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“Living Lab research concept in rural Areas – LIVERUR”

DELIVERABLE D 2.2:
Report on Benchmarking Criteria Creation

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EXECUTIVE SUMMARY

This deliverable provides information about the LIVERUR benchmarking criteria, for comparison of existing value – chain approaches, collected during the first months of the project. It gives information about the criteria chosen, with the technical and piloting partners of the project in cooperation with the territorial stakeholders, for the benchmarking study. Based on the cooperation between different stakeholders, the consortium identified most relevant indicators of the proposed criteria (economic, environmental, social, innovation, technology, infrastructure) (see Part: Conclusions), which are recommended to include in benchmarking study with the most potential weights.



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INTRODUCTION

The LIVERUR project

The short term objective of LIVERUR is to improve knowledge of business models growing in rural areas, including an understanding of their potential”.

Work package number: WP2

Work package title: Conceptualization of existing business models in EU and regional areas.

“The objective of this WP is to iterate a complete and extensive analysis of existing business models in European rural areas with specific attention to the following sectors:

- Fruits and vegetal products (Latvia, Turkey),
- dairy products (Malta, Azores),
- cultivation from arid territories (Spain, South of France),
- agritourism and specific regional production (Czech Republic),
- organic farming (Slovenia),
- handcraft (Tunisia),
- agribusiness favouring social inclusion / providing social services (Italy),
- smart rural sector (Austria),
- livestock (West of France).

Capitalizing upon past European projects on rural economic development and rural jobs, this WP will create a benchmarking study where **10 traditional value-chain approaches** (such as mass production, development of prices, optimising the cost structure of the enterprises, rationalisation, etc..) will be identified and compared taking into account the circular economy principles. The number of 10 will guarantee a highly diversified analysis without losing sight of the target aim, which is creating a benchmarking study between rural living lab techniques and the most currently utilized business models and value – chain approaches.

The aim is to identify, describe and benchmark different business models in terms of starting conditions, obstacle faced, enabling factors, financing mechanisms, generation of added value, jobs and other potential environmental and social benefits, gender issues, attractiveness to young workers, and the distribution of the value generated.

Specific objectives:

- Creation of **an extensive analysis of the existing business models in rural territories** in order to foster collection and capitalization of existing knowledge
- Development of **a comprehensive approach to rural business models analysis** which will identify relevant benchmarking criteria and suggest innovative comparison strategies”

TASK 2.2: Systemisation of benchmarking criteria in order to compare traditional value – chain approaches.

Consortium role: the technical partners present in the consortium will here cover a major role according to their expertise in order to give the proper weight to every component of the analysis. Piloting partners will contribute via feedback from the stakeholders which are implementing the analysed business models: it must be understood whether small and family farms may contribute to a 'right balance' between technical, economic, environmental and social



sustainability, taking into account the linkages with the up- and downstream sectors and in particular small and medium sized enterprises and identifying the requirements with regard to infrastructure (incl. labour, transport, energy, communication, food-safety, etc.), supply chain (local/regional markets), technical pathways (focus on production and transformation at farm level) and governance (local/global).

In this task, the consortium identifies the weights to be attached to the criteria of analysis in order to create a benchmarking scale. Given the fact that different weight will lead to different results, the task lead partner will take care of following standardize protocols in the assessment, to the aim of creating an outcome which is understandable and justifiable at a Pan – European scale (*Source: Project Grant Agreement*).

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I. METHODOLOGY

The T2.2 is continues process of the implemented T2.1, results of which are described in the D2.1 - Report of existing business model in EU countries and regions. The mentioned deliverable presents research outputs about: understanding of business models on rural areas in EU and partner countries, typology of them, existing challenges and trends, and findings which were elaborated based on the survey with more than 200 rural cases. Meantime, T2.2 collects feedback from the technical and piloting partners about criteria, which make impact on rural business models. Such data will be used for creation of the report on the benchmarking study (T2.4).

I.1. Research mode

In order to reach the objectives of the Task T2.2, the three steps approach was implemented:

- Revision of literature, projects and initiatives aiming at identifying relevant criteria for the evaluation of the rural business models and development of the tool for data collection from the internal and external stakeholders, will be implemented in next WPs . This sub-task involved several partners (CESIE, CEA, TRA, CLEOPA).
- Collection of the feedbacks from the partners regarding the proposed tool and criteria (see ANNEX 1) (partners involved: CESIE, CEA, TRA, CLEOPA, ZSI, AWI, FRCT, EUROVERTICE, UCAM).
- After receiving a first review of the criteria, all the comments were summarised, guidelines how to use the tool were prepared and disseminated between the consortium members. The entire was asked to use the tool for data collections.

The technical partners contributed providing their expertise in order to give the proper weight to every component of the analysis.

Piloting partners were asked to contact their stakeholders, which are implementing the analysed business models in T2.1. and to collect information about criteria importance to their business models, in this way, proposing a weigh for each of the indicator.

Additional information: all the results presented are the first steps, which will be deepen in the later stage of the project (specifically WP4), trough much more external stakeholders' participation and contribution.



to receive more detailed data from the external stakeholders more time and explanation of the WP2 for them is necessary. This is the main factor, which influenced preparation of the first version of the deliverable.

Summary of the collected results is presented in the part II.2 of this report.

II. DEVELOPMENT OF THE BENCHMARKING FRAMEWORK

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II.1. Selection of indicators

To develop a benchmarking framework, the task leader proposed a collaborative approach. In cooperation with the several partners (mentioned in the part I.1) different material was analysed to collect best practises and to understand the reality of the rural areas. Examples of the analysed documents are: scientific articles (presented in the list of references), EU strategy documents (for example: Rural Development policy 2007-2013, etc.), development impacts assessment tools, etc. Additionally, it is important to underline, that the questionnaire of T2.1 already integrated criteria qualified with technical partners (social inclusion, environmental, economic,) with a first evaluation of the impact of the projects on these criteria.

As a result of this research, partners agreed on several groups of the criteria, which have a direct correlation with the LIVERUR project' objectives and which should be included into the benchmarking framework. These groups are: Economic criteria, Environmental criteria, Social (community and territory) criteria, Innovation criteria, Technology criteria, Infrastructure criteria. All the groups of criteria were divided into smaller sub-groups (categories) and indicators, which were described in a quantitative way (see ANNEX 1). To receive valuable results from such analysis, specific general criteria (Von Schirnding Y., 2002) for the indicators was adapted to guarantee the comparison of received data on Pan-European scale:

- Generally relevant:
 - Related to a specific question or issue of concern.
 - Related and linked to environment/development factors.
 - Sensitive to changes in the conditions in question.
 - Give early warning of pending changes.
- Scientifically sound:
 - Unbiased and representative of the conditions in question.
 - Scientifically credible, reliable and valid.
 - Based on the best available data of acceptable quality.
 - Robust and unaffected by minor changes in the method or scale used in their construction.
 - Consistent and comparable over time and space.
- Applicable to users:
 - Relevant to policy and management needs.
 - Based on data that are available or can be collected or monitored with a reasonable financial/time resource input.
 - Easily understood and applied by potential users.
 - Acceptable to stakeholders.

Based on the research done during the project preparation phase, additional aspects, were taken into consideration, evaluating existing business models and value chains in rural areas:



- Social impact
- Economic impact
- Environmental impact
- Technological impact (Franks J., 2005; Hopfgartner F., etc., 2014).
- Sustainability
- Open innovation approach (co-creation processes, community based approach, stakeholders' engagement, local entrepreneurship, etc.) (Garsia Guzman J., etc., 2014; Trigkas M., etc., 2018; Schaffers H., etc. 2016, Leminen, S., 2012).
- Circular economy (Platzgummer V., 2016).

II.2. Identification of the weights of the criteria

In the preparation of the first draft of the document six partners contributed with the data collected from the stakeholders. The advantage of such data collection is that, from the first months of the project, the consortium involved different local actors (SMEs, Rural living labs) in research phase, as so their contribution to the gained results is very valuable.

Below is presented a summary of the collected contributions by partners, which are divided in three groups (total representation, representation by countries and by regions). For the classification of the Consortium countries, the partnership used classification provided in the GA: Southern EU is represented by Spain, Italy, Malta and France (PACA & Pays de la Loire Regions). Tunisia is considered within this region as well; South Eastern Europe is represented by Greece, the same consideration for West Turkey partner organization; Central Europe is represented by Germany, Austria, Poland, Latvia, Czech Republic and Slovenia, and finally the Western Europe is represented by pays de la Loire region in France. The overview of the partners' data is presented below. Note: External stakeholders, who were involved in T2.1, were contacted for the data collection; the consortium is waiting for more contributions, as the stakeholders asked to a longer period of time for the reflection and data presentation.

Table 1. Contribution provided by partners

Country	Partner	Role of the Partner	Number of involved stakeholders
Austria	AWI	Piloting	1
Spain	WTELECOM	Technical	1
Greece	IED	Technical	1
Italy	CESIE	Other	1
Czech Republic	UHLAVA	Piloting	3
Latvia	ZSA	Piloting	3

Following part of the document will present deeper information about the indicators, which are represented by economic, environmental, social, innovation, technology, infrastructure criteria groups.

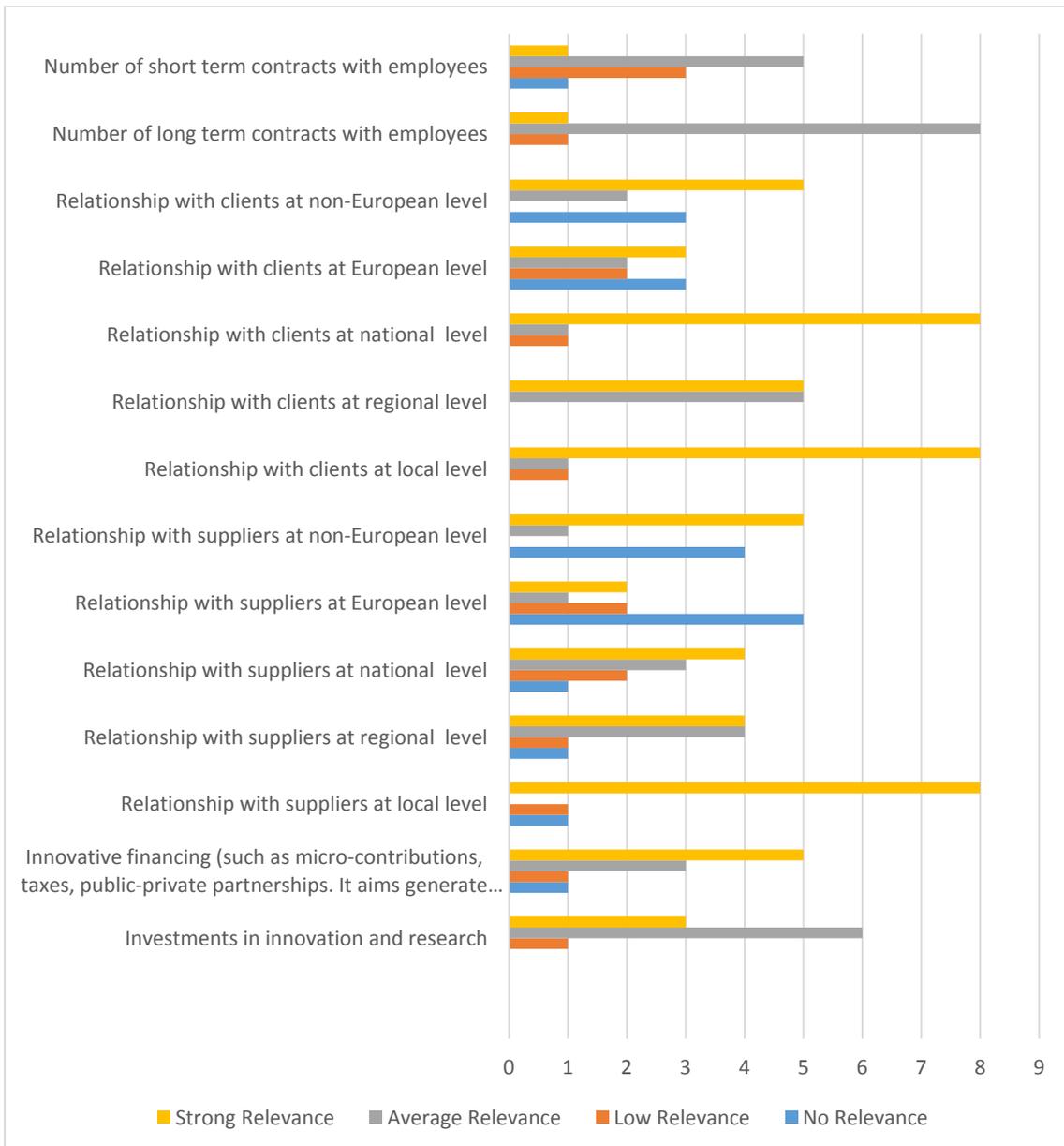


Figure 1. Representation of the stakeholders’ answers to the question about relevance of the presented economic criteria on business model. (Note: All the indicators of the figures presents are described in the Annex 1).

Based on the data we received from the stakeholders, the five most relevant indicators in the group of **Economic** criteria are:

- Investments in innovation and research;
- Relationship with clients at national level;
- Relationship with clients at local level;
- Relationship with suppliers at local level;
- Relationship with clients at regional level.

The least relevant criteria have been:

- Relationship with suppliers at European level;
- Relationship with suppliers at non-European level;
- Number of long-term contracts with employees.

Representation of the stakeholders' answers to the question about the relevance of the **Environmental criteria** on business model is represented by the Figure 2.

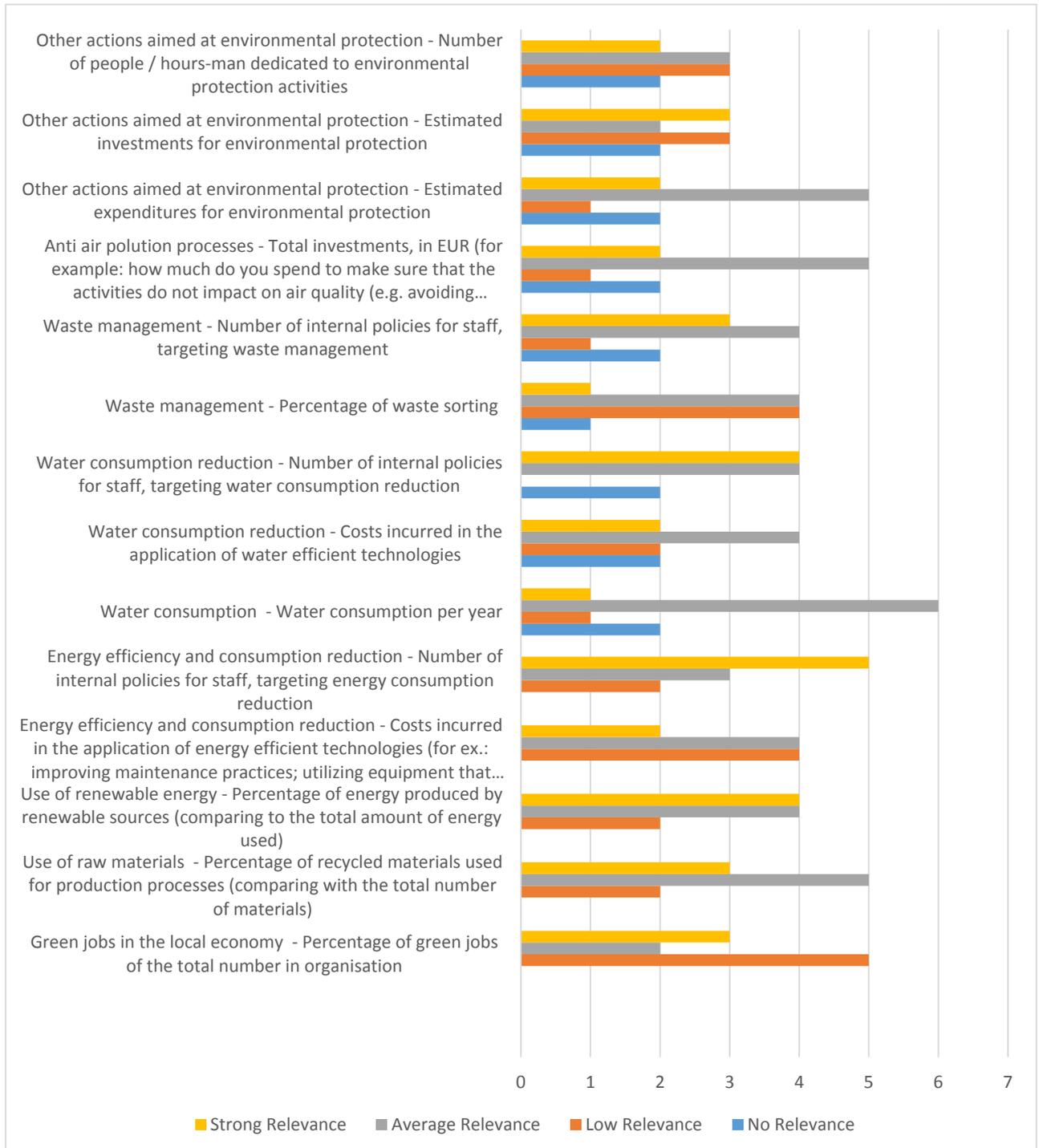


Figure 2. Representation of the stakeholders' answers to the question about the relevance of the presented environmental criteria on business model

Based on the data we received from the stakeholders, the five most relevant indicators in the group of **Environmental criteria** are (note: based on the answers, in this category there are no irrelevant indicators):

- Green jobs in the local economy;
- Use of raw materials;
- Use of renewable energy;
- Energy efficiency and consumption reduction - Number of internal policies for staff, targeting energy consumption reduction;
- Water consumption reduction - Number of internal policies for staff, targeting water consumption reduction.

Visual Representation of the stakeholders' answers to the question about the relevance of the presented **Social** (community and territory) criteria on business model is represented by the Figure 3.

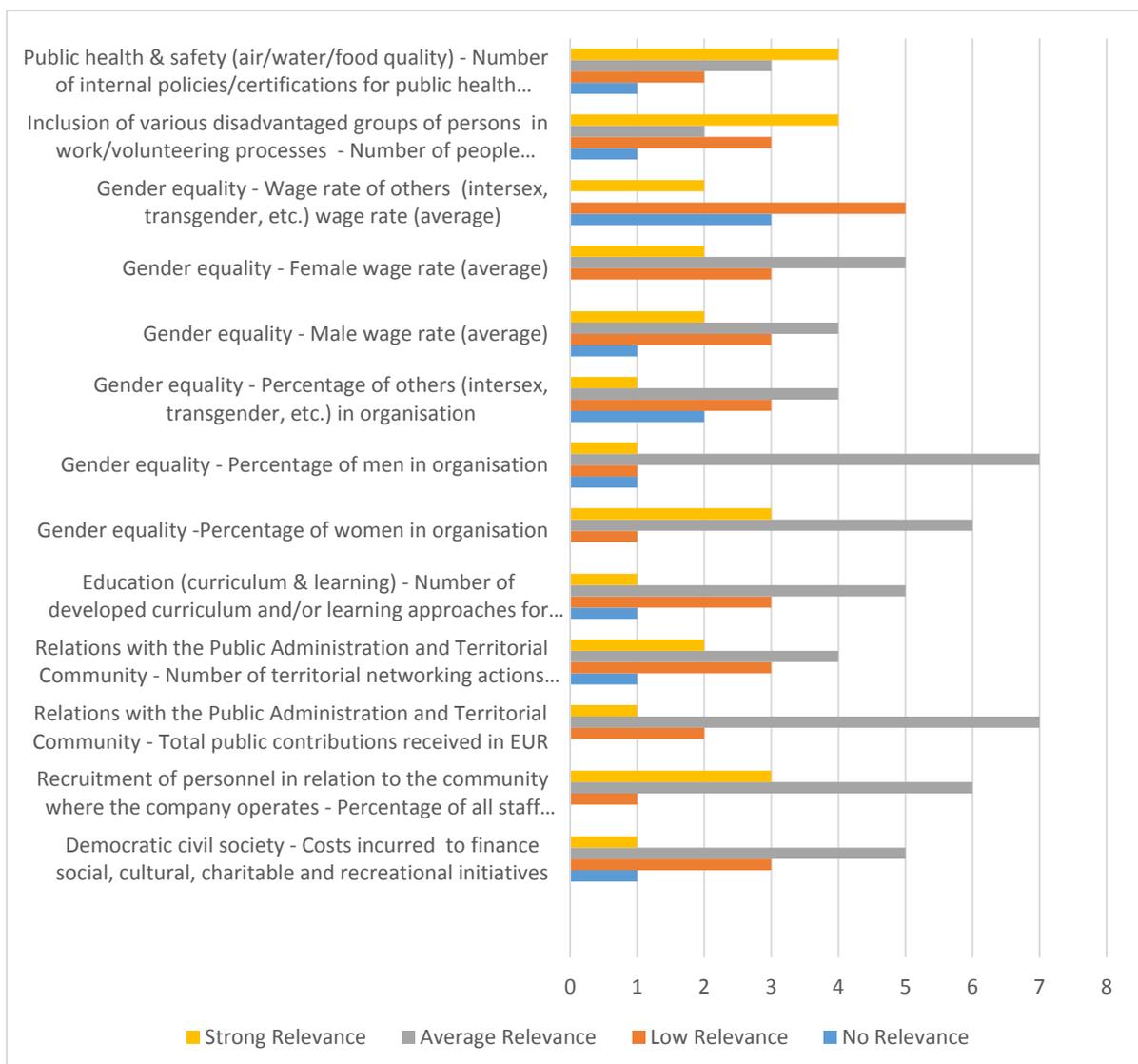


Figure 3. Representation of the stakeholders' answers to the question about relevance of the presented social criteria on business model.

The social field is represented by these five most relevant indicators:

- Recruitment of personnel in relation to the community where the company operates;
- Relations with the Public Administration and Territorial Community - Total public contributions received in EUR;
- Gender equality - Percentage of women in organisation;
- Gender equality - Percentage of men in organisation;
- Gender equality - Female wage rate (average).

The least relevant one:

- Gender equality - Wage rate of others (intersex, transgender, etc.)

For the **innovation**, the most relevant indicators are (note: based on the answers, in this category there are no irrelevant indicators):

- Number of improved products/services - Total number;
- Lifetime of an innovative product/services - (average duration);
- Number of products/services launched - (in the last years).

Representation of the stakeholders' answers to the question about relevance of innovation criteria on business model is represented by the Figure 4.

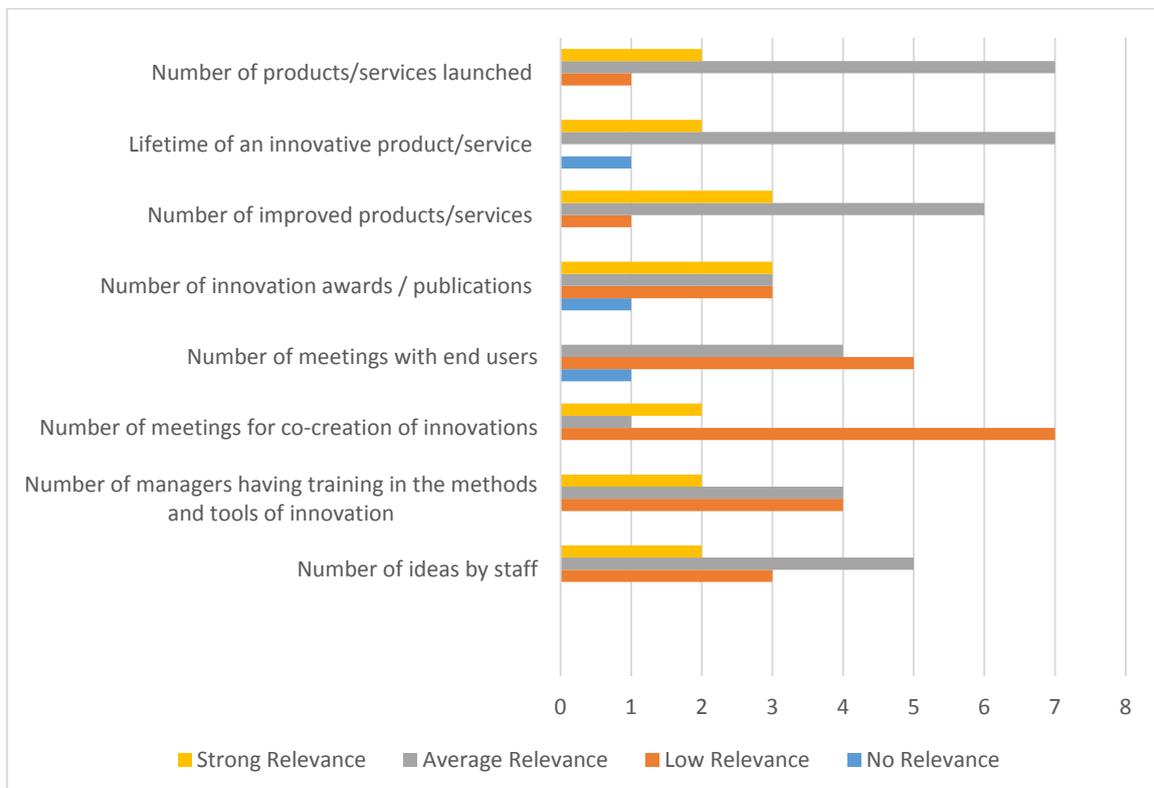


Figure 4. Representation of the stakeholders' answers to the question about relevance of the presented innovation criteria on business model.

Most relevant indicators in the area of **technology** are:

- Integration of Digital Technology;
- Digital performance - use of internet services;
- Digital performance – Business digitization - Percentage of online marketing activities (using social media, website, etc.);
- Digital performance – Business digitization - Percentage of e-invoices.

The least relevant are:

- Digital performance - human capital - Number of people attending in the tests (lab-trials & field trials, etc.);
- New technology transfers from RTO - Percentage of R&D spending (of total turnover);
- New technology transfers from RTO - Number of patents.

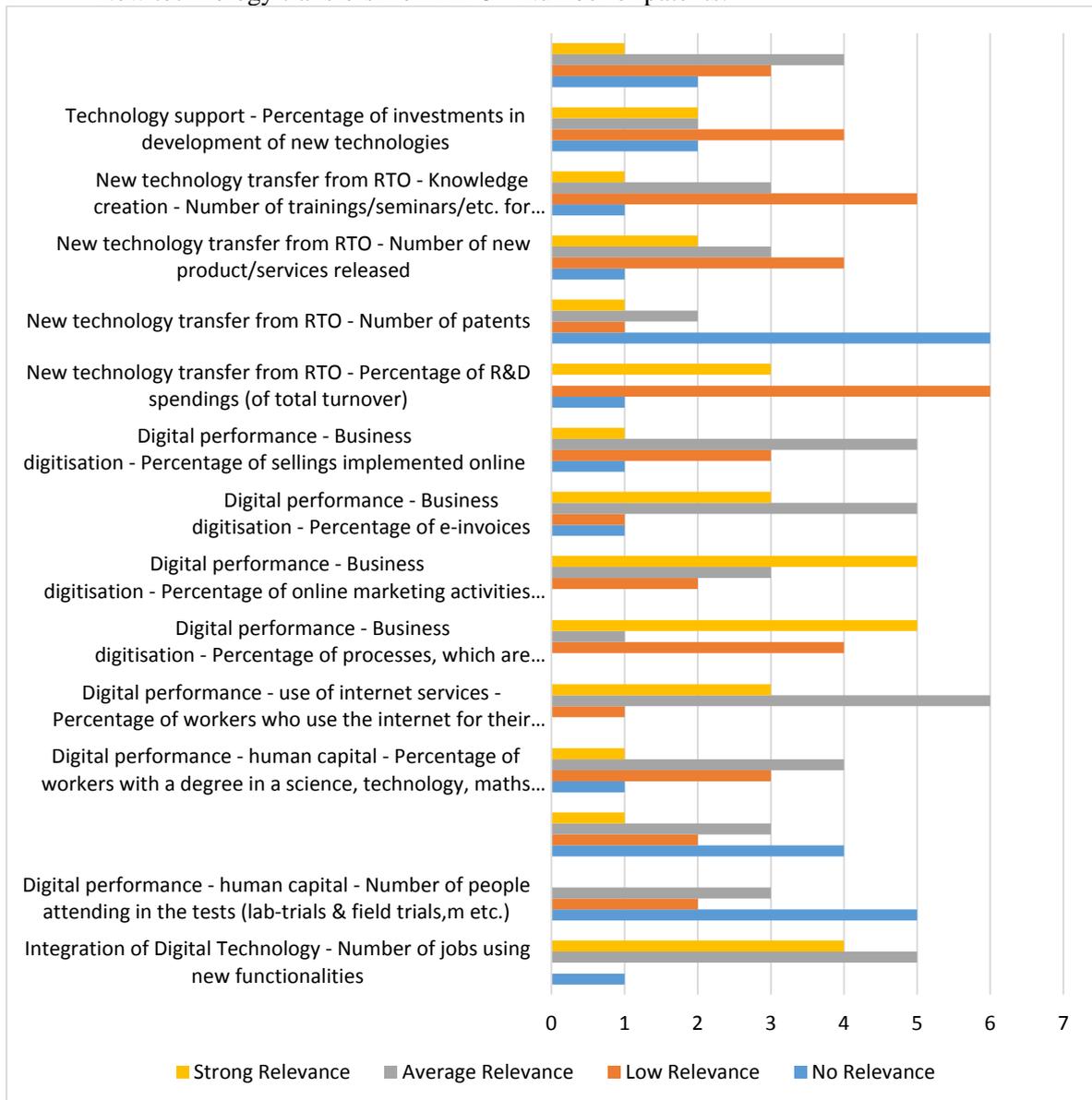


Figure 5. Representation of the stakeholders’ answers to the question about relevance of the presented technology criteria on business model.

Representation of the stakeholders' answers to the question about relevance of **infrastructure** criteria on business model is represented by the Figure 6.

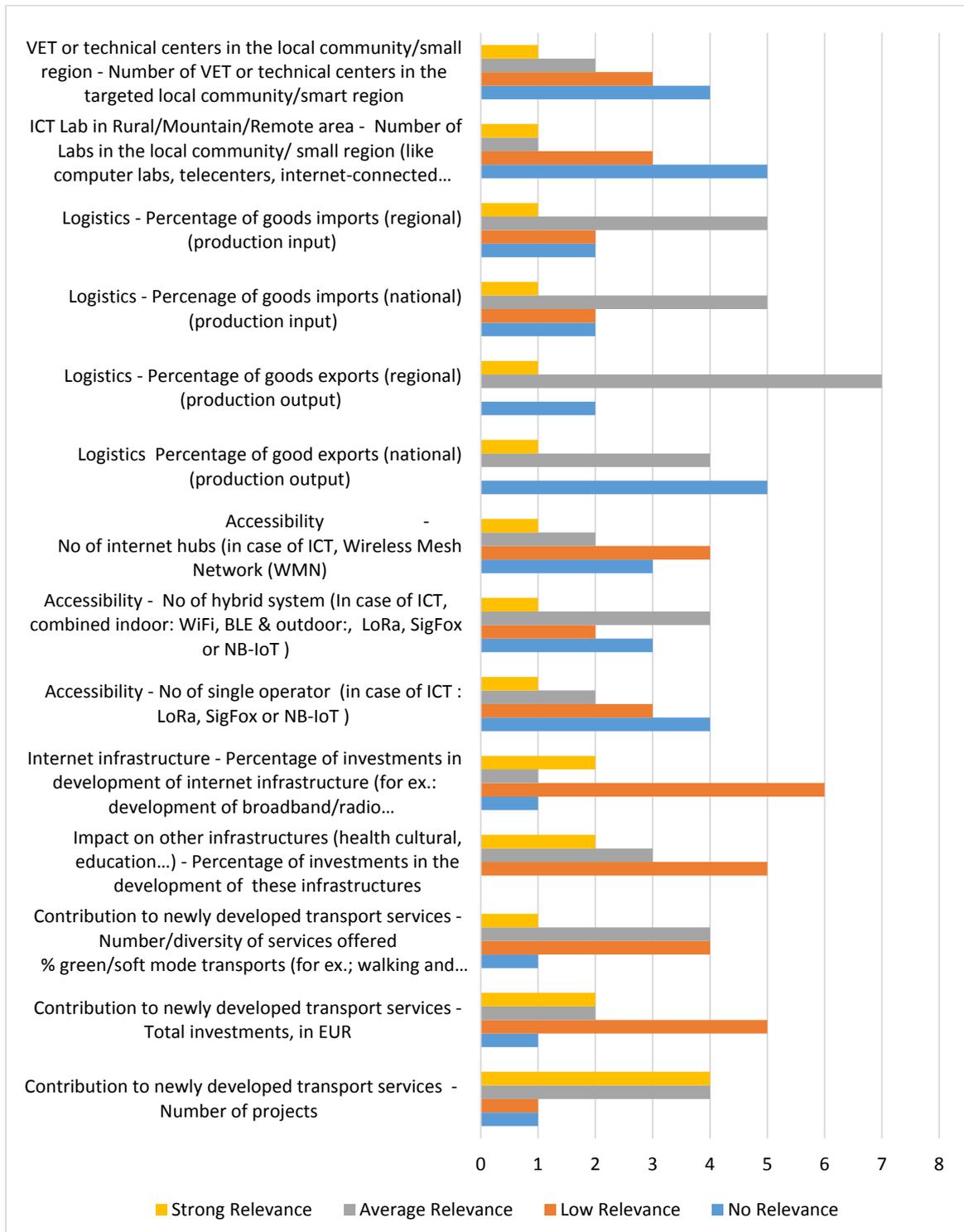


Figure 6. Representation of the stakeholders' answers to the question about relevance of the presented infrastructure criteria on business model.

Taking into account information presented in the field of infrastructure, the most relevant are:

- Contribution to newly developed transport services;



- Logistics - Percentage of goods exports (regional) (production output).

The Least relevant are:

- ICT Lab in Rural/Mountain/Remote area;
- VET or technical centers in the local community/small region.



CONCLUSION

In order to create a benchmarking scale, and based on the analysis of the provided answers, the consortium should attach the most important weights to these criteria:

	Most relevant indicators
Economics	<ul style="list-style-type: none"> • Investments in innovation and research; • Relationship with clients at national level; • Relationship with clients at local level; • Relationship with suppliers at local level; • Relationship with clients at regional level.
Environmental	<ul style="list-style-type: none"> • Green jobs in the local economy; • Use of raw materials; • Use of renewable energy; • Energy efficiency and consumption reduction - Number of internal policies for staff, targeting energy consumption reduction; • Water consumption reduction - Number of internal policies for staff, targeting water consumption reduction.
Social	<ul style="list-style-type: none"> • Recruitment of personnel in relation to the community where the company operates; • Relations with the Public Administration and Territorial Community - Total public contributions received in EUR; • Gender equality - Percentage of women in organization; • Gender equality - Percentage of men in organization; • Gender equality - Female wage rate (average).
Innovation	<ul style="list-style-type: none"> • Number of improved products/services - Total number; • Lifetime of an innovative product/services - (average duration); • Number of products/services launched - (in the last years).
Technology	<ul style="list-style-type: none"> • Integration of Digital Technology; • Digital performance - use of internet services; • Digital performance – Business digitization - Percentage of online marketing activities (using social media, website, etc.); • Digital performance – Business digitization - Percentage of e-invoices.
Infrastructure	<ul style="list-style-type: none"> • Contribution to newly developed transport services; • Logistics - Percentage of goods exports (regional) (production output).

These conclusions will be updates during the lifespan of the project, as other activities will contribute to define findings and full fill the gained results.



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ANNEXES

ANNEX 1 – Tool for collection of the information about the benchmarking criteria

			
LIVERUR Partner (Full name, Country, Region):			
Stakeholder's information (Name, Official Status, Address, www, short description):			
Selection criteria applied by the LIVERUR Partner for stakeholder's selection (short description):			
BENCHMARKING criteria and indicators			



Criteria	Category	Indicator	Evaluation Scale: impact on business model			
			1 No Relevance	2 Low Relevance	3 Average Relevance	4 Strong Relevance
Economic	Investments in innovation and research	Total amount in EUR				
	Innovative financing (such as micro-contributions, taxes, public-private partnerships. It aims generate additional development funds by tapping new funding sources; enhance the efficiency of financial flows; make financial flows more results-oriented. Source: https://goo.gl/SjSqjr)	Percentage of incomes from Innovative financing schemes (comparing with total incomes)				
	Relationship with suppliers at local level	Total number of contracts				
	Relationship with suppliers at regional level	Total number of contracts				
	Relationship with suppliers at national level	Total number of contracts				



	level					
	Relationship with suppliers at European level	Total number of contracts				
	Relationship with suppliers outside EU (at international level)	Total number of contracts				
	Relationship with clients at local level	Total number of clients				
	Relationship with clients at regional level	Total number of clients				
	Relationship with clients at national level	Total number of clients				
	Relationship with clients at European level	Total number of clients				
	Relationship with clients at international level (except EU member states)	Total number of clients				
	Number of long term contracts with employees	Total number of contracts				
	Number of short term contracts with employees	Total number of contracts				
Environmental						



	Green jobs in the local economy	Percentage of green jobs of the total number in organization (<i>Note: Green jobs are to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution. For more: https://en.wikipedia.org/wiki/Green_job)</i>				
	Use of raw materials	Percentage of recycled materials used for production processes (comparing with the total number of materials)				
	Use of renewable energy	Percentage of energy produced by renewable sources (comparing to the total amount of energy used)				



	Energy efficiency and consumption reduction	Costs incurred in the application of energy efficient technologies (for ex.: improving maintenance practices; utilizing equipment that has been manufactured to the best modern standards of efficiency, e.g. electric motors, steam and gas turbines, transformers, boilers; energy efficiency in buildings; more efficient equipment and appliances in lighting, air conditioning systems, etc.)				
	Energy efficiency and consumption reduction	Number of internal policies for staff, targeting energy consumption reduction				
	Water consumption	Water consumption per year				
	Water consumption reduction	Costs incurred in the application of water efficient technologies				
	Water consumption reduction	Number of internal policies for staff, targeting water consumption reduction				
	Waste management	Percentage of waste sorting				
	Waste management	Number of internal policies for staff, targeting waste management				



	Anti-air pollution processes	Total investments, in EUR (for example: how much do you spend to make sure that the activities do not impact on air quality (e.g. avoiding polluting weeds killers, switching from diesel generators to low/no emissions tech))				
	Other actions aimed at environmental protection	Estimated expenditures for environmental protection				
	Other actions aimed at environmental protection	Estimated investment on cleaner/less impactful processes/technology on environment				
	Other actions aimed at environmental protection	Number of people / hours-man dedicated to environmental protection activities				
Social (community and territory)						
	Democratic civil society	Costs incurred to finance social, cultural, charitable and recreational initiatives				
	Recruitment of personnel in relation to the regional territory where the company operates	Percentage of all staff members				
	Relations with the Public Administration and Territorial Community	Total public contributions received in EUR				



	Relations with the Public Administration and Territorial Community	Number of territorial networking actions (innovation, attraction of talents, etc.)				
	Education (curriculum & learning)	Number of developed curriculum and/or learning approaches for community/territory				
	Gender equality	Percentage of women in organization				
	Gender equality	Percentage of men in organization				
	Gender equality	Percentage of others (intersex, transgender, etc.) in organization				
	Gender equality	Male wage rate (average)				
	Gender equality	Female wage rate (average)				
	Gender equality	Wage rate average of others (intersex, transgender, etc.)				
	Inclusion of various disadvantaged groups in work/volunteering processes	Number of people involved (people that experience a higher risk of poverty, social exclusion, discrimination and violence than the general population, including, but not limited to, ethnic minorities, migrants, people with disabilities, isolated elderly people, etc.)				
	Public health & safety (air/water/food quality)	Number of internal policies/certifications for public health standards / food products , etc.				



Innovation						
	Number of innovative ideas by staff	Total number (per person that provides an innovative idea)				
	Number of managers having training in the methods and tools of innovation	Total number				
	Number of meetings for co-creation of innovations	Total number				
	Number of meetings with end users	Total number				
	Number of innovation awards received / publications published	Total number				
	Number of improved products / services	Total number				
	Lifetime of an innovative product/service	(average duration per product/service)				
	Number of products/services launched	(per year)				
Technology						
	Integration of Digital Technology	Number of jobs using new functionalities (<i>Integration of Digital Technology covers (a) 'business digitization' and (b)</i>				



		<i>'ecommerce'.</i> <i>'Business digitization')</i>				
Digital performance - human capital		Number of people taking part in the tests (lab-trials & field trials etc.)				
Digital performance - human capital		Percentage of ICT (including jobs like ICT service managers , ICT professionals, ICT technicians) specialists in organization				
Digital performance - human capital		Percentage of workers with a degree in a science, technology, math's or engineering related subject				
Digital performance - use of internet services		Percentage of workers who use the internet for their duties				
Digital performance - Business digitization		Percentage of processes, which are digitalized				
Digital performance - Business digitization		Percentage of online marketing activities (using social media, website, etc.)				
Digital performance - Business digitization		Percentage of e-invoices				
Digital performance - Business digitization		Percentage of selling implemented online				



	New technology transfer from RTO	Percentage of R&D spending (of total turnover)				
	New technology transfer from RTO	Number of patents per year				
	New technology transfer from RTO	Number of new products/services released per year				
	Knowledge creation	Number of trainings/seminars/etc. for technology use				
	Technology support	Percentage of investments in development of new technologies per year				
	Technological products/systems at rural/mountain/remote context	Number of standalone systems (for ex.: smart farming, smart fishery, smart rural food /fruit processing factories, smart forest. For more information, please see 19 use cases of the Horizon 2020 - IoF2020 project: https://www.iof2020.eu/communication-materials/iof2020-booklet-2018-def.pdf)				
Infrastructure						
	Contribution to newly developed transport services	Number of projects				
	Contribution to newly developed transport services	Total investments, in EUR				



	Contribution to newly developed transport services	Number of services offered % green/soft mode transports (for ex.: walking and cycling)				
	Impact on other infrastructures (health cultural, education...)	Percentage of investments in the development of these infrastructures				
	Internet infrastructure	Percentage of investments in development of internet infrastructure (for ex.: development of broadband/radio (LoraWan)/terrestrial (satellite) infrastructure and broadband and/or related another services)				
	Accessibility	No of single operator (in case of ICT : LoRa, SigFox or NB-IoT)				
	Accessibility	No of hybrid system (In case of ICT, combined indoor: WiFi, BLE & outdoor:, LoRa, SigFox or NB-IoT)				
	Accessibility	No of internet hubs (in case of ICT, Wireless Mesh Network (WMN)				
	Logistics	Percentage of good exports (national) (production output)				
	Logistics	Percentage of goods exports (regional) (production output)				



	Logistics	Percentage of goods imports (national) (production input)				
	Logistics	Percentage of goods imports (regional) (production input)				
	ICT Lab in Rural/Mountain/Remote area	Number of Labs in the local community/ small region (like computer labs, tele centers, internet-connected buses, solar powered internet schools)				
	VET or technical centers in the local community/small region	Number of VET or technical centers in the targeted local community/smart region				

