

Supporting the Development of Inter- and Transdisciplinary Research with the Arts, Humanities & Social Sciences

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Introduction

With growing acknowledgment of the need for interdisciplinary and transdisciplinary approaches involving the Arts, Humanities and Social Sciences (AHSS) alongside STEM disciplines and societal stakeholders to address complex societal challenges, funding programmes like Horizon Europe often call for collaborative, inter- and transdisciplinary approaches. Doing inter- and transdisciplinary research (IDR/TDR) takes time and additional effort on the part of researchers, and pre-award Research Managers and Administrators (RMAs) have an important role to play in helping to develop a cohort of researchers ready to respond to such challenges, helping to facilitate collaboration, and supporting proposal development for IDR/TDR. This guide presents an overview of some key factors to consider and relevant resources available in the SHAPE-ID toolkit to support RMAs in their work. The [SHAPE-ID toolkit](#) is designed to provide pathways to IDR/TDR for researchers, research organisations, funders, policymakers and societal partners.

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1. Building a Pipeline

1.1. Fostering Interdisciplinary Skills and Leadership

Doing inter- and transdisciplinary research requires additional “meta-skills” such as **leadership, communication, negotiation, and integration**. RMAs can work with researchers to help understand and identify pathways to developing such skills through training and leadership opportunities. They should also recognise that not all researchers will be well suited or disposed to championing and leading IDR projects and identify those with greater interest and aptitude for such roles.

Tools & Resources

- **Guide:** [Developing Interdisciplinary Proposals](#) (Tait & Lyall, 2007) summarises the skills and attributes needed by ID/TD researchers, including adaptability, curiosity, openness, communication, teamwork, and comfort with ambiguity.
- **Guide:** [A Short Guide to Leading Interdisciplinary Initiatives](#) (Meagher et al., 2011) reflects on how leadership is vital to realising the full potential of an ID team. It summarises core ID leadership skills and attributes, including enthusiasm, vision, reflexivity, and people management.
- **More:** SHAPE-ID toolkit: [Improve research skills](#)

Partnering for Change: Link Research to Societal Challenges

Researchers and RMAs can develop knowledge and learn about tools and methods for transdisciplinary research through this free Massive Open Online Course delivered by the Swiss Network for Transdisciplinary Research (td-net).

[VISIT WEBSITE](#)

1.2. Enabling Interdisciplinary Encounters

Informal encounters are crucial in enabling the conversations that may bloom into successful collaborations. RMAs can play an important role in facilitating these initial conversations, either within their own institution or with others.

Tools & Resources

Preparing for an interdisciplinary future: A perspective from early-career researchers

This article (Bridle et al., 2013) explains how clarity about your purpose in bringing researchers together can help determine such features as whether to have a theme, participant numbers and background, and whether to involve stakeholders from other sectors. The paper discusses two main reasons for organising such encounters:

Cultivation encounters: to expose researchers to other disciplines, to help them understand what others do, and to explore potential for collaboration.

Development encounters: to bring researchers together to generate ideas or initiate concrete outputs, such as projects, proposals, or papers

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- **Guide:** This SHAPE-ID [Reflective Tool for Higher Education Institutions](#) can be used to consider what supports are available within your institution for inter- or transdisciplinary researchers and projects.
- **More:** SHAPE-ID toolkit: [Develop collaborative conditions](#)

1.3. Considering Interdisciplinary Career Paths with Researchers

Despite pressure to mobilise applications in response to funding calls, **undertaking IDR/TDR can have repercussions for a researcher's career**, as it is often poorly recognised in hiring and promotion, and can be hard to publish in high-impact journals valued within disciplines. RMAs should be sensitive to this when promoting opportunities to early career researchers in particular.

Tools & Resources

- **Report:** British Academy examination of interdisciplinarity in Higher Education: [Crossing Paths: Interdisciplinary Institutions, Careers, Education and Applications](#).
- **Interview:** Emily Woollen and Catherine Lyall from the University of Edinburgh [discuss the benefits of pursuing an IDR career path](#).
- **Guide:** [Interdisciplinary Research: making the most of the opportunities and navigating the challenges for early career researchers](#) (Woollen, n.d.).

SHAPE-ID Reflective Tool: Considering Collaboration

This SHAPE-ID reflective tool for researchers and knowledge co-producers can be used when considering engaging in collaborative research. Work with researchers to consider such questions as:

- Why am I considering collaborating?
- Does this project really require an ID/TD approach?
- What do I want to achieve through this collaboration?

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- **More:** SHAPE-ID toolkit: [Develop a career in inter- or transdisciplinary research](#)

1.4. Promoting AHSS Integration and Inter/Transdisciplinarity

The role or potential contribution of the AHSS in collaborative research is often poorly understood, and AHSS disciplines are often invited to play tokenistic or supplementary roles, without a substantial involvement in problem-framing. RMAs can play a role in **promoting the potential of better SSH integration through sharing best practice and success stories within their institution**, particularly through identifying IDR/TDR 'champions' either as visiting lecturers or working within the institution, who can share their experiences with colleagues.

Tools & Resources

- **Guide:** The SHAPE-ID Guide [What can the Arts, Humanities and Social Sciences Bring to Inter- and Transdisciplinary Research](#) outlines some of the value these disciplines can add to collaborative research projects
- **Case studies:** Net4Society (2021) have produced a series of [factsheets showcasing successful SSH-STEM collaboration across Horizon 2020 societal challenges](#) work programmes. Interviews with PIs highlight the added value of SSH participation and recommendations for successful interdisciplinary collaboration.
- **Position paper:** [Living Together: Missions for Shaping the Future](#) (ALLEA et al., 2017) outlines potential mission areas addressing socio-cultural challenges, such as ageing well, democracy, and preparing for disruptive technological change.
- **Report:** [The Arts, Humanities and Social Sciences in Horizon Europe](#) (Irish Humanities Alliance, 2019) includes many suggestions for ways AHSS disciplines can contribute to the various societal challenge areas in Horizon Europe.
- **Project results:** The H2020 project Energy-Shifts has produced [numerous excellent publications](#) with recommendations for including SSH research and questions in European energy policy and funding programmes, including hundreds of SSH priority research questions on energy for Horizon Europe.
- **More:** SHAPE-ID toolkit [Case studies](#)

2. Supporting Proposal Preparation

2.1. Supporting Inter- and Transdisciplinary Team Building

Trust is essential for fruitful IDR/TDR and it takes time to develop this. Many successful large-scale collaborations emerge out of established relationships and smaller projects. In planning, **sufficient time should be given to develop relationships and establish a good foundation for collaboration.** Progress may be slow initially and disagreements may be common as partners grapple with different perspectives and try to align understandings, goals, and research cultures. Nonetheless, it is important that this take place early in the process, with all partners involved. RMAs should understand the importance of team dynamics here, and can play an important role in **facilitating this process, managing expectations, and organising group sessions** to develop the project concept and plan. They can also support coordinators in identifying **the right mix and balance of partners** to include to address the challenge effectively, including partners from other disciplines and sectors, and promote small internal or national grants that support network-building.

Tools & Resources

- **Guide:** [Building and Managing Interdisciplinary Research Teams](#) (Lyll & Meagher, 2007) outlines challenges and tips for building an IDR team, including the value of building social aspects into brainstorming sessions and the potential of group writing sessions to help teams coalesce
- **Methods:** The td-net toolbox offers [many tools for clarifying who to involve in a project and specifying roles, tasks and responsibilities](#) early on, including **actor constellation** and **multi-stakeholder discussion group**.

Facilitating Interdisciplinary Meetings: A Practical Guide

This guide from the US-based National Socio-Economic Synthesis Centre provides a helpful overview of and recommendations on the process of facilitating interdisciplinary meetings, such as identifying who facilitates, preparation, techniques for running the meeting, and follow-up.

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➤ **More:** SHAPE-ID toolkit: [Develop collaborative conditions](#)

2.2. Supporting Joint Problem-Framing and Idea Development

Assembling a multidisciplinary team does not necessarily lead to an interdisciplinary project. Partners should consider whether the project requires greater **integration** of perspectives, methods, data, etc. (interdisciplinarity) or simply parallel approaches to the problem on the part of different disciplines (multidisciplinarity). Interdisciplinary or transdisciplinary approaches require far more effort to ensure integration, from ensuring all partners contribute to framing the problem and developing the initial idea, through to the implementation of the project when funded. To reap the benefits of AHSS perspectives and expertise in collaborative research, **AHSS partners should be involved as active partners from the beginning**, and not added at the last minute to a STEM-led proposal. RMAs supporting project coordinators can help them understand the importance of this, and **facilitate processes that allow the group to spend time jointly aligning expectations around project aims, objectives, roles, responsibilities, motivations and expected outputs and impacts**. This process can also contribute to a far stronger account of the interdisciplinary or SSH integration aspects of a proposal, which is now requested in the Excellence section of the Horizon Europe IA and RIA templates.

Tools & Resources

- **Blog post:** [How to improve interdisciplinary collaborations: lessons learned from scientists studying team science](#) (Spitzer, 2018) compiles tips for those embarking on interdisciplinary research.
- **Exercise:** Learning from failure: use this [“play” devised by Dr Laura Meagher](#) as a reflective or discussion tool to avoid common pitfalls.
- **Methods:** The [Integration and Implementation Sciences website](#) and [blog](#) contain a wealth of community resources on methods for collaborative research.

Td-net toolbox

This set of validated tools provides resources on doing transdisciplinary research that can be searched by phase or problem. For instance: in the early phases, topics include **developing a rough idea, clarifying who to involve, developing a rough approach**, and various methods for **jointly framing goals, problems and research** to explore needs and align goals and understandings.

[VISIT WEBSITE](#)

➤ **More:** SHAPE-ID toolkit: [Develop collaborative conditions](#)

2.3. Planning for Impact and Stakeholder Roles

Inter- and transdisciplinary research funded to address societal challenges frequently aims to have a positive impact on society. There is increasing acknowledgement that **societal stakeholders, such as citizens, civil society organisations, enterprise partners and policymakers need to be involved in a project**, or at least engaged with from the very beginning, to ensure their knowledge is appropriately integrated and the challenge, in all its complexity, is adequately understood. To support researchers in responding to these emerging expectations, RMAs can help by **promoting seed funding opportunities that could be used to build relationships with these other sectors** and researchers. RMAs can also play a role in facilitating meetings between academic and other partners using the same tools suggested in 2.1 and 2.2 above. Furthermore, it can be difficult to publish IDR/TDR in high impact journals within disciplines, and authorship conventions can vary across disciplines. RMAs can encourage the team to reflect on their expected outputs and potential publication and dissemination pathways, and help plan a portfolio of publications to address different project and partner goals.

Tools & Resources

- **Guide:** The EC guide [Communicating research for evidence-based policymaking: A practical guide for researchers in socio-economic sciences and humanities](#) identifies stages in the development of a communication strategy to help ensure AHSS projects make a real difference (including advice on writing policy briefs).
- **Guide:** The [BioDIVERSA Stakeholder Engagement Handbook](#) (Durham et al., 2014) is a practical guide for researchers seeking to identify relevant stakeholders to engage with to enhance the impact of their work. The handbook draws on existing literature and presents case studies that provide clear, simple guidance on 'why', 'who', 'when' and 'how' to engage.
- **Article :** [Ten Reflective Steps for Rendering Research Societally Relevant](#) (Pohl et al., 2017) offers a 10-step step guide to stimulating explicit reflection on how to make research more societally relevant.
- **Guide:** [CRedit](#) (Contributor Roles Taxonomy) provides guidelines on different author contributions, that can be used as a discussion point for considering differences in authorial expectations.
- **More:** SHAPE-ID toolkit: [Co-create a research project](#) | [Disseminate research findings](#)

Td-net Theory of Change Tool

The td-net toolbox contains a number of tools for planning for and evaluating impact. The Theory of Change tool can be used at any stage. As a planning tool, it enables consideration of the relationship between activities within the team's sphere of control, outcomes within their sphere of influence, and expected impact within their sphere of interest.

[VISIT WEBSITE](#)

2.4. Planning for Integration in Project Implementation

It is important to remember that integration should be a feature throughout the lifetime of an IDR/TDR project and not only at the project planning stage. RMAs working in proposal support roles can help ID/TD teams build integration into the project implementation plan to ensure adequate time and resources are allowed for the work of integration. They can also offer support and feedback informed by these issues when reviewing project proposals.

Tools & Resources

- **Blog post :** These two linked blog posts (Klein, 2016) explore [what integration is](#) and [how it works in practice](#). Both emphasise that integration is at the heart of IDR/TDR.
- **Guide:** [Building and Managing Interdisciplinary Research Teams](#) (Lyll & Meagher, 2007) highlights important points for project implementation, including the need to dedicate more time to balancing contributions and roles, even where methods and data differ, and to build reflection points into project design to ensure flexibility as the project evolves.
- **Methods:** [Methods for integration in transdisciplinary research](#) (Bergman, 2017) present 43 methods collected from transdisciplinary research projects on different topics.
- **Webinar:** some complex projects require integration expertise to manage the integration process. In this [SHAPE-ID webinar](#), panellists discuss the role of the integration expert.
- **Article:** The concept of integration and its role in transdisciplinary research is developed in the recent article [Conceptualising transdisciplinary integration as a multidimensional interactive process](#) (Pohl et al., 2021).
- **Article :** [Preempting Discord: Prenuptial Agreements for Scientists](#) describes the importance of anticipating and resolving possible areas of disagreement in advance of project commencement. It suggests a number of core questions that can be addressed. Moreover, it suggests that potential collaborators could go a step further and jointly define a process for handling disputes should they arise over the course of the collaboration.
- **More:** SHAPE-ID toolkit: [Improve research skills](#)

SHAPE-ID Reflective Tool: Beginning Collaboration

This SHAPE-ID reflective tool can be used when beginning collaborative research, but is also useful for anticipating potential challenges in advance and ensuring the project plan builds in opportunities for ongoing mutual learning, integration, knowledge sharing and agreement about outputs.

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Further Reading from SHAPE-ID

[Top Ten Tips for Writing Inter- and Transdisciplinary Research Proposals](#)

[SHAPE-ID Reports](#)

[SHAPE-ID Policy Briefs](#)

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