



Pathways to Interdisciplinary and Transdisciplinary Research: the SHAPE-ID Toolkit

Find tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

Co-create a research project

Abstract

Increasingly, academic research and the broader generation and sharing of knowledge are taking place not just across different disciplines within research-performing organisations but among a much wider range of stakeholders who may have different forms of knowledge to offer. This requires both an acknowledgement and the active integration of different cultural and disciplinary perspectives.

This publication compiles resources collected as part of the SHAPE-ID project to support researchers, funders/policymakers, research organisations and societal partners in co-creating inter- and transdisciplinary research projects.

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Online source – SHAPE-ID Toolkit

This publication is an extract of the SHAPE-ID Toolkit. For a general overview, visit: [10.5281/zenodo.4743703](https://doi.org/10.5281/zenodo.4743703).

The Toolkit provides tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

Contributors & Co-producers

The SHAPE-ID resource collection series is an artefact of collective wisdom. Some resources were generated by the SHAPE-ID team, but many were already available online and the toolkit acts as a gateway to locate them. The SHAPE-ID collection series is based on discussions with and inputs from the SHAPE-ID consortium members, namely Anna Buchner, Maureen Burgess, Bianca Vienni Baptista, Caitriona Curtis, Isabel Fletcher, Giorgia Galvini, Catherine Lyall, Maciej Maryl, Jane Ohlmeyer, Christian Pohl, Andrea Ricci, Carlo Sessa, Jack Spaapen, Sibylle Studer, Doireann Wallace, Piotr Wciślik, Keisha Taylor Wesselink, Declan Whelan-Curtin.

SHAPE-ID resource collection series

- Understand inter- and transdisciplinary research: [10.5281/zenodo.4743671](https://doi.org/10.5281/zenodo.4743671)
- Develop collaborative conditions: [10.5281/zenodo.4743673](https://doi.org/10.5281/zenodo.4743673)
- Co-create a research project: [10.5281/zenodo.4743675](https://doi.org/10.5281/zenodo.4743675)
- Fund collaborative research: [10.5281/zenodo.4743677](https://doi.org/10.5281/zenodo.4743677)
- Evaluate inter- and transdisciplinary research: [10.5281/zenodo.4743679](https://doi.org/10.5281/zenodo.4743679)
- Disseminate inter- and transdisciplinary research findings: [10.5281/zenodo.4743683](https://doi.org/10.5281/zenodo.4743683)
- Improve inter- and transdisciplinary research skills: [10.5281/zenodo.4743685](https://doi.org/10.5281/zenodo.4743685)
- Support collaborative researchers: [10.5281/zenodo.4743687](https://doi.org/10.5281/zenodo.4743687)
- Develop a career in inter- and transdisciplinary research: [10.5281/zenodo.4743689](https://doi.org/10.5281/zenodo.4743689)

Co-Create a Research Project

Increasingly, academic research and the broader generation and sharing of knowledge are taking place not just across different disciplines within research performing organisations but among a much wider range of stakeholders who may have different forms of knowledge to offer. This requires both an acknowledgement and the active integration of different cultural and disciplinary perspectives. See also [Improve Research Skills](#).

Resource highlights

- SHAPE-ID Reflective tool for researchers and knowledge co-creators: Beginning collaboration: [10.5281/zenodo.4743695](https://doi.org/10.5281/zenodo.4743695)
- SHAPE-ID webinar [Transdisciplinary Dialogues: Research Partnerships for Impact](#)

Subtopics

Why societal partners might want to take part in research	+
Partnerships with artists and creative practitioners	+
Partnerships with citizens	+
Partnerships with enterprise	+
Partnerships with the voluntary sector/NGOs	+
Forming research partnerships with societal groups	+
Successfully share knowledge between different types of partners	+

Resources per subtopics

Why societal partners might want to take part in research [▲](#)

Societal partners will be motivated by a very wide range of reasons, including geographic locality or a particular topic or theme. This diversity means that it is not possible to offer a comprehensive set of advice, but this and the following sections may give a few tips on why and how societal partners from four key groups might seek to engage with researchers.

This video – part of an online course on transdisciplinary research coordinated by the Swiss Academies of Arts and Sciences – describes why collaboration between scientists, decision-makers and individuals is needed to address societal challenges.

[WATCH VIDEO](#)

This video is another part of the same online course on transdisciplinary research coordinated by the Swiss Academies of Arts and Sciences.

[WATCH VIDEO](#)

Participants at the 2019 International Transdisciplinary Conference explain why collaborative research including societal actors is needed to solve complex problems such as sustainability.

[WATCH VIDEO](#)

In this short video Herman Brouwer, Senior advisor at Wageningen Centre for Development Innovation talks about processes of collaboration between different groups of stakeholders.

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The Integrated Research Toolkit links theoretical and methodological guides and resources to concrete case studies, demonstrating clearly how to conduct research that involves a diversity of people contributing to a project.

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The research project TransImpact – Effective Transdisciplinary Research has published this brief summary of the evidence for improving the societal effectiveness of transdisciplinary research.

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The SUSPLACE Innovative Training Network research team have developed an open access toolkit of Arts-based methods for transformative engagement. It contains nearly 30 methods, practical examples, workshop outlines and tips for creative facilitation that can be used by facilitators of all experience levels, in education, community engagement, or business and professional settings.

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This website has been developed from the 10 years Mistra Urban Futures programme. It is a resource for urban planning, aimed at academics, practitioners, and policy makers striving to co-produce more just and sustainable urban areas. As well as material on knowledge co-production, the site also contains a useful collection of lessons learnt and a series of case studies.

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Drawing on almost 50 case studies of co-production research for sustainability in Ireland, this discussion paper by the Royal Irish Academy highlights the benefits and challenges of co-production approaches. Although based in sustainability research, the discussion on how to build capacity for knowledge co-production is relevant to many other disciplines.

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This i2S resource contains a lot of useful tips to make engagement more effective, including highlighting the problem of stakeholder exhaustion (in *Five challenges and how to avoid them*).

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Partnerships with artists and creative practitioners [△](#)

This *Nature* article reflects on how to develop productive collaborations between artists and scientists.

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This blogpost gives practical advice on improving transdisciplinary arts-science partnerships.

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This episode of the Art+Science Salon focuses on the work of the transdisciplinary artist collective Multiplay, Science Gallery Dublin's first artist in residence/remoteness.

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The EU STARTS initiative (Science + Technology + Arts) aims to remove the boundaries between art and engineering to stimulate creativity and innovation. Its website includes links to project videos.

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Artsformation is a research project exploring the intersection between arts, society and technology. It aims to understand, analyse, and promote the ways in which the Arts can reinforce the social, cultural, economic, and political benefits of digital transformation.

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Accelerator is an exhibition space where art, science and societal issues meet. It is part of Stockholm University.

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In this blogpost the Center for Complexity illustrates how artists and designers can apply creative problem solving to address some of the world's most critical and intractable challenges.

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Beyond Text is a collaborative international project concerned with bringing arts-based practice research into education. It supports practitioners and researchers from all disciplines within universities, as well as those from professions and organisations, to use the arts to conduct high quality research, assessment and evaluation through practice, not only text.

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In this blog, researcher Diaa Ahmed Mohamed Ahmediem discusses his model of interactive art as a means of integration or science outreach rather than entertainment.

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This paper provides a classification framework, developed in Belgium, differentiating between research about art, art as research and art in research. It is published in *Art/Research International*, a forum dedicated to exploring and advancing art as and/or within the research process across disciplines and internationally.

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Partnerships with citizens [^](#)

The term co-creation is often used to describe citizens' participation in research. This blogpost reflects on what it means and how it differs from participation.

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This research provides important lessons about how to fund, conduct and sustain high quality research collaborations between academics and civil society in the arts, humanities and social sciences.

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Citizen science is a form of collaboration between scientists and members of the public. This open access book chapter reviews the participatory methods used in such projects.

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The EU has developed a platform providing learning resources as well as concrete project examples of Citizen Science.

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This video gives an example of citizen science and stakeholder involvement in a sustainable forestry project in Liege (French with English sub-titles)

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Amsterdam has made its City Data open source so that all citizens can access the information, and anyone can add further data sets to the collection. City Data is available online (in Dutch) and is easy to search and download.

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The Play the City project designs games for collaborative decision making, using them to bring policy makers, commercial actors, and citizens together to solve problems.

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This article describes a collaborative research project undertaken a service user-led Coalition of Disabled People, an English local authority and the local university. Disabled citizens became researchers on the project, using arts-based methods to interview other disabled people.

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This report from a project called COESO (connecting research and society) highlights challenges in finding funding calls for citizen science in SSH disciplines and provides recommendations for funders that resonate with some of those from SHAPE-ID.

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Partnerships with enterprise [▲](#)

This report reflects on the Creativeworks London Creative Voucher scheme which established mechanisms for collaborations between creative small, medium and micro-sized enterprises and higher education institutions.

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The Acumen Academy offers this course on addressing complex problems with systems practice.

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This 2020 workshop discussed how social science humanities and arts researchers can collaborate with external partners from enterprise politics and civil society. The lesson learned document available at the bottom of the website includes a section on promoting entrepreneurship.

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The Arts and Humanities Entrepreneurship Hubs project aims to develop a tailored Arts and Humanities entrepreneurship model that improves the long-term entrepreneurial prospects for arts and humanities students.

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The CO-CREATE Handbook was developed based on insights of a project involving partners from academia and industry in five European countries. It explains their approach to cross-disciplinary co-creation and provides a guide to running Train-the-Trainer workshops in co-design.

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This best practice report provides examples of different settings of creative industries and design, as well as the different scopes of co-design, and synthesises commonalities amongst the best practices.

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Partnerships with the voluntary sector/NGOs [▲](#)

START, the global change SysTem for Analysis, Research and Training collaborates with a range of NGOs and other societal actors to inspire solutions to critical sustainability challenges. These case studies describe some of its work.

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This video introduces a collaboration between a voluntary organization, industry and government on the circular economy of organic waste in Brussels (in French with English sub-titles).

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This blogpost outlines the factors that researchers should consider when engaging with civil society organisations/NGOs.

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This blogpost discusses some of the issues that may arise when academics and NGOs work together and suggests some practical solutions.

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Relationships between researchers and NGOs is an important topic for those working in international development. This report introduces some of the key issues that arise when working collaboratively and suggests tools and activities to help you to critically reflect on them.

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Forming research partnerships with societal groups [▲](#)

In this SHAPE-ID webinar, *Transdisciplinary Dialogues: Research Partnerships for Impact*, panellists engaged in transdisciplinary work bridging research and society discuss the importance, benefits and challenges of building transdisciplinary partnerships and co-creation, with examples from their own sectors and projects.

[WATCH VIDEO](#)

We often struggle to find a suitable, all-encompassing term for the myriad groups and individuals with whom academic researchers might wish to partner in their research. In this blog, Antonietta Di Giulio and Rico Defila debate how we might describe these “others” and, significantly, the implications this might have for how we conceptualise their participation.

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In this brochure, researchers share their experiences of working in a large scale interdisciplinary research programme that placed significant importance on researchers working closely with and engaging stakeholders – to ensure research was grounded in the realities of the countryside and for the research findings and

outcomes to be policy-relevant and applicable to rural areas and the people who live there.

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In this policy brief, SHAPE-ID colleagues highlight some of the human and political factors that also play a part in forming partnerships and in influencing whether and how research evidence finds its way into policy.

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We have also produced a series of questions to consider at the start of a collaboration.

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Successfully share knowledge between different types of partners [▲](#)

A wide variety of online tools exist to promote stakeholder engagement and share knowledge between partners.

The td-net toolbox offers methods and tools specifically focused on jointly developing projects, conducting research and exploring ways to produce impact in impact in groups involving various societal partners.

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This Open Access book shows how the tools developed by td-net can be used in the three phases of a transdisciplinary research process: identifying and structuring the problem, analyzing the problem and bringing results to fruition.

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The Stakeholder Engagement Handbook offers a practical guide for researchers seeking to identify relevant stakeholders to engage with in order to enhance the impact of their work. The Handbook draws upon existing literature and presents case studies that provide clear, simple guidance, which considers 'why', 'who', 'when' and 'how' to engage.

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The Community Tool Box is a public service of the Center for Community Health and Development at the University of Kansas offering tools and resources for those working to build healthier communities and bring about social change.

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The TEFCE (Towards a European Framework for Community Engagement in HE) Toolbox provides tools for universities and communities to identify community engagement practices and reflect on their achievements and room for improvement.

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The Toolbox Dialogue Initiative is a research and outreach collective that is housed in Michigan State University's [Center for Interdisciplinarity](#) whose activities include structured workshops to facilitate communication and collaboration between partners.

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The SHAPE ENERGY project has developed facilitation guidelines for interdisciplinary and multi-stakeholder processes using storytelling

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SHAPE-ID has produced a short list of questions for individuals and groups to consider at the beginning of a specific research project.

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See also toolkit resource section **Integrate Different Disciplines** under **Improve Research Skills**.

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See also toolkit resource section **Learn to Communicate with Different Audiences** under **Disseminate Research Findings**.

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