SeeRRI

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Work Package: WP2 – Active mapping of SeeRRI territorial R&I ecosystems and the inclusion of RRI

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Project Coordinator	Nhien Nguyen	E-mail: nng@nforsk.no
Partner	NRI	Phone: +47 932 74 674

Reviewers	Simone Hagenauer	E-mail: S.Hagenauer@ecoplus.at
Partner	ECOPLUS	Phone: +43 664 848 2654
Reviewers	Karin Kristensen	E-mail: karkri@nfk.no
Partner	NCC	Phone:
Reviewers	Are Jensen	E-mail: aje@nforsk.no
Partner	NRI	Phone: +47 958 65985

Authors (Partner)	Simona Tondelli, Angela Santangelo, Alice Panciroli (UNIBO)			
Responsible partner	Simona Tondelli		Email	simona.tondelli@unibo.it
	Organisation	UNIBO	Phone	+39 051 2093166

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DEFINITIONS & ACRONYMS

RRI	Responsible Research and Innovation
R&I	Research and Innovation
GOV	Governance
PE	Public engagement
GE	Gender equality
SLSE	Science literacy and science education
OA	Open access
E	Ethics
SUS	Sustainability
RIS3	Regional Research and Innovation Strategies for Smart Specialisation
S3	Smart Specialisation Strategies
QnM	Quantitative Mapping
QlM	Qualitative Mapping
QlDCF	Qualitative Data Collection Form
PA	Public Authorities
OS	Other Stakeholders

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EXECUTIVE SUMMARY

SeeRRI project has **the overall objective of establishing a foundation for building self-sustaining R&I ecosystems in Europe**. In doing this, the WP2 (*Active mapping of SeeRRI territorial R&I ecosystems and the inclusion of RRI*) has a strategic relevance since it is the occasion **to map and extract knowledge from the selected SeeRRI territories in order to understand the current situation of the R&I ecosystems and to define a basic framework for integrating RRI approach into regional development policies**. The basis for the definition of a common procedure for actively mapping R&I ecosystems and stakeholders is presented in the *Deliverable 2.1 – Report on procedures and guidelines for active mapping*. The mapping procedure is divided into two complementary parts: the 'quantitative mapping' (T2.2) and the 'qualitative mapping' (T2.3). **The present *Deliverable 2.3 – RRI within regional development policies: the case of Catalonia, Lower Austria and Nordland* describes in detail the 'qualitative mapping' methodology and the results of its application to the 3 SeeRRI territories.**

The aim of this report is to present **the results of the 'qualitative mapping' procedure applied to the 3 SeeRRI territories** – B30 (Catalonia, ES), Lower Austria (AU) and Nordland (NO) – grouped in **descriptive terms (i), thematic terms (ii) and RRI-related terms connected with the Public Authorities and the Cluster Organisations (iii).** The methodological approach and the description of the required data for an effective qualitative mapping are discussed at first. The conceptual and methodological approach of the 'qualitative mapping' embeds subsequent steps. The first step consists of the elaboration of **a common procedure** for the active mapping of the inclusion of RRI within existing regional development policies (see D2.1, section 2.2 – Qualitative Mapping Guidelines). The following step is the drafting and then distribution of the **Qualitative Data Collection Form (QlDCF)**, an excel questionnaire to be filled out by the representatives of the territorial actors, for both the **Public Authorities (PA)** level of information and the **Other Stakeholders (OS)** level. The detected representatives of the PA and OS for the three SeeRRI territories are:

- GENCAT and UAB for B30;
- AIT and ECOPLUS for Lower Austria;
- NCC, NHO and NRI for Nordland.

The last step of the qualitative mapping approach is the **analysis of the data collected and the processing of the results.** The results are displayed both through an **interactive map** elaborated in Prezi (which represents 'the dynamic mapping tool' for SeeRRI T2.3) for the visual storytelling of the RRI inclusion into the three addressed territories and through a **descriptive summary** for each territory about the RRI-state-of-the-art according to the performed mapping.

The results of the 'qualitative mapping' of the three selected R&I ecosystems, comprise:

(i) a general description of the specific territory, providing an overall framework of the R&I ecosystem;
(ii) a special focus on the inclusion of RRI principles in the thematic issue identified by each territory;
(iii) a targeted mapping for RRI dimensions, as regards to relevant policies/projects/actions/etc. put forward by the Public Authorities and by the relevant territorial stakeholders within the territory (in particular Cluster organisations).

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The **barriers and limitations** of such mapping methodology are also presented at the end of the report to outline the boundaries and complexities of a comprehensive RRI mapping within SeeRRI project. **Guidelines and recommendations** for the integration of RRI in regional development policies are provided in order to overcome such barriers and limitations and to improve the RRI establishment into the three SeeRRI territories, but also to show a roadmap to the NAT territories and beyond.

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1. INTRODUCTION

The starting point of the SeeRRI project is the establishment of a conceptual and theoretical foundation for building self-sustaining R&I ecosystems in Europe through Responsible Research and Innovation; in supporting this framework, a common procedure to properly map R&I ecosystems has been developed in the *Deliverable 2.1 – Report on procedures and guidelines for active mapping.* It should be reminded **that the mapping exercise has two main goals**: the systematic identification of the actors within the R&I ecosystems and their interactions and linkages; and the understanding of RRI inclusion within the regional development policy instruments and planning tools. Accordingly, two complementary methodologies were developed: the **Quantitative Mapping (QnM)** procedure and the **Qualitative Mapping (QlM)** procedure. The **two procedures combined** constitute a unique guideline to map a territory and then return a clear image of the current status of the R&I ecosystem.

The **results of the QnM** of the three territorial R&I ecosystems selected as cases in SeeRRI are shown in the *Deliverable 2.2 – Report on R&I ecosystem mapping of the territories from a comparative perspective,* where the differing characteristics of the three regions in terms of their knowledge creation endowments, their institutional architectures and their thematic orientations are presented and described. The outcomes illustrate a detailed characterization of the R&I ecosystems represented by the interplay of different actors (academic, public authorities and business organisations) and by a certain degree of dynamism, flexibility and openness resulting in a system that can respond, adapt, and transform itself responding to dynamic processes and stimuli coming from inside or outside the system.
The **QlM of the three SeeRRI territories is carried on in the present report** (*D2.3*), revealing how the three regions embed RRI in terms of their general features, their proclivity to work on a specific thematic focus and their embedding of RRI principles into regional development policies, plans, programmes, strategies, campaigns and other initiatives.
The developed QlM methodology – along with the QnM one – constitutes a **basic mapping framework for SeeRRI project** (T2.1). The practical application of such methodologies to the selected SeeRRI territories and their results can provide a significant foundation for the activities of the subsequent work packages and for the development of a generalized empirical framework that can be used to characterize territorial R&I ecosystems in the future. The description of the empirical approach and the results are described in the present *Deliverable 2.3 – RRI within regional development policies: the case of Catalonia, Lower Austria and Nordland*. The empirical analysis has been accomplished following the guidelines to implement a comprehensive mapping of R&I ecosystems, as outlined in *Deliverable 2.1 – Report on procedures and guidelines for active mapping.*

This report **presents the results of the dynamic qualitative mapping of the selected SeeRRI territorial R&I ecosystems** – Nordland, Lower Austria, and B30 – **in terms of**:

- **(i)** their general characteristics of the R&I ecosystems;
- **(ii)** their specific thematic focuses and the embedment of RRI principles within such thematic issues;
- **(iii)** the targeted mapping of RRI inclusion into territorial relevant policies/projects/actions/etc. broken down into the '7 SeeRRI mapping dimensions' presented below.

The mapping of the **general characteristics of the R&I ecosystem** offers an overall framework of the R&I ecosystem and helps visualizing the territory main characteristics: data regarding geography, society, economy and internal

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organization of clusters are displayed, giving a particular relevance to territorial actors (government, academia, business and civil society) and to the place-based clusters.

The mapping of the **thematic focus** that each territory has selected as a priority for the development of their ecosystems through RRI, is carried out on two levels: first, providing a general picture of the state-of-the-art of the selected issue in terms of actors and resources already involved; second, carrying on a specific recognition of the implemented or planned policies/plans/projects/planning tools/initiatives/campaigns/etc. strictly linked to the thematic focus.

Finally, a **targeted mapping of the inclusion of the RRI principles** within the mapped activities carried out by the Public Authorities and by the Other Organisations (mainly at the Clusters' level) based in the area is provided and explained. As outlined in detail in D2.1, the '7 SeeRRI mapping dimensions' are the reference for this mapping: 6 arise directly from RRI definition given by the European Commission in 2014 (1.GOV - governance, 2.PE – public engagement, 3.GE – gender equality, 4.SLSE – science literacy and science education, 5.OA – open access, 6.E - ethics) while the last one is an additional dimension addressed by the project (7.SUS - sustainability). For sake of logic and clarity, for each activity the data are mapped with reference to one main SeeRRI dimension, which represents its core objective (i.e. a spatial plan aims at the effective governance of the territorial development of the considered area, so the considered SeeRRI dimension will be 1.GOV) and, eventually, to a sub-dimension (i.e. the main objective of a participatory spatial plan – which has 1.GOV as main dimension – is to engage citizens within the planning process, so the sub-dimension of this type of policy is 2.PE). By looking at the policy instruments through the '7 SeeRRI mapping dimensions', it will be possible to establish whether a territory is committed or not into a specific dimension. The mapping will show first if a specific dimension is relevant or not for the present and future directions of the territory, and then a qualitative description of the role of such dimension for the R&I ecosystem.

The rest of this report is structured as follows: **Section 2** is dedicated to the conceptual and methodological background underlying this qualitative R&I ecosystem mapping. **Section 3** includes the description of the requested data and of the data collection process, while **Section 4** explains the structure of the dynamic map (created with the Prezi tool) and **Section 5** presents the actual results of the mapping exercise for all three SeeRRI territories (Nordland, Lower Austria, and B30). The last part, **Section 6**, is dedicated to guidelines and recommendations to overcome the detected barriers and limitations and to improve the RRI embedment into the three SeeRRI territories. In **Annexes I, II** and **III**, a series of slides extracted by the online map are provided, representing the qualitative mapping for each territory. Even if the slides are not interactive and dynamic as the online map, they allow to represent all the information collected in the qualitative mapping exercise and therefore they help to get the overall picture of each territory.

It should be noted that, likewise for Deliverable 2.2, a comparison between the three territories is not the main aim of this report. The results are presented separately for each territory in order to provide a target picture for each territory, also because of their strong uniqueness in terms of their sectoral distributions, specializations, size, etc.

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THE QUALITATIVE MAPPING – AN INTRODUCTION

- **The active mapping of SeeRRI territorial R&I ecosystem and the inclusion of RRI** (WP2) consists of two complementary mapping: the **Quantitative Mapping (QnM)** with the aim of systematically identify the actors within the R&I ecosystems and their interactions and linkages **(Task 2.2)**; the **Qualitative Mapping (QlM)** with the aim of understanding the RRI inclusion within the regional development policy instruments and planning tools of the SeeRRI territories **(Task 2.3).**
- The **results of the whole mapping** will provide a significant foundation for the activities of the subsequent work packages and for the development of a generalized empirical framework that can be used to characterize territorial R&I ecosystems in the future.
- The objective of the present report (D2.3) is to **present the results of the dynamic qualitative mapping (QlM) of the selected SeeRRI territorial R&I ecosystems** – Nordland, Lower Austria, and B30 – in terms of (i) **general info**, (ii) **thematic info** and (iii) **specific RRI-related info** through the '7 SeeRRI mapping dimension'.

2. CONCEPTUAL AND METHODOLOGICAL APPROACH

The ultimate goal of SeeRRI project is **the definition of a framework for building self-sustaining R&I ecosystems**, which are adaptive, resilient, open, democratic and responsible. For the purpose of the project, an R&I ecosystem can be defined as self-sustained if the territory is able to integrate the sustainability and inclusion of the RRI concept into their RIS3 (Regional R&I Strategies for Smart Specialisation) and other relevant place-based development policies. The **qualitative mapping exercise** is then an important stepping-stone for such objective, since it **is intended as the recognition of the RRI inclusion within the relevant policies and activities put forward within the territory of the addressed R&I ecosystem**. To achieve a worthwhile mapping, a specific methodology has been developed (*Task 2.1 – Common procedure and guidelines for active mapping)* and then tailored and implemented in the three territories that have been taken as case-studies for SeeRRI project because of their engagement in S3 and RRI activities.

The definition of the **common qualitative mapping methodology** is the object of the Section 2.2 of the Deliverable 2.1. Such methodology was designed to be as much inclusive as possible in order to establish an exhaustive structure including as much different options as possible, although not all the topics discussed are applicable to every R&I ecosystem. In the present deliverable **the general concepts and frames developed in D2.1 are applied and tailored to the three specific case studies.** This allows both to test the defined methodology and to build a foundation for future R&I policies to be driven by the needs of all societal actors.
The **conceptual and methodological approach** at the basis of the qualitative mapping implementation consists of the following phases:

(a) the identification of the specific **data providers** for the three SeeRRI territories between the project partners and their networks and the identification of available databases;
(b) the identification and organization of the data of interest (already listed and detailed in Section 2.2.2 of the D2.1) in the Qualitative Data Collection Form, in order to facilitate the data gathering campaign;

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(c) the **data collection process** upon the three territories;
(d) the systematisation of the collected data and the elaboration of an **interactive map** to visualize and report the results of the QlM campaign upon the three R&I ecosystems;
(e) the **descriptive analysis of the RRI inclusion** into each of the three territories.

The identification of the **data providers (a)** and the structuring of the **data of interest (b)** are processes that have been carried on in parallel. The data of interest are organized in accordance with the type of data-holders (or data providers), distinguished into two main groups: Public Authorities (PA) and Other Stakeholders (OS). For mapping the three SeeRRI territories, project partners who are representatives of the public authorities – ECOPLUS (Lower Austria), GENCAT (B30), NCC (Nordland) - together with the representatives of other stakeholders as economic clusters and research institutes – ECOPLUS (Lower Austria), UAB (B30), NRI and NHO (Nordland) were involved. The mapping of the Public Authorities' initiatives is predominant for what concern the implementation of regional development policies (which are the main topic of the qualitative mapping), but, to have a comprehensive picture of the RRI inclusion in the area, also actions put forward by cluster organisations or other local stakeholders have been mapped.

The data of interest have been asked to the data providers of the SeeRRI territories during the **data collection process (C)** by filling an excel questionnaire: the Qualitative Data Collection Form (QlDCF). The data of interest and the data collection process are described in **Section 3** of the present report. The QlDCF contains an all-embracing list of contents, so it is not expected to collect data for each typology of data presented from all the R&I ecosystems. The questionnaire is mainly addressed to map the RRI inclusion within policies and planning instruments of the addressed territory. The mere presence of a policy instrument with a particular relevance to RRI dimensions already reveals the commitment of the ecosystem towards a specific direction; but, in order to build a more complete framework of the ecosystem's current situation, more details such as key-words, examples and descriptions as well as numbers, names or amounts (€) are requested. The latter are often accompanied by the request of a **self-assessment**, in order to understand if the number or amount provided is considered enough or not for the territory in relation to their possibilities, resources and purposes. The self-assessment consists in answering to the question "how would you rate it?" by choosing their grade of satisfaction between **very good, good, fair, poor** and **very poor**. The use of such self-assessment is an important part of the whole qualitative mapping methodology since it is aimed not only at contextualizing numbers and figures which would not otherwise be relevant or comprehensible alone, but also at understanding the commitment of a territory to a specific RRI-related direction or objective in the future.

To represent the results of the qualitative mapping it was decided to use both an **interactive map (d)** and a **descriptive analysis of the RRI inclusion (e)** for each territory. The interactive map is developed in Prezi: here all the data are shown through a precise structure which consists of three main folders (or better 'bubble-folders') containing the three type of information requested in the QlDCF during the data gathering process:

(i) **general** info;
(ii) **thematic focus** info;

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(iii) **7 SeeRRI mapping dimensions** info – PA level and OS level for one of the SeeRRI territory.

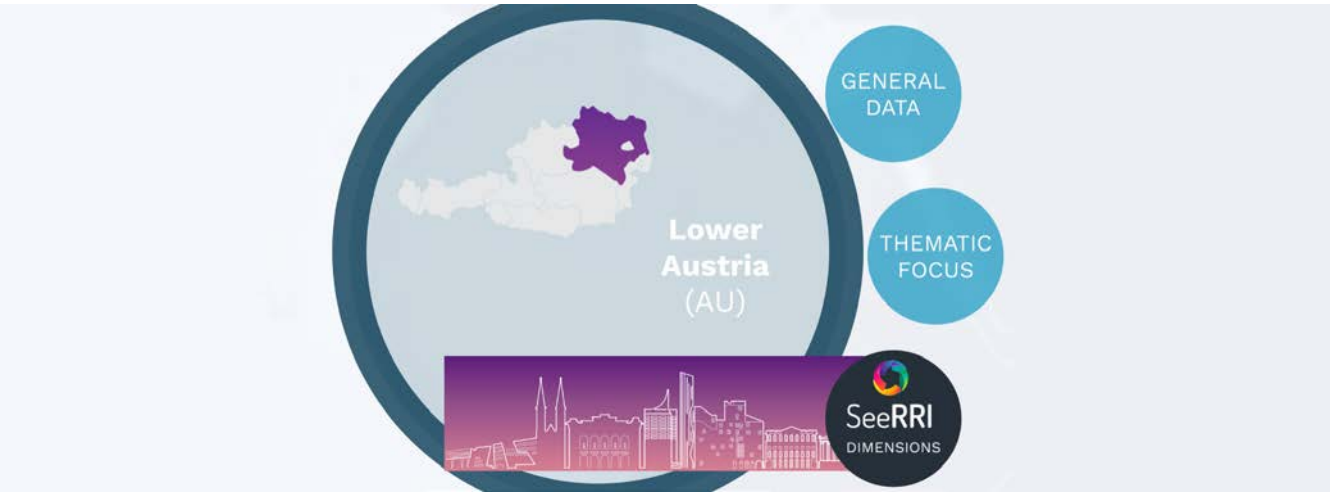

Figure 1: Example of the three main 'folders' containing the data for the territory of Lower Austria

It should be noticed that each one of the three SeeRRI territories has selected **a different thematic focus** which is a specific topic that they have decided to further investigate and develop during the entire project. For SeeRRI purposes, each territory decided to be especially committed in a different thematic connected in some way to RRI, in particular: **Nordland** has decided to work specifically on sustainability and stakeholders' engagement; **Lower Austria** on additive manufacturing (AM) and 3d printing (AM for metals, polymers, ceramics); and **B30** on zero waste, recycling, circular economy, sustainability, industrial symbiosis.
The last 'bubble-folder' of information is the one related to the '**7 SeeRRI mapping dimensions**' as they were defined in D2.1 (see Section 2.2.1): these dimensions are the 6 RRI thematic dimensions defined by the EC in 2014 (**1. governance, 2. public engagement, 3. gender equality, 4. science literacy and science education, 5. open access, 6. ethics**) plus an additional dimension (**7. sustainability**) which is not a foreign concept to RRI, but it is rather an overall aspect of RRI and a core principle of all current policies and projects (note, in fact, that most of the SDGs are in line with the 6 RRI principles).

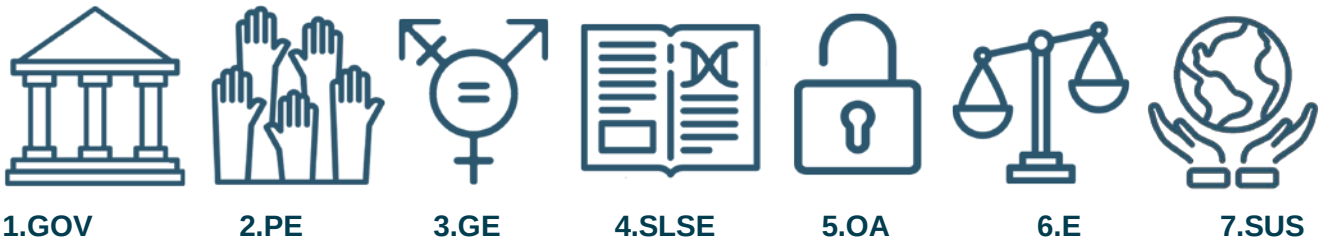

Figure 2: The 7 SeeRRI mapping dimensions

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The **dynamic map** that has been created with the Prezi tool is a navigable picture that allows the user to go into detail of each topic but, at the same time, to always keep an eye on the general framework by simply zooming out. Moreover, another utility of such tool is that the influence of some topics is often underlined thanks to the different sizes of the bubbles containing the information. The overall aim of such representation is to report the current commitment of the ecosystems with RRI, in particular to visualize whether concrete actions were put into practice by the local actors.
The dynamic mapping tool will be further explained in **Section 4**.

The information collected though the QlDCF, and displayed by the Prezi presentation, are then analysed and described in **Section 5**. The **descriptive analysis** shows the main actions put in place by the territorial actors of each SeeRRI territory, which RRI dimensions have been more relevant for the territory until now and their self-assessment on the current situation. Moreover, such description tries to give a support in understanding which RRI dimension could be included with a more active role in future strategies and how to better integrate the concept of RRI in their commitments and future purposes.

In **Section 6** guidelines and recommendation for the integration of RRI within regional development policies are provided.

CONCEPTUAL AND METHODOLOGICAL APPROACH OF THE QLM

- The qualitative mapping exercise concurs to the overall objective of SeeRRI project since it is intended for **the recognition of the RRI inclusion within the relevant policies and activities put forward in the territory of the R&I ecosystem**.The **general concepts and frames** developed in Section 2.2 of the D2.1 are **applied and adjusted** to the three specific SeeRRI territories in the present report.
- The conceptual and methodological approach of the qualitative mapping consist of the following steps: identification of the data providers **(a)** and data of interest **(b)**; the data collection process **(c)**; the elaboration of the mapping results both through an interactive mapping tool **(d)** and through a descriptive summary **(e)** on the RRI inclusion within the ecosystem for each SeeRRI territory.

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3. DATA DESCRIPTION

The qualitative mapping of the SeeRRI territories relies in understanding the state of the art for the inclusion of RRI within existing regional development policies and planning instruments that have been adopted by the institutional governments or by clusters organisations or other stakeholders involved in the area (such as business/productive organisations, civil society organisations and private academia). For this purpose, the data of interest for the qualitative mapping were asked to two different types of data-holders – **Public Authorities (PA)** and the **Other Stakeholders (OS)** – according to the methodology described in Section 2.

The data gathering campaign was conducted through the **Qualitative Data Collection Form (QlDCF)**, an excel questionnaire consisting of **6 sheets** (see section 2.2.3 and the Annex II of the D2.1):

(i) INSTRUCTIONS provided by UNIBO on how to fill in the form.
(ii) 1_ GENERAL INFO: data regarding the features of the territory and its clusters.
(iii) 2_ THEMATIC INFO: data regarding the thematic focus of each territory.
(iv) 3_ PA INFO: data regarding the RRI-related policies and planning instruments of the institutional government.
(v) 4_ OS INFO: data regarding RRI-related activities of the Clusters and all the other relevant stakeholders involved (i.e. business/productive organisations, civil society organisations and private academia). The activities within WP3 should support the SeeRRI partners to identify and interact with these actors.
(vi) Info DESCRIPTION: a more detailed description provided by UNIBO of the information required in the sheets '3_PA info' and '4_OS info' in provided below.

The sheets (ii), (iii), (iv) and (v) were filled out by the representatives of the PA and of the OS among the partners of the SeeRRI project. The identified territorial actors were able to gather most of the information required from their existing databases or through a process of re-elaboration of the available information.

The **data collection process** has followed the following steps:

(1) distribution of the QlDCF to the PA and OS representatives of each territory for a joined compilation of the form using existing databases and basing on their own knowledge;
(2) bilateral remote meetings between UNIBO and the territorial actors involved in the campaign to clarify the potential doubts and concerns;
(3) exchange of several draft versions of the QlDCF to further improve the information collected and produce a picture of each territory as comprehensive as possible;
(4) final check of the data collected by UNIBO for the following elaboration.

A **detailed description of the contents of the QlDCF** is provided in the present section, in order to describe **the structure of the data** required, so what to collect and according to which categories.
The relevant data are grouped into 3 main categories:

– GENERAL DATA (**3.1**)
– THEMATIC FOCUS (**3.2**)
– SEERRI DIMENSIONS (**3.3**): PA level and OS level

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3.1. GENERAL DATA

As a first step for the qualitative mapping a general mapping of the territory, to have an overall framework of the R&I ecosystem, is required. This section helps visualize the territory broadly speaking but also it helps contextualize all the following information to the specific situation and environment.

This category of data includes:

(a) general data about the territory (geography, society, economy, etc.)
(b) general data about the clusters within the territory (internal organization of the clusters)

Table 1. *(a) general data a data about the territory asked to the PA representatives*

Category of data	Data requested	Type of data
GENERAL DATA ABOUT THE TERRITORY	Location	*Region, Country*
	Boundaries identification	*codes**
	Municipalities	*no.*
	Extension	*km²*
	Population	*no. Inh.*
	GDP	*thousand €*
	Extension of industrial land	*km²*
	GOVERNMENT: name of the regional authority upon the whole area	*name*
	ACADEMIA: number of educational and research institutions	*no.*
	BUSINESS: number of industries and business companies	*no.*
	CITIZENS: number of civil society organisations	*no.*

*by codes is meant NUTS code (if matches) or list of postal codes

Table 2. *(b) general data about the clusters within the territory asked to the OS representatives*

Category of data	Cluster no.	Data requested	Type of data
GENERAL DATA ABOUT THE CLUSTERS WITHIN THE TERRITORY	cluster *xx*	name of the cluster	*name*
		key topics (at least 3)	*key-words*
		number of business and companies	*no.*
		no. of academic institutions	*no.*
		no. of civil society organisations	*no.*

The first block of data (a) is directly asked to the representatives of the PA (in light blue) while the second one (b) to the OS representatives (in green).

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3.2. THEMATIC FOCUS

Each of the three SeeRRI territory has identified **a specific thematic focus** that they are committed to further investigate and develop during the whole project.

Nordland's thematic focus concerns finding new ways to develop a more sustainable society through regional strategies and planning processes as well as to involve different types of stakeholders. NCC specifically wondered: "how can we develop Nordland to be a more sustainable society true our strategy and planning processes? Can we find new ways to involve different types of stakeholders? We want to define common and specific goals and action relevant for Nordland to address the 17 SDG together with relevant stakeholders." Nordland wants to define common and specific goals and actions to address the 17 SDGs together with relevant stakeholders.

In **Lower Austria** Smart Specialization is promoted through clusters and technopoles thanks to the Business Agency of Lower Austria (Ecoplus). Each cluster and technopol fosters 3-4 specific focus areas with added value for the region. Within the SeeRRI project ecoplus selected one of the Mechatronics Cluster thematic focus areas for in-depth mapping: Additive Manufacturing (3D-printing). This focus influences the manufacturing sector and aims to reduce the costs of production by leveraging the opportunities provided by the technology to facilitate mass customization of industrial products. The specific objective is to build up an ecosystem from education, R&D, companies, equipment producers, quality requirements and product development.

The thematic scope of **B30** in the SeeRRI project is to integrate RRI into R&I policies and ecosystem's governance. With the strategic intent of increasing the engagement of stakeholders, the SeeRRI actions will focus will on zero waste, a relevant and shared long-term objective for the main stakeholders of the ecosystem, strongly linked to SDGs. The thematic focus in the B30 is also related on how to integrate RRI into S3 strategies and on how to promote transnational learning, more specifically on how to replicate and adapt to other territories what will be explored, tested and learnt in the 3 SeeRRI territories.

The data requested in this section can be divided into two main categories:

(a) territorial data regarding the thematic focus

(b) policies/plans/projects/planning tools/actions/campaigns/etc. strictly linked to the thematic focus

Both set of data are asked to the PA representatives in the first place, but the completion of the form is always about collaboration and co-working between the involved actors of the same territory, so also the representative of the OS were asked to contribute to this part of the QIDCF.

Table 3. *(a) territorial data regarding the thematic focus*

Category of data	Data requested	Type of data
TERRITORIAL DATA REGARDING THE **THEMATIC FOCUS**	Thematic focus details*	*key-words*
	Number of companies and associations involved **in the thematic field**	*no.*
	Number of research staff involved **in the thematic field**	*no.*
	Number of business staff involved **in the thematic field**	*no.*
	Number of businesses settled with the cluster support **in the thematic field**	*no.*
	Number of jobs created **in the thematic field** and safeguarded by the cluster	*no.*

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	Private funds available for RRI principles implementation in the thematic field	- Cluster organisations funds	*thousand €*
		- Private investors funds	*thousand €*
		- Crowdfunding	*thousand €*
	Type of infrastructures available in the region for the thematic field	- incubation and coworking spaces	*no.*
		- joint Data Processing Center	*no.*
		- scientific-technical services	*no.*
		- access to contacts and networks	*no.*
		- others	*no.*

*explain by keywords the thematic focus of the territory

Apart from the first row ('thematic focus details') it is also asked to the territorial representatives to **self-assess** the quantitative data required by deciding the grade of satisfaction with the actual amount between **very good, good, fair, poor** and **very poor**.

The second set of information is about *(a) policies/plans/projects/planning tools/actions/campaigns/etc. strictly linked to the thematic focus*. It is required to list all the policies/plans/etc. linked to the thematic focus and to categorize them under one (or more than one) SeeRRI dimension (1.GOV, 2.PE, 3.GE, 4.SLSE, 5.OA, 6.E, 7.SUS). For each policy/plan/etc. are asked some details:

- name of the document,
- type of document (i.e. economic policy, cohesion policy, awareness campaign, etc.),
- year,
- promoter,
- relation to the corresponding SeeRRI dimension (description).

3.3. SEERRI DIMENSIONS

The targeted mapping for dimensions concerns the relevant policies/projects/actions/etc. as regards to Public Authorities' initiatives as well as other relevant territorial stakeholders' activities (in particular Clusters') that are strictly connected with the '7 SeeRRI mapping dimensions. In fact, the data are collected with reference to one main SeeRRI dimension addressed by the considered plan/action, which represents its core objective (i.e. a spatial planning that is adopted to govern the territorial development of the considered area, has 1.GOV as main SeeRRI dimension). Some of the policies/plans/actions/etc. into account need to be investigated through more than one dimension, so they will be classified and analysed by using a '**main SeeRRI dimension**' and a secondary one, which we will call '**SeeRRI sub-dimension**' (i.e. the main objective of a participated spatial plan – which has 1.GOV as main dimension – is to engage the citizens into the decision process, so the sub-dimension of this type of policy will be 2.PE). The concept of looking at the policy instruments through the '7 SeeRRI mapping dimensions' will contribute to establish whether a territory is committed or not into a specific dimension. The first check is whether a specific RRI dimension is relevant or not; then, when needed, further details are collected to complement the rest of the information.

Diagram 1 below better explain **the structure of the categories of information requested** to the territories, in particular for what concerns the main dimensions (framed in red) and the sub-dimensions (framed in orange).

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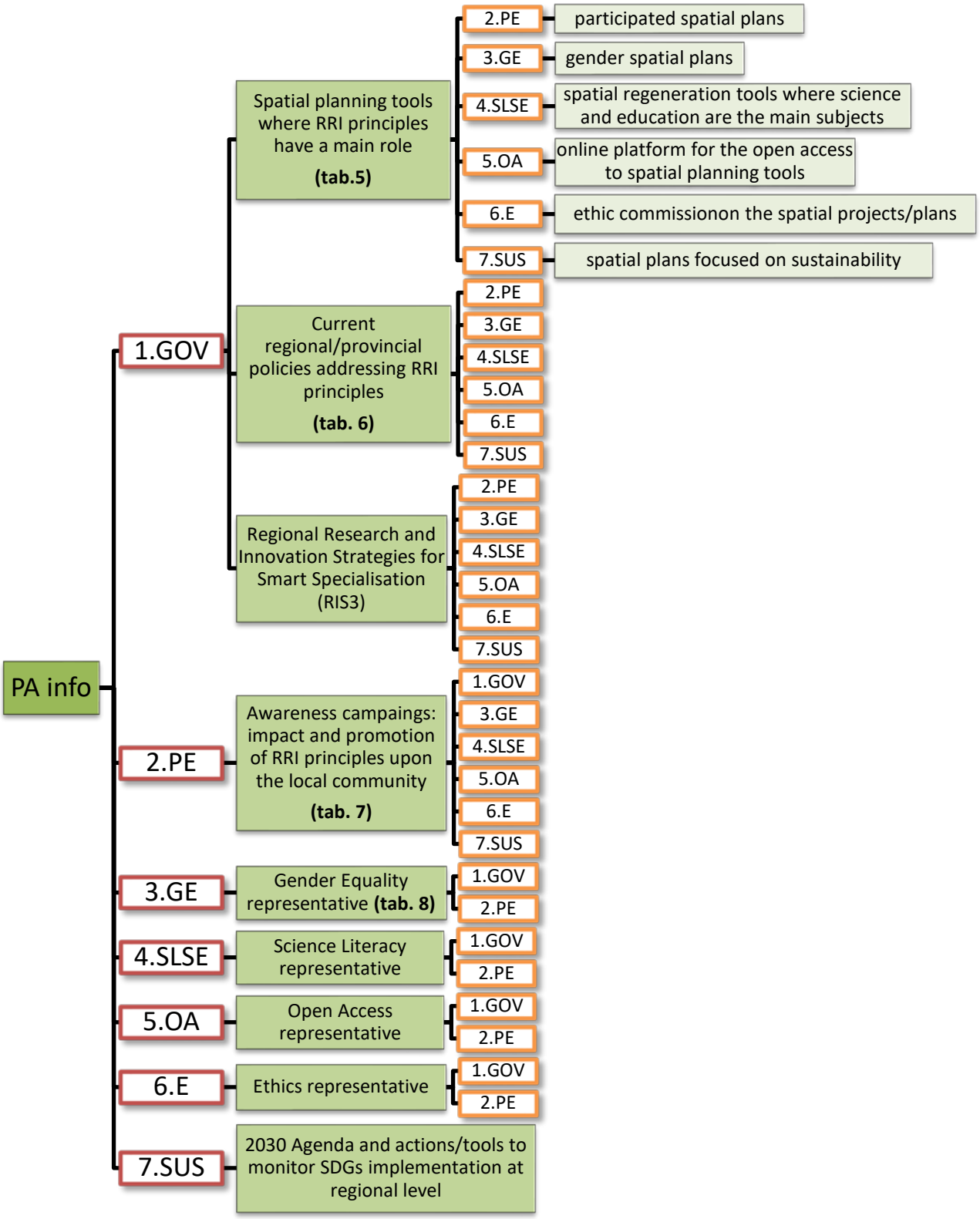
Diagram 1. *Structure of the info required to PA*



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A more detailed description of the information required in the green cells is provided in the table below (table 4).

Table 4. *detailed description of the information related to the 7 SeeRRI dimensions asked to the PA*

Dimension	information topic	Description
1. GOV	Spatial planning tools where RRI principles have a main role	**Spatial planning tools where RRI principles have a main role (1.GOV)** are all the regional or local/urban planning policies/plans/regulations/actions/etc. addressing one of the SeeRRI dimension as their main goal. We can find some examples of these tools and their connection with RRI principles establishment: for instance, a participated spatial plan (i.e. Agenda Urbana de Cataluña) shows the intention from the PA of engaging the citizens (2.PE) or a gender spatial plan (i.e. Gender Mainstreaming, Vienna) shows how the PA aims to balance the gender gap by customizing the urban environment (3.GE). Moreover, a PA may have promoted some spatial tools or plans within the territory where science or literature are the main regeneration subjects (i.e. Science Parks; Scientific and Technical Pole; public university campus; research centres; schools' areas; etc.) with the intent of increase the Scientific Education (4.SLSE). The presence of an Online Platform ensures the open access (5.OA) while the presence of an Ethic commission on the spatial planning acts ensure the ethical standards (6.E). Finally, it should be mapped the presence of spatial plans focused on sustainability (i.e. Sustainable Mobility Plans, Climate Change Plans, Sustainable Energy Plans, etc.) and their contents (7.SUS).
1. GOV	Current regional/provincial policies addressing RRI principles	**Current regional policies addressing RRI principles (1.GOV)** are economic policies, labour market policies, cohesion policies, etc. with one of the other SeeRRI dimensions as a main topic (2.PE, 3.GE, 4.SLSE, 5.OA, 6.E, 7.SUS). They refer to the territory as a whole (in some cases event to an area bigger than the R&I ecosystem under consideration) but they are not specifically spatial planning tools such as before. They have been chosen for mapping since they are believed to complement the overview on regional and planning policy instruments, but from a thematic perspective.
1. GOV	Regional Research and Innovation Strategies for Smart Specialisation	Specifically, at the Regional Government level, the R&I ecosystems are asked to go into the main priorities/pillars and also the connected actions/instruments of the **Regional R&I Strategy for Smart Specialisation (1.GOV)**. Also here, the analysis of the RIS3 documents is carried out by dimensions (2.PE, 3.GE, 4.SLSE, 5.OA, 6.E, 7.SUS). The related monitoring and evaluation system, if existing, is required too to map the inclusion of RRI into RIS3, which is one of the main types of development policy to take into account during the QIM procedure.
2. PE	Awareness campaigns on RRI principles upon the local communities	The presence, number and main objectives of **awareness campaigns on RRI principles (2.PE)** assess the impact and promotion of each RRI principle (1.GOV, 3.GE, 4.SLSE, 5.OA, 6.E, 7.SUS) upon the local communities.
3. GE	Gender Equality representative	For some of the SeeRRI dimensions (3.GE, 4.SLSE, 5.OA, 6.E), where it is hard to find specific tools/plans/policies, an effective way to map their inclusion into the administrative set-up of the territorial PA could be checking the **presence of an institutional representative** that could be one person or even an entire dedicated office (1.GOV) **or of organisations/associations promoting these principles as a core mission (2.PE).**
4. SLSE	Science Literacy representative	
5. OA	Open Access representative	
6. E	Ethics representative	

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7. SUS	2030 Agendas and actions/tools to monitor SDGs implementation	Some Governments, especially Regional ones, may have adopted (but it is not mandatory in all Countries) a targeted **2030 Agendas and actions/tools to monitor SDGs implementation**. Identifying then the main challenges/objectives for the region linked to each SDGs helps to map the implementation of Sustainability into the territory **(7.SUS).**

Table 5 refers to the data that must be included for each **spatial planning tool** that is recognized as suitable for the category of data mentioned in the first column.

Table 5. *data to be included for each spatial planning tool detected*

Category of data	Data requested	Type of data
Participated spatial plans *(i.e. Agenda Urbana de Cataluña)*	name of the spatial plan with Public Engagement as a main topic	*name*
	spatial level	*regional/metropolitan/urban*
	timeline	*expired/ongoing/forthcoming*
	link to the online document/reference	*link*
	budget allocated (if any)	*€*
	number of stakeholders already involved in participation	*no.*
	provide at least 3 examples of different strategies/actions to be implemented in the plan	*e.g.*
Gender spatial plans *(i.e. Gender Mainstreaming, Vienna)*	name of the spatial plan with Gender Equality as a main topic	*name*
	spatial level	*regional/metropolitan/urban*
	timeline	*expired/ongoing/forthcoming*
	link to the online document/reference	*link*
	budget allocated (if any)	*€*
	different gender/age groups with different needs identified in the territory for whom actions are provided in the plan *(i.e. women, immigrants, elderly, youths, LGBT, unemployed, etc.)*	*name*
	targeted public spaces identified in the plan *(i.e. streetscapes, housing, schools, parks, public transport, social infrastructures, public open spaces, etc.)*	*name*
	provide at least 3 examples of different strategies/actions to be implemented in the plan	*e.g.*
Spatial Regeneration Tools where **Science** and **Education** are the main regeneration subjects	number of spatial tools/plans within the territory where science is the main regeneration subject in the last 5 years *(i.e. Science Parks; Scientific and Technical Pole; etc.)*	*no.*
	number of spatial tools/plans where education is the main regeneration subject in the last 5 years *(i.e. public university campus; research centres; schools' areas; etc.)*	*no.*
Presence of an **Online Platform** for the open access to spatial planning documents		*yes/no*
Presence of an **Ethic Commission** on the spatial planning projects/plans		*yes/no*
Spatial plans focused on **sustainability** *(i.e.*	name of the spatial plan with Sustainability as a main topic	*name*
	spatial level	*regional/metropolitan/urban*
	timeline	*expired/ongoing/forthcoming*

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Sustainable Mobility Plans, Climate Change Plans, Sustainable Energy Plans, etc.)	link to the online document/reference	*link*
	budget allocated (if any)	*€*
	sustainability sphere	*Economy/environment/society*
	provide at least 3 examples of different strategies/actions to be implemented in the plan	*e.g.*

Table 6 shows the type of data requested for each set of **regional/provincial policies addressing mainly one of the SeeRRI sub-dimensions** as shown in the diagram 1.

Table 6. *data to be included for each policy referring mainly to one of the related SeeRRI sub-dimension*

Category of data	Data requested	Type of data
Policies with ***sub-dim*** as a main topic	number of current policies with Public Engagement as a main topic	*no.*
	type of policies *(i.e. economic policies, labour market policies, cohesion policies, etc.)*	*name*
	list by key-words the main objectives of the current policies	*key-words*
	presence of a monitoring and evaluation system for the policies	*yes/no*

To understand the inclusion of RRI principles into **regional R&I Smart Specialisation Strategies (RIS3)** it is asked to the PA representatives to list by keywords:

- the priorities/priority pillars
- the main actions/instruments
- the system of monitoring indicators of the RIS3

that are specifically linked to one of the SeeRRI sub-dimensions detected, as shown in diagram 1.

The awareness campaigns conducted upon the local communities are categorized under the SeeRRI sub-dimensions detected (see diagram 1) and for each of them are asked further details, as shown in table 7.

Table 7. *data to be included for each awareness campaign of the PA referring mainly to one of the related SeeRRI sub-dimension*

Category of data	Data requested	Type of data
Awareness campaign with ***sub-dim*** as a main topic	number of promoted awareness campaigns in the past 5 years	*no.*
	people reached	*no.*
	description of the main objectives	*key-words*

To see if the **gender issue** is taken into account by the public authority upon the territory are asked the following data (table 8).

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Table 8. *data to be included to map the gender issue at the PA level*

Category of data	Data requested	Type of data
Gender Equality representative	Presence of an institutional Gender Equality representative (1.GOV)	*yes/no*
	Organisations/associations promoting Gender Equality as a core mission (2.PE)	*no.*

The same types of data are required also for the **representative of Science Literacy, Open Access and Ethics**.

The PA representative must state if there is or not a regional Agenda 2030 where RRI principles has a main role and also if it exists a monitoring and evaluation system for the Agenda implementation. Once clarified the presence of the Agenda, they are asked to explain by keywords the identified challenges/objectives for the Region linked to each of the 17 Sustainable Development Goals (SDGs).

NOTE:
For all the numbers (no.) and amount (€) the **self-assessment** is asked too: the respondents are asked to choose a grade of satisfaction between **very good, good, fair, poor** and **very poor**.

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Diagram 2. *Structure of the info required to OS*

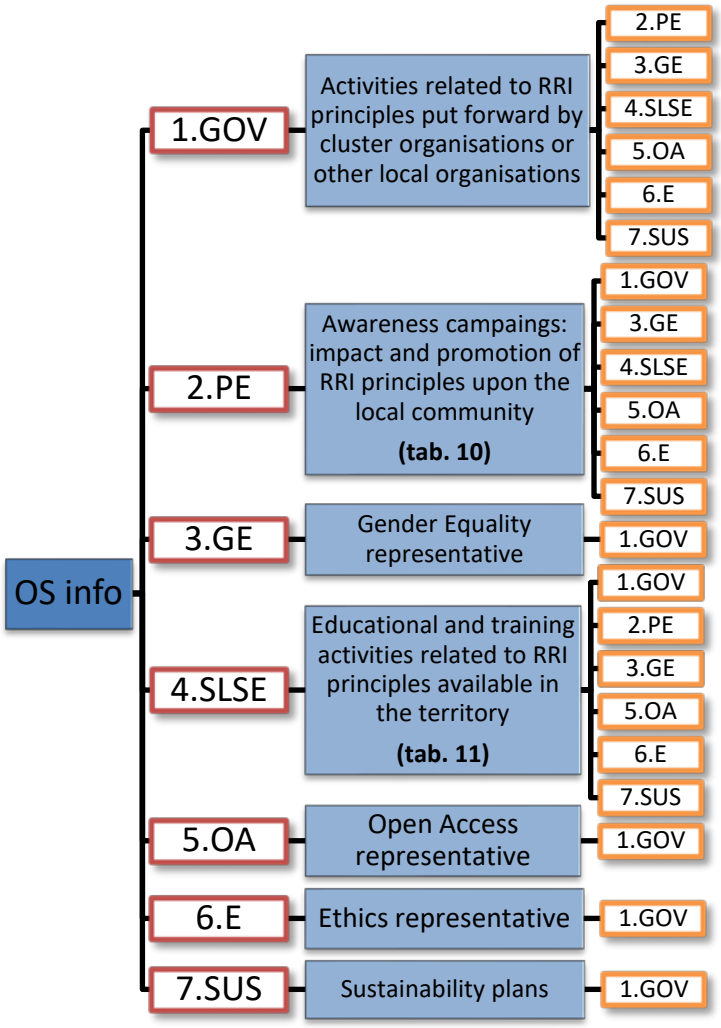

Diagram 2 refers to the structure of the information and related SeeRRI dimensions and sub-dimensions asked to the OS representatives. A more detailed description of the information required in the blue cells is provided in the table below (table 8).

Table 9. *detailed description of the information related to the 7 SeeRRI dimensions asked to the OS*

dim.	information topic	description
1. GOV	Activities related to RRI principles put forward by OS	**Activities related to RRI principles** (1.GOV), such as EU projects or non-EU projects carried out by local organisation in the area and focused on 2.PE, 3.GE, 4.SLSE, 5.OA, 6.E, 7.SUS.
2. PE	Awareness campaigns on RRI principles put forward by OS	**Awareness campaigns** (2.PE) of the clusters organisations or other local-based organisations to assess impact and promotion of RRI principles upon the local

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		communities of one specific SeeRRI dimension (1.GOV, 3.GE, 4.SLSE, 5.OA, 6.E, 7.SUS).
3. GE	Gender Equality representative	Presence of an **institutional representative for** 2.GE within the administrations of the cluster organisations and other relevant organisations in the area.
4. SLSE	Educational and training activities related to RRI principles available in the territory put forward by OS	Educational and training activities (4.SLSE), for example projects/programmes or scholarships available in the territory for courses/masters/doctorate, both focused on one SeeRRI dimension (1.GOV, 2.PE, 3.GE, 5.OA, 6.E, 7.SUS).
5. OA	Open Access representative	Presence of an **institutional representative for** 5.OA within the administrations of the cluster organisations and other relevant organisations in the area.
6. E	Ethics representative	Presence of an **institutional representative for** 6.E within the administrations of the cluster organisations and other relevant organisations in the area.
7. SUS	Sustainability plans	Presence and contents of eventual **Sustainability Plans** (7.SUS) of the cluster organisations and other relevant organisations based in the territory.

The **activities related to RRI principles put forward by cluster organisations or other local organisations** based in the area must be categorized under each SeeRRI sub-dimension. Such activities can be EU projects or non-EU projects that are focused on the related sub-dimension. The OS are asked to include the number and names of such EU or non-EU projects.

The awareness campaigns conducted upon the local communities by the OS are categorized under the SeeRRI sub-dimensions detected (see diagram 2) and for each of them are asked further details, as shown in table 9.

Table 10. *data to be included for each awareness campaign of the OS referring mainly to one of the related SeeRRI sub-dimension*

Category of data	Data requested	Type of data
Awareness campaign with ***sub-dim*** as a main topic	number of promoted awareness campaigns in the past 5 years	*no.*
	people reached	*no.*
	description of the main objectives	*key-words*

The representative of the OS must specify if there is or not **a representative for gender equality, open access and ethics**. Moreover, we ask for the presence or not of **sustainability plans** at the OS level.

The educational and training activities related to RRI principles available in the territory must be categorized under the SeeRRI sub-dimensions detected (see diagram 2).

Table 11. *data to be included for the educational and training activities related to one of the SeeRRI sub-dimension*

Category of data	Data requested	Type of data
Educational/training activities related to ***sub-dim***	Presence of an institutional Science Education/Literacy representative	*yes/no*
	training programmes/projects focused on RRI governance	*no.*
	scholarships available for courses/masters/doctorates focused on RRI governance	*no.*

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QLM DATA DESCRIPTION

- The data of interest are asked to the representatives of PA and OS for the three SeeRRI territories by completing the QlDCF, an excel questionnaire structured in GENERAL DATA (1), THEMATIC FOCUS (2) and SEERRI DIMENSIONS at PA level (3.1) and OS level (3.2).
- GENERAL DATA (1) includes *general data about the territory* and *general data about the clusters within the territory*.
- THAMATIC FOCUS (2) *includes territorial data regarding the thematic focus* and *policies/plans/projects/ planning tools/actions/campaigns/etc. strictly linked to the thematic focus.*
- The core of the QlM is the targeted mapping for SEERRI DIMENSIONS (3). The data requested are structured in two tables, one for the PA and the other for the OS. Each table classifies the requested data according to a 'main SeeRRI dimension' and, eventually, to a 'SeeRRI sub-dimension'. Such arrangement is explained by the diagrams 1 and 2 in the present section while the information requested related to the 7 SeeRRI dimensions are described in tables 4 and 9.
- For all the numbers (no.) and amount (€) requested it is also asked a **self-assessment**: the respondents are asked to choose a grade of satisfaction between **very good, good, fair, poor** and **very poor**.

4. DYNAMIC MAPPING OF RRI WITHIN SeeRRI: HOW TO NAVIGATE THE MAPPING TOOL

The results of the present task (T2.3) are presented with Prezi (https://prezi.com), an online software for building professional presentations which are interactive and allow the general framework of the mapping to be visible at all stages. In particular, it is possible to have free and open access to the dynamic map created for the **visualization of the qualitative mapping results on the three SeeRRI territories performed within the T2.3 at this link.**
The dynamic map is designed to help visualize all the data entered by each territory within a general framework that can always be displayed by simply zooming out at the previous level. In fact, the Prezi representation designed during the D2.1 allows to visualize the results in a catchy way and without losing the overall vision when it comes to the details. Moreover, the dynamic map has also the aim of reporting the current commitment of the three SeeRRI ecosystems with RRI, in particular to visualize whether concrete actions were put into practice by the local actors. In fact, once inside the mapping results of each SeeRRI territory, one can immediately see on which dimensions the territory has worked so far and what do they think about what they have done or want to do. All this will be clearer by going through the architecture of the online map.

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In the present section the structure of the dynamic map will be detailed explained in order to give the user a sort of manual on how to use the tool.
The main page of the online tool appears as the image below (figure 3). The homepage aims at responding to three main questions related to the Task 2.3:

- How to map the inclusion of RRI within the existing regional development policies?
- What are the SeeRRI dimensions?
- Which are the SeeRRI territories?

Figure 3: The main page of the Prezi dynamic map

The **architecture** of the homepage is better explained with the diagram below (**diagram 3**).

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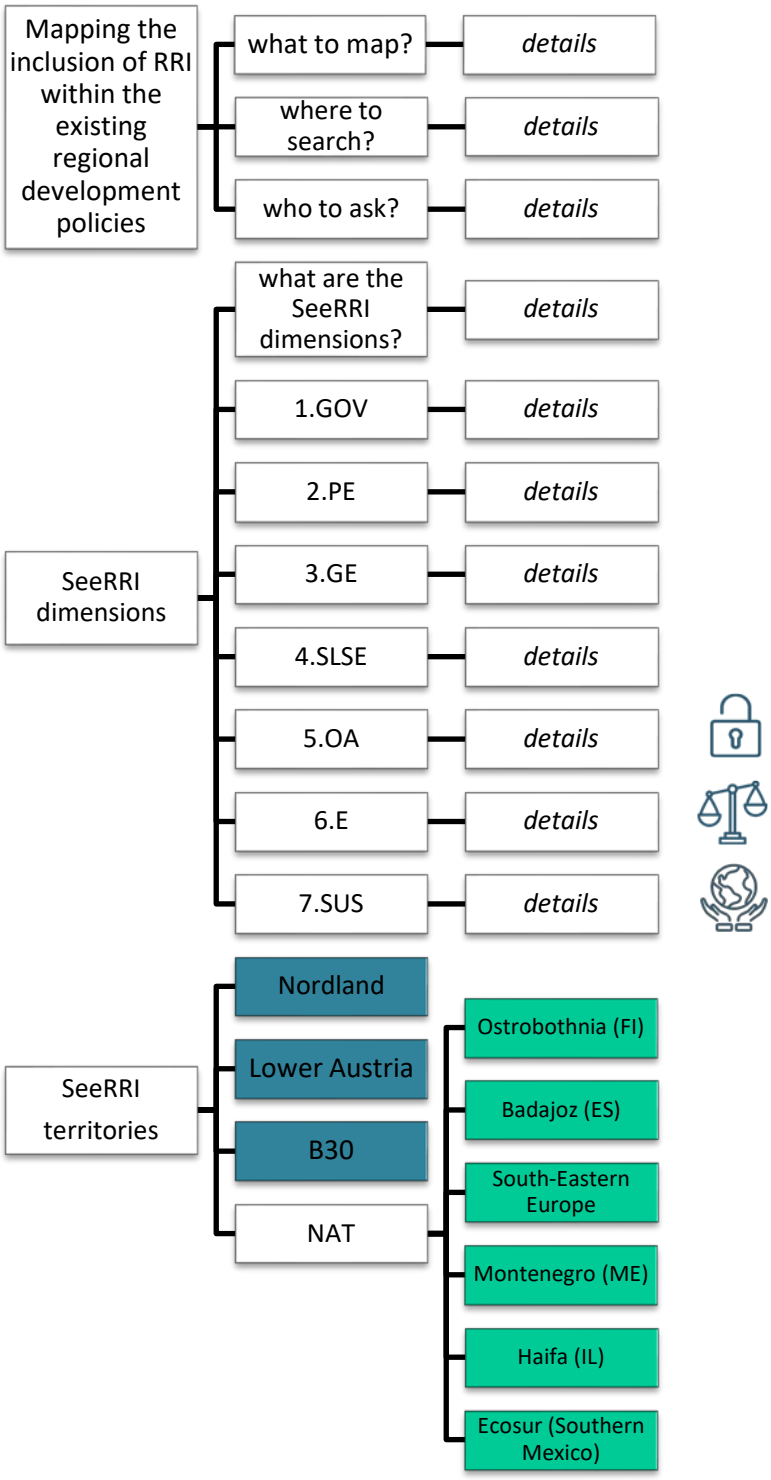
Diagram 3. *Architecture of the homepage of the Prezi mapping tool*



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After having explored the answers to those questions, the tool comes to its principal objective: **showing in detail the qualitative mapping for the three SeeRRI territories** (figure 4). By going into each territory, the structure of the tool is always the same. The data entered by the representatives of the three territories are shown inside three main bubbles, operating as folders with detailed contents inside ('bubble-folders').

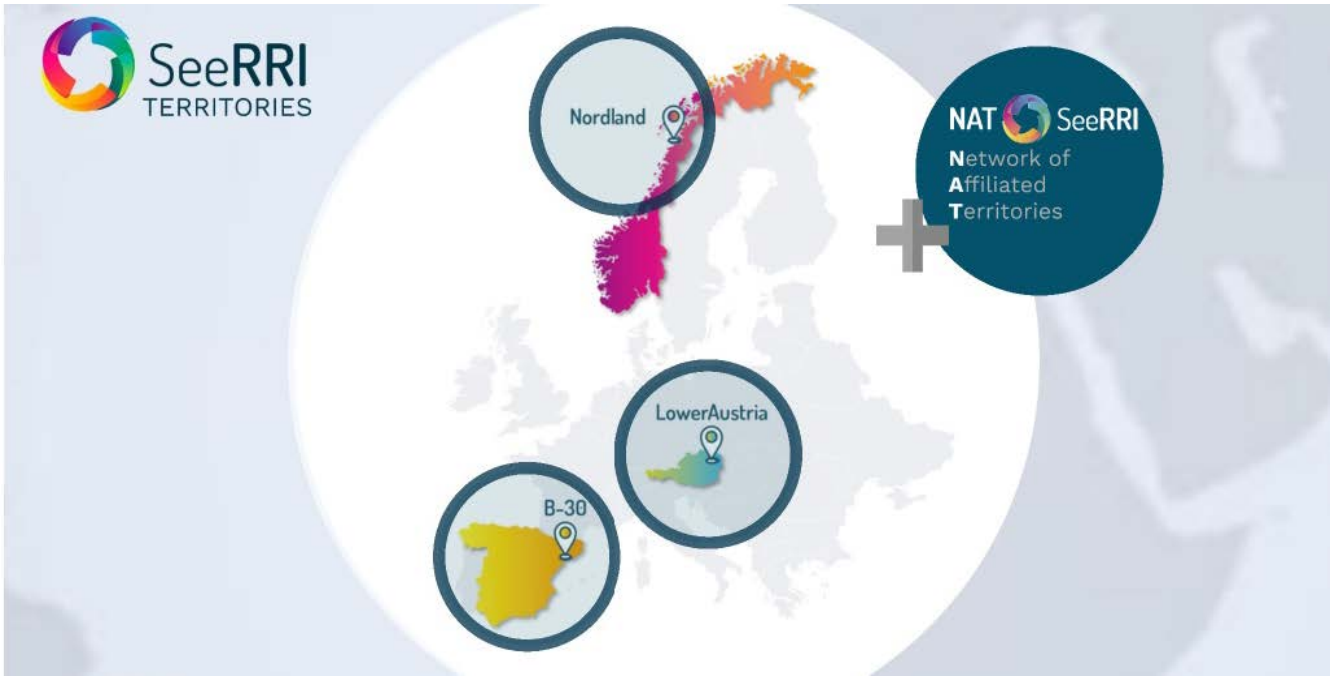

Figure 4: Main page inside the SeeRRI territoires

By running the tool automatically, the three territories are shown one after another, starting from Nordland, then passing from Lower Austria and ending with B30. In addition, the tool goes on to the NAT by showing that for each of the affiliated territories it is possible to add the same type of information collected for the three SeeRRI case-studies and to build a similar mapping by simply feeding the already available structure.
Each of the three main 'bubble-folders' (general data, thematic focus, SeeRRI dimensions) is presented in sequence: when the tool runs automatically it is not possible to go back to the main page of the territory every time, but since the tool is interactive and dynamic, it is possible to direct interface with it and decide when to zoom out or in to have a look at the structure or at the details.

The diagram 4 shows what is contained inside each of the three main bubble-folders. The slides obtained by the virtual printing of the Prezi mapping tool for each territory will further clarify not only the contents but also the structure of the qualitative mapping results (see Annex I, II, III).

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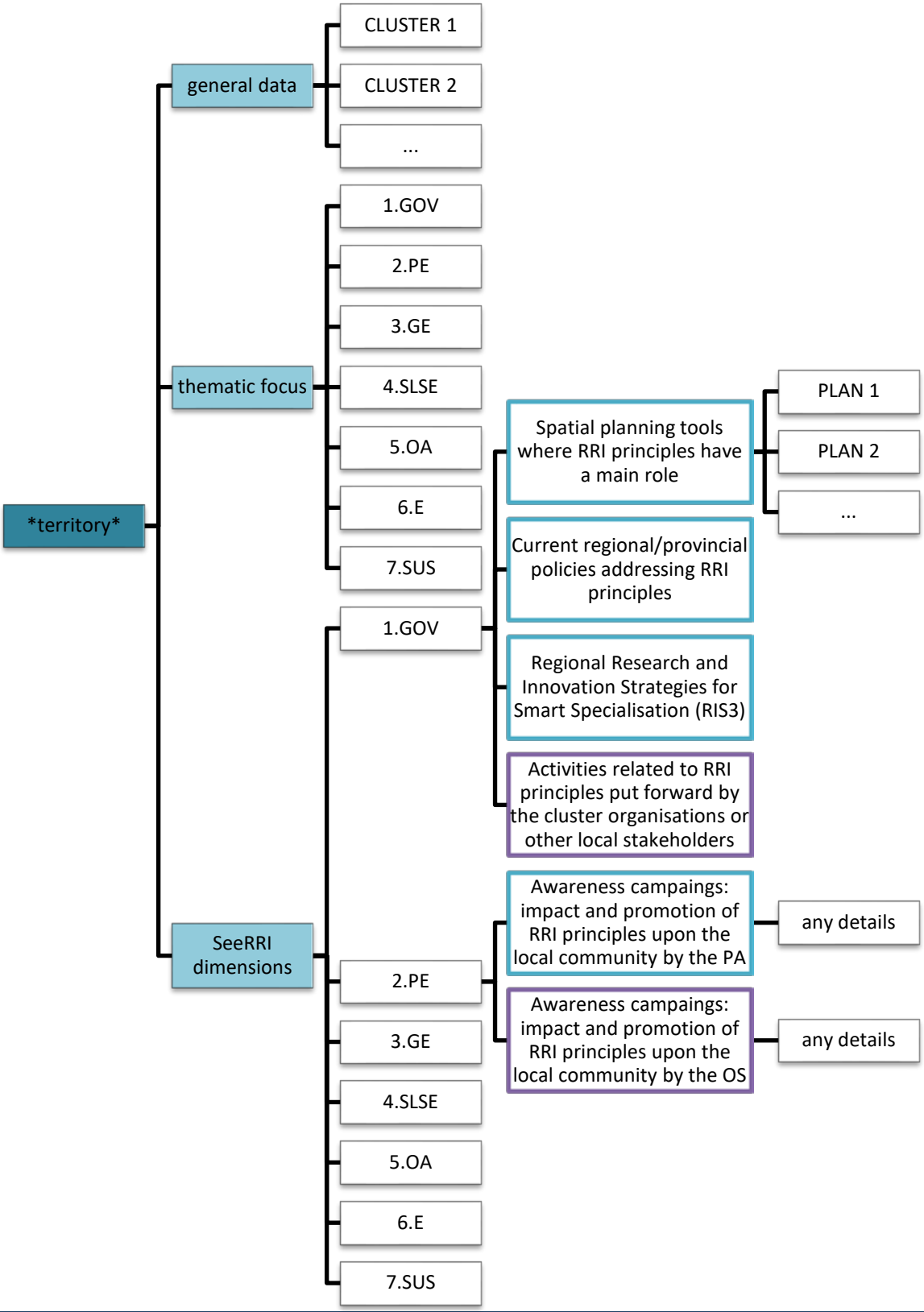
Diagram 4. *Architecture of the presentation of the contents inside each territory*



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General data

Note that most of the information are presented in the main page of the general data folder, then detailed contents are shown for each Cluster present in the area. Of course, the number of sub-folders related to the cluster is in line with the number of clusters.

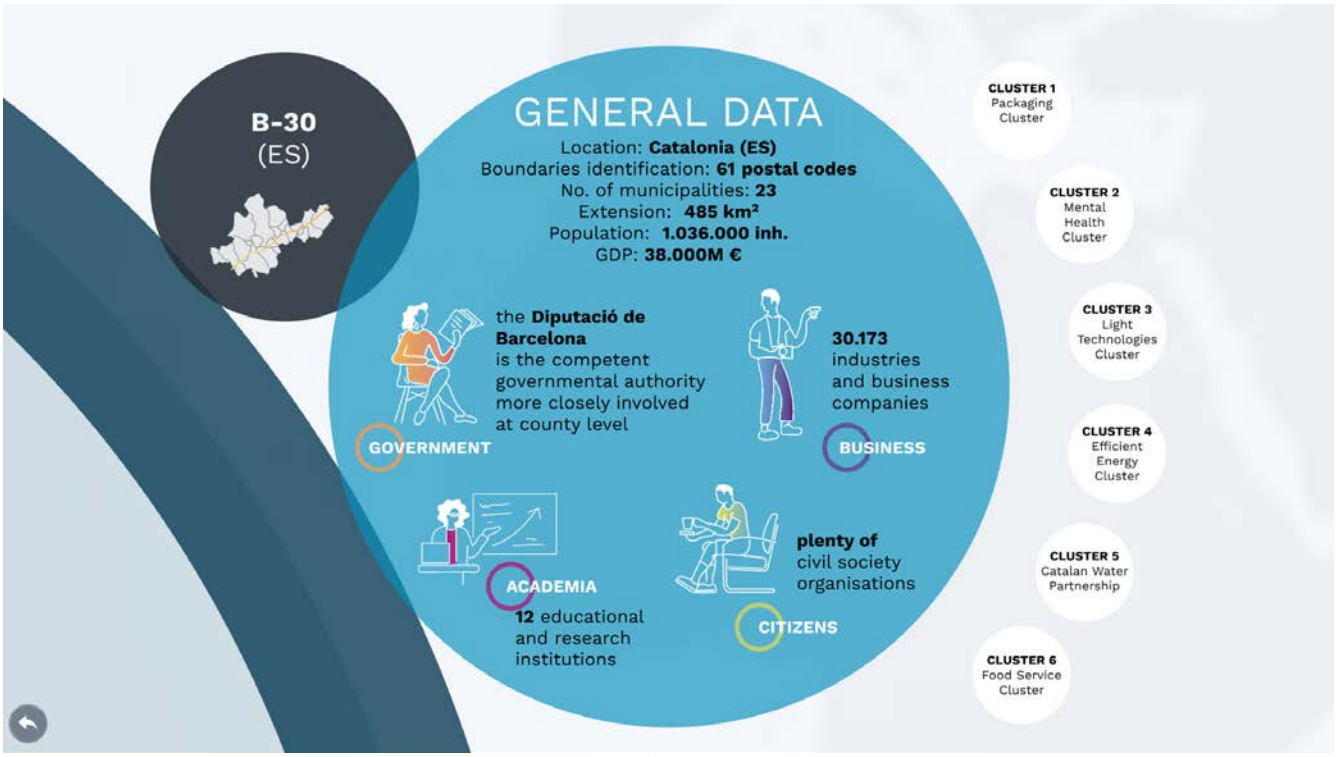

Figure 5: Example of the main page of the GENERAL INFO 'bubble-folder' for B30

Thematic focus

As for the general info folder, also here most of the data collected are presented in the main page. The sub-folders are related to the presence of *policies/plans/projects/etc. strictly linked to the thematic focus* (see Section 3.2). Whether a territory does not have any policies/plans/etc. suitable to be classify under one of the 7 categories, then the sub-folder related to the empty dimension is deleted. In this way it is right visible whether concrete actions were put into practice by the local actors in relation to a specific SeeRRI mapping dimension. Moreover, once inside one sub-folder, it is possible to see the details of the policies/plans/etc. including the active link (when available) to the online document so that the user can directly visit it and get more info. The second level of bubble-folders are bigger or smaller according to the quantity of contents inside, so the available policies/plans/etc. related to such SeeRRI mapping dimension. When available, it is also included the self-assessment of the data evaluated by the territorial actors involved.

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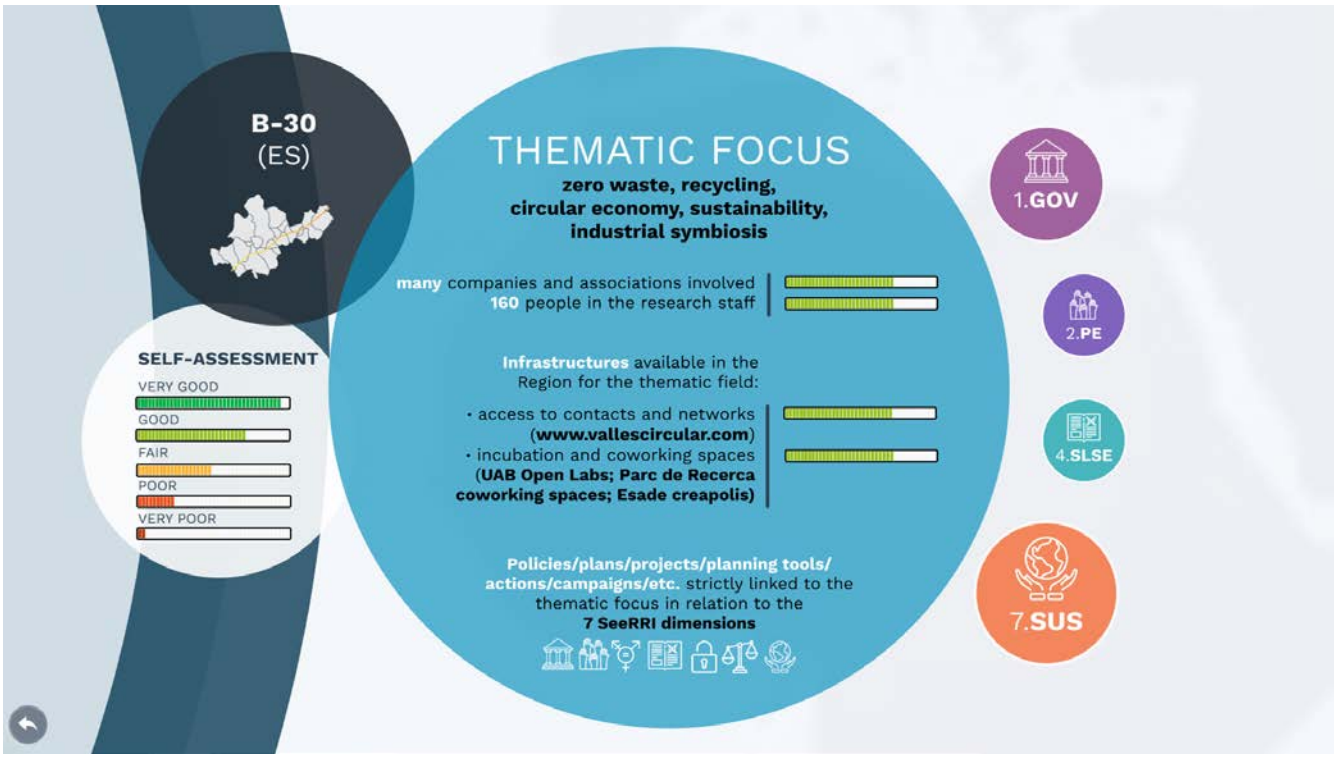

Figure 6: Example of the main page of the THEMATIC FOCUS 'bubble-folder' for B30

SeeRRI dimensions

This last bubble-folder is the core of the qualitative mapping and it shows all the territorial development policies available in the area and their relationship with RRI principles. All the contents are grouped inside the related mapping dimension. Whether no data related to a SeeRRI mapping dimension are available the related bubble doesn't appear.

Inside the 'governance' dimension there are 4 sub-folders: 3 for RRI governance initiatives of the PA (framed in blue in diagram 4) and one for the RRI governance initiatives of the OS (framed in purple). Such sub-folders are always presented as bubbles, bigger or smaller according to the quantity of contents inside. Moreover, the SeeRRI sub-dimension related to the documents inside are anticipated on these sub-folders. When available, additional sub-sub-folders appear revealing the details of the policy document or further descriptions of the topic.

Same thing happens for the 'public engagement' folder where the RRI-related awareness campaigns are divided into two sub-folders, one for the PA and one for the OS.

All the other 'bubble-folders' related to the remaining dimensions directly show all the contents available in relation to PA and OS in the same window.

Note that also the self-assessment (when present) is shown in this section as a very important part of the mapping.

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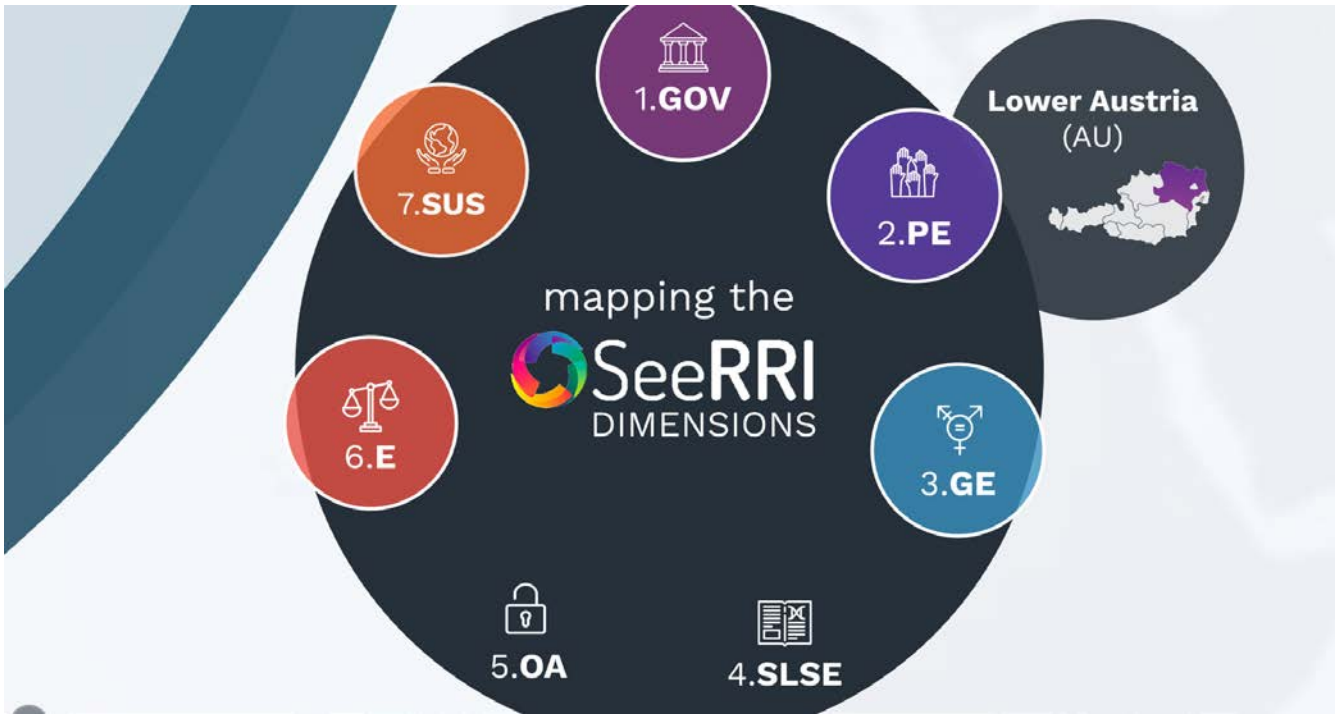

Figure 7: Example of the main page of the SEERRI DIMENSIONS 'bubble-folder' for Lower Austria

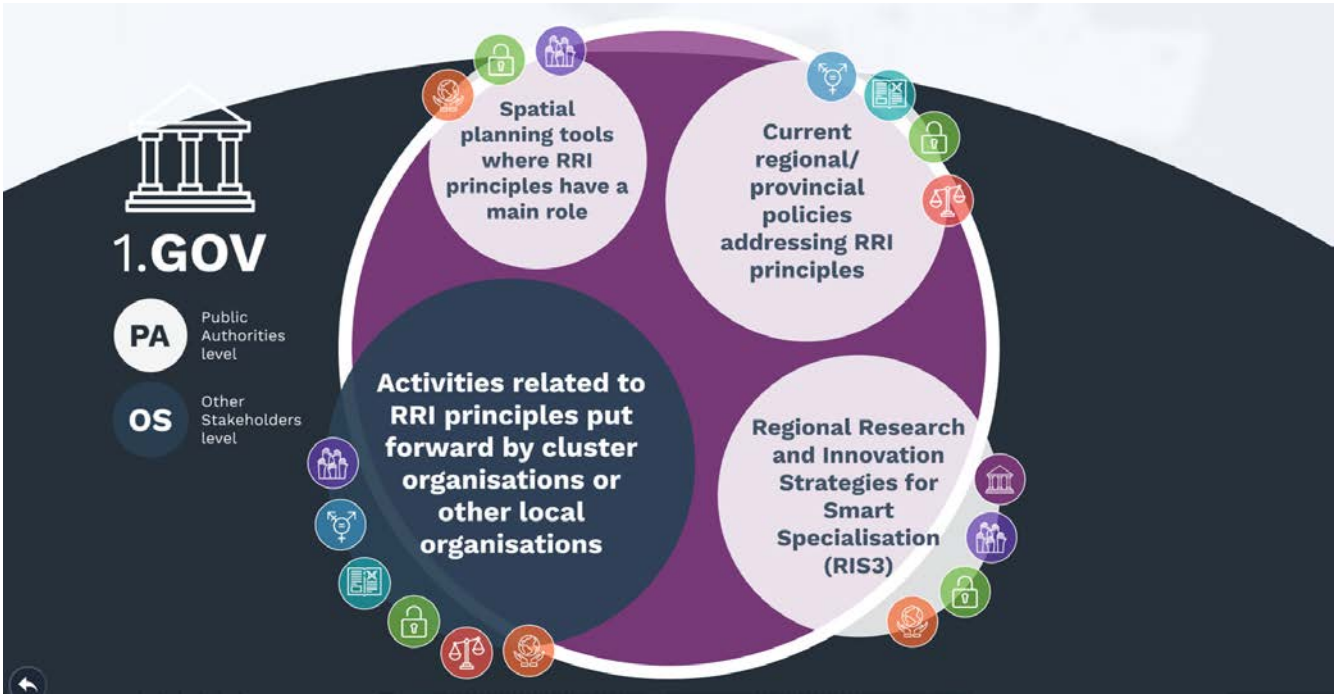

Figure 8: Example of the inside of the GOVERNANCE 'bubble-folder' for B30

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HOW TO NAVIGATE THE MAPPING TOOL

- The results of the QIM performed within the T2.3 are displayed using **Prezi presentation**, which was here used as a **mapping tool** to build an interactive and dynamic qualitative map for the three SeeRRI territories.
- The **Prezi dynamic map** allows the general framework to be visible at all stages and to select the topic the user is interested in without losing the overall vision. By explaining **the architecture** of the dynamic map designed with Prezi it will be clearer **how to use the mapping tool**.
- The main page of the Prezi map aims at responding to three questions: How to map the inclusion of RRI within the existing regional development policies? What are the SeeRRI dimensions? Which are the SeeRRI territories?
- Once inside the territories' bubble-folder, the map shows in detail the **results of the QIM** for B30, Nordland and Lower Austria, following the same structure of contents for each of them. The architecture of such contents is shown in diagram 4 and it includes 3 main sections in line with the sections of the QIDCF: GENERAL DATA, THEMATIC FOCUS and SEERRI DIMENSIONS.
- The dynamic map is available at this link.

5. DYNAMIC QUALITATIVE MAPPING OF RRI WITHIN SeeRRI: THE RESULTS

The results of the qualitative mapping are analysed in the present section for each of the three SeeRRI territories. The analysis consists in a description of the RRI-state-of-the-art for the territory under examination seen as a support to understand how RRI is already included in the existing territorial development policies, which dimensions of RRI could be included with a more active role in future strategies and how this could be done by providing some examples. The objective of such analysis is in fact to lay the foundations for the territories to learn how to integrate the concept of RRI in their commitments and future purposes and become a self-sustaining RRI ecosystem.

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5.1. B30

Figure 9: SeeRRI's own representation of B30 skyline

The **B30 territorial actors involved** in the SeeRRI project (and in the mapping of Task2.3) are:

- Generalitat de Catalunya. General Directorate for Economic Promotion, Competition and Regulation (**GENCAT**) - http://catalunya2020.gencat.cat/ca/inici
- Universitat Autònoma de Barcelona (**UAB**) - https://www.uab.cat/

GENCAT, as it is the regional Govern of Catalonia, represents the data-providers of the qualitative mapping for the **PA** level. **UAB** is one of the major public universities of the whole Spain and it is a member of the Àmbit B30 Association, which, in this context, can represent the **OS** level.

_GENERAL INFO

The B30 Area is located in Catalonia (ES), and even if it has an extension of only 485 km², it boasts a GDP of 38.000 million € and a high-density population of 1.036.000 inhabitants.

B30 is not a province or region in itself, so it does not have a specific institutional government upon it. The name of B30 comes from B30 highway, which is one of the most important traffic hubs in all of Catalonia passing through numerous towns that surround Barcelona and encompasses half of the Catalan industrial network. The Area includes in fact 23 municipalities from different counties and the governmental authority more closely involved at county level could be considered the **Diputació de Barcelona**.

In the B30 area are based also **12 academic institutions, 30.173 industries and business companies and plenty of civil society organisations**, demonstrating the vitality and productivity of the region and the presence of a quadruple-helix of stakeholders. The **Àmbit B30 Association** constitutes the key contributor to the continued development of the whole territory.

As a key industrial hub for innovation, research and entrepreneurship, the B30 area boasts also the presence of **several clusters** with different scopes (packaging cluster, mental health cluster, light technologies cluster, efficient energy cluster, Catalan water partnership, food service cluster) but similar objectives at the basis, such as **sustainability, innovation, efficiency**. The collaboration between different types of actors is another important feature of the B30 clusters since they always involve different actors from business and academia, and in most cases from the civil society as well.

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_THEMATIC INFO

The thematic focus selected by the B-30 partners of the SeeRRI project can be summarized by keywords: **zero waste, recycling, circular economy, sustainability, industrial symbiosis**. In fact, the actions to put into practice by the SeeRRI project aim at increasing the engagement of stakeholders on the topic of zero waste, a relevant and shared long-term objective which is strongly linked to SDGs.

The scope of the thematic focus affects many companies in important industries in B30, such as packaging, food and so on. A wide group of researchers is already dealing with the zero-waste objective: the research staff counts 160 people so far and it is considered already a good number by the B30 partners.

Some of the infrastructures available in B30 region are directly involved in the thematic focus: UAB Open Labs, Parc de Recerca coworking spaces and Esade creapolis. Moreover, the access to contact and networks is provided online at http://vallescircular.com/. The current infrastructures and tools operating in the thematic focus are considered good by the B30 partners.

In the area were already implemented **initiatives and analysis strictly linked to the thematic focus** from 2017 up to the present year, demonstrating the commitment of the actors based in the area to the achievement of the shared objective of zero waste. Such actions are not only linked to the B30 thematic focus, but they can also be seen in relation with the **7 SeeRRI mapping dimensions** since it is possible to recognize the direct implementation of some of the RRI principles within them:

- The supra-municipal initiative 'Valles Circular' (2017-2019), promoted by the Consell Comarcal Vallés Occidental, is about boosting circular economy at local level focusing on the management and **governance** of the issue. The initiative seeks also the participation of all the actors of the Quadruple Helix (**public engagement**) on circular economy, supporting the economic, environmental and social **sustainability.**
- The 'Green Digital Vallès' (2017) is an education program to promote the employment of young people in the context of digital and sustainable industrial transformation. It is a county initiative promoted by the Consell Comarcal Vallés Occidental to foster **science education** on **sustainability** and digital issues.
- Data analysis on the municipal waste management (2017) and on the municipal agricultural system towards sustainability (2018) in the metropolitan area of Barcelona also helped the implementation of zero waste and of the **sustainability** issue. Moreover, strategic analysis to understand the conceptual approach to Zero Waste policies at regional level (http://rezero.cat/dm/estudis-de-recerca/342-informe-catalunya-residu-zero/file) were performed in 2019 by GENCAT to cover the **governance** sphere of the thematic focus.

In conclusion, the **sustainability sphere** is the most affected one by the actions already put into practice on the thematic focus chosen by B30, and this is mostly because sustainability is a cross-cutting issue of the thematic focus itself. Another important question that begun to be faced from 2017 is how to figure measures and arrangements that are desirable, adaptable and accountable on the zero-waste topic: the overall **governance** of the processes and actions is fundamental to achieve the zero-waste objective in a responsible and sustainable way.

_SEERRI DIMENSIONS

The B30 partners of the SeeRRI project were able to detect **facts, figures and considerations** related in some way to **all the 7 SeeRRI dimensions**, demonstrating the already active engagement of B30 with Smart Specialisation Strategies and Responsible Research and Innovation activities, which was the criteria for which B30 was selected as a case study for the SeeRRI project.

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1. GOVERNANCE

The governance in RRI principles is certainly a complex theme but we can say that the B30 area has developed la number of policies, plans and other instrument to govern the implementation of such principles and to manage all the process.

The principles of public engagement and sustainability were directly enforced by a strategic metropolitan plan ('Reflexió Estratègica Metropolitana – REM') and the open access to spatial planning documents is provided by the metropolitan Online Platform. Many provincial policies are addressing RRI principles as their main object: gender equality, science education, open access and ethics. The Regional Research and Innovation Strategies for Smart Specialisation of the Catalonia region (RIS3CAT) has defined priorities in line with RRI-governance, pubic engagement, open access and sustainability.

Not only the public sphere took care of the RRI-governance but also cluster organisations and other local organisations, especially through the implementation of both EU and non-EU projects focused on all the RRI main dimensions and on sustainability, as well as through the establishment of institutional representatives for the issues of gender equality, open access and ethics. Moreover, 8 training programmes/projects focused on RRI governance were put into practice within the B30 area in the last years.

2. PUBLIC ENGAGEMENT

Public engagement on RRI principles was mainly achieved thanks to awareness campaigns upon the local communities promoted by both the public sphere and the other stakeholders' sphere. The RRI principle most involved in such campaigns was science education, but also campaigns on gender equality were put in practice by local organisations in the area.

Anyway, the concept of **public engagement in general** was widely implemented in other practices put forward for the development of the B30 area:

- Public engagement is at the basis of the 'Reflexió Estratègica Metropolitana – REM', a strategic metropolitan spatial plan that was developed thanks to the public participation and that contains social inclusion as one of its main actions (PA level, main dimension: 1.GOV);
- The RIS3CAT has social challenges, participation and quadruple-helix collaboration between its priorities, to be put in place by instrument as RIS3CAT communities or Projects of Territorial Specialisation and Competitivity (PA level, main dimension: 1.GOV);
- At the PA level, citizens are involved in organisations/associations that promote RRI principles as core mission, such gender equality (1 organisation), science education (1), open access (1) and ethics (1).
- Just one EU project focused on public engagement put forward by the cluster organisations or other local organisations (main dimension: 1.GOV; self-assessment: poor);
- 11 training programmes/projects focused on public engagement (main dimension: 4.SLSE; self-assessment: good).

3. GENDER EQUALITY

The principle of **gender equality** by itself is not so spread inside the **public sphere** (it is estimate that there is only one institutional organisation promoting gender equality as a core mission); but at the same time it is present as a main objective for 2 socio-economic policies that were put into practice by the public authorities. As socio-economic policies they fall into the governance sphere of RRI, but still are related to equality, gender-based violence and education (self-assessment: good).

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At the **other stakeholders' level**, the gender equality dimension already received quite a bit of attention, not only thanks to the presence of an institutional Gender Equality representative, but also thanks to its implementation through:

- 3 EU and 2 non-EU projects focused on gender equality put forward by the cluster organisations or other local organisations (main dimension: 1.GOV; self-assessment: very good);
- Many gender equality awareness campaigns put forward by cluster organisations or other local organisations based in the area in the past 5 years (main dimension: 2.PE; self-assessment: good).
- 8 training programmes/projects focused on Gender Equality put forward by cluster organisations or other local organisations based in the area (main dimension: 4.SLSE; self-assessment: good).

4. SCIENCE LITERACY AND SCIENCE EDUCATION

Several educational and training activities related to RRI principles were implemented in the area: 8 focused on RRI-governance, 11 on public engagement, 8 on gender equality, 4 on open access, 5 on ethics, 6 on sustainability.

At the PA level is present 1 education policy focused on STEM and science education was put forward in the B30 area (PA level; main dimension: 1.GOV; self-assessment: good), while a great number of projects were put forward at the OS level: 14 EU projects (self-assessment: good) and 23 non-EU projects (self-assessment: very good) focused on science education. Moreover, science education is one of the main themes for both the awareness campaigns (main dimension: 2.PE) at the PA level and the ones at the OS level:

- PA level: 1 promoted awareness campaign on Science Education in the past 5 years (self-assessment: fair) that has reached about 600 people (self-assessment: good). The main objective was promoting education with a special focus on science, technology, engineering, and mathematics (STEM);
- OS level: more than 21 awareness campaign on science education such as Dissabtes de les Matemàtiques, Dissabtes de la Física, Dissabtes de les Ciències Ambientals i les Jornades de Química Interactiva (Facultat de Ciències)/ Tech Party/ el YoMo/ l'Enginyeering Welcome Day (Escola d'Enginyeria)/ Programa CROMA (Fundació Autònoma Solidària)/ Escolab, les Olimpíades de Geologia, Biologia, Matemàtiques, l'Olimpíada Clàssica, els Divendres del Dret, Jornades Intèrpret per un dia, Geografia en Acció.../ Festival de Nanociència i Nanotecnologia "10alamenos9" de la Facultat de Ciències i l'ICN2/ Programa Argó/Festival Pint of Science / Els Divendres del Patrimoni (CORE en Patrimoni Cultural).

5. OPEN ACCESS

Open access is promoted as a core mission by one organisation/association at the public level and it is recognized as the main objective of an institutional representative at the cluster organisations/other organisations based in the area.

As a cross-cutting issue in other RRI-related instruments/actions put into practice in B30 area, open acess is probably the most prevalent dimension of RRI, along with public engagement:

- The metropolitan area of Barcelona is provided with an Online Platform which ensures the open access to spatial planning documents (PA level; main dimension: 1.GOV);
- 2 socio-economics policies have transparency as a main objective (PA level; main dimension: 1.GOV, self-assessment: fair);
- The RIS3CAT has open innovation and social innovation between its priorities, to be put in place by instrument as the Digital Agenda (PA level, main dimension: 1.GOV);

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- 1 EU project focused on open access was put forward by the cluster organisations or other local organisations (OS level; main dimension: 1.GOV; self-assessment: fair);
- 4 training programmes/projects focused on open access were put forward by cluster organisations or other local organisations based in the area (OS level; main dimension: 4.SLSE; self-assessment: fair).

6. ETHICS

The dimension of ethics per se is achieved by the PA through the presence of one organisation/association promoting ethics as a core mission; and by the OS with the presence of an institutional ethics representative at the cluster organisation/other organisations based in the area.
The pursuit of ethical standards or objectives is not so evident or explicit in other RRI-principles related instruments, but it can be clearly read in:

- The Code of Ethic and good governance, that has quality, citizen participation and transparency as its main objectives (PA level; main dimension: 1.GOV);
- 1 EU project focused on ethics was put forward by the cluster organisations or other local organisations (OS level; main dimension: 1.GOV; self-assessment: fair);
- 5 training programmes/projects focused on open access were put forward by cluster organisations or other local organisations based in the area (OS level; main dimension: 4.SLSE; self-assessment: good).

7. SUSTAINABILITY

The Catalonia region has identified a series of challenges and objectives to meet the UN Sustainable Development Agenda 2030. In particular, they focus on resources management, sustainability, eco-innovation, waste management, employment, inclusion, poverty, society wellbeing, open innovation and social innovation; through these objectives B30 as well (as part of the region) aims to directly face all the SDGs a part from the 4th, 14th and 15th.
As already mentioned, sustainability is also a cross-cutting theme for most of the existing territorial development policies and it is an implicit element also of the thematic issue identified by B30 area.
We can explicit find the sustainability sphere in:

- The 'Reflexió Estratègica Metropolitana – REM', a strategic metropolitan spatial plan focused on sustainability and that contains sustainable growth as one of its main actions (PA level, main dimension: 1.GOV);
- The RIS3CAT has sustainability, circular economy and resources management between its priorities, to be put in place by instrument as the Ecoinnovation Program (PA level, main dimension: 1.GOV);
- 8 EU projects focused on sustainability were put forward by the cluster organisations or other local organisations (OS level; main dimension: 1.GOV; self-assessment: very good);
- 6 training programmes/projects focused on sustainability were put forward by cluster organisations or other local organisations based in the area (OS level; main dimension: 4.SLSE; self-assessment: good).

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B30: MAPPING RESULTS IN A NUTSHELL

- **GENCAT** and **UAB** were the territorial actors involved in the QIM of B30.
- The area is very vital and productive with a 4H of stakeholders involved in cluster organizations committed in **sustainability, innovation and efficiency**.
- B30 is already **well committed in the thematic focus of 'zero waste'**, involving a good number of resources and infrastructures, and having implemented initiatives and analysis on the topic, especially related to the dimensions of **sustainability** and **governance**, but also to **public engagement** and **science education**.
- B30 has worked quite successfully on the dimension of **public engagement** through participation processes, awareness campaigns on RRI principles and other programmes/projects for public participation. **Science literacy and science education** is another issue that is already of great concern for B30 and well-developed with positive results, in particular from the clusters' and other stakeholders' side. Moreover, many instruments and tools were already developed in the region for the **governance** of RR-related issuesB30.
- The OS are already well-committed in the **gender equality** issue, while the PA has not included it between their development objectives as far as we were able to see. Even if the PA is committed in a regional Sustainability Agenda, **sustainability** remains mainly a cross-cutting theme in several public plans/programmes. On the other side, the OS seems to be more focused on sustainability in their already developed activities and projects.
- As far as the collected data show, **open access** is already achieved in some fields (such as spatial planning) but it is still not reached in other sectors. Anyway, transparency and open innovation are important objectives for both the PA and OS in B30 area, so the chances to improve this aspect are high. On the other hand, the current commitment on the **ethics** issue is not so well-developed but it is generally considered fair.

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5.2. LOWER AUSTRIA

Figure 10: SeeRRI's own representation of Lower Austria skyline

The **territorial actors of Lower Austria involved** in the SeeRRI project (and in the mapping of Task2.3) are:

- The Lower Austrian Business Agency Ecoplus (**ECOPLUS**) - www.ecoplus.at
- Austrian Institute of Technology (**AIT**) - https://www.ait.ac.at/en/

ECOPLUS is a non-profit organization, 100% owned by the Provincial Government of Lower Austria. On behalf of the regional government, the Ecoplus department Clusters is in charge of implementing the Lower Austrian Cluster Programme, which is an integral part of the region's Smart Specialization Strategy. To the aim of the SeeRRI activities in WP2, ECOPLUS represents the data-provider of the qualitative mapping for both the **PA** level (**Provincial Government**) and the **OS** level (**clusters' agency**).
AIT, as a highly specialised research and development partner for industry, can assist ECOPLUS in finding the data requested for the mapping.

_GENERAL INFO

Lower Austria (in German: Niederösterreich) is the north-eastern most of the nine states of Austria. With a land area of 19,186 km² and a population of 1.612 million people, Lower Austria is the country's largest state (it is the second most populous after the federal state of Vienna). Lower Austria is leading economic performer among the regions in Europe and it has a GDP of 57.349,11 million €.
Lower Austria correspond to a NUTS (Nomenclature of Territorial Units for Statistics) level 2, that for Austria are represented by the 9 States of the federal republic, with the code AT12. The Lower Austria region includes 573 municipalities and the **Provincial Government of Lower Austria** (Landesregierung) is the competent governmental authority: as the highest administrative body, implements the regional laws, manages the province's finances and administers the province's assets.
In Lower Austria are based **18 academic institutions, 102.000 industries and business companies and more than 100.000 civil society organisations**. Numbers confirm that Lower Austria is important from the cultural, social and innovative point of view, as well as from the economic one (for this province is generating the bulk of Austria's agricultural products as well as featuring a highly developed industrial sector).
The economic strategy of the province of Lower Austria serves as a foundation for the activities and measures of the business areas of the Lower Austrian Ministry of Economic Affairs. These include also the Business Agency of Lower Austria (ECOPLUS). The Clusters in Lower Austria aim at joint pre-competitive research as a basis for product

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and service innovations, joint improvement of organisational and production processes as well as building-up and anchoring know-how in the region. The Ecoplus clusters in Lower Austria are green building cluster, food cluster, plastic cluster, mechatronics cluster and e-mobility initiative. **Sustainability, resource efficiency, technology, quality and safety** are just some of the objectives at the basis of Lower Austrian clusters. All the clusters involve actors from civil society, academia and, especially, many actors from business and companies.

_THEMATIC INFO

ECOPLUS, as the territorial SeeRRI partner for Lower Austria and the main promoter (through its clusters) of the Smart Specialisation, identified in **additive manufacturing** (AM) and **3d printing** (AM for metals, polymers, ceramics) the keywords for its thematic focus. This focus influences the manufacturing sector and aims to reduce the costs of production by leveraging the opportunities provided by the technology to facilitate mass customization of industrial products. The specific objective is to build up an ecosystem from education, R&D, companies, equipment producers, quality requirements and product development.

42 companies and associations are already involved in the thematic focus (self-assessment: fair), as well as 25 people in the research staff (self-assessment: fair) and 108 people in the business staff (self-assessment: very good). In addition, 15 jobs were already created in the thematic field and safeguarded by the clusters (self-assessment: fair).

Some of the infrastructures available in Lower Austria region are directly involved in the thematic focus:

- 2 incubation and coworking spaces: Technology Center Wr. Neustadt, Zukunftsakademie Mostviertel (self-assessment: poor)
- 8 scientific-technical services: FOTEC; RHP; INDAT; SBI; Hirtenberger; Bernstein Innovation; Schiener 3D (self-assessment: good)
- 3 access to contacts and networks: house of digitalisation; Mechatronics Cluster; Technopol Wr. Neustadt (self-assessment: fair).

In the area were already implemented several **initiatives strictly linked to the thematic focus**, all available online through dedicated webpages. The presence of all these initiatives demonstrates the already existing commitment of the actors based in the area to the achievement of the shared objective of AM and 3d printing. Such initiatives are not only linked to the thematic focus, but they can also be seen in relation with the **7 SeeRRI mapping dimensions,** since it is possible to recognize the direct implementation of some of the RRI principles within them. To find out more it is possible to view these initiatives in these webpages:

- https://www.noeregional.at/angebot/buergerbeteiligung/ (2010, promoted by the government of Lower Austria, linked to public engagement);
- https://www.noe.gv.at/noe/Frauen/Gender_Mainstreaming_Arbeitsschwerpunkte.html#heading_Gender_Alp___Chancengleich_in_NOe_Wirtschaftsparks (2012, promoted by the government of Lower Austria, linked to gender equality);
- https://www.donau-uni.ac.at/de/universitaet/service/bibliothek/publikationsservices/open-access-strategie.html (2015, promoted by Donau-Universität Krems, linked to open access);
- http://www.noe.gv.at/noe/Gesundheitsvorsorge-Forschung/Ethikkommission_Niederoesterreich.html (2005, promoted by the government of Lower Austria, linked to ethics);
- http://www.noe.gv.at/noe/Wirtschaft-Tourismus-Technologie/CSR_Nachhaltigkeit.html (2005, promoted by the government of Lower Austria, linked to sustainability).

From this general overview it is possible to state that all the SeeRRI dimensions are already included, some more, some less, into initiatives put forward by the local government or other stakeholders. The willingness of Lower

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Austria to include RRI principles into their thematic focus is already well advanced, but surely it is possible to systematize the process and do a better job.

_SEERRI DIMENSIONS

1. GOVERNANCE

The provincial government of Lower Austria has developed policies, plans and other instruments to govern the implementation of RR principles, in particular of public engagement and science education, but also for gender equality, open access and sustainability.

The Regional Strategies 2024 can be considered strategic spatial planning tools were public engagement has a central role in the whole process, from the preparation to the implementation. It must be noted that Lower Austria has 5 main regions and each of them has developed its own regional strategy 2024, adopted by the General Assembly.

Many provincial policies are addressing RRI principles as their main object: public engagement, gender equality, science education, open access and sustainability.

The Regional Research and Innovation Strategies for Smart Specialisation of Lower Austria has defined priorities explicitly in line with pubic engagement and science education.

In the region there are institutional representative for some of the RRI principle, in particular for gender equality (both at the PA and OS levels) and for ethics (in medicine and health).

Finally, it must be reported that the ECOPLUS activities do not cover RRI principles explicitly, but it is possible to find implicit aspects of RRI in the processes:

• Diverse & inclusive: involve early a wide range of actors and public in R&I practice, deliberation, and decision-making to yield more useful and higher quality knowledge. This strengths democracy and broadens sources of expertise, disciplines and perspectives.

• Anticipative & reflective: envision impacts and reflect on the underlying assumptions, values, and purposes to better understand how R&I shapes the future. This yields to valuable insights and increase our capacity to act on what we know.

• Open & transparent: communicate in a balanced, meaningful way methods, results, conclusions, and implications to enable public scrutiny and dialogue. This benefits the visibility and understanding of R&I.

• Responsive & adaptive to change: be able to modify modes of thought and behaviour, overarching organizational structures, in response to changing circumstances, knowledge, and perspectives. This aligns action with the needs expressed by stakeholders and public.

2. PUBLIC ENGAGEMENT

Public engagement on RRI principles was mainly achieved thanks to awareness campaigns upon the local communities promoted by **ECOPLUS** (OS level). The RRI principles involved in such campaigns were gender equality (many campaigns, many people reached, self-assessment: good), science education (4 campaigns, 100.000 people reached, self-assessment: fair), open access (3 campaigns, 1.000 people reached, self-assessment: very poor) and sustainability (5 campaigns, many people reached, self-assessment: fair).

The concept of **public engagement in general** was widely implemented at the **PA level** in other practices put forward for the development of Lower Austria region. Public engagement is the only dimension explicitly considered in spatial planning tools, regional policies and RIS3 by the provincial government of Lower Austria:

- Hauptregionsstrategien 2024 collect the main regional strategies 2024 (each of the five main regions of Lower Austria has its own 2024 regional strategy) and involves municipalities, civil society

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organisations, politicians, regional government departments and spatial planning experts (PA level, main dimension: 1.GOV, self-assessment: good);

- Initiatives where public is asked to participate and to be involved regarding getting awareness (e.g. in the fields of energy strategies in communities; for the future of the region in general to become a top and attractive region in Europe; also, in the field of ecology). See: e5 Country Program for Energy Efficient Communities; Capital Region Strategy 2024 - Region Lower Austria (PA level, main dimension: 1.GOV, self-assessment: poor);
- The RIS3 of Lower Austria identified cooperation as one of its priorities to be implemented through the Cluster Programme (innovation through cooperation in 4 economic fields of strength). The implementation of cooperation and participation is monitored through participation quote in competence-increase-initiatives and cooperation (clusters) and collaborative projects at locations, co-initiated collaborative projects, specific events organized (technopoles). (PA level, main dimension: 1.GOV).

3. GENDER EQUALITY

At the provincial government of Lower Austria (**PA level**) is established the Women's Department, an office that focuses on Gender Budgeting, parent-oriented personnel policy which makes career conformable with parenthood, and spatial development for women and man. On the other hand, **ECOPLUS** (OS level) is provided as well with an institutional gender equality representative.

Gender equality is also a concept at the basis of other RRI-related instruments put forward by both the provincial government and the clusters' business agency:

- Equal opportunities in Lower Austria are the objectives of policies and project put forward by the provincial government, such as Gender Mainstreaming and GenderStrat4Equality (PA level, main dimension: 1.GOV, self-assessment: fair);
- Many awareness campaigns on gender equality put forward by ECOPLUS and the cluster organisations have reached a good number of people (OS level, main dimension: 1.GOV, self-assessment: fair).

4. SCIENCE LITERACY AND SCIENCE EDUCATION

Science education is the core theme of some activities carried out in Lower Austria, in particular at the provincial government level there is a specific section on 'Science and Research' showing what's going on in Lower Austria, i.e. Science Academy Niederösterreich (PA level, main dimension: 1.GOV, self-assessment: poor).

At the PA level it also possible to recognize science education as an objective for the RIS3: consulting for innovation beginners is one of the priorities to be implemented through the TIP Programme - technology and innovation consulting for innovation beginners (PA level, main dimension: 1.GOV).

ECOPLUS, on the other hand, has implemented science literacy through the promotion of 4 science literacy and education awareness campaigns in the past 5 years (self-assessment: good). It was estimated that 100.000 people were reached by such campaigns, which is a fair number for ECOPLUS (OS level, main dimension: 2.PE).

5. OPEN ACCESS

Open access is promoted by the provincial government of Lower Austria through policies and open platforms, in this framework the House of Digitalization and the Transparent Portal represent activities already put forward in the area (PA level, main dimension: 1.GOV, self-assessment: poor).

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Only 3 awareness campaigns focused on open access were put forward by ECOPLUS and the clusters organisations in the past 5 years, such campaigns were able to reach only 1000 people by demonstrating that it is necessary to work more on this topic (OS level, main dimension: 2.Pe, self-assessment: poor).

6. ETHICS

The dimension of ethics per se is achieved by the OS through the presence of an institutional ethics representative in Health and Medicine.

The concept of ethics is not explicit in policies/actions/plans/etc. put forward by the provincial government or by the clusters' business agency, therefore it was not possible to map the activities related to this dimension.

7. SUSTAINABILITY

The Lower Austria region has identified a series of challenges and objectives to meet the UN Sustainable Development Agenda 2030. In particular, they focus on employment, inclusion, poverty, resources management, social wellbeing, innovation, e-government; through these objectives Lower Austria aims to directly face all the SDGs apart from the 4th, 14th, 15th and 16th.

At the clusters' level there are many activities regarding sustainability and several awards for projects. The criteria for getting awarded are the following: attitude, motivation and intention of the engagement, transparency and openness, materiality, effectiveness, innovation, sustainability, contribution to the UN Sustainable Development Goals (SDGs), involvement (stakeholder engagement), strategic handling.

Sustainability is also a central theme for most of the existing territorial development policies already linked to a specific RRI dimension:

- The Lower Austria Climate and energy programme 2020 is mainly focused on environmental sustainability and provide actions on buildings, mobility, circular economy (PA level, main dimension: 1.GOV, self-assessment: fair);
- Other initiatives strictly linked to sustainability are put forward by the provincial government, such as 'Become a Lower Austrian sustainability pioneer' (PA level, main dimension: 1.GOV, self-assessment: fair);
- 5 awareness campaigns on sustainability were promoted by ECOPLUS in the past 5 years reaching many people (OS level, main dimension: 2.PE, self-assessment: fair).

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LOWER AUSTRIA: MAPPING RESULTS IN A NUTSHELL

- ECOPLUS and AIT were the territorial actors involved in the QIM of Lower Austria.
- The region is large and very populated, it is a vibrant area from many points of view and the clusters have a main role in the regional economy, involving the 4H of stakeholders in **sustainability, resource efficiency, technology, quality and safety.**
- SeeRRI's partners from Lower Austria has identified in '**additive manufacturing**' and '**3D printing**' the thematic focus for their territory and many resources and infrastructures were already involved in the topic. The commitment in the thematic focus is already quite good and it is possible to see a relationship between it and the RRI principles.
- The Provincial government of Lower Austria (PA), as well as Ecoplus (OS), worked quite well on **public engagement** in many fields (included spatial planning and RIS3). Anyway, the PA feels that this is not enough from their side and further policies and campaigns should be developed. **Gender Equality** is aimed by both PA and OS with policies (PA), awareness campaigns (OS) and institutional representatives as well. Up to date the mapped activities are not fully satisfying for the region, but something has already done and planned in this direction rising the future expectations. Carrying out a broader analysis on the topic of **sustainability** it is possible to see that both PA and OS are committed in sustainability-related activities, starting from the adoption of a regional Sustainability Agenda. Also in this case the mapping was probably not able to highlight them all, leading to a not so high level of satisfaction.
- The RRI principles embedment into **governance** instruments and tools is not always so explicit and this implies that the qualitative mapping wasn't always able to recognize specific documents related to RRI, often implying a negative self-assessment**. Science education** is already embedded by Lower Austria as an objective in provincial policies, RIS3 and Ecoplus' awareness campaign but the results are not satisfying.
- According to the available data, **open access** and **ethics** are the dimensions the most under-developed dimensions. Very few initiatives were mapped under the open access dimension while ethics is almost absent at all.

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5.3. NORDLAND

Figure 11: SeeRRI's own representation of Nordland skyline

The **territorial actors from Nordland involved** in the SeeRRI project (and in the mapping of Task2.3) are:

- Nordland County Council (**NCC**) - https://www.nfk.no/om-nordland-fylkeskommune/om-nordland/in-english/
- NHO Nordland (**NHO**) [the regional office of the Confederation of Norwegian Enterprise, in Norwegian *Næringslivets Hovedorganisasjon*] - https://www.nho.no/nordland
- Nordland Research Institute (**NRI**) - http://nordlandsforskning.no/?lang=en_GB

NCC is the regional elected authority for Nordland County, so it represents the data-providers of the qualitative mapping for the **PA** level. **NHO** is Norway's largest organisation for employers and the leading business lobbyist; NHO Nordland, as its regional office, is the leading voice of business and industry in Nordland and it represent the **OS** level for the present task. Moreover, **NRI**, and in particular the Business and Entrepreneurship research group, assisted NCC and NHO in filling the forms and provided some document analysis for both cases.

_GENERAL INFO

The Nordland region is part of the Northern Norway (NO) and it is in area the second largest of Norway's 11 regions with an extension of 38.482 km². It counts a GDP of 10.825 million € and a medium-low-density population of 243.335 inhabitants distributed in 44 municipalities.

As a member of EFTA, Norway is not included in the Classification of Territorial Units for Statistics (NUTS), but in a similar classification used for coding statistical regions of countries that are not part of the EU but are potential candidates or EFTA countries. The whole area considered for the SeeRRI project coincides with the level 3 of such classification (equivalent to NUTS level 3): NO071.

The supreme political body is the **County Council (NCC)** with its 53 representatives elected every fourth year by the inhabitants at the County and Municipal elections. NCC represents the competent governmental authority more closely involved at county level that is considered as the PA representative for the SeeRRI project.

The economy of Nordland is strongly globalized and it boasts a long tradition of cooperation with regions, knowledge institutions, and businesses also in other parts of Europe. The numbers speak for themselves: **10 academic institutions, 29.541 industries and business companies** (16631 sole-proprietorships and similar; 12910 LLC and public firms) **and 7613 civil society organisations** (i.e. religious organisations, sporting associations, non-profit foundations, common interest organisations, cooperatives, etc.) are based within the area.

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Nordland bases its innovation strategy on the European Union's smart specialization platform and it has **innovation clusters** in several industries including tourism and seafood. All the territorial clusters identified (5) involve actors from business, academia and civil society, stating that the collaboration between different types of actors is an affirmed practice in Nordland.

_THEMATIC INFO

The partners from Nordland identified in the '**sustainability**' and '**stakeholder engagement**' keywords representing the thematic focus selected for the SeeRRI project. Sustainability issues affect many companies in important industries in the area, but also many academic researchers (at Nord University and NRI) are involved in research that addresses sustainability issues. Moreover, many subsidies are provided for sustainability-related innovation projects in the private sector. Wording from Nordland County Council: "How can we develop Nordland to be a more sustainable society true our strategy and planning processes? Can we find new ways to involve different types of stakeholders? We want to define common and specific goals and action relevant for Nordland to address the 17 SDG together with relevant stakeholders."
The region has 3 incubators (Kunnskapsparken Bodø, Kystinkubatoren, Kunnskapsparken Helgeland) and 2 industrial parks (Fabrikken Næringshage, Sentrum Næringshage) supported by public funds that are directly involved in the thematic focus. The incubators and industrial parks facilitate access to contacts and networks.

In the area were already implemented **regional plans and strategies strictly linked to the thematic focus** from 2017 up to the present year, demonstrating the commitment of the actors based in the area to the achievement of a sustainable development of the region. Such actions are linked only to the **7th SeeRRI dimension**, which also matches with the Nordland's thematic focus of **sustainability**.

- The Strategy for tourism in Nordland 2017-2021 is a regional strategy promoted by Nordland County Council where the sustainable use of resources is an important strategic issue.
- The Sustainable and innovative agriculture in Nordland (2018) is regional plan promoted by Nordland County Council including the sustainable use of resources as an important element of the plan.
- The Regional climate plan (2019), promoted by Nordland County Council, focuses on reducing carbon emissions to promote a sustainable environment.

A correspondence between existing policies/plans/projects/ planning tools/actions/campaigns/etc. strictly linked to the thematic focus with the implementation of the other SeeRRI dimensions was not found.

_SEERRI DIMENSIONS

The Nordland partners of the SeeRRI project were able to detect **facts, figures and considerations** related in some way to **all the 7 SeeRRI dimensions**, considered as main dimensions or either as sub-dimensions. The achieved mapping demonstrates the already active engagement of Nordland with Smart Specialisation Strategies and Responsible Research and Innovation activities.

1. GOVERNANCE

Nordland has developed lots of policies, plans and other instrument to govern the implementation of RRI principles and to manage all the processes.
The principles of public engagement and sustainability were directly enforced by the regional plan 'Arealpolitiske retningslinjer' 2013-2025 which includes guidelines for area policies where the environmental sphere of sustainability has a main role and the general work process is a co-development. The open access to spatial planning documents is provided by a county Online Platform.

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NCC is beholden to national laws and policies of transparency that enable them to take direct actions, such as funding initiatives, without having a concrete policy as a foundation. These actions are based on national policies but implemented per region and they are audited through internal processes (e.g., archives). In this framework we can state that many policies and strategies addressing RRI principles as their main object were developed in the area: public engagement, equality, science education, open access, ethics and sustainability. Nordland has a Smart Specialisation Strategy (Innovation strategy for Nordland 2014-2020) that focuses on growth based on three strong innovation ecosystems: seafood, mineral production, and experience-based tourism. Moreover, the S3 of Nordland has defined actions dealing with pubic engagement, science education (together with "S3 School" 2017) and sustainability.

NHO's mission include encouraging member firms to, e.g., participate in EU projects, including those related to RRI activities. RRI-governance-related activities were put forward by NHO and they focused on all the RRI main dimensions at an extensive level of focus, and on sustainability at a low level of focus. NHO, as the OS representative, boasts also the presence of an institutional representative for science education and even if they do not provide any education themselves, though e.g. RSA they affect what is available for students and their members in general.

2. PUBLIC ENGAGEMENT

Public engagement on RRI principles was mainly achieved thanks to awareness campaigns upon the local communities promoted by both the public sphere and the other stakeholders' sphere. Objectives related to science education, gender equality and sustainability were at the basis of awareness campaigns put forward by NCC. NHO's main Value-Added mechanism is promoting awareness to their clients (e.g., inform them on issues of law, ethics, and so on) and other stakeholders (e.g., brokering meetings and communications with unions, policy makers, and so on); in this context it was possible to find relationship between awareness campaigns and the RRI principles of governance, equality (see 3.(GENDER) EQUALITY below), science education, open access, ethics and sustainability.
The concept of **public engagement in general** was widely implemented in other practices put forward for the development of the Nordland area:

- Public engagement is at the basis of the 'Arealpolitiske retningslinjer' 2013-2025, a strategic regional plan that was developed thanks to the co-development between central stakeholders such as indigenous people and industry stakeholders (PA level, main dimension: 1.GOV);
- The Regional climate plan has the competency in communication, reduction of climate gasses, adaptation to climate change and pollution awareness between its main objectives and it is based on public engagement (PA level, main dimension: 1.GOV);
- The Innovation strategy for Nordland 2014-2020 (Nordland RIS3) take into account the issue of public engagement, as well as "S3 School" 2017 (PA level, main dimension: 1.GOV).

3. (GENDER) EQUALITY

The SeeRRI territorial partners of Nordland (NCC, NHO, NRI) changed the topic from "Gender Equality" to "**Equality**", which they consider to be more representative for their region.
In this framework, the **public level** represented by **NCC** boasts a representative working on issues specific to the indigenous people (among other things) and also the implementation of other equality-related activities:

- The Universal accessibility policy has equality and inclusiveness as its main objectives (PA level, main dimension: 1.GOV);

- Awareness campaigns with equality and inclusiveness as core themes (PA level, main dimension: 2.PE).

NHO as well has promoted initiatives with equality at centre stage, focusing mainly on gender equality:

- Non-Eu projects as "Jenter og teknologi 2019" focused on gender equality (OS level, main dimension: 1.GOV);
- Awareness campaign on gender equality, by encouraging women's participation for instance in engineering (OS level, main dimension: 2.PE);
- NHO also financed research on gender equality in management. This research is partially aimed at helping educate and prepare women for demanding leadership roles and positions (OS level, main dimension: 4.SLSE).

4. SCIENCE LITERACY AND SCIENCE EDUCATION

At OS level, NHO is provided with an institutional science education/literacy representative. Several educational and training activities related to RRI principles were implemented in the area by NHO, mainly focusing on RRI-governance, gender equality, ethics and sustainability. NHO is an organization that can, and do, work with and for their members to further RRI-related issues. Moreover, the Norwegian universities and colleges, in collaboration with NCC, are required to establish a Council for cooperation with Working Life (RSA) which was a way to strengthen the social and regional relevance of educational institutions. NCC has also supported an initiative for connecting high schools with industry in collaboration with Kunnskapsparken Helgeland (OS level, main dimension: 1.GOV). Note that NHO does not provide any education themselves, but they, through e.g. RSA, affect what is available for students and their members in general.

Science education is also a core-mission of county policies at the NCC level and of the Innovation strategy for Nordland 2014-2020. Through regional development funds they have financed many efforts, i.e. 'Forskningsdagene' ('Research days'), a national event localized to the different regions, and 'Lytring' (it's a combination of the Norwegian words for listening to others – Lytte - and expressing yourself - Ytre), a series of debates between academics where the public takes an active role (PA level, main dimension: 1.GOV).

5. OPEN ACCESS

Open access is promoted as a cross-cutting issue in other RRI-related instruments/actions put into practice in Nordland area, but it is not seen as main theme for projects/plans or other activities:

- The NCC is provided with an online platform which ensures the open access to spatial planning documents (PA level; main dimension: 1.GOV);
- Open access policies, interpreted as openness in public processes (i.e. transparency), were developed in the area of Nordland. Information can be requested through open, public, processes (PA level; main dimension: 1.GOV);
- At an extensive level of focus it is possible to state that open access activities were put forward by NHO with the publishing of reports and information: e.g., Kompetansebarometeret, Næringslivets Perspektivmelding, etc. (OS level; main dimension: 1.GOV);
- Awareness campaigns on open access were put forward by NHO (OS level; main dimension: 2.PE).

6. ETHICS

The pursuit of ethical standards or objectives is not so evident or explicit in other RRI-principles related instruments, but it can be clearly read in:

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- Ethical guidelines for civil servants in Nordland with the main objective of promoting trust, openness, loyalty (PA level; main dimension: 1.GOV);
- Active engagement in inclusiveness of immigrants in the work-life and in helping youths, people with disabilities, people with addiction problems, and so on, back into the work life (OS level; main dimension: 1.GOV);
- Awareness campaigns on ethics were put forward by NHO (OS level; main dimension: 2.PE);
- NHO have few activities themselves related to Ethics, but actively encourage their members to take responsibility. They do provide education materials, and services in, e.g., law, to avoid ethical conflicts (OS level; main dimension: 4.SLSE).

7. SUSTAINABILITY

The **Nordland county** has identified a series of challenges and objectives to meet the UN Sustainable Development Agenda 2030. In particular, they focus on eldercare, exchange programs, ground water protection, wind energy, high-quality education, smart specialization, preservation of indigenous people's culture, communication, awareness, adaptation, coastal protection; through these objectives Nordland aims to directly face the SDGs no. 3, 4, 6, 7, 8, 9, 10, 11, 12, 13 and 14.

In 2018 **NHO** released an extensive report on, among other issues, sustainability, underlining how they have addressed the issue.

As already mentioned, sustainability is also a cross-cutting theme for most of the existing territorial development policies and it is also the core of the thematic issue identified by Nordland's partners.

We can explicit find the sustainability issue in:

- The principle of sustainability was directly enforced by the regional plan 'Arealpolitiske retningslinjer' 2013-2025, which includes guidelines for area policies where the environmental sphere of sustainability has a main role (PA level; main dimension: 1.GOV);
- Regional climate planning; strategy for tourism; strategy for agriculture with the main objectives of competency in communication, reduction of climate gases, adaptation to climate change, pollution awareness, monitoring of fish diseases and fish welfare (PA level; main dimension: 1.GOV);
- The Innovation strategy for Nordland 2014-2020 (Nordland RIS3) has sustainability between its priorities, to be put in place by instrument as the Eco-innovation Program (PA level, main dimension: 1.GOV);
- NCC awareness campaigns on climate issues to prevent further change and adapt before crisis (PA level; main dimension: 2.PE); NHO awareness campaigns on sustainability (OS level; main dimension: 2.PE).

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NORDLAND: MAPPING RESULTS IN A NUTSHELL

- **NCC, NHO** and **NRI** were the territorial actors involved in the QIM of Nordland.
- Nordland is a wide region with a very long coastline and a strongly globalized economy. It boosts a long tradition of cooperation with other regions, knowledge institutions and businesses also in other parts of Europe (4H stakeholders) and hosts many **innovation clusters** in several industries, including tourism and seafood.
- SeeRRI's partners from Nordland has identified in '**sustainability**' and '**stakeholder engagement**' the thematic focus for their territory since sustainability issues already affect many companies and researchers in the region, involving also resources and infrastructures. **Sustainability** represents also the 7th of the SeeRRI dimensions identified for the QIM and the current commitment on the topic is quite evident thanks to concrete strategies and plans put forward from 2017 up to date.
- S**ustainability**, since it also coincides with the thematic focus, is the dimension that so far is more developed by Nordland in many fields: sustainability agenda and RIS3, spatial plans, strategies, campaigns, training programs and other activities. Nordland has worked quite successfully also on the dimension of **public engagement** through participation processes, policies, awareness campaigns on RRI principles and other programmes/projects for public participation. The region has already implemented several instruments and tools for the **governance** of RRI-related thematic, confirming a strong commitment to the RRI embedment in their future development.
- As far as the collected data show, **Science education** is the target of many policies and campaigns put forward by both PA and OS, but it is actually implemented only through training programmes and projects mainly at the OS level (NHO). Similarly, also **equality** (which includes gender equality) is currently present in the region more as an objective is strategies and campaigns than in other kind of policies or instruments. This proves that the region is concerned about these issues and has a concrete interest in developing them more.
- According to the available data, Nordland associates the concept of open access with the one of transparency, which is already part of some of their processes but, as far as it was mapped, it is also an aspect to be further developed. The dimension of ethics is, as well, turns out to be underrepresented in the current activities put forward in the region as far as the data collected shows.

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6. GUIDELINES AND RECOMMENDATIONS

The qualitative mapping of an R&I ecosystem is based on existing databases; this means that **the more territorial actors are involved in the mapping process, the more realistic and accurate the mapping results will be**. A territory which wants to perform the qualitative mapping of the inclusion of RRI within existing regional development policies should, as a first step, engage the relevant stakeholders on this matter.
To perform a mapping as broad as possible, each territory is required to build their own networks involving the stakeholders able to find the requested data. According to the QlM methodology design within the SeeRRI project, the relevant stakeholders able to provide the requested data are the representative of the closer institutional government to the whole R&I ecosystem (**Public Authorities representative**) and at least one representative of the other categories of stakeholders based in the area – business, academia and civil society – or even better a representative from cluster organisations involving all at once different local stakeholders from different categories (**Other Stakeholders representative**). With regards to the OS representative, the more different typologies of relevant local stakeholders is able to represent, the more information to build a comprehensive qualitative mapping will be available. In this sense, **results from WP3 – Stakeholder Engagement will be important to identify the target groups for questions aimed at mapping the state of the art of the R&I territories** which has not detected their own network of relevant mapping actors yet (i.e. NAT territories).
To accomplish the QlM of the three SeeRRI territories, which is the objective of the present task, a preliminary phase of stakeholders' engagement was not necessary. In fact, **the partnership of the SeeRRI project was already built to include partners who are representatives from both PA and OS for each of the three territories**, in order to have a kind of 'territorial cluster' able to represent different perspectives for their own territory right inside the project consortium. For this reason, the qualitative mapping performed during the T2.3 was carried out before the results' from WP3 are available. Despite this, difficulties in gathering some of the requested data, mostly from the side of the OS, may have been encountered anyway. With a view of improving the database available to perform again the QlM, other stakeholders could be engaged also in the QlM process relying on the outcomes of WP3.

In the framework of territorial and regional development policies, spatial and urban planning instruments certainly play a central role. Below are provided **guidelines and recommendation for the integration of RRI in spatial and urban planning** which apply to all territories.

> Spatial and urban planning must develop instruments able to include and **govern the principles of RRI** (public engagement, gender equality, science education, open access, ethics) as well as the sustainability issue, as you will see in the following points. Not only these dimensions should be incorporate as contents or issues in the urban plans, but also the concept of RRI must be included in the whole planning process resulting in planning instruments and processes that are diverse & inclusive, anticipative & reflective, open & transparent, responsive & adaptive (RRI process dimensions).
>
> **Public engagement** should be a fundamental point for all spatial and urban plans, since every space that is designed and built, especially in the urban environment, is thought to be used by the citizens or a specific portion of them. The involvement of the public and of all the relevant actors in the process of the elaboration, approval and also implementation and monitoring of the spatial plans and

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policies is fundamental to guarantee the acceptability of the choices made and also more concrete results in the achievement of the set objectives. Moreover, the co-creation in the first phases ensures that different perspectives are included, aligning the outcomes to the values, needs and expectations of the whole society.

Including **gender equality** in urban and spatial planning is a new practice arises from the fact that the urban society is becoming more and more diversified, with divergent interests that often entail conflicts between different user groups. Gender-sensitive planning is a differentiated planning culture that employs a site- and group-specific approach. It considers the needs of persons who are often overlooked and it always try to keep an eye on the equitable distribution of space and time. Moreover, the reflection on the underlying values of urban planning from a gender-sensitive perspective supports a planning culture informed by everyday needs and a systematic exchange of experience between different departments and disciplines supports the evolution of interdisciplinary planning know-how.

To achieve successful and innovative **science education** there is often the need for dedicated spaces and infrastructures, such as Science Parks, Scientific and Technical Pole, public university campus, research centres, schools' areas, etc. An accurate and targeted planning and design is often required in order to improve also the quality of the educational and training spaces and the provision of technologies and infrastructures for the scientific research and education.

Open access in urban and spatial planning is mainly seen as transparency: this implies the free access to spatial planning documents for all the citizens, and the easiest and most immediate way to do it is to upload such documents in an online and free platform. Not only the open access to spatial and urban plans should be achieved, but also to surveys, analysis and other documents that were used as a background for building the plans and development policies, in order to make available to the general public all the information necessary to understand the plan choices and make up their own mind for the place where they live.

The establishment of an **ethic** commission on spatial plans may be a good way to ensure that the ethical dimension is well-considered during the plan choices (i.e. location of infrastructures, allocation of services, territorial compensation, inhabitants balance, etc.). From this perspective, ethics can also be included in spatial plans as a selecting criterion for some decisions and actions foreseen by the plan.

Sustainability is often a cross-cutting theme in most of the spatial and urban planning instruments of nowadays. 'Sustainable cities and communities' goal is indeed one of the objectives of the UN sustainable agenda (11th SDGs) and it aims to make cities and human settlements inclusive, safe, resilient and sustainable. Spatial planning tools are the main instrument to achieve such goal and they can be tailored to many areas of interest, i.e. mobility, energy, public infrastructures, ecological network and so on. Each specific sector of interest for urban planning should include the concept of sustainability in all its aspects, by developing i.e. Sustainable Mobility Plans, Climate Change Plans, Sustainable Energy Plans, etc. In the challenges and actions of such plans, of course, not only the 11th SDG should be tackled, but also as more SDGs as possible. Moreover, the strategic planning

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instruments should integrate the 17 SDGs and a monitoring system to systematically report the implementation of all the promoted projects and initiatives related to sustainability should be enforced (i.e. Report on UN sustainable development goals).

Starting from the results in the section above, **general suggestions on how to include the weakest SeeRRI mapping dimensions into regional development policies and other instruments are going to be provided for each specific case** in the sub-sections below.

6.1. B30

The QIM results of the elaboration made by UNIBO, according to the availability of data provided by B30 and the self-assessment from the territorial actors involved, indicates that there is still much room for working on **ethics** and **open access**, but also **sustainability** and **gender equality** are issues that can be more included in the current instruments.

In general, both the PA and OS in B30 could try to include specifically ethical standard in their development policies and instruments and institutional ethics representative at the PA level. **Ethics** as a criterion for deciding on precise questions and options may be a way of ensuring high quality results. Not only in the decision process but also in the previous stage, during the research and analysis to build the knowledge framework to make the decisions, ethics guarantees the integrity of the research and the ethical acceptability. For example, ethics may be explicitly used to build the next strategic metropolitan plan (or, if possible, be included in the current Strategic Metropolitan Reflection), the and it could be included as a priority also in the RIS3CAT. Moreover, awareness campaigns on ethics could be developed by both PA and OS in order to make citizens, business and academia aware of the issue and encourage them to include it in their statutes and activities. Ethics commissions may be established in this sense to ensure that he work of PA or OS complies with ethical standards.

Open access, mainly seen as transparency, is already achieved in many public fields in B30 area, i.e. with transparency policies or the online platform for the open access to spatial planning documents. On the other hand, the awareness on open access is still underdeveloped from both the PA and OS sides: campaigns to make aware citizens, business and academia could be further developed in B30 area. In fact, open access should be achieved in as many knowledge fields as possible to ensure a conscious involvement and commitment of all stakeholders in the processes. In this sense, open access is still a tricky question especially in the private sector, mainly for copyright and ownership issues. In particular for the academic and research institutions and within the clusters, the stakeholders involved should try to guarantee a free and earlier access to scientific works in order to improve the quality of scientific research and facilitate fast innovation, constructive collaborations among peers, and productive dialogue with civil society.

Sustainability in B30 is mainly addressed by the regional authority (Generalitat de Catalunya) with the adoption of the Catalan Sustainable Agenda 2030. Moreover, the thematic issue of 'zero waste' of the B30 area implies

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sustainability together with recycling and circular economy. Sustainability as a cross-cutting theme is strongly present, but often implicitly. What the stakeholders could do to make it more explicit and effective is to always refer their actions, decisions and activities to the related SDGs, in order to make clear their alignment with the sustainable development of the area. In addition, a specific reporting tool to systematically document and monitor all projects and initiatives implemented to promote SDGs may be enforced in the area.

Finally, something more can be done also for improving **gender equality** and its inclusion in regional development policies and initiatives, especially at the PA level. Gender equality should be included in as many fields as possible, starting from the already available planning instruments such as the Reflexió Estratègica Metropolitana and the RIS3CAT. The first one is a strategic plan for the metropolitan area of tomorrow which establishes a set of priorities already including sustainability, public engagement, new governance and fight against climate change. Gender equality may be included as well as an additional pillar of such metropolitan strategy. The same applies to the RIS3CAT, which does not include gender equality between its priorities at the moment. In addition, more awareness campaigns should be run in the area on the topic to increase the sensitivity on the issue and a Gender Equality Plan may be established at both PA or OS level, providing concrete actions and set of indicators to verify the implementation.

6.2. LOWER AUSTRIA

The QIM results of the elaboration made by UNIBO, according to the availability of data provided by Lower Austria and the self-assessment from the territorial actors involved, indicates that there is still much room for working on **ethics** and **open access**, but also **RRI-governance** and **science literacy and science education** are issues that can be more included in the current instruments.

Issues related to **ethics** are currently faced only in health and medicine (where an ethic commission is already established). Ethics as a standard for quality and social acceptance of research results, planning choices or strategic priorities is not explicit in the Lower Austrian processes. At the PA level, Ethics could be included as a criterion for deciding on precise directions or questions within the 'Main Regional Strategies 2024'. Not only in the decision process but also in the previous stage, during the research and analysis to build the knowledge framework to make the decisions, ethics guarantees the integrity of the research and the ethical acceptability. Moreover, both PA and OS could try to include specifically ethical standard in other planning instruments and policies, also by developing targeted awareness campaigns. The establishment of ethics commissions to check the activities carried out both at the PA and the OS level may be another way to ensure that ethics is always considered.

The activities put forward in Lower Austria to achieve **open access** are mainly addressed by two online portals: the house of digitalization and the transparent portal of the Provincial Government of Lower Austria. The first one is a collaborative initiative between the provincial government, Ecoplus, EFRE and the European Union born mainly to help SMEs in their digital transformation, while the second one is a public information service that shows

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services and funding in the area. Despite these two, open access is still weak in many fields: i.e. at the PA level is not available an online platform for the open access to spatial planning documents and no open access awareness campaigns have been carried out in the past years. Open access, mainly seen as transparency, should be included as a priority in territorial development campaigns and in the current RIS3. Moreover, open access seen as free and easier access to scientific works and research in academia, business and civil society may help also the socio-economic development and the scientific growth.

Science education is still underdeveloped in Lower Austria and it could be improved in many aspects, first of all by including it as an objective into the 'Main Regional Strategies 2024'. Science education should be a priority within the existing and future territorial strategies and be included as a relevant topic by targeted development policies put forward by both PA and OS. In alternative, the focus and/or target group of the ongoing initiatives linked to science education, such as the 'Science Academy Niederösterreich', may be enlarged and strengthened, for example by promoting science education not only among young people over 14 but also among children under 14 or adults. Science education means also learning how to do research and innovation in a responsible way; in order to achieve this result, educational and training activities to foster RRI principles upon the local communities should be offered within the territory (i.e. a training programme on gender equality promoted by Ecoplus to teach to clusters' partners how to achieve gender balance in their teams and in decision-making bodies). An e-learning platform with educational contents on RRI may be established in order to inform the general public: this is also a way to reach the objective of open science.

The current territorial development instruments available in Lower Austria should address more explicitly the RRI principles, in order to show the commitment of PA and OS towards RRI unequivocally. The success in achieving the RRI-related objectives could be easier and more effective when the issues are targeted directly and explicitly by the territorial actors involved. Figuring arrangements able to lead to acceptable and desirable futures and developing harmonious **governance models for RRI** that also integrate all the other dimensions should be a key-action to establish RRI into the territories. In this sense, Lower Austria could try to include as many RRI principles as possible into the existing strategic policies (see the Regional Strategies 2024), or to develop specific RRI-oriented instruments, especially in spatial and urban planning, such as participated spatial plans, gender spatial plans, sustainability plans.

6.3. NORDLAND

The QIM results of the elaboration made by UNIBO, according to the availability of data provided by Nordland and without a self-assessment from the territorial actors involved, indicates that there is still much room for working on **ethics** and **open access**, but also **gender equality** and **science literacy and science education** are issues that can be more included in the current instruments.

Ethics in Nordland is actually faced only by work-related policies or initiatives, to actively engage disadvantaged groups of people (immigrants, youths, people with disabilities, etc.) into the work-life or to guide the civil servants to promote trust and loyalty during their work. The ethics dimension is then included only in work directives and guidelines, but it could be expanded also to other fields, such as education, health, technology or everyday life. As for the other two territories, ethics may also be used a criterion to ensure quality standards and social acceptance of research results, planning choices or strategic priorities in Nordland's processes. The regional strategic plan

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describing the guidelines for area policies in Nordland should include ethics as a criterion for deciding on precise directions or questions and, in the previous stage, to ensure the integrity of the knowledge framework; then specific policies may be promoted on other targets in addition to the 'Ethical guidelines for civil servants in Nordland'. Lastly, ethics could be included as a challenge into the regional RIS3 and awareness campaigns on the issue may be conducted by both PA and OS. The establishment of ethics commissions to check the activities carried out both at the PA and the OS level may be another way to ensure that ethics is always considered.

Open access for Nordland County Council (PA level) is seen as transparency and openness in public processes and specific policies, for example though online portals (such as the platform to access to spatial and planning documents) and public processes to request information. What the PA may do to improve open access is to develop policies and initiatives, such as awareness campaigns, to promote open access also in the academic community (to pursue the so-called 'open science') and in the private sector. NHO is already working in this sense by publishing reports and information, but for sure more can be done. Whether open access is achieved in as many knowledge fields as possible, then the chances to ensure a conscious involvement and commitment of all stakeholders in the processes are higher and also, the more the results are accessible the more they contribute to improve R&I.

NCC, NHO and NRI, together with other local actors, agreed on speaking of **equality** in general (or better of universal accessibility) instead of gender equality to represent the current situation on the topic in Nordland. Gender equality was born to overcome the women under-representation in many fields, by promoting gender balanced teams, ensuring gender balance in decision-making bodies, and considering always the gender dimension in R&I to improve the quality and social relevance of the results. Nordland feels that they need to face the issue in a broader way, by taking care of the inequalities not only of the gender but also of other types, such as race, class, ethnicity and so on. In this sense, equality could be pursued in many fields, starting from the spatial and urban planning tools (i.e. by including equality in the 'Arealpolitiske retningslinjer' and by developing gender based spatial plans) and in the regional RIS3. In addition, equality could be ensured by establishing an equality representative and/or equality organisations at both PA and OS level and also with the establishment of an Equality Plan (or Gender Equality Plan) at both PA or OS level, providing concrete actions and set of indicators to verify the implementation.

At the PA level in Nordland, **science education** is mainly promoted through publicity initiatives and awareness campaigns and it is included as a challenge in the current RIS3. It is still not included as an objective of the regional strategic plan 2013-2025 and this is something that can be improved. Science education should be in fact a priority within the existing and future territorial strategies and be included as relevant topic by targeted development policies put forward by both PA and OS. Not only dissemination of science should be achieved but also concrete science education programmes and projects should be run out. Science education means also learning how to do research and innovation in a responsible way; in order to achieve this result, educational and training activities to foster RRI principles upon the local communities should be offered within the territory. An e-learning platform with educational contents on RRI may be established in order to inform the general public: this is also a way to reach the objective of open science.

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European Commission (2014). Responsible Research and Innovation. Europe's ability to respond to societal challenges. Available at https://ec.europa.eu/research/swafs/pdf/pub_rri/KI0214595ENC.pdf.

Stilgoe J.; Owen R.; Macnaghten P. (2013). Developing a framework for responsible innovation. Research Policy 42(9):1568-1580.

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ANNEXES

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement nº 824588.

Annex I – B30

The information available within the Prezi map for B30 will be provided here through screenshots in order to make an overview of the contents and results available also offline.

72.

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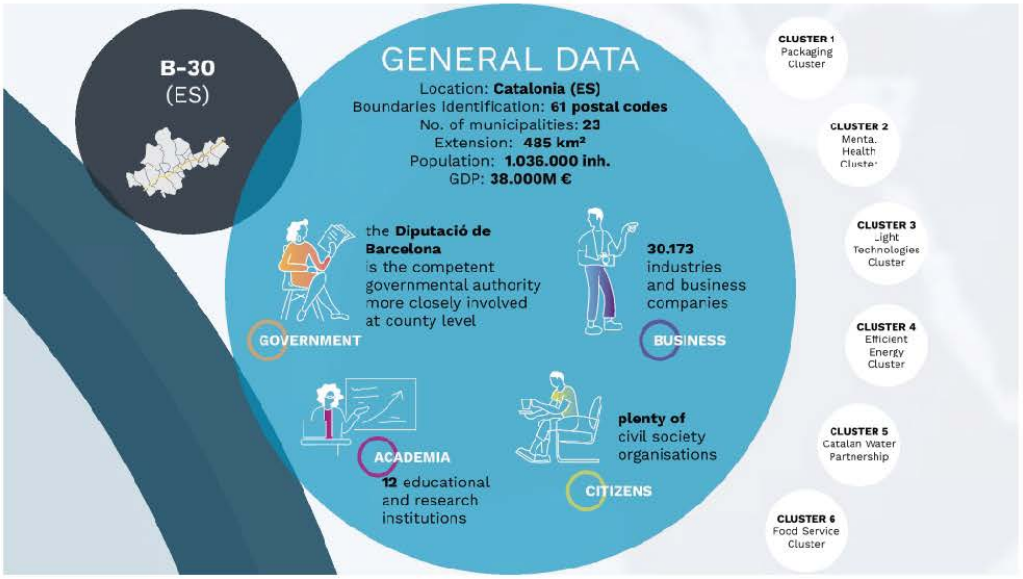
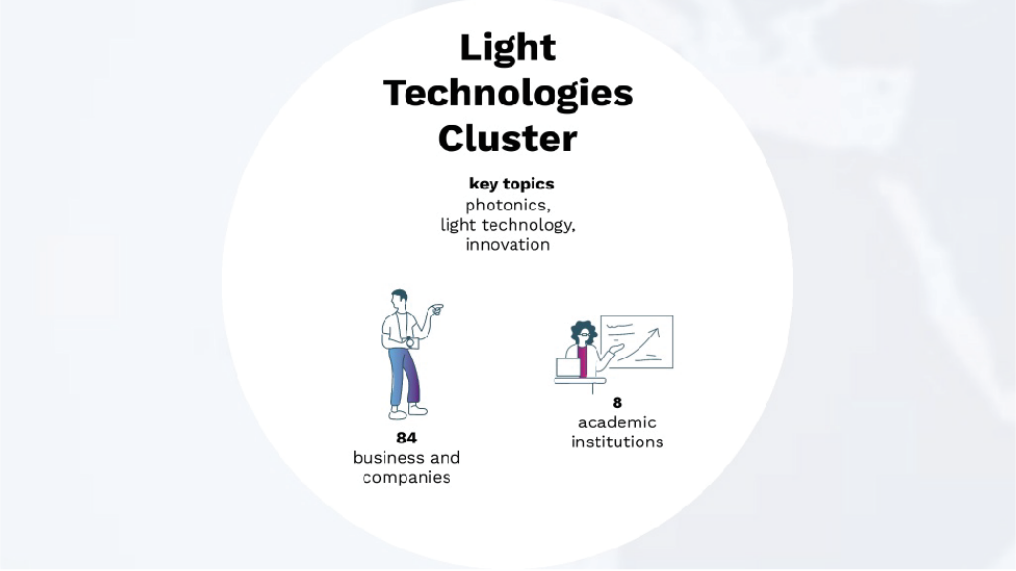

B-30
(ES)
GENERAL DATA
Location: Catalonia (ES)
Boundaries identification: 61 postal codes
No. of municipalities: 23
Extension: 485 km²
Population: 1.036.000 inh.
GDP: 38.000M €
the Diputació de Barcelona is the competent governmental authority more closely involved at county level
GOVERNMENT
30.173 industries and business companies
BUSINESS
ACADEMIA
12 educational and research institutions
plenty of civil society organisations
CITIZENS
CLUSTER 1 Packaging Cluster
CLUSTER 2 Menta. Health Cluste
CLUSTER 3 ight Technologies Cluster
CLUSTER 4 Efficient Energy Cluster
CLUSTER 5 Catalan Water Partnership
CLUSTER 6 Food Service Cluster

73.

Packaging Cluster
key topics
smart packaging, sustainability, automation
74
business and companies
4
academic institutions

74.

75.



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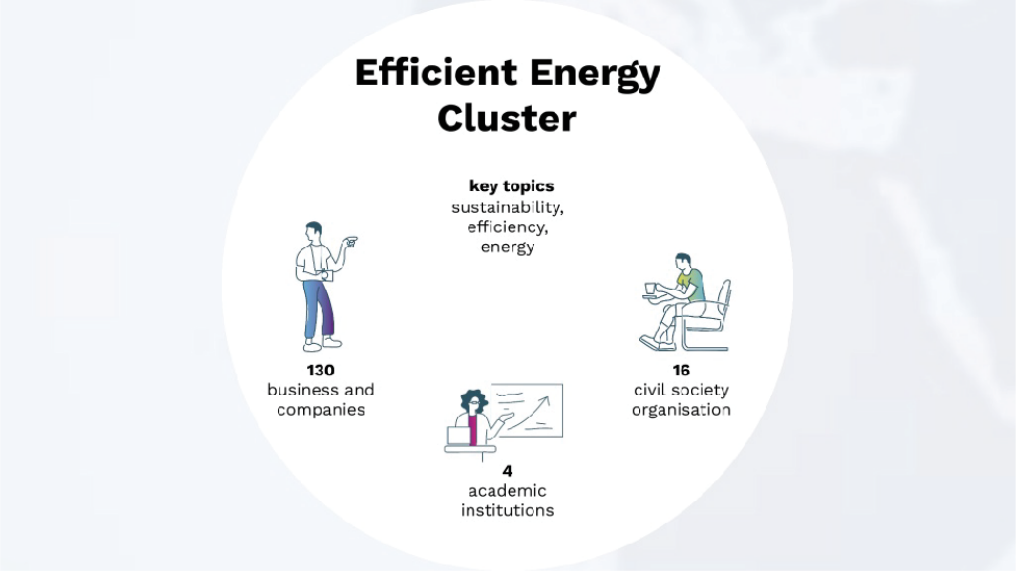

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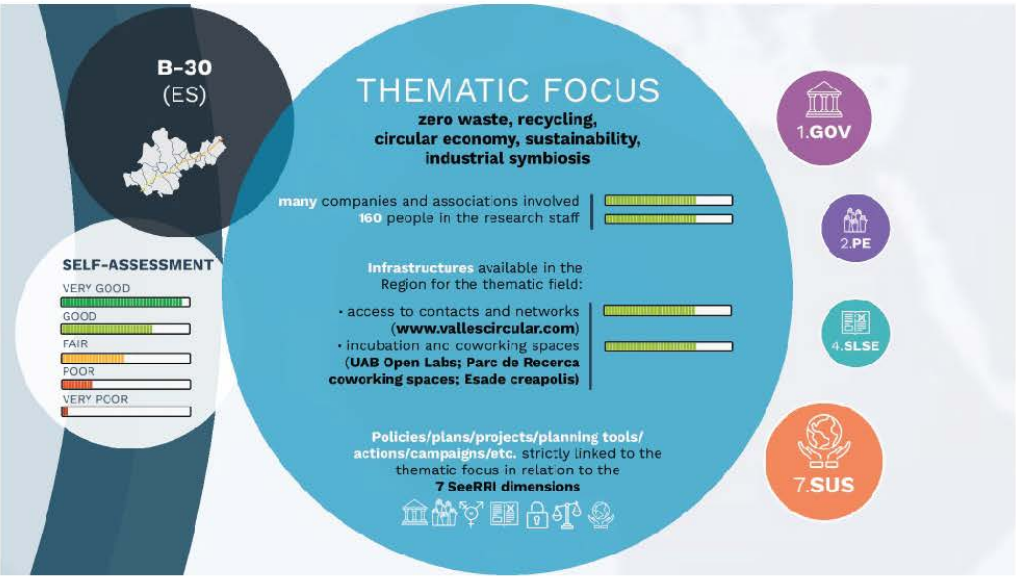

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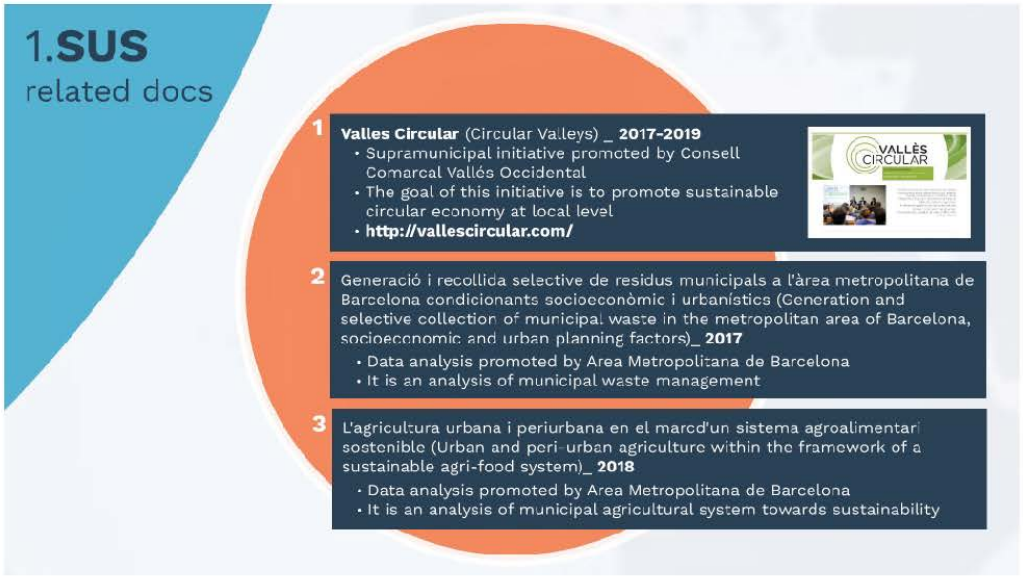

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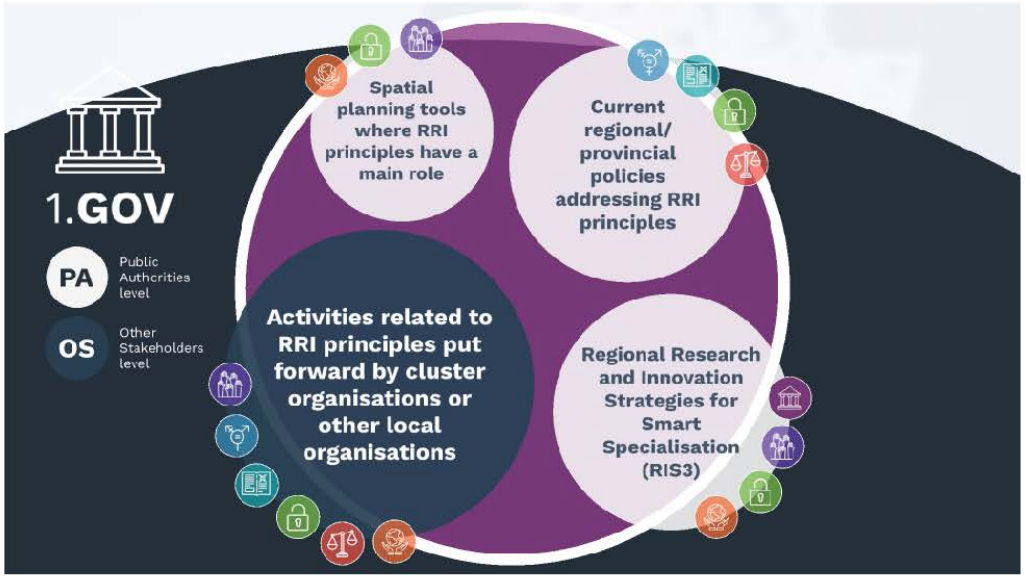

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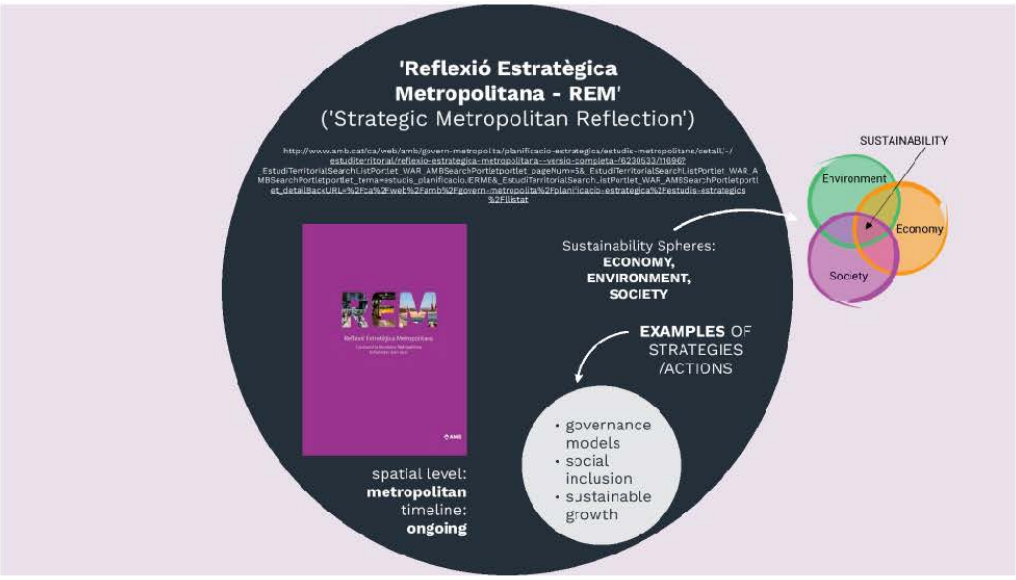

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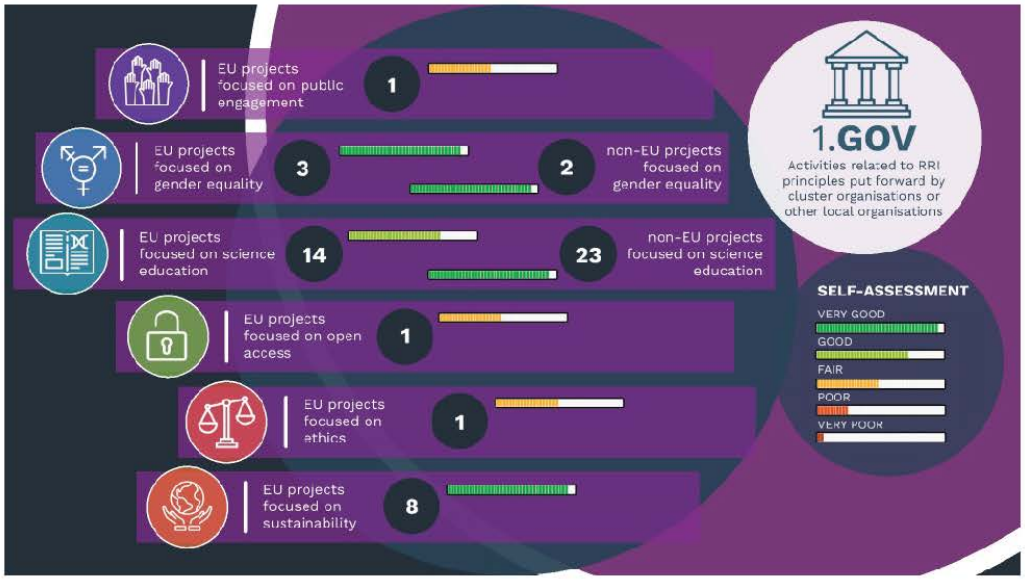

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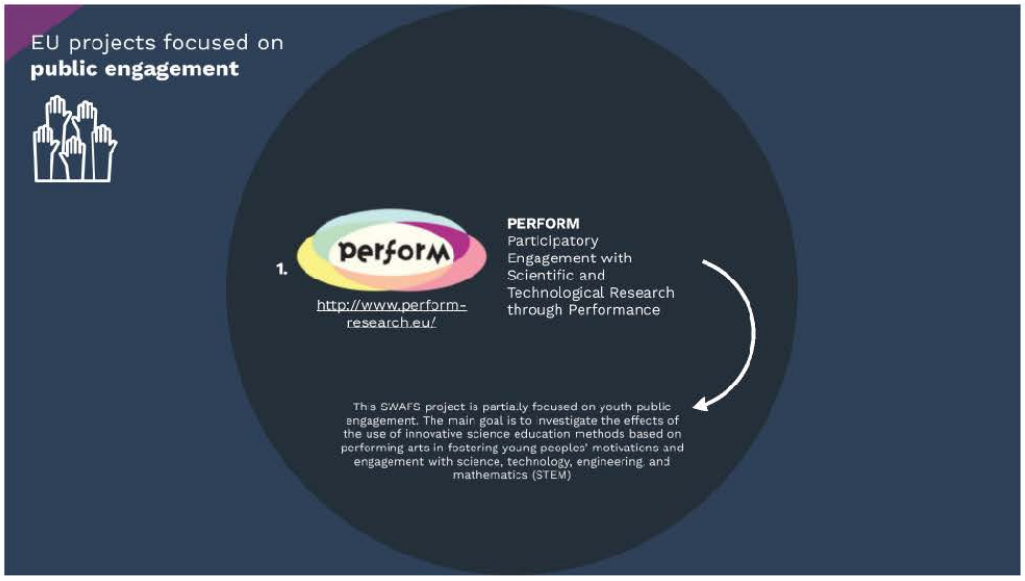

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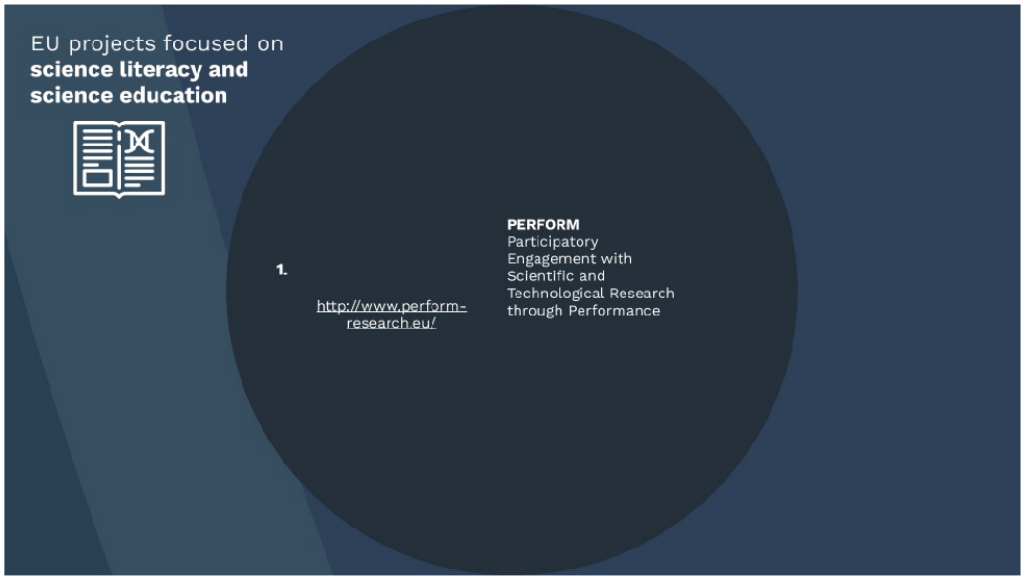
EU projects focused on
gender equality
1.
EGERA
Effective Gender Equality in Research and the Academia
https://www.egera.eu/
2.
MISEAL
Mecidas para la inclusión social y equidad en Instituciones de Educación Superior en América Latina
http://www.miseal.net/
3.
GIMMS
Gender, innovation and mentoring in mathematics and science
https://crecim.cat/es/projectes/gimms/

93.

non-EU projects focused
on gender equality
1. Percepción de los factores que intervienen en la evolución de la trayectoria académica
(Perception of the factors that contribute to the evolution of the academic path)
2. Cuidado y provisión: el sesgo de género en las prácticas y su impacto en la función socializadora de la universidad
(Care and provision: gender imbalance in practices and its impact on the socializing function of the university)

94.



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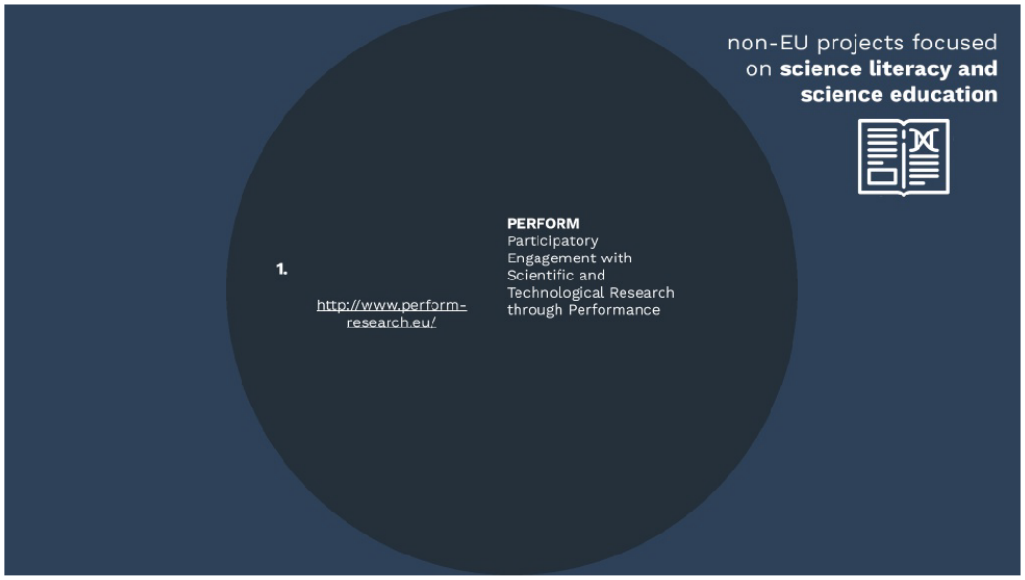

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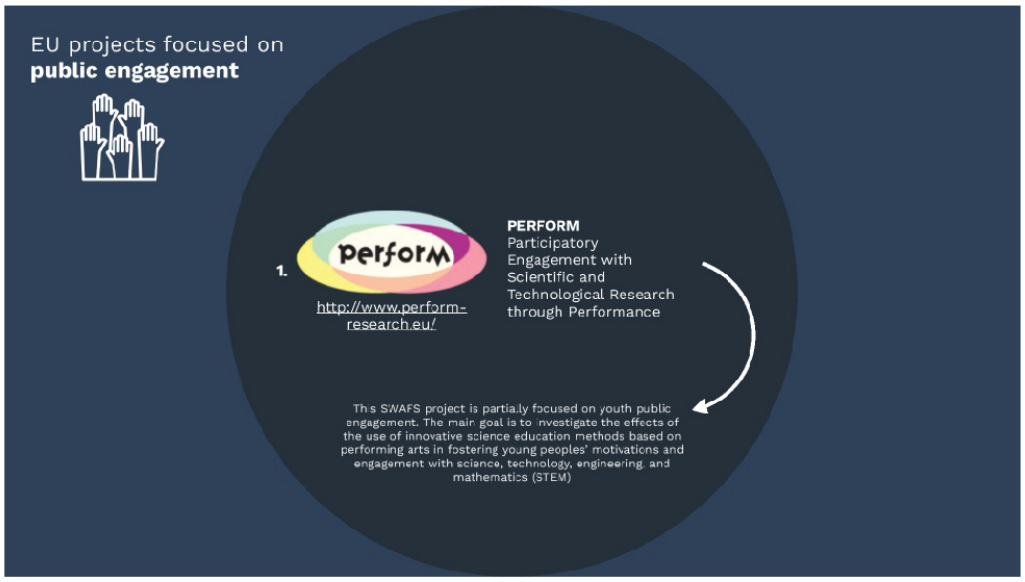

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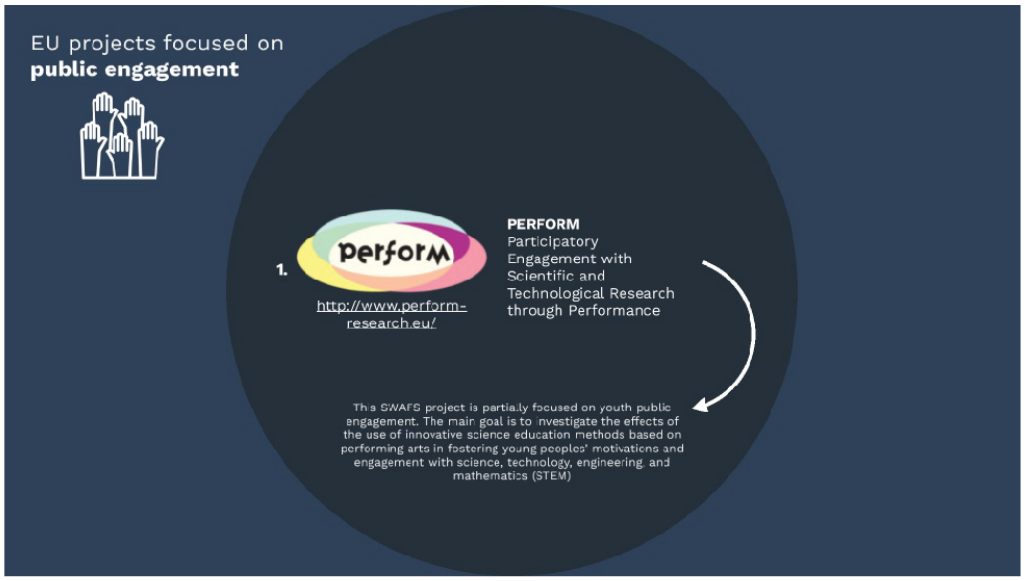

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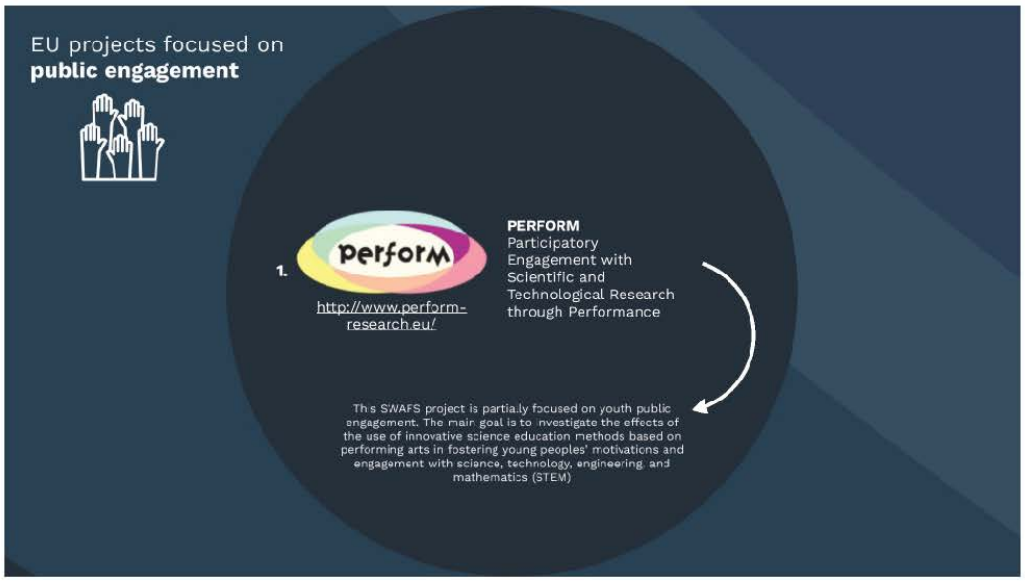

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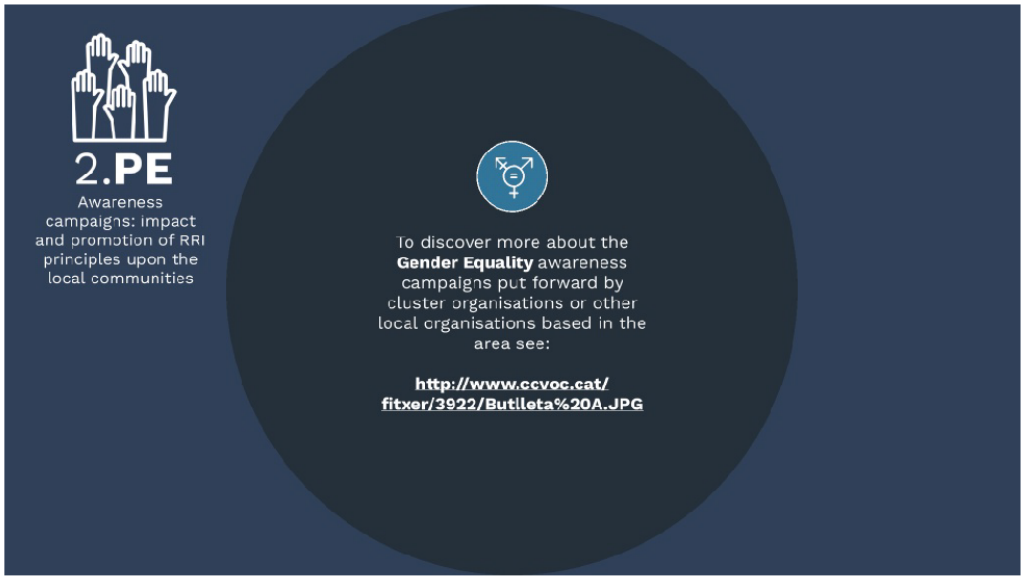

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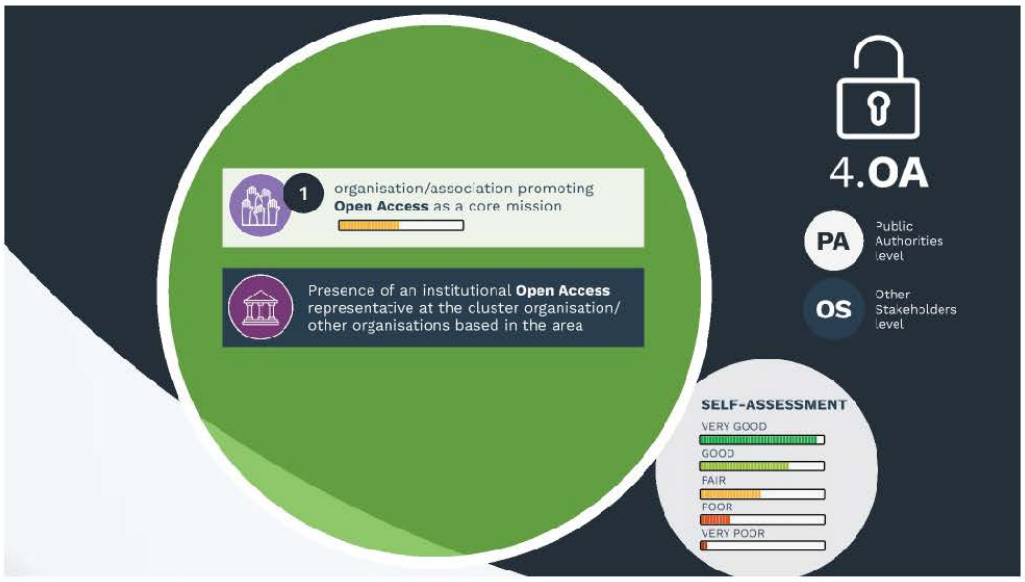

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identified challenges/objectives for the Region linked to the SDGs
employment, inclusion, poverty
resources management, sustainability
society wellbeing
inclusive society
resources management, sustainability
resources management, sustainability
employment, inclusion, poverty
Open innovation, Social innovation
inclusive society
resources management, sustainability, ecoinnovation
resources management, sustainability
resources management, sustainability, ecoinnovation, waste management
Social innovation, e-government, inclusive society
SUSTAINABLE DEVELOPMENT GOALS
7.SUS
PA
Public Authorities level
OS
Other Stakeholders level

109.

Annex II – Lower Austria

The information available within the Prezi map for Lower Austria will be provided here through screenshots in order to make an overview of the contents and results available also offline.

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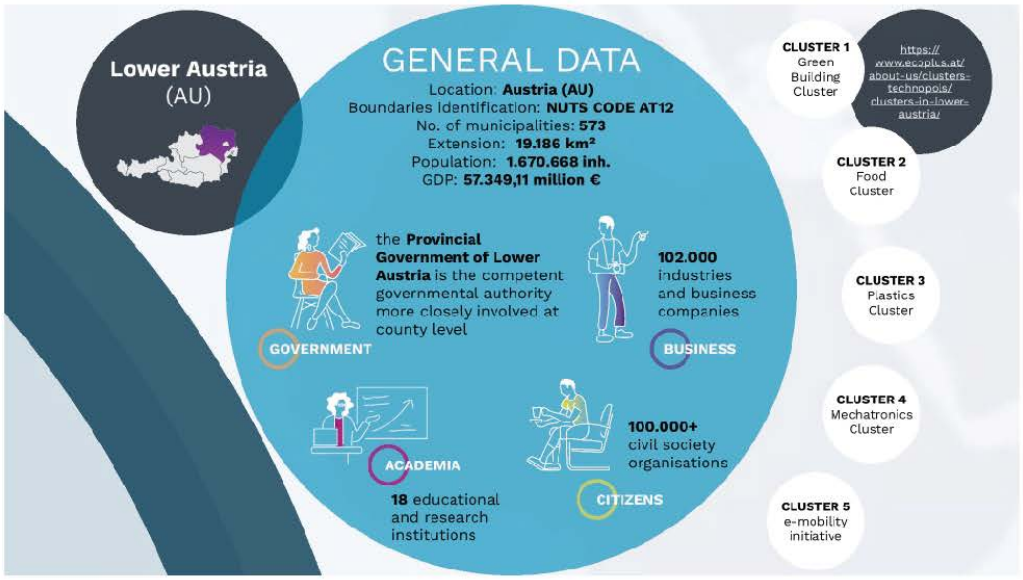

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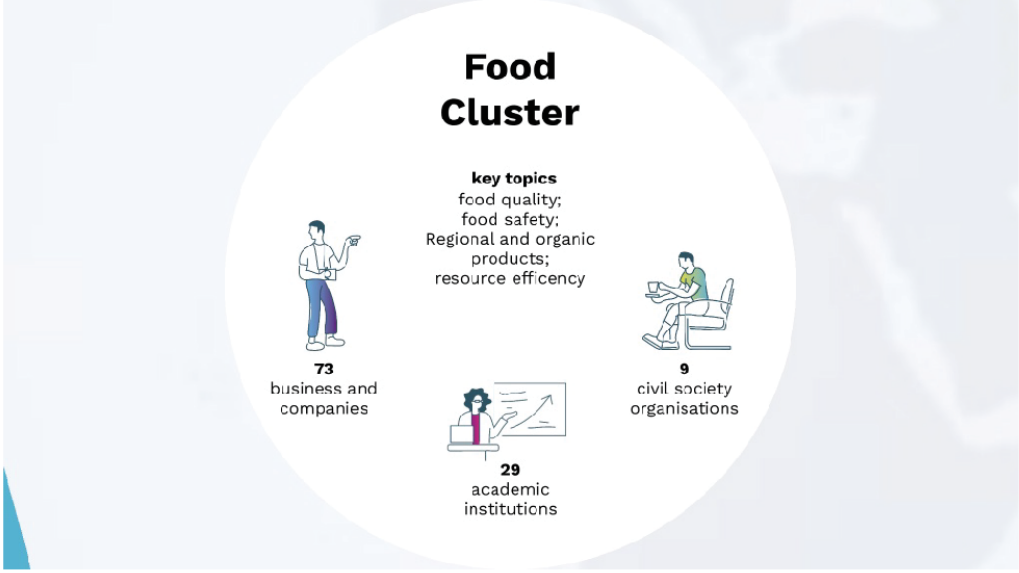

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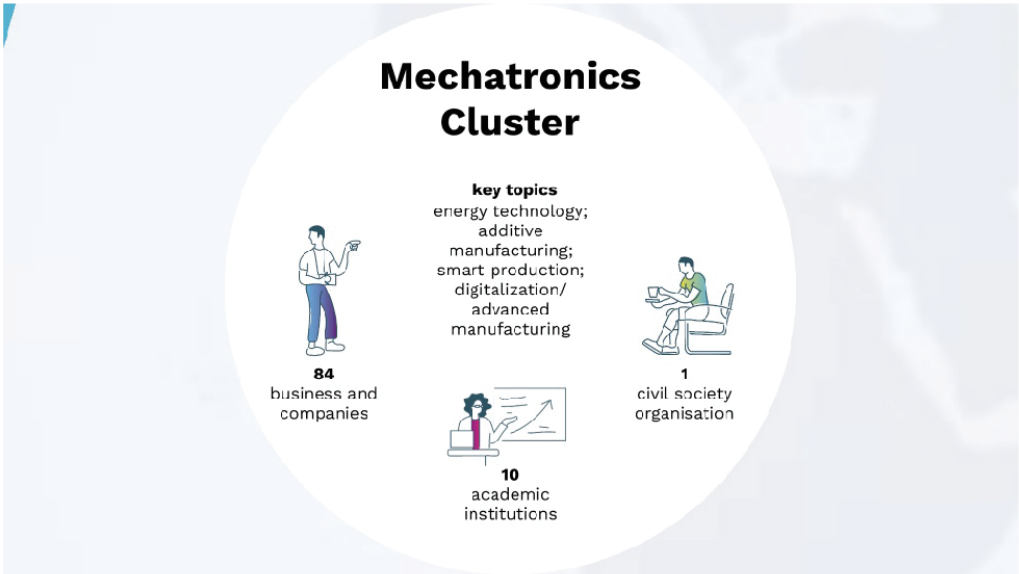

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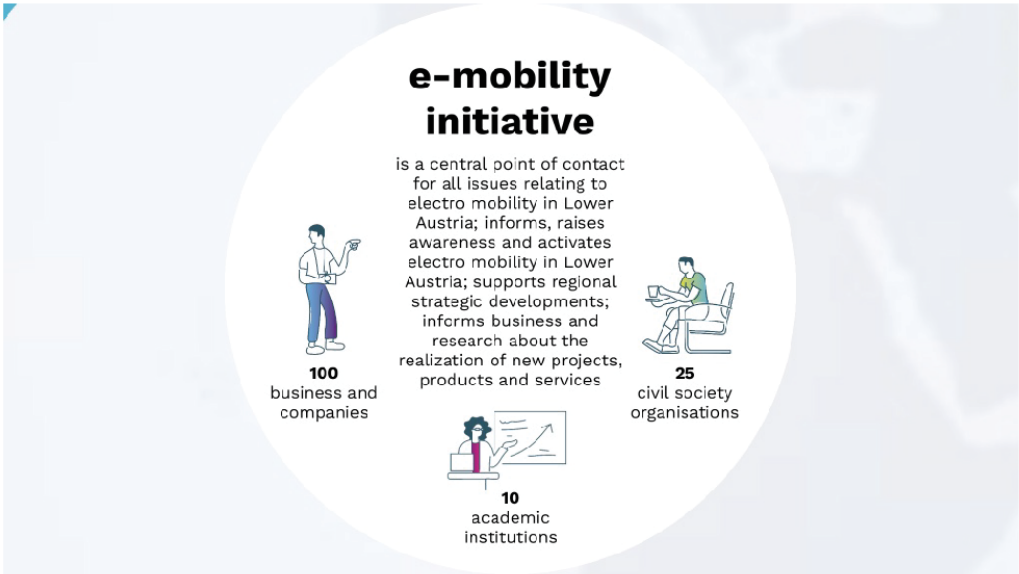

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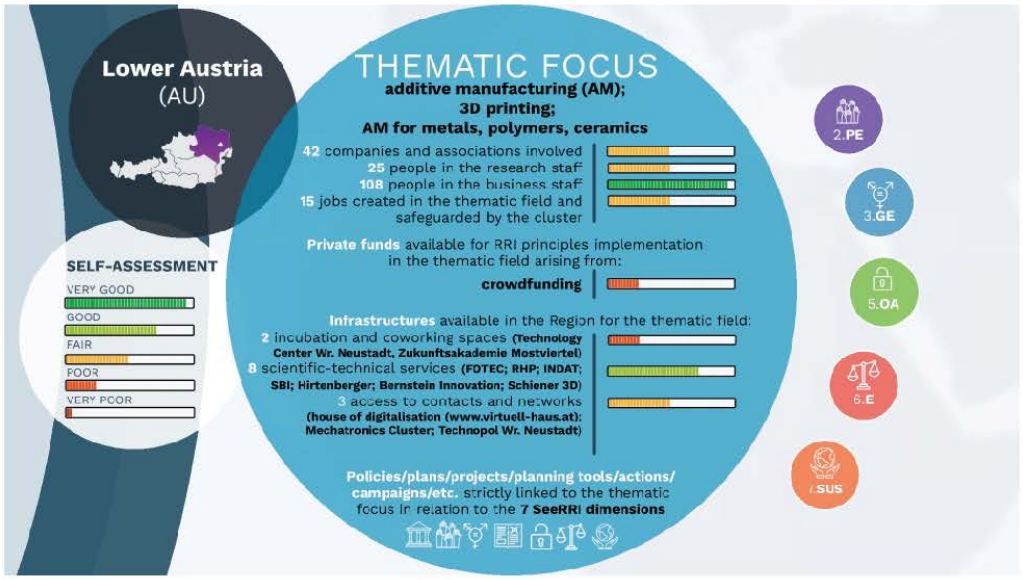

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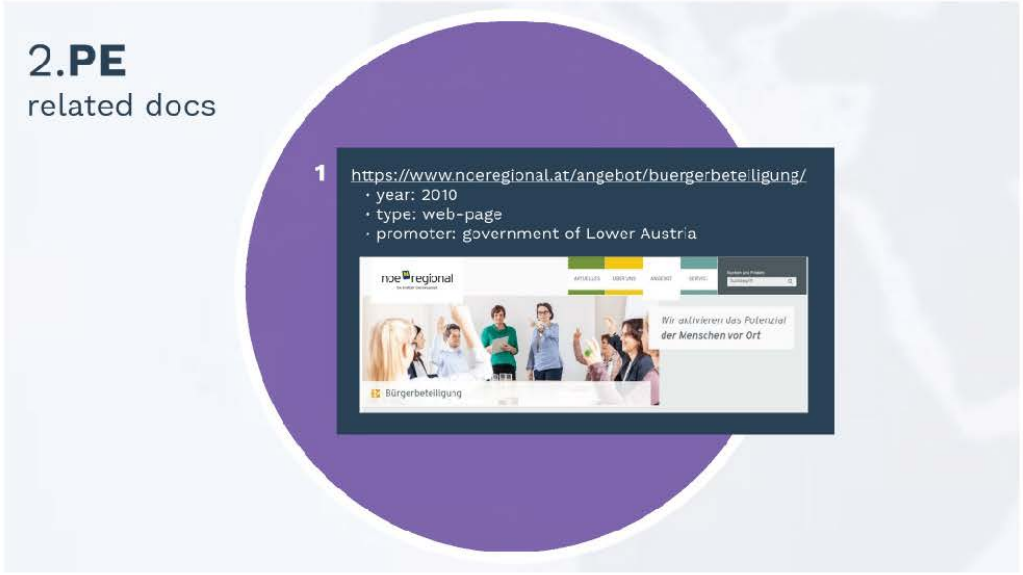

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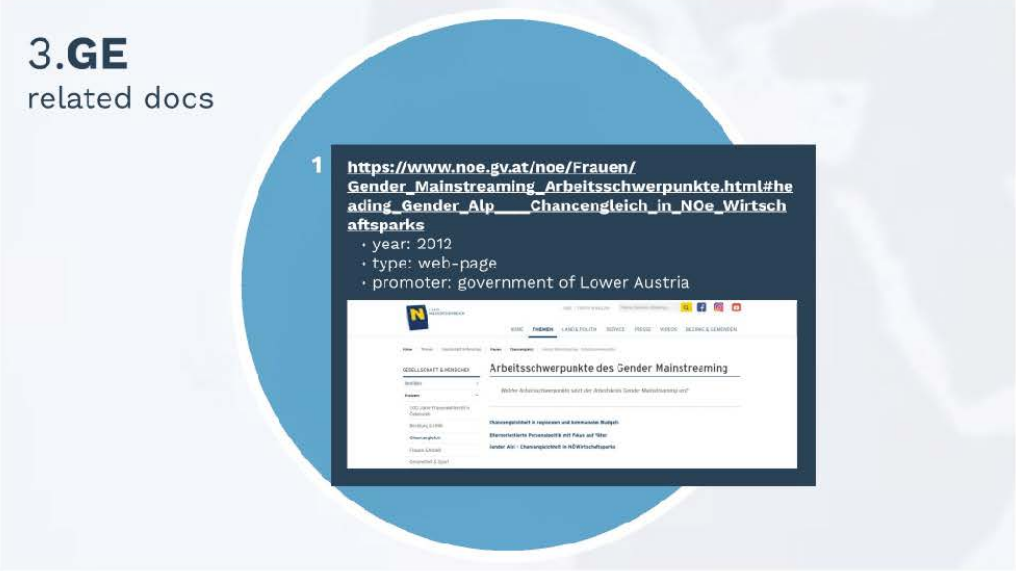
3.GE
related docs
1
https://www.noe.gv.at/noe/Frauen/Gender_Mainstreaming_Arbeitsschwerpunkte.html#heading_Gender_Alp____Chancengleich_in_NOe_Wirtschaftsparks
· year: 2012
· type: web-page
· promoter: government of Lower Austria
Arbeitsschwerpunkte des Gender Mainstreaming

56.

5.OA
related docs
1
https://www.donau-uni.ac.at/de/universitaet/service/bibliothek/publikationsservices/open-access-strategie.html
· year: 2015
· type: web-page
· promoter: Donau-Universität Krems
Open Access

57.

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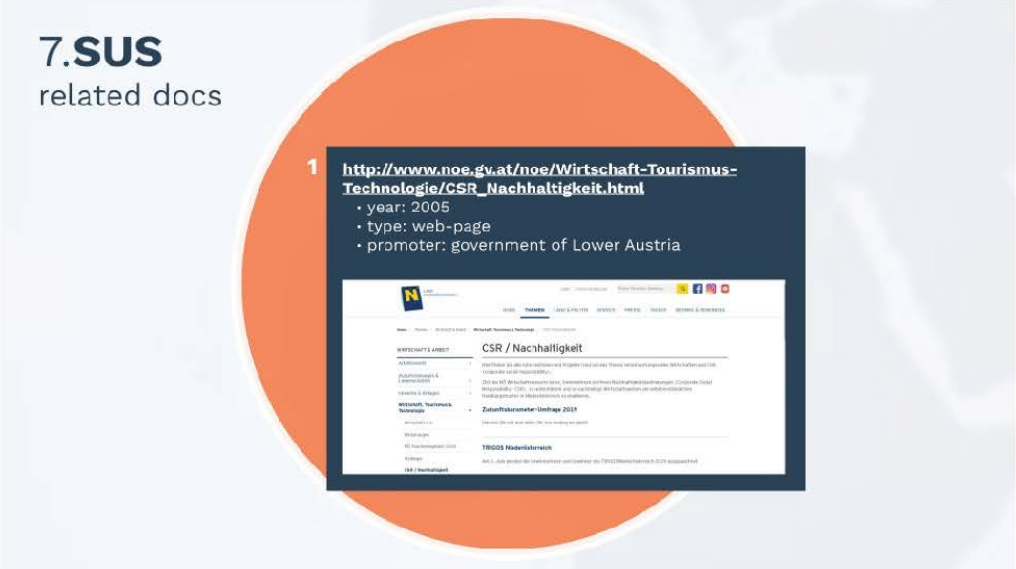

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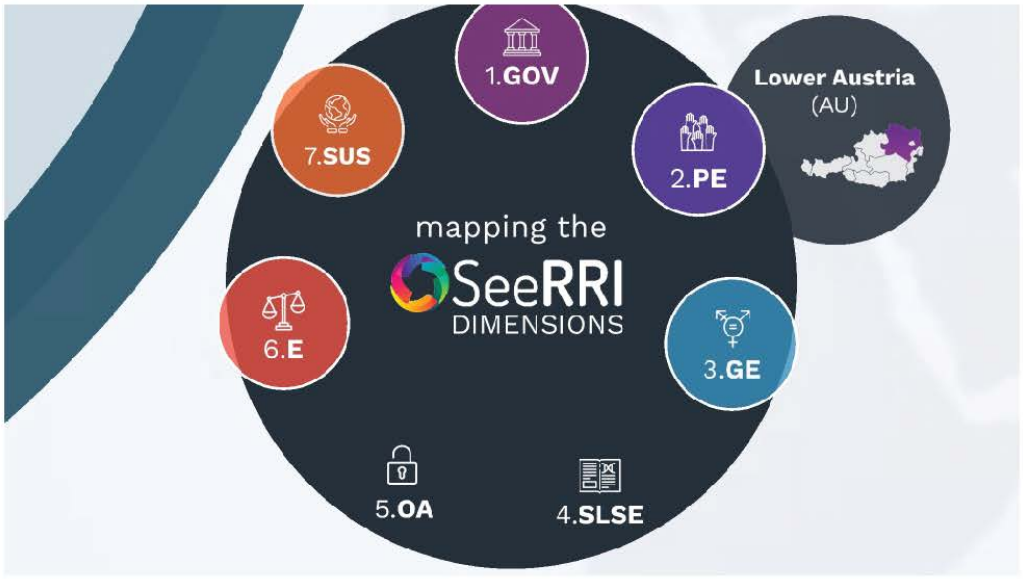

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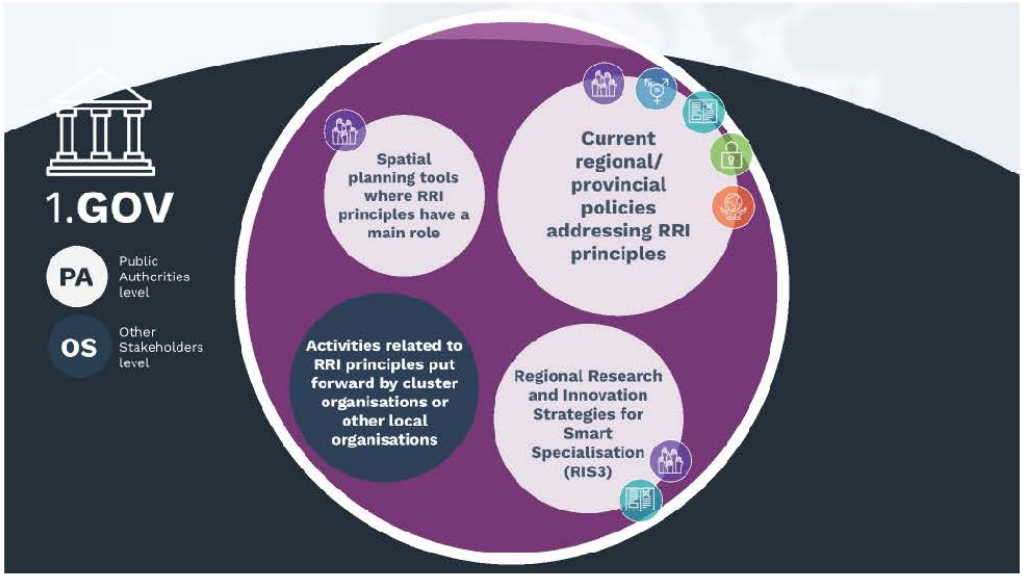

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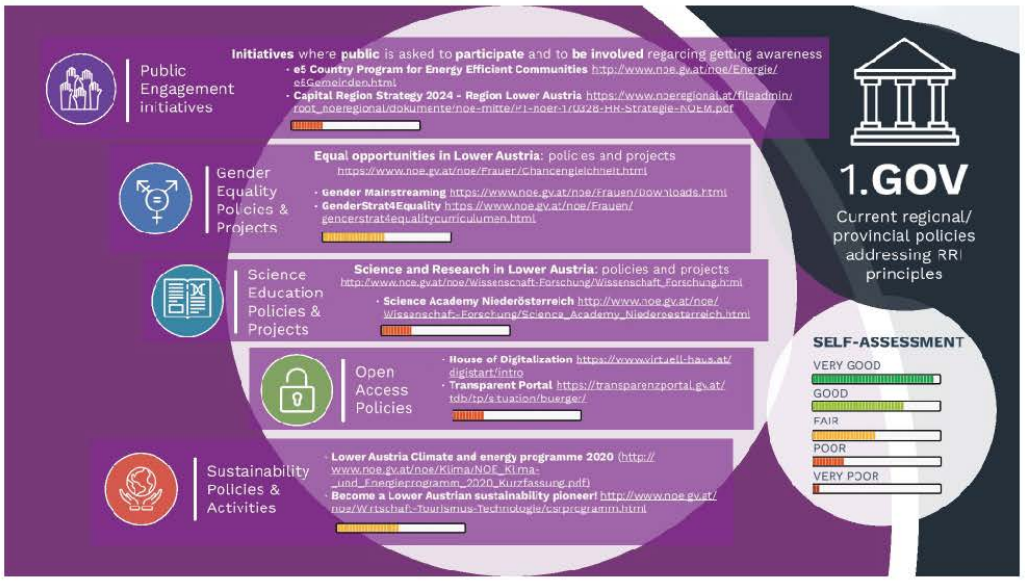
1.GOV
Spatial planning tools where RRI principles have a main role
Participated spatial plans
PLAN_1
'Main Regional Strategies 2024'

62.

'Hauptregionsstrategien 2024'
('Main Regional Strategies 2024')
https://www.raumordnung-noe.at/index.php?id=422
Each of the five main regions of Lower Austria has its own 2024 regional strategy
https://www.raumordnung-noe.at/index.php?id=512
Hauptregionen in Niederösterreich
Raumordnung und Gesamtverkehrsangelegenheiten
Hauptregionsstrategien 2024
spatial level: regional
timel ne: ongoing
stakeholders already involved: Municipalities, civil society organisations, politicians, regional government departments, spatial planning experts
Technopolprogramme (R&D location development covering municipalities, un versities, research institutions, regional government, business development agencies = ecoplus)
EXAMPLES OF STRATEGIES /ACTIONS

63.



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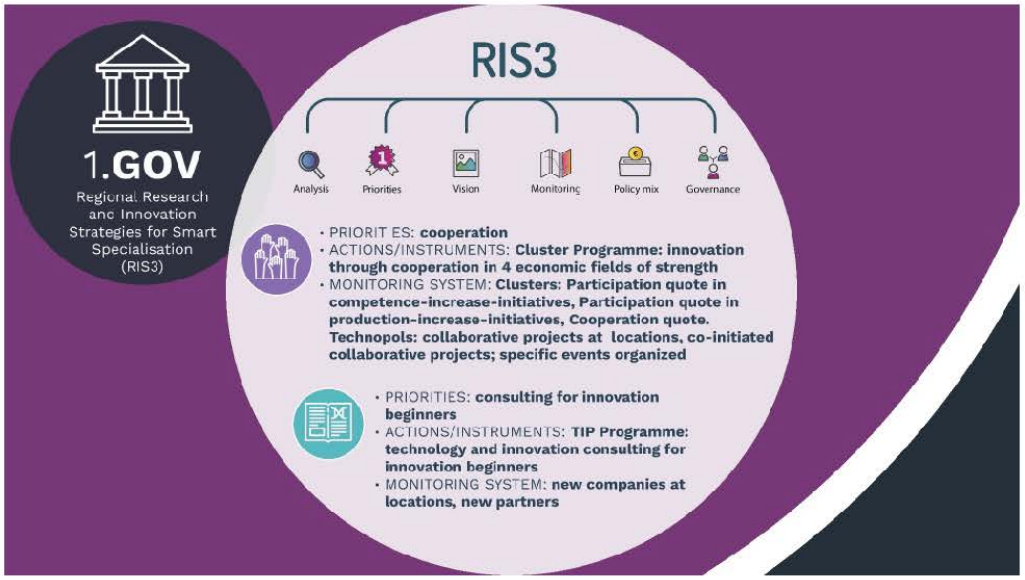
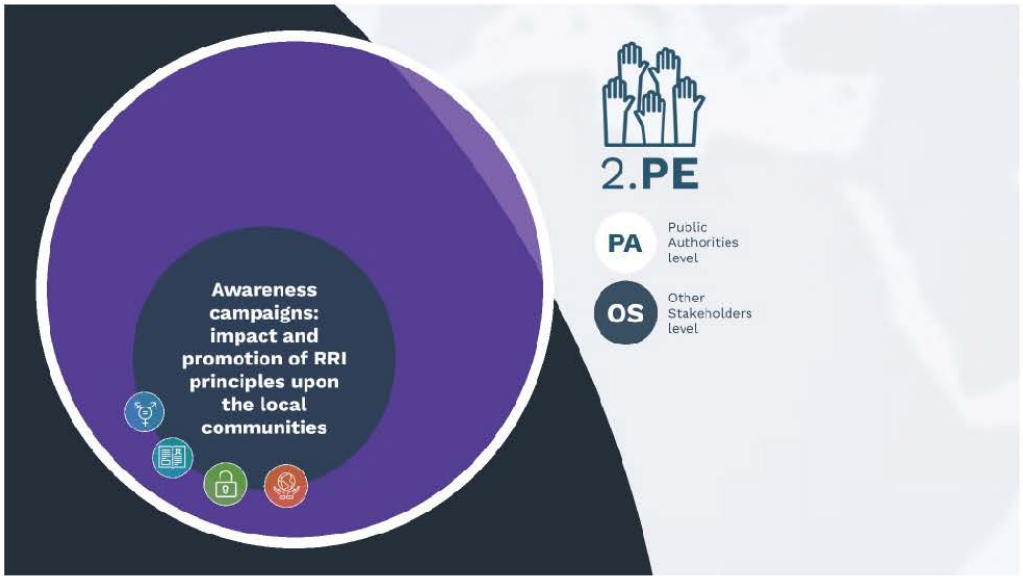


65.

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement nº 824588.

66.



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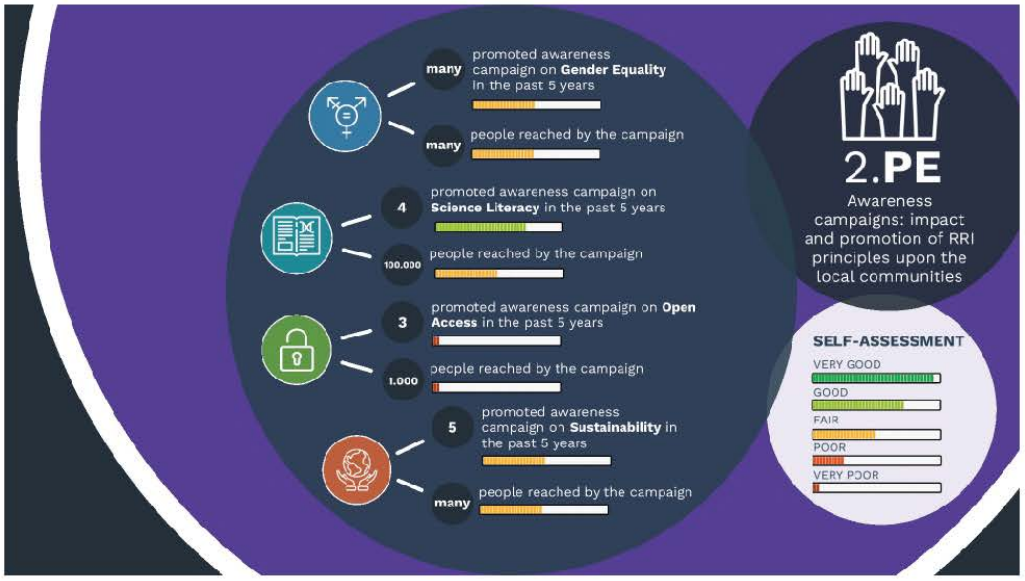

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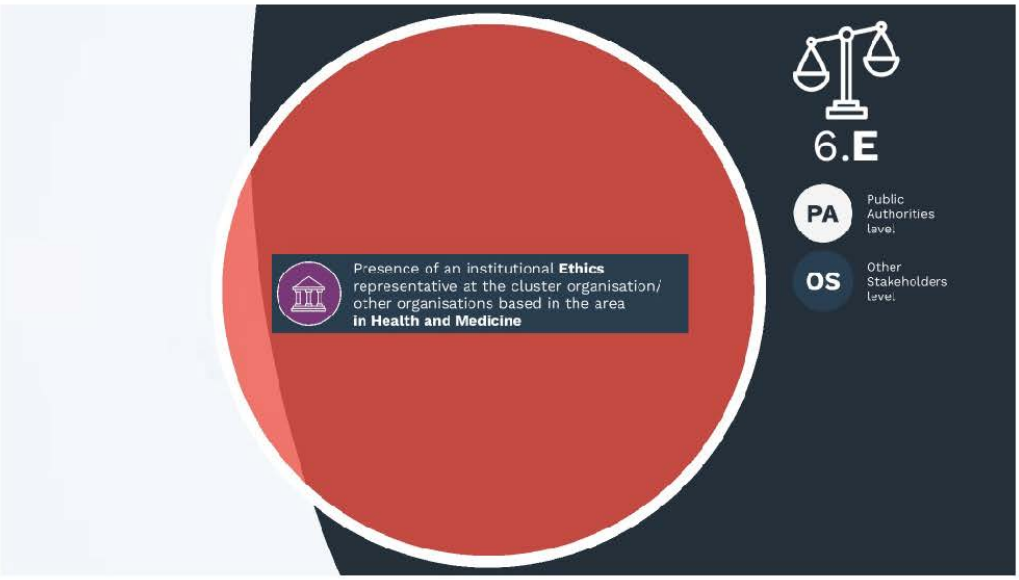

6.E
PA
Public Authorities level
OS
Other Stakeholders level
Presence of an institutional **Ethics** representative at the cluster organisation/ other organisations based in the area **in Health and Medicine**

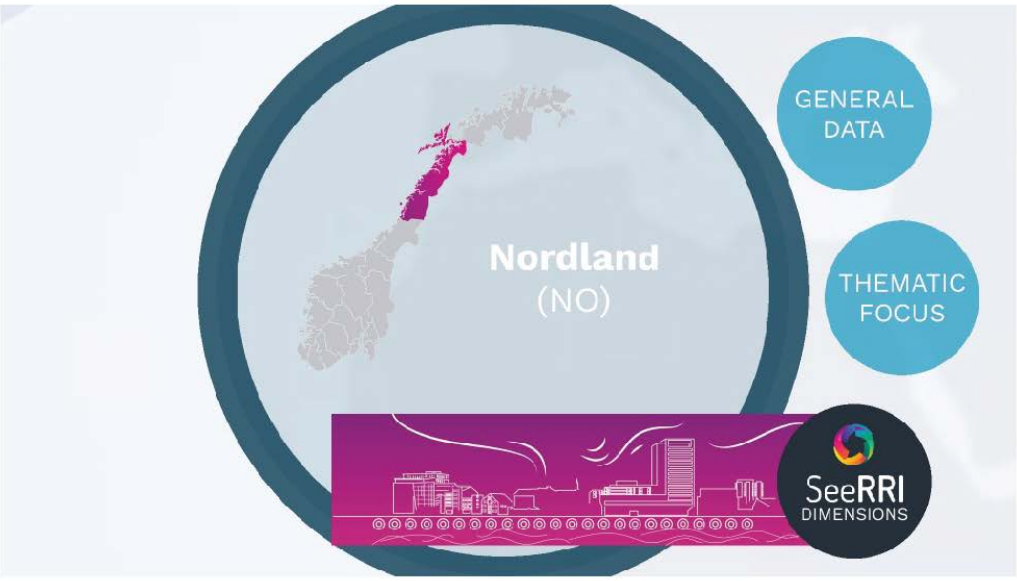
70.

Identified **challenges/objectives** for the Region linked to the SDGs
employment, inclusion, poverty
resources management, sustainability
society wellbeing
inclusive society
resources management, sustainability
resources management, sustainability
open innovation, social innovation
inclusive society
resources management, sustainability, ecoinnovation
resources management, sustainability
resources management, sustainability, ecoinnovation, waste management
Social innovation, e-government, inclusive society
resources management, sustainability, ecoinnovation
SUSTAINABLE DEVELOPMENT GOALS
There are many activities regarding sustainability. There are several awards for projects. The criteria for getting awared are: Attitude, motivation and intention of the engagement; Transparency and openness; Materiality; Effectiveness; Innovation; Sustainability; Contribution to the UN Sustainable Development Goals (SDGs); Involvement (stakeholder engagement); Strategic handling.
7.SUS
PA
Public Authorities level
OS
Other Stakeholders level

71.

Annex III – Nordland

The information available within the Prezi map for Nordland will be provided here through screenshots in order to make an overview of the contents and results available also offline.



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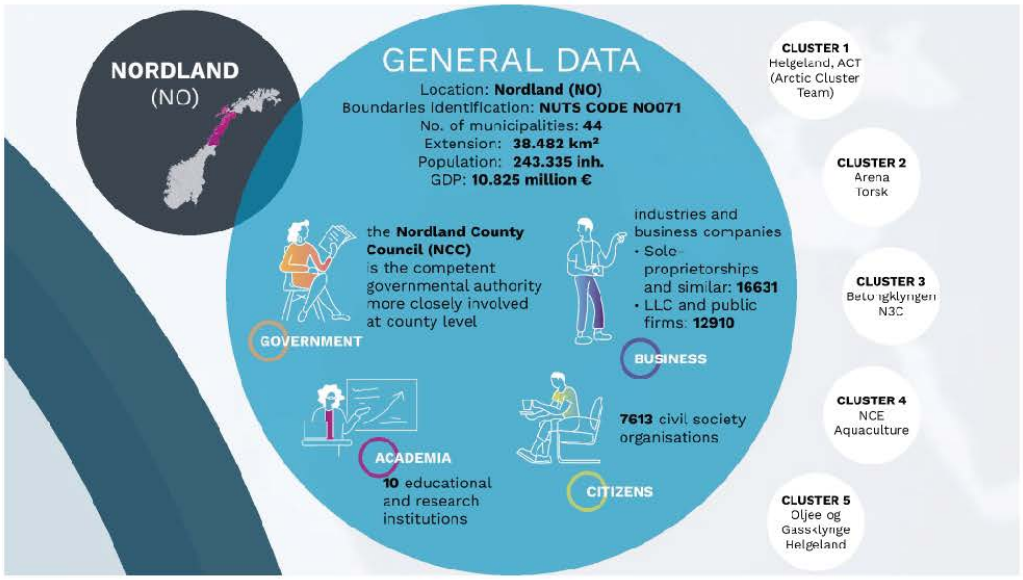
This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement nº 824588.



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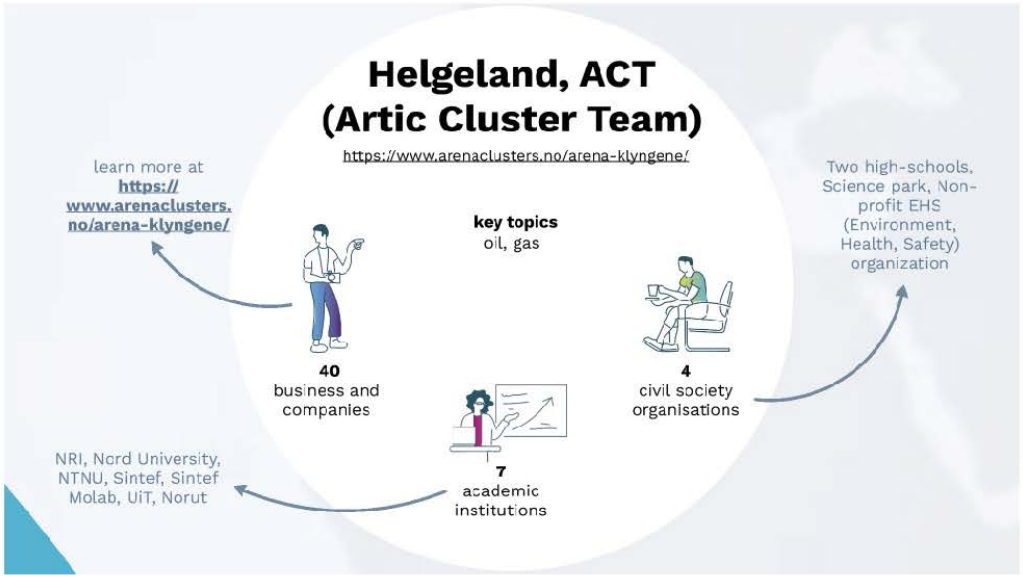

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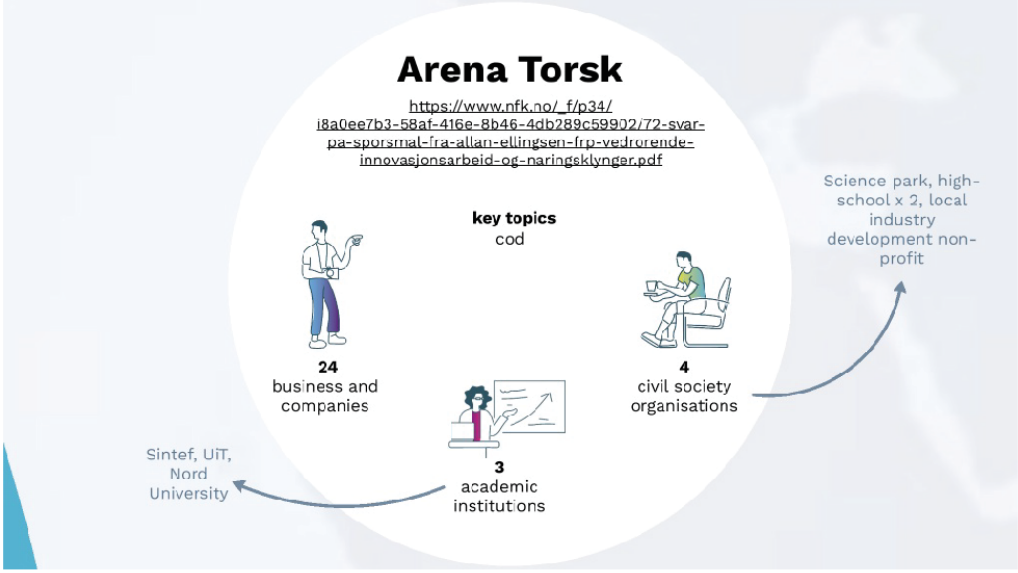

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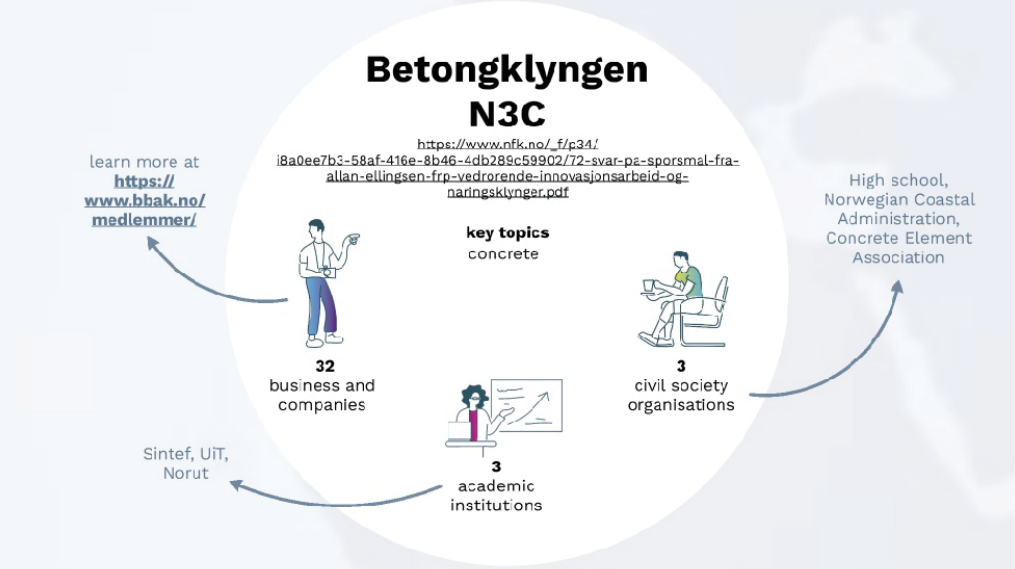

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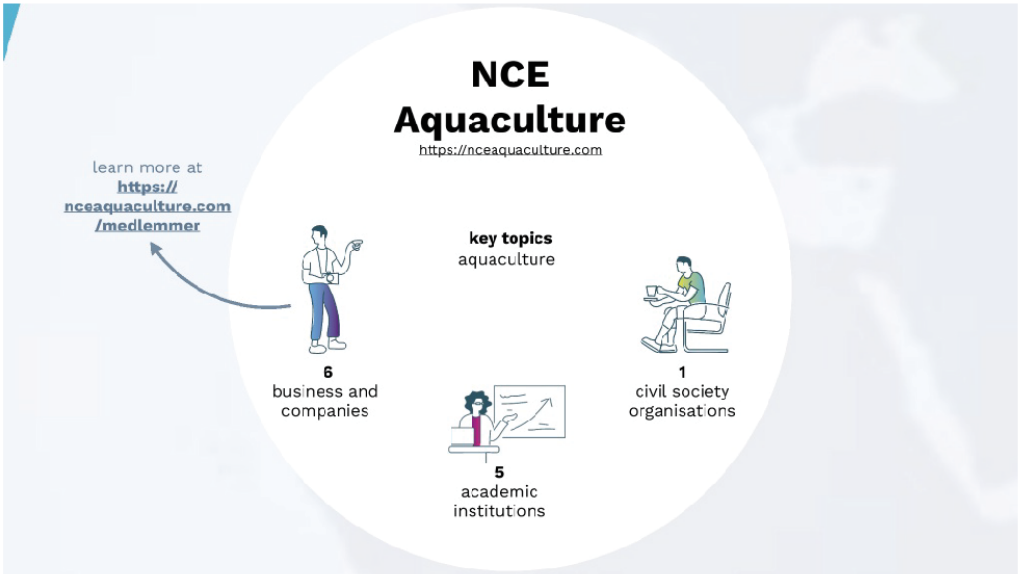

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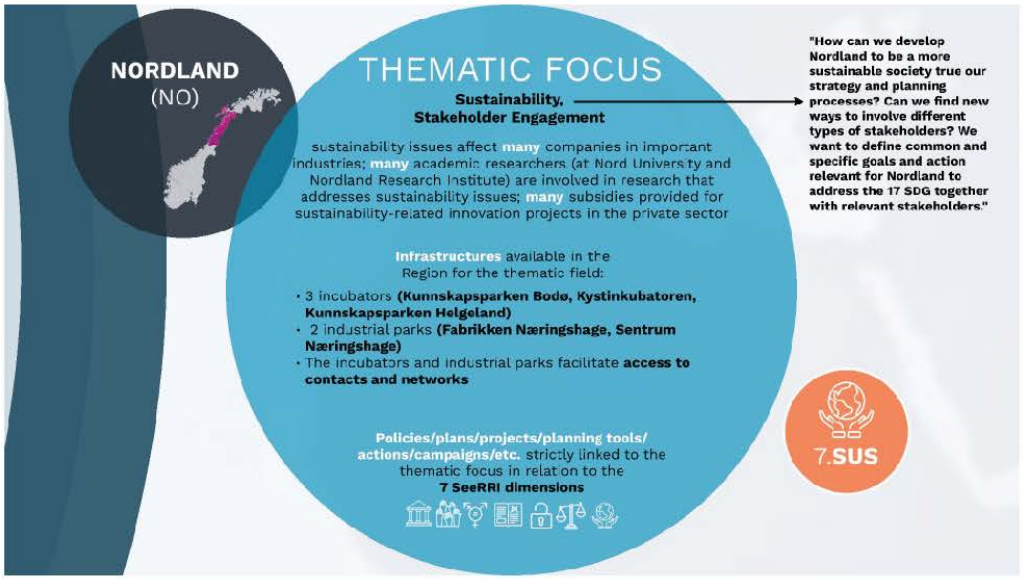

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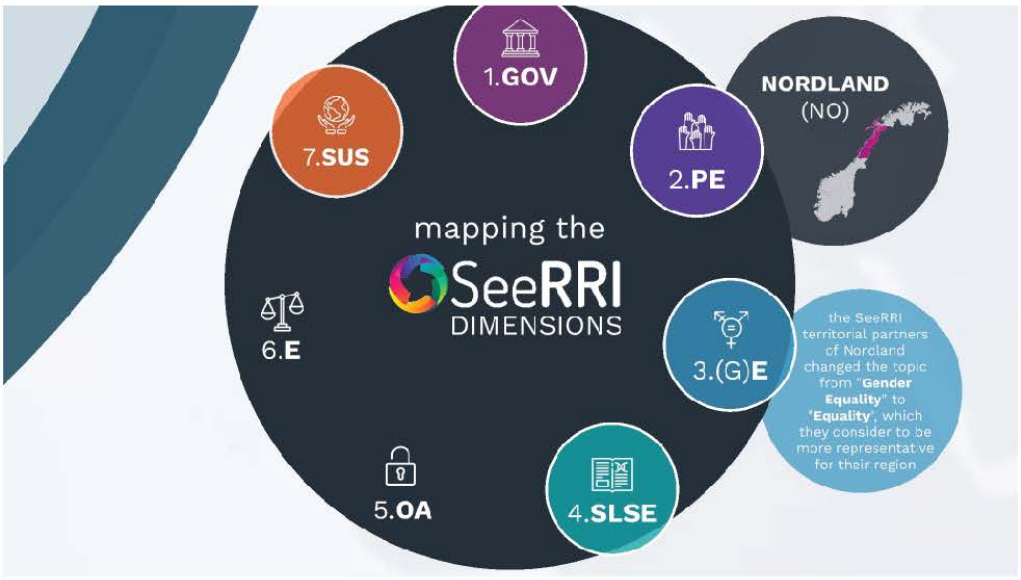

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35.

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This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement nº 824588.

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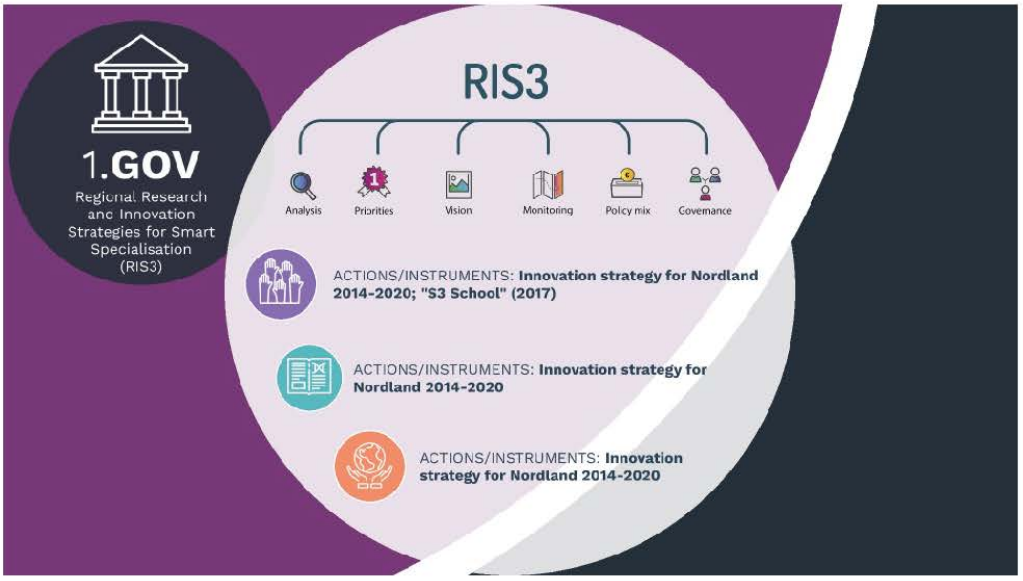

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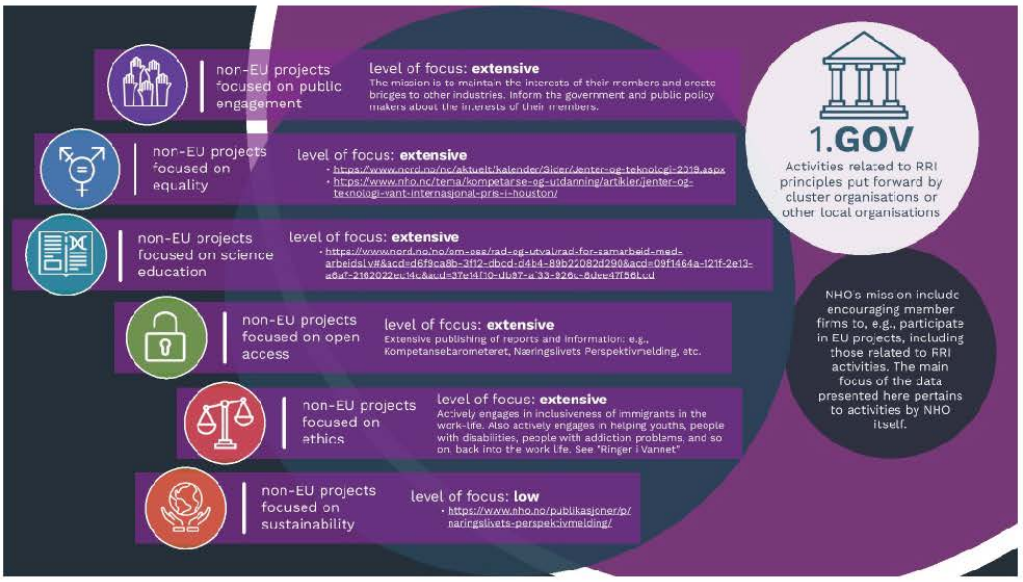

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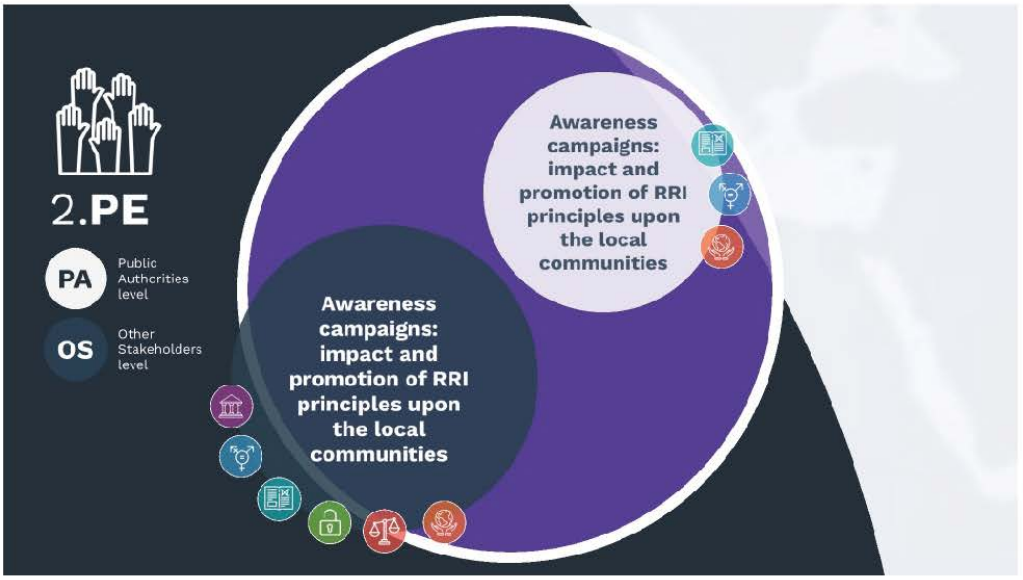

41.

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42.

43.

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement nº 824588.

44.

45.

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identified challenges/objectives for the Region linked to the SDGs
Eldercare
Exchange programs
Ground water protection
Spatial planning of wind energy (national decision making with regional participation)
High-quality education
Smart specialization
Preservation of indigenous people's culture
CityLoops project (H2020)
CityLoops project (H2020)
Communication, awareness, adaptation
Coastal protection. Regulation of exploitation of new species at tea (algue production). Regulation of mineral mining
SUSTAINABLE DEVELOPMENT GOALS
In 2018 NHO released an extensive report on, among other issues, sustainability
https://www.nho.no/siteassets/publikasjoner/p/naringslivets-perspektivmelding/ and https://www.nho.no/siteassets/publikasjoner/naringslivets-perspektivmelding/pcf-er-30oct18/nho_perspektivmeldingen_he.e_web_lowres.pdf
7.SUS
PA Public Authorities level
OS Other Stakeholders level

46.