SISCODE CO-DESIGN FOR SOCIETY IN INNOVATION AND SCIENCE

DELIVERABLE 6.2: ANALYSIS OF EXPLOITABLE RESULTS AND ACTIONS

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Abbreviations

Abbreviations	Expanded
APRE	Agenzia per la Promozione della Ricerca Europea
Thess-AHALL	Thessaloniki Active & Healthy Ageing Living Lab
Biosense	Biosense Institute
CoRRI Forum	Informal community of co-creation practice for RRI
CUBE	CUBE Design Museum / Continuum
CV	Ciência Viva - Agência Nacional para a Cultura Científica e Tecnológica
ENoLL	European Network of Living Labs
EU	European Union
FBC	Fab Lab Barcelona
H2020	Horizon 2020 programme
IAAC	IAAC - Institute for Advanced Architecture of Catalonia
KERs	Key Exploitable Results
KTP	Krakowski Park Technologiczny Sp Zoo
Maker	Maker / Viadukten
MOOC	Massive Open Online Course
PE	Public Engagement
Polifactory	Polifactory è il makerspace – fab lab del Politecnico di Milano
POLIMI	Politecnico di Milano
PPT	PowerPoint Presentation
Q&A	Questions and Answers
RRI	Responsible Research and Innovation
SGD	Science Gallery Dublin
SISCODE	Co-design for society in innovation and science
SI	Social Innovation
SPI	Sociedade Portuguesa de Inovação
STI	Science Technology and Innovation
TUDO	TU Dortmund University

Abbreviations	Expanded
TRACES	Association Traces Théories et Réflexions sur L'Apprendre la Communication et L'Education Scientifiques
TRL	Technology Readiness Level
WP	Work packages
WS	Workshop

Table of Contents

List of Figures

List of Tables

Executive Summary

The deliverable 6.2 - 'Analysis of exploitable results and actions' is an output of Task 6.2 - 'Analysis of the valuable outcomes' under work package WP6: Exploitation Strategy of the SISCODE H2020 project. The aim of this document is to assemble the exploitable results of the SISCODE project[1] produced under seven work packages (WPs) from the first month until the end or the official conclusion of the project. This deliverable has five chapters including the introduction and conclusion with core chapters looking at: i) Methodology used in the analysis of exploitable results, ii) Description of key exploitable outcomes and outputs, iii) Comparison to other projects' results and iv) Exploitation Strategy of SISCODE.

In total, SISCODE has produced over 60 results, 53 of which are exploitable and 14 are Key Exploitable Results (KERs). The scope of this document is to firstly, define the 53 exploitable outcomes and outputs which are the concrete results that have either been used or have the potential to be used and applied by multiple stakeholders as a source of new or improved knowledge, approach, solution and/or alliances. Secondly, identify and analyse the KERs or the most exploitable results that are considered the most versatile, comprehensible, applicable in different contexts, presented in a format that can be disseminated through various channels and with a good base of end-users. Thirdly, compare the SISCODE KERs to the commensurate KERs of similar projects that fall within the same work frame. Last, to visualise the transfer of information from D6.2 to Deliverable 6.1 (D6.1: Exploitation Strategy Plan) as the stepping stone to the development of the long-term exploitation plan of the SISCODE exploitable results and extending SISCODE's impact.

The 53 exploitable results are classified into five categories, each consisting of the following:

- i) New knowledge: Knowledge base or deliverables such as the Knowledge base from WP1 and Designing for policymaking from WP4;
- ii) Methods and tools: Approaches and tools such as the SISCODE co-creation journey toolbox and model from WP3
- iii) Activities: Actions such as the CoRRI Forum cycles of workshop;
- iv) Innovative solutions: Prototypes and journeys implemented by the SISCODE pilots; and
- v) Stakeholder engagement and new partnerships: New alliances such as those formed through WP5 SwafS 14 groups.

The findings of this analysis do not only show the achievement of specific objectives via the generation of individual deliverables and other exploitable results but also illustrate new insights

[1] SISCODE project (website): https://siscodeproject.eu/

that may be adopted as the basis for future research and innovation practices and policymaking (e.g., D1.1 RRI Research Landscape).In chapter 4, the deliverable delves into each result by defining its content, target stakeholders and their benefits, as well as how it was exploited within the SISCODE project and the preconditions for its long-term exploitation. After setting the groundwork, the key exploitable results or KERs are identified based on their common characteristics that render them as highly exploitable in chapter 5.

To further elaborate their added value and justification as KERs, the development of an exploitation action plan, the primary and secondary end-users, exploitability potential, and necessary modifications needed to increase the KERs exploitability are further explored in chapter 5. The findings of this analysis demonstrate the remarkable potential of these results as accessible and self-sustainable products and routines in promoting stakeholder engagement in research and innovation practice and policymaking. The participatory processes have led to the creation of prototype solutions and have demonstrated successfully the use of knowledge and know-how of the relevant stakeholders in the generation of innovative solutions to address community needs.

Comparisons between the exploitable results in SISCODE and other similar deliverables in other SwafS projects (sister projects) were also made to gain a better understanding of the similarities in approaches and actions. The insights into the potentials of exploitable results from both sides have enabled the acquisition of insights into ascertaining the uniqueness of SISCODE in approaching institutionalisation of co-creation for Responsible Research and Innovation (RRI). D6.2 was developed in M35 by SPI with the support of Thess-AHALL, Polifactory and POLIMI as the internal reviewers. The results of this deliverable will feed into D6.1 due in M36 of the SISCODE project. D6.1 will elaborate the Exploitation Strategy for post-SISCODE with a dedicated action plan for the SISCODE partners to be used as a guideline beyond the duration of the project.

1. Introduction

Society in Innovation and Science through CO-DEsign (SISCODE) is a Horizon 2020 research and innovation project aimed at stimulating the use of co-creation methodologies in policy design, using bottom-design-driven methodologies to pollinate Responsible Research and Innovation (RRI) in Science Technology and Innovation (STI) policies. One of the main focuses of SISCODE is public engagement in co-creation for RRI with the view of increasing the involvement of citizens in decision-making at micro, meso and macro levels of the ecosystem. The project is led by Politecnico di Milano (POLIMI)[2] and executed with a network of 17 partners from 13 European countries from 1 May 2018 to 30 April 2021.

To accomplish this vision, the SISCODE project is divided into nine work packages (WPs) from which work package 6 (WP6) is dedicated to the exploitation of outcomes and outputs of the project. Divided into four tasks, WP6 is dedicated to the collection, analysis and exploitation of the tools, methods and results developed in other WPs. This deliverable (*D6.2: Analysis of exploitable results and actions)* is a product of Task 6.2 (Analysis of valuable outcomes) which gathers all exploitable outputs developed by the SISCODE project partners within the project duration.

The analysis of the exploitable results extracted mainly from WP2, WP3, WP4, WP5, WP6 and WP7 is detailed under chapter 4. The outcomes are divided into three categories, i) Activities, ii) Tools and Methods and iii) Potential partnerships developed in the course of the project. The analysis of these outputs looks at two aspects, exploitation within SISCODE (i.e., how these outputs were used to meet the objectives of the SISCODE project by the project partners and labs) and beyond SISCODE (i.e., self-sustainability of the outcomes to be exploited and scaled after the SISCODE project). However, not all outcomes are considered as key exploitable results and thus, different criteria are used to define and identify the most exploitable results and outcomes in chapter 5 to gauge their potential to be scaled by stakeholders inside and outside the SISCODE consortium. In this chapter, the possible impact and tentative exploitation strategy are discussed to develop analytic results for D6.1.

Finally, the last two chapters of this document include a comparative analysis of how the results of SISCODE relate to those of other projects with aligned objectives and the proposal for the development of D6.1 which succeeds the analysis. The cross-initiative analysis of the outcomes is performed using the criteria to measure the effectiveness of the SISCODE results and potentially develop a set of recommendations for future initiatives.

[2] Politecnico di Milano (website): https://www.polimi.it/

This deliverable is developed by SPI in M35 of the SISCODE project using inputs from all WP leaders and with the support of two SISCODE labs and project coordinator as reviewers.

1.1.Objectives

The purpose of this document is to:

- Present all the exploitable results of the SISCODE project;
- Analyse the exploitable project outputs and outcomes by looking at their contents and purposes, how they were exploited during SISCODE and their potentiality to be exploited after SISCODE;
- Identify the key exploitable results already available and applied in the project duration and have high potential to be used in other projects and initiatives after SISCODE;
- Evaluate the key exploitable results according to their socio-economic benefits;
- Compare KERs of SISCODE with that of other European projects and initiatives within the same frameworks in order to see what are the factors that result in successful exploitation of other KERs and imitate/improve the exploitation action used;
- Support development of the recommended actions for the final draft of the long-term exploitation and sustainability strategy (*D6.1: Exploitation Strategy Plan*)

1.2.Definition of terminologies

This subsection contains the baseline definitions of the terminologies which are applied for the analysis carried out in this deliverable (Table 1). The purpose of pre-defining serves to bring a common understanding of the conditions and criteria of the analysis performed.

Table 1. Definitions of key terms used in the analysis of the exploitable outcomes and outputs of SISCODE

Terminologies	Definition
Project outcomes or outputs	Project results that have been co-developed as products of the project WPs and tasks with or without the initial plan to be scaled beyond the SISCODE project. These outcomes are divided into three groups: tangible tools or applied and validated methods; activities carried out by the project partners and labs with an objective to exploit, disseminate or validate project results through stakeholder and public engagement; and new alliances or partnerships developed by the project partners and labs through the activities of the SISCODE project but are not contractually recognised.
Exploitation of results	A structured process in which project results (i.e., tools and methods, activities, partnerships) are used and reused by different end-users to serve their specific purposes with or without the support of the original designers of the results.

Terminologies	Definition
Key Exploitable Results (KERs)	These results have higher potential for exploitation in a self-sustainable manner by different end-users who might or might not have been involved in the development of the results themselves. The exploitation of KERs is seen within the duration and beyond SISCODE.
Self-sustainability of project outcomes	The aptitude of the results to be independently used by end-users beyond the SISCODE project with or without the support of the SISCODE partners.
Socio-economic impact of outcomes	The social and economic effect or possible positive or negative changes that the results or outcomes of SISCODE have had and can have at a micro and macro levels.
New knowledge	A theoretical framework developed within SISCODE through triangulation of data obtained by desk research, literature review, workshops, interviews and through assessment of co-creation journeys.
New method	A practice/procedure/technique developed within the SISCODE project activities to obtain expected results.
New process	An activity developed as part of the SISCODE project to respond to defined aim and objectives.
Innovative solutions	The key outputs of the 10 SISCODE labs in the form of i) their co-creation journeys and ii) final prototypes.
Short-term exploitation	The use or application of the SISCODE outputs and outcomes within the duration of SISCODE for knowledge/skill transfer, stakeholder and public engagement, capacity building and dissemination, among other things, through online and offline activities and events with project partners and external stakeholders.
Long-term exploitation	The use or application of the SISCODE outputs and outcomes post-SISCODE for knowledge/skill transfer, stakeholder and public engagement, capacity building and dissemination, among other things, through online and offline activities and events with project partners and external stakeholders.

Terminologies	Definition
External stakeholders	The beneficiaries or end-users of SISCODE's outputs and outcomes not belonging to the project consortium.
Co-creation Journey	A pilot bottom-up initiative composed of iterative participatory processes which are developed under principles of co-creation. Each co-creation lab is developed as a space for the reflexivity and action research in order to encourage practitioners and involved stakeholders to manage and acquire better understanding of their collaborative processes (i.e., sharing feedback in order to build a common knowledge basis on co-creation).
SISCODE pilots	10 real-life experimentations of the SISCODE labs in 10 European countries with the aim of applying co-creation for the production of 10 solutions to societal challenges at micro level.
Technology Readiness Level (TRL)	This refers to the level to which the final product is ready to be exploited externally. There are five levels of technology readiness used in this deliverable to classify the exploitable outputs and outcomes: i) 4 - prototype validated in lab/strict environment ii) 5 - prototype tested in intended context, iii) 6 - prototype tested in intended context & close to expected performance, iv) 7 - demo system, v) 8 - non-commercial application set up and vi) 9 - full non-commercial application. The different levels are numbered from 4 to 9 accordingly for efficient classification of the products. Those exploitable results that do not have TRLs defined are namely New Knowledge or results that have not been completed yet.
Social innovation	This is a social practice that aims to address societal needs and challenges in ways other than the solutions or methods that already exist. The term combines social needs with the concept of using innovation to develop new solutions that meet the needs more accurately.

1.3.SISCODE target stakeholders

The SISCODE project has eight stakeholder groups that are relevant to the project partners and belong to their close networks. Each stakeholder group is composed of multiple target audiences at a personal, local, regional, national and international level. Every action and activity of the project took into consideration the involvement and benefit of the target audiences from the outcomes in the short and long-term. Each of the stakeholder groups were engaged in the project through different activities such as the experimentation of the pilots or SISCODE labs, workshops

for policymakers and exploitation events for exploitable project results. Below are the list of project external target stakeholders and examples of why they engaged with SISCODE (Table 2).

Table 2. Target stakeholders of SISCODE

Target stakeholder groups	Composition	Reason for involvement with SISCODE
Policymakers	Local, regional, national, EU policy makers and representative groups	Learn about new approaches and tools to use for inclusive bottom-up policy making practices; Gather insights from the beneficiaries about the effects of the policies in practice
Scientific and research community	Researchers, students, National and European Research Councils	Access information from the analysis conducted on the different approaches to RRI and the co-creation ecosystems in Europe; Access to knowledge from the practical experimental of the SISCODE pilots
Industry/ Innovation community	Representatives of industry associations at regional national and EU levels, social innovators, entrepreneurs	Have a better understanding of how to pollinate and institutionalise co-creation and inclusive practices; Learn about new approaches and tools to use in stakeholder and public engagement; Learn how to influence policy making through evidence-based knowledge and skills transfer
Civil society/ Non-government organisations	Associations, foundations, cooperatives, networks	Learn what the concept of co-creation is and its value; Learn how to apply co-creation in contexts other than that of SISCODE; Get involved in community-based common approach to tackle societal challenges
Formal and informal education community	Students, teachers, professors, science communicators, national and	Receive informal training through hands-on activities to train others; Get involved in community-based common approaches to tackle societal challenges; Learn what the concept of co-creation is and its value; Learn

Target stakeholder groups	Composition	Reason for involvement with SISCODE
	international science associations	how to apply co-creation in contexts other than that of SISCODE
End users	Co-creation labs, co-creation practitioners and trainers	Access tools and methods with high technology readiness level for immediate application in different contexts; Learn how to apply co-creation through bottom-up approaches based on the experimentation of the pilots and the massive desk and action research results; Become a member of a community of practice and build new partnerships/networks; Access to knowledge from the practical experimental of the SISCODE pilots
Public	Citizens and audience beyond the project community e.g., children, parents, community leaders, youth, young students	Learn what the concept of co-creation is and its value; Learn how to apply co-creation in contexts other than that of SISCODE; Get involved in community-based common approaches to tackle societal challenge
Other EU projects	EU funded projects that work in the same areas or are interested in application of the co-creation for the purpose of RRI and policy making	Access tools and methods with high technology readiness level for immediate application in different contexts; Become a member of a community of practice and build new partnerships/networks; Access to knowledge from the practical experimental of the SISCODE pilots

2. Initial task and development throughout the project

2.1. Development of the initial task

The initial task aimed at documenting and analysing valuable outcomes and outputs of the project to create a self-sustaining impact after the project's conclusion. The main goal was to look into specific results and events previously planned at the proposal stage and support their development and implementation, always considering how they are socio-economically beneficial for the ecosystems in which they were developed and implemented. The valuable outcomes and outputs are envisioned to fill the gap in theory, practice and know-how among the participating individuals, organisations and communities. These processes are measured and compared with existing initiatives, namely with the ongoing SwafS-11, 12, and 23 and their results. The close monitoring of the valuable outcomes and outputs has started early in the process and it has been informing the exploitation and sustainability strategy of the project. Conversely, at the stage of proposal writing, SISCODE partners couldn't envision that by the end of the project there would be more than 60 deliverables of which 53 are exploitable. Therefore, some modifications to approaching monitoring and analysis of the SISCODE valuable outcomes and outputs were necessary.

2.2. Relation to other tasks and WPs

SISCODE consists of nine WPs, each with specific aim and time frame for implementation. Aside from WP8 (*Management*) and WP9 (*Ethics requirements*) led by the project coordinator (POLIMI) which have dealt with the management, organisation, coordination and compliance of the project partners and activities, all the other WPs have provided exploitable outputs and outcomes from one or more categories (See chapter 3). The implementation of each WP began and ended at different stages of the project duration, which some WPs and/or their activities were postponed due to the outbreak of COVID-19. As a result, at the time this deliverable was developed, the results and activities of some WPs had not taken place, namely, WP5 (*Co-creation for implementable RRI*) due to its postponement. Nevertheless, some outputs of other WPs, mainly WP6 (*Exploitation Strategy*) and WP7 (*Engagement and dissemination*) have not been delivered as their deadlines are due in M36 and this deliverable is developed and anticipated for M35 of the project. To give a brief overview of the project WPs that produced exploitable results and their relation to D6.2, the table below (Table 3) shows the WPs and their relevance for D6.2.

Table 3. Relation to other tasks and WPs and valuable outcomes used in D6.2

Work package	Relation to other tasks and WPs	Valuable outcomes and outputs used in D6.2
WP1: *RRI approaches and methodologies* (M1 - M6)	WP1 established a comprehensive knowledge base by uptaking already existing data from other projects and initiatives in order to lay out the conceptualisation of co-creation in RRI and STI policy design. The aim of this study was to define the bases of how co-creation is applied across different ecosystems in order to direct the theoretical framework for the benchmarking and comparison of local co-creation initiatives in WP2 and the experimentation of design methodologies in WP3 and WP4.	Provision of deliverables that serve as New Knowledge
WP2: *Benchmark and compare co-creation cases across Europe* (M7 - M24)	WP2 developed a systemic overview of the co-creation ecosystem across Europe by comparing diverse initiatives e.g., living and fab labs, smart cities and regions, social innovation, creative communities, accelerators and incubators. The aim of this WP was to uncover transversal and situated approaches and solutions to better understand how co-creation can be effectively applied to facilitate the integration of science and society. A meta-analysis of 135 initiatives was done in order to benchmark and select 40 for the development of case studies, out of which, 15 were made into biographies. WP2 used the knowledge base developed in WP1 to understand the implementation and influence of co-creation in RRI and STI policies. The case studies and biographies were thus used to conduct comparative analysis to better understand co-creation at the intersections between science and society in Europe and as relevant data for the development of outputs in WP5	Provision of deliverables that serve as New Knowledge and Key Exploitable Results to be applied beyond the project duration

Work package	Relation to other tasks and WPs	Valuable outcomes and outputs used in D6.2
WP3: *Experimentation in co-creation labs* (M7 - M24)	WP3 conducted real-life experimental co-creation journeys through 10 co-creation labs known as SISCODE co-creation labs (three Fab labs, three Living labs and four Science Museums) in 10 European countries. The SISCODE labs applied the SISCODE co-creation journey model as the fundamental methodology of their co-creation process to develop a prototype of their own making that tackles a common societal challenge. The action research was conducted by the labs through the engagement of citizens, local actors, stakeholders and policy makers to pollinate and increase knowledge on co-creation and test the effectiveness of design methodologies and prototypes. The WP supported the testing and validation of design methodologies as an approach to better manage the process of co-creation integrating co-design and co-production and improve labs internal processes to apply design methodologies in their managerial, engagement and organisational activities.	Provision of a deliverable that serve as New Knowledge, development of Key Exploitable Results to be utilised beyond the project duration, implementation of exploitable activities and establishment of partnerships
WP4: *Playground for policy making* (M7 - M24)	WP4 aimed to facilitate the transformation of policy making and governance processes in RRI at local and international level. The WP employed a virtual database, direct interaction and experimentation to practice knowledge transfer from the project to external stakeholders. This WP closely collaborated with WP2, WP3 and WP6 (*Exploitation strategy*) to measure the co-creation ecosystem and involvement of policymakers at the micro level, experiment with innovative ideas and solutions as	Provision of deliverables that serve as New Knowledge and implementation of exploitable activities and establishment of partnerships

Work package	Relation to other tasks and WPs	Valuable outcomes and outputs used in D6.2
	well as align with exploitation activities of the SISCODE project.	
WP5: *Co-creation for implementable RRI* (M25 - M36)	This WP uses the findings of WP1, WP2 and WP3 to understand the transformative processes of co-creation ecosystems and how they overcome internal and external barriers to configure solutions to societal challenges. The aim of the WP is to build models of co-creation ecosystems finding the right balance between transversally applicable co-creation approaches and tools and the capacity to take into account contextual factors and constraints. In addition, the WP also gathers different co-creation tools and methods to develop a common platform for practitioners and researchers or project managers to easily access the most suited methods and tools to apply co-creation in their own activities.	Development of Key Exploitable Results to be applied beyond the project duration, implementation of exploitable activities and establishment of partnerships
WP6: *Exploitation Strategy* (M1 - M36)	WP6 aims to exploit the project outcomes and outputs in the short and long-term with internal and external stakeholders. Different engagement activities are implemented under this WP to disseminate and utilise the exploitable results of SISCODE as well as create a strategy to make them self-sustainable. The goal is to ensure that the project outcomes and outputs have a long-lasting impact in the co-creation ecosystem and communities at the international level. The exploitation of the exploitable results is done through cycles of events such as webinars and workshops to engage key target stakeholders to utilise and validate results replicability/ upscaling. This WP also functions to compare the valuable	Provision of a deliverable that serves as New Knowledge, development of Key Exploitable Results to be applied beyond the project duration, implementation of exploitable activities and establishment of partnerships

Work package	Relation to other tasks and WPs	Valuable outcomes and outputs used in D6.2
	outcomes of similar projects and other networks with that of SISCODE.	
WP7: *Engagement and dissemination* (M1 - M36)	The aim of WP7 is to interactively engage diverse actors and stakeholders in the project activities at local, national and international levels by proactively using the outputs of other WPs and project partners, namely SISCODE co-creation labs. The final findings and lessons learnt on the operationalisation of the co-creation in RRI practice and policymaking will be previously prepared and shared in the SISCODE final conference. Some of these outputs are new knowledge while others are new methods and tools (e.g., MOOC). They will serve the European Commission, regional, national and local policy makers, as well as other relevant stakeholders.	Development of Key Exploitable Results to be applied beyond the project duration and implementation of exploitable activities

3. Methodology

This deliverable is a result of a continuous documentation and analysis of the SISCODE's results which were initiated in M6. This chapter briefly depicts the journey of discovery and analysis performed throughout the project involving project partners and external stakeholders. The analysis of the project results and identification of exploitable outcomes and outputs was executed gradually through different exercises such as workshops, internal meetings and focus-group discussions. This section is divided into two parts, i) Journey of discovering and assessing exploitable project results and ii) Identification and evaluation of the project's key exploitable results.

3.1. Journey of discovering and assessing exploitable project results

The Journey of discovering and assessing exploitable project results is divided into three phases:

3.1.1. Sensitisation and envisioning of the valuable outcomes

An internal workshop was implemented under WP6 at the first official progress meeting of the SISCODE partners in Barcelona to present the expected key exploitable results of SISCODE from WP2, WP3, WP4, and WP6, and create a common understanding among the partners on the purpose of the exploitation strategy. It was emphasized that SISCODE's sustainability through the exploitation strategy is achieved when project outcomes remain widely used and available to all local, regional and transnational stakeholders. Each of the four working groups was assigned to one of the four WPs to discuss the potential for exploitability of results from the WPs looking at the different exploitable results, the format of exploitation, significance of exploitation and preconditions for exploitation. Each group presented various outcomes of the discussions, challenges that were not resolved and suggestions for the exploitation strategy. These actions were the format for the partners to come to an understanding on the different typologies of results which would be developed in SISCODE and an initial introduction of what is expected in terms of exploitation actions. These sessions were used for the sensitisation of the project partners and collecting different ideas to feed the exploitation strategy. Some of the anticipated exploitable results which were discussed are CoRRI Forum[3] from WP6, knowledge base[4] and case

[3] The CoRRI Forum (CoRRI) is an approach to creating a community of practice with the intent of exchanging expertise, knowledge and ideas revolving around co-creation in RRI among diverse practitioners that share a common interest and goal. Through its activities, CoRRI intends to reach out to key target stakeholders involved in the SISCODE projects and external audiences that harbour interest in pollination of RRI and co-creation in public engagement processes. CoRRI was designed through desk and action research and implemented through a series of hands-on activities to examine the stakeholders' interest in such an initiative and refine its structure to meet the requirements of its end-users. CoRRI was established under T6.3 (Network of co-creation labs for RRI) of WP6.

[4] SISCODE Knowledge base (deliverable 2.1): https://siscodeproject.eu/wp-content/uploads/2019/03/Attachment_0-3.pdf

studies[5] from WP2, co-creation labs or pilots from WP3[6] and the playground for policymaking from WP4[7].

3.1.2. Observation and preliminary analysis of the first valuable outcomes

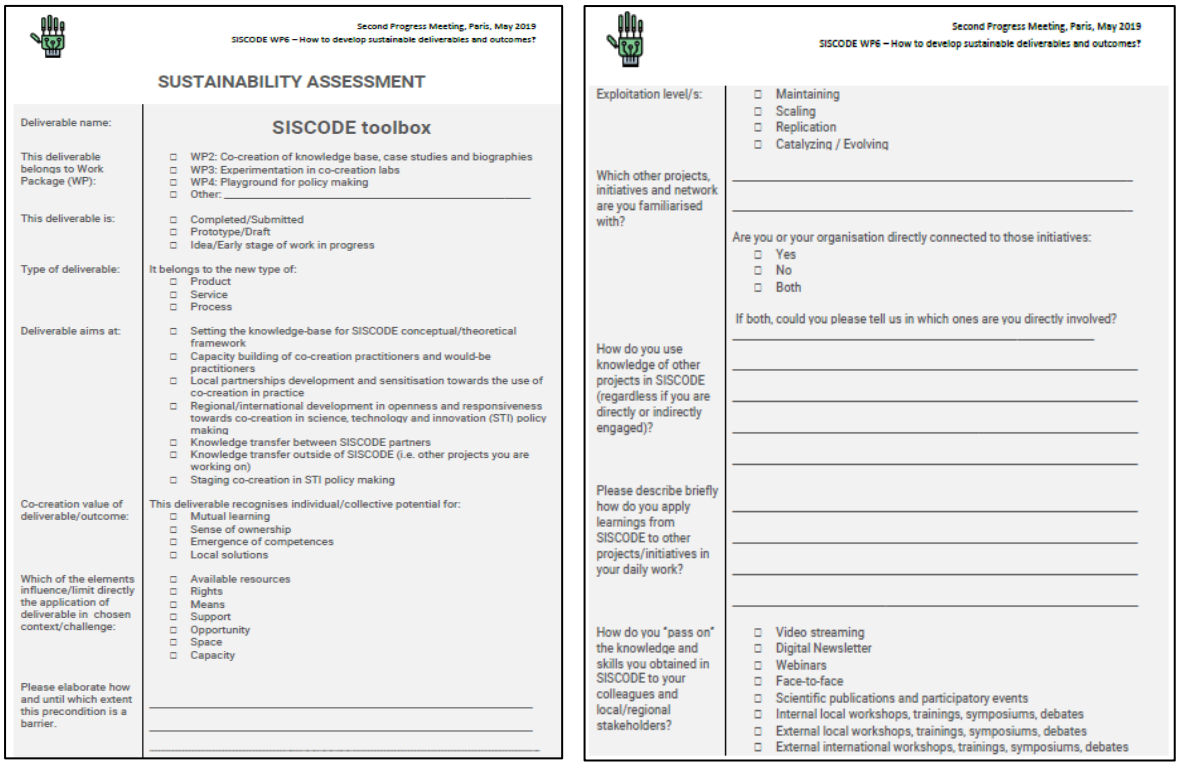
An internal meeting was held early 2019 in Milan to elaborate on the exploitation of the SISCODE CoRRI Forum[8] and its relation to the co-creation labs' journeys. The aim was to define how WP6 would evaluate the framework for the co-creation journeys of the SISCODE pilots. In this meeting, the co-creation as a process and co-creation as an outcome was defined. The goal was also to visualise how co-creation journeys would benefit the partners themselves and feed into the development of the CoRRI Forum. Following this meeting, a workshop was implemented in May 2019 in Paris aiming to understand how the achieved and planned outcomes (deliverables and processes) can be exploited internally and externally. The sustainability of five deliverables from WP1, WP2, WP3 and WP4 were assessed through a SWOT analysis and a collective discussion was used to collect reflections from the project partners. Before the SWOT analysis was performed, the deliverables were clustered using an ID Card composed of seven fields (type, status, purpose, co-creation value, preconditions, exploitation and usage frequency) (Figure 1). The two exercises were done in pairs and groups. The assessments showed that the SISCODE results were considered most valuable for building capacities in co-creation, sensitization towards co-creation and knowledge-transfer tools. The results of this workshop were used to understand how WP6 would support the prototyping of the SISCODE pilots.

[5] SISCODE Case studies and biographies (deliverable 2.2): https://siscodeproject.eu/wp-content/uploads/2020/11/D2.2-Case-Studies-and-Biographies-Report_small.pdf

[6] SISCODE Co-creation Journeys reports (deliverables 3.1, 3.2, 3.3 and 3.4) accessible online: https://siscodeproject.eu/resources/

[7] SISCODE Design for policymaking (deliverable 4.1): https://siscodeproject.eu/wp-content/uploads/2021/03/SISCODE_D4.1_Design-for-policy-making.pdf

[8] More information about the CoRRI Forum (deliverable 6.3): https://siscodeproject.eu/wp-content/uploads/2021/03/D6.3-NETWORK-OF-CO-CREATION-LABS-FOR-RRI-CORRI-NETWORK_Small.pdf



Second Progress Meeting, Paris, May 2019
SISCODE WP6 – How to develop sustainable deliverables and outcomes?

SUSTAINABILITY ASSESSMENT

Deliverable name: **SISCODE toolbox**

This deliverable belongs to Work Package (WP):
- ☐ WP2: Co-creation of knowledge base, case studies and biographies
- ☐ WP3: Experimentation in co-creation labs
- ☐ WP4: Playground for policy making
- ☐ Other: _____

This deliverable is:
- ☐ Completed/Submitted
- ☐ Prototype/Draft
- ☐ Idea/Early stage of work in progress

Type of deliverable: It belongs to the new type of:
- ☐ Product
- ☐ Service
- ☐ Process

Deliverable aims at:
- ☐ Setting the knowledge-base for SISCODE conceptual/theoretical framework
- ☐ Capacity building of co-creation practitioners and would-be practitioners
- ☐ Local partnerships development and sensitisation towards the use of co-creation in practice
- ☐ Regional/international development in openness and responsiveness towards co-creation in science, technology and innovation (STI) policy making
- ☐ Knowledge transfer between SISCODE partners
- ☐ Knowledge transfer outside of SISCODE (i.e. other projects you are working on)
- ☐ Staging co-creation in STI policy making

Co-creation value of deliverable/outcome: This deliverable recognises individual/collective potential for:
- ☐ Mutual learning
- ☐ Sense of ownership
- ☐ Emergence of competences
- ☐ Local solutions

Which of the elements influence/limit directly the application of deliverable in chosen context/challenge:
- ☐ Available resources
- ☐ Rights
- ☐ Means
- ☐ Support
- ☐ Opportunity
- ☐ Space
- ☐ Capacity

Please elaborate how and until which extent this precondition is a barrier.
_____
_____
_____

Second Progress Meeting, Paris, May 2019
SISCODE WP6 – How to develop sustainable deliverables and outcomes?

Exploitation level/s:
- ☐ Maintaining
- ☐ Scaling
- ☐ Replication
- ☐ Catalyzing / Evolving

Which other projects, initiatives and network are you familiarised with?
_____
_____

Are you or your organisation directly connected to those initiatives:
- ☐ Yes
- ☐ No
- ☐ Both

If both, could you please tell us in which ones are you directly involved?
_____

How do you use knowledge of other projects in SISCODE (regardless if you are directly or indirectly engaged)?
_____
_____
_____
_____

Please describe briefly how do you apply learnings from SISCODE to other projects/initiatives in your daily work?
_____
_____
_____
_____

How do you "pass on" the knowledge and skills you obtained in SISCODE to your colleagues and local/regional stakeholders?
- ☐ Video streaming
- ☐ Digital Newsletter
- ☐ Webinars
- ☐ Face-to-face
- ☐ Scientific publications and participatory events
- ☐ Internal local workshops, trainings, symposiums, debates
- ☐ External local workshops, trainings, symposiums, debates
- ☐ External international workshops, trainings, symposiums, debates

Figure 1. Sustainability Assessment Tool used for the SWOT analysis

3.1.3. Integration and monitoring of theoretical framework into SISCODE co-creation journeys

As the leader of WP6, SPI participated in 67 meetings with all SISCODE labs throughout their co-creation journeys to follow on their progress and support their exploitation and sustainability plans (Figure 2). In these meetings, the results of the meeting from early 2019 in Milan were used as guidelines to support the development of the labs' sustainability plan. Subsequently, the maintaining, scaling, replicating and catalysing of SISCODE results was further discussed at the end of 2019 with the aim of establishing long-term trajectories for the sustainability of prototypes that were under development. However, as solutions, the labs' products were also evaluated as potentially exploitable results.

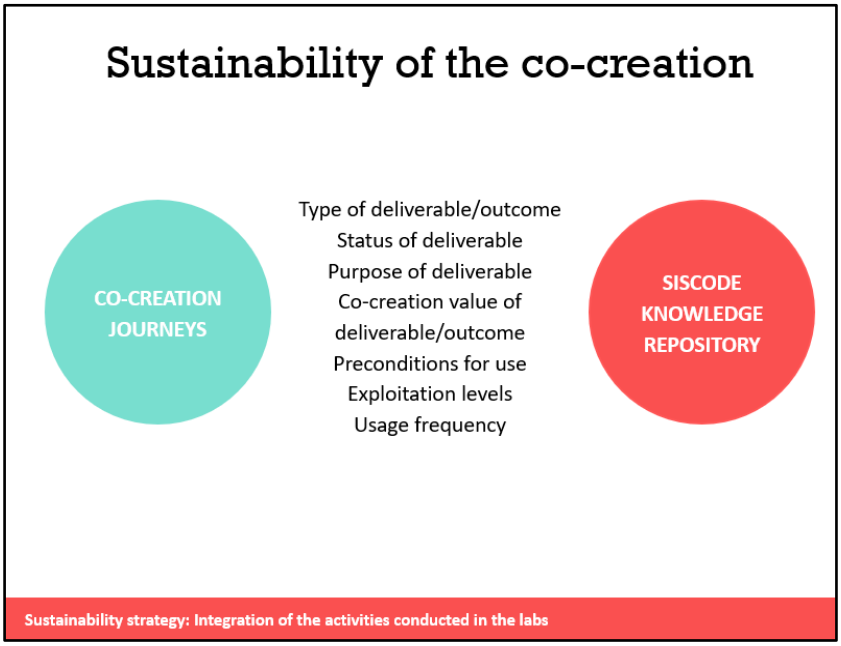


Figure 2. The Scheme of Sustainability of the co-creation.

In view of their sustainability plans, a capacity building exercise was done with the SISCODE labs in February 2020 in Copenhagen at the fifth progress meeting. This exercise was led by WP6 to inform and discuss how to develop business models for design-led innovation, reflect on ongoing process and sustainability plans, identify good practices, strengths and fragilities of solutions developed by the labs. This meeting set out the opportunity to exchange knowledge and experience among the project partners and understand what sustainability and scaling of solutions are. The meeting also provided an opportunity to use hands-on tools such as business model canvases to analyse the labs' solutions capacity to be scaled and also have impact. Moreover, through the assessment of the sustainability plan for the labs, different potentials for synergies among labs as exploitable new partnerships and the use of different project outputs was evaluated. Individual calls were later arranged between WP6 and each of the SISCODE labs to take place between February and April 2020 to discuss specific issues that the labs were experiencing concerning the exploitation, sustainability and scaling plans. SPI has developed an online business modelling workshop in April 2020 to support labs and their co-creation teams in developing sustainable and exploitable solutions (Figure 3). Furthermore, these coaching and mentoring continued and collaboration was visible in interactions between labs but also between labs and other partners that took part in CoRRI's cycles of online workshops and other WP6 activities oriented towards exploitation of the key exploitable results.

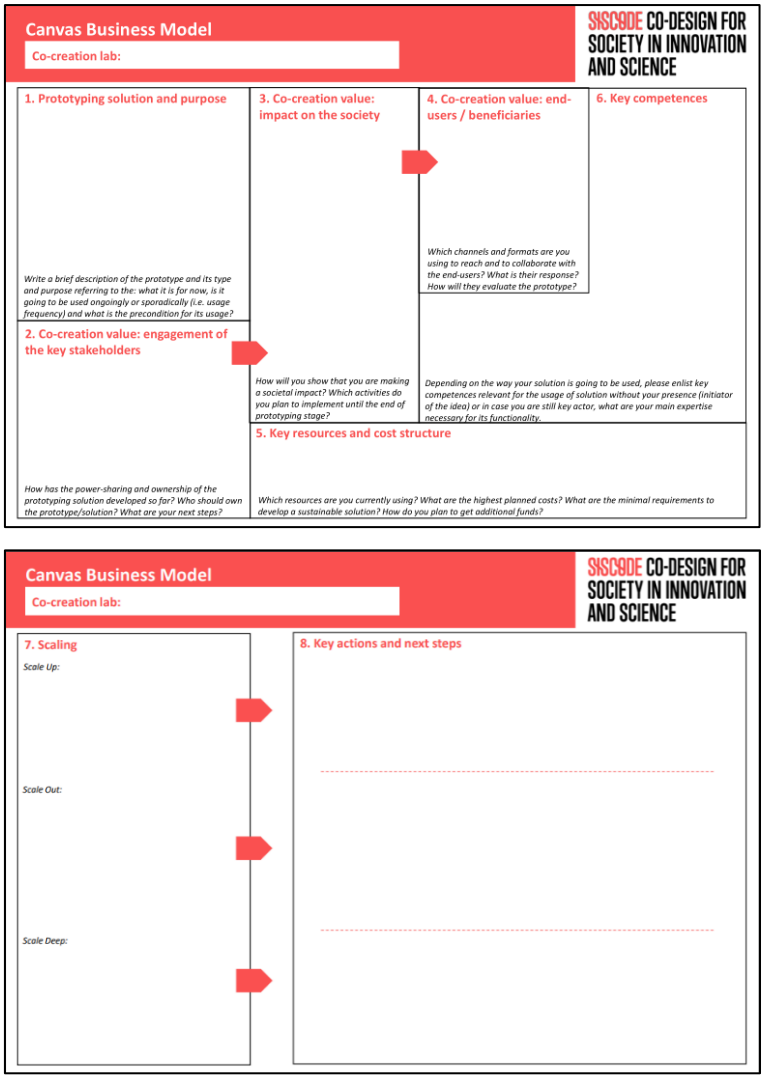


Figure 3. Business Model Canvas used to assess the sustainability of the SISCODE labs' prototypes

3.2. Identification and evaluation of the project's key exploitable results

The second part of this methodology looks at the identification and evaluation of the project's key exploitable results. This section is divided into three subparts:

3.2.1. Selection of KERs

This refers to the selection of 14 KERs which have the highest rate of exploitability within and beyond SISCODE. The selection process started in the last year of the SISCODE project when the project partners had already developed a considerable number of exploitable results that had been disseminated publicly and, in some instances, exploited through stakeholder engagement events launched under WP3, WP4 and WP6. Under WP6, all the leaders and contributors of each WP with exploitable results were provided with an excel sheet in mid-2020, to list all the exploitable results produced and to be produced by the end of the project indicating the authors,

types of results, delivery date, Technology Readiness level (TRL), target stakeholders, among others (Figure 4). The most tangible exploitable results from the excel have been described and analysed in chapter 4. A total number of 14 KERs were extracted from the list of exploitable results and further analysed in this deliverable through a SWOT analysis and clustering.

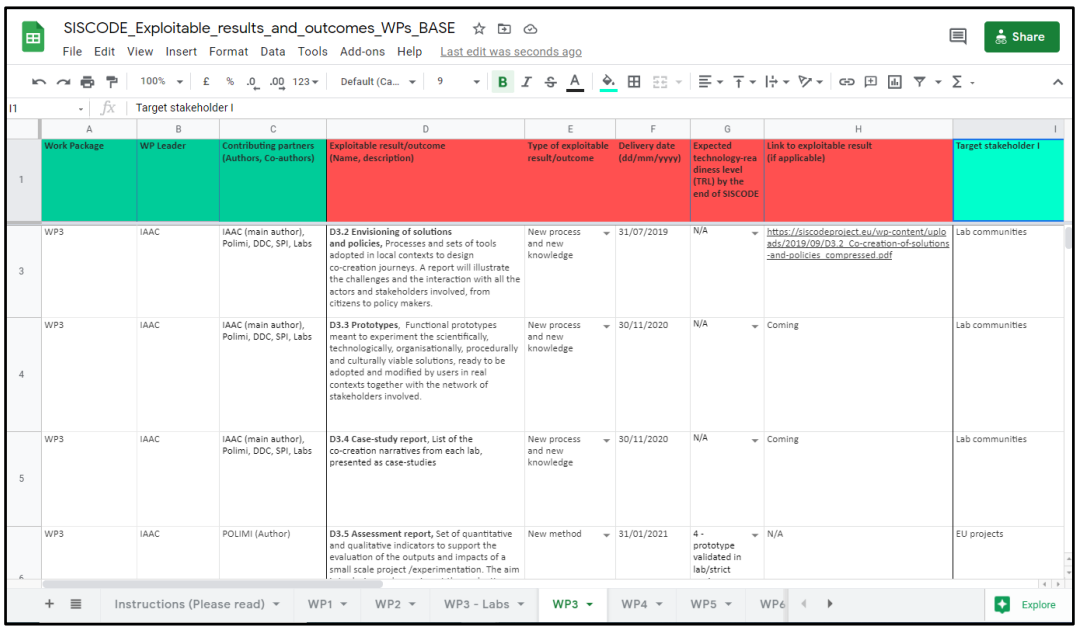


Figure 4. Excel sheet used to collect the exploitable results from each WP

3.2.2. Validation and benchmarking

The validation of the KERs was done through three separate sets of events that brought project partners and external stakeholders to apply, test and validate the KERs as applicable tools and methods, new partnerships or new knowledge. The first validation exercise was conducted through the first cycle of the CoRRI Forum[9] in mid-2020 using the appropriated canvases of the SISCODE co-creation journey toolbox for online co-creation activities. This was followed by the second cycle of workshops[10] in late 2020 that presented the solutions of the SISCODE labs for exploitation, dissemination and validation by external stakeholders. However, as the CoRRI Forum is a SISCODE KER, all the activities launched under its brand including the two CoRRI sustainability strategy workshops launched in 2021 were designed to benchmark, compare, redesign and modify, validate and define a strategy to sustain CoRRI as a SISCODE output after the project. In addition, the KERs were finally verified as the most valuable outcomes of the project through the two business modelling workshops launched under WP6 in early 2021. These

[9] CoRRI's First Cycle of Workshops (blogpost): https://siscodeproject.eu/article/first-corri-workshop-context-analysis/

[10] CoRRI's Second Cycle of Workshops (blogpost): https://siscodeproject.eu/article/corri-forum-promotes-the-second-cycle-of-workshops-co-creation-journeys-of-the-siscode-labs/

workshops brought together the project partners to discuss and validate the KERs as well as provide insights on how they can be exploited in different contexts and sustained in the long-run. Moreover, a set of exploitation events were designed at the end of 2020 through a short-term exploitation strategy 'Making co-creation tangible'[11], to use at least one of the KERs in a monthly occurring event for the dissemination and exploitation of the results with external target stakeholders. The KERs were used as hands-on tools and methods or new knowledge to engage, train and inform external stakeholders.

Five of the KERs have also been submitted to the *Horizon Results Booster Service 1 - Module A* of the H2020 project RRING[12] in late 2020 for comparative analysis of the results with that of other projects that fall within SISCODE's areas of interest e.g., RRI, co-creation, policymaking and social innovation. The comparative analysis was done among seven projects (RRING, CHERRIES[13], SISCODE, SUPER MoRRI[14], ORION[15], SeeRRI[16] and DigiTeRRI[17]) for the purpose of identifying the collective results of the projects to be disseminated, pinpointing their characteristics and beneficiaries to form community network, developing Open Access RRI knowledge base, developing a framework for integrating RRI and ensuring continuation of cross-European data collection on the evolution and benefits of RRI, among others.

Subsequently, in preparation for this deliverable, desk research was conducted for the collection of information about the exploitable results (i.e., for the development of content in chapter 4 and 5) and benchmarking of the KERs for comparison with results of other projects.

3.2.3. Exploitation of KERs post-SISCODE

The KERs will be exploited and disseminated post-SISCODE through an action plan that will be developed in D6.1. This action plan will assign the long-term exploitation of each KER to responsible bodies from the SISCODE consortium to commit to the implementation of the exploitation strategy post-SISCODE. The results of D6.2 will be used in the development of D6.1.

[11] Making co-creation tangible' series of exploitation events: https://siscodeproject.eu/article/making-co-creation-tangible-prototyping-in-co-creation-practical-tools/
[12] H2020 RRING: https://rring.eu/
[13] H2020 CHEERIES: https://www.cherries2020.eu/
[14] H2020 Super MoRRI: https://super-morri.eu/
[15] H2020 ORION: https://www.orion-openscience.eu/
[16] H2020 SeeRRI: https://seerri.eu/
[17] H2020 DigiTeRRI: https://digiterri.eu/

4. Description of the SISCODE exploitable outcomes and outputs

The SISCODE exploitable outcomes and outputs enlisted in this chapter were developed under WP1, WP2, WP3, WP4, WP5, WP6 and WP7 throughout the duration of the project. Majority of the outputs and outcomes in this section have been concluded and submitted to the European Commission for approval (e.g., deliverables) or published or exploited with external stakeholders (e.g., co-creation toolkits, prototypes and exploitation activities). They are divided into five categories: i) New knowledge, ii) Tools and Methods, iii) Activities, iv) Innovative solutions and v) Stakeholder engagement and new partnerships. The following sub-chapters contain a brief description of the exploitable results and their status.

4.1.New knowledge

New knowledge consists of deliverables or public reports which contain the findings of desk and action research conducted by the SISCODE partners and labs. These documents contain the outcomes of the work performed in tasks of different WPs which have specific objectives that feed into the overall objective of the project. The content of the documents or the findings of the tasks can be considered new knowledge because they provide new insights and support the reader's acquisition of knowledge about the specific topic or issue. The WPs that contain deliverables with new knowledge are mainly in WP1, WP2, WP4 and WP7. These deliverables and articles are all developed in English and disseminated through the SISCODE website and other dissemination channels. The list of exploitable results that present new knowledge per work package is shown in the Table 4 to Table 9.

Table 4. List of exploitable outcomes and outputs from WP1 that present New Knowledge

WP1 results	Description
D1.1: RRI Research Landscape (Smallman & Patel, 2018)[18]	**Content**: Report on previous and ongoing framework initiatives and projects that have developed and tested relevant RRI approaches and methodologies at the EU and national levels **Target audiences**: Researchers and academia **Benefits for target audiences**: Establishment of a strong foundation in the European co-creation landscape **Short term exploitation**: Used as a theoretical framework to recommend actions and augment project activities that aimed at filling

[18] SISCODE RRI research landscape (deliverable 1.1): https://siscodeproject.eu/wp-content/uploads/2018/11/RRI-Research-Landscape_D1.1.pdf

WP1 results	Description
	the gaps encountered in the literature review on STI policymaking and practice **Preconditions for long term exploitation**: To be stored on the open access platform; summaries of the deliverables for quick reviews e.g., executive summaries; indication of target end-users (e.g., researchers, academics, experts in RRI and STI policymaking)
D1.2: Co-creation in RRI practices and STI policies (Rizzo et al., 2018)[19]	**Content**: Report on the comparative review that will generate insights, issues, topics, and hypotheses to be verified on the limits of the current implementation of co-creation in STI policy making. **Target audiences**: Researchers, practitioners and academia **Benefits for target audience**s: Provision of comparative analysis regarding co-creation policies at large and co-creation methodologies and tools for application in RRI **Short term exploitation**: Used as a theoretical framework to recommend actions and augment project activities that aimed to filling the gaps encountered in the literature review **Preconditions for long term exploitation**: Open access platform; summaries of the deliverables for quick reviews e.g., executive summaries; indication of target end-users (e.g., researchers, academics, experts in RRI and STI policymaking)
D1.3: Theoretical framework and tools for understanding co-creation in contexts (Kaletka, Eckhardt & Krüger, 2018)[20]	**Content**: Report showing the findings to prepare a pattern for further research to be done within SISCODE. One key assumption deriving from theoretical and empirical knowledge on co-creation is related to its context-specificity **Target audience**s: EU projects, researchers, practitioners and academia **Benefits for target audiences**: Development of a conceptual framework for further relevant research on co-creation **Short term exploitation**: Used as a theoretical framework to recommend actions and augment project activities that aimed to filling the gaps encountered in the literature review

[19] SISCODE Co-creation in RRI practices and STI policies (deliverable 1.2): https://siscodeproject.eu/wp-content/uploads/2018/11/Co-Creation-in-RRI-Practices-and-STI-Policies_D1.2.pdf

[20] SISCODE Theoretical framework and tools for understanding co-creation in contexts (deliverable 1.3): https://siscodeproject.eu/wp-content/uploads/2018/11/Theoretical-Framework-and-Tools-for-Understanding-Co-Creation-in-Contexts_D1.3.pdf

WP1 results	Description
	Preconditions for long term exploitation: Open access platform; summaries of the deliverables for quick reviews e.g., executive summaries; indication of target end-users (e.g., researchers, academics, experts in RRI and STI policymaking)
Research Article: Experimenting with co-design in STI policy making (Deserti, Rizzo & Smallman, 2020)[21]	**Content**: This article addresses how the notion of co-creation may be utilised to operationalise the implementation of responsible research and innovation (RRI) with empirical insights developed from lab initiatives across Europe. **Technology readiness**: N/A **Target audiences**: Academia, research and innovation communities and policymakers **Benefits for target audiences**: Provision of experimental insights to assist policymakers in enhancing civic engagement in policy development and expanding co-creation beyond the traditional field of science and technology. **Short term exploitation**: Research findings may be taken to optimise interdisciplinary collaboration and coordination between relevant stakeholders. **Preconditions for long term exploitation**: In addition to the need for continuous research for follow-up development within co-creation bodies and events, gaps between ideation and actual execution of co-creation initiatives have to be addressed while credibility and an optimal level of rationalisation need to be maintained for effective interdisciplinary cooperation.
Research article: Co-Design for Society in Innovation (Deserti, Eckhardt, Kaletka, Rizzo & Wascher, 2019)[22]	**Content**: This article provides a brief overview of the EU-funded project SISCODE, its structure and actions taken to facilitate research and experimentation of co-creation approaches and tools to enhance civic engagement in design of policies and initiatives. **Technology readiness**: N/A **Target audiences**: Academia, research and innovation communities and policymakers in the EU

[21] Research article with accessible online: https://www.tandfonline.com/doi/full/10.1080/25741292.2020.1764692

[22] Research article accessible online: https://re.public.polimi.it/retrieve/handle/11311/1118470/461096/Deserti%20et%20al.pdf

WP1 results	Description
	Benefits for target audiences: The article helps increase awareness and knowledge of the SISCODE project itself, thereby informing target readers of opportunities in enhancing co-creation. **Short term exploitation**: Co-creation approaches shared in the article such as the 4-step process of experimenting co-creation (understanding, ideation, prototyping, and verification) and Kolb's experiential learning model provide mental frameworks to formulation and execution of initiatives and ideas involving public engagement. **Preconditions for long term exploitation**: To effectively adopt the mental models introduced in the article, EU institutions would need to ensure that existing mechanisms to develop co-creation mechanisms such as feedback channels would need to function properly and efficiently.
Research article: Expanding Innovation Capacity in Public Sector by Design Projects (Rizzo, Schmittinger & Deserti, 2020)[23]	**Content**: This article published in the research proceedings of the Design Research Society (DRS) in 2020 describes and explains the design-based theoretical framework adopted to enhance civic engagement through real-life examples of projects conducted at the municipal level in Turin, Italy **Technology readiness**: N/A **Target audiences**: Academia, research and innovation communities and policymakers. **Benefits for target audiences**: Target audiences may acquire greater insights into the implementation of a design approach to enhancing co-creation initiatives in a holistic manner. **Short term exploitation**: This article, together with many others compiled in the proceedings of the DRS in 2020, may be collectively utilised where insights may be adopted by target audiences to develop a full picture of an ecosystem to enhance public engagement and boost RRI. **Preconditions for long term exploitation**: Barriers to enhancing innovation and collaboration in organisations (dependent on context and peculiarities) such as hierarchical structures and prevailing attitudes would need to be adequately addressed to ensure sustainability of co-design approaches adopted.

[23] Scientific publication available in the proceedings of DRS conference (2020): https://re.public.polimi.it/handle/11311/1145425#.YGNe-q9KjIU

Table 5. List of exploitable outcomes and outputs from WP2 that present New Knowledge

WP2 results	Description
D2.1 SISCODE Knowledge Base (Eckhardt et al., 2019)[24]	**Content**: Report on the knowledge base of 138 cases that allow for the undertaking of quantitative research with variables derived from the theoretical presumptions from previous SISCODE work to conduct a meta-analysis along the collected projects **Target audiences**: Research and academia **Benefits for target audiences**: Compilation of insights and knowledge collected from a wide range of cases for utilisation in further study **Short term exploitation**: Used in events conducted under WP6 for the exploitation of exploitable results from SISCODE, and the development of models of co-creation ecosystems based on the diverse cultural, organisational and regulatory aspects under which co-creation develops across Europe under WP5. **Preconditions for long term exploitation**: Personal motivation and a high number of like-minded individuals are required to effectively implement insights in future co-creation initiatives; sufficient dissemination of details required for target audience.
D2.2 Co-creation case studies and biographies (Maylandt et al., 2020)[25]	**Content**: Report that includes the analysis of 40 cases of co-creation in STI and in other fields and the further selection and in-depth analysis of 15 cases in the form of innovation biographies **Target audiences**: Research and academia **Benefits for target audiences**: Detailed analysis of case studies provides various insights and perspectives into a myriad of co-creation scenarios that may be utilised in comparative studies **Short term exploitation**: Used in events conducted under WP6 for the exploitation of exploitable results from SISCODE, as a reading material within SISCODE's Massive Open Online Course under WP7, and the development of a models of co-creation ecosystems based on the diverse cultural, organisational and regulatory aspects under which co-creation develops across Europe under WP5. **Preconditions for long term exploitation**: Mixed methodologies require evaluation of their strengths and weaknesses to better

[24] SISCODE Knowledge base (deliverable 2.1): https://siscodeproject.eu/wp-content/uploads/2019/03/Attachment_0-3.pdf

[25] SISCODE Case studies and biographies (deliverable 2.2): https://siscodeproject.eu/wp-content/uploads/2020/11/D2.2-Case-Studies-and-Biographies-Report_small.pdf

WP2 results	Description
	understand their effectiveness; sufficient dissemination of details required for target audience.
D2.3 Comparative Analysis Report (Eckhardt et al., 2020)[26]	**Content**: Report leading to the evidence-based refinement and adaption of the classification/typology of co-creation across Europe and its elements, including examples of good practices. The synthesis is focused on the factors, processes, infrastructures and models. All the results produced will be made available through the digital learning hub **Target audiences**: EU projects, Research and academia **Benefits for target audiences**: Comparative analysis of knowledge from co-creation cases generates new insights and synthesises new knowledge that develops understanding of the significance of co-creation in the EU community **Short term exploitation**: Used in events conducted under WP6 for the exploitation of exploitable results from SISCODE and the development of a models of co-creation ecosystems based on the diverse cultural, organisational and regulatory aspects under which co-creation develops across Europe under WP5 **Preconditions for long term exploitation**: Key aspects of implementing co-creation policies such as introduction and scaling would need to account for local contexts and nuances for optimisation of effectiveness; sustainable co-creation models and knowledge developed need to take advantage of current trends in digitisation and proliferation of other smart technologies to be adapted in contemporary contexts

[26] SISCODE Comparative Analysis Report of Co-creation (deliverable 2.3): https://siscodeproject.eu/wp-content/uploads/2020/11/Masterdokument_D2.3-Comparative-Analysis-Report.pdf

Table 6. List of exploitable outcomes and outputs from WP3 that present New Knowledge

WP3 results	Description
D3.5 Assessment Report (Schmittinger,Deserti, Rizzo & Crabu, 2021)[27]	**Content**: Set of quantitative and qualitative indicators to support the evaluation of the outputs and impacts of a small-scale project. The aim is to design and experiment with an evaluation framework using the experimentation of the SISCODE pilots as a playground for data collection and observation. This document shows potentiality for uptake in other projects **Target audiences**: EU projects, researchers, co-creation practitioners, innovation communities and academia **Benefits for target audiences**: Monitoring and assessment methodology used by the research project partners that can be applied in the monitoring and interpretation of co-creation journeys in other projects and policymaking initiatives **Short term exploitation**: The report as new knowledge that yet needs to be exploited **Preconditions for long term exploitation**: Dimensions such as involvement of stakeholders and use of methods and tools must be clearly specified, quantified (if applicable) and disseminated to relevant stakeholders before scale-up for larger deployment
Research article: Boosting co-creation practices in makerspaces to support the design of more empowering and circular food systems at a neighbourhood scale (Real & Calvo, 2019)[28]	**Content**: This research article illustrates through the El Barri Circular initiative in Barcelona, how fab labs provide makerspaces that become spaces for development of practical knowledge and enhance interaction and collaboration with local stakeholders **Target audiences**: Policymakers, academia, innovation agencies **Benefits for target audiences**: Provision of insights into how opportunities at the grassroots level may be exploited to deepen collaboration within the community and supporting initiatives toward building a sustainable, circular economy. **Short term exploitation**: The methodologies and activities documented in the El Barri Circular initiative may provide a framework for future implementation of similar initiatives in establishing a local, sustainable circular economy.

[27] SISCODE Assessment report (deliverable 3.5): https://siscodeproject.eu/wp-content/uploads/2021/03/SISCODE_D3.5_Assessment-report_small.pdf

[28] Research article accessible online: https://hal.archives-ouvertes.fr/hal-02387713/

WP3 results	Description
	Preconditions for long term exploitation: To establish local systems for co-creation toward circular economic activities, it is necessary to inculcate the appropriate mindset receptive to pursuing such initiatives. A culture open to change that encourages exploration and innovation should be nurtured.
Research article: The BODYSOUND case. A tangible prototype for co-designing "intangible" healthcare solutions (Cipriania, et al., 2020)[29]	**Content**: This research article explores the use of co-design and co-creation to engage caregivers and patients for the development of healthcare technological solutions. The paper dives into the concept of patient innovation as an example of user-driven healthcare and uses one of the SISCODE pilot cases (Polifactory[30]) to illustrate how co-design approaches were adopted. **Target audiences**: Academia, social innovators, healthcare professionals, researchers and rehabilitation professionals. **Benefits for target audiences**: Provision of a concrete and practical case study on how to apply co-design and co-creation to develop solutions with vulnerable members of the society through iterative and participatory processes. **Short term exploitation**: Support the validation and exploitation of the BODYSOUND prototype developed by the SISCODE lab, Polifactory (see section 4.5). **Preconditions for long term exploitation**: Cross-national pollination of developing healthcare solutions through bottom-up approaches that involve the key end-users of the solutions such as patients, caregivers, health professionals. Recognition that involvement of patients in the discovery of remedies or treatments for illness can be advantageous as patients are often the experts of their illness through their first-hand experiences.

[29] Research article available online: https://re.public.polimi.it/handle/11311/1159620
[30] SISCODE lab - Polifactory: https://siscodeproject.eu/polifactory/

Table 7. List of exploitable outcomes and outputs from WP4 that present New Knowledge

WP4 results	Description
D4.1 Design for policy making (Bruhn, Hjort, Striegler & Ohland-Andersen, 2021)[31]	**Content**: A set of recommendations and concrete cases to support approaches to applying design and co-creation activities within policy-making as well as bridging the gap between top-down and bottom-up initiatives in an interactive playground. **Target audiences**: EU projects, policymakers, researchers, co-creation practitioners, innovation communities and academia **Benefits for target audiences**: New knowledge and new approaches to design policies presented with a set of recommendations **Short term exploitation**: The findings from the report are used in the development of content and framework for the SISCODE final conference **Preconditions for long term exploitation**: Targeted dissemination of the report to its key target audiences such as policymakers and researchers; a platform for the long-term accessibility to the report
D4.2 Transformation in STI policy making: trends, opportunities and barriers (Bezzi, Buongiovanni Deserti, 2019)[32]	**Content**: This document presents a solutions-oriented approach to provide understanding of public service innovation labs and policy labs, ongoing experimentation opportunities in the SISCODE project and suggest policies to manage their implementation within a co-creation framework **Target audiences**: EU projects, policymakers, researchers, co-creation practitioners, innovation communities and academia **Benefits for target audiences**: Repository containing lectures, cases, tools and other material regarding the application of co-creation in a policy context **Short term exploitation**: The knowledge gained from this document was used in the development and execution of a series of workshops for policymakers under WP4 and thus, in the development of D4.1 **Preconditions for long term exploitation**: Targeted dissemination of the report to its key target audiences such as policymakers and researchers; a platform for the long-term accessibility to the report

[31] SISCODE Design for policy making (deliverable 4.1): https://siscodeproject.eu/wp-content/uploads/2021/03/SISCODE_D4.1_Design-for-policy-making.pdf
[32] SISCODE Transformation in STI policy making (deliverable 4.2): https://siscodeproject.eu/wp-content/uploads/2019/09/Deliverable_4.2_SISCODE_v1.0_final.pdf

Table 8. List of exploitable outcomes and outputs from WP6 that present New Knowledge

WP6 results	Description
D6.3 CoRRI Network (Glumac & Aibu, 2020)[33]	**Content**: A co-creation journey and iterations applied at the meso and macro scales of the large co-creation ecosystem of wide geographical range. **Target audiences**: practitioners, labs, researchers, policy makers and other relevant stakeholders **Benefits for target audiences**: recommended approaches and actions on the emerging challenges and knowledge gaps of co-creation practice among relevant stakeholders, identified by the practitioners, researchers, labs and policy makers who participated in the cycles of online workshops; raising awareness and augmenting responsiveness of key stakeholders. **Short term exploitation**: utilised knowledge to develop sustainable community of practice that should be sustained beyond SISCODE **Preconditions for long term exploitation**: A platform for the long-term accessibility to the report and dissemination through the networks of the SISCODE partners post-SISCODE.

Table 9. List of exploitable outcomes and outputs from WP7 that present New Knowledge

WP7 results	Description
D7.6 Design Advocacy Plan in STI Policy Making and a final conference	**Content**: Not yet defined. **Target audiences**: Policymakers, academics, researchers, citizens, practitioners and EU projects. **Benefits for target audiences**: Dissemination of SISCODE's results to policy makers to draw out key lessons learnt for future integration of design to innovation policy **Short term exploitation**: N/A **Preconditions for long term exploitation**: A platform for the long-term accessibility to the report and dissemination through the networks of the SISCODE partners post-SISCODE.

[33] CoRRI Forum (deliverable 6.3): https://siscodeproject.eu/wp-content/uploads/2021/03/D6.3-NETWORK-OF-CO-CREATION-LABS-FOR-RRI-CORRI-NETWORK_Small.pdf

4.2.Methods and tools

Methods and tools are the tangible outputs which have been used, replicated, modified and scaled throughout the course of the project by the project partners and labs. These tools and methods were developed across all WPs in the form of hands-on co-creation toolkits with canvases, online repository for tools, co-creation journey models, stakeholder engagement and dissemination strategies and open online courses, among others. Majority of the exploitable tools and methods have already been exploited within the project duration. However, those coming from WP5 and WP7 have not been completed at the time D6.2 was written. The list of exploitable results that present exploitable Tools and Methods are shown from Table 10 to Table 15.

Table 10. List of exploitable outcomes and outputs from WP1 that fall under methods and tools

WP2 Tools/Methods	Description
Onion model (updated version of Kaletka et al., 2017)[34]	**Content**: A model developed within the project 'Boosting the Impact of Social Innovation in Europe through Economic Underpinnings' (SIMPACT)[35], funded in the 7th Framework Programme (FP7) of the European Union to analyse the complexity of ecosystemic factors influencing initiatives via four layers of contexts – namely roles, functions, structures and norms in that order from innermost to outermost **Technology readiness**: N/A **Target audiences**: Research and innovation agencies, EU projects, policymakers and academia **Benefits for target audiences**: Provision of an organised framework to study cases of co-creation from a micro to macro level, thereby generating a holistic perspective and outlook of co-creation examples **Short term exploitation**: The model from D2.2 has been used in exploitation events and business modelling workshops with internal and external workshops to explain co-creation ecosystems in Europe. It is also the fundamental structure used in WP5 to produce models of co-creation ecosystems based on the diverse cultural, organisational and regulatory aspects under which co-creation develops across Europe **Preconditions for long term exploitation**: The model needs to be presented in a digestible format with simple and straightforward descriptions of the model and its components as well as reference to

[34] Onion model (2017): https://pub.sinnergiak.org/esir/article/view/42/14
[35] H2020 SIMPACT: http://www.simpact-project.eu/

WP2 Tools/Methods	Description
	case studies and examples to help the readers relate to the content; dissemination outlet for the model through a common platform

Table 11. List of exploitable outcomes and outputs from WP3 that fall under methods and tools

WP3 Tools/Methods	Description
SISCODE co-creation journey toolbox (Menichinelli, Ferronato, Villa & Real, 2018)[36]	**Content**: A document to provide a thought framework to support the design and implementation of co-creation research, innovation and design processes for SISCODE laboratories **Technology readiness**: Non-commercial application (TRL8) Target audiences: co-creation lab communities, innovation community, practitioners and social designers **Benefits for target audiences**: Provision of a four-phase process (content analysis, problem reframing, envisioning alternatives, prototyping and development) that streamlines the conceptual framework in formulation of co-creation solutions **Short term exploitation**: The toolbox has been used in the CoRRI cycles of workshops, business modelling workshops, SISCODE exploitation of exploitable results events and served as a practical tool in the implementation of co-creation journeys for the SISCODE co-creation labs **Preconditions for long term exploitation**: Availability of the toolbox through a SISCODE website and other EU platform accessible post-SISCODE; exploitation of the toolbox canvases by the SISCODE labs and others post-SISCODE
Co-creation journey model[37]	**Content**: This model is a pictorial depiction of the SISCODE co-creation journey illustrating the four phases, Context analysis, Problem framing, Envisioning alternatives and Prototyping. **Technology readiness**: Non-commercial application (TRL8)

[36] SISCODE Co-creation Journey Toolbox: https://siscodeproject.eu/wp-content/uploads/2019/09/toolkit-27092019-1.pdf

[37] Introduction to SISCODE co-creation journeys (blogpost): https://siscodeproject.eu/article/introduction-to-siscode-co-creation-journeys/

WP3 Tools/Methods	Description
	Target audiences: Co-creation lab communities, innovation community, practitioners and social designers, researchers and academia **Benefits for target audiences**: Initiation of coordination measures in co-creation project management and experimentation and introduction of the SISCODE project toolbox and co-creation laboratories. This is to help develop an in-depth understanding of the challenges **Short term exploitation**: The model was the basis for the design and implementation of co-creation journey of the SISCODE co-creation labs. It has also been disseminated and exploited through the business modelling workshops and SISCODE exploitation of exploitable results events. **Preconditions for long term exploitation**: Presentation of the model with instructions and short notes on how to apply and best practices for ease of use; availability of the model through a common platform for accessibility and dissemination post-SISCODE; exploitation of the tools and canvases in the toolbox by the SISCODE labs post-SISCODE

Table 12. List of exploitable outcomes and outputs from WP4 that fall under methods and tools

WP4 Tools/Methods	Description
SISCODE Learning Hub[38]	**Content**: An online repository containing a vast range of content and materials such as lectures, case studies and scientific publications to assist target audiences in the design of effective co-creation policies. **Technology readiness**: Non-commercial application (TRL8) **Target audiences**: Policymakers, academics, researchers, practitioners and innovation communities **Benefits for target audiences**: Provision of educational material regarding the application of co-creation in a policy context to enhance discussion and effective design of co-creation policies **Short term exploitation**: This repository has been used for the dissemination of tools and methods developed for policymakers throughout SISCODE. Some of its most practical tools such as the

[38] SISCODE Learning Hub: https://www.siscodeproject.eu/repository/

WP4 Tools/Methods	Description
	toolkit for policy workshops were used in the exploitation workshops of SISCODE's exploitable results **Preconditions for long term exploitation**: Maintenance and upkeep of the repository post-SISCODE; addition of new materials to the repository post-SISCODE

Table 13. List of exploitable outcomes and outputs from WP5 that fall under methods and tools

WP5 Tools/Methods	Description
Interactive Guidebook	**Content**: This an interactive guidebook to co-creation in RR. It is an interactive tool to design co-creation strategies depending on the macro and micro conditions in which co-creation will occur and to provide access and systematise already existing tools and toolboxes. **Technology readiness**: Non-commercial application (TRL8) **Target audiences**: Research and innovation communities, policymakers and general public **Benefits for target audiences**: Enhanced support in integration of co-creation ecosystems with approaches and tools for social innovation and design of user-centred services for practical ideation **Short term exploitation**: N/A **Preconditions for long term exploitation**: Accessibility to the strategy by stakeholders through a user-friendly platform and dissemination as well as exploitation of the guidebook by the partners post-SISCODE.

Table 14. List of exploitable outcomes and outputs from WP6 that fall under methods and tools

WP6 Tools/Methods	Description
CoRRI Forum	**Content:** The CoRRI Forum or CoRRI is a community of practice that aims to disseminate co-creation and public engagement in policy making through the exploitation of SISCODE's, and various EU projects and initiatives' results during and post-SISCODE. CoRRI was co-created following the SISCODE co-creation journey and prototyped through a series of workshops that exploited the SISCODE co-creation journey toolbox and the co-creation journeys of the SISCODE labs. CORRI is co-owned and co-implemented by all

WP6 Tools/Methods	Description
	its stakeholders who contribute and benefit from its outcomes. At the end of SISCODE, CORRI would establish a sustainability and exploitation strategy for the long term. **Technology readiness:** Prototype validated in lab/strict environment (TRL4) **Target audiences:** EU projects, co-creation networks, co-creation practitioners, academics, citizens, researchers and innovation communities **Benefits for target audiences:** CoRRI presents a platform for different stakeholders with varying degrees of knowledge and experience in co-creation, RRI, public engagement and policymaking to share and learn from each other through online activities that exploit results of EU projects and initiatives **Short term exploitation:** CoRRI has been exploited through the two CoRRI cycles of workshops which were conducted in 2020, the two sustainability workshops conducted in 2021, interviews conducted with policymakers and EU projects to gauge external stakeholders' interest in CoRRI and the action plan workshops which are to be conducted at the end of SISCODE. **Preconditions for long term exploitation:** CoRRI currently has a strong base of interested stakeholders from SISCODE and externally. However, a strong sustainability plan as well as commitments from its stakeholders is required to foresee its continuity post-SISCODE.
Tips & Tricks for Responsible Research and Innovation[39]	**Content**: A deck of cards with key messages about RRI that can be used to provoke conversation, exchange and debate among different parties in an event or gathering. The 20 cards were co-developed by SISCODE partners and in collaboration with NewHoRRIzon [40] project. **Technology readiness**: Non-commercial application (TRL8) **Target audiences**: Practitioners, policymakers, action researchers and innovation agencies, EU projects and citizens **Benefits for target audiences**: Greater exchange of ideas and enhanced motivation of stakeholders in designing policy to enhance co-creation

[39] Tips and Tricks for Responsible Research and Innovation: https://padlet.com/enollorg/TipTrickRRI
[40] H2020 project NewHoRRIzon: https://newhorrizon.eu/

WP6 Tools/Methods	Description
	Short term exploitation: The tools were used in multiple online events such as the CoRRI cycles of workshops and exploitation workshops and webinar for the dissemination and exploitation of SISCODE results **Preconditions for long term exploitation**: Dissemination of the tool through a common platform and its exploitation by partners post-SISCODE

Table 15. List of exploitable outcomes and outputs from WP7 that fall under methods and tools

WP7 Tools/Methods	Description
SISCODE website[41]	**Content**: Online platform for dissemination of key project results including reports developed to consolidate insights from research in co-creation, and links to co-creation innovation agencies, labs and relevant resources. **Technology readiness**: Non-commercial application (TRL8) **Target audiences**: All stakeholders of the SISCODE project **Benefits for target audiences**: Provision of resources to support study and generation of co-creation initiatives and opportunities to network with co-creation bodies such as SISCODE labs **Short term exploitation**: The website has been the main source of dissemination throughout the project for all the exploitable results of the project that have been published. **Preconditions for long term exploitation**: Maintenance and upkeep of the website post-SISCODE.
Blogposts[42]	**Content**: Online platform for dissemination of key project news and updates including insights drawn from different policy workshops, generation and finalisation of project deliverables **Technology readiness**: Non-commercial application (TRL8) **Target audiences**: All stakeholders of the SISCODE project **Benefits for target audiences**: Provision of insights on application of co-creation within various different thematic fields and

[41] SISCODE official website: https://siscodeproject.eu/
[42] SISCODE Blogposts: https://siscodeproject.eu/news/

WP7 Tools/Methods	Description
	establishment of a marketing platform to promote the significance of the project **Short term exploitation**: As part of the SISCODE website, this tool has been used to disseminate findings of SISCODE actions such as exploitation events, MOOC and make announcements for external stakeholders to engage with the project **Preconditions for long term exploitation**: Maintenance and upkeep of the blog post-SISCODE
MOOC[43]	**Content**: The MOOC (Massive Open Online Course) is designed to be a learning tool that will increase awareness and understanding of the potential of co-creation in the field of RRI (Responsible Research and Innovation) via engagement mechanisms such as webinars, discussion forums and other innovative assessment tools. Synergies will be exploited with existing EU-funding e-learning platforms to host the course and provide a quality learning experience. The MOOC is entitled *Co-creation for policymakers: an introductory course.* **Technology readiness**: Non-commercial application (TRL8) **Target audiences**: Policymakers, students, researchers and academia **Benefits for target audiences**: Acquisition of design methodologies and competences will be supported, and outputs of SISCODE project may be disseminated and promoted in an educational context **Short term exploitation**: As a recently published courses, MOOC is initially exploited in M35 and M36 of the project as a tool to transfer knowledge from SISCODE to the target audiences **Preconditions for long term exploitation**: Accessibility to the tool through a common platform and its exploitation by partners post-SISCODE, taking into consideration that the course is open from 2021 to 2022
Manifesto	**Content:** This manifesto is the vision for the future in policy making found from the SISCODE project and final conference. The manifesto will contain a common vision for future policy making, pointing towards the implications and necessity of co-creation in addressing the challenges of the present and future. It will highlight core values,

[43] SISCODE MOOC: https://siscodeproject.eu/article/mooc/

WP7 Tools/Methods	Description
	core principles and concrete recommendations for a responsible, inclusive and sustainable future for policy making. **Technology readiness**: By the end of the project, it should be optimised for non-commercial application (TRL8) **Target audiences**: Policymakers, researchers and academia **Benefits for target audiences**: Acquisition of important information about co-creation and public engagement in RRI will be made available through short videos and visual materials containing recommendations, challenges and guiding principles. **Short term exploitation**: The manifesto itself will be integrated on Day 5 of the project final conference to engage conference participants in co-design processes. **Preconditions for long term exploitation**: Accessibility to the videos and visual materials on a permanent and common platform and their exploitation by partners post-SISCODE

4.3. Activities

Activities are online or residential events such as workshops, webinars, open days, focus groups and roundtables implemented by the project partners for the purpose of co-creating with SISCODE's internal and external stakeholders through the use and application of the SISCODE methods and tools. The events conducted during the project served as exploitation actions for the dissemination and application of methods and tools with external target stakeholders. In view of their specific aims, the events used appropriate methods and tools from SISCODE to engage with stakeholders. These activities were carried out under WP3 through the SISCODE co-creation labs, WP4 for the engagement of policymakers, WP6 for the exploitation of project results and WP7 as part of the final conference and in support of WP3 and WP6 (Table 16).

Table 16. List of exploitable activities from all WPs

WP	Activities	Description
WP3/ WP7	Open Days [44]	**Content**: A compilation of activities pooled for co-creation labs open days. The events such as interactive workshops and activities were

[44] SISCODE at the Open Living Lab Days in Thessaloniki (2019): https://siscodeproject.eu/labarticle/enoll-launches-the-next-edition-of-ollds-in-thessaloniki/

WP	Activities	Description
		organised by the participating co-creation labs that aim to attract a wider community of stakeholders and experiment further in science engagement **Tools and methods exploited**: Pilots' prototypes were tested in intended context and close to expected performance **Target audiences**: EU projects (mainly participating co-creation labs), innovation agencies, co-creation practitioners **Benefits for target audiences**: Provision of framework for organising outreach activities to enhance further public engagement **Short term exploitation**: Stakeholder engagement by the SISCODE labs to take inspiration from target audiences. **Preconditions for long term exploitation**: N/A
WP4	Design for policy makers workshops [45], [46], [47]	**Content**: These were a set of 11 workshops conducted by several partners to engage policymakers around co-creation. The aim of these activities was to unfold barriers and enablers of co-creation in policymaking by analysing the results of the SISCODE pilots in relation to engagement of policymakers and the findings from WP4 to explore interaction between bottom-up and top-down approaches in policy making. **Tools and methods exploited**: Co-creation methods to implement workshops for stakeholder engagement and knowledge gained from WP1 and WP2 on the mapping and assessment of co-creation ecosystem and initiatives. In addition, the results of the polit experimentations from WP3 was used in the analysis of the workshop outcomes. **Target audiences**: Policymakers, co-creation practitioners, researchers, EU project managers and academics **Benefits for target audiences**: Provision of new knowledge and new approaches to design for policy, which would enhance capacity to support future formulation of co-creation initiatives and

[45] Policy making in a changeable world: Design for policy (blogpost): https://siscodeproject.eu/article/policy-making-in-a-changeable-world-design-for-policy/

[46] Workshop with policymakers: User-centered co-creation and co-design methods in healthcare (blogpost): https://siscodeproject.eu/article/workshop-with-policymakers-user-centered-co-creation-and-co-design-methods-in-healthcare/

[47] Can we co-create climate futures? (blogpost): https://siscodeproject.eu/article/can-we-co-create-climate-futures/

WP	Activities	Description
		institutionalisation co-creation through bottom-up approaches to policy making. **Short term exploitation**: The results of the workshops with policymakers were used in the development of D4.1 which provides a new knowledge. The recommendations and lessons learnt will be applied in the events of the final conference. **Preconditions for long term exploitation:** Availability of the result from the workshops in the form of D4.1 in an open platform; application of the recommendations found through the WP4 activities.
WP5	Focus group	**Content**: A two-hour session with four experts who are practitioners and researchers to discuss the development of the Interactive Guidebook through mapping of existing guides and toolkits and identification of needs from other projects and initiatives. **Tools and methods exploited**: SISCODE co-creation toolbox and model plus the assessment framework developed in WP3 as D3.5 to engage with key stakeholders and tools from other initiatives such as the D-Think tool, RRI Tools, FIT4RRI, SILearning and Social Innovation toolkit. **Target audiences**: EU project managers and representatives, social innovators, policymakers, researchers and co-creation practitioners. **Benefits for target audiences**: Participate in the mapping of existing co-creation methods and tools, and take part in the development of a guidebook that would assist practitioners and researchers or project managers find the best tools for their co-creation activities **Short term exploitation**: N/A **Preconditions for long term exploitation**: N/A
WP6	CoRRI Forum prototyping: Cycles of workshops[48]	**Content**: In order to implement the CoRRI Forum as a sustainable output of SISCODE, a series of workshops were conducted online in 2020 as prototyping sessions of CoRRI. The workshops were a platform to engage with potential users and members of CoRRI in the long run through hands-on activities that exploited the SISCODE project's results. **Tools and methods exploited**: SISCODE co-creation journeys and the SISCODE co-creation journey toolbox.

[48] All events accessible online via SISCODE News section: https://siscodeproject.eu/news/

WP	Activities	Description
		Target audiences: Policymakers, co-creation labs, innovation communities, EU projects, citizens, researchers, academia, co-creation practitioners and managers, among others. **Benefits for target audiences**: Policymakers get access to a large pool of practitioners, labs and networks which could be mobilised to support policymaking; Provision of services to policymakers such as toolkits and other training material to engage in R&D in co-creation; The general public obtains access to a range of material that increases their awareness in the co-creation processes and perhaps, empowerment to partake in the decision-making process. **Short term exploitation**: The workshops of CoRRI were open to the public in which all the SISCODE labs contributed as facilitators using the knowledge and skills gained through their co-creation journeys. **Preconditions for long term exploitation**: The exploitation of the workshops would be done through the dissemination of D6.3 which contains the procedures and findings of the CoRRI series of workshops.
	Exploitation workshops[49]	**Content**: Monthly workshops and webinars implemented in the last five months of SISCODE organised to build up understanding and capacity of participants through hands-on co-creation activities using SISCODE exploitable results. **Tools and methods exploited**: SISCODE prototypes, MOOC, Case studies and biographies from WP2 and Toolkit for policy workshops. **Target audiences**: EU projects, research and innovation communities, project managers, academia, citizens, students,innovation community members, co-creation practitioners, among others. **Benefits for target audiences**: Participants gain better understanding into methods and tools they can use to develop co-creation initiatives and generate user-centric solutions to address a wide range of societal challenges. **Short term exploitation**: The online events were implemented for the sole purpose of exploiting and disseminating exploitable results of SISCODE. **Preconditions for long term exploitation**: N/A

[49] All events accessible online via SISCODE News section: https://siscodeproject.eu/news/

WP	Activities	Description
	Business model workshops	**Content**: Two 2.5-hour-long workshops aimed at engaging relevant stakeholders in establishing a strategy to the exploitation of key exploitable results from the SISCODE project. **Tools and methods exploited**: Case studies and biographies from WP2, SISCODE Co-creation Journey Toolbox and Model and SISCODE Assessment Report from WP3, SISCODE learning hub from WP4, Tips & Tricks from WP6 and the MOOC from WP7. **Target audiences**: SISCODE partners, labs and their close networks **Benefits for target audiences**: Developed business models provide knowledge for the establishment of and support in fostering sustainability of specific exploitable results and outcomes of SISCODE. **Short term exploitation**: Apart from the analysis of the existing KERs, the business modelling workshops were used to sensitise the partners about some of the tools and methods that were recently developed and had not been fully known to some stakeholders. Thus, the workshops served as info-sessions and allowed the partners to reflect on how they can best utilise the key exploitable results in their activities. **Preconditions for long term exploitation**: Accessibility of all the key exploitable results for external and project partners in the long-run.
WP7	Final conference[50]	**Content**: A five-day virtual event led by the contributing partners to WP7. The event of each day is divided into two sections: i) presentation of the exploitable results with a speaker and ii) a co-creation session with the conference attendees using co-creation tools. The tentative topics of each day are: Day 1) Developing a culture of co-creation with citizens; Day 2) Design for policy – reimagine futures and co-creating solutions; Day 3) Letting go of power - How do we make sure EVERYONE is involved throughout the co-creation process?; Day 4) Co-Creation Ecosystems - Enabling collaboration for sustainable cities; and Day 5) Co-creating a manifest for future responsible policy making. **Tools and methods exploited**: To be confirmed **Target audiences**: All stakeholders of the SISCODE project. **Benefits for target audiences**: To be confirmed

[50] SISCODE Final Conference (3-7 May 2021): https://siscodeproject.eu/article/siscode-final-conference-3-7-may-co-creating-human-centered-policies-for-a-better-europe/

WP	Activities	Description
		Short term exploitation: N/A **Preconditions for long term exploitation**: The results of the conference will be compiled into a manifesto which will have a digital public signoff and disseminated online. A common platform for the dissemination as well as a commitment by the SISCODE partners to disseminate if post-SISCODE will be needed.

4.4. Stakeholders' engagement & new partnerships

Stakeholders' engagement & new partnerships are verbal or written agreements in which partners and labs of SISCODE have developed new networks or alliances with each other or external stakeholders to collaborate in future undertakings. These are not formal agreements that are contractually binding but advantageous connections that could be exploited for joint activities. New partnerships are mostly developed through direct interaction among internal and external stakeholders that result in alignment of objectives and actions. As the project activities that deal with the majority of the interaction with stakeholders, these partnerships occurred through the SISCODE labs' co-creation journey and stakeholder engagement in WP3, policy workshops in WP4, cross-project interaction in WP5 and the activities of the CoRRI Forum in WP6. The new partnerships are classified into three types or categories:

- Partnership created **one on one** which would support capacity building and training
- Partnership at **project level** for launch of initiatives with common objectives and grounding that would have greater impact and wider reach accomplished through combined efforts
- Partnerships are **inter-organisational** or **transnational levels** that are present across different organisations and countries in Europe and beyond that would result in the development or extension of networks and broadening of outreach for all stakeholders involved.

Table 17. List of exploitable partnerships or alliances from all WPs

WP	Types of Partnership	Description
WP3	Individual level and inter-organisational level	**Context:** The partnerships or alliances created under WP3 come from the SISCODE labs and their direct interaction with peers and external stakeholders such as local policymakers, municipalities, academic institutions, National Councils, among others. Although not all the labs or pilots have already gained interest from potential partners or investors, some have already established promising

WP	Types of Partnership	Description
		partnerships that can further the implementation and sustainability of the solutions. **Group:** SISCODE labs **Stakeholders involved:** Different stakeholders have shown interest to promote, exploit or enhance the work or solutions of different labs e.g., National Council Curriculum and Assessment within the Department of Education and Skills in the Republic of Ireland for SGD; Municipality of Voerendaal for Cube; and Municipality of Thessaloniki Day Care Centers for Older Adults for ThessAHALL. **Benefits for target stakeholders:** The benefits of the stakeholders differ from one case to another. However, as prototypes or solutions that tackle societal challenges, the majority of the advantages lie in scaling the tested and validated solution for its application in different local and national initiatives. **Short term exploitation:** Some of the labs such as SGD and Maker have indicated collaboration with the interest holders had begun with the duration of SISCODE. However, further exploitation of each case has not been conducted. **Preconditions for long term exploitation:** This is highly dependent on the availability and interest of the SISCODE labs post-SISCODE. Financial and economic support as well as innovation capacity will be needed to sustain the solutions.
WP4	Individual level	**Context:** The OECD Smart City Co-creation Workshop brought together stakeholders from a variety of fields (municipal government to policy researchers in academia) where they shared and exchanged their insights from past co-creation projects implemented, together with perspectives on future development actions with respect to the Smart City and Smart Mobility project in Latvia. Spread out over two parts (namely an international component and a co-creation component), participants could brainstorm key potential challenges faced in co-creation and apply design thinking principles in scenario-based exercises. **Group:** Co-creation and smart city experts **Stakeholders involved:** Municipal governments, private organisations, academic researchers, senior civil servants including the deputy heads and directors of Latvia's environmental

WP	Types of Partnership	Description
		and education ministries. The Investment and Development Agency of Latvia (LIAA)[51], OECD[52] and the Danish Design Centre (DDC) hosted the event. **Benefits for target stakeholders:** Workshop participants were able to acquire new insights and explore opportunities to increase citizen engagement in implementing smart city initiatives. Aspects such as establishing proper communication between stakeholder organisations and citizens were also addressed. **Short term exploitation:** A Panel of experts laid out a possible framework on future actions that may be taken to further develop Latvia's smart city initiative, emphasising on citizen involvement in the early stages and organisation of workshops at the local municipal level. Solutions developed by workshop participants to enhance Latvia's smart city project (introduction of a green tech incubator and public access of GIS based information) were also presented and may be integrated for the city's future plans. **Preconditions for long term exploitation:** Insights and solutions generated in this workshop should be integrated into Latvia's smart city development plans and explored as this would open up additional opportunities for exploration in subsequent workshops and meetings.
WP5	Project level	**Context**: RRI is in need to develop a community to share, exchange and discuss the amount of information and knowledge gathered in the different projects engaging in Science with and for Society (SwafS). This space has been set up by the SUPERMoRRI (Scientific Understanding and Provision of an Enhanced and Robust Monitoring System for RRI) as an active and co-created ecosystem. Since October 2019 the ecosystem meets virtually every two months. **Group**: Ecosystem of RRI-related SwafS projects

[51] Investment and Development Agency of Latvia (website): https://www.liaa.gov.lv/en
[52] Organisation for Economic Co-operation and Development (website): http://www.oecd.org/

WP	Types of Partnership	Description
		Stakeholders involved: CHERRIES, Co-change[53], CS Track[54], DigiTeRRI, eu-citizen.science[55], FIT4FOOD, GRACE[56], I am RRI[57], MICS, multi-act, New HoRRIzon[58], On meRRIt[59], Orbit, PRISMA[60], QUEST, reTHINK[61], RRI Tools[62], RRI2SCALE, SeeRRI, SHERPA, TeRRItoria[63], TeRRIFICA[64], TRANSFORM[65], WeObserve and SISCODE. **Benefits for target stakeholders**: Discuss topics in relation to RRI and SwafS. The topics cover a wide range of fields and are generated and chosen based on previous meetings and upcoming issues. **Short term exploitation**: The regular meetings conducted are used as a platform to discuss and exchange knowledge from the SISCODE project to other EU projects. **Preconditions for long term exploitation**: Partners of the SISCODE project to commit to the continuation of the communication with the Ecosystem of RRI-related SwafS projects; agreement for the SwafS project that are in continuation to allow members of the SISCODE project to participate in the meetings post-SISCODE.
	Project level	**Context**: Deriving from the requirement that territorial SwafS 14 projects need to develop a Monitoring and Evaluation plan throughout the course of the project, a series of bi-monthly meetings among participating projects has been initiated. The final aim of this group is to co-create a monitoring and evaluation plan for SwafS 14 projects analysing a variety of different challenges and findings in planning, conducting and elaborating activities in relation to assessment. SISCODE decided to join this group despite

[53] H2020 Co-change (website): https://cochangeproject.eu/
[54] H2020 CS Track (website): https://cstrack.eu/
[55] H2020 EU-citizen.science (website): https://eu-citizen.science/
[56] H2020 GRACE (website): http://grace-rri.eu/
[57] H2020 I AM RRI (website): https://cordis.europa.eu/project/id/788361
[58] H2020 NewHoRRIzon (website): https://newhorrizon.eu/
[59] H2020 On MeRRRIt (website): https://on-merrit.eu/
[60] H2020 PRISMA (website): https://www.rri-prisma.eu/
[61] H2020 ReTHINK (website): https://www.rethinkscicomm.eu/
[62] H2020 RRI Tools (website):https://www.rri-tools.eu
[63] H2020 TeRRItoria (website): http://territoriaproject.eu/
[64] H2020 TeRRIfica (website): https://terrifica.eu/
[65]H2020 TRANSFORM (website): https://www.transform-project.eu/

WP	Types of Partnership	Description
		not being part of the SwafS 14 to activate an exchange with a specific focus on monitoring and evaluation practices contributing to the results of its own assessment activities. **Group**: Monitoring & Evaluation in SwafS 14 projects **Stakeholders involved**: SISCODE, TRANSFORM, SeeRRI, TeRRItoria, RRI2Scale, CHERRIES, TeRRIfica, DigiteRRI and TetRRIs **Benefits for target stakeholders**: Development of a common approach for monitoring and evaluation for challenges and findings. **Short term exploitation**: SISCODE's results from assessment activities have been shared with other EU projects that are members of the SwafS group. **Preconditions for long term exploitation**: Partners of the SISCODE project to commit to the continuation of the communication with the Monitoring & Evaluation in SwafS 14 projects for the purpose of exchanging know-how, recommendations and lessons learnt; Agreement for the SwafS project that are in continuation to allow members of the SISCODE project to participate in the meetings post-SISCODE.
WP6	Individual and project level	**Description:** The creation and implementation of a community of practice with project partners and external stakeholders through the prototyping of the CoRRI Forum gathered a large number of interest holders. As an initiative of SISCODE, the CoRRI Forum is implemented and sustained through co-ownership by its stakeholders. The final action plan for the CoRRI Forum will be finalised in April 2021, in which the members of the community of practice would commit to the sustainability of CoRRI. **Group:** Target stakeholders of SISCODE **Stakeholders involved:** SISCODE partners and labs, policymakers, representatives of the EC, other EU projects, citizens, co-creation practitioners and researchers or academia. **Benefits for target stakeholders:** Share insights and exchange know-how through the activities conducted under CoRRI. **Short term exploitation:** The CoRRI Forum was implemented in 2020 through a series of workshops in which diverse groups of

WP	Types of Partnership	Description
		stakeholders participated. This was followed by two sustainability strategy workshops with internal and external stakeholders to measure the interest of CoRRI's potential end-users. **Preconditions for long term exploitation:** Commitment from key stakeholders as co-owners and co-implementers of CoRRI beyond SISCODE as well as a robust action plan for the sustainability of the initiative.

4.5. Innovative solutions (new products/services)

Innovative solutions are the results of the SISCODE project developed by the 10 co-creation labs under WP3. The SISCODE co-creation labs used the SISCODE co-creation journey as their fundamental starting point for the implementation of their co-creation process and production of prototypes conducted in 18 months of the project. The SISCODE co-creation journey follows four phases: **Context Analysis, Problem reframing, Alternative solutions and Prototyping.** Each lab had its own societal challenges to address, geographical and societal scope, target audiences and end-users. The overall aim of the labs was to co-design and produce functioning prototypes of solutions that address societal problems within a specific geographical region of Europe. The solutions aspired to be technologically, organisationally, procedurally and culturally viable solutions, ready to be adopted and modified by users in real contexts together with the network of stakeholders involved. The prototypes were then implemented through experiments at local level in order to test, validate and modify them for long-term application. Thus, the prototypes are co-owned products or services that can be further exploited by the SISCODE labs or external stakeholders after the project duration.

Conversely, not all of the prototypes have a high exploitability rate as some are sector and community and challenge-specific and would require a substantial amount of effort to scale to other geographic, demographic and socio-economic areas. The most exploitable prototypes and co-creation processes are selected based on whether a concrete and tangible product that can be replicated, applied or scaled beyond SISCODE was produced. The most exploitable prototypes and co-creation processes are described below (Table 18).

Table 18. *List of exploitable innovative solutions developed under WP3*

Developers	Type of exploitable results	Description
SGD[66]	New knowledge and new educational material	**Solution**: **OPEN MIND - Educational module** is a prototype that is aimed at teachers for in-school implementation. The programme aims to develop students' understanding of mental health and to equip youth with tools to manage their mental wellbeing, with a focus on the importance of nurturing personal hobbies and interests. The module combats the current gap of mental health resources available to senior cycle students, and to equip students with tools as they embark into an academic period. The content developed includes free activity plans for teachers including slides, posters, worksheets, and video content. **Technology readiness**: Non-commercial application setup (TRL8) **Target audiences**: Students, mental health professionals and patients, mental health charities and activists, teachers and parents, schools, researchers, youth and policymakers. **Benefits for target audiences**: Open communication about mental health and its effects in communities, social inclusion, rehabilitation measures for mental health patients and tools and guides for teachers to use for training and share insights. **Accessibility:** The solution is available online and can be used autonomously; some interaction is needed with the co-creation lab (e.g., provision of links; training). **Short term exploitation**: Training sessions for teachers on the materials and programme to make them self-sufficient in using the solution; the knowledge gained in the prototyping stage was used in the events of the CoRRI Forum. **Preconditions for long term exploitation**: Availability of the materials on open and multiple platforms and possible free training sessions for new teachers by the designers of the solution.

[66] Science Gallery Dublin (website): https://dublin.sciencegallery.com/

Developers	Type of exploitable results	Description
Polifactory[67]	New method and new process	**Solution**: To tackle Cerebral Palsy (CP) in children through, a video game called BODYSOUND System (web) which is creating playful situations that stimulate the physical reactivation of children with dance and music activities. The prototype, through a body-tracking system, is able to calibrate the exercises on the basis of the child's mobility, monitor praxis and motor coordination, training times and frequency of its use, while recording the movements and comparing their accuracy and speed of execution. **Technology readiness**: Non-commercial application set up (TRL8) **Target audiences**: Children and patients with CP, medical and sports professional, health caregivers, digital innovators, digital service designers and rehabilitation centres **Benefits for target audiences**: Use of a child-friendly rehabilitation tool and developing visual motor coordination. **Accessibility:** The solution is digital social innovation that has a potential to be both commercialised and used in research and innovation practice as an open access. The free version doesn't necessarily have any interaction with the co-creation lab. **Short term exploitation**: Applied in service co-design workshops in SISCODE and the lessons learnt from the co-creation journey were used in the CoRRI Forum workshops. **Preconditions for long term exploitation**: Refinement of the BODYSOUND web to validate the solution, data collected and their accuracy; validate the relevance and quality of the chosen exercises with therapists; development of the BODYSOUND pro for the train at schools and sports centres.

[67] Polifactory (website): https://www.polifactory.polimi.it/en/

Developers	Type of exploitable results	Description
KTP[68]	New knowledge and new process	**Solution**: A platform for monitoring industrial pollution to be used by companies to show and inform about levels and specific incidents regarding emission of air pollutants. The prototype can be used by administrations and citizens to monitor and obtain information on industrial pollution in specific areas. The created platform was a response to the need of the regional authorities to have one comprehensive tool for the data entry and monitoring of industrial pollutants. **Technology readiness**: Prototype tested in intended context and close to expected performance (TRL6) **Target audiences**: Policymakers, environmental activists, government representatives, NGOs, researchers, engineers, private organisations and social innovators **Benefits for target audiences**: A strategic legislative document that structures the main rules, restrictions, instruments and actions which should be undertaken in the region in the next 7 years to improve the quality of air in the region. **Accessibility:** This solution is co-owned by the co-creation lab that has all the interest in scaling the solution out to new territorial contexts. **Short term exploitation**: The knowledge gained from the co-creation journey was used in stakeholder engagement through the CoRRI Forum; the prototyping phase was conducted through public consultations for over seven months in five major cities of the Małopolska region in Poland. **Preconditions for long term exploitation**: Expansion of the pilot programme across and beyond Poland and implementation of lessons learnt into the final international platform for monitoring industrial pollution.

[68] Krakow Technology Park (website): https://www.kpt.krakow.pl/en/

Developers	Type of exploitable results	Description
Maker[69]	New knowledge and new process	**Solution**: Plastic In Plastic Out Ecosystem model (PIPO) is a community built ecosystem model for local circular initiatives working with and promoting relevant local actors within the field of small scale circular economy. PIPO aims to inspire co-design and develop circular products and materials locally in Copenhagen. PIPO is an initial methodological and practice-oriented toolkit for co-creating the circular economy in Copenhagen. **Technology readiness**: Non-commercial application setup (TRL8) **Target audiences**: Designers, companies and makers working within the circular economy, material recycling and the plastic recycling sector; Municipalities and local policymakers in STI **Benefits for target audiences**: Gather knowledge on circular economy and plastic recycling; connect circular initiatives to municipal agendas for application in communities; empowering communities to contribute to sustainability agendas. **Accessibility:** The solution will be promoted online as open-access and co-creation lab will encourage dialogue with anyone interested to learn more about the plastic upcycling process. **Short term exploitation**: Co-created with local industry and innovation communities to prototype recycled plastic sheets; conducted community engagements and education activities to transfer knowledge and skills to local stakeholder; the lessons learnt from the prototyping phase were used in the development of MOOC **Preconditions for long term exploitation**: Develop a scaling strategy at an international level for scaling out; development of dissemination channels for outreach to external stakeholders.

[69] Maker (website): https://maker-effekt.dk/viadukten/

Developers	Type of exploitable results	Description
Thess-AHALL[70]	New knowledge and new process	**Solution**: Implementation of the Partners of Experience programme that is a life-long, learning and experiential research programme for older adult early-stage researchers to address everyday living challenges of them and their society. **Technology readiness**: Non-commercial application set up (TRL8) **Target audiences**: Retirement homes and caregivers, elderly people, human rights activists, educators, municipalities, medical professionals, researchers, policymakers, academics and scientific communities. **Benefits for target audiences**: Improvement of social inclusion and well-being of older adults, promotion of open academia and citizen science to boost local and community-based innovation and reduce ageism and stigmatisation. An illustrated handbook including all the different steps of the proposed methodology, the solution Blueprint and main lessons-learnt & tips that can be used for the replication of the co-creations processes. **Accessibility:** This solution is co-owned by the co-creation lab that has all the interest in scaling the solution out to the new territorial contexts. **Short term exploitation**: Six different life-long learning and experiential research activities such as co-creation sessions, educational visits, cultural visits, outdoor activities, online sessions and seasonal events were used to exploit the pilot; the knowledge gained from the co-creation journey was used in stakeholder engagement through the CoRRI Forum. **Preconditions for long term exploitation**: Further evaluation of the solution and reassessment of the methodology in similar targeted populations and contexts

[70] Thess-AHALL (website): https://aha-livinglabs.com/

Developers	Type of exploitable results	Description
Fab Lab Barcelona[71]	New knowledge, methods and educational materials	**Solution**: Production of reusable materials from food leftovers through the implementation of local learning ecosystems that give new life to food leftovers and prevent food waste. The aim is to foster and sustain local synergies about micro-fabricating a series of useful products and inspiring local communities toward social bio-design and distributed manufacturing. A set of tools developed to disseminate the learning outputs such as Gitbook (https://flbcn.gitbook.io/remix-el-barrio/) **Technology readiness**: As a circular system that consists of various solutions the technology readiness levels range between 6 and 8. **Target audiences**: Social communities, small and large businesses, schools, EU project addressing food waste and bio-design, municipalities, social service designers **Benefits for target audiences**: Development of several highly concrete materials such as Gitbook with instruction on how to reapply the co-creation journey, a policy brief about circular transformation of local ecosystems, video tutorials the process of making biomaterials and activism campaign kit. **Accessibility:** The incubation programme is co-owned and facilitated by the co-creation lab that has all the interest in scaling this part of the solution to the new territorial contexts. The recipes and exhibitions are accessible online and can be used as inspiration, new knowledge and know-how on how to reduce food waste. **Short term exploitation**: The prototype was used in a 3-hour workshop with local stakeholders to develop ceramics from egg shells as a way to demonstrate a pilot process; the prototype and knowledge used from the co-creation journey was used in the exploitation and CoRRI Forum workshops designed for public and stakeholder engagement. **Preconditions for long term exploitation**: Appropriate dissemination strategy needs to be

[71] Fab Lab Barcelona (website): https://fablabbcn.org/

Developers	Type of exploitable results	Description
		developed to reach and inspire other localities and further research is needed to measure the quality of the materials, environmental performance, compostability and cost.
Ciência Viva[72]	New knowledge, process and educational material	**Solution:** An online learning and engagement module focused on boat design through co-creation with a learning and engagement module focused on boat design, building and co-creation skills as well as dissemination. **Technology readiness:** Prototype tested in intended context and close to expected performance (TRL6) **Target audiences:** Schools, festival organisers, sport associations, health activists, researchers, citizens and policymakers. **Benefits for target audiences:** Public engagement with the river; online learning and engagement module focused on boat design, building and co-creation skills, social inclusion and peer-to-peer learning **Accessibility:** This solution is co-owned by the co-creation lab that has all the interest in scaling the solution from digital to physical formats and vice versa. **Short term exploitation:** Kayak demos and workshops were conducted for the general public at the museum and the knowledge used from the co-creation journey was used in the exploitation and CoRRI Forum workshops designed for public and stakeholder engagement. **Preconditions for long term exploitation**: Solution yet to be fully validated and a strategy for the transfer of technical skills from designers to students needs
CUBE[73]	New method and new process	**Solution:** Co-Design Canvas is designed as a physical conversation tool, consisting of eight cards that represent eight variables influencing the co-design process. This includes the context, the (initial) purpose

[72] Ciência Viva (website): https://www.pavconhecimento.pt/
[73] CUBE (website): https://www.cubedesignmuseum.nl/

Developers	Type of exploitable results	Description
		of change, stakeholders, results, impact, co-design focus, and the co-design settings and activities. Ultimately, it is intended that the Co-Design Canvas would assist the municipality of Voerendaal and citizens of Ransdaal in effective coordination and collaboration of grassroots initiatives via facilitation of an open, transparent dialogue. **Technology readiness:** Prototype tested in intended context and close to expected performance (TRL6) **Target audiences:** Policymakers, community innovators, citizens, social designers, municipality offices, researchers and service designers. **Benefits for target audiences:** Bringing collective wisdom to address societal challenges, opening dialogue between innovators, policymakers and end-users, inform on how to improve empathy and share power in co-design processes. A Ready-to-use kit for the Co-design canvas that is free and public. **Accessibility:** This solution is accessible to anyone under Creative Commons license (https://siscodeproject.eu/wp-content/uploads/2021/03/Co-Design-Canvas_EN_2021.pdf). **Short term exploitation:** The canvas was used in exploitation events of SISCODE results to engage stakeholders and the prototype was tested through virtual meetings with citizens and municipalities. **Preconditions for long term exploitation:** Availability of the canvas on multiple platforms with instructions and guidelines in English and Dutch.
Traces[74]	New process	**Solution:** AI as Co-spectactor is a protocol for accompanying AI apps to visit museums, theatres, live events and discover how they "see" the world. It is done through a procedure to support an audience to engage with AI in the setting of a cultural event, thus enabling

[74] Trace (website): https://siscodeproject.eu/traces/

Developers	Type of exploitable results	Description
		them to discover the way humans can live a co-spectatorship with AI. Through this experience, the prototype offers ways of informing various communities of artists and science facilitators on innovative ways of exploring the issue of co-spectatorship among human beings and artificial agents. **Technology readiness:** Prototype tested in intended context & close to expected performance (TRL6) **Target audiences:** Students, citizens, social innovators, teachers, researchers and academics. **Benefits for target audiences:** Shift in mindset of users of AI that the key to understanding the approach of accompanying AIs not as assistants but as co-spectators of a complex reality. **Accessibility:** This solution is developed as a trigger for dialogue and the information about it can be utilised to inspire critical thinking towards Artificial Intelligence. **Short term exploitation:** The canvas was used in exploitation events of SISCODE result to engage stakeholder **Preconditions for long term exploitation:** Availability of the materials of the solution in other European languages such as English; further experimentation and application of lessons learnt.
Biosense[75]	New knowledge and educational material	**Solution**: PA4ALL introduced precision agriculture tools in high schools specialised in agriculture by presenting its benefits and encouraging high school students as well as teachers and school principals to uptake new trends and innovations and installing one meteostation in one school in Novi Sad. **Technology readiness**: Prototype tested in intended context & close to expected performance (TRL6)

[75] Biosense (website): https://biosens.rs/?page_id=12613&lang=en

Developers	Type of exploitable results	Description
		Target audiences: High School and vocational training students, teachers and educators, farmers, innovation communities and **Benefits for target audiences**: An educational learning module for high schools to integrate precision agriculture activities and implement a wider knowledge of ICT. **Accessibility:** This solution is co-owned by the co-creation lab that has all the interest in scaling the solution out to the new territorial/school contexts. **Short term exploitation**: Prototyping and testing conducted with students to start using the platform, online activities to help teachers, students and advisory organisations of the agriculture sector to provide feedback about the platform and learning experiences; and knowledge used from the co-creation journey was used in the exploitation and CoRRI Forum workshops designed for public and stakeholder engagement. **Preconditions for long term exploitation**: Expansion of the activities inside and beyond Serbia through national and EU projects; opening of close dialogue with national policy makers.

5. Selection of key exploitable results

In total, SISCODE would develop over 60 concrete results, over half of which are exploitable results as was seen in chapter 4. However, exploitability of each result differs depending on several factors i.e., their potential to be self-sustainable, the format in which it is presented and its readiness to be easily disseminated, applicability to a higher number of different contexts and accessibility through known and open-source channels. These four factors were used to identify the Key Exploitable Results (KERs) from the range of 53 exploitable outcomes and outputs listed in Chapter 4. The rationale for the use of these factors is based on the simple fact that once the SISCODE project concludes, activity dissemination and exploitation of the project results by the project partners would be gravely limited to partners' links with KER and its use in new international projects. Thus, it is highly vital that the KERs have majority or all of the following characteristics:

- Technology readiness level between 6 to 8 for non-commercial use, except for the new knowledge (basic/applied research)
- Presented in a tangible and user-friendly format for dissemination through various channels and are accompanied by a set of instructions to assist the users to apply them without formal or official training
- Versatile and can be applied in at least more than one context to serve the same or different purposes to that for which they were initially designed
- Relatable to good real-life examples or case studies which can be used as guidelines or recommendations for the application of the exploitable results in different contexts
- Have gathered a decent amount of interest from target audience
- Accessible through known and open-source platforms visible to target audiences
- Socio-economic benefits with track evidence in either co-creation journeys or other SISCODE activities (e.g., CoRRI, WP4 workshops, online course)

5.1. Prototypes as KERs

All 10 prototypes as innovative solutions fit to the afore-mentioned criteria. However, they are a special type of key exploitable results. Their exploitation potential highly relies on the SISCODE partner and their actions as the key co-facilitator. In the cases of KTP, Thess-AHALL, BioSense, Ciência Viva, and Polifactory, they are actively involved in further exploitation and scaling of the solutions. SGD, Fab Lab Barcelona and Maker aspire to collaborate with others, but their KERs do not necessarily require engagement with the co-creation labs. Traces has developed a prototype which inspires critical thinking on the stakeholder engagement and experimentation and is not necessarily a tangible solution that requires further exploitation. CUBE has developed a self-sustaining Co-design Canvas which can be exploited by anyone and therefore is considered as one of the KERs. Nevertheless, the sustainability of these solutions has been already integrated in the

process of prototyping and development through co-creation with all relevant stakeholders. This means that these participatory processes were tasked to ensure that the solutions are feasible, valuable and could be used as new knowledge, methods, tools, activities and synergies on the long-term by SISCODE co-creation labs and their networks. They were thus, systematically, built and utilised as a playground to address and validate gaps encountered in the literature review, desk research, internal and external events. These innovative solutions have been founded on the pillars of SISCODE's theoretical and operational framework and their insights can be considered as new knowledge, already described in WP3 deliverables dedicated to co-creation journeys.

5.2. Final selection of KERs

In total, there are 14 KERs of the SISCODE project that correspond to the aforementioned criteria:

New knowledge (see chapter 4.1)

- D2.2 Case studies and biographies: a European landscape of myriad examples of good practice of creating and sustaining co-creation ecosystems
- D3.5 Assessment report: Assessment indicators and tools for monitoring and data analysis of content/activity produced in co-creation journeys which can be extracted and utilised for policy making and science
- D4.1 Design for Policy Making: Recommendations for the engagement of policy makers in the co-creation practice
- D6.3 CoRRI Network: New approach to creating informal and online community of practitioners

New methods and tools (see chapter 4.2)

- Co-creation Journey Model
- Manifesto
- Massive Open Online Course
- SISCODE Co-creation Journey Toolbox
- SISCODE Learning Hub
- Tips and Tricks
- Interactive Guidebook

New partnerships (see chapter 4.4)

- CoRRI Forum, informal and online community of practice
- Transnational system of co-creation labs

Prototypes/Innovative solutions (see chapter 4.5)

- Co-design Canvas

The abovementioned KERs are described further below and will be evaluated to weigh their exploitability potential and the changes which can be applied either to the results themselves or to the conditions in which they are disseminated or exploited. The KERs have been clustered into three: New knowledge, Methods and tools, and Prototypes and synergy approaches.

5.2.1. New knowledge cluster

D2.2 CASE STUDIES AND BIOGRAPHIES (Maylandt et al., 2020)[76]

Primary end-users: Researchers and academics.

Secondary end-users: Co-creation practitioners and labs, innovation communities and EU projects.

Technology readiness: N/A

Exploitability potential: There are over 40 case studies and 15 biographies which have been benchmarked and analysed in these documents. Thus far, the cases have been used as sources of knowledge in different activities of SISCODE such as the development of other deliverables in WP3 and WP5 and stakeholder engagement through the exploitation of exploitable results events at the end of SISCODE and the business modelling workshops under WP6 (Figure 5). Through these past activities, it has been very clear that the cases provide an overall view of the application of co-creation at micro and meso level across Europe. As a source of information, the cases are one of the most exploitable and self-sustainable results of SISCODE. However, the case studies are presented in a deliverable of over 800 pages with a condensed amount of information. Thus, this limits their exploitability potential beyond being used as a source of information for research and academia (Figure 6).

Necessary modification to KER to increase exploitability: As the key end-users are researchers and academics, the deliverable is exploitable as it is. However, the deliverable should be actively disseminated through the SISCODE partners, especially those related to academia by citing the cases in their research and availing the document on their organisational platforms.

[76] SISCODE Case studies and biographies (deliverable 2.2): https://siscodeproject.eu/wp-content/uploads/2020/11/D2.2-Case-Studies-and-Biographies-Report_small.pdf

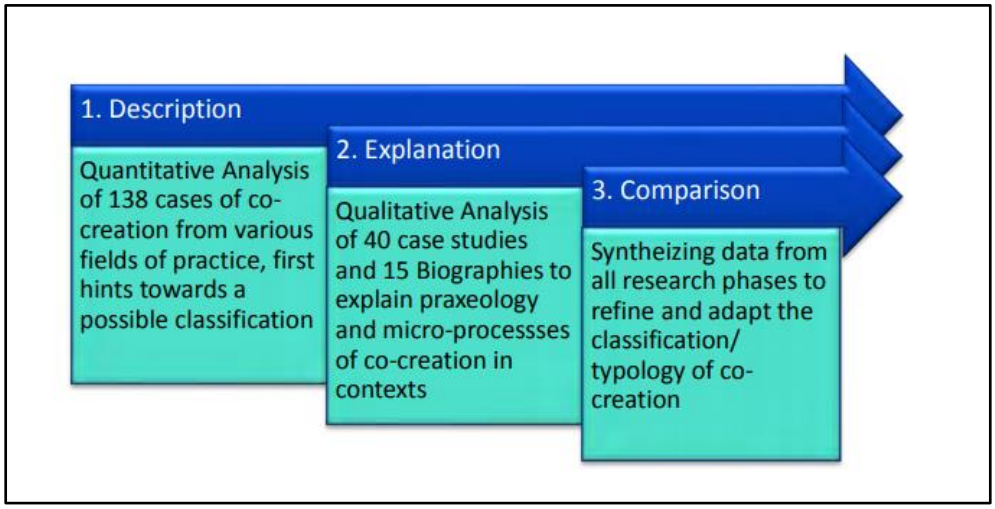


Figure 5. Scheme of data analysis of case studies

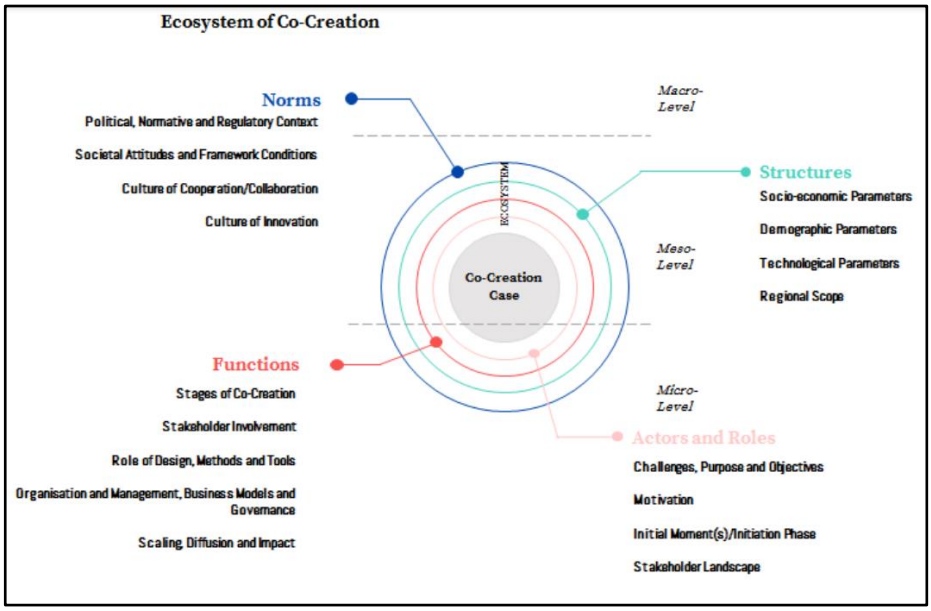


Figure 6. The Scheme of Ecosystem of co-creation

D3.5 ASSESSMENT REPORT (Schmittinger,Deserti, Rizzo & Crabu, 2021)[77]

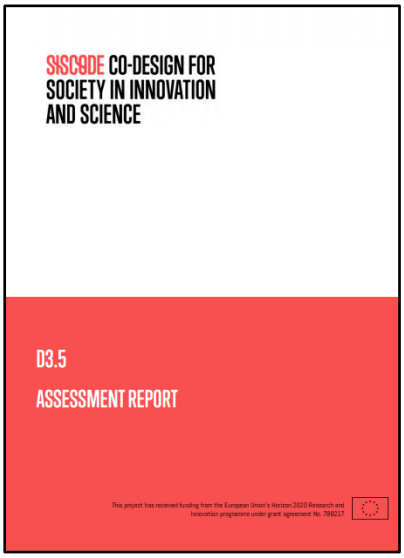
Primary end-users: Researchers, academics, expert co-creation practitioners and EU projects.

Secondary end-users: Innovation communities and co-creation labs

Technology readiness: N/A

[77] SISCODE Assessment report (deliverable 3.5): https://siscodeproject.eu/wp-content/uploads/2021/03/SISCODE_D3.5_Assessment-report_small.pdf

Exploitability potential: As a source of new knowledge, this deliverable can be used as a methodology for the assessment and evaluation of co-creation journeys and their prototypes through the use of different indicators. As one of the deliverables developed at the end of SISCODE, it was not actively exploited through stakeholder engagement activities (Figure 7). This document connects the dots between different EU projects dealing with monitoring and assessing the relevance of the factors affecting the field of RRI. It is a highly relevant document, especially for EU projects and co-creation communities that focus on the field of co-creation and RRI. It has the potential to serve as an approach to monitoring and assessment of co-creation processes as well as the overall assessment of a project's results.



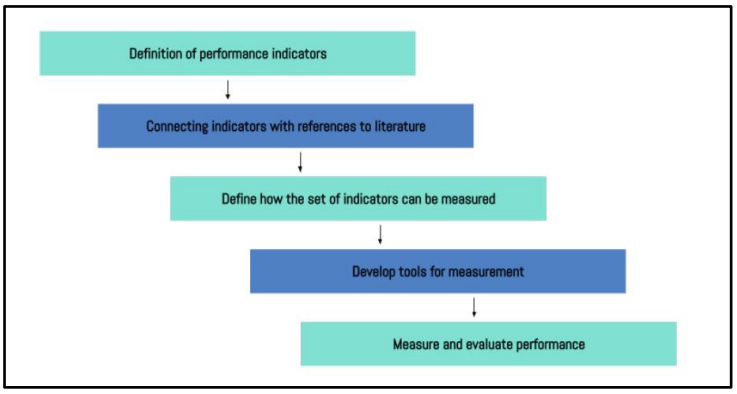


Figure 7. Assessment Report and development process of the assessment framework

Necessary modification to KER to increase exploitability: As a new source of knowledge or a methodology, the deliverable can be exploited in its present state, especially for researchers and academics. However, it needs to be simplified for the use by co-creation practitioners and labs as it focuses more on RRI and it is academic oriented. In parallel to the case studies and biography of SISCODE, the deliverable should be actively disseminated through the SISCODE partners and used as reference in their activities and publications post-SISCODE.

D4.1 DESIGN FOR POLICY MAKING (Bruhn, Hjort, Striegler & Ohland-Andersen, 2021)[78]

Primary end-users: Policymakers, co-creation laboratories

Secondary end-users: Innovation communities and EU projects, policymakers, expert co/creation practitioners, action researchers, public administration, managers and citizens

Technology readiness: N/A

Exploitability potential: The introduction of a strategic playground for policymakers, operative playground for grassroots initiatives and an interactive playground for parties involved would enable greater room for experimentation and prototyping of co-creation approaches and toolkits for subsequent adoption, enhance communication channels and establish neutral grounds for co-creation (Figure 8 and Figure 9). Expertise and internal capabilities for involved stakeholders may also be boosted that would open up greater opportunities for learning and research in the future.

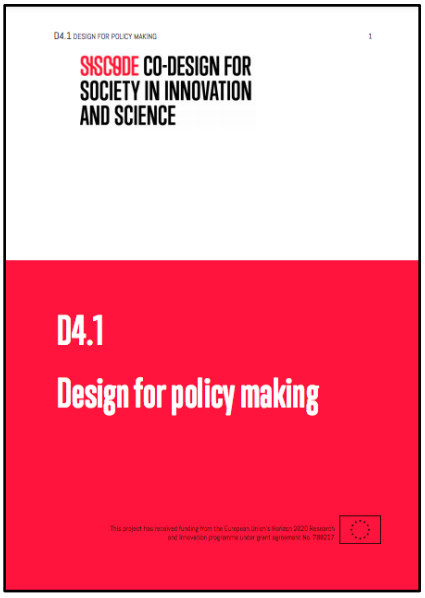


Figure 8. Design for policy making

Necessary modification to KER to increase exploitability: Major barriers to co-creation projects which may hence, stunt innovation and need to be addressed. Among challenges that are identified include overcoming a risk averse organisational culture, asymmetrical power dynamics and lack of mutual trust between the public and policymaking institutions.

[78] SISCODE Design for policy making (deliverable 4.1): https://siscodeproject.eu/wp-content/uploads/2021/03/SISCODE_D4.1_Design-for-policy-making.pdf

Figure 9. Categorisation of the experience and knowledge from policy workshops

D6.3 CoRRI Network (Glumac & Aibu, 2020)[79]

Primary end-users: Co-creation practitioners, innovation communities and EU projects.

Secondary end-users: Managers, co-creation trainers, action researchers and co-creation labs.

Technology readiness: N/A

Exploitability potential: This new knowledge contains the methodology used in the development and implementation of the CoRRI Forum from context analysis to prototyping of the initiative (Figure 10). On its own, the deliverable can be used as inspiration or guide for the implementation of a similar initiative in other EU projects and co-creation labs. In addition, the document contains a detailed explanation of the process in which co-creation was conducted online through hands-on activities and co-creation tools. Depending on the end-users, the document can be used as a complete methodology to implement a community of practice following the SISCODE co-creation journey model or a methodology to apply co-creation online in real-time. Nevertheless, its exploitability is gravely affected by the fact that it has a dense amount of content with the structure of a deliverable rather than a simplified methodology. The document is available in printable and virtual format through the SISCODE website (Figure 11).

[79] CoRRI Forum (deliverable 6.3): https://siscodeproject.eu/wp-content/uploads/2021/03/D6.3-NETWORK-OF-CO-CREATION-LABS-FOR-RRI-CORRI-NETWORK_Small.pdf

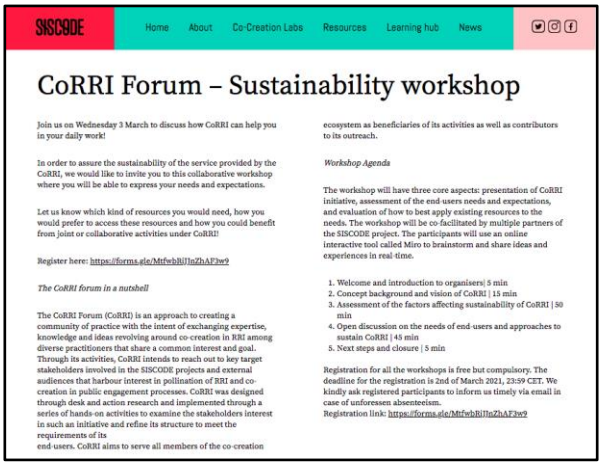


Figure 10. Press Release of CoRRI Sustainability workshop

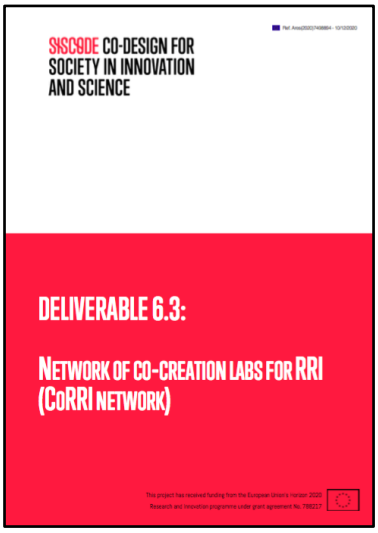


Figure 11. Network of Co-Creation Labs for RRI (CoRRI Network)

Necessary modification to KER to increase exploitability: Deliverables even as sources of new knowledge are not easily digestible and comprehensible materials. Thus, for the deliverable to be used as an applicable methodology to the implementation of a community of practice such as the CoRRI Forum, it needs to be simplified and made into a straightforward methodology with minimal text and clear instructions. In addition, the deliverable misses the aspect of sustainability of CoRRI, which completes the circle of successfully establishing a community of practice. As these aspects of CoRRI are realised at the end of the project and after the finalisation of the deliverable, it is important to include the sustainability activity of CoRRI before selling it as a complete methodology. Moreover, the document needs to be disseminated and made available from a common space after the SISCODE website is shut down.

5.2.2. Methods and tools cluster

CO-CREATION JOURNEY MODEL[80]

Primary end-users: Co-creation practitioners and trainers, policymakers that practice public engagement, action researchers and co-designers.

Secondary end-users: Academia, project managers, innovation community and EU projects.

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: The SISCODE co-creation journey is a unique model for the application of co-creation in the production of a service, product, policy or system (Figure 12). The SISCODE co-creation journey concept has been explicitly described and detailed in the D3.1 as well as complemented with the SISCODE co-creation journey toolbox for its end-users. In addition, the model has been applied by the 10 SISCODE labs in their co-creation journey which are detailed in D3.2, D3.3 and D3.4 to serve as real-life examples for the new users of the model. As a new tool, the model would require the users to have a complete understanding of the different process and how they are linked and what their objectives are. Its exploitation is possible through the SISCODE labs that would continue to use co-creation in their future activities and can apply, modify and enhance the model as well as train others within their networks to use it. However, the model needs to be complemented with sufficient instructions as well as the assessment and evaluation procedure which are vital in any co-creation process.

Necessary modification to KER to increase exploitability: The model should be presented in a format that contains concise instructions and case studies or real-life examples that can support the users of the model and visualise how it has been applied before. Although the model is described in D3.1, a deliverable is not the most user-friendly tool to engage or instruct stakeholders. In addition, the co-creation journeys of the SISCODE labs are explained in D3.2, D3.3 and D3.4, thus, the co-creation model should be presented in a simpler format in correlation with different co-creation journeys depicted as good practices or examples. Similar to the majority of the KERs, a common space to store and preserve as well as avail the content in the long-run will be needed.

[80] Introduction to SISCODE co-creation journeys (blogpost): https://siscodeproject.eu/article/introduction-to-siscode-co-creation-journeys/

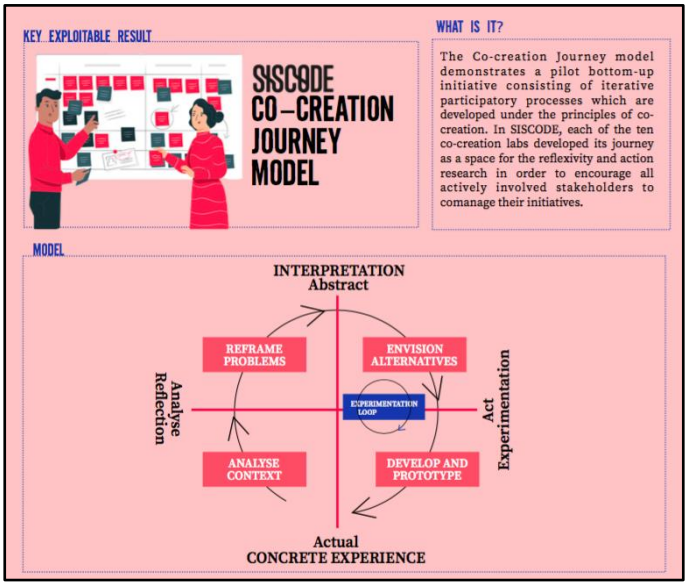


Figure 12. Co-creation journey model with the experimental loop model

MANIFESTO

Primary end-users: Policymakers, researchers and academics.

Secondary end-users: Innovation communities, service designers and public administrations offices.

Technology readiness: By the end of the project, it should be optimised for non-commercial application

Exploitability potential: The added value of the manifesto lies in its content which is co-developed with external stakeholders from diverse professional backgrounds, and its format. The manifesto attracts a specific set of external target stakeholders, policymakers, who are the key beneficiaries of its content. As the key objective of the SISCODE project is to influence the application of co-creation in RRI and policymaking through the use of bottom-up approaches, this manifesto will be one of the final outputs of the project which summarises the overall achievement of SISCODE. The manifesto will focus on the core principles of RRI in policymaking and culminate the set of recommendations for the application of co-creation to address societal challenges. The manifesto will be made into a short video and visual materials with the recommendations, challenges and guiding principles. For the time that the SISCODE website and social media channels are on air, the materials of the manifesto will be primarily disseminated through these means (Figure 13). In addition, all the project partners and labs have the responsibility to actively disseminate the manifesto through their networks and channels. The manifesto will be developed and disseminated in English. The visual materials will be designed

for virtual and residential. As the encapsulating project result, the manifesto can be published in national and international news outlets for higher visibility and outreach. The manifesto can be exploited in co-creation activities as a new knowledge, source of best practices or a methodology to bring project results into one culminating output. It can also be used as a motivational material for the pollination of co-creation in RRI and STI policymaking.

Figure 13. Dissemination of SISCODE Final Conference

Necessary modification to KER to increase exploitability: Due to lack of project funding, the exploitation of the manifesto beyond the project will be left to the motivation and interest of the internal and external users. To aid the partners of SISCODE in this process, the materials of the manifesto can be developed in multiple European languages, starting with those that relate to the project partners. The text on the visual materials can easily and without much cost be translated and disseminated with the option of either using them virtual or printing them. As the production of videos is costly and time-consuming, the original video can be developed with different subtitles which would be done by the project partners. A common space such as a website or repository is needed for the storage of the output in an easily accessible platform. The manifesto can be promoted as a new addition in the SISCODE Learning Hub after its completion and on the websites of individual organisations that co-produced and subscribed to the manifesto.

MASSIVE OPEN ONLINE COURSE[81]

Primary end-users: Tertiary education students, academics, researchers and policymakers.

Secondary end-users: Co-creation labs and practitioners, EU projects, innovation communities and citizens.

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: The SISCODE MOOC is potentially one of the most self-sustainable project results as it is an online course with free access and with the offer of certification. The MOOC can be exploited in different forms such as a supplementary content in lectures, thought-provoking ideas for debates and as educational material. The MOOC is available from 2021 to 2022 on two highly regarded and well renowned platforms which are accessible to the public (Figure 14). Nevertheless, as it was not exploited within the SISCODE project, its continuous dissemination by the project partners and integration into their co-creation activities would be essential (Figure 15).

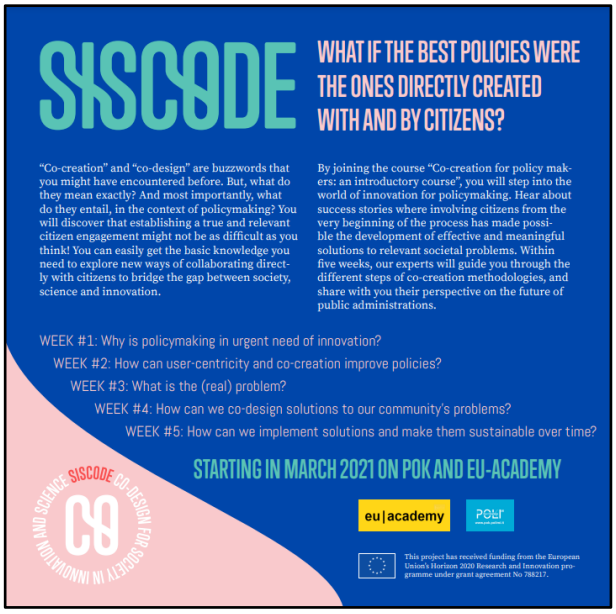


Figure 14. Dissemination of MOOC

Necessary modification to KER to increase exploitability: N/A

[81] SISCODE MOOC: https://siscodeproject.eu/article/mooc/

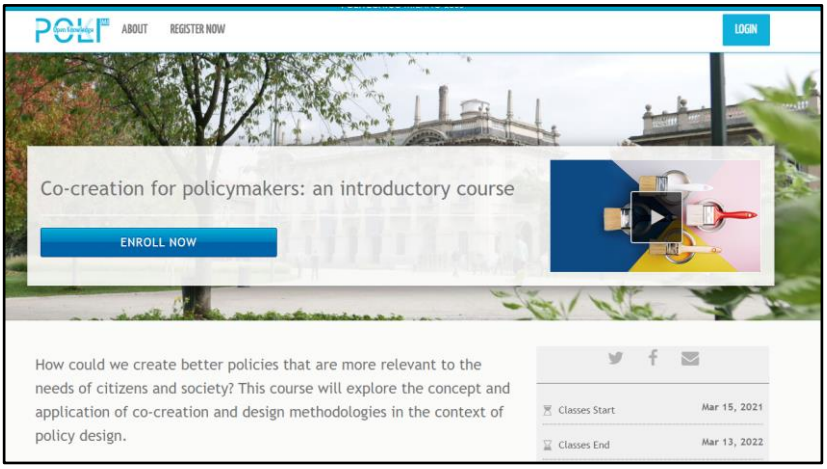


Figure 15. MOOC in POK platform[82]

SISCODE CO-CREATION JOURNEY TOOLBOX (Menichinelli, Ferronato, Villa & Real, 2018)[83]

Primary end-users: Co-creation practitioners and trainers, policymakers that practice public engagement, action researchers and co-designers.

Secondary end-users: Academia, project managers, innovation community members and EU projects.

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: This is one of the most exploitable results of the SISCODE project as a complete set or toolkit, independent tools and methodology. The SISCODE co-creation toolbox has 14 canvases that can be used sequentially throughout a co-creation journey or independently at different stages of a co-creation process (Figure 16). It is a versatile tool that comes with extensive and hands-on introduction that allows the users to first define their co-creation process before starting their co-creation journey. All the canvases are classified into one of the four phases of the co-creation journey and come with their own set of introductory text and instructions in English (Figure 17). The toolbox is available on the SISCODE website in a downloadable format and can be used in online or residential co-creation activities. For online use, the toolbox was appropriated through the use of virtual multilateral interaction tools such as Mural and Miro to implement co-creation online with multiple stakeholders and validate the potential of the toolbox to be used virtually. As a complete tool in itself, the toolbox can be used by co-creation

[82] Polimi Open Knowledge platform: https://www.pok.polimi.it/courses/course-v1:Polimi+CCP101+2021_M3/about
[83] SISCODE Co-creation Journey Toolbox: https://siscodeproject.eu/wp-content/uploads/2019/09/toolkit-27092019-1.pdf

practitioners and labs to design the fundamental activities for the implementation of a co-creation journey. The toolbox can be easily disseminated through virtual and physical means as a complete product. However, it has been integrated into the SISCODE guidebook.

Necessary modification to KER to increase exploitability: Although the toolbox is sufficient to be used as a tool by any practitioner without formal training, it would be better enhanced by the inclusion of co-creation journey model and recommendations and examples of how it was used in the SISCODE labs during their pilot projects. The SISCODE guidebook will include the references of best practices and useful case studies for most of the co-creation tools on the book. However, these case studies are not all from the labs of the SISCODE project. As the toolbox reflects the unique co-creation journey of the SISCODE project, it would be highly valuable to conjoin the real-life experimentation of the SISCODE labs to how they used the SISCODE co-creation toolbox and its toolkits. This would require the integration of the SISCODE toolbox with the results found in D3.2, D3.3, D3.4 and D3.5. In addition, similar to the majority of the KERs, there would be the need to find a common space to store and preserve as well as avail the toolbox after the SISCODE website shuts down. Ideally, the toolbox can be translated to other European languages for exploitation internationally. However, this effort would require financial provision for the acquisition of professional services.

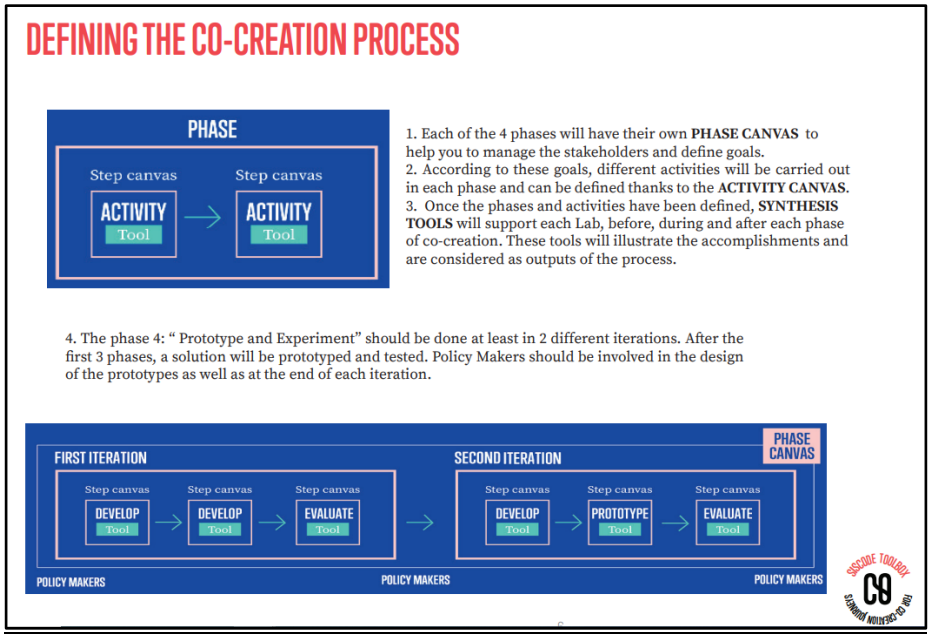
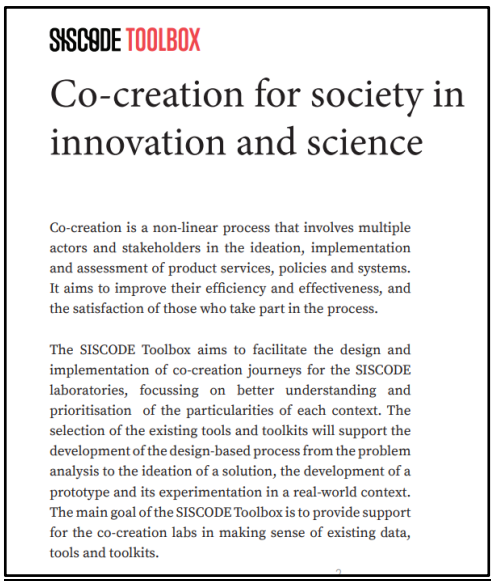


Figure 16. The scheme of defining the co-creation process


SISCODE TOOLBOX

Co-creation for society in innovation and science

Co-creation is a non-linear process that involves multiple actors and stakeholders in the ideation, implementation and assessment of product services, policies and systems. It aims to improve their efficiency and effectiveness, and the satisfaction of those who take part in the process.

The SISCODE Toolbox aims to facilitate the design and implementation of co-creation journeys for the SISCODE laboratories, focussing on better understanding and prioritisation of the particularities of each context. The selection of the existing tools and toolkits will support the development of the design-based process from the problem analysis to the ideation of a solution, the development of a prototype and its experimentation in a real-world context. The main goal of the SISCODE Toolbox is to provide support for the co-creation labs in making sense of existing data, tools and toolkits.

Figure 17. SISCODE toolbox dissemination article

SISCODE LEARNING HUB[84]

Primary end-users: Policy makers, researchers and academics.

Secondary end-users: Innovation communities, EU projects, project managers, social service designers and public administrators.

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: The SISCODE learning hub is a virtual playground for policymakers, researchers and academics with a set of different tools presented in various formats such as videos, lectures, references to case studies (WP4/D4.2) and scientific publications and toolkits (Figure 18). Although the learning hub targets a specific group of end-users who are well-versed in co-creation, policy making and public engagement, it can also be used as a source of introductory information for all co-creation practitioners who harbour interest in policy making. Majority of its components and its original format are mostly suited for virtual dissemination. However, the toolkits and videos can be used in residential exercises. One of its toolkits for policy workshops was appropriated for an online co-creation workshop with a variety of stakeholders as part of the SISCODE exploitation events in the last five months of the project. In a mirroring procedure to the appropriation of the SISCODE co-creation journey toolbox for the CoRRI Forum prototyping phase, the toolkit was used via an online interactive platform for the stakeholder

[84] SISCODE Learning Hub: https://www.siscodeproject.eu/repository/

engagement and knowledge transfer exercises. Therefore, the different components of the learning hub have the potential to be exploited through both, online and offline activities.

Necessary modification to KER to increase exploitability: The learning hub faces the same dilemma as the rest of the KERs in terms of sustainability and the space in which it would be maintained in the long-run as well as the ownership of the tool. As an online repository, the learning hub and its contents could be transferred to an existing platform of another project or initiative, which would mean the transfer of ownership from SISCODE to other initiatives. The learning hub can also be dismantled into seven toolboxes according to the seven categories that it is classified into. Thus, the maintenance of the learning hub as a whole would not be necessary and the different toolkits can be disseminated and exploited separately.

Figure 18. SISCODE Learning Hub Platform

TIPS & TRICKS FOR RESPONSIBLE RESEARCH AND INNOVATION[85]

Primary end-users: Co-creation practitioners, RRI practitioners, event organisers, EU projects and action researchers.

Secondary end-users: Co-creation labs, policymakers, innovation communities and citizens.

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: These decks of cards are a highly versatile and effective tool to provoke conversation among different audiences. The 20 cards are available online free of charge with a directory on how to use them (Figure 19). The cards contain short phrases that tend to evoke reaction or memory in the audiences and they can be used for direct exchanges of ideas bilaterally or multilaterally or in the form of a game. The cards can be used online and offline and can be easily translated to other languages without much effort. Majority of the cards have already been used in online co-creation activities in the CoRRI Forum and business modelling workshops with

[85] Tips and Tricks for Responsible Research and Innovation: https://padlet.com/enollorg/TipTrickRRI

positive responses from the end-users. As they are flexible tools, any and all stakeholders can use them as conversation starters and ide-breakers in an activity. The tips and tricks cards have been integrated into the SISCODE interactive guidebook which also serves as a means of exploitation and dissemination.

Necessary modification to KER to increase exploitability: Similar to the majority of the KERs, a common space to store and preserve as well as avail the cards in the long-run will be needed. The cards could also be translated to other European languages for exploitation internationally.

Figure 19. 20 cards for idea exchanges available online

INTERACTIVE GUIDEBOOK

Primary end-users: Researcher, co-creation practitioners, organiser and planners.

Secondary end-users: Innovation communities, EU projects, project managers, social service designers and public administrators.

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: The SISCODE interactive guidebook is still in its infancy and development stage. Thus, the analysis of its exploitation is based on what it could manifest as rather than what has been done with it before. The interactive guidebook will be the source of over 20 methods and tools from the SISCODE project (e.g., SISCODE co-creation toolbox and journey model) and other initiatives with instructions on how to use them for one's own co-creation process that might or might not be in line with the SISCODE co-creation journey. The guidebook will be on an online platform and easily accessible to the public. As it is, the guidebook can be used by any and all target stakeholders for their co-creation processes and activities.

Necessary modification to KER to increase exploitability: The guidebook could be edited and updated regularly to ensure the tools and methods are up-to-date. The ownership of the interactive guidebook will have to be determined to ensure its sustainability and maintenance. As the guidebook will not have the opportunity to be exploited within the project duration, it would be highly essential for the SISCODE partners and labs to disseminate and exploit it as a source of useful co-creation tools and methods, in their own activities post-SISCODE.

5.2.3. Prototypes and synergy approaches cluster

CO-DESIGN CANVAS

Primary end-users: EU policymakers, research and innovation agencies and communities

Secondary end-users: Broad public, citizens, municipalities and social innovation communities

Technology readiness: Non-commercial application (TRL8)

Exploitability potential: The document supports the facilitation of open dialogue between relevant stakeholders in the establishment of co-creation policies and initiatives. The Co-Design Canvas helps align expectations and goals of participants and provides a creation space for them to share and exchange insights and opinions, contributing to laying the groundwork for an ecosystem of innovation. Misunderstandings and divergences in understanding towards co-design would also be minimised. In addition, the Canvas provides a holistic framework to guide stakeholders in analysing issues and generating solutions from different perspectives (represented by the 8 process cards) through a 4-step process outlined to facilitate meaningful conversations and discussions (Figure 20). The Canvas has been used in exploitation events of SISCODE to engage stakeholders with the prototype tested through virtual meetings with public stakeholders such as citizens and municipalities.

Necessary modification to KER to increase exploitability: The recommendations to facilitate the co-creation process via the Co-Design Canvas such as allocation of sufficient time and proper

facilitation of the sessions by dedicated individuals should be emphasised in the document. Instructions and guidelines should be expanded into more European languages to increase outreach and uptake of the solution.

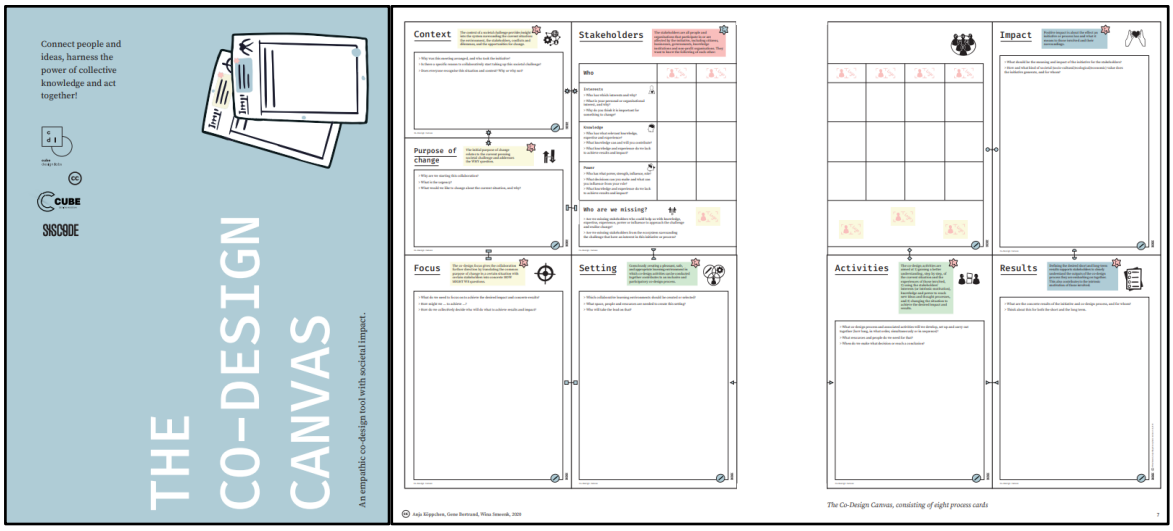


Figure 20. The Co-Design Canvas model

CoRRI Forum[86]

Primary end-users: Co-creation practitioners, innovation communities, policymakers, and co-creation labs and EU projects.

Secondary end-users: Managers, researchers, citizens, students, Eu projects, co-creation and public engagement promoting initiatives and academics.

Technology readiness: Prototype validated in lab/strict environment

Exploitability potential: CoRRI is one of the most exploitable results of SISCODE. It has implemented several series of workshops which also provided the opportunity to gather groups of interested stakeholders who would be long-term end-users (Figure 21). As a community of practice, CoRRI will exploit not only the results of SISCODE but other relevant EU projects as well. However, CoRRI needs to have a dedicated team that will ensure the implementation of its activities post-SISCODE. Hence, CoRRI's exploitability is dependent on the contributions and commitment of its stakeholders who will contribute and benefit from its activities post-SISCODE.

[86] CoRRI Forum: https://siscodeproject.eu/wp-content/uploads/2021/03/D6.3-NETWORK-OF-CO-CREATION-LABS-FOR-RRI-CORRI-NETWORK_Small.pdf

The action plan workshop of CoRRI planned for April 2021 will determine how it will be sustained.

Necessary modification to KER to increase exploitability: N/A

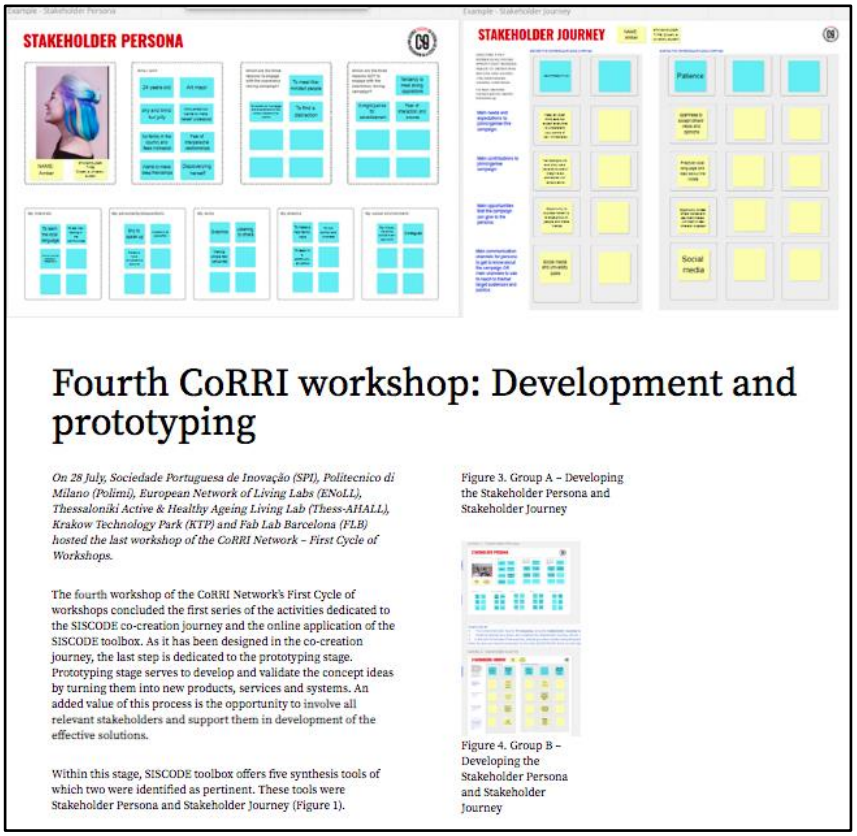


Figure 21. Press release of CoRRI workshop: development and prototyping

TRANSNATIONAL SYSTEM OF CO-CREATION LABS[87]

Primary end-users: Co-creation labs and its representatives.

Secondary end-users: Innovation communities and EU projects.

Technology readiness: N/A

Exploitability potential: There are 3 living labs, 3 fab labs and 4 science centres and museums from Denmark, France, Greece, Ireland, Italy, Poland, Portugal, Serbia, Spain and the Netherlands in the SISCODE labs group (Figure 22). They have been extensively exchanging feedback and

[87] SISCODE co-creation labs: https://siscodeproject.eu/co-creation-labs/

supporting each other along the implementation of their co-creation journeys. Together, they have provided hands-on online activities under the framework of CoRRI's cycles of workshops. This was also an opportunity to disseminate their pilot projects and obtain results with the external stakeholders that took part in those workshops; as well as to contribute to development and implementation of events aimed at short-term exploitation of KERs.

Necessary modification to KER to increase exploitability: Encourage further exchange and peer learning through CoRRI Forum, as a transversal and informal community of practice.

Figure 22. The profiles of SISCODE co-creation labs

6. Benchmarking and comparative analysis to other projects' results

H2020 SISCODE is funded under the Science with and for the Society (SwafS) work programme and the call SwafS-13[88] of the Horizon 2020 programme. At the proposal writing and in the initial stages of the project implementation, other similar SwafS projects (i.e., sister projects) have been identified. Furthermore, synergies were established and explored at various levels, such as the involvement in the Ecosystem of RRI-related SwafS projects, Monitoring and Evaluation in SwafS-14 projects[89], Horizon Results Booster[90] cluster of RRI projects and CoRRI Forum (Table 19). These initiatives indicate the potential to understand similarities and similarities to approaches and actions between EU projects and are further explored. The ability to exchange with 'peers' and learn about each other's processes and results has been invaluable for an acquiring understanding of SISCODE's uniqueness in approaching the topic of institutionalisation of co-creation for RRI.

Table 19. Initiatives and working groups uniting similar/sister projects oriented towards RRI

Initiative	Involvement of other SwafS and RRI projects
Ecosystem of RRI-related SwafS projects	CHERRIES, Co-change, CS Track, DigiTeRRI, EU-Citizen.science, FIT4FOOD, GRACE, I am RRI, MICS, multi-act, New HoRRIzon, On meRRIt, Orbit, PRISMA, QUEST, reTHINK, RRI Tools, RRI2SCALE, SeeRRI, SHERPA, SISCODE, TeRRItoria, TeRRIFICA, TRANSFORM, WeObserve
Monitoring and Evaluation in SwafS-14 projects	TRANSFORM, SeeRRI, TeRRItoria, RRI2Scale, CHERRIES, TeRRIfica, DigiTeRRI, TetRRIs, SISCODE
Horizon Results Booster cluster of RRI projects	RRING, ORION, CHERRIES, Super MoRRI, DigiTeRRI, SeeRRI
CoRRI Forum	TeRRIfica, New HoRRIzon, EU-Citizen.science

Therefore, a comparison between compatible projects' results is considered and applied and will be further explored according to their cluster type (see chapter 5): i) new knowledge cluster, ii) methods and tools cluster and iii) stakeholder engagement and partnerships cluster.

[88] H2020 SISCODE (Cordis): https://cordis.europa.eu/project/id/788217
[89] SwafS-14-2018-2019-2020 call: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/swafs-14-2018-2019-2020
[90] Horizon Results Booster service: https://www.horizonresultsbooster.eu/

6.1.New knowledge cluster

The selected H2020 SwafS projects have produced an immense number of deliverables that contain compact up-to-date knowledge about the state of the art for the RRI landscape in STI. Taking into consideration the SISCODE KERs which belong to the new knowledge cluster, the most similar outputs from other SwafS initiatives are shown in Table 20.

Table 20. New knowledge of other projects comparable to SISCODE

Exploitable result	Project
Case study co-creation methodology report[91]	Super MoRRI
Monitoring Responsible Research and Innovation in the European research area[92]	MoRRI
Report on RRI added values assessment tools and methods[93]	Super MoRRI
Inspiring stories[94]	ORION
Diagnosis: RRI in Societal Challenges[95]	New HoRRIzon

6.1.1. Discussion

TRL: According to enlisted EU projects, new knowledge is classified between 1 to 3 TRL depending if the new knowledge is basic or applied research. However this information could not be shown per result as it is classified (data is collected from the 'Horizon Result Booster Service 1- Module A Portfolio' of sister projects). The majority of the projects are oriented to developing and exploring knowledge through their territorial interventions at local, regional, national and European levels.

Application of the user-friendly format for further dissemination: To some extent, attention is given to the translation of the key findings into other European languages than English. The majority of deliverables and new knowledge is written in the 'language' comprehensible to the research and academic community and not with the same attention to clarity for other stakeholders, including citizens, practitioners and policy makers. The most common formats to reduce condensed deliverables to comprehensible information inclusive to other stakeholder

[91] Super MoRRI - Case study co-creation methodology report :https://super-morri.eu/findings/
[92] MoRRI - Monitoring Responsible Research and Innovation in the European research area : https://library.oapen.org/bitstream/handle/20.500.12657/42836/9781000292749.pdf?sequence=1#page=198
[93] Super MoRRI - Report on RRI added values assessment tools and methods :https://super-morri.eu/findings/
[94] Orion - Inspiring stories: https://www.orion-openscience.eu/publications/inspiring-stories
[95]New HoRRIzon - Diagnosis: RRI in Societal Challenges: https://newhorrizon.eu/wp-content/uploads/2019/03/D-4.1-Diagnosis-RRI-in-Societal-Challenges-1.pdf

groups are manifesto, policy briefs, publishable summaries, tutorials, videos/podcasts, webinars, among others.

Application to other initiatives and contexts: The theoretical frameworks of the selected projects aim to reference up-to-date approaches to RRI and design-led bottom-up practice and policy making. Depending on whether the EU project is looking into the local (SISCODE, TeRRIfica), regional (SeeRRI), national (Super MoRRI), international (New HoRRIzon) context, or into the combination of them, the application to other initiatives and context varies to a considerable extent, namely in approach. SISCODE has verified that application of theory in local and institutional context can resonate, namely through a continuous dialogue and support between the practitioners and policy makers operating in the context of intervention and researchers conducting action research or close observation of the context of intervention. Conversely, the dialogue and exchange of theory between researchers, practitioners and policy makers at the national and international scale is usually bestowed on the exchange of examples of good practice and further elaboration of policy recommendations and roadmaps. The application of theories has to be contextualised and connected to certain territory or topic. The design of a project structure influences its capability to scale exploitable results to other contexts. For example, projects such as CHERRIES, TeRRIfica and SISCODE have integrated labs and pilot projects in their structure and partnerships, which has allowed stronger peer exchange, validation of knowledge and tools through an action research and integration of the project's theoretical framework into practice.

Accessible through known and open-source platforms: Currently, all deliverables are accessible through the project website which act as the entry point for anyone interested to learn about the project and its main achievements. The key issue is the accessibility once the project website has been shut down. Nowadays, the European Commission promotes various platforms to host key exploitable results. To name few, these are: Horizon Results Platform[96], EU Academy Platform[97], European Open Science Cloud[98] (to be launched).

Socio-economic benefits with track evidence: As previously mentioned, SISCODE has utilised ten co-creation journeys localised in ten different cities and socio-cultural environments. Thus, it has

[96] Horizon Results Platform: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform

[97] EU Academy Platform: https://academy.europa.eu/

[98] European Open Science Cloud (EOSC): https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science/european-open-science-cloud-eosc_en
https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science/european-open-science-cloud-eosc_en

established a transnational system of co-creation labs that act as the ambassadors of the co-creation journeys and the project. According to the labs' experience, the theoretical framework was more inclusive when simplified through round table discussions, PowerPoint Presentations, webinars, capacity-building and co-creation workshops. The socio-economic impact of the theoretical framework of SISCODE can reflect through its application in experimentation and experiential learning of labs and their networks. Looking into the other EU projects that utilise pilot projects and experimentation at institutional, local and regional levels, the socio-economic impact reflects mostly in knowledge transfer between project members, departments and organisations and their institutional, local and regional peers. There is not enough data to compare uptake of different theoretical frameworks.

6.2. Methods and tools cluster

Methods and tools are usually developed to stimulate exchange and build capacities of the pilot projects and their representatives, hence they are elaborated and exploited within the project duration. According to the project's mission and the challenges that pilots are addressing, different types of methods and tools are designed. Many of these SwafS projects have considered appropriating the already existing tools coming from the previous/ongoing EU initiatives and/or professionals. Considering the SISCODE KERs which belong to the methods and tools cluster, the most similar outputs from other SwafS initiatives are shown in Table 21.

Table 21. Methods and tools of other projects comparable to SISCODE

Exploitable result	Project
Open Science training material[99]	ORION
RRI & Experiment Toolbox[100]	CHERRIES
MOOC on Responsible Research and Innovation[101]	NewHoRRIzon
Societal Readiness Thinking Tool[102]	NewHoRRIzon
EU-Citizen.science Training Platform / MOOC courses[103]	EU-Citizen.science
RRI Toolkit[104]	RRI Tools

[99] ORION - Open Science training material: https://www.orion-openscience.eu/publications/training-materials
[100] Cheeries - RRI & Experiment Toolbox: https://www.cherries2020.eu/wp-content/uploads/2021/02/D3.1-RRIExperimentToolbox.Final .pdf
[101] NewHoRRIzon - MOOC: https://newhorrizon.eu/mooc-on-responsible-research-and-innovation-2/
[102] NewHoRRIzon - Societal Readiness Thinking Tool: https://newhorrizon.eu/thinking-tool/
[103] EU-citizen.science - Training platform: https://moodle.eu-citizen.science/
[104] RRI-tools - RRI Toolkit: https://rri-tools.eu/search-engine

Self-reflection Tool[105]	RRI Tools
Guide on engagement and co-creation[106]	TeRRIFICA

6.2.1. Discussion

TRL: According to the enlisted EU projects, methods and tools are classified between 4 and 8 TRL, however this information could not be shown per result as it is classified (data is collected from the Horizon Result Booster Service 1- Module A Portfolio of sister projects). The majority of the projects are oriented to developing methods, tools and techniques for a large variety of stakeholders, including practitioners, businesses and entrepreneurs, the civil society sector and policy makers.

Application of the user-friendly format for further dissemination: Methods and tools are meant to be used in hands-on activities; therefore, the format is usually appropriated for the physical, hybrid and virtual collaborations. The projects are finding new ways to reuse websites and turn them into more playful interfaces which support the exchange of messages and structured toolboxes composed of video tutorials, canvases, plan of activities, among others. More attention is given to the stakeholder type and appropriating the tools per stakeholder group and themes (e.g., RRI Tools, EU-Citizen.science, SISCODE).

Application to other initiatives and contexts: None of the tools is prescriptive and when applied in co-creation, it must suffer modification according to the theme and context in which it is implemented, end-users' capabilities and experience and facilitator's competencies. Some of the main barriers in using certain methods and tools is when they are technology-driven and previous tutorial is needed and/or their instructions and purposes are unclear.

Accessible through known and open-source platforms: Same as before, all methods and tools are accessible through the project website which act as the entry point for anyone interested to learn about the project and its main achievements. Conversely, SISCODE MOOC, unlike MOOCs of EU-Citizen.science, is uploaded and promoted through the University's platform of the Coordinator and will be shortly enlisted at EU Academy.

Socio-economic benefits with track evidence: Mastery of methods and tools in hands-on activities boosted the confidence of labs and practitioners in SISCODE. They felt more comfortable owning

[105] RRI-tools - Self-reflection Tools: https://rri-tools.eu/self-reflection-tool

[106] TeRRIFICA - Guide on engagement and co-creation: https://terrifica.eu/wp-content/uploads/2019/11/deliverable_4.1_wp4_guide_on_engagement_and_co-creation_terrifica_for_online_publication.pdf

their co-creation journeys and being in the 'pilot seat' once they were familiarised with the application of a variety of tools. The process of experimentation and trial-and-error for each of the stakeholder groups new to the co-creation practice and RRI is essential. The same effort of other SwafS is visible when it comes to dedication to developing platforms and toolboxes which help different stakeholders to communicate and express themselves in different ways. They are the silent interlocutors capable of understanding everyone's language.

6.3. Prototypes and synergy approach cluster

New alliances are products of mutual goal and understanding as well as interest between one or more stakeholders. At a project or community level, these alliances or partnerships are cultivated for the purpose of pooling effort in view of achieving a common goal. Many projects with similar objectives as SISCODE have established communities of practice and networks that would not only serve as engagement platforms to disseminate relevant information and encourage exchange among different stakeholders. Relative, SISCODE's long-term legacy that fosters cross-sectoral and international collaboration is the CoRRI Forum. However, other alliances among the labs' local partnerships have also provided the opportunity for new partnerships. Considering the SISCODE KERs which belong to the prototypes and synergy approach cluster, similar initiatives from other projects are shown in Table 22.

Table 22. Prototypes and synergy approaches of other projects comparable to SISCODE

Exploitable result	Project
RRING community of practice[107]	RRING
RRI Network[108]	NewHoRRIzon
Global University Network for Innovation[109]	TeRRIFFICA
Community of practice for RRI[110]	RRI Tools

6.3.1. Discussion

TRL: The TRLs of the initiatives in the table above is estimated to be between TRL 6 and 8 as all of the initiatives are live and have gathered a community of end-users. The initiatives have similar goals of exploiting resourceful tools for RRI to a variety of stakeholders, cultivate communities of

[107] RRING - RRING community of practice: https://rring.eu/community/
[108] NewHoRRIzon - RRI Network: https://newhorrizon.eu/description-of-the-rri-network/
[109] TeRRIFFICA - Global University Network for Innovation: https://www.guninetwork.org/
[110] RRI Tools - Community of practice for RRI: https://rri-tools.eu/

practice to exchange knowledge and expertise and promote the integration of RRI in STI policymaking. The actions and target audiences of the above-mentioned initiatives are similar to that of CoRRI Forum. However, the activities and approaches of CoRRI will only be fixed in the Sustainability Action Plan workshops in M36 of the SISCODE project.

Application of the user-friendly format for further dissemination: New partnership and alliances are the gateway to transfer knowledge and information from the projects to the end-users. However, the method and mode in which the communication takes place is critical and can make or break the alliances. As the target stakeholders come from a myriad of different geographical, academic and cultural backgrounds, a common platform that meets all their needs and capacities can prove to be a challenge. Each of the project initiatives above use virtual platforms for communication showing a relatively high success rate of engagement e.g., over 250 members in the Global University Network for Innovation and over 2000 members for RRING community of practice. However, CoRRI initially did not have a common virtual platform for representation but stakeholder engagement has been done through a series of activities that feature experts as suppliers of knowledge and end-users as recipients of new knowledge.

Application to other initiatives and contexts: The establishment of new partnerships and communities is applicable to other projects. However, it should be understood that too many communities of practice providing the same knowledge and information as well as resources can be made ineffective due to the lack of new value, they bring out the table. In establishing similar initiatives, a thorough research should be done to ensure there is a gap in the ecosystem and the new initiative can fill in the gap.

Accessible through known and open-source platforms: In respect to the initiatives above, membership application is required to become part of the community or network. Unlike these initiatives, CoRRI intends to be open access to all stakeholders to contribute and benefit both, as end-users of its services and contributors to its activities as co-owners.

Socio-economic benefits with track evidence: A community of practice and networks are some of the most effective tools for the engagement of stakeholders. However, mode and means of communication between actors and end-users needs to be taken into consideration from the beginning of the initiative and consistently monitored and evaluated throughout the different engagement process. This is to ensure that the communication between the actors and end-users is transparent and relevant for both groups. The impact of the activities are measured through the perception of the end-user and how the activities have influenced their daily lives. Tracking of this information would require a transparent and level communication between actors and end-users at all times.

6.4. Final remarks

In conclusion, synergies with other SwafS projects and working groups have helped in understanding how similar approaches to developing project structure (utilisation of pilots) and use of design-led innovation to turn participatory processes into actions of immediate impact in context for which they were created (usually at micro-scale), are effective in pooling knowledge and skills to boost the influence of the projects and project results. In addition, a common space to promote outcomes of projects and initiatives that pollinate the application of co-creation and RRI is needed. RRI is continuing to gain interest from academia and practice, policymakers, private organisations, researchers and even citizens. Thus, innovative solutions and approaches are needed to find better methods for communication and cross-initiative collaboration that put less emphasis on competition and stimulate collaboration, especially on further replication and scalability of SISCODE and other projects' KERs. A SWOT analysis has been done below (Table 23) to gauge the strength and opportunities that exist for cross-initiative collaboration and exploitation of project results through a common understanding and synergy.

Table 23. SWOT analysis of sustainability of SwafS KERs for their replication and scalability by other EU initiatives

Strengths	Weaknesses
● Opportunity to enrich stronger collaboration between SwafS projects in use and reuse of each other's' KERs, especially of the 'previous generations' ● SwafS projects have strong expertise and high quality of the partner organisations that together co-produce valuable outcomes ● SwafS act at different scales and have wide reach which makes them invaluable network for further exploitation of KERs ● SwafS have implemented mission-driven approach to many different backgrounds and publics (multidisciplinary and flexibility of the approach)	● Lack of platform that would promote SwafS KERs and other contributions among EU projects that do not necessarily operate in co-creation or RRI ● Visibility and recognition of SwafS in Horizon Europe
Opportunities	**Threats**
● SwafS KERs can be scaled to different thematic project, e.g., business and industry ● SwafS KERs can face contemporary and relevant societal, technical, industrial challenges ● SwafS KERs can support development of effective policies and relevant financial support at public level ● SwafS KERs can be examples of good practices to different communities, e.g., growing interest of the industrial sector in RRI	● SwafS KERs need resources (i.e. time and skills) to be utilised by less skilful practitioners and other interested stakeholders ● There is still limited awareness among civil society on SwafS KERs ● SwafS project partnerships can be very competitive e.g., launching of initiatives that have the same or similar goals such as the community of practice / forums / learning platforms and hubs, etc. ● SwafS KERs such as communities and networks are similar to many already existing networks in Europe and around the world

7. Conclusions and next steps

The SISCODE project has developed an impressive number and range of exploitable results in the form of i) concrete outputs and prototypes that can be used in co-creation initiatives at micro, meso and macro level; ii) actions that have evolved into methodologies for application in different contexts and iii) partnerships that would potentially encourage the expansion of networks and pollination of co-creation as practice across many ecosystems. The analysis and evaluation expanded in this deliverable will help the readers, whether they are project partners, project evaluators or external stakeholders, understand the impact of the SISCODE project through the potentiality and exploitability of its results. Moreover, this deliverable is an elaboration of the most exploitable and thus, applicable and useful project outcomes that all project stakeholders can utilize in their own contexts. As a public document, this deliverable will be published on the project website and thus, accessible to all stakeholders. Therefore, this document serves as a summary presentation of the assembly of project exploitable results for external stakeholders to use in identifying the most suitable resources from SISCODE for their exploitation. However, the key use of this deliverable is to provide an analysis of the project exploitable results in order to develop D6.1 (Exploitation Strategy Plan) that foresees the exploitation of KERs post-SISCODE. From the 14 KERs of the SISCODE project identified and analysed in D6.2, a handful will be further elaborated and assessed for readiness and potentiality to be exploited after SISCODE concluded with the commitment of the project partners to perform the exploitation actions. The criteria for their selection will be elaborated in D6.1 taking into consideration the capacity of the partners to exploit them and their accessibility to all stakeholders. The socio-economic impact of the SISCODE KERs is mostly focused on capacity building at micro and meso level but the presentation of evidence is made difficult by the fact that assessment of socio-economic impact requires a close follow-up with end-users of all the exploitable results rendering the process not feasible. However, the comparative analysis of SISCODE's KERs with that of the sister projects shows that the TRLs of the SISCODE KERs are considerably high with a potential to be self-sustainable. However, among many other pressing issues remains the accessibility of the KERs post-SISCODE and the project website as a common platform for dissemination has not been identified.

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SISCODE CO-DESIGN FOR SOCIETY IN INNOVATION AND SCIENCE
C8