



DELIVERABLE D.T2.2.3
FINAL RI ROAD MAP
PP09



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1 Regional Innovation Policy Context

There are 5 thematic priority areas with relevant technological and production fields as the main focus for the S3 in Croatia: (1) Health and quality of life, (2) Energy and sustainable environment, (3) Transport and mobility, (4) Security and (5) Food and bio-economy. Additionally, Croatia has identified two cross-cutting themes able to create the biggest added value and foster the emergence of new economic activities, rising of the productivity of the Croatian economy and the creation of new and sustainable job opportunities. Cross-cutting themes are KETs and ICT. All described thematic priority areas as well as cross cutting themes are relevant for SME's and their R&D potential.

The national priority for the first few years of S3 implementation is to create a climate favourable for innovation and to stimulate business sector investments in R&D activities in order to develop new products, services and technologies that will enable modernization and diversification of the Croatian economy. Successful implementation depends on monitoring and metric system that shall provide information leading to termination of "unsuccessful" priorities. Proposed priorities are specific and strongly linked to expected results, i. e. development/application of new product and technologies. The future context is envisaged as one in which all research funders must prioritize and must be able to show a return on investment.

According to the Regional Innovation Scoreboard Jadranska Hrvatska with Zadar, belongs to the group of moderate innovators with innovation performance decreasing over time. Highlighted strengths for 2017 are non R&D innovation expenditures, trademark and design applications and weaknesses, that are to emerge in this study as well are on the level of business R&D expenditures, EPO patent applications, public to private co-publication, in house SME innovation, SME innovative collaboration.

In this report we will further analyse the gap arising from identified weaknesses. We will also take into the account strengths that can be leveraged to increase regional and local SME competitiveness.

2 Regional RI Maturity

2.1 RI Performance of Regional Policy Making

RI Category	RI Component	Indicator	Type of measurement	Metric	Data source	Assessment (Modest/Moderate/Substantial) + Short description
Purpose	Motivation for doing/supporting research/innovation	M1: Integration of innovation/S&T in policy planning and strategies	Qualitative	Inclusion of innovation/S&T components in the official policies of the organizations (e.g. strategic plans, policy documents, etc.)	Regional policy/planning documents – Partners’/Experts’ assessment	<p>Moderate: Innovation is mentioned in following strategies: <i>Innovation encouragement strategy 2014-2020, Smart Specialization Strategy, National Innovation Strategy 2013-2020, Strategy for entrepreneurship development, Strategy for the development of women's entrepreneurship</i> on regional level and in <i>Strategy for development of Zadar County</i> and <i>Strategy for the Development of City of Zadar</i>.</p> <p>The strategic framework for the development of innovation and the improvement of technological development in the area of Zadar County make Strategy for smart specialization of the Republic of Croatia for the period from 2016 to 2020 and <i>National Strategy 2013 – 2020</i>. The <i>Smart Specialization Strategy</i> is binding prerequisite for the withdrawal of funds from the European Structural and Investment Funds, respectively <i>Operational Program Competitiveness and Cohesion 2014-2020</i> aimed at encouraging science excellence and strengthening the competitiveness of the Croatian economy through research, technological development and innovation.</p>
	Motivation for	M2: Integration	Qualitative	Inclusion of RI	Regional	The thematic pillars of the strategy for promoting the

	engaging with RI	of RI components in policy planning and strategies		components in the official policies of the organizations (e.g. strategic plans, policy documents, etc.)	policy/planning documents – Partners’/Experts’ assessment	<p>innovation in the Republic of Croatia 2014-2020 are: 1. Development of the innovation system of the Republic of Croatia and the improvement of the legislative and the fiscal framework for the promotion of innovation, 2. Strengthening the innovation potential of the economy, 3. Encouragement of cooperation and flow of knowledge between the business and scientific sector 4. Strengthening of the human potential for innovation and the creation of an attractive environment for “world class ”researchers.</p> <p>The development of strategy also includes following components: engagement of all societal actors, open access, gender equality, science education, governance.</p>
		M3: Financial commitment on RI components	Quantitative	Budget allocation for RI components in the budget of regional policy makers: (a) presence of specific budget headings for RI or its components; (b) annual amount (%; or €); (b) evolution (increase, decrease, stable over the last 3 years – or other programming	Budget documents – Partners’/Experts’ assessment	<p>Moderate/substantial: In the 2018. annual budget for Agency for investment and competitiveness is approximately 2 million euro and for Croatian Agency for SMEs, Innovations and Investments annual budget is approximately 80 million euro. One of the main instruments for financing RI projects is in the EU grants available to the Republic of Croatia under the Competitiveness and Cohesion Operational Program 2014-2020. Ministry of Economy, Entrepreneurship and Crafts is responsible for the Priority Axis 1 of the Competitiveness and Cohesion Operational Program 2014.-2020. The specific objectives are - Strengthening the Economy by Research and Innovation ", Investment Priority 1b, Specific Objectives 1b1 New products and services as a result of research, development and innovation activities (IRI) and 1b2 Strengthening business research, development and innovation activities through the creation of a favourable investment</p>

				period where appropriate)		<p>environment (IRI). Total allocated funds under Priority Axis 1 is amount to 664.792.165,00 EUR. Also, there is Program Horizon 2020 and Program EUREKA and Eurostar's 2. Program Horizon 2020 is main program of European for research and innovations for the period from 2014 – 2020. Budget of the program Horizon 2020 is 78.6 billion EUR. And, Program EUREKA and Eurostars 2 is the program that encourage small and medium-sized enterprises (SMEs) to co-operate with international partners in launching R & D (IR) activities.</p> <p>EU funds are also source of funding in the field of innovation (R&D programmes, Horizon 2020., ecc.).</p> <p>The importance of innovation and innovation itself is not sufficiently recognized in Croatia and in Zadar County. Croatia lags behind the EU average in research and development, given its gross expenditure for the R&D sector as a percentage of GDP in 2015 amount to only 0.79%, compared to the average EU-28 countries of 2.03%, resulting in less competitive R&D in Croatia. Innovations are not sufficiently recognized in our area, and economic entities are most often concerned with the current difficulties associated with survival in the market.</p>
	Ethics (justification of intended	E1: Significance of UNDGs in policy planning and	Qualitative	Reference to UNDGs in regional policy documents	Regional policy/planning documents –	Substantial: UNDGs have high significance in policy planning and strategies both on regional and local level.

	outcomes)	strategies		(e.g. strategic plans, policy documents, etc.)	Partners’/Experts’ assessment	
Process	Anticipation	A1: Foresight and strategic planning activities (e.g. Scenario building, delphis, etc.) (adapted from Eastwood et al. 2017)	Quantitative/Qualitative	Number of foresight and strategic planning activities in the current and preceding governing period (e.g. regional legislature, depending on local regulation) [Presence/Absence of activities if the number is not available]	Regional policy/planning documents – Partners’/Experts’ assessment	Modest: Institutional framework for the management of research, technological development and innovation activities at the national level are: 1. Ministry of Science, Education and Sports, 2. Ministry of Economy, 3. Ministry of Entrepreneurship and Crafts, and 4. Ministry regional development and EU funds responsible for policy adoption and programming. Furthermore, each of the involved ministries encompasses a very diverse set of stakeholder groups that support the process consultations and expert advisory bodies. Lower levels of implementation, monitoring, and financing include different intermediaries in the form of councils and finance agencies, such as: Croatian Small Business Agency, innovations and investments HAMAG BICRO; National Council for Science, Higher Education and Technological development; Agency for Science and Higher Education; The State Intellectual Property Office and Croatia science foundation. Strategic activities are part of EU funds
	Public engagement	PE1: Public perceptions on public involvement in science and technology	Quantitative	% of respondents who stated that “the public should be consulted and public opinion should be	Special Eurobarometer 340 (national data), p. 87.	Moderate: According to the survey from 2013 conducted by the European Commission 32% of Croatian feels totally informed about development in science and technology. 50% of Croatians are totally interested in development in science and technology; 21% of Croatians is interested but not informed; 18% have a university degree in science or

		(Tsanos and Apospori 2017)		considered when making decisions about science and technology”		technology (or their family member does); 57% thinks public dialogue in the field of science and technology is required. Source: http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_401_en.pdf
		PE2: Formalisation and extent of public involvement in regional science and technology decision-making (Tsanos and Apospori 2017)	Qualitative	Qualitative discussion and self-classification as: - Formalised / high involvement - Formalised / low involvement - Not formalised / high involvement - Not formalised / low involvement	Partners’/Experts’ assessment	Modest: Not formalised/low involvement
	Responsiveness	RES1: Potential to adapt policies and strategies (adapted from Eastwood et al. 2017)	Qualitative	Existence of stakeholder/public feedback mechanisms in policy/strategy implementation	Regional policy and strategy documents/ Partners’/Experts’ assessment	Moderate: One of the thematic pillar of the Innovation encouragement strategy is cooperation between business, public and science sector. Also in the Strategy of science, education and technology one of the priorities is to strengthen national research and innovation infrastructure with public access and connect with European infrastructure. At the moment a working group of experts is working actively on National strategy 2030. All citizens are invited to be part of development of the strategy.
		RES2: Openness	Qualitative	Existence of	Regional policy	Modest:

		and transparency of the planning and policy process (adapted from Eastwood et al. 2017)		stakeholder/public communication mechanisms in policy/strategy implementation procedures	and strategy documents/ Partners'/Experts' assessment	<p>The cooperation between business, public and science sector is fundamental in strategies both on regional and local level.</p> <p>One of the thematic pillars of the Innovation encouragement strategy is cooperation between business, public and science sector. Also in the Strategy of science, education and technology one of the priorities is to strengthen national research and innovation infrastructure with public access and connect with European infrastructure. At the moment a working group of experts is working actively on National strategy 2030. All citizens are invited to be part of development of the strategy.</p> <p>Public communication mechanism for create and implement innovative strategy has being implemented through working groups. Through working groups, individual meetings, interviews and presentations, the City of Sibenik communicated with entrepreneurs, , tourism workers, institutions for the economy, representative institutions of cultural heritage, representatives of health institutions, representatives educational institutions, representatives of social welfare institutions, representatives of sport institutions, representatives of institutions for environmental protection, municipal utility companies, representatives of institutions for protection of natural value, etc.</p>
	Reflection	REF1: Reflexive guidance in regional policy/strategy on RI (adapted from	Qualitative	Existence of offices, fora, committees, etc. for the monitoring and assessment of	Regional policy and strategy documents/ Partners'/Experts' assessment	<p>Moderate/substantial:</p> <p>HAMAG BICRO – agency for innovations, SMEs, investments; Projects involving RI and its components are frequently funded from various Interreg programmes and they are subject of Agency for regional development;</p>

		Eastwood et al. 2017)		program/project implementation activities involving RI and its components		Various technology transfer offices opened at the Universities.
		REF2: Regional support/incentives for the use of standards and certifications related to RI (e.g. ISO, SA, UNI) (adapted from Eastwood et al. 2017)	Qualitative	Existence of regional programs/actions supporting /requiring the use of instruments such as codes of conduct and standards in R&I	Regional policy and strategy documents/ Partners'/Experts' assessment	<p>The Croatian Institute for Standards is an independent and non-profit public institution established as the national standard body of the Republic of Croatia in order to achieve the objectives of standardization. The main tasks of the Croatian Institute for Standards are:</p> <ul style="list-style-type: none"> - Increasing the level of product and process safety, - Preserving the health and life of people and protecting the environment, - Promoting the quality of products, processes and services, - Ensuring the purposeful use of work, materials and energy, - Improvement of production efficiency, - Diversity constraints, connectivity and interchangeability assurance, and - Removing technical barriers to international trade. <p>The Croatian Standards Institute is a member of:</p> <ul style="list-style-type: none"> - International Standardization Organizations (ISO) - International Electro technical Commission (IEC) - European Committee for Standardization (CEN) - European Committee for Electro technical Standardization (CENELEC) - Of the European Telecommunications Standards

						Institute (ETSI) (status: NSO member)
	Governance	G1: Extent of R&I networks (e.g. platforms, hubs, incubators, accelerators) promoting / supporting RI in the region (Tsanos and Apospori 2017)	Quantitative/Qualitative	Self-assessment in terms of: - Number of networks [Existence of networks if the number is not available] - Extent of involvement of regional policy makers in these networks - Formal / informal character of networks	Regional policy and strategy documents/ Partners'/Experts' assessment	Substantial: At the county level, Department of Economy of Zadar County is in charge of implementing strategic measures of the Republic of Croatia for the area of research and innovation within the competence of the regional self-government. Institutional supporting the sector of research, technological development and innovation at the regional and local level do more the following institutions: INOVAcija - Institution for the Development of Competencies, Innovations and Specializations of the Zadar County INOVAction: one of the INOVAcija's core activities are coordination and management of projects related to development projects of centers of competence and specialized entrepreneurial incubators, encouraging innovation and business sector and its linkage with educational, research and scientific institutions and encouraging technological transfer and commercialization of research results. Inovativni Zadar Ltd. to foster and develop entrepreneurship, information and communication technology: continues the business that has been done by the Zadar Incubator Company, but also encourages the ICT sector and companies with high added value. It is also planned to modernize to informatize the existing Entrepreneurial Incubator, but also to start building a new Incubator with with the emphasis on promoting ideas and developing high value added entrepreneurship, IT and high tech companies.
		G2: Activities of	Quantitative/Qualitative	Self-assessment in	Regional policy	Substantial:

		fundes to promote RI at regional level (Tsanos and Apospori 2017)	alitative	terms of: - Number of funding mechanisms to support RI activities [Existence of mechanisms, if the number is not available]; - € invested in RI-relevant projects	and strategy documents/ Partners'/Experts' assessment	RI activities can be funded through Interreg programmes, Horizon 2020, Erasmus+ programme, OP Competitiveness and cohesion 2014.-2020. Budget allocation of priority axis Strengthening the economy by applying research and innovation is 664.792.165 euro (OP Competitiveness and cohesion 2014.-2020.).
	Ethics (deontology)	E2: Ethical considerations in the evaluation for the regional funding of R&I proposals (Tsanos and Apospori 2017)	Quantitative/Qualitative	% of R&I proposals for funding by regional policy makers that are subject to evaluation of ethical concerns (i.e., R&I practices, ethical implications for the objects of R&I, ethical acceptability of R&I outcomes) over total number of R&I proposals [Existence of	Regional policy and strategy documents/ Partners'/Experts' assessment	Data is not available.

				evaluations, if the number is not available]		
Products	Gender/equality and diversity	GE1: Gender gap of core human resources in science and technology (Tsanos and Apospori 2017)	Quantitative	% difference between the share of economically active population for women and the share of economically active population for men in science and technology	EU regional statistical yearbook 2015, p. 256	Substantial: According to Croatian bureau of statistics in 2016., of the total number of human resources in science and technology, share of women was 56% while the share of men was 44%. Source: https://www.dzs.hr/Hrv_Eng/publication/2017/08-02-03_01_2017.htm
	Gender/equality and diversity	GE2: Support for gender equality in regionally funded R&I projects (adapted from Tsanos and Apospori 2017)	Quantitative/Qualitative	Number of regionally funded R&I projects supporting gender equality and/or creating of RDI jobs that employ women [Existence of funded projects, if the number is not available]	Regional policy and strategy documents/ Partners'/Experts' assessment	Moderate: At the moment, programme ZAŽELI – women's employment programme, which is in line with European and national recommendations on improving the position of women on the labor market. Being part of one of the horizontal principles and both European and national recommendation, gender equality is part of all funded projects.
	Open access	OA1: Regional policies for dissemination of and open access	Qualitative	Qualitative discussion and self-assessment in terms of:	Partners'/Experts' assessment	Substantial: Policies for open access are included in previously mentioned strategies on national and local level. Croatian Chamber of Commerce and Chamber of Zadar County are active in following activities:

		to scientific, technical and economic information (adapted from Tsanos and Apospori 2017)		<ul style="list-style-type: none"> - Existence of a regional policy for open access - Regional institutional mechanisms for establishing, maintaining and monitoring open science and innovation 	<ul style="list-style-type: none"> - Education of entrepreneurs; - Legal assistance; - Advising on applying for EU funds; - Informations from field of science and technology. <p>Croatian Chamber of Trades and Crafts is active in activities such as:</p> <ul style="list-style-type: none"> - Everyday communication; - Legal assistance; <p>COIN – Project »Coworking Zadar – Innovation through Collaboration« funded from the IPA Operational Programme Regional Competitiveness 2007-2013</p> <p>Coworking Zadar initiative was triggered by the COIN Zadar project team made of entrepreneurial support institutions 3 years ago, as a logical step in order to be in line with a global coworking initiative that had an annual exponential growth. It went along with Zadar’s development strategy as a creative industry was recognized as an important direction in encouraging Zadar’s economic development and entrepreneurship. Soon writing of the project proposal for funding of the infrastructure works from the EU funds followed with aim that COIN would serve as a polygon for new ideas, innovation and creativity integrated into the entrepreneurial activity.</p> <p>The project started on 14/6/2014 and finished on 13/12/2015. The total budget of the project was 672.626,14 EUR, with 85% EU co-financing. Project coordinator was the City of Zadar, and beneficiaries were Association of Trades and Crafts Zadar, Zadar County, Croatian Chamber of Economy – County Chamber of Zadar and Public Institution Agency for Development of Zadar County ZADRA NOVA. Throughout the project, COIN public coworking space has established with the aim to increase self-employment possibilities, upgrade support services for SMEs, foster entrepreneurship and self-</p>
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					<p>employment, and increase the competitiveness of micro entrepreneurs.</p> <p>As focal points for fostering micro enterprises, COIN coworking provides all appropriate business infrastructure for users, independent entrepreneurs, who jointly participate in the costs of space usage. In addition, COIN also developed a social infrastructure, i.e. a coworking community of users who, although independent in the performance of their tasks, easily interact and achieve business cooperation.</p> <p>Coworking concept applies "sharing economy" and raises awareness about community and promotes social entrepreneurship. Project "Coworking Zadar – cooperation to innovation" enabled refurbishment and equipment of 365 m² of coworking space in Zadar, as well as development of space users community.</p> <p>An unique call center for entrepreneurs has been established in order to connect services of different support institutions. COIN offers open work space, fast and secure internet access, a meeting room, a room for presentations and seminars, independent offices and a space for relaxation and socializing. COIN is open for different users and events like exhibitions, public presentations, workshops, lectures, discussions etc.</p> <p>Center for Development and Education - the total value of the project is HRK 25,571,601, of which 19,975,503.14 HRK was granted by the rdfg to the Applicant - Poličnik Municipality. Main activity of the project is construction and equipping of the Center for Development and Education in the entrepreneurial zone "Grabi" in Poličnik Municipality. The aim of the project is to establish the Center for Development and Education as a modern business and business infrastructure of local and wider regional significance, which will serve as a center for improving business within the industry, which uses bees products such as wax, propolis, bee poultry, pollen, med (primarily pharmaceutical, food and</p>
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						<p>cosmetic industries). Since it is about establishing a business infrastructure that will meet the needs of the business of the above mentioned industries and related stakeholders at all levels, the implementation of the project will directly contribute to increasing the number of SMEs and raising the quality of a wide range of products and services of the industries concerned.</p> <p>The Center for Development and Education will be a specialized business entity that will execute production projects and develop small and medium entrepreneurship in the food processing, pharmaceutical and cosmetic industries and cooperate with other business entities to develop new products.</p> <p>The Center will provide incubation and consulting services to entrepreneurs, specialized educational services for business entities, employees, unemployed, students and students planning entrepreneurial ventures, and to offer product development services and support to increase production competitiveness with professional supervision. Within the Center, there will be several separate functional units, which will also serve as learning practices and active participation in the professional processes under professional guidance. Incubation services are intended for start-ups in various sectors of industry related to bee products, thus facilitating the development and growth of MSPs in the relevant area, which will ultimately contribute significantly to attracting new investments and opening up new jobs in the small and medium entrepreneurship in the Poličnik Municipality and Zadar County.</p>
		OA2: Inclusion of open access / open science measures in research policies	Qualitative	Existence of Regional open science / open innovation repositories or of	Regional programming documents	<ul style="list-style-type: none"> - Competitiveness and Cohesion Operational Programmes - Investment Priority 1b, Specific Objectives 1b1 - New products and services as a result of research, development and innovation activities (IRI) and 1b2 Strengthening business research, development and

		and calls for proposals (adapted from Tsanos and Apospori 2017)		regional support (e.g. financial) for the participation in sector or other repositories		<p>innovation activities through the creation of a favourable investment environment (IRI)</p> <ul style="list-style-type: none"> - Horizon 2020 - EUREKA - Eurostars - Interreg programmes - Crossborder cooperation programmes
	UN Development Goals	UN1: Degree of impact on UNDGs	Qualitative	Qualitative discussion and partners' assessment in terms of the UNDGs which regional policy impacts the most	Partners'/Experts' assessment	<p>Substantial: UN Development Goals that are mostly highlighted in local and national policies are:</p> <ul style="list-style-type: none"> - Quality Education - Gender Equality - Decent Work and Economic Growth - Industry Innovation and Infrastructure - Reduced Inequalities - Sustainable Cities and Communities - Climate Action - Life Below Water

2.2 RI Performance of Enterprise

Category	Component	Data source	Metric	Type of measurement	Indicator	Assessment (Modest/Moderate/Substantial) + Short description
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Purpose	Motivation for doing/supporting research/innovation	RRI Development plan, "1. Formulate your goal"	Inclusion of innovation/S&T components in the official planning of the organizations (e.g. strategic plans, vision and mission statements, etc.)	Qualitative	M1: Integration of innovation/S&T in corporate planning and strategies	Modest: SME's showed weakly developed strategic planning, and lack articulated mission and vision statements. Nevertheless, they all express an interest for incorporating innovation to own processes, it seems that they all rely on personal involvement of their founders. Said that, it is expected from SME's to rely on CEO or founder's leadership and vision, yet they all will soon need to articulate that vision into strategic plans, and statements. From this point, no SME has innovation institutionalised in process or strategy.
	Motivation for engaging with RI	RRI In-depth Assessment Tool	Inclusion of RI components in the official planning of the organizations (e.g. strategic plans, vision and mission statements, etc.)	Qualitative	M2: Integration of RI components in policy planning and strategies	Modest: the lack of existing strategies, written long term plans, and focus on marketing and non-R&D innovation is significant limitation to the effective inclusion and organisational institutionalisation of RI components.
		Self-assessment (*)	Budget allocation for RI components in companies' budget: (a) presence of funded programs targeting (selected) RI components; (b) annual amount (% or €); (b) evolution	Quantitative	M3: Financial commitment on RI components	Modest: (a) there are no present programs targeting any RI component, (b) no expenditure have been identified regarding RI, (c) companies are trying to improve their position regarding RI, and appreciate actions like this for it allows them to start with planning to incorporate RI components to future strategies.

			(increase, decrease, stable over the last 3 years – or other programming period where appropriate)			
	Ethics (justification of intended outcomes)	Self-assessment(*)	Participation in programs and schemes, and adoption of instruments both mandatory and voluntary relevant for the achievement of the UNDGs (e.g. ethics codes, voluntary guidelines, certifications, standards)	Qualitative	E1: Significance of UNDGs in companies' activities and strategies	Moderate: Nevertheless, UNDG are significantly influencing policies and regional programs, their significance to SME's activities and strategies is still moderate. SME's are adopting UNDG's values through publicly founded programs and projects. It is expected that large companies have those values already adopted for they are obliged to report on sustainability, have well developed strategies and are implementing different industrial and ethical standards.
Process	Anticipation	Self-assessment(*)	Number of foresight and strategic planning activities in the current and preceding planning period (specify the relevant planning period)	Quantitative/ Qualitative	A1: Foresight and strategic planning activities (e.g. Scenario building, delphis, etc.) (adapted from Eastwood et al. 2017)	Modest: SME's are not implementing strategic planning activities. They are usually focused on everyday business, lacking the knowledge or resources to perform, in example scenario workshop and strategize around different scenarios.

			[Presence/Absence of activities if the number is not available]			
	Public engagement	RRI In-depth Assessment Tool	Qualitative discussion and self-assessment of the companies' experience in users' engagement techniques (e.g. living labs)	Qualitative	PE1: Users' involvement in design and development processes	Modest: cocreation with users is not developed for SME ecosystem. There is still low local government engagement in creating surrounding that can provide right ecosystem for SME's cocreation and cross fertilisation. Also the lack of large enterprises further reduces opportunities for cocreation. Therefore, SME's need an opportunity to engage more actively in cocreation. This would also contribute to the harmonisation on the level of ethics and societal values between SME's and other stakeholders.
		RRI In-depth Assessment Tool	No. of public-sponsored projects on engagement in R&I joined [Presence/Absence of activities if the number is not available]	Quantitative/ Qualitative	PE2: Participation in public-sponsored engagement projects on R&I	Modest: a low number of SME's is participating in public-sponsored engagement projects on R&I. It is due to modest motivation with respect to RRI.
	Responsiveness	RRI In-depth Assessment Tool /Self-assessment	Implementation of users/communities feedback mechanisms in companies'	Qualitative	RES1: Potential to adapt production processes and business strategies (adapted from Eastwood et al. 2017)	Substantial: since there is already a regulation for all companies on the market to implement users feedback in operations, and allow for traceable and documented information, potential to adapt production processes and

			operations			business strategies for improvement and innovation is significant.
		RRI In-depth Assessment Tool /Self-assessment	Adoption of CSR instruments, such as social budget, sustainability reporting etc. detailing the social/ environmental value of corporate operations to customers and stakeholders	Qualitative	RES2: Openness and transparency of corporate operations (adapted from Eastwood et al. 2017)	Moderate: corporate operations are more transparently documented in large organisations, where sustainability reporting is obligatory. For SME's the adoption of CSR instruments can be seen as an opportunity to voluntarily make own operations transparent and visible to customers. For that to happen, SME's need to be aware of the competitive advantage they can gain if they make own operations transparent. More and more SME's start to understand that as an opportunity.
	Reflection	Self-assessment(*)	Existence of/participation in offices, fora, committees, etc. for the monitoring and assessment companies activities relevant to RI	Qualitative	REF1: Reflexive guidance in companies strategies (adapted from Eastwood et al. 2017)	Moderate: there is a rise in involvement of SME's in activities that are connected to monitoring and especially assessment. Croatian chamber of commerce and its local branches offer projects that involve SME assessment and capacity building activities.
		Self-assessment(*)	Instruments used by companies, such as codes of conduct, standards, etc. related to RI (e.g. ISO, SA, UNI)	Qualitative	REF2: Use of standards and certifications related to RI (e.g. ISO, SA, UNI) (adapted from Eastwood et al. 2017)	Moderate: SME's are extensively applying standards such as ISO and HACCAP to optimise processes and operations. Those standards are still linked more to efficiency than to RI.

	Governance	Self-assessment(*)	Self-assessment in terms of: - Number of networks joined [Existence of networks if the number is not available] - Extent of involvement of companies in these networks (e.g. leading working groups, participating in exchanges of best practices, etc.) - Formal / informal character of networks	Quantitative/ Qualitative	G1: Participation in R&I networks (e.g. platforms, hubs, incubators, accelerators) promoting / supporting RI in the region (adapted from Tsanos and Apospori 2017)	Moderate: Networks for knowledge exchange exist, and are further encouraged and developed on the level of local government. Those are formal networks, and less informal, like Enterprise Europe Network, Croatian Chamber of Commerce local branches or SME incubators (as described above). Participation in such networks is welcomed but still not exploited optimally. A lot more interest should be shown by SME's and a lot more activities by networks.
		RRI In-depth Assessment Tool	Self-assessment in terms of: - Number of successful bids [Existence of mechanisms, if the number is not available]; - € acquired to	Quantitative/ Qualitative	G2: Third party funds acquired to promote companies' RI related activities (adapted from Tsanos and Apospori 2017)	Moderate: There are substantial funds available through ERDF, R&D financing. Those grants are becoming more and more complex and demanding for SME's participation. Therefore, regardless of significant availability, EU grants are sometimes hard to implement. There are very few local and national grants for RI.

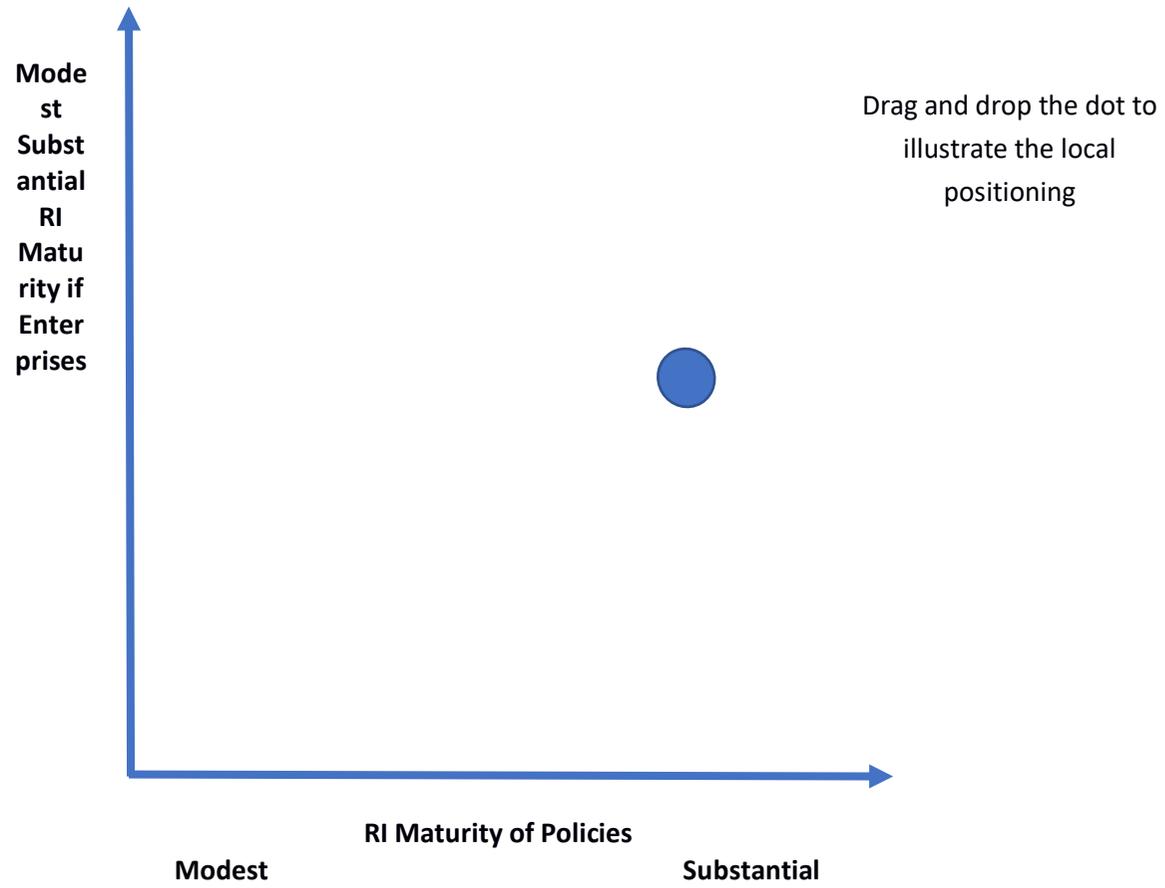
			invest in RI-relevant projects - Sources of funds acquired by the companies			
	Ethics (deontology)	Self-assessment(*)	Qualitative discussion and self-assessment of the utilization of Codes of Conduct or other instruments for ensuring the integrity of R&I practices	Qualitative	E2: Adoption or adherence to Codes of Conduct or other instruments for ensuring the integrity of R&I practices in the company	Modest: the institutionalisation of practices in written documents is a dependent on SME's age, organisational maturity, sector in which SME operates, and many other elements. For that reason, many SME's do not have any written Code of Conduct or R&D strategy.
Products	Gender/equality and diversity	RRI In-depth Assessment Tool / Self-assessment	% female employee in R&I roles in companies	Quantitative	GE1: Gender gap of human resources in companies' R&D/technical offices/divisions (adapted from Tsanos and Apospori 2017)	Moderate: Due to the fact that there are no distinct roles focused on R&D in involved SME organisations, it is only possible to draw conclusions that are based on the origin of the original idea the SME is based on. In example, the Brlog brewery, the SME involved in this project was founded on the original idea that came from two female founders. They developed the business from marketing, R&D, PR and other relevant perspectives to a successful phase of exploitation. Since this case is illustrative, it is hard to generalise.
	Gender/equality and diversity	RRI In-depth Assessment Tool /	Number of companies'	Quantitative/ Qualitative	GE2: Companies' programs/measures to	Substantial: all EU R&D grants that finance innovations in SME sector are promoting gender

		Self-assessment	initiatives supporting gender equality and/or creating of R&I jobs that employ women [Existence of initiatives, if the number is not available]		support for gender equality in R&I activities/functions	equality. For that reason, EU gender equality initiative is at the same time adopted by SMEs involved. Taken into account equal gender distribution in R&D sector in Croatia, it can be concluded that there is an equal gender distribution in private sector as well. On the other hand, SMEs involved in this study either do not have any research organisational unit or is represented by low number of employees.
	Open access	RRI In-depth Assessment Tool / Self-assessment	Qualitative discussion and self-assessment in terms of the frequency of using open access/open data sources to know up-to-date research outputs for the business operations	Qualitative	GE2: Companies' programs/measures to support for gender equality in R&I activities/functions	Substantial: open access/open data sources are important knowledge sources for SME's. They often source knowledge important for RI and decision making.
		RRI In-depth Assessment Tool / Self-assessment	Number of R&I funding/policy programs joined by companies [Existence of programs, if the number is not available]	Quantitative/ Qualitative	OA2: Participation in R&I funding/policy programs requiring a commitment to an open access / open science policy	N/A

	<p>UN Development Goals</p>	<p>Self-assessment tool, “RI Drivers - Responence of the innovation process to the dimensions of RRI”</p>	<p>Self-assessment of the impact of companies’ innovative products/services on sustainable and inclusive development (10 point scale)</p>	<p>Quantitative</p>	<p>UN1: Degree of impact on UNDGs (17 indicators, on for each indicator)</p>	<p>Moderate: 15 SME’s were surveyed on the potential impact of their products/services on 17 UNDGs. Results are: Poverty : no impact 10, positive impact 5 Decreasing hunger and quality of food; no impact 13, positive impact 12 Quality of life; positive impact 15 Quality of education; no impact 3, positive impact 12 Gender equality; no impact 7, positive impact 8 Water quality and sanitation; no impact 8, positive impact 7 Affordable and clean energy; no impact 5, positive impact 10 Quality of Work and Economic Development; no impact 2, positive impact 13 Industry, Innovation and Infrastructure; no impact 3, positive impact 12 Reducing inequality; no impact 9, positive impact 6 Sustainable cities and communities; no impact 3, positive impact 12 Responsible consumption and production; no impact 1, positive impact 14 Measures to reduce negative climate impacts; negative 1, no impact 5, positive impact 9 Underwater flora and fauna; no impact 3, positive impact 12</p>
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						<p>Florage and fauna on land; no impact 2, positive impact 13</p> <p>Peace, justice and strong institutions; no impact 12, positive impact 3</p> <p>Partnerships for achieving goals; no impact 1, positive impact 14</p>
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2.3 Assessment of Local RI Maturity Level





3 Priorities for Action

Assessment of overall performance of regional policies shows higher development score than for small and medium enterprises for RI. The gap identified arises out of a number of determining conditions linked to the overall country's level of development (World Economic Forum, Competitiveness report, <http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf>) with innovation ecosystem rank below Europe and North America average. Still, in this study, higher score for RI policies maturity can be assigned to the extensive aid received for Croatian institution capacity building during EU pre-accessing phase. At the same time, in Jadranska Hrvatska the economy was restructured to comply with rising touristic demands and less to ensure the development of real sector (manufacturing, engineering, technical and technological businesses).

We confirmed that on the level of SME's, regardless of their sectoral belonging, there is a lack of written and articulated strategies that should be linked to existing regional policies. It seems that regional and local government, should perform more active approach and increase visibility and promote awareness of RI objectives and goals that are already articulated through existing policies. One good example is the Blue Boost Interreg project that was organised by Croatian Chamber of Commerce in Zadar (<https://www.zadarskilist.hr/clanci/03122018/inovacije-od-uzgoja-i-eksploatacije-ribe-do-brodogradnje>) where advanced strategy development techniques were applied as an aid to regional SME's.

An important source of knowledge and innovation for local SME's is cocreation with users that is underdeveloped. There is still low local government engagement in creating surrounding that can provide right ecosystem for SME's cocreation and cross fertilisation. Also, the lack of large enterprises further reduces opportunities for cocreation. Therefore, SME's need an opportunity to engage more actively in cocreation. This would also contribute to the harmonisation on the level of ethics and societal values between SME's and other stakeholders.

It can be concluded that local government's engagement in promotion and coordination of RI activities shall be increased in order to involve SME's and harmonise goals between SME's, local government, academia, users, tourists and large economy (Triple helix). Having said that, the Open innovation approach is necessary to enable cocreation and close the gap arising out of misalignment between policies and practices, public and private sector. Therefore major activities shall be taken by local government that should enable functional ecosystem capable of providing services, local vision and mission, resources, knowledge and regional brand that could ease overall and RI specific SME development and growth.

What is the priority?

Development of Zadar specific action plans and projects focused on RI and local SME's. Projects can be focused on different locally important topics that can bring quick wins to SME's and at the same time promote RI values. Some of the examples of well defined topics are; fishery and tourism, Zadar the smart city, nature



and technology or similar. The nexus of topics described can provide the real world proof of concept for start-ups and interesting solutions for local government, at the same time emphasizing an importance of RI.

Inclusion of SME's in policy planning and execution.

How to do this?

Formation of committees and joint working groups that involve discussion with SME's and aim to plan activities and actions harmonised with policies on the local level.

There are more than few approaches that can result in the Open innovation model and triple and quadrupole helix alignment among relevant stakeholders. In practical terms, the living lab approach is among the most complex approaches, where short sprint events like hackathons seem to be better choice for current development stage of relevant stakeholders. Hackathons allow for incentivisation of SME's, quick proof of concept, fosters formation of business networks, and allows for selection of the best solutions for local government. In such a controlled environment RI shall be promoted as important for the first design phase of new product development.

Priorities can be described as:

- Develop regional action plans for RI promotion and start target engagement/communication initiatives to raise firms' awareness on the matter. This would result in expanded firms' participation in regional policies for RI.
- Through sprint events foster the development of new products and services designed in accordance to RI principles.

4 Lessons from the Pilot Actions

The main outcomes from the local pilot actions:

- D.T3.2.1 - Pilot Local Area Start-Up Report

In autumn of 2018 City of Zadar launched online training on their website, the aim of the training was to raise awareness on Responsible Innovation and to choose 5 SMEs participants in the Pilot action.

For the purpose of in-depth RI assessment and improvement are planned one-to-one and group meetings with selected SMEs.

Results of described activities are presented above.

The start of the pilot action is planned for the beginning of 2019.

- D.T3.2.2 - Pilot Local Area Mid-Term Report

The Hackathon (The see and the cost for our children) was organised from 25th to 26th of April 2019 in COIN coworking space in Zadar (<https://potraga.hr/vijest/opce-vijesti/plavi-hackathon-u-coinu->



pobjedila-ideja-o-sinergiji-ribarstva-i-turizma-na-brodu/1240.html). The event was organised as the part of Blue Boost Adrion Interreg project and Rosie Interreg projects by Croatian Chamber of Commerce Zadar local branch. Rosie representatives explained RI concept to attendees. Six teams composed of 3-4 participants representatives of SME's and academia were competing over the best proposal that had to involve RI in the design phase. Proposals were developed through design thinking approach. Evaluation committee composed of representatives of Rosie project included RI principles in the evaluation matrix. The proposal describing synergy between fishery and tourism won the first prize.

- D.T3.2.3 - Pilot Local Area Final Report

During 2020 participating entities were involved with training materials describing RI. Materials that are annex to this report include RI introduction and method approach script as well as presentation were individually distributed to all participating entities.

Besides the ROSIE project that helped companies in building own RI approach, own company funds are used. After the project SME's will be more interested in applying and getting R&D project financing from structural funds that are still available in Croatia.

5 Lessons from the Study Visits

Specific inspiration from the study visits, as described in:

- D.T2.3.2 - Report and material from Transnational Study Visit 01

- D.T2.3.3 - Report and material from Transnational Study Visit 02

Visit to Lublin ended up with acceptance of our proposal to apply design thinking and the Open innovation approach to future pilots. Method to apply those approaches as the pilot study can be a sprint event like hackathon or design thinking events. Also we concluded that cooperation with other stakeholders like Croatian Chamber of Economy and Interreg projects is welcomed for it fosters cross-fertilisation of ideas.

- D.T2.3.4 - Report and material from Transnational Study Visit 03

On the third study visit we discussed progress so far and our future plans regarding pilot actions and progress in general. We explained our plans for the upcoming period to organize at least one more workshop or meeting with our SMEs and finalize our activities as the project end was coming closer. As the COVID 19 situation happened in Croatia and all over the world, we were not able to organize above mentioned workshop but still, we were in a everyday communication with our SMEs via telephone, emails and other online tools as they were available. We have also made ppt presentation, the script and short video for our entrepreneurs that they can use also after the project ends.



6 The Roadmap

6.1 Action #1

The Goal

Develop regional action plan for RI promotion and start target engagement/communication initiatives to raise firms' awareness on the matter. This would result in expanded firms' participation in regional policies for RI. It is a mid-term initiative, and proposal that can be achieved together with local government as a part of separate project.

The Strategy

The people	Local government, SME representatives, large enterprise representatives, educational system (from high schools to academia) and institute representatives. Representatives of described stakeholder groups would participate in the committee dedicated to bring RI closer to stakeholders through developing the action plan.
The resources	It is hard to predict financial resources needed for this action at this point, since they depend on different parameters, but engagement of external consultant, the key expert in the area of the Open innovation is necessary. The comprehensive approach to this action would imply timeframe of 6-12 months.
Institutional incentives	There is a need for local government support. Benefit for all stakeholders would arise from such an action. Firstly, the negotiation process among all stakeholders that is very weak and caused the gap between policies and practices would be strengthen and would allow for effective and efficient inclusion of RI into practice. Incentives provided by the local government can involve promotion of local products that are in compliance to RI principles, but also i.e. inclusion of RI principles to procurement practices favouring those solutions that comply to quality principles of RI. The regional identity would be able to be linked to RI, that would rise a quality of services in tourism as well.
Tasks and timeframe	Gaining the support of the local government, Rising stakeholders awareness, and gaining their support Formation of committee Negotiating KPI's, objectives and incentives (committee) Drafting the action plan (committee) Accepting the action plan by the local government
Opportunities and strengths	This action presents an opportunity for all stakeholders to agree over policy execution, find joint interests and improve practice. Since Jadranska Hrvatska is dominantly a touristic destination, hosting non-permanent residents, this action can present an opportunity to involve them as a relevant group of stakeholders through targeted focus groups or surveys to participate in adopting of RI to local policies and practices.
Threats and risks	There is a threat of a lack of support from different stakeholders, a mitigation measure is to gain a support through carefully prepared awareness rising campaign. There is a risk of unsuccessful negotiation process, a mitigation measure is to introduce an



expert in the field of Open innovation to moderate the process

There is a risk of unsuccessful action plan drafting, a mitigation measure is to involve an expert in the field of Open innovation to help the action plan drafting process.

The Monitoring System

Major outcome and deliverable of the process is the action plan accepted by the local government. Accepted action plan presents the local government and other stakeholders' commitment to improve RI practices and provide better surrounding for the RI implementation. For that reason, the success indicator and the proof of concept is the local governments' acceptance of the action plan.

The Dissemination

The whole process shall be transparent. Once successful, this action can be transferred to other local governments that want to comply with the RI principles.



6.2 Action #2

The Goal

Foster the development of new products and services designed in accordance to RI principles through sprint events, Hackathons, using design thinking approach. Another goal is to promote excellence in the idea generation process through incentivising the best proposals.

The Strategy

The people	SME's, academia, enthusiasts that jointly propose new ideas for products and services and apply RI principles.
The resources	If jointly organised with Chamber of Commerce or local government, those activities can be financed from their budgets. Time necessary to organise such an events vary from few weeks to several months, depending on preparation but actually happen within one or two days. The cost of event can vary between few thousand and 15000 EUR.
Institutional incentives	Support from local government and institutions such as Croatian Chamber of Commerce local branches is necessary. They can provide incentives and prizes for hackathon winners.
Tasks and timeframe	<ul style="list-style-type: none"> - Promotional campaign for the hackathon and RI concept - Event organisation - Hackathon - Visibility and PR
Opportunities and strengths	Hackathons are fast and cheap actions that can effectively promote RI as the concept. If they are combined with design thinking approach, the RI can be even more efficiently applied in the earliest design phase of product development. This is therefore at the same time a strength and of proposed approach for it combines open innovation model (stakeholders external to SME's) and advanced social technology (design thinking) that emphasize empathy.
Threats and risks	The lack of cooperation from local government, or institutions. Not enough of interested SME's and other participants, mitigation is to organise promotional campaign, and prepare attractive incentives for participants.

The Monitoring System

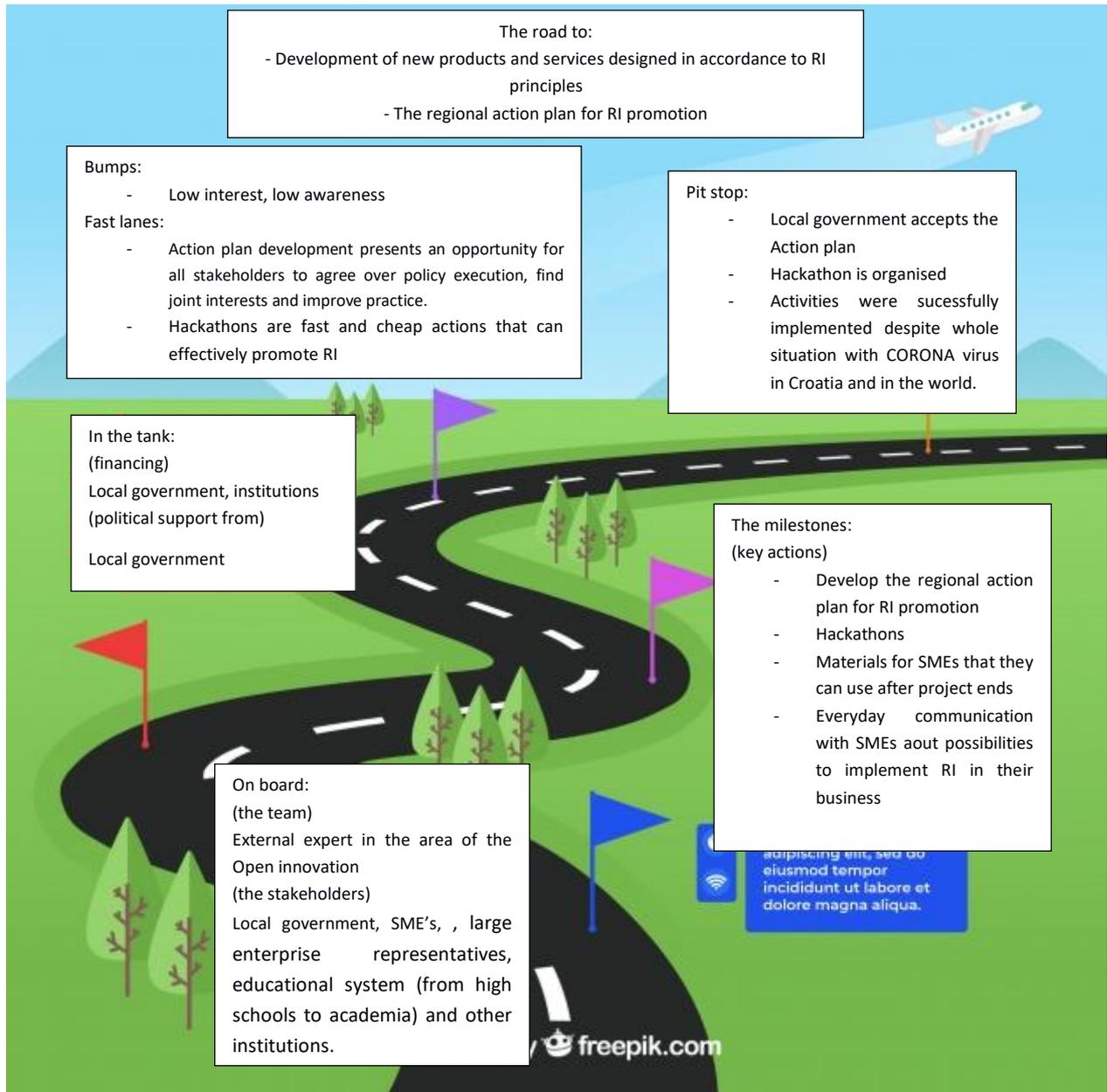
The successfully organised event and successfully completed activities during the COVID 19 crisis.

The Dissemination

The whole process was transparent. Once successful, this action can be transferred to other local governments that want to comply with the RI principles.



6.3 A Visual Rendering of the Roadmap



Infographic vector created by freepik - www.freepik.com

https://www.freepik.com/free-vector/timeline-concept-with-winding-road_2485842.htm

