DELIVERABLE D.T2.4.3

FINAL VERSION ROSIE RI ROAD MAP (LOCAL AND CENTRAL-REGION)

Identification			
WP	Activity	Deliverable	Document
T2 RI Road Maps	A.T2.3 Final RI Road Maps	D.T2.4.3 Final Version ROSIE RI Road Map (local and Central-region)	Final version

About This Document

D.T2.4.3 updates T2.2 road maps with Pilot results (T3) and exchange (T2.3/reviews). D.T2.4.3 (in English) groups 9 local maps & proposes Central strategy.

The local road-mapping process were developed in parallel by all partners, except for PP02, that had the role of technical / academic advisory, not being directly involved in local policy making. PP06 and PP07 – both located in Slovenia (with CCIS having a nation-wide scope) - developed a joint responsible innovation road map; whereas Italian partners PP01 and PP10 and Croatian partners PP08 and PP09 – having different and not overlapping – geographical scopes all developed their own road map.

Content

Forewords

The road-mapping process was based on a common methodology outlined in D.T2.2.1 - RI Road Map Template and Guidelines, developed by Simone Arnaldi for Associazione Jacques Maritain and Giulia Bubbolini for CISE (PP01).

The road-mapping process started with mapping the maturity of the local innovation policy framework and ecosystems and of the local SMEs with reference to a selection of MoRRI indicators[1], as adapted by prof. Christos Tsanos and Prof. Eleni Apospori for Interreg Europe MARIE[2].

Moreover, the mapping process included the results of a questionnaire investigating how SMEs saw their commitment to the RRI keys (public engagement, ethics, gender, open science, science educations, governance) and to UN Agenda 2020 SDGs. The questionnaire was filled by the over 300 organisations that participated in the transfer of baseline capacity to address responsible innovation.

Upon completing the maturity mapping process (in some cases: to complete the maturity mapping process, too), partners engaged with their local stakeholders (on the basis on D.T2.1.1 - Methodology for Quadruple Helix Stakeholder engagement) sharing good practices and lessons learned from interregional exchange – with specific reference to the study visits - to initiate an action planning process to bring responsible innovation towards and within SMEs.

Evidence from the local pilots (encompassing assistance to about 50 SMEs to implement responsible innovation) was also largely fed into the action planning process, as it provided crucial information on SMEs' expectations and reactions to actually putting responsible innovation in place, as part of their strategies and practices.

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1 The Evolution of Responsible Research and Innovation in Europe: The MoRRI indicators report, https://morri.netlify.com/reports/2018-02-21-the-evolution-of-responsible-research-and-innovation-in-europe-the-morri-indicators-report-d4-3

2 MARIE - MAinstreaming Responsible Innovation in European S3 Interregional Comparison of Regional RRI Maturity and Needs, Authors: Eleni Apospori, Christos S. Tsanos (AUEB-RC/BCLab), https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1548345177.pdf

A Glimpse to the Local RI Maturity of the Partner Territories

Maturity of the local innovation ecosystems was overall modest.
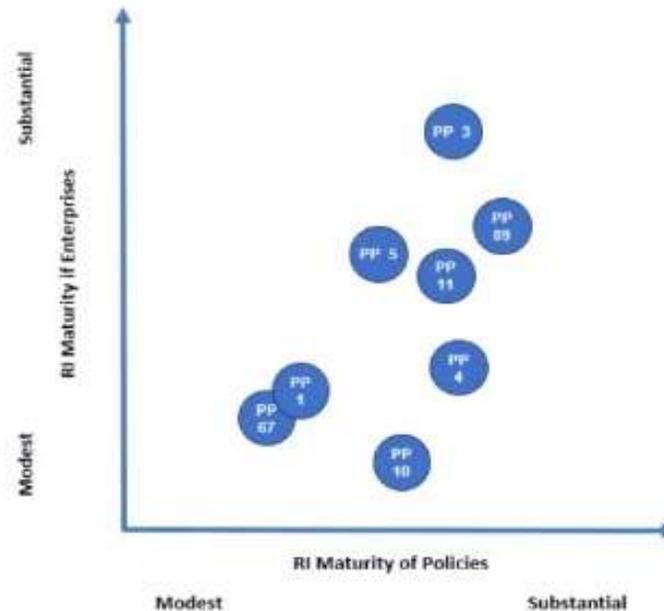
Scope of the maturity mapping:

PP01 – Emilia-Romagna (region), IT

PP03 – Kosice (region), SK

PP04 – Czech Republic

PP05 – Saxony (Free State of), DE

PP06 and PP07 – Slovenia

PP08 – City of Sibenik, HR

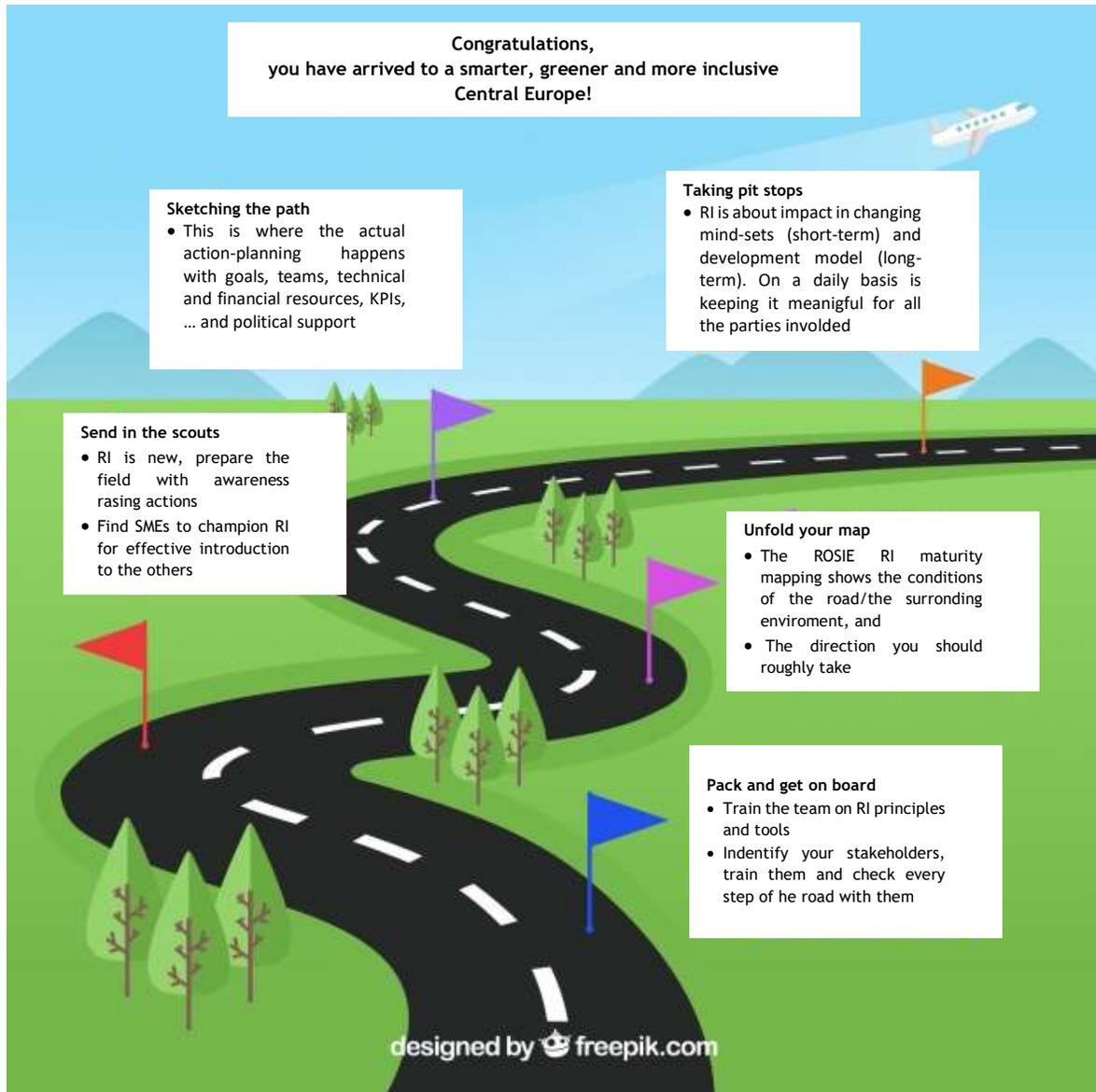PP09 – Zadar (county), HR

PP10 – Lombardy (region), IT

PP11 – Lublin (county), PL

Some partners located in territories where the concept is newer showing slightly more indulgence in their self-assessment, while partners with a deeper technical insight were less inclined to do so.

The Road-Mapping Path

A common methodology was applied in the process to define roadmaps. Keeping the metaphor, the process is also described as a journey along a road to a smart, sustainable and inclusive Europe, as outlined – e.g. - in the new EU Green Deal.

Congratulations,
you have arrived to a smarter, greener and more inclusive Central Europe!

Sketching the path
- This is where the actual action-planning happens with goals, teams, technical and financial resources, KPIs, … and political support

Taking pit stops
- RI is about impact in changing mind-sets (short-term) and development model (long-term). On a daily basis is keeping it meanigful for all the parties involded

Send in the scouts
- RI is new, prepare the field with awareness rasing actions
- Find SMEs to champion RI for effective introduction to the others

Unfold your map
- The ROSIE RI maturity mapping shows the conditions of the road/the surronding enviroment, and
- The direction you should roughly take

Pack and get on board
- Train the team on RI principles and tools
- Indentify your stakeholders, train them and check every step of he road with them

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In terms of actual action planning, though through interregional exchange, each partner chose their own different path, responding to local conditions and vision. However, there are more than a few similarities.

Further awareness raising is the main objective of most action planning work, evidently because of low RI maturity.

On the other hand, some partners (LuVo, Kosice) were able to connect RI to their RIS3, thus taking a more strategic / radical approach: this reflected the specific role of these partners in the local ERDF resource management.

Other partners were also able to link RI to a local policy: specifically, this is the case of the Slovenian partners linking RI to the promotion of sustainable tourism.

The Czech partners also took a sectoral approach, targeting education organisations and services.

The details of the local RI Road Maps are annexed to the present document.

A Central Europe CE Responsible Innovation Roadmap (aka the ROSIE Manifesto)

In face of the many differences among the partner territories and – generally speaking – among the regions that are included in the geographical scope of Interreg Central Europe, sketching a common, detailed roadmap to bring responsible innovation towards SMEs is a rather theoretical exercise. As a matter of fact, a major element of concern is that there is no such thing as Central Europe joint policy framework (whereas we have regional, national and EU ones) which prevents from delving into action-planning details that go beyond a manifesto level. On the other hand, the ongoing process of defining the new ETC framework is an excellent opportunity to advocate responsible innovation: nevertheless, also to this extent, a manifesto is again more useful than an actual roadmap.

The ROSIE Manifesto for Responsible Innovation in SMEs

The ROSIE partner worked together for three years to bring responsible innovation towards SMEs: the following statements are a result of exchange within and without the project consortium and of piloting concepts and tools with fitty SMEs.

(PREPARING)

The current jargon of (the theory of) responsible research and innovation is little meaningful to SMEs, if not outright off-putting – The theoretical thinking and creation of knowledge around a topic that is still relatively new as RRI is crucial: keeping aligned with developments at EU level (policies and projects) is fundamental; however, SMEs need more practical indications, with clear ties to their process of strategy making and process and product designing. It is not about ditching – e.g. – the five RRI keys or the four RRI operational dimensions, but it is better to **prioritise representations of responsible innovation goals and dimensions that SMEs are currently more familiar with, as the Agenda 2030 SGDs** (which – BTW – are as challenging and to many extent as obscure, but enjoy a much wider outreach among the general public).

Some concepts, as CSR and sustainability may ring a higher-sounding bell to SMEs than the concept of responsible innovation – There is great confusion under the sky… CSR was originally born as a triple-bottom-line concept (people, planet, profit) and the current concept of sustainability – as outlined in the EU green Deal – keeps the environmental and the social elements together: therefore, they are both intimately connected to responsible innovation. However, there are fundamental differences among CSR (the way

it has been implemented mainly) and sustainability (as a synonym of eco-innovation only) and responsible innovation: **it is beneficial to have SMEs use CSR and sustainability (as in eco-innovation) as a springboard into responsible innovation, but not as a rescue rope to keep hanging on, as responsible innovation is a holistic approach to innovation strategies and processes which intersects but does not equal CSR nor eco-innovation only**.

(ACTING)

Responsible innovation, although being quite an evocative expression, is a new concept that requires extensive awareness raising and knowledge building to be fully comprehended and not become the next social/green-washing hype. Responsible innovation being a relatively new concept for the business context, it is crucial to disseminate it in a way that is both theoretically precise and practically meaningful. This is no easy task. Evidence of responsible innovation's return on investments is still limited. It may be argued that it reduces risks, improves reputation, creates more transparent relations with stakeholders and the regulatory bodies, etc. To associate financial figures to this is difficult, given we are still struggling to measure CSR's ROI which we endeavoured to a much longer time ago. **Case studies work better.** SMEs like to hear from their peers what went well, what it took and if they would do it again. Let SMEs be the protagonists of your story telling around responsible innovation, **but make sure not to reduce the complexity of the integrated, strategic and operational, holistic approach to socially desirable, sustainable, ethical innovation results that is the essence of responsible innovation.**

Stakeholder engagement is the cornerstone of responsible innovation. The most referred to definition of responsible research and innovation states "*Responsible Research and Innovation is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products(in order to allow a proper embedding of scientific and technological advances in our society)"*.[3] Interaction in the long run, openness, responsiveness among innovation (technical) actors and the other interested parties is at the core of the

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3 Von Schomberg,Rene (2012) 'Prospects for Technology Assessment in a framework of responsible research and innovation' in: Technikfolgen abschätzen lehren: Bildungspotenziale transdisziplinärer Methode, P.39-61, Wiesbaden: Springer VS

definition of responsible innovation. Risks assessment may support the effort to reduce and prevent adverse social and environmental impact, but more radical innovation process requires a wider set of information on needs, expectation, fears of the parties located along the value chain and the final users and their communities. This information can only be obtained through dialogue. **The practice behind the poetry of stakeholder engagement is that for an SMEs stakeholder engagement requires competences, premises, man-hours and incentives they hardly can commit to. Design thinking methodologies and living lab services are a resource to this extent.**

(SUPPORTING)

Responsible innovation is by no means easy nor cheap, but it holds incredible added value from the point of regional development. The vision of a smart, sustainable, and inclusive Europe called for its pillars to advance in parallel. Building on that, new Green Deal call for its pillars to advance in unison. **Supporting responsible innovation means delivering positive social and environmental impact for every single Euro of public money that goes into funding research and innovation.** On the other hand, it does increase the costs of innovation up front (which – in theory – are more than balanced by reduced risks, higher consumer acceptance, better reputation) and regional governments need to factor this in **innovation funding call text, which should include responsible innovation requirements (process- and output-wise) and eligibility of expenditures related to the management on the innovation process, not just the technical delivery of it results.**

Upfront inclusion of responsible research and innovation in regional S3 is more likely to deliver on the Green Deal (and on Agenda 2030). Many H2020 SWAFS 14 projects and the Interreg Europe MARIE project are dealing with mainstreaming / embedding RRI in regional smart specialisation policies. As RIS3 are being designed across Europe in view to detailing 2021-2027 Regional Operation Plans, this is a great time to recognise responsible research and innovation provides a robust framework to deliver on the Green Deal (as well as Agenda 2030) goals. The reasoning around the how is multifaceted, complex and sees continuous additions to the global thinking around it, thanks to the may valuable projects having RRI in regional policies at their core. **Mission-oriented innovation and impact assessment being the lighthouses of the current RIS3 debate, RRI provides an excellent vessel to get there.**

Addendum: The ROSIE "survey" on SMEs and RI

As mentioned before, the mapping process included the results of a questionnaire investigating how SMEs saw their commitment to the RRI keys (public engagement, ethics, gender, open science, science educations, governance) and to UN Agenda 2020 SDGs.

Prof. Markus Will and Ms Vera Schwarzmann from Hochschule Zittau/Görlitz made and extensive review of the results and produced and interesting analysis. This was an unplanned, valuable addition to ROSIE's knowledge set.

Specifically, some elements emerged that are were relevant to the action planning:

- A large portion of SMEs does not engage in developing controversial innovations (but might embed it in their products and services): the understanding of RI risks fading into the better known CSR;

- SMEs struggle with linking RI to the variety of management systems that are in place (ISO 14001, 9001, 45001, OHSAS 18001, ISO 26000, …);

- SMEs cannot easily see direct benefits nor returns on investment in the less than long term (which is their usual horizon);

- Paternalism is still a thing;

- To many SMEs it is not clear on what the legitimation of interest groups may lay upon.

Some preliminary warnings are necessary prior to reading the results:

- There were quite some difficulties in attracting SMEs to take part in the capacity building and therefore to fill in the questionnaire: some were filled in directly by the SMEs, while others were assisted or even interviewed;
- The interval scale was not "scientifically" designed, as the questionnaire was meant to be the end test of a capacity building process, rather than a survey;
- Information on the respondents are missing (gender, age, role, etc.)
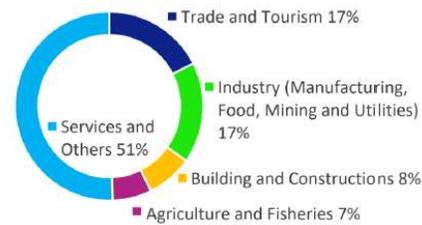- Information on the company's innovation level is missing.

SURVEY

ROSIE – Self Assessment

- Research questions and implications
  - Impact of innovative products on SDGs
  - Capacity to shape the innovation process according to the RI themes proposed by the EU Commission within the H2020 framework
  - Consideration of RRI within product and service innovation

- Description of the sample
  - Sample dominated by very small companies, mainly from service sector

Type of Organization	HR	CZ	DE	IT	PL	SK	SI	Other	Total
SME with less than 10 employees	56	22	5	33	6	38	16	2	178
SME with 10-50 employees	12	1	4	23	1	3	3	0	47
SME with over 50 employees	6	0	15	10	1	4	3	1	40
Other businesses	0	0	7	5	0	1	2	1	16
Business support organization/ Business associations	0	1	0	1	0	0	1	0	3
Academia/ Research	1	0	3	1	0	1	1	0	7
Public administration	1	0	0	0	0	1	4	0	6
Boundary organization/ Development agencies/ Innovation support centers	0	0	0	1	1	3	0	0	5
Other	2	1	1	6	0	2	0	0	12
Total	78	25	35	80	9	53	30	4	314

- Trade and Tourism 17%
- Industry (Manufacturing, Food, Mining and Utilities) 17%
- Building and Constructions 8%
- Agriculture and Fisheries 7%
- Services and Others 51%

TAKING **COOPERATION** FORWARD

SURVEY

ROSIE – Self Assessment
Results (1)
- Impact of innovative products/services on SDGs

WHAT KIND OF IMPACT CAN HAVE YOUR INNOVATIVE PRODUCT/SERVICE ON...

■ 0-3 (adverse)   ■ 4-6 (none)   ■ 7-10 (positiv)   (Total n=314)   AVERAGE ANSWER

SDG	0-3	4-6	7-10	Average
DECENT WORK AND ECONOMIC GROWTH, SDG 8	4%	33%	62%	7,16
GOOD HEALTH AND WELL-BEING, SDG 3	4%	36%	59%	7,06
INDUSTRY, INNOVATION AND INFRASTRUCTURE, SDG 9	6%	34%	59%	7,00
QUALITY EDUCATION, SDG 4	12%	42%	46%	6,35
PARTNERSHIPS TO ACHIEVE THE SDGS, SDG 17	11%	45%	44%	6,27
RESPONSIBLE CONSUMPTION AND PRODUCTION, SDG 12	9%	48%	43%	6,25
SUSTAINABLE CITIES AND COMMUNITIES, SDG 11	13%	41%	46%	5,24
GENDER EQUALITY, SDG 5	13%	53%	34%	5,78
REDUCED INEQUALITIES, SDG 10	16%	51%	33%	5,66
CLIMATE ACTION, SDG 13	16%	51%	33%	5,65
NO POVERTY, SDG 1	17%	54%	29%	5,46
AFFORDABLE AND CLEAN ENERGY, SDG 7	19%	51%	31%	5,40
ZERO HUNGER, SDG 2	18%	54%	28%	5,37
PEACE, JUSTICE AND STRONG INSTITUTIONS, SDG 16	19%	52%	29%	5,35
CLEAN WATER AND SANITATION, SDG 6	18%	55%	27%	5,31
LIFE ON LAND, SDG 15	20%	56%	24%	5,16
LIFE BELOW WATER, SDG 14	26%	59%	15%	

Please note:

- The intervall scale (0...10) was aggregated to 3 categories.

Main findings:
- The beneficial effects on SDGs are rather small.
  (mean value around 6/7 from 10).

- The majority of respondents does not see any direct impact to the SGDs.

- **Positive impacts** are related to economic growth (SDG8), good health and wellbeing (SDG3) and industry, infrastructure, innovation (SDG 4)
- Values differ in different countries

- **There are even adverse impacts!**

Rank	Total	HR	CZ	DE	IT	PL	SK	SI
1	SDG 8	SDG 8	SDG 4	SDG 9	SDG 8	SDG 3	SDG 9	SDG 8
2	SDG 3	SDG 3	SDG 8	SDG 3	SDG 3	SDG 10	SDG 3	SDG 3
3	SDG 9	SDG 9	SDG 10	SDG 13	SDG 9	SDG 9	SDG 8	SDG 4

SURVEY

ROSIE – Self Assessment
Results (2)
- Previous knowledge on RI

Previous knowledge RI

	No	Yes
Total	57%	43%
Croatia	88%	12%
Czech Republic	76%	24%
Poland	67%	33%
Slovakia	64%	36%
Slovenia	40%	60%
Germany	34%	66%
Italy	31%	69%
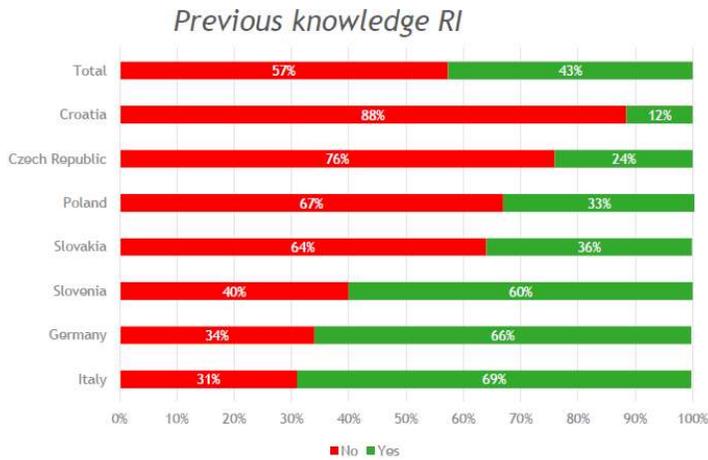
Main findings:
- Majority of companies, on average, have no previous knowledge on RRI
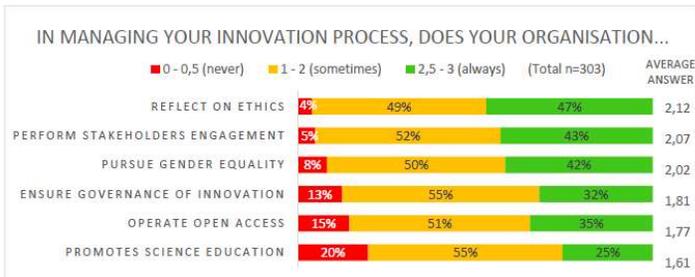- RRI concept is more known in Slovakia, Germany and Italy

TAKING **COOPERATION** FORWARD

SURVEY

ROSIE – Self Assessment
Results (3)
- Relation of Innovation Management and RRI (EC-understanding)

IN MANAGING YOUR INNOVATION PROCESS, DOES YOUR ORGANISATION…

Legend: ■ 0 - 0,5 (never)   ■ 1 - 2 (sometimes)   ■ 2,5 - 3 (always)   (Total n=303)

	0 - 0,5 (never)	1 - 2 (sometimes)	2,5 - 3 (always)	AVERAGE ANSWER
REFLECT ON ETHICS	4%	49%	47%	2,12
PERFORM STAKEHOLDERS ENGAGEMENT	5%	52%	43%	2,07
PURSUE GENDER EQUALITY	8%	50%	42%	2,02
ENSURE GOVERNANCE OF INNOVATION	13%	55%	32%	1,81
OPERATE OPEN ACCESS	15%	51%	35%	1,77
PROMOTES SCIENCE EDUCATION	20%	55%	25%	1,61

Please note:
- The intervall scale (0-7, 0.5 steps) was aggregated to 3 categories (i.e. never, often, always).

Main findings:
- All the different aspects are considered „sometimes" („often") only.

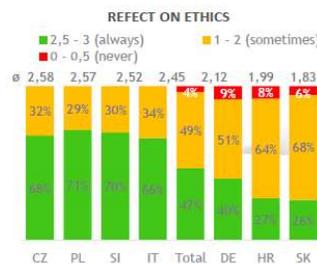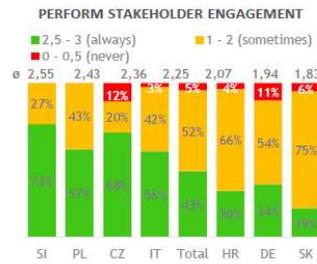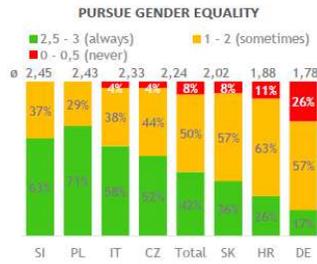- Of least importance are governance of innovation, open access and promotion of science education
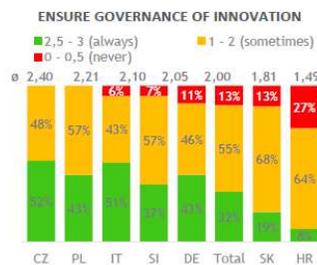
TAKING **COOPERATION** FORWARD

SURVEY

ROSIE – Self Assessment
Results (4)
- International comparison

PROMOTE SCIENCE EDUCATION

OPERATE OPEN ACCESS

ENSURE GOVERNANCE OF INNOVATION

PURSUE GENDER EQUALITY

PERFORM STAKEHOLDER ENGAGEMENT

REFECT ON ETHICS
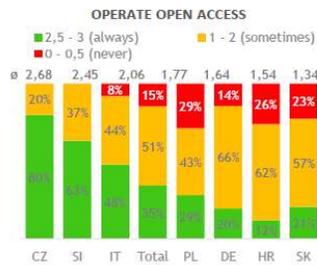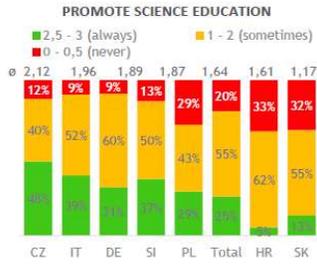
Annexes

The 9 local roadmaps are annexed.