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COOPERATE

Key Performance Indicators of Ecosystems Maturity

Self-assessment questions

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1. Research

SELF-ASSESSMENT QUESTIONS	RESPONSE OPTIONS	EXPLANATION	RESPONSE
1. To what extent would you assess that all relevant research areas for the ERA Hub are covered by universities/RTOs in the ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<ul style="list-style-type: none"> • Research and Technology Organisations (RTOs) are public or private non-profit organisations whose core mission is to produce, combine and bridge various types of knowledge, skills and infrastructures to deliver a range of research and development activities in collaboration with public and industrial partners of all sizes¹. • Own assessment of coverage in research of those areas that are relevant for the ERA Hub, as opposed to gaps in knowledge or knowhow for the development of the ERA Hub. 	
2. How would you assess the production of peer-reviewed publications in the ecosystem on the relevant topic(s) for the ERA Hub?	1: Very low quantity 2: Low quantity 3: Moderate quantity 4: High quantity 5: Very high quantity	Own assessment of quantity and quality (e.g. citation rates, level of novelty), specific to the (sub)field(s) and relative to the size of the ERA Hub and in terms of specialisation compared to other research areas or other regions.	
3. How easy/difficult is it for researchers or innovators in the ecosystem to access research infrastructures *?	1: Very difficult 2: Difficult 3: Neutral 4: Easy 5: Very easy	<p>*Research Infrastructures are major instruments, resources or service facilities for research in all disciplines. They include major scientific equipment or sets of instruments; collections, archives or scientific data; computing systems and communication networks; any other research and innovation infrastructure of a unique nature which is open to external users.</p> <p>These infrastructures differ from other research-related entities in the fact that they tend to have at least national significance and have a long life (e.g. more than ten years). Access to them and use of their services and equipment is usually open and based on research excellence standards. The costs of their development and construction are so high that they require substantial national public funds².</p>	

¹ <https://www.earto.eu/about-rtos/>

² For instance: <https://erf-aisbl.eu/members/>
https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/european-research-infrastructures_en

2. Talent

SELF-ASSESSMENT QUESTIONS	RESPONSE OPTIONS	EXPLANATION	RESPONSE
4. Would you assess that there are sufficient training programmes for diverse R&I profiles in the ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<ul style="list-style-type: none"> Diverse R&I profiles could include e.g. research management, data management, innovation and valorisation skills, tech transfer skills,... Sufficiency can refer to e.g. number of training possibilities, topics, diversity, quality... 	
5. Would you assess that there are sufficient training programmes for entrepreneurship and knowledge valorisation in the ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	Sufficiency can refer to e.g. number of training possibilities, topics, diversity, quality...	
6. To what extent is brain drain an issue in/for the ecosystem?	1: To a very high extent – Entirely 2: To a high extent 3: To a moderate extent 4: To a low extent 5: Not at all - to a very low extent		
7. How successful is the ecosystem in attracting and retaining talent in the ecosystem?	1: Not successful 2: Somewhat successful 3: Moderately successful 4: Considerably successful 5: Very successful	Talent does not only include researchers, but also other RTI profiles.	
8. How would you assess the impact of the following elements on the attractiveness of the ecosystem for RTI profiles?			
<ul style="list-style-type: none"> Working conditions (including salaries) 	1: Strong negative impact 2: Small negative impact 3: No impact 4: Small positive impact 5: Strong positive impact		
<ul style="list-style-type: none"> Career prospects / diversity of career opportunities 	1: Strong negative impact 2: Small negative impact 3: No impact 4: Small positive impact 5: Strong positive impact		
<ul style="list-style-type: none"> Cost of living 	1: Strong negative impact		

SELF-ASSESSMENT QUESTIONS		RESPONSE OPTIONS	EXPLANATION	RESPONSE
		2: Small negative impact 3: No impact 4: Small positive impact 5: Strong positive impact		
	<ul style="list-style-type: none"> Quality of education and childcare 	1: Strong negative impact 2: Small negative impact 3: No impact 4: Small positive impact 5: Strong positive impact		
9.	To what extent do researchers find it difficult/easy to work outside academia in the ecosystem?	1: Very difficult 2: Difficult 3: Neutral 4: Easy 5: Very easy	<ul style="list-style-type: none"> E.g. in companies, policy organisations, social organisations,... E.g. in terms of finding a position, being accepted for a position, having the right (transversal) skills,... 	

3. Knowledge transfer

SELF-ASSESSMENT QUESTIONS		RESPONSE OPTIONS	EXPLANATION	RESPONSE
10.	How would you assess the extent to which different actors in the ecosystem are open to new ideas and solutions (e.g. to experiment or introduce change)?			
	<ul style="list-style-type: none"> <i>Companies</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>Social organisations</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>Public authorities</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>Universities</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>RTOs</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
11.	Are there enough knowledge sharing infrastructures in the ecosystem?	1: Not at all 2: To some extent 3: To a moderate extent 4: To a considerable extent 5: To a high extent	<i>E.g. maker spaces, co-working spaces, knowledge sharing platforms,...</i>	
12.	To what extent do actors in the ecosystem use knowledge sharing infrastructures?	1: Not at all 2: To some extent		

		3: To a moderate extent 4: To a considerable extent 5: To a high extent		
13.	Are there sufficient academia-industry programmes for R&I available in the ecosystem?	1: Not at all 2: To some extent 3: To a moderate extent 4: To a considerable extent 5: To a high extent	<i>E.g. internships, mentorships and job placement opportunities</i>	
14.	To what extent do actors in the ecosystem use academia-industry programmes for R&I?	1: Not at all 2: To some extent 3: To a moderate extent 4: To a considerable extent 5: To a high extent		
15.	To what extent have informal knowledge sharing events been organised in the ecosystem in the last year?	1: Not at all 2: To some extent 3: To a moderate extent 4: To a considerable extent 5: To a high extent	<i>E.g. workshops, hackathons,...</i>	
16.	How would you assess the attendance rates of these informal knowledge sharing events?	1: Very low 2: Low 3: Moderate 4: High 5: Very high		

4. Funding

SELF-ASSESSMENT QUESTIONS		RESPONSE OPTIONS	EXPLANATION	RESPONSE
17.	To what extent are the ecosystem needs met in terms of funding for the following purposes?		<ul style="list-style-type: none"> In terms of total amount, amount per project or grant, period, focus,... Funding refers to funding at all levels, available to the ecosystem (actors). 	
	<ul style="list-style-type: none"> Basic research 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> PoC, testing and development,... 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> Startup creation 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> Upscaling, commercialisation,... 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
18.	To what extent is relevant funding for the following purposes known in the ecosystem ?		Funding refers to funding at all levels, available to the ecosystem (actors).	
	<ul style="list-style-type: none"> Basic research 	1: Not at all - to a very low extent		

		2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>PoC, testing and development,...</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>Upscaling, commercialisation,...</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
	<ul style="list-style-type: none"> <i>Startup creation</i> 	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		

5. Collaboration

SELF-ASSESSMENT QUESTIONS		RESPONSE OPTIONS	EXPLANATION	RESPONSE
19.	To what extent is transparency of the ecosystem's organisation, network and accessibility supported by formal initiatives ?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<ul style="list-style-type: none"> • <i>Transparency in terms of access point, links, involvement of actors,...</i> • <i>Formal initiatives such as key account managers, access points e.g. website or online platform, network or cluster organisation,...</i> 	
20.	How easy/difficult is it for newcomers to engage in collaboration in the ecosystem?	1: Very difficult 2: Difficult 3: Neutral 4: Easy 5: Very easy		
21.	Can you indicate which actors are actively collaborating in your ecosystem?	1: Universities 2: + RTOs 3: + Public Authorities 4: + Companies and/or social organisations 5: + Civil Society	<ul style="list-style-type: none"> • <i>This question focuses on the representation of the different types of actors of the quadruple helix in the ecosystem.</i> • <i>Assuming that an ecosystem would typically build up in this order of including different types of actors (from 1 to 5).</i> 	
22.	To what extent would you assess that all relevant actors are active partners in the ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<i>This question focuses on the representation of all relevant individual actors in the ecosystem.</i>	
23.	How would you describe the interaction between the actors in the ecosystem?	1: There is no/hardly any interaction between actors 2: There is communication and information exchange between actors 3: There is alignment of activities for mutual benefits and achievement of complementary goals between actors 4: There is coordination of activities by actors to achieve compatible goals 5: There are joint activities based on a joint strategy, joint responsibilities and joint goals		
24.	To what extent have the actors in the ecosystem developed a shared vision on R&I priorities ?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
25.	To what extent have the actors in the ecosystem developed a shared vision on communication ?	1: Not at all - to a very low extent 2: To a low extent		

		3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
26.	Is there a monitoring/evaluation system of the ecosystem in place?	1: No 2: Yes, but rather rudimentary 3: Yes, fairly well developed and implemented 4: Yes, considerably well developed and implemented 5: Yes, strongly developed and implemented	<i>E.g. to track progress in the development of the ecosystem, progress and performance of the collaboration in the ecosystem,...</i>	
27.	Is the ecosystem sufficiently visible towards potential partners, policy makers, the broader public,...?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<i>E.g. through joint communication and outreach channels such as websites, social networks, local media outlets, community newsletters,...</i>	

6. Governance

SELF-ASSESSMENT QUESTIONS		RESPONSE OPTIONS	EXPLANATION	RESPONSE
28.	To what extent have the actors in the ecosystem developed a shared vision on governance ?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
29.	To what extent is there a clear division of roles and responsibilities between the actors involved in the ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
30.	Do the actors in the ecosystem work together under formalised agreements to carry out activities?	1: Never 2: Rarely 3: Sometimes 4: Regularly 5: (Very) often	<i>E.g. Memorandum of Understanding, long-term contracts,...</i>	
31.	To what extent are national/regional policy makers committed to fostering progress in R&I in the ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely		
32.	To what extent is the regulatory environment facilitating the development of the R&I ecosystem?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<ul style="list-style-type: none"> • <i>E.g. administrative requirements, regulations, policies,...</i> • <i>Taking into account both the national and regional level (if applicable).</i> 	

7. Innovation

SELF-ASSESSMENT QUESTIONS		RESPONSE OPTIONS	EXPLANATION	RESPONSE
33.	How would you rate the ecosystem's output in terms of number of innovative products and services offered to users ?	1: Very low 2: Low 3: Moderate 4: High 5: Very high	<ul style="list-style-type: none"> Referring to innovative products and services that are close/ready to be brought to the users. Users including e.g. market, policy makers, social organisations, citizens,... Can be used to benchmark with oneself over time. 	
34.	To what extent do entrepreneurs have specific infrastructure and support programmes available in the ecosystem to develop their ideas/projects?	1: Not at all - to a very low extent 2: To a low extent 3: To a moderate extent 4: To a high extent 5: To a very high extent - Entirely	<ul style="list-style-type: none"> This question generally aims to assess if startups have access to the support they need to develop. Support may include e.g. availability of incubators, accelerators, living labs, mentorships,... 	
35.	How would you assess the level of activity of innovation intermediaries in the ecosystem?	1: Very low 2: Low 3: Moderate 4: High 5: Very high	<ul style="list-style-type: none"> Level of activity referring to e.g. organisation of/participation in events and support tools, number of users/members/contacts,... Innovation intermediaries including e.g. Tech Transfer Offices, Knowledge Transfer Offices, cluster organisations,... 	
36.	How active are venture capitalist or business angel investors in the ecosystem?	1: Not active at all 2: Somewhat active 3: Moderately active 4: Active 5: Very active		