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**Oxford's Global
Innovation Consultancy**

Concordat and Agreements Review

Phase II final report

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Disclaimer

About Oxentia

Oxentia Ltd is a successful innovation management and technology commercialisation consultancy that started in 2004 as an operating division within Oxford University Innovation Ltd, the world leading technology transfer company of the University of Oxford.

Oxentia's mission is to provide high quality innovation management consulting services and advice, derived directly from practitioners' perspectives to organisations around the world, adding value and enabling economic growth at all levels. Since inception, Oxentia has engaged with large businesses and SMEs, university spinouts, research organisations, foundations, and governments, as well as academic research staff from research organisations across most continents of the world.

We have managed a diverse range of cultural approaches within different socio-economic environments, which has given us a unique perspective on innovation and commercialisation strategies that can be implemented in different regions and countries. Our team has an exceptional blend of technical and commercial experience that cuts across most research disciplines, including in the agricultural technology, environmental, life science, digital, electronics, materials, engineering and medical device sectors, which makes us uniquely suited to engage with international tech-based innovators. To date, Oxentia has worked with clients in more than 70 countries.

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Executive Summary

1. Executive summary

The UK has a world-renowned research and innovation base producing large amounts of excellent research from a system that includes a vibrant and diverse set of Higher Education Institutions (HEIs) and other Research Organisations (ROs). Despite this excellence, there are a number of well recognised problems relating to the culture and environment in which research takes place. The past two decades have seen an increasing number of concordats, charters and other initiatives (collectively referred to herein as 'initiatives') created to address issues, opportunities and aspirations that can shape and improve the research environment, practice and culture. Whilst there is evidence that these initiatives have led to positive changes, the first phase of this Concordat and Agreements review (phase I)[1] shared insights about their link to research culture and the unintended collective burden in the adoption of initiatives by HEIs/ROs.

This report, building on phase I, details findings and recommendations of phase II which aimed to create a solution and action plan to:

1. Reduce unnecessary burden and bureaucracy, including in the event of the formation of any new initiatives and;
2. Enhance initiatives' positive impact on research culture

1.1 Our approach and key findings

Over six months we[2] worked with key stakeholders from across the research ecosystem (in particular initiative owners[3] and 'users'[4] of initiatives). We worked with these stakeholders to co-create ways to enhance the behaviours, environments and processes, within and through which, research is conducted. We have worked with representative groups and users from across the Higher Education (HE) and research and innovation (R&I) sector[5], with research funders and the initiative owners, resulting in a proposed solution and associated set of recommendations/actions.

In agreement with findings of the first phase of this work, this second phase also uncovered significant appetite for change. The issues of burden and 'noise' are widely recognised and result in frustration that we are not collectively tackling the deep-seated and intersecting issues that influence our environments, experiences and processes. As the project progressed, it was

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[1] https://www.universitiesuk.ac.uk/what-we-do/policy-and-research/publications/research-concordats-and-agreements

[2] 'We' refers herein to Oxentia consultants, working in close communication with the project commissioner.

[3] We refer to concordat and initiative owners collectively as 'initiative owners' throughout this document. The 'initiative owners' is the collective term given to the group of lead contacts for each concordat and agreement in relation to this specific project. Not all initiatives are structured the same; in some contexts the Initiative Owner represents a large number of signatories which are consulted as part of any changes, meaning the scale/speed of change may vary by initiative.

[4] 'Users' are those organisations that are guided by (and therefore 'use') the concordats and initiatives.

[5] Note that these users were from HEIs and ROs.

also clear that there are no easy or quick solutions.[6] During phase II there was strong agreement amongst users and initiative owners that integration of initiatives, along with more collective alignment and consistent actions, will enable incremental change to improve the research experience for all working within the UK's research ecosystem.

At a glance

Our recommendations call for the collective efforts of all stakeholders to enhance research culture. During phase II we identified three elements through which a more effective and collective approach could be reached:

1. Agreeing a set of shared principles to define the characteristics of a positive environment for research culture. It is all too easy to drown in the detail – these principles help all stakeholders to keep the big picture in mind.

2. Working to a shared set of research culture values[1] with measurable indicators of progress. There is lots of 'noise' in the system, and multiple agendas to progress. We need a shared sense of purpose to work towards if we are to keep our collective focus. We recommend the adoption of a shared principles and values to provide this alignment, whilst also accommodating for the diversity and breadth of HEI and ROs.

3. Simplifying the bureaucracy. Bureaucracy is not inherently undesirable. Well managed, it scaffolds accountability and provides the vital intelligence we need to inform our collective decision making. However, bureaucracy needs to work in the service of our principles and values, not dictate them. A number of steps forward have emerged which could significantly improve how bureaucracy serves research culture, and not research culture serving bureaucracy, at the same time allowing for assurance and accountability.

We outline our key findings and recommendations in each of these areas below. We recognise that some of these will result in new actions or activity in the short-term. However, we are confident that they will lay the foundations for a reduction in burden and bureaucracy in the medium to longer term. Although the focus of this phase II was to identify actions for initiatives, given the holistic nature of our solution and inherent interdependencies of the research ecosystem, we have also identified actions for the consideration of HEIs and ROs. Without these actions for HEIs and ROs, our solution is unlikely to produce the positive change all stakeholders are hoping to see.

1.2   The principles underpinning a healthy research environment

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[6] Solutions to those aims 1. and 2. listed in section 1.

Inspired by the R&D People & Culture Strategy[7], which calls for creation of "...*a vision of the culture we want to see within the sector – working together to make lasting change happen ...*" we proposed moving from the current situation, which may be described as an 'initiative-centric' approach - involving separate initiatives, drawing on different data, people, timescales and reporting requirements to address different aspects of culture - to a more 'culture-centric' one. In the proposed culture-centric approach, initiatives are re-framed as formative instruments[8] that can, alongside other instruments such as the Research Excellence Framework (REF)[9] or funder assurance processes, contribute to a shared understanding of positive research culture[10], and positive action to achieve it.

To aid deliberations, and assuming that the cultural environment is tractable, a set of principles were developed and tested with initiative owners and users. These principles, set out below, aim to characterise a well-functioning research environment that, taken together, would create conditions within which researchers and research enablers, can thrive:

1. Emergent: Recognising that developing a positive research culture and environment is a multi-faceted process
2. Inclusive: Respecting the autonomy, distinctiveness, and variety of HEIs, ROs and initiatives - and their different visions, missions, and values
3. Clear: Developing a shared (between HEIs and ROs) and distinctive understanding of a positive research culture and environment
4. Efficient: Avoiding duplication by producing measures and evidence well, and once
5. Reinforcing: Prioritising, rewarding, and recognising positive behaviours and contributions to a research culture and environment
6. Integrated: Considering how to build effectively on existing instruments rather than inventing new ones
7. Situated: Considering the interactions with wider research practices and environments
8. Flexible: Recognising and planning for flexibility and change.

These eight principles are key to adjusting the focus from 'what is broken' to what is collectively aspired to. The principles provide a springboard for different collaborators across the research

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[7] https://www.gov.uk/government/publications/research-and-development-rd-people-and-culture-strategy

[8] By 'formative instruments' we mean providing good practice guidance and support to HEIs/ROs and their other stakeholders, where applicable. In the culture-centric approach, initiatives are much more closely aligned through the proposed shared principles and research culture values. Initiatives also will communicate more closely with each other to understand each other's offerings and reporting, aiming to reduce their collective burden.

[9] https://www.ref.ac.uk/

[10] By 'shared understanding of research culture' we mean alignment of stakeholders at a high level, for example as in our proposed solution this would be through the principles and values, but then flexibility to take into account the individual HEIs and ROs distinctive commitments to allow them (the HEIs and ROs) to define their own research culture and environment strategy around these shared principles and values.

ecosystem to focus on what they could take responsibility for within their own sphere of influence. They create a common purpose while acknowledging that different partners within the ecosystem have a diversity of roles to play. These roles, conducive to producing excellent research, include driving a collective momentum and shaping iterative incremental improvements in HEIs and ROs.

During phase II, initiative owners were enthusiastic and committed to play their part in achieving positive change. However, to achieve long term transformational change, they recognised the critical importance of shared purpose and commitment from across the HE and R&I sector. This leads us to our first key recommendation:

Key recommendation

What	Who?
Initiative owners, research funders, HEIs and ROs should agree a set of shared principles to guide their collective efforts to enhance research culture	Initiative owners, ROs and HEIs, funders

1.3   Working to a shared set of values

It is self-evident that attempts to enhance research culture require the pro-active and independent determination of HEIs and ROs to take responsibility for their own internal cultures. The organisations we spoke to described the excessive burden created due to regulation and reporting, resulting in a lack of time to focus on internal engagement and coalition building. They wanted to see initiative owners and other stakeholders in the research system (such as funders and regulators) lightening the burden. In return, HEIs and ROs wanted to be able to invest more time in building their own distinctive commitments to tackle issues related to research culture in their own contexts, and to build common purpose with their staff, students and collaborators.

During this work, initiative owners and HEI/RO stakeholders agreed that it would help to take a step back - to remind ourselves why research culture matters, and what the key characteristics of a healthy research culture are. It was suggested that an existing overarching framework such as the Science Europe Research Culture Values Framework[11] might provide a useful scaffold[12], articulating at a high-level the features of a positive research culture (such as openness and transparency, integrity and ethics, and equality, diversity and inclusion) with a clear intellectual rationale.

These high-level features[13] could be used by initiative owners to help them to clarify how each of their initiatives contribute to these overarching values. For example using them to identify where the gaps and overlaps are and how, over time, initiatives could work more purposefully together. HEIs and ROs could use such a collectively agreed overarching framework to develop

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[11] https://www.scienceeurope.org/our-resources/research-culture-values-framework/
[12] To act as the values underlying the 'shared understanding of research culture'.
[13] That describe, or make up each value within the overarching framework.

their own distinctive research culture strategies. These distinctive research culture strategies would then be individualised and tailored, each describing institutional commitments to these overarching values.[14] Although actions for HEIs/ROs were not originally within the scope of this phase II review, this is work that many HEIs have already started to do, adapting these various external requirements into their own institutional frameworks, stating the high-level values and principles they are working towards, and using these to build common purpose.

These actions, for the consideration of HEIs and ROs, will be iterative and incremental. It will be for individual HEIs and ROs to determine the pace of this change. However, taken together these collective actions are designed to stimulate manageable systemic and systematic changes in the experiences and opportunities of researchers and the policies, practices and environments that support the production of quality research. This leads us to our second key recommendation:

Key recommendation

What?	Who?
Initiative owners, research funders and HEIs and ROs should adopt a common definition such as the Science Europe Research Culture Values Framework (or similar), and agree on how progress against it could be measured in a granular way, to guide their collective efforts to enhance research culture. Care must be taken not to create unintended consequences or incentives, and/or undermine efforts and commitments to responsible research assessment.	Initiative owners, ROs and HEIs, funders

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[14] For example there could be the high-level articulation of the research culture strategy communicated on a HEI/RO website, supported by an internal detail/framework for how exactly each aim will be met and how success and progress will be measured.

1.4   Tackling unnecessary bureaucracy

The process adopted by this review saw conversations moving between high-level principles, philosophical challenges and deeply technical and frustratingly practical blocks and barriers. Our recommendations acknowledge that any high-level solution has to work on each of these levels.

The adoption of shared design principles, and a common values framework as outlined above in section 1.3, will help to provide high-level alignment. But this will only work if detailed attention is also paid to the underpinning logistics and practicalities.

Phase II participants (initiative owners and HEI/RO stakeholders) helped us to identify a number of significant 'technical' fixes ranging from:

- The way the research culture system currently works (from the users perspective) and/or;
- To the way initiatives' areas interreact with the wider research culture system (from the initiative owner's perspective).

For the complete list of actions, which were co-created by 'users' and initiative owners during phase II, see section 4.

We outline two of the key proposed changes to tackle unnecessary bureaucracy below:

Streamlining initiative data and reporting requirements

To reduce collective burden, there is a need to better understand the data and reporting requirements of the various initiatives, to map overlaps, and to explore opportunities to streamline them. It was noted that this action should initially be led by those initiative owners with more significant data and reporting requirements, although all initiative owners will need to contribute to this process. Of course, the challenge of burden reduction cannot be solved by the initiative owners alone and must be carried out in close communication with HEIs and ROs, as it is essential that the solution reduces burden for them. However, feedback throughout this project has made it clear that initiatives have a significant responsibility (and opportunity) to change some critical aspects of how they currently work (including for example to increase communication between one another).

Importance of interdependencies with other stakeholders in the research system

Whilst the initiatives were the primary focus of phase II, feedback received throughout the project has made clear just how inter-dependent these initiatives are with other stakeholders in the research system. Inevitably, the role of research funders constantly featured in deliberations, with the influence of instruments such as the Research Excellence Framework (REF) being highlighted as playing a significant role in shaping the research environment. A specific action therefore surfaced for initiative owners to help align the formal incentives and reporting requirements that HEIs and ROs have to navigate.

Key recommendations

What?	Who?
Establish a working group or forum to reform reporting requirements, better align them, remove or incorporate into existing reporting	Initiative owners with reporting requirements
Map initiatives onto a collectively agreed and pre-existing 'culture framework' to enable identification of potential duplication in requested data or areas of strength and weakness (i.e. where more than one initiative contributes towards supporting an area of research culture)	Initiative owners, collectively
Map data requirements across all initiatives, and how these contribute to the culture framework and its indicators	Initiative owners Data providers such as HESA/Jisc
Work with owners of other relevant instruments to align data and reporting requirements, using the shared understanding of research culture	Initiative owners together with owners of other instruments, notably the REF.

Whilst these various recommendations may be simple to describe, they will not be simple to implement fully. Actions will require a large and diverse set of stakeholders to work collectively. Some actions can be progressed as standalone projects (e.g. a subset of initiative owners working to better align reporting), however overall, due to interdependencies, it will be particularly important to keep different actions aligned across the system, to maintain common purpose and realise benefits. For example, a common, shared understanding of research culture,[15] with an associated set of indicators, will be of use to HEIs and ROs, but the full impact will only be felt if initiative owners and others use this[16] to drive better alignment and streamlining of their own data and reporting requirements.

1.5 What next?

Implementing these actions will require time and engagement at all levels and in all corners of the research system. Funders, initiative owners, university leaders and managers, research users and, perhaps most importantly, those researchers and research enablers[17] will need to pool their ambitions, expertise and intelligence. We are confident that the principles and action areas outlined above in sections 1.2-1.4 are a sensible and practical way forward, sensitive to the complex and interwoven accountabilities and responsibilities that underpin research culture. All participants involved in phase II wanted to get things working better. We were greatly encouraged by this and also how, broadly speaking, all were supportive of the approach we outline herein.

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[15] Referred to also as 'values', see section 1.3 for more detail.

[16] 'This' refers to the 'shared understanding of research culture, with a detailed set of indicators'.

[17] For example all research stakeholders including those directly supporting research projects and experiments.

However, the main risk recognised during this review process was the danger that without a really concerted collective effort, progress could slow or stall. The potential to effect change depends on everyone in the HE and R&I sector stepping up to play their part. This is not an area that can be solved by prescription or regulation, or by creating a new organisation. It requires coordinated, collective and determined agency from the 'bottom up' and the 'top down'.

We hope that the proposed three elements co-created with initiative owners and HEI/RO stakeholders during phase II[18] – shared design principles, shared values to define what we are trying to achieve, and a much simpler and more efficient technical specification for reporting and reflecting on our progress – will provide a scaffold for collective action.
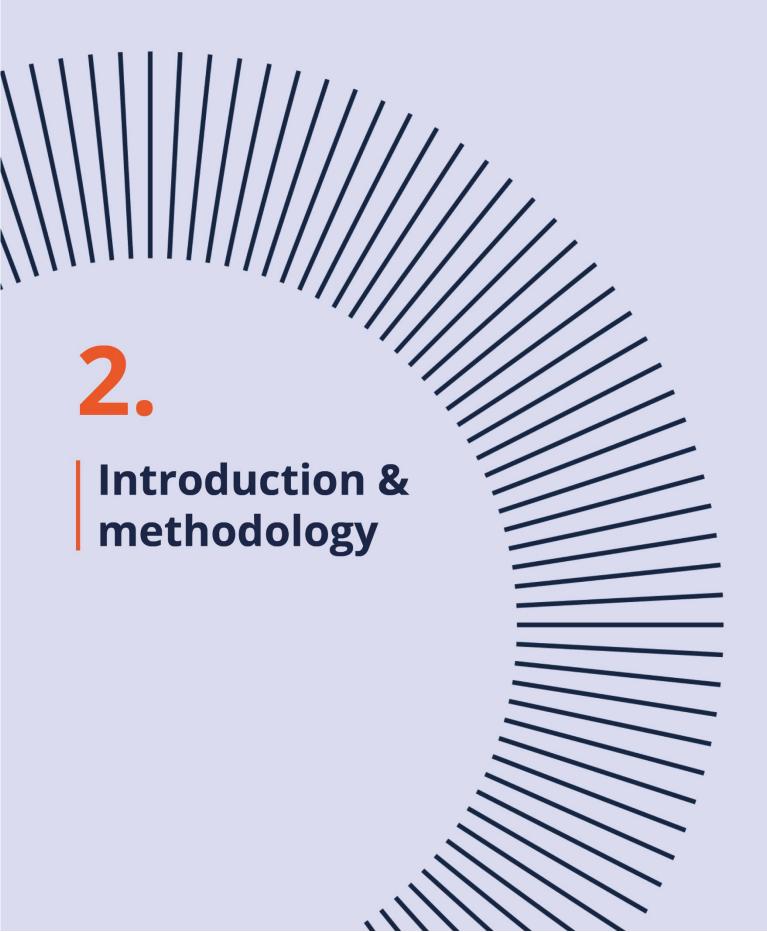
The solution is in the hands of everyone in the research system – this is a collective responsibility – and there are some obvious things to get on with. As expressed by all participants we talked to; research culture is too important for us not to.

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[18] Referred to as 'the solution'.

2.

Introduction & methodology

This section details the background to this project including a discussion of relevant prior work and other recent developments, the aims, and our methodology.

2.1 Background to this project

> The UK has a world-renowned research and innovation base, with a vibrant and diverse set of HEIs, ROs and other organisations contributing to it. Excellent research, however, is delivered by people, with UKRI recognising that
>
> *we must create a research and innovation culture that supports the wellbeing and creativity of all those working in the sector, valuing all roles that make research and innovation a success, recognising the power of collaboration, and reflecting the breadth of skills needed for the wide range of career options available.*

Despite the UK's world-renowned research and innovation base, there remain a number of well-documented issues related to research culture, and the environment experienced by those working in the research and innovation system.[19] For example, issues relating to precarity of employment contracts, career development, equality, diversity & inclusion, working practices, assessment of research, and reward & recognition, are all cited as potentially problematic. In addition, issues related to research culture are not just limited to research staff.[20,21]

We recognise that many initiatives are not just research specific, and may, for example apply equally to teaching and other institutional roles such as outreach. However, in an effort to improve research culture and environment, taking into consideration the context and breadth of individual initiatives, a number of these initiatives have been developed over the last two decades, to address for example:

- Issues directly affecting researchers and other enablers of the R&I system (such as the Researcher Development Concordat, the Technician Commitment, and initiatives aimed at addressing issues of Equality, Diversity & Inclusion such as the Athena Swan Charter)
- Research conduct and practice, covering a wide range of issues, from Research Integrity, to Open Data, and engaging the public with research
- How research is assessed and evaluated, including DORA and the Leiden Manifesto.

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[19] https://wellcome.org/reports/what-researchers-think-about-research-culture
[20] https://arma.ac.uk/arma-research-culture-survey-report/
[21] https://www.mitalent.ac.uk/research-culture

However, the R&D People & Culture Strategy[7] also notes that *"...a complex array of frameworks, assessment processes and incentives which have some unintended consequences, lead to unnecessary bureaucracy and hamper positive culture change."*

To address this, in 2021 Universities UK (UUK), in partnership with UK Research and Innovation (UKRI) and Wellcome, commissioned the first phase of this project to explore the adoption and impact of twelve such initiatives which exist to support good practice and positively influence research culture.

The initiatives in scope for the phase I review were:

- Concordat to Support Research Integrity
- Concordat on Open Research Data
- Concordat to Support the Career Development of Researchers
- Technician Commitment
- Concordat on Openness on Animal Research
- Concordat for Engaging the Public with Research
- Concordat for the Advancement of Knowledge Exchange in Higher Education
- Guidance for Safeguarding in International Development Research
- San Francisco Declaration on Research Assessment (DORA)
- Leiden Manifesto on Research Metrics
- Athena Swan Charter
- Race Equality Charter

Whilst it was acknowledged that the various initiatives had positively impacted various facets of research culture, the review (a full account of which may be found in the phase 1 report[22]) revealed a number of key challenges:

- The research and innovation system is a complex landscape with limited homogeneous experience of the initiatives across HEI and RO types or roles. This means different HEIs and ROs and their stakeholders experience the initiatives in different ways.
- It is difficult to evidence the direct impact of the initiatives on research culture as they have been embedded into HEIs/ROs' strategies and processes. Because of the diversity of the initiatives and how they are implemented, pinpointing their direct impact on research culture is difficult.
- The phase I report explicitly acknowledges that the initiatives do have an impact and role to play. For example, facilitating discussion on sensitive subjects and engaging senior leaders.
- The impact of the initiatives comes as much from how HEIs/ROs put them into effect as it does the initiative requirements themselves. The organic development of the initiatives as a collective is matched with equally organic implementation across organisations.
- No obvious overlap between initiatives' aims was found, but collectively they can create administrative burden. Tracking both initiative and HEI/RO progress for each initiative can also be administratively challenging.

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[22] https://www.universitiesuk.ac.uk/what-we-do/policy-and-research/publications/research-concordats-and-agreements

- There is a clear call from both initiative owners and users to explore potential alignments to help reduce burden and coordinate reporting.

The phase I findings were published in March 2022. Subsequently, in July 2022, the Independent Review of Research Bureaucracy[23] (the 'bureaucracy review') was published. This bureaucracy review complements the findings of the phase I research through adoption of seven principles and also references the phase I review, noting that: *"...there should be effective joining up with other complementary activities, such as the implementation of the Government's People and Culture Strategy, the Review of the Concordats, the outputs of the other independent reviews that have been running in parallel, the outcomes of the Future Research Assessment Programme, and other activities involving the Devolved Administrations."*

2.2   Aims

This second phase of the Concordat and Agreements review focused on co-development of an actionable solution with both users (of initiatives) and initiative owners. The solution aimed to:

- Reduce unnecessary burden on the users of the various initiatives, including in the event of the formation of any new initiatives and;
- Strengthen the link between initiatives and research culture, including enhancing their positive impact on research culture

Although the original aim of this phase II review was not to produce actions specifically for HEIs and ROs, due to the inherent interdependencies of the research ecosystem, the final co-created solution and action plan includes actions for HEIs and ROs.[24]

2.3   Methodology

To effectively navigate such complexity within the timescales of this project, we adopted a design-led approach using the Design Council's framework for innovation[25] (see Figure 1).

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[23]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1094648/independent-review-research-bureaucracy-final-report.pdf
[24] Which were identified by users and initiative owners together during the phase II workshops.
[25]https://www.designcouncil.org.uk/our-work/skills-learning/tools-frameworks/framework-for-innovation-design-councils-evolved-double-diamond/

Figure 1: Design-led methodology (© Design Council 2019) used during phase II.

This is an evolution of the classic 'double diamond' design approach, which invites users to iterate solutions through cycles of divergent and convergent thinking in four main phases:

- Discover: understand the problem through background research and speaking to people affected by the issues
- Define: Formulate the key challenges propose potential solutions
- Develop: Iterate potential solutions with different types of user
- Deliver: Test and further iterate the solution

These stages are underpinned by a set of design principles:

- *Put people first: Start with an understanding of the people using a service, their needs, strengths and aspirations*
- *Communicate visually and inclusively: Help people gain a shared understanding of the problem and ideas*
- *Collaborate and co-create: Work together and get inspired by what others are doing*
- *Iterate, iterate, iterate: Do this to spot errors early, avoid risk and build confidence in your ideas.*

To put this approach into practice, the project was divided into four stages. Further detail on stages 1-4 may be found in the Appendices A - E.

In stage 2, during a workshop held in September 2022, we explored the level of ambition for change amongst a diverse set of users. The user group was constructed by asking for nominations from various HEI/RO sector bodies and mission groups. We then selected members to represent a diverse cross-section of seniority and job roles, and also different HEIs and ROs based type, size and geographic location.

We received feedback from users on the idea of closer alignment of initiatives around a set of principles (our first of the three elements, see section 1.2) and the idea to use shared values (the second element of our solution, see section 1.3).

A key output from the workshop was the high level of ambition for change amongst users, which matched that expressed by initiative owners in Stage 1.
Based on workshop feedback a second iteration of our proposed solution was created. This iteration included refinement of the principles and further clarity around what those shared values could look like.28 We also provided more shape and clarity around how to ensure flexibility for HEIs/ROs, for them to use these principles and values to shape each of their own research culture strategies, in an efficient and practical way.

1

Stage 1 was designed to follow on directly from phase I. Stage 1 involved background research and interviews with the initiative owners. Semi-structured interviews were held between July and August 2022 with eleven initiative owners. Interviews aimed to gauge the level of ambition for change amongst these initiative owners, and further understand the opportunities, challenges and concerns which they may have around closer alignment of initiatives. In addition, interviews explored their ideas to reduce burden and strengthen the link between initiatives and research culture (see the Appendix A and B for further details).

Based on interview feedback including the initiative owners' high level of ambition for change, the initial three elements (see sections 1.1 – 1.3) were created and explored with users during Stage 2.

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A second workshop was then held with initiative owners. The second iteration of the proposed solution (the three elements), which re-positions research culture at its centre, was introduced to initiative owners to receive their feedback and input. Feedback gathered during the workshop was then used to further iterate and refine the proposed solution. Key refinements included adding detail to the descriptions of how each of the principles can be achieved, and also clarifying the format for relaying the proposed solution to HEIs/ROs (also taking into account other potential users). For further detail on the methodology and rationale (stages 1-3) behind the proposed solution described in stage 4, see Appendix A - D.

A third and final workshop was held in November 2022, bringing together both the user group and initiative owners. After providing feedback on the refined solution, participants were invited to create an action plan of concrete activities that would be required to implement such a solution.

Recommendations on key next steps can be found in the Executive summary, with more detailed actions in section 4.

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3.

How the proposed solution works in practice

This section describes how the final iteration of the proposed three elements (see section 1.1) can work in practice to define and measure a positive research culture.

3.1 The proposed solution: A high-level strategy for enhancing research culture

The proposed solution consists of three elements aiming to reduce bureaucracy and burden on HEIs and ROS. This solution will enable each HEI and RO to create their own individual a high-level strategy, backed up with a clear plan and methodology for driving and monitoring change. The proposed solution consists of the following:

1. A set of shared principles (see section 3.2) for all stakeholders across the research ecosystem to keep the focus on strengthening research culture. The principles enable all to focus efforts in a concerted and aligned manner towards a common agreed outcome.
2. Shared values: A description of how each of these principles could be met, including for example the need to create a shared representation of a positive research culture, and associated indicators to allow progress to be measured.
3. A high-level strategy to embody the solution in a practical and easy to understand format, which allows HEIs and ROs to drive positive change.

Below we set out each of these elements, together with the implications for different stakeholders.

3.2 Principles and how these can be achieved

The eight principles (as described in section 1.2) are shown in Table 1. Each principle's requirement specification (what each encompasses) and associated solution (how each principle can be met) are also displayed in Table 1.

These principles were developed in response to the problems identified and have been iterated from the initiative owner and user group feedback. They also align strongly with the seven principles contained in the Bureaucracy review[23].

Table 1 The principles, co-designed by the initiative owners and user group during phase II, along with the accompanying requirements and solution elements which underpin the proposed solution.

	Principle	Requirement	Solution elements
1	Emergent	Recognition that developing a positive research culture & environment is a people-centred journey	Allow HEIs/ROs to describe where they are on the journey, what their goals and priorities are, and how they use initiatives and other instruments to achieve them
2	Inclusive	To be respectful of the variety, distinctiveness and autonomy of HEIs/ROs, and their differing visions, missions, and values	Mechanism to describe which initiatives will help them to achieve stated outcomes, and how
3	Clear	Development of a clear shared understanding of what constitutes a positive research culture & environment	Jointly define and gather data that demonstrates progress towards the HEI's/RO's aims, and describe how it will be reported
4	Efficient	Removal of duplication, producing evidence (in terms of both data inputs and reporting outputs) well and once to minimise burden.	Initiatives to align to common data collection and a single, common reporting standard (which may be via existing instruments such as REF or other instruments)
5	Reinforcing	Prioritisation, reward and recognition of positive behaviours and contributions to positive research culture & environment	To be visible to institutional stakeholders and integrated with existing mechanisms related to reward & recognition, and governance
6	Integrated	Consideration of existing instruments and how any solution utilises and builds upon (rather than duplicating) them	Describe how progress will be reported in the form of a single, periodic summative assessment, which could take the form of an existing instrument like a REF environment statement, or separately if required.
7	Situated	Consideration of the intersection and interrelationships with the wider institutional culture and environment	Draw on existing data and reporting and explain how it applies to R&I, rather than recreating it for a different purpose
8	Flexible	Recognition that the requirements will change over time, meaning solutions must be flexible and extensible	Require proposed new initiatives to adhere to these principles at design stage

3.3   How HEIs and ROs can use the principles and values

In practical terms, HEIs and ROs can use the shared principles (described in sections 3.2 and 1.2) and values (described in section 1.3), to communicate their strategy for enhancing research culture and drive positive change.

What a minimum high-level communication of this strategy could look like, is shown in Figure 2 for illustrative purposes. HEIs/ROs would each publicly communicate their high-level research culture strategy, drafting their own narrative, tailored to the needs of their organisation.

Figure 2 Illustrative example of a high-level strategy for enhancing research culture based around the shared principles and values.

RESEARCH CULTURE FRAMEWORK

Shared Values

Draws on a common set of measures to describe a threshold and good practice – NOT a dashboard, nor limited to, or necessarily, numerical values.

What a positive research culture looks like
A shared understanding of the important attributes, key indicators and measures we are using to monitor our progress.

Initiative Commitments

Describes how initiatives help HEIs/ROs to strengthen and improve research culture, mapped to attributes of the positive research culture.

Our initiative commitments
How we are using the initiatives to help us achieve our goals.

Our Stakeholders

May again link to initiatives that require engagement and promotion, as well as addressing issues of governance and accountability

How we will engage our stakeholders
What staff, students and external partners can expect from us.

Sustainable Change

Flexibility for different types of HEIs/ROs. Replaces individual initiative reporting.

How we will evidence our progress
Via existing instruments or a single, periodic summative progress report, drawing on the common set of indicators and key measures.

As shown in Figure 2, each HEI/RO's high-level strategy will describe what good research culture looks like for them (including personalised indicators that provide thresholds and excellence). The research culture strategy can indicate where they draw on the initiatives and other instruments to support their work (such as the REF and the Narrative CV) where relevant and/or applicable. Each HEI/RO's strategy for enhancing research culture will follow the principles and requirements (shown in Table 1), such as allowing different types of HEI/RO to clearly indicate what is important to them, and how the different initiatives and other instruments will help them demonstrate progress.

3.4   Achieving collective agreement on what a positive research culture looks like

A critical element of the proposed three-element solution is the need to collectively agree on a description of 'what a positive research culture looks like' or the research culture framework to adopt. In addition, the solution also requires collective agreement between HEIs and ROs on how (at both a collective and an individual organisation level) a positive research culture might be demonstrated, in terms of both minimum standards (or 'thresholds'), as well as excellence. Crucially, the solution must ensure perverse incentives are not created.

Whilst creating a final shared understanding of what positive research culture looks like (the values) is out of scope of this project, as observed during the phase II workshops, there are, based on significant prior work, some clear and well-accepted enablers of a positive research culture. Whilst we do not wish to be prescriptive regarding the elements of such a framing, we do note that the Science Europe Research Culture Values framework[11] is similar in character to other efforts. For example, Newcastle University, define four attributes of a positive research culture[26]

- Collaboration and collegiality
- Freedom to grow and explore
- Fairness and inclusion
- Openness and integrity

Similarly, The University of Leeds have developed a research culture strategy that articulates four similar attributes:[27]

- Valuing diverse forms of research activity
- Embedding EDI principles in research practices
- Enabling open research practices
- Mutually supporting and developing research teams

We do not therefore think that collective agreement on such a framework is too ambitious. We also envisage such framings being expanded upon to include specific and measurable elements. These do not need to be numerical values, but should describe what a baseline or threshold standard looks like, and what excellence looks like, being careful to avoid unintended consequences. It should be noted that 'excellence' here refers to these measurable elements

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[26] https://www.ncl.ac.uk/research/culture/
[27] https://ris.leeds.ac.uk/research-culture/statement-on-research-culture/

to provide guidance to HEIs/Ros and not to focus on attainment. In addition, it is worth noting that the various initiatives are a rich source of such good practice. For example, under 'personal development, reward and recognition', the Concordat to support the Career Development of Researchers recommends at least ten days are provided for professional development.

4.

Action planning to operationalise the approach

During the third and final workshop of phase II, which brought together the user group and initiative owners, participants were invited to work in groups to identify and detail specific actions required to implement the proposed solution (described in section 4). Groups were invited to explore actions against each of the principles and their corresponding solution elements. Additionally, workshop participants were asked to indicate which stakeholders should lead, or be engaged in each action, its likely timescale, priority, and how to address any issues or barriers. As expected, given the complex and interdependent nature of the research ecosystem, actions for both HEIs/ROs and initiative owners were proposed. As previously explained, we recommend that HEIs and ROs consider implementing these actions as they are necessary to fully reap the benefits[28] from the proposed solution, however the purpose of phase II was to identify actions primarily for the initiative owners.

4.1   Actions

As expected, some of the principles elicited similar actions, with three broad groupings or themes emerging:

1. Actions related to creating the shared understanding of a positive research culture. Creating a shared understanding of research culture (by selecting an established research culture framework and then using this to identify relevant areas for inclusion into each HEI/RO's individual research culture strategy) was often listed as a high priority, because of the dependence of other actions on this initial step. Whilst the HEI/RO's, as ultimately responsible for their organisation's culture, the initiative owners could potentially have a coordinating or convening role.

2. The second action concerned further work to better understand the data and reporting requirements of the various initiatives, to map overlaps, and to explore opportunities to streamline reporting requirements. It was noted that this action should initially be led by those initiative owners with more significant data and reporting requirements, maintaining close communication with HEIs and ROs during the process to ensure bureaucracy reduction for HEIs and ROs as the ultimate goal. Some actions in this group (particularly those related to mapping) were considered a high priority, as they underpinned other actions.

3. The final action (or theme as this is a collection of actions) concerned alignment with other instruments within the research ecosystem, with the Research Excellence Framework and the Future Research Assessment Programme (FRAP)[29] mentioned specifically as a high priority, given that the programme (FRAP) is expected to report soon, which presents an opportunity for greater alignment. Several actions also noted the need to involve not just initiative owners, but also data bodies such as Jisc[30]/HESA[31].

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[28] Benefits in terms of reducing bureaucracy and administrative burden, but also positive change in research culture.

[29]https://www.ukri.org/about-us/research-england/research-excellence/future-research-assessment-programme-frap/

[30] https://www.jisc.ac.uk/

[31] https://www.hesa.ac.uk/

The detailed actions captured are presented in Table 2, overleaf.

Table 2 Actions co-created with initiative owners and users during workshop 3. Actions for initiative owners (IO1-8) are shown. Note priority actions are shown in orange and underlined. Timescales are an indication of the length of time each of the actions was anticipated to take from initiation of that particular action but also when each action should take place in relation to others within this table. For example IO1 was proposed to occur before IO2.

Who	Action summary	Timescale (months)	Risks & considerations	Comments
Initiative owners				
IO1	Initiative owners to map themselves to the agreed values framework (e.g. Science Europe Research Culture Values Framework[11], see Table 3, action HE1 to agree a values framework, which precedes this IO1 action): • Initiative owners (starting with those with specific data and reporting requirements) to meet and discuss greater alignment, with respect to the features of research culture identified in the shared understanding of research culture (e.g. Science Europe Research Culture Values Framework, HE1) and the principles • Set up a regular forum for alignment, both in terms of i) removal of data duplication and also ii) reporting. Use the outcome of (HE1) to drive alignment (e.g. one periodic report on culture, as opposed to five separate ones).	0 - 6	Capacity issues to initiate (i.e. relies on the time of initiative owners and requires coordination). Not all initiatives have secured long-term funding, for example. Some data may not exist in the required format. A single, common reporting standard may be possible via existing instruments such as REF or other instruments. Risk is capacity to create and sustain the forum.	This may require some support to initiate and establish but the forum would provide a useful body to review new initiatives and adapt to change going forwards. The forum terms of reference (TOR) would also need to accommodate support to new initiatives.
IO2	Work together to consider what subset of initiatives could benefit from alignment of reporting more widely.	3 - 6		Initially to be carried out for those initiatives with reporting requirements, but then can be used to engage other initiative owners.
IO3	Undertake, collectively, a mapping exercise and gap analysis to understand how the initiatives individually and collectively relate to the strategy for improving research culture.	6 - 12	Getting all of the initiatives together may be challenging. Note to consider review of the HESA staff record, and how to integrate this work into reviews.	Need to have a shared understanding of research culture firstly (action HE1), before can map to these 'elements' (see HEI/RO action HE1).

IO4	Align to other instruments, for example starting with REF (and REF Environment statements specifically).	0 - 3	Risk that without alignment to wider instruments, efforts to reduce bureaucracy and streamline reporting will not be fully comprehensive/ successful. In addition, further burden may be introduced. The proposed solution needs to align with all other relevant instruments (e.g. REF, KEF and other UKRI instruments). Essentially, these all need to be joined up.	There is a call to make REF Environment statements more consistent, with more use of objective indicators. Potential opportunity to align the design of future REF environment statements to the shared understanding of positive culture, and therefore further streamline data collection and reporting by making the REF environment statement the formal summative assessment of all work related to research culture.
IO5	Develop a mechanism for new initiatives to seek guidance and integrate/ adhere to the principles of the proposed solution.	6 - 12		This may involve, for example identifying a point of contact for new initiative owners to seek guidance or creation of a 'how-to guide' for new initiatives. This point of contact could be someone within an existing initiative but would be decided as part of this action.
IO6	Identify evidence based guidance on how best to support HEIs and ROs when devising their interventions.	12+	A consideration and potential risk is the extent to which resource exists within the initiative community to carry out analysis and provide this good practice guidance to support implementation. Some initiatives do not interact with beneficiaries of their initiative. The closer alignment with other initiatives may provide opportunities to rectify this.	• What interventions have made a difference? Ultimately need to have in place a research ecosystem -wide solution for effective strategies to enhance research culture. Need more strategic advice on mechanisms for shifting culture, then going forwards can discuss 'how have they (HEIs and ROs) progressed'. Part of this action could potentially be, for example, using annual reports to identify good practice to share with other initiatives.
IO7	Action to be visible to institutional stakeholders and integrated with existing	12+		On implementation of the proposed solution

	mechanisms related to reward & recognition, and governance.			
IO8	Action to ensure support for HEIs and ROs from initiatives is maintained and relevant	12+	The need for continuous communication between owners and users.	There is a need to reflect collectively on the effectiveness of initiatives for HEIs and ROs.

In addition to actions listed in Table 2, there was clear enthusiasm from both initiative owners and HEIs/ROs themselves to be involved in this process. Whilst the initiative owners or another suitable group are likely to need to take a coordinating role, a number of ways that HEIs and ROs could feed into this process are shown in Table 3.

Table 3 Actions for HEIs and ROs (HE1-3) co-created with initiative owners and users during workshop 3. Timescales are an indication of the length of time each of the actions was anticipated to take from initiation of that particular action, but also when each action should take place in relation to others within this table. For example HE1 was proposed to occur before HE2. Although the focus of phase II was to identify initiative owner actions, actions for HEIs and ROs were also proposed during the workshop without which, the solution is unlikely to produce the positive changes desired by users and initiative owners.

Who	Action summary	Timescale (months)	Risks & considerations	Comments
HEIs and ROs				
HE1	• Collectively (HEIs and Ros together) to decide on and use an established set of research culture values articulating what a positive research culture consists of (such as the Science Europe Research Culture Values Framework). This will be the basis for the 'shared understanding of research culture'. • HEIs/Ros to individually establish key 'pillars' or 'elements' of their own research culture (i.e. their high-level research culture strategy). Then, each individual HEI/RO to map how they will achieve and shape their research culture strategy.	0 - 6	The selection of, and agreement on, a research culture framework from which HEIs and ROs can shape their own research culture strategies was cited as being a large, complex undertaking (mostly due to the sheer number and diversity of stakeholders involved) Risk that without central coordination, due to the number and diversity of stakeholders (users and owners), this action will stagnate.	This action is about HEIs and ROs selecting research culture pillars/elements (from an agreed and pre-existing/established research culture framework) of importance to them and deciding collectively how they could measure each of these pillars/elements (what data is needed to measure, either qualitatively or quantitatively). Following on from this, individual HEIs/Ros can then create their own research culture strategies by identifying those pillars/elements from the Science Europe Research Culture Values Framework (should this be the chosen research culture framework from which the shared understanding of research culture will come from), look at REF (what did we say we'd do, what are our pillars/elements and then where are the gaps). Key message: • HEIs and ROs to ask themselves *'what does positive research culture look like for us in terms of what we value?'* and then *'How can we measure these different*

				features; what practically speaking would need to be present, shown, in place etc.?.'
HE2	Individually review the priorities of their reward and recognition of positive behaviours, and contributions to positive research culture and environment, structures.	6 - 12	Risk of unintended consequences of monitoring these. How to balance a desire to be 'positive, supportive and enabling' with a confident and assertive approach to calling out and dealing with bad behaviour and failings in the system? Do we risk this becoming too 'soft'?	There are challenges with research culture currently for example misconduct, bullying, fabrication of data, unsustainable workloads. These need to be identified and mitigated through encouraging honesty around practices and not feeling 'targeted'. This action is about maximising a holistic overview of all staff contribution. For example by not prioritising individuals based on grant funding obtained or number of publications, but including other measures such as those who support colleagues (with such information available via the narrative CV).
HE3	Individual HEIs and ROs to carry out a gap analysis of their organisations to identify 'what's missing' and building research culture slowly.	18+	HEIs and ROS will need to have examples and thresholds in place to properly evaluate/ carry out gap analysis. This action is potentially a substantial undertaking, which could be achieved through existing activities such as the writing of a HE institutional action plan for example.	Gap analysis can only take place once a pilot version of the phase II proposed solution is implemented/trialed. This action involves evaluating whether the environment can address the principles to 'test whether people have the information and can assess it'.

4.2 Roles, responsibilities and ownership

During the final action planning workshop, the most commonly raised potential issues or barriers to being able to deliver these actions were centered around resource requirements and/or questions of ownership and coordination. This concern is echoed from the interviews in stage 1 of this project, where it was clear that the various initiatives had generally limited resource to draw upon to, for example, undertake reviews, or implement changes. The issue of ownership and coordination, was also mentioned particularly regarding the initial action to collectively (HEIs and ROs) agree on the research culture framework to use (we suggest using the Science Europe Research Culture Values Framework[11] or similar as a starting point) to enable a shared understanding of a positive research culture, and for implementation of the phase II proposed solution.

This section summarises the roles and responsibilities for key stakeholders, namely users, beneficiaries and initiative owners.

Initiative owners

Our proposed solution calls on initiative owners to:

- Work together with HEIs and ROs, create a common description (the features and how these can be measured) of a positive research culture and map how initiative principles and requirements (see Table 1) contribute to these various facets of a positive culture
- Work together to streamline/align data and reporting, where mapping identifies multiple initiatives contributing to an aspect of research culture

Note that some initiatives (particularly those with no prescribed reporting), can still contribute their expertise by for example providing descriptions of, and ways to influence, research culture.

The initiatives evolved from a clear need to improve different aspects of research culture. The role of the initiatives in our proposed culture-centric approach is no different to before; to provide good practice guidance and tools and to support HEIs/ROs and their stakeholders to enhance their research culture.

It is imperative that initiative owners work closer together to serve the HE and R&I sector, mapping out and understanding where duplications in their offerings are, and working to reduce bureaucracy through streamlining and alignment of reporting requirements. Initiatives need to demonstrate how they are responding to external drivers, such as the Independent Review of Research Bureaucracy[23] and the challenges set out in the R&D People & Culture Strategy[7].

Users

In alignment with these external drivers, this solution calls on users of these initiatives to:

- Work with initiative owners and each other to agree on a common description of a positive research culture (e.g. the Science Europe Research Culture Values Framework) and indicators. Although these descriptions and indicators will then be used to measure progress for each HEI/RO, care must be taken not to create a set of metrics or rankings which lead to competition in this space.

- Collectively agree on the elements of the proposed solution (i.e. as shown in section 3.1), and then individually decide what this means in practice (e.g. whether it should consist of a short written document) and how it fits within existing governance and reporting structures.

Note that the users and beneficiaries include diverse communities which within themselves have a range of stakeholders from early to late career, different levels of leadership and study, disciplines and roles, who contribute to, and are impacted by, research culture. This culture-centric approach recognises the diversity of HEIs and ROs within the UK, both in terms of offerings, but also in terms of governance, internal structures, processes and systems. It recognises institutional governance and responsibility to ensure positive research culture, whilst acknowledging the complex relational element to implementation within an HEI/RO.

Our proposed culture-centric approach, bounded and parameterised by the underlying principles, will be the vehicle through which HEIs and ROs present themselves; with the high-level research culture strategy as the public statement and declaration of their aspirations with respect to research culture.

The proposed solution does not change the ultimate responsibility which lies with each HEI/RO to strive to enhance research culture. It is for individual HEIs and ROs to evaluate and reflect on how best they can make change happen. We propose that it remains the responsibility of each HEI/RO to, in alignment with efforts of the initiatives, understand the interplay and interdependencies of their internal organisational structures to more effectively and efficiently implement changes to improve research culture.

There are also a number of funding streams available to help some HEIs/ROs to engage with this process, such as the Research England Development (RED) fund, which includes a priority related to improving research culture.[32]

Wider stakeholders

The proposed culture-centric approach, once implemented, will catagorise research culture and clearly map initiatives to these research culture attributes (and what good practice guidance they have for each specific research culture attribute, for example). The research culture attributes, with initiatives mapped onto them, will make it easier for stakeholders within HEIs and ROs to understand how and where initiatives are relevant to them and can support them.

Finally, it calls on others (other signatories, funders and data owners) to contribute to this process. For example, the Research Excellence Framework team may wish to pay regard to the shared articulation of elements of a positive research culture when developing certain elements of the next REF exercise such environment statement template, or Jisc/HESA to engage on improving data to better align with need.

Ultimately, we hope that the potential benefits and strong desire for change expressed by both users and initiative owners will mean that the actions are progressed, and if specific additional

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[32]https://www.ukri.org/what-we-offer/browse-our-areas-of-investment-and-support/research-england-development-fund/

resource is needed, that the groups identified as leads for specific actions will be able to obtain that resource through appropriate mechanisms, including via funding available from UKRI, Wellcome and others.

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5.

| Conclusion

There is a clear imperative to improve research culture and environment, and its well-documented problems. The R&D People & Culture Strategy[7] and Bureaucracy review[23] provide a very clear policy driver for this. This 'top down' commitment is matched by the 'bottom up' enthusiasm of many across the HE and R&I sector. These stakeholders understand how urgent it is to act collectively to address the deep seated and well documented problems, and to improve our collective capability as a sector.

To this end we were invited to work with initiative owners and users to identify actions to improve how one part of that operating environment (the various concordat and agreements, collectively referred to here as 'initiatives') works – with the aim of:

1. Reducing unnecessary burden and bureaucracy and;
2. Enhancing initiatives' positive impact on research culture

Through a design-led approach involving interviews and a series of workshops with users and owners, we have identified some constructive elements and actions to help us to fulfil this dual aims of reducing burden and strengthening the link to, and impact on, research culture. Interviews and workshops reinforced phase I findings of a strong desire for better alignment, although there were concerns around dilution of individual initiatives, and the complexity of the task.

The conclusions we have reached collectively about what needs to be done are described in the executive summary (see section 1), and the report as a whole describes the process we followed to arrive to the final co-created solution and action plan. We have tried not to create new demands and burden, but to untangle the existing arrangements and hopefully stimulate some joining of dots, integration and iteration.

In conclusion, our approach:

- Foregrounds research culture,
- Invites the initiatives to streamline,
- Reframes the initiatives as primarily formative instruments, and calls for them to align, both in terms of identifying overlaps, but also around data gathering and reporting and;
- Allows for better integration with other instruments, particularly the REF and Environment statements.

We present these findings in good faith, but also with some suspense. If applied with conviction they could make a very significant difference. However, culture is about people, and our approach depends ultimately on all of the stakeholders and partners in what we call research culture, choosing to work in a more coordinated and aligned way. We have discovered great enthusiasm for this amongst all of the project participants. But understand that stakeholders are also all used to working in silos. The current mechanisms that underpin research are often in tension with the optimistic principles we have outlined in our solution. Now more than ever HEIs/ROs and initiatives need to have the collective will, and the collaborative capacity, to actually implement these recommendations and actions.

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