Menu of Co-creation Tools

What is Co-creation?

Co-creation has been defined as **"purposeful action of associating with strategic customers, partners or employees to ideate, problem solve, improve performance, or create a new product, service or business"**. In essence, co-creation experiences are a way in which to connect multiple stakeholders, bringing them together to discover their interests and values and using these opportunities to discuss, develop and implement projects or ideas to achieve new, inclusive, forward-thinking research strategies. As a result, co-creation experiences allow high-quality interactions and unique experiences, with those involved becoming connected, informed and empowered.

Co-creation experiences seek to engage multiple stakeholders at all points of the research lifecycle, from conception of a novel research project, through funding selection and resourcing, to dissemination of research findings and use of those findings within society, which in turn informs future funding calls. In this way, the hopes, concerns and aspirations of the end users of research, the public, are integrated from the very beginning of the process right through to the end. This concept maps well with the idea of making science truly open, transparent and responsive to societal needs, a new approach of the European Research Area known as Open Science.

Method Type	Method Name(s)	Objective	Audience Size	Audience Type	Event Time	Total Time	Budget (€-€€€€)	Case Study	Action Catalogue Method
Deliberative	Citizens Hearing	To inform and create discussion among citizens	20-25	Citizens, experts, decision-makers	1D	7M	€€€	Regional Development in Copenhagen, Danish Board of Technology Foundation, 2016	7395
Deliberative	Citizens Summit / Assembly	To find out the citizens' attitudes about political priorities and possible courses of action provided on an informed basis	200-5000	Anyone	1D	Var	€€€€	EU Project Surprise, 2013-2015	7403
Deliberative	Civic Dialogue	To encourage innovation, trust and confidence to facilitate the creation of a legitimate roadmap for moving forward in a particular direction	Var	CSOs, policy-makers, researchers	Var	Var	€€€	High-level dialogue on International Migration and Development, UN, 2013	7404
Deliberative	Deep Democracy / The Lewis Method	To access and bring out the wisdom within a group, and particularly to release the creative potential that results from conflict	Var	Anyone	1-2 D	Var	€€	Conversation Across the Socio-Economic Divide (Deep Democracy in Action)	7406
Deliberative	Deliberative Mapping	To provide a more robust, democratic and accountable decision making which better reflects public values	~ 60	Citizens, experts	6D	4M-1Y	€€€€	Appraising options for addressing the 'kidney Gap', Sussex University (WT), 2003	7386
Deliberative	Democs Card Game / Play Decide	To enable small groups of people to engage with complex public policy issues	4 to 8	Citizens	1-4 D	Var	€	Public engagement on synthetic biology: development of a 'Democs' tool, ESRC Genomics Policy & Research Forum, 2009	7389
Deliberative	Distributed Dialogue	To develop ongoing, embedded discussions around a topic	>5000	Researchers, citizens	2-5 D	>1Y	€€€	Bioenergy Dialogue, BBSRC/Sciencewise, 2013	7390
Deliberative	Expert Panel	To synthesise a variety of inputs on a specialised topic and produce recommendations	~ 100	Researchers, citizens, policy makers	1-2 H	6M	€€	Translating Research into Practice, Massachusetts Women's Health Network, 2008	N/A
Deliberative	Interdisciplinary Work Groups	To take professional stock of the situation and partly to propose possible courses of action to ensure, initiate, promote or check development in the area	15-30	CSOs, policy-makers, researchers	2-5 D	8M	€€	Opening up the Human Brain Project to the neuroscience community, Danish Board of Technology, 2015	7417
Deliberative	Multi Criteria Decision Analysis (MCDA)	To rank a set of options from the most preferred to the least preferred option; policy formulation, programme development	Var	CSOs, researchers, citizens	4D	1Y	€€	PorGrow - Policy options for responding to the growing challenge of obesity, Sussex Uni, 2006	7393
Deliberative	Planning Cells / Citizens Jury	To develop a set of solutions to a problem delegated to the participants by a commissioning body	25	Citizens	4-5 D	5M	€€€€	Citizens jury on Water Management, Free University of Amsterdam	7430
Deliberative	Q Methodology	To gain insight into the diversity of perspectives	50-100	CSOs, policy-makers, researchers	3M	6M	€€	Biomass Dialogue, Institute for Environmental Studies (NL), 2009	7436
Deliberative	Scenario Building Exercise	To plan and prepare for an uncertain future; vision building	Var	Anyone	2-5 D	6M	€-€€€	Research Agenda Scenario for the future of Europe, CIMULAT, April 2016	N/A
Deliberative	World Café & Science Café	To provide a means for public debates about societal issues of science and technology	<50	Anyone	40' - 2 H	1-2M	€	www.Sciencecafes.org	7439
Participative	Community-Based Participatory Research (CBPR)	To involve CSOs members in all stages of the research process, from setting the questions, to framing and doing the research, interpreting the results and communication	Var	CSO members	1M - open ended	Var	€€	Echo: Cancer Screening Project, Centre for Community Based Research (CA)	7421
Participative	Participatory Action Research (PAR)	To engage citizens in a practical and transformative way by involving them in the scientific exploration of their living conditions and everyday problems in order to induce a change in these conditions	Var	Anyone	2H - open ended	Var	€€	Saca la Lengua (Stick Out Your Tongue), Centre for Genomic Regulation	7428
Participative	Crowd Wise	To encourage consensus-based decisions	15-1500	CSOs, policy-makers, researchers	3 =H	6M	€€	Understanding the barriers to raising population wellbeing, New Economics Foundation, 2011	7405
Participative	Demand Driven Research in Curriculum	To place research projects for CSOs in the curriculum	Var	CSOs, researchers	N/A	6M-1Y	€€	Science Shops	7422
Participative	Focus Groups	To determine the preferences of people or to evaluate strategies and concepts	Var	Anyone	2H - 1D	1M	€	Smart Water Management, Telecommunication Standardization Sector, 2015	7409
Participative	Open Space Technology	To enrich programme development, project definition, policy formulation and research activity and generate political empowerment among citizens	5-1000	CSOs, policy-makers, researchers	2H - 1D	1M	€-€€€	Nasa's Asteroid Initiative, ECAST, 2015	7401
Participative	Perspective Workshop	To explore possible myths, generate new perspectives, and put forward guidelines on a given technology or technological development	40-50	researchers, CSOs, citizens, industry	15D	6M	€€€	RFID – Risks and Opportunities, Danish Board of Technology Foundation, 2006	7418
Participative	Public Dialogue	To gather social intelligence to inform policy, anticipate regulation, exchange opinion or raise awareness	<20	Citizens, experts	1D	<1Y	€€€€	The Use of Hybrid and Chimera Embryos in Research, The Human Fertilisation and Embryology Authority (UK), 2006	7388
Participative	Public Participation in Developing a Common Framework for the Assessment and Management of Sustainable Innovation	To develop priorities in research programmes	25	CSOs, researchers, citizens	2D	14M	€-€€€€	EU Project 'Public Participation in Developing a Common Framework for the Assessment and Management of Sustainable Innovation (CASI)	7412
Participative	User committee / Valorisation panels	To involve users and other stakeholders in the formal monitoring and steering of the research and innovation process	10	CSOs, researchers, users, industry	Var	Var	€€	Dutch Platform for RRI	7441
Conferences / Forums	Consensus Conference	To enrich and expand a debate on a socially controversial topic	10-30	Citizens with support of experts	3 weekends 3-4 D	12M	€€€	Gene Therapy, The Danish Board of Technology Foundation, 1995	7413
Conferences / Forums	Future Search Conference	To encourage participants to think about a problem or conflict in a new way	60-80	CSOs, policy-makers, researchers	3D	6M	€€€	Future Search, The Method	7416
Conferences / Forums	Online Forums	To provide some form of consensus and collective decision	N/A	Anyone	1-2H - open ended	Var	€	AMA (reddit)	7407
Surveys	Deliberative Polling	To get both a representative and an informed (deliberative) view of what the public thinks and feels about an important public issue	100-500	Citizens with support of experts	1D	8M	€€€€	Europolis: Deliberative Polling on the European Union, Center for Deliberative Democracy, 2012	7398
Surveys	Delphi Method	To enable anonymous, systematic refinement of expert opinion with the aim of arriving at a combined or consensual position	Var	CSOs, experts	Var	~1Y	€€€	NISTEP Delphi, Science and Technology Foresight Center Japan	7399
Surveys	Group Delphi	To consolidate expert opinion in a short time period	Var	CSOs, researchers, industry	1-2D	~6M	€€€	Sound Exposure and risk assessment of wireless network devices (SEAWIND), Dialogik, 2012	7400
Prizes	Challenge Prizes	To define a project, incentivise innovation, focus attention on a particular issue and unlock financing and other resources	Var	Citizens	N/A	long term	€€€€	Smart Ageing Prize, Nesta, 2016	7384

Co-creation menu

This co-creation menu seeks to aid research-supporting professionals at research performing and funding organisations and those in other organisations who are interested in making scientific research more open, participatory and inclusive.

There is a need to involve more actors in the research and innovation process from researchers in academia, entrepreneurs, and policy makers to civil society and end-users to support the establishment and successful development of knowledge-based societies. Including different stakeholders in the research process is crucial for increasing the quality, impact and competitiveness of research.

This menu is a selection of methods specifically used to involve different stakeholders in the research process in a two-way manner. It builds upon the Action Catalogue of Engage2020, www.engage2020.eu, an EU project seeking to engage society in European Commission's Horizon 2020 Research and Innovation programme. The Action Catalogue is a dynamic selection tool containing an exhaustive collection of methods to engage different audiences with science and research. Our co-creation menu contains only those methods that enable bidirectional participation.

The menu contains 31 methods sorted according to the level of participation of the different interest groups:
Deliberative, participative, conferences or forums, surveys or challenges.
For each method, there are nine columns:

1. **Name:**
   Popular name of the method, sometimes an alternative name is also indicated.

2. **Objective:**
   Outlines the main goal of that method.

3. **Audience Type:**
   Not all methods are suitable for all audiences. This column specifies which group(s) the method is most suitable for.

4. **Audience Size:**
   Knowing how many people can be involved when using a particular method is relevant for allocating resources.

5. **Event Time:**
   Time requirements for running an event when a specific method will be used.

6. **Total Time:**
   Time requirements for planning, coordinating and managing resources to implement a method.

7. **Budget:**
   Method expenses indicated in a scale from low (€) to high (€€€€).

8. **Case Study:**
   Link to an example where the method has been previously used.

9. **Method in the Action Catalogue of Engage2020:**
   Corresponding method in the Action Catalogue of Engage2020.

Table References:

Y - Year(s)	' - Minute(s)	> - More than
M - Month(s)	Var - Varied	€ - Less than €3000*
D - Day(s)	CSOs - Civil Society Organisations	€€€€ - More than €10,000*
H - Hour(s)	< - Less than	

*Budgets provided are estimations based on opinion of ORION consortium members, they are not precise or specific to projects listed.

The ORION project aims to trigger **evidence-based institutional, cultural and behavioural changes** in Research Funding and Performing Organisations (RFPOs), targeting researchers, management staff and high-level leadership.

Our vision is to **"embed" Open Science and Responsible Research and Innovation (RRI) principles:**

- ethics;
- gender;
- governance;
- open access;
- public engagement; and
- science education

in Research Funding and Performing Organisations, in their policies, practices and processes to organise and do research. The focus is particularly on RFPOs involved in life sciences and biomedicine.

Throughout the project we will seek to identify drivers and barriers, interests and values, as well as produce "prototypes" in the form of new citizen science projects, new research strategies, new funding frameworks and training material.

CORE ELEMENTS OF THE PROJECT

Benchmarking to analyse existing open science knowledge and practices and better understand the current landscape.

Co-creation experiments involving multiple stakeholders around three specific challenges:
opening up the research engine; identifying risks and opportunities presented by disruptive technologies; and running citizen science projects in fundamental research.

Training by developing and running training for researchers and professional staff at funding agencies on RRI and Open Science concepts, practices and tools.

KEY STAKEHOLDERS

ORION will engage many different types of stakeholders in the project including research and funding organisations, citizens, policy makers, and industry.

All materials and resources produced by ORION will be widely disseminated and freely available.

PROJECT PARTNERS

Project co-ordinator:
Centre for Genomic Regulation, Spain
Partners:

- ANT Foundation, Italy
- Babraham Institute, United Kingdom
- The Central European Institute of Technology, Czech Republic
- CRECIM, Universitat Autònoma de Barcelona, Spain
- Instituto de Salud Carlos III, Spain
- Max Delbrück Center for Molecular Medicine, Germany
- South Moravian Centre for International Mobility, Czech Republic
- VA (Public & Science), Sweden

WHAT IS RRI?

Responsible Research and Innovation seeks to align the processes and outcomes of research and innovation with the values, needs, and expectations of the society. This requires multi-actor and public engagement initiatives in research and innovation.

ORION
open science