

Overview of Projects on Open Science and Responsible Research and Innovation (funded under the SWAFS workprogramme of Horizon 2020- End 2014 onwards)

Hyperlinks to project websites and short summaries are provided in the table below

ISSI-2-2014 - Citizens and multi-actor engagement for scenario building	CIMULACT	CITIZEN AND MULTI-ACTOR CONSULTATION ON HORIZON2020	CIMULACT has as a main objective to add to the relevance and accountability of European research and innovation – Horizon 2020 as well as national - by engaging citizens and stakeholders in co-creation of research agendas based on real and validated societal visions, needs and demands. The project will expand the outlook and debate on STI issues, increase scientific literacy in a broad sense, which includes the understanding of the societal role of Science, Technology and innovation (STI), and create shared understanding between scientific stakeholders, policy-makers and citizens. This multi-actor approach will embrace EU28 plus Norway and Switzerland.
ISSI-1-2014 - Pan-European public outreach: exhibitions and science cafés engaging citizens in science	SPARKS	SPARKS	SPARKS is an awareness-raising and engagement project to promote Responsible Research and Innovation (RRI) across 29 European countries (EU members plus Switzerland). It gathers 33 organisations as partners and linked Third Parties. SPARKS will organise an interactive touring exhibition and 232 innovative participatory activities on RRI (science cafés, pop-up Science Shops, incubation activities and scenario workshops) across Europe. The European dimension of the project is paired with a strong emphasis on local implementation through 29 experienced science communicators (one per country) that will adapt the exhibition and activities to their contexts and establish local multi-stakeholder collaborative partnerships.
ISSI-5-2014 - Supporting structural change in research organisations to promote Responsible Research and Innovation	NUCLEUS	NUCLEUS - New Understanding of Communication, Learning and Engagement in Universities and	NUCLEUS develops, supports and implements inclusive and sustainable approaches to Responsible Research and Innovation within the governance and culture of research organisations in Europe. A major goal of the transdisciplinary project will be to stimulate research and innovation which continuously reflects and responds to societal needs. In order to achieve a multifaceted and cross-cultural New Understanding of Communication,

		Scientific Institutions	Learning and Engagement in Universities and Scientific Institutions, 26 renowned institutions from 15 countries, among them leading representatives of 14 universities, will collaboratively identify, develop, implement and support inclusive and sustainable approaches to RRI. For a mutual learning and exchange process, the project will reach out beyond the European Research Area by including renowned scientific institutions in China, Russia and South Africa.
GARRI-1-2014 - Fostering RRI uptake in current research and innovations systems	FoTRRIS	Fostering a Transition towards Responsible Research and Innovation Systems	Fostering a Transition towards Responsible Research and Innovation Systems The main objective of FoTRRIS is to develop and introduce new governance practices to foster Responsible Research and Innovation (RRI) policies and methods in research and innovation systems. Since research and innovation systems and practices in different European MS and within different research performing organisations vary, FoTRRIS will consider the implementation of new governance practices in five different MS
GARRI-1-2014 - Fostering RRI uptake in current research and innovations systems	PROSO	Promoting societal engagement under the terms of RRI	The main objective of PROSO is to foster societal engagement under the terms of RRI in the research and innovation systems in Europe through generation of a policy guide for developing governance for the advancement of societal engagement under RRI in relation to three fields of R&I. The policy guide will be based on the results that PROSO will achieve through an analysis of barriers and incentives for engaging Third sector actors and citizens under the terms of RRI in relation to publicly funded research including public-private partnership research initiatives.
GARRI-2-2015 - Responsible Research and Innovation in industrial context	COMPASS	Evidence and opportunities for responsible innovation in SMEs	The challenge of the COMPASS project is to collect and deploy evidence on how RRI can be meaningfully integrated into extant innovation systems in European industry. COMPASS will pursue three overarching objectives: Providing evidence for better uptake of RRI in industrial R&D&I, fostering collaboration in three key innovation fields (healthcare, nanotechnology, ICT) and promoting responsible and sustainable R&D&I governance of highly innovative businesses.
GARRI-2-2015 - Responsible	SMART-map	RoadMAPs to Societal	The aim of SMART-map is to connect a wide range of industrial players with

Research and Innovation in industrial context		Mobilisation for the Advancement of Responsible Industrial Technologies	actors from research and civil society organisations and establish innovative formats of collaboration to jointly discuss, define and implement concrete roadmaps (SMART Maps) for the responsible development of technologies and services in three key time-changing fields. Based on the Societal Challenges of Horizon2020, SMART-map will address the areas of precision medicine, 3D printing in the biomedical field, and synthetic biology. On each of these areas we will pair two regions of Europe, on the north/south and east/west axes, and the unique partnership will enable a comparative assessment of these innovation fields. On each theme, SMART-map will deliver an implementation plan, to be demonstrated, tested and assessed. SMART-map will build on the results of the FP7 ResAGorA project, adapted and integrated with other RRI and social responsibility frameworks (i.e. CSR).
project GRECO	GRECO	Making science more responsible: Multinational project pilots the application of Open Science on photovoltaic research	GRECO proposal faces the specific challenge of putting Open Science into action in a research project concerning Photovoltaic (PV) Energy Research. Photovoltaics is a realistic R&D area in which to set up and operationalize an Open Science demonstrator. By adopting the model of RRI, definitively we will demonstrate how increased endorsement of PV technology will increase utilization and integration of PV technology into the electric energy supply system.
https://cordis.europa.eu/programme/rcn/664497_en.html	project HEIRRI	Higher Education Institutions and Responsible Innovation	RRI (Responsible Research and Innovation) is a transformative emerging principle of research and innovation policy. The RRI concept emerges from scholarly research that is critical of the status quo of the science – society interface. The aim of HEIRRI project (Higher Education Institutions and Responsible Research and Innovation) is to start the integration of RRI within the formal and informal education of future scientists, engineers and other professionals involved in the R+D+i process.
ISSI-1-2015 - Pan-European public outreach: exhibitions and science cafés engaging citizens in science	BigPicnic	Big Picnic: Big Questions - engaging the public with Responsible Research and Innovation on FoodSecurity	Ensuring the availability of and access to sufficient safe and nutritious food is a key priority that impacts all EU citizens and Horizon 2020 has therefore identified food security as one of the major challenges to be addressed. BGCI, an international network organisation will work with botanic gardens, experienced informal science centres with research expertise in food and food plants, alongside other key organisations to implement the BigPicnic project. This project builds, through the co-creation approach and public debate, public understanding of food security issues and enables adults and

			young people across Europe and in Africa to debate and articulate their views on Responsible Research and Innovation (RRI) in this field to their peers, scientists and policy makers.
ISSI-3-2015 - Knowledge Sharing Platform	MARINA	Marine Knowledge Sharing Platform for Federating Responsible Research and Innovation Communities	The Marina proposal overall aim is to create an all-inclusive Knowledge Sharing Platform (KSP) catalysing and organising the convergence of already existing networks, communities, on-line platforms and services providing an online socio-technical environment that facilitates and stimulates the direct engagement of researchers, Civil Society Organisations (CSOs), citizens, industry stakeholders, policy and decision makers, research funders and communicators for improving Responsible Research and Innovation. In particular, the project will establish, curate and experiment a Responsible Research and Innovation platform involving societal actors working together during the whole research and innovation process for aligning better both the process and its outcomes, with the values, needs and expectations of European society, integrating citizens visions, needs and desires into science and innovation, promoting RRI with focus on marine issues and pressures that have important effects on the European societies.
ISSI-4-2015 - On-line mechanisms for knowledge-based policy advice	ONLINE-S3	ONLINE Platform for Smart Specialisation Policy Advice	This project aims to develop an e-policy platform augmented with a toolbox of applications and online services, which will assist national and regional authorities in the EU in elaborating or revising their smart specialisation agenda, in terms of policies and strategy. The platform will leverage existing methodologies, initiatives and tools developed by the EC for the RIS3 strategy, but it will also investigate, develop and test new and innovative technologies, tools and services aiming to strengthen the European capacity for knowledge-based policy advice.
ISSI-5-2015 - Supporting structural change in research organisations to promote Responsible Research and Innovation	STARBIOS 2	Structural Transformation to Attain Responsible BIOSciences	STAR BIOS 2 (Structural Transformation to Attain Responsible BIOSciences), coordinated by the University of Tor Vergata (IT), has been designed to respond to the Topic ISSI 5 (Workprogramme Science With And For Society). The general aim of project is that of contributing to the advancement of the Responsible Research and Innovation (RRI) strategy, which underpins Horizon 2020, by promoting 6 Action Plans (APs) oriented to

			attain a RRI structural change in research institutions from Europe and developing 3 further APs in non-european entities, all active in the field of biosciences. This strategy is geared to cope more in general with one of the main risk, for European research, i.e., its inadequate connection with society, by promoting its increasing alignment, in terms of both process and outcomes, with the needs and values of European society.
<u>ISSI-1-2015 - Pan-European public outreach: exhibitions and science cafés engaging citizens in science</u>	<u>DITOs</u>	Doing It Together science (DITOs)	Our project, 'Doing-It-Together Science', DITOs, represents a step change in European public engagement with science and innovation. We propose moving from a model in which scientific research, innovation, and problem-solving is mainly driven by scientific/professional institutions to one based on active public participation and capacity building with various levels and strategies of engagement in the scientific process. At the core of our ethos is a recognition of people's existing expertise and the different ways people want to and do engage in science and technology.
<u>ISSI-5-2015 - Supporting structural change in research organisations to promote Responsible Research and Innovation</u>	<u>JERRI</u>	Joining Efforts for Responsible Research and Innovation	The goal of the project is to foster RRI transition in Europe by developing and testing good RRI practices in pilot cases, for a further upscaling among the RTOs in the EU28. A Responsible Research and Innovation (RRI) Plan will be developed and implemented at the biggest European RTOs, the Fraunhofer-Gesellschaft and TNO, covering the five RRI key dimensions (societal engagement, gender equality and gender in research and innovation content, open access, science education and ethics). After identifying the state-of-the-art of good RRI practices, goals will be developed for within each dimension. Barriers for the achievement of these goals will be analyzed, and an action plan to overcome these barriers will be formulated. The project will be set up as a mutual learning process between the consortium, further European RTOs, stakeholders, and two international associated partners.
<u>GARRI-2-2015 - Responsible Research and Innovation in industrial context</u>	<u>PRISMA</u>	Piloting RRI in Industry: a roadmap for tranSforMAtive technologies	There is now only limited experience with RRI in industry and there is also limited evidence of the added value of opening up the innovation process in industry for social engagement and gender considerations. We will overcome these current limitations by carrying out eight RRI pilot projects in a real-world industry context. To establish the added value of the RRI approach and the gender dimension in and for industry, we will assess the pilot projects on a number of product and process RRI dimensions and compare the score of

			the pilots on the relevant RRI dimensions with the score of similar projects in the same companies in which the RRI approach has not been followed.
<u>ISSI-5-2015 - Supporting structural change in research organisations to promote Responsible Research and Innovation</u>	<u>RRI-Practice</u>	Responsible Research and Innovation in Practice	The RRI-Practice project will bring together a unique group of international experts in RRI to understand the barriers and drivers to the successful implementation of RRI both in European and global contexts; to promote reflection on organisational structures and cultures of research conducting and research funding organisations; and to identify and support best practices to facilitate the uptake of RRI in organisations and research programmes. The project will review RRI related work in 22 research conducting and research funding organisations and will develop RRI Outlooks outlining RRI objectives, targets and indicators for each organisation. It will involve comparative analysis of the five EC keys of RRI locating these within broader, evolving discourses on RRI. Within each identified RRI dimension the project will analyse how the topic has developed in particular social and institutional contexts, how the RRI concept and configuration meshes, overlaps and challenges existing organisational practices and cultures, leading to an analysis of the barriers and drivers associated with operationalising and implementing RRI.
<u>SwafS-01-2016 - Participatory research and innovation via Science Shops</u>	<u>InSPIRES</u>	3.999.268,75	InSPIRES brings together practitioners and experts from across and beyond Europe to co-design, jointly pilot, implement and roll out innovative models for Science Shops (SS). The InSPIRES models integrate Responsible Research and Innovation, Open Science and Impact Evaluation as part of their DNA in order to open the research process up in a more strategic way to civil society and other stakeholders. The inputs from systematic impact evaluation studies will be continuously integrated in order to make InSPIRES SS 2.0 models more accurate and responsive to civil society needs and concerns.
<u>SwafS-04-2016 - Opening Research Organisations in the European Research Area</u>	<u>FIT4RRI</u>	Ingenious Science shops to promote Participatory Innovation, Research and Equity in Science	FIT4RRI moves from the assumption that there is a serious gap between the potential role Responsible Research and innovation (RRI) and Open Science (OS) could play in helping Research Funding and Performing Organisations (RFPOs) to manage the rapid transformation processes affecting science (especially the science-in-society aspects) and the actual impact RRI and OS are currently having on RFPOs, research sectors and national research systems. FIT4RRI is precisely intended to contribute in bridging this gap,

			promoting viable strategies to activate institutional changes in RFPOs.
SwafS-04-2016 - Opening Research Organisations in the European Research Area	ORION	Fostering Improved Training Tools For Responsible Research and Innovation	The ORION project focuses on triggering evidence-based institutional, cultural and behavioural changes in Research Funding and Performing Organizations (RFPOs), targeting researchers, management staff and high-level leadership. Our long term vision is to “embed” Open Science and Responsible Research and Innovation (RRI) principles in RPFOS’ policies, practices and processes to organise and do research. Since science is about creativity and collaboration, we will extend further collaboration in research by engaging in co-creation experiments with multiple stakeholders.
SwafS-09-2016 - Moving from constraints to openings, from red lines to new frames in Horizon 2020	NewHoRRizon	Open Responsible research and Innovation to further Outstanding kNowledge.	The Project “Excellence in science and innovation for Europe by adopting the concept of Responsible Research and Innovation (NewHoRRizon)” sets out to promote the acceptance of RRI in Horizon 2020 (H2020) and beyond. It will work out the conceptual and operational basis to fully integrate RRI into European and national research and innovation (R&I) practice and funding. In order to accomplish this goal, NewHoRRizon will establish altogether 18 Social Labs that cover all sections of H2020. Together with a wide-ranging group of R&I stakeholders, in these Social Labs, NewHoRRizon will co-create tailor-made pilot actions that will stimulate an increased use and acceptance of RRI across H2020 and each of its parts.
SwafS-01-2016 - Participatory research and innovation via Science Shops	SciShops.eu	Excellence in science and innovation for Europe by adopting the concept of Responsible Research and Innovation	Success of science shops is down to finding a topic that is of particular interest to a particular group of people because they need to engage throughout the science shops research process, participate in the brokering and challenge identification and take responsibility for the outcome of the process. SciShops aims at expanding and further building on the capacity of the science shops ecosystem in Europe and beyond. During the SciShops project timeframe, at least ten new university- and non-university-based science shops are being established in Europe by project partners. The non-university ones are affiliated to different types of organizations, such as SMEs, LEs, NGOs/NPOs and research institutes.
SwafS-23-2017 - Responsible Research and Innovation (RRI) in support of sustainability and governance, taking account of	D-NOSES	Enhancing the Responsible and Sustainable Expansion of the Science Shops	Odour pollution is the second reason for citizens’ complaints after noise, across Europe. Frequent exposure to odour is associated with headache, stress and respiratory problems. Odour nuisance is an indicator of larger environmental issues, such as poor waste management or polluted water.

the international context		Ecosystem in Europe	Yet, odour pollution has repeatedly been ignored in environmental regulations leaving citizens defenceless. Due to the lack of regulation, situated technical studies are rarely conducted and data and statistics on odour pollution are scarce or difficult to access. D-NOSES aims to provide a solution to this largely neglected problem by reversing the way in which odour pollution is commonly tackled.
SwafS-05-2017 - New constellations of Changing Institutions and Actors	MULTI-ACT	Distributed Network for Odour Sensing, Empowerment and Sustainability	Conventional accountability metrics to measure the impact of health R&I process normally are not able to represent the claims of different actors. The development of a new integrated collective research impact framework will be instrumental in enabling Return Of Investment (ROI) by each involved stakeholder in a view of collective sustainability. Economic and financial dimension (efficiency) has to be integrated with measures of mission success (efficacy), while being accountable to all the stakeholders who are directly or indirectly affected by an organization activity. Starting from the Integrated Accountability Model (IAM) in its different dimensions (mission, economic and social), new and appropriate metrics to evaluate impact of health research will be developed in a multistakeholder participatory approach. The IAM model will be expanded and fine-tuned in a new Collective Research Impact Framework (CRIF) to be applied to Multi-Stakeholder Research Initiatives in the domain of BRAIN diseases.
SwafS-06-2017 - Engaging industry – Champions for RRI in Industrial Sectors	LIV.IN	A Collective Research Impact Framework and multi-variate models to foster the true engagement of actors and stakeholders in Health Research and Innovation	<p>In the LIV:IN project, major industry leaders from the ICT sector join forces to co-create more responsible approaches to innovation for the first time. LIV:IN builds on the premise that recognition of the value of RRI among industry is necessary for achieving the aim of the call “to progress further in integrating RRI in industrial contexts”. The project follows an opportunity oriented approach in order to</p> <ol style="list-style-type: none"> (1) activate industry leaders, experts and citizens to experiment with responsible ways of co-creating innovations; (2) build capacity for RRI implementation and develop tools that are applicable across industry sectors; and (3) transform attitudes towards RRI from risk to opportunity.

SwafS-12-2017 - Webs of Innovation Value Chains and Openings for RRI	I AM RRI	LIVING INNOVATION - Implementing RRI through co-creation of smart futures with industry and citizens	Additive manufacturing (AM) is a key enabling technology in high value manufacturing. The global AM market is on the rise and in 2016 the industry was valued at \$6 billion with 93% being attributed to industrial applications. Evolving novel innovation networks, perfectly represented by the emerging, rather complex and highly dynamic AM industry sector, are frequently characterised by entirely new business models, high development and adaptation rates, as well as strong technology diffusion within the economy. I AM RRI will investigate the AM innovation network in order to facilitate a better understanding and the modelling of the dynamics of its complex web of innovation value chains including openings for responsible research and innovation (RRI).
SwafS-13-2017 - Integrating Society in Science and Innovation – An approach to co-creation	SCALINGS	WEB OF INNOVATION AND VALUE CHAINS OF ADDITIVE MANUFACTURING UNDER CONSIDERATION OF RRI	Co-creation practice – and co-creation research – are at a crossroads: More than ever, initiatives to boost innovation through collaboration among diverse actors are flourishing across Europe. Yet, this mainstreaming poses new challenges to better understand “co-creation processes and outcomes under various cultural, societal and regulatory backgrounds to allow better-targeted policy support” (SwafS-13-17). To date, no systematic studies exist that detail how co-creation instruments operate under different socio-cultural conditions, i.e. if “best practices” will be effective elsewhere or if the resulting products and services are compatible with new markets.
SwafS-14-2017 - A Linked-up Global World of RRI	RRING	Scaling up Co-creation: Avenues and Limits for Integrating Society in Science and Innovation	The overall project aim is to bring RRI into the linked up global world to promote mutual learning and collaboration in RRI. This will be achieved by the formation of the global RRING community network and by the development and mobilisation of a global Open Access RRI knowledge base. RRING will align RRI to the Sustainable Development Goals (SDGs) as a global common denominator. The RRING project acknowledges that each region of the world is advancing its own agenda on RRI. Therefore, RRING will not be producing a Global RRI

			<p>framework or strategy that is meant to be enforced in a top-down manner. Rather, increased coherence and convergence will be achieved via a bottom-up approach, learning from best practices in RRI globally and from linkages, via the new RRING community, to develop the RRI linked-up world.</p>
<p>SwafS-05-2017 - New constellations of Changing Institutions and Actors</p>	RiConfigure	Responsible Research and Innovation Networked Globally	<p>The RiConfigure project will enable the diversification of constellations, institutions and actors in research and innovation (R&I) by engaging stakeholders, enhancing conceptual clarity on new constellations, and disseminating best practices to practitioners and policy-makers. The project centers on stakeholder engagement in four social labs. In the social labs, actors from research, industry, the public sector, and civil society will explore how each of them can and do initiate and navigate cross-sectoral collaboration in R&I. Explorations in the labs are complimented by 100+ empirical case studies. On this empirical basis, the project produces a 'quadruple helix'-framework to provide conceptual clarification on new constellations in R&I. Expanding the circle of engagement to ensure stakeholder relevance, practitioners and policy-makers can provide challenges and inquiries to the project's explorations through dedicated dialogue events.</p>
<p>SwafS-13-2017 - Integrating Society in Science and Innovation – An approach to co-creation</p>	SISCODE	Reconfiguring Research and Innovation Constellations	<p>Public Engagement (PE) and Responsible Research and Innovation (RRI) have emerged, in the last decade, as the results of policies and initiatives demanding the early involvement of multiple actors, including the public, in science and innovation. Nevertheless, the early engagement of actors is facing many challenges, and PE rarely goes beyond the stage of consultation. On the other hand, the integration of co-creation in European STI policy and programmes faces barriers such as: scarce understanding of co-creation among researchers and policy makers; "sectorialised" approach to STI policy making; lack of effective knowledge to cope with constraints that hamper the co-creation process..</p>
SwafS-15-2018-2019 - Exploring and supporting citizen science	CitieS-Health	Society in Innovation and Science through	<p>Scientific evidence about the negative health effects of urban environmental exposures is mounting. Yet key scientific gaps exist. Surveys show that</p>

		CODEsign	citizens are increasingly concerned about the consequences of these exposures on their own health, and are engaged in data collection and activism efforts around problems such as urban mobility and air and noise pollution. These concerns, along with the availability of affordable crowd-sensing and data processing technologies that allow citizens to measure environmental and health parameters, make environmental epidemiology studies an ideal, yet underexplored opportunity to develop citizen science projects. Enabling collaboration between researchers and citizens to generate solid, unbiased scientific evidence of local relevance can reduce existing information gaps. It can empower people to contribute to novel and bottom-up research agendas, interventions and co-creation of public policies.
SwafS-15-2018-2019 - Exploring and supporting citizen science	EU-Citizen.Science	Citizen Science for Urban Environment and Health	Citizen Science is a rapidly expanding and diversifying field of innovation with significant implications for, and potential benefits to, society, policy, and various academic research areas. This heterogeneity leads currently to a fragmented and not fully coordinated European Citizen Science landscape. The ambition of EU-Citizen.Science is to build, fill, and promote a sustainable platform and mutual learning space providing different tools, best practice examples and relevant scientific outcomes that are collected, curated, and made accessible to different stakeholders, ranging from interested citizens over scientific institutions up to politicians and public media in order to mainstream Citizen Science in Europe.
SwafS-15-2018-2019 - Exploring and supporting citizen science	MICS	The Platform for Sharing, Initiating, and Learning Citizen Science in Europe	THE MICS project brings together a transdisciplinary team to address a scientific and policy priority area where citizen science has the potential to promote a paradigm shift. Nature-based solutions (NBSs) are actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges and provide human well-being. NBSs have increasingly become policy and planning objectives, but major knowledge gaps in NBSs science have hindered their implementation and acceptance. This is largely due to a lack of locally specific information about the influence of: climate, location, condition and management on NBS function and impact. Furthermore, the sustainability of NBSs often depends on the perceptions and needs of stakeholders, including user groups, local

			communities, conservation bodies, farmers, land managers, policy makers and practitioners.
SwafS-21-2018 - Advancing the Monitoring of the Evolution and Benefits of Responsible Research and Innovation	SUPER_MoRRI	Developing metrics and instruments to evaluate citizen science impacts on the environment and society	Across Europe, the need for a more dynamic governance and a better societal integration of research and innovation is increasingly appreciated. Internal drivers of change (such as the digitalization of science) and political will to better align with societal needs and concerns are bringing about aspirational policies and processes of transformation of the R&I system, including those of RRI – responsible research and innovation. In order for the aspirations of RRI to be realised, robust tools must be developed for R&I policy and practice. The MoRRI project (2014-2018) conceptualised and implemented the first RRI monitoring system in Europe.
SwafS-15-2018-2019 - Exploring and supporting citizen science	ACTION	Scientific Understanding and Provision of an Enhanced and Robust Monitoring system for RRI	ACTION will transform the way we do citizen science (CS) today: from a mostly scientist-led process to a more participatory, inclusive, citizen-led one, which acknowledges the diversity of the CS landscape and of the challenges CS teams have to meet as their project evolves. We have partnered with 5 European CS initiatives tackling major forms of pollution, which pose substantial threats to human health and to the environment, and contributing to Sustainable Development Goals. These pilots will be the starting point for a ‘citizen science accelerator’, which will be expanded through an open call.