; EOSC-integrated assessment; piloting</p>	<p>System/multilevel</p>	<p>Ongoing</p>

	<p>project is at an early stage, aiming to produce an initial version of the framework and services by the end of 2023. It has generated a draft landscape review of approaches to responsible research assessment.</p>			
<p>OPUS Horizon-WIDERA-2021-ERA-01 (2022–2025) https://doi.org/10.3030/10105847 1</p>	<p>The Open and Universal Science (OPUS) project is targeting both RPOs and RFOs in contributing to the uptake of open science practices in the assessment of research and researchers. By focusing on the development of assessment practices that consider the open access to outputs and early sharing of results, open peer review and stakeholder engagement in R&I processes, OPUS contributes to systemic changes where these types of activities are rewarded and incentivised. Achievements so far include a review of existing initiatives and literature on how open science practices are included in the assessment of research and researchers. Work towards the definition of indicators and metrics in the context of the project’s research assessment framework is ongoing, including both a generic indicator framework and one focused on open science aspects. The emerging framework is currently being piloted to support its further development, including through the collection of stakeholder feedback. The project aims at creating indicators to be included in a revised OSCAM.</p>	<p>Development of a broad assessment framework with the option of applying open-science-oriented indicators that allow tailoring for use by diverse institutions according to their needs; piloting/pragmatic testing process; integration</p>	<p>Systemic Organisations Researchers</p>	<p>Ongoing</p>
<p>ORION Horizon 2020-SwafS-04-2016 (2017–2021) https://doi.org/10.3030/741527</p>	<p>The Open Responsible Research and Innovation to further Outstanding Knowledge (ORION) project focused on facilitating evidence-based institutional, cultural and behavioural changes in RPOs and RFOs. It targeted the embedding of open science and RRI principles (ethics, gender, governance, open access, public engagement and science education) in both types of organisations at the level of their policies and practices. Through case studies building on co-creation approaches, it aimed at identifying drivers and barriers and producing new citizen science initiatives and research strategies, training material</p>	<p>Focus on RRI, particularly open science; focus on organisational change – RPO, RFO; citizen science. Indirect relevance to assessment</p>	<p>Organisations</p>	<p>Completed</p>

	and funding frameworks , thus contributing to institutional development.			
<p>SciLake Horizon-Infra-EOSC-01-04 (2023–2026) https://doi.org/10.3030/10105857 3</p>	<p>SciLake’s contribution focuses on supporting the calculation of indicators and the production of information for the purposes of research assessment. Building on the Open AIRE ecosystem and EOSC services, SciLake focuses on producing an open and transparent data storage and analytics service to accommodate and manage heterogenous scholarly content which it helps to democratise. It will offer advanced AI-assisted services that build on customised perspectives of scientific merit to support the analysing of scientific knowledge. SciLake aims to contribute to the identification of research trends and valuable research objects according to an automated assessment of scientific, societal or economic impact. It will help overcome technical challenges in impact assessment for different research outputs (publications, datasets, software, etc.). The project will also offer AI-assisted services for the automated assessment of the readiness of research to be reproduced and their current level of replication.</p>	<p>Focus on open science: transparent assessment data; assessing reproducibility, replication; focus on assessment of research impact</p>	<p>Researchers, projects, organisations (using aggregate values of the indicators developed)</p>	<p>Ongoing</p>
<p>SECURE Horizon-WIDERA-2022-ERA-01-50 (2023–2024) https://doi.org/10.3030/10109490 2</p>	<p>SECURE (Sustainable Careers for Researcher Empowerment) aims to develop, trial and mainstream a common research career framework (RCF) and also develop tenure track-like models. RCF will offer a suite of options to support organisations in the recruitment, employment, training, development, progression and mobility of researchers. Through its early activities, as documented by the time of this review, SECURE has aimed to address pillar 2 (researchers’ assessment, recruitment and progression) of the European charter for researchers. To date, the project has delivered two reviews of the state of the art in literature on RCFs and tenure track-like models. The RCF review covers policy documents, stakeholder position statements and reports, and third-party</p>	<p>Focus on open science, diversity, fairness and transparency in career-related researcher assessment, including gender equality; researchers’ assessment taking open science into</p>	<p>Researchers System (country level)</p>	<p>Ongoing</p>

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	<p>studies and reports on RCF development; recruitment and employment conditions for researchers; career development and progression; and institutional, intersectoral and international mobility. It highlights policy provision for, and evidence on, the extent to which career-related researcher assessment is fair and transparent and takes into account open science, gender equality, and diversity across demographic backgrounds, sectors, career stages, disciplines, qualifications, experiences and career chronologies. It identifies barriers and examples of good practices from three countries, and issues around reviewer conservatism, overheated review systems, nepotism and favouritism, and bias. The reviews suggest that new metrics and indicators and novel evaluation approaches require further exploration. The project expects to identify examples of best practice after the trial implementation of the RCF (October 2024).</p>	<p>account; identification of barriers / problem areas and good practice; trial/piloting</p>		
<p>SUPERA Horizon 2020-SwafS-2016-17 (2018–2022) https://doi.org/10.3030/787829</p>	<p>SUPERA focused on the implementation of gender equality plans in four RPOs and two RFOs. One of its objectives was to review and modify procedures and criteria used in R&I funding calls to avoid gender biases and improve gender balance as a result. The project produced a guidance tool for funders to review and improve their funding call designs and evaluation practices from the perspective of gender aspects. It also produced publicly available guidance for promoting gender balance in research teams and for advancing work–life balance, along with guidance for RPOs’ gender equality plans.</p>	<p>Improving evaluation criteria and practices for funded projects to avoid gender bias and for introducing gender aspects in funding calls; changes in RFOs</p>	<p>Organisations level System (funders) Projects</p>	<p>Completed</p>

Annex 2

Table: Summary of contributions from 21 European University Alliances' projects to research assessment reform

Alliance	Activities/practices	Aspects of promising practice	Focus of assessment	Status of activities
Arqus R.I. https://doi.org/10.3030/101017448	Bench-learning exercise based on a pilot on assessment reform (two social science faculties at the University of Graz, with partners as critical observers), using a specially developed activity framework for researcher evaluation.	Alignment with CoARA (Graz participates in the CoARA WG on Reforming Academic Career Assessment); consultation with stakeholders; transparency; across career stages; piloting both bottom-up and top-down approaches; potential for multiple uses (monitoring, reward, recruitment, staff planning, etc); internal reflection	Individual researchers / Academic careers/ Research activity	Ongoing
	Review of alternative approaches (criteria and procedures) to research assessment, seen as approaches that include the focus on impact, reflect open science and diversity, and move beyond bibliometrics and other quantitative approaches.	Focus on diversity, openness and rewarding responsible research; focus on assessing impact and related activity; multi-country review; qualitative assessment	Individual researchers / Academic careers	Completed
	Recommendations for self-reflection in the use of narrative curricula, personalised objective-based assessment and the availability of institutional research repositories. Efforts to increase awareness of new assessment paradigms and non-traditional criteria . A report (D3.1) is publicly available, but it stops short of providing an alternative assessment matrix.	Personalised objective-based assessment, narrative CVs, non-traditional criteria; support for self-evaluation	Researchers	Ongoing
		Focus on openness and multidimensional assessment criteria		

	Articulating open science skills implications for research assessment.		Organisations	
EU-CONEXUS RFS https://doi.org/10.3030/101017436	<p>Feasibility study of a postdoctoral programme that aims at the alignment of HR policies for postdoctoral researchers at partner universities and identified key characteristics for successful postdoctoral programmes.</p> <p>D3.2 offers a study on the challenges for an EU-CONEXUS interuniversity campus to implement actions required by the HRS4R award.</p> <p>Collection of good practices in research management.</p>	<p>Harmonising assessment and HR policies</p> <p>Sharing good practices</p>	<p>Researcher Programme/ institution</p>	<p>Completed (D3.2)</p> <p>Ongoing</p>
EPICUR- Research https://doi.org/10.3030/101016926	<p>EPICUR Qualitative Researcher’s Assessment Framework (EPIQAssess) for institutions to trial and develop fresh qualitative and quantitative assessment models for recognising and rewarding researchers across four intersecting dimensions: research, innovation, interaction with society and teaching and learning.</p> <p>Building on the research reward cycle presented by the European Commission Working Group on Rewards under Open Science ⁽¹⁾, the alliance reviewed gamification frameworks used in the recognition, rewarding and motivation of (early-career) researchers, such as awards, medals, prizes, access to funds, bonus schemes, competitions, invitations, freebies or support programmes. A list of incentives and rewards was drawn up to be included in EPIGame, a gamification of the EPIQAssess framework that associated rewards and incentives with its various criteria, such as badges for achievement, levels, scores, fixed rewards, progress markers and physical rewards and prizes (D2.2). Outcomes</p>	<p>Open science as core criterion; starts from researchers’ perspectives; across career stages; flexible (space for emerging criteria); mix of qualitative and quantitative assessment</p> <p>Attempt at diversifying approaches to assessment through gamification; building on existing initiatives (Research Reward Cycle)</p>	<p>Researchers / Research careers</p>	<p>Completed (D2.1)</p> <p>Completed (D2.2)</p>

(¹) European Commission, Directorate-General for Research and Innovation, Working Group on Rewards under Open Science (2017), Evaluation of Research Careers fully acknowledging Open Science Practices Rewards, incentives and/or recognition for researchers practicing Open Science, https://ec.europa.eu/research/openscience/pdf/os_rewards_wgre-port_final.pdf.

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	from a pilot or user study of the framework and app, along with an assessment of limitations, are unavailable as yet.			
EU4ART-differences https://doi.org/10.3030/101016460	Addressing questions relating to the discipline-specific research assessment through a book on Artistic Research , fostering collaboration with a quality-assurance foundation for a dialogue on research assessment with a transdisciplinary approach.	Alliance contributing to a wider disciplinary movement to address the role and quality aspects of Artistic Research.	-	Completed
EUTOPIA Train https://doi.org/10.3030/101017419	EUTOPIA Framework Policy on Research Assessment (D3.2), arising from a dedicated task (3.3) and including joint vision and principles for research assessment, guidance for implementation and an indicator toolbox. The development involved workshops, background reports/notes (one on responsible evaluation and one on open science and assessment) and consultation . The alliance signed the agreement to reform research assessment.	Strategic, integrated multi-level approach; shared vision and commitments to responsible assessment; shared evaluation tools; balanced focus on process, outputs and impacts; rewarding open science, FAIRness and (multi-disciplinary) impact; congruence with international agreements on assessment reform and the SCOPE iNORMS framework	-Individual: Researchers - Group level: Research groups, departments -Project level: Funding proposals	Completed; work to continue through EUTOPIA-MORE (2022–2026)
FIT FORTHEM https://doi.org/10.3030/101017248	Addressing research assessment through surveys to members and through the FORTHEM Academy for early-stage researchers. The survey revealed common understandings of the goals of the reform but also differing priorities for implementing the reform within the alliance.	Targeting early-career researchers, identifying common approaches and interests through a survey	Researchers	Ongoing
RIS4CIVIS https://doi.org/10.3030/101016691	Conducting a pilot study on research assessment to design new criteria on open science practices and results, and criteria for citizen science and science communication. Establishment of a dedicated working group to foster a dialogue within the alliance. Submission of a CoARA working group application focused on the activities of alliances and RPOs.	Establishment of a working group and pursuing collaboration with other alliances on the topic. Working towards the creation of open-science-related criteria and targeting citizen science and science communication	Researchers, projects	Ongoing

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<p>SMART-ER https://doi.org/10.3030/101016888</p>	<p>Internal consultations on research assessment and a policy recommendation (via the policy briefing) to accelerate systemic change in metrics focused on societal impact.</p>	<p>Initiating dialogue; broadening of existing metrics through focus on impact</p>	<p>Researcher</p>	<p>Ongoing</p>
<p>TORCH https://doi.org/10.3030/101017229</p>	<p>Development of a common policy towards reforming research assessment and piloting a comprehensive research assessment framework across the alliance. Issuing an action plan for an alliance manifesto on research assessment that describes the main gaps and insights on the topic, contributing to a vision on ‘research assessment pathways’ for the alliance. The design of an expedited research ethics approval pathway for recognising alliance partners’ ethics approvals in common projects. The creation of a toolkit for open science rewards and recognition is in progress. Convening ‘Science with and for Society in European Universities Alliances: Cross-Alliances Forum 2023’ in Brussels, which included a workshop on research assessment reform. The design and testing of a pilot and action plan on a joint support strategy for R&I cooperation focused on inter- and transdisciplinarity and research driven by societal challenges.</p>	<p>Alliance-level policy initiative with comprehensive approach to research assessment; covers open science and its implementation (including recognition and rewards); balances qualitative and quantitative evaluation. Concrete efforts to pursue reformed practices and related community engagement and monitoring</p>	<p>Researchers Projects</p>	<p>Ongoing</p>
<p>Unite.H2020 https://doi.org/10.3030/101017408</p>	<p>A literature review and a survey were conducted to study the assessment frameworks of alliance partners in order to plan a common framework for ‘open and transparent evaluation of academic merit’, but the results of this endeavour and related documentation are still pending. The alliance mentions the promotion of diversification as one of the aims of the joint actions to promote the attraction, recruitment, assessment and rewarding of research talent.</p>	<p>Emphasis on openness and transparency, pilot activities towards common guidelines on research assessment aligned with the Agreement on Reforming Research Assessment.</p>	<p>Researchers</p>	<p>Ongoing</p>
<p>YUFERING https://doi.org/10.3030/101016967</p>	<p>The project aims to develop tools for professional career exchanges and joint ‘YUFE career tracks’ through exchanges on the national career systems. A mapping of the assessment frameworks for researchers was conducted, and an assessment tool was designed for academic</p>	<p>A common approach to staff development outlining a comprehensive set of skills covering research skills and techniques, research management and impact, open science</p>	<p>Researchers</p>	<p>Completed, but implementation and</p>

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	positions that will be piloted in nine different recruitment processes. The alliance developed the YUFE competence framework to counteract an assessment culture focused on quantitative and journal-based indicators. It represents a common approach to be used for raising awareness and support in staff development, selection and promotion but is not intended to replace 'locally agreed frameworks or job requirements'.	aspects, ethics and integrity, teamwork, leadership, network, service to the institution, gender and inclusivity aspects, and teaching. The framework can be used for different purposes, and it represents a voluntary framework supporting the members of the alliance		piloting ongoing
AURORA RI https://doi.org/10.3030/101035804	The alliance signed the Agreement on Reforming Research Assessment together and generally supports the reform but acknowledges the differentiated approach that will be taken by its members for pursuing the reform.	Establishing a joint commitment for the reform within the alliance, even though this did not lead to collaborative activities relating to the topic	Institutional	Concluded
Beyond UNIVERSEH https://doi.org/10.3030/101035795	A survey to identify indicators for monitoring inclusion and diversity. The first of two waves was distributed (internally) in 2023; it should be noted that it is not specifically aimed at reform of research assessment. There are four clusters of indicators: internationality and culture; physical and mental health; social background; and family circumstances and life concept (D3.2).	Focus on indicators of inclusion and diversity; evidence-based approach	Research organisations	Ongoing
COMPASS https://doi.org/10.3030/101035809	Benchmarking key concepts and requirements in ethics, open science and gender (for broad purposes rather than specifically for assessment). The Ulysseus alliance that is working on this project has also signed the Agreement as an alliance.	Focus on RRI	Organisations	Ongoing
EELISA innoCORE https://doi.org/10.3030/101035811	Development of common mechanism to incentivise and reward excellence in open science (leading to D3.5), using next-generation metrics and new peer review methodologies. Implementation guide, using a common vocabulary and methodological framework and a set of open science indicators for monitoring and evaluation. Topical meetings debating research assessment reform and the Agreement.	Focus on open science; new peer review technologies; next generation metrics	Researcher Organisations	Ongoing
Engage EU R-I	Developing recommendations for new/ broader incentives and researcher assessment criteria, such as those focused on	Focus on engagement, impact, ethics, fairness	Researcher	Ongoing

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https://doi.org/10.3030/101035807	<p>societal engagement, collaboration with industry, fairness, innovation and entrepreneurship, and ethics. Task 2.6 is focused on people-centred ethics.</p>			
<p>ENLIGHT RISE https://doi.org/10.3030/101035819</p>	<p>Establishment of an expert working group on research assessment and the eventual publication of a report showcasing innovative case studies relating to the topic. Organisation of internal and external workshops on research assessment and publication of a statement on open science principles by the alliance, including a commitment to reforming research assessment. The project also included activities on impact, in the form of designing a self-assessment tool and impact awards for selecting impact ambassadors amongst their researchers.</p>	<p>Creation of a community of practice focused on research assessment, taking early steps towards an alliance level approach through common open science principles Adopting a strong focus on impact and designing a self-assessment tool and awards focused on impact</p>	<p>All levels</p>	<p>Ongoing</p>
<p>EUniWell Research https://doi.org/10.3030/101035821</p>	<p>Self-assessment tool for researchers, based on a partnership with VITAE’s researcher development framework. Skills taxonomy including transversal skills. Initial recommendations and developing performance indicators for placing well-being at the core of institutional HR and research assessment. Planned development of well-being-informed evaluation and reward scheme that includes impact, open science, team learning, leadership, inclusion, quality and social engagement.</p>	<p>Focus on well-being; partnership with established initiative drawing on existing expertise; transversal skills; broader criteria (impact and engagement, leadership, open science, teamwork, inclusion)</p>	<p>Researcher Organisations</p>	<p>Ongoing; access to the researcher development framework completed</p>
<p>EUt EXTRAS https://doi.org/10.3030/101035812</p>	<p>Co-designing a new assessment methodology for iterative (self-) evaluation of the processes and outcomes of societal impact (WP6), proposed as alternative criteria to scientific impact. The methodology would combine inductive, iterative, mixed-method and participatory approaches in specially created integrated testbed laboratories to assess at scale.</p>	<p>Alternative criteria focused on societal impact; process focus; self-evaluation tools; mixed-method and participatory approaches; experimentation Focus on institutional transformation</p>	<p>Project (impact)</p>	<p>Ongoing</p>
<p>FILMEU_RIT https://doi.org/10.3030/101035820</p>	<p>The alliance plans to pilot assessment practices that are aligned with the Agreement on Reforming Research Assessment, in the context of practice-based and artistic</p>	<p>Planned contributions to the development of the discipline-specific assessment culture, in line with the</p>	<p>Researcher / research projects</p>	<p>Ongoing</p>

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	disciplines. The documentation relating to this work is still pending.	Agreement on Reforming Research Assessment.		
ReERUA https://doi.org/10.3030/101035808	Developing a common framework for re/upskilling researchers and stakeholders , with specific additional focus on women scientists and innovation, impact and engagement, and social entrepreneurship. A survey (D4.1) and a regional supply and demand study (D4.2) were conducted, with indirect implications for researcher assessment.	Focus on innovation, engagement, entrepreneurship, impact; focus on responsible research; attention to gender	Researchers	Ongoing

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