COVID-DISRUPTED REGIONAL INNOVATION ECOSYSTEMS (CODIL)

Interregional Report

ON REGIONAL CONTEXT ANALYSIS

Task Leader:
West Regional Development Agency
Romania
WRDA (PP04)

Interreg Europe
Co-funded by the European Union
CODIL

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1.1 Regional statistical profile, University of Ljubljana, Slovenia

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NUTS	Region	RII	Rank	Group	Change
SI	Slovenia	95.1	--	Moderate Innovator	2.9
SI03	Vzhodna Slovenija	84.9	144	Moderate Innovator	1.0
SI04	Zahodna Slovenija	105.4	85	Strong Innovator -	4.1

Slovenia is divided into two regions. Eastern (Vzhodna Slovenia) and Western regions (Zahodna Slovenia). Zahodna Slovenija is the most innovative region and a Strong Innovator - Vzhodna Slovenija is a Moderate Innovator. University of Ljubljana, Lead partner in project CODIL is located in Zahodna Slovenija (SI04) whose innovation performance has increased with 4.1%.

The table below (Figure 5) shows data highlighting structural differences between East and West region and cumulative values/averages for Slovenia and EU. Share of employment in Manufacturing on national level (particularly in Eastern region) is well above EU average.

	SI03 - EAST	SI04 – WEST	SL	EU
Share of employment in:				
Agriculture and Mining (A-B)	6,1	2,5	4,3	4.4
Manufacturing (C)	28,1	20,6	24,5	16,4
Utilities and construction (D-F)	8,6	7,3	8,0	8,3
Services (G-N)	51,3	63,4	57,1	63,7
Public administration (O-U)	5,9	6,3	6,1	7,2
Average employer persons per enterprise	n/a	n/a	n/a	5,1
GDP per capita (PPS)	23,900	34,900	29,200	32,400
GDP per capita growth (PPS)	3,7	3,9	3,9	2,86
Population density	89	128	104	106
Urbanisation	40,7	75,0	57,0	75,8
Population size, (000s)	1,110	1,000	2,110	447,210

Figure 5: Structural indicators for East, West, national level and EU, Regional Innovation Scoreboard 2023, EC

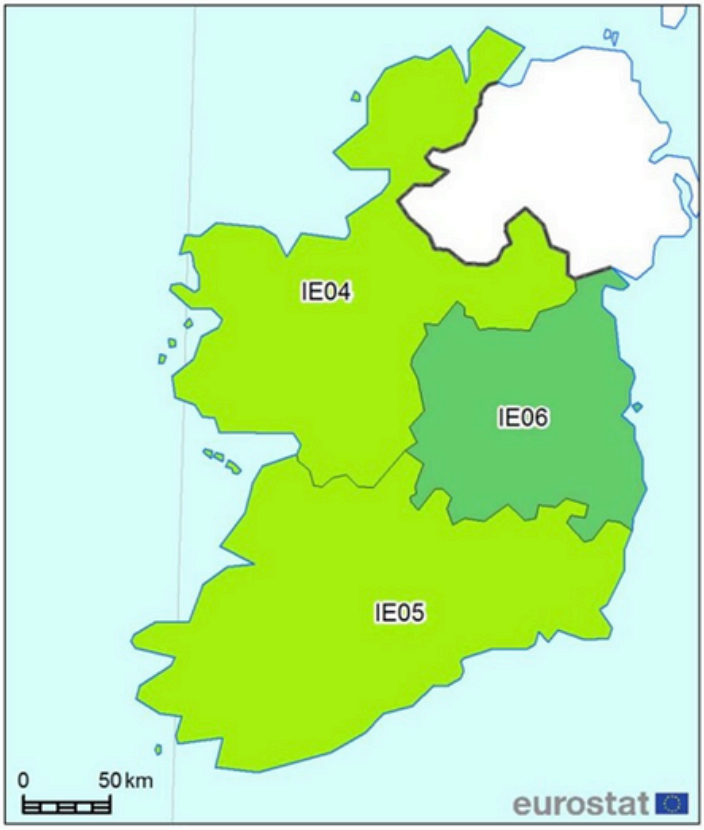
Slovenia in on rank 11th among the 27 EU Member States in the 2022 edition of the DESI.

Slovenia approaches the 45.7 EU average in Human capital with a score of 44.3. It falls behind the EU average of 54% and 26% on at least basic digital skills and above basic digital skills (50% and 20% respectively), but levels up with it for the proportion of people with at least basic digital content creation skills. The share of enterprises providing ICT training remains at 26%, exceeding the EU average. Slovenia's performance in digital connectivity is mixed. Very High-Capacity Network coverage surpasses the EU average, but Slovenia lags behind on 5G deployment.

The country scores at the EU average for SMEs with basic digital intensity and scores above it for cloud services and artificial intelligence (AI). It has a solid score on integrating digital technology matching the EU average for small and medium-sized enterprises (SMEs) with basic digital intensity and exceeding it for cloud services and Artificial Intelligence (AI). It falls short on its use of big data. In Digital public services, Slovenia shows a good penetration level, scoring below the EU average for digital public services aimed at individuals, and surpassing it for services aimed at businesses (Digital Economy and Society Index 2022).

1.2 Regional statistical profile, University of Ljubljana, Slovenia

IRELAND



Map administrative boundaries: ©EuroGeographics ©UN-FAO ©Turkstat

NUTS	Region	RII	Rank	Group	Change
IE	Ireland	115.8	--	Strong Innovator	2.3
IE04	Northern and Western	104.5	90	Strong Innovator -	5.2
IE05	Southern	105.4	86	Strong Innovator -	-6.7
IE06	Eastern and Midland	124.0	42	Strong Innovator +	4.3

The Gaeltacht Region of Ireland is a dispersed region and stretches from the north to the south of the country, covering large areas of counties Donegal, Mayo, Galway and Kerry as well as sections of counties Cork, Meath and Waterford.[1] The total population of the Gaeltacht is 106,000 (Census 2022) and the region is growing, with all Gaeltacht areas showing population growth in the years 2016 to 2022.[2] Údarás na Gaeltachta is the regional authority responsible for the economic, social and cultural development of the Gaeltacht Region.[3]

[1] Gaeltacht Boundaries Generalised 20m - National Administrative Boundaries - 2015https://data-osi.opendata.arcgis.com/datasets/8351d406db9a4e0ebefc897d03a6cfd9/explore

2022.[1] Údarás na Gaeltachta is the regional authority responsible for the economic, social and cultural development of the Gaeltacht Region.[2]

The innovation performance in Ireland in 2023 across all Irish NUTS 2 Regions has increased at a lower rate than that of the EU.Údarás na Gaeltachta client companies are located across all three Irish NUTS 2 regions, with the majority of Údarás na Gaeltacht Client Companies (72%) and the majority of Údarás na Gaeltachta support employment (77%) located in the Northern and Western Region (see Table 1.1.1 below).

Regional Innovation Scoreboard 2023 – Innovation Group by NUTS 2 Region

REGION	INNOVATION GROUP (CHANGE SINCE 2022)	RII [3]	RANK [34	ÚDARÁS NA GAELTACHTA CLIENT COMPANIES (%)	ÚDARÁS NA GAELTACHTA SUPPORTED EMPLOYMENT (%)
Northern and Western (IE04)	Strong Innovator (+5.2)	104.5	90	72%	77%
Southern (IE05)	Strong Innovator (-6.7)	105.4	86	27%	21%
Eastern and Midland (IE06)	Strong Innovator (+4.3)	124.0	42	1%	2%
Ireland	**Strong Innovator (+2.3)**	**115.8**	**n/a**	**100%**	**100%**

The RII for 2023 categorises each Irish NUTS 2 region as a Strong Innovator i.e. each region is performing at between 100% and 125% of the EU average[5].

The CODIL project has selected seven of these innovation indicators for consideration in this Regional Context Analysis.

[1] Census 2022 Profile 8 - The Irish Language and Education https://www.cso.ie/en/releasesandpublications/ep/p-cpp8/census2022profile8-theirishlanguageandeducation/keyfindings/#:~:text=2022%20Publication%20Schedule.-,Key%20Findings,2011%20to%2066%25%20in%202022.

[2] "The term 'Gaeltacht' is used to describe the regions in Ireland in which the Irish language is, or was until recently, the primary spoken language of the majority of the community". https://udaras.ie/en/our-language-the-gaeltacht/the-gaeltacht/

[3] RII is an acronym for Regional Innovation Index (see note 2 above)

[4] Rank relates to the innovation performance of the region in relation to all 237 other EU regions

[5] "The Strong Innovators perform above average on all indicators, although on several indicators only marginally." Regional Innovation Scoreboard 2023 Section 2.1 Regional Performance Groups (Page 11) https://data.europa.eu/doi/10.2777/70412 [Accessed 10th April 2024]

Regional Innovation Scoreboard 2023 – Innovation Group by NUTS 2 Region

	NORTHERN AND WESTERN (IE04)			SOUTHERN (IE05)			EASTERN AND MIDLAND (IE06)		
Innovation Indicator	Normalised Score[1]	Relative to IE	Relative to EU	Normalised Score	Relative to IE	Relative to EU	Normalised Score	Relative to IE	Relative to EU
Above average digital skills	0.768	99	163	0.745	97	159	0.791	102	168
	Above EU Average *High Performer - Bottom*			**Above** EU Average *High Performer - Bottom*			**Above** EU Average *High Performer - Middle*		
R&D expenditure in the business sector as a percentage of GDP	0.524	100	78	0.524	100	78	0.524	100	78
	Below EU Average Strong Performer - Bottom			**Below** EU Average Strong Performer - Bottom			**Below** EU Average Strong Performer - Bottom		
Non-R&D innovation expenditure in SMEs as a percentage of turnover	0.094	33	23	0.272	95	67	0.300	104	74
	Below EU Average Low Performer - Bottom			**Below** EU Average Low Performer - Top			**Below** EU Average Moderate Performer - Bottom		
Innovation expenditures per person employed	0.616	69	102	0.655	73	109	1.000	112	166
	Above EU Average Strong Performer - Top			**Above** EU Average *High Performer - Bottom*			**Above** EU Average *High Performer - Top*		
Employed ICT specialists as a percentage of total employment	0.416	54	79	0.520	68	99	1.000	131	190
	Below EU Average Strong Performer - Bottom			**Below** EU Average *Strong Performer - Middle*			**Above** EU Average High Performer - Top		
SMEs introducing business process innovations as a percentage of SMEs	0.858	114	133	0.727	97	113	0.741	99	115
	Above EU Average High Performer - Bottom			**Above** EU Average Strong Performer - Middle			**Above** EU Average Strong Performer - Middle		
Employment in innovative SMEs as a percentage of total employment	0.546	92	95	0.612	103	107	0.590	100	103
	Below EU Average Moderate Performer - Top			**Above** EU Average Moderate Performer - Middle			**Above** EU Average Moderate Performer - Middle		

[1] Data was normalised "using the min-max procedure. The minimum score observed for all regions across all eight years is subtracted from the respective transformed score, which is then divided by the difference between the maximum and minimum scores observed for all regions across all eight years. The maximum normalised score is equal to 1 and the minimum normalised score is equal to 0

The Digital Decade Country Report 2023 – Ireland states that 70% of Irish adults have at least basic digital skills, which is well above the EU average of 54%. Ireland also scores higher than the EU average across all the other indicators including individuals with above basic digital skills (40% in Ireland versus 26% in the EU) and at least basic digital content creation skills (77% compared to the EU average of 66%).[1] The 2023 report notes that provided a positive trend is maintained, Ireland could make a positive contribution to reaching the 2030 EU target of at least 80% of the population having at least basic digital skills. Ireland currently has a high share of ICT specialists and also has the second highest share of graduates in the EU studying ICT programmes (8% versus the EU average of 4.2%). On a less positive note, the share of businesses in Ireland providing ICT training to their employees decreased from 27% in 2020 to 23% in 2022 and is currently only slightly above the EU average of 22%.[2]

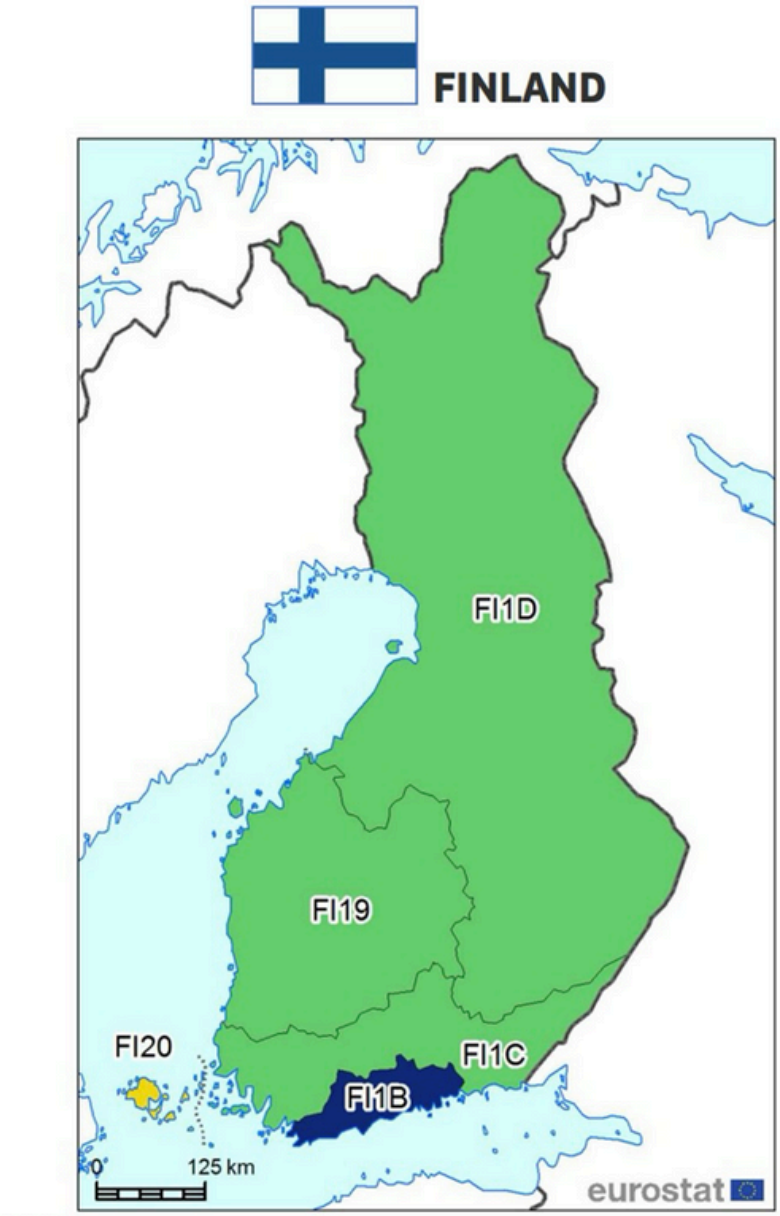
The report states that while only a small proportion of Irish businesses have fully embraced digitalisation, Ireland continues to accelerate digital adoption across all businesses and that 85% of SMEs in Ireland demonstrate at least a basic level of digital intensity, which is higher than the EU average of 69%.

The report notes that Irish businesses are well advanced compared to their European colleagues in the use of digital technologies such as social media (32% compared to EU figure of 29%), big data analysis (23% compared to the EU figures of 14%) and cloud computing services (47% compared to the EU figure of 34%). However, Irish businesses underperform compared to their European colleagues in the use of electronic information sharing technologies (24% compared to the EU average of 38%) and the use of e-invoices (19% compared to 32% at the EU level).

[1] The Digital Decade Country Report 2023 – Ireland – Section 1 Digital Skills (Page 4) https://digital-strategy.ec.europa.eu/en/library/country-reports-digital-decade-report-2023

[2] The Digital Decade Country Report 2023 – Ireland – Section 1 Digital Skills (Page 5) https://digital-strategy.ec.europa.eu/en/library/country-reports-digital-decade-report-2023

1.3 Regional statistical profile, Regional Council of South Ostrobothnia, Finland



Map administrative boundaries: ©EuroGeographics ©UN-FAO ©Turkstat

NUTS	Region	RII	Rank	Group	Change
FI	Finland	134.3	--	Innovation Leader	18.3
FI1B	Helsinki-Uusimaa	152.1	2	Innovation Leader +	18.0
FI1C	Etelä-Suomi	121.5	48	Strong Innovator +	16.4
FI19	Länsi-Suomi	123.7	43	Strong Innovator +	14.4
FI1D	Pohjois- ja Itä-Suomi	122.0	46	Strong Innovator +	18.3
FI2	Åland	72.9	168	Moderate Innovator -	-0.5

As a country, Finland is regarded as an Innovation Leader. In the report by the European Innovation Scoreboard project, Finland is divided into five innovation regions. Looking at the regions individually, one of them is considered as an Innovation Leader. This Helsinki-Uusimaa capital city area is also the overall second most innovative region in Europe. Three other Finnish regions are a Strong Innovator + and one region is a Moderate Innovator.

The CODIL project partner Regional Council of South Ostrobothnia is located in Western Finland, Länsi-Suomi, an area considered as a Strong Innovator +. Between 2016 and 2023, Western Finland's innovation performance has increased over time by 14.4% compared to the EU average, although it has been -1,9% to the total Finnish innovation performance.

In 2023, the total Regional Innovation Index is 123.7 compared to the EU niveau. The Index shows the strongest figures in Above average digital skills (206), Business process innovators (136), Employment innovative enterprises (132) and Employed ICT specialists (124). In Western Finland, the EU average performance levels are achieved by R&D expenditures business sector and Innovation expenditures per person employed (both 113). Below the EU average level this region is on the Non-R&D innovation expenditures (90).
(Source: Regional Innovation Scoreboard)

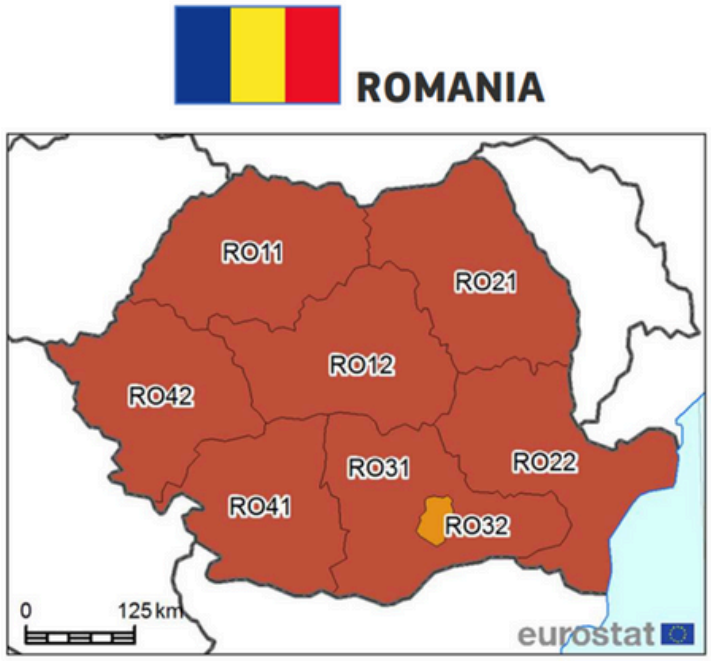
The Digital Economy and Society Index (DESI) is a tool used by the European Commission to monitor and rank Member States' progress in digitalization. The DESI evaluates countries based on their level of digitalization and tracks their relative progress over the past five years. In the 2022 DESI, Finland ranks 1st among 27 EU Member States on human capital. In particular, the digital skills levels are above the EU average in all indicators measured.

A significant 79% of individuals possess basic digital skills, approaching the 80% target of the EU Digital Decade. 48% of individuals have above basic digital skills. The proportion of employed ICT specialists is 7.4%, and the proportion of female ICT specialists is 24%, the EU average being 19%. Finland's ICT graduates account for 7.5% of all graduates, nearly double the EU average. The share of companies providing ICT training to their employees is almost twice the EU average, 38%, compared to the 20% on the EU level.

Finland is also the leading EU country concerning the integration of digital technology. For instance, 82% of Finnish SMEs exhibit at least a basic level of digital intensity, far exceeding the EU average of 55%. Advanced technologies are central to Finnish businesses, with 66% utilizing cloud solutions and 16% integrating AI technology—twice the EU average for both indicators. Additionally, 48% of companies share information electronically, surpassing the EU average of 38%. Finnish businesses are avid users of social media (51% vs. EU average of 29%), and 83% employ e-invoicing. 77% of companies engage in medium to high-intensity ICT use for environmental action.

When looking at enterprises that co-operated on business activities with other enterprises or organisations by field of activities, Finland is in the lower middle range reaching the position 15 among 27 EU countries. With innovative enterprises that co-operated on R&D and other innovation activities with other enterprises or organisations, by kind and location of co-operation partner, Finland is in the middle range of all EU countries as well.

1.4 Regional statistical profile, Regional Council of South Ostrobothnia, Finland



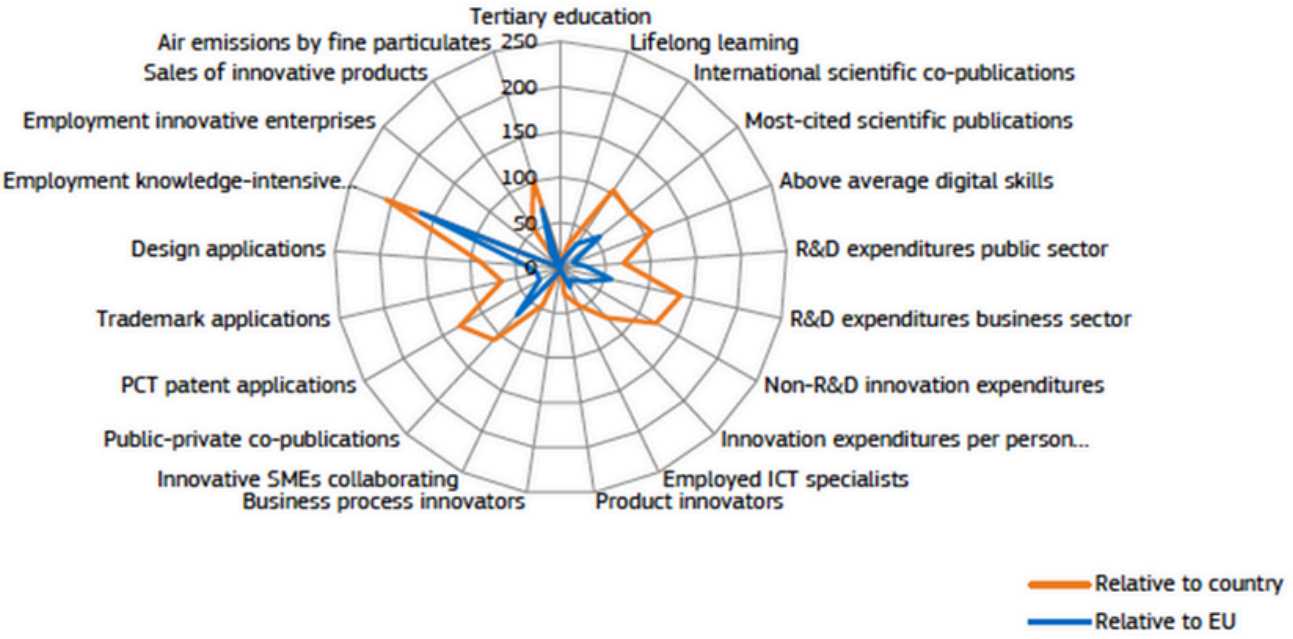
Map administrative boundaries: ©EuroGeographics ©UN-FAO ©Turkstat

NUTS	Region	RII	Rank	Group	Change
RO	Romania	33.1	--	Emerging Innovator	1.4
RO11	Nord-Vest	34.5	232	Emerging Innovator -	4.0
RO12	Centru	25.7	236	Emerging Innovator -	1.3
RO21	Nord-Est	35.8	230	Emerging Innovator -	2.2
RO22	Sud-Est	18.9	239	Emerging Innovator -	-7.2
RO31	Sud - Muntenia	23.0	237	Emerging Innovator -	0.9
RO32	Bucuresti - Ilfov	59.5	199	Emerging Innovator +	1.9
RO41	Sud-Vest Oltenia	19.8	238	Emerging Innovator -	3.5
RO42	Vest	32.6	234	Emerging Innovator -	-0.9

Romania and its regions in the Regional Innovation Scoreboard ranking (RIS 2023)

West Region Romania is an **Emerging Innovator**.
Source: Regional Innovation Scoreboard 2023 Regional profiles Romania

The strengths (e.g. Employment knowledge-intensive activities, PCT patent applications and R&D expenditures in the business sectors) and weaknesses (e.g. Business process innovators and tertiary education) are shown below.



Source: Regional Innovation Scoreboard 2023 Regional profiles Romania

Depending on the performance of the regional innovation index compared to the EU average, Europe's regions are grouped into 4 innovation categories. All regions in Romania, apart from Bucharest Ilfov, are classified as emerging innovators minus. The differences in innovation performance are large: the best-ranked region, Bucharest-Ilfov, classified as emerging plus, performs by 3.4 times better than the least-performing region, Southwest Oltenia. The seven regions of Emerging minus Romania are alongside 9 other regions in the European Union that register the lowest scores in terms of innovation, but still with much higher index values of innovation[1].

West Region has a small decrease of - 0,9 in performance during the 2016 - 2023 period, relative to EU. Relative to Romania, the decrease is higher, at – 6.9.

The European Innovation Scoreboard 2023 shows the Employment share High and Medium high-tech indicator scores 34.53, placing Romania after France (figure below).
Also, digitalization indicator places Romania among the mid performers as visualized below. But this indicator is influenced by the strong country internet infrastructure network (see below Broadband penetration).

On the other hand, DESI 2023, places Romania on the last places of the charts, but not in all indicators. Best performing indicators are measuring the infrastructure, where Romania is among the first 3 places, and with a fibre optic coverage better than all 28 countries.

[1] West Region, Regional Smart Specialization Strategy – RIS 3

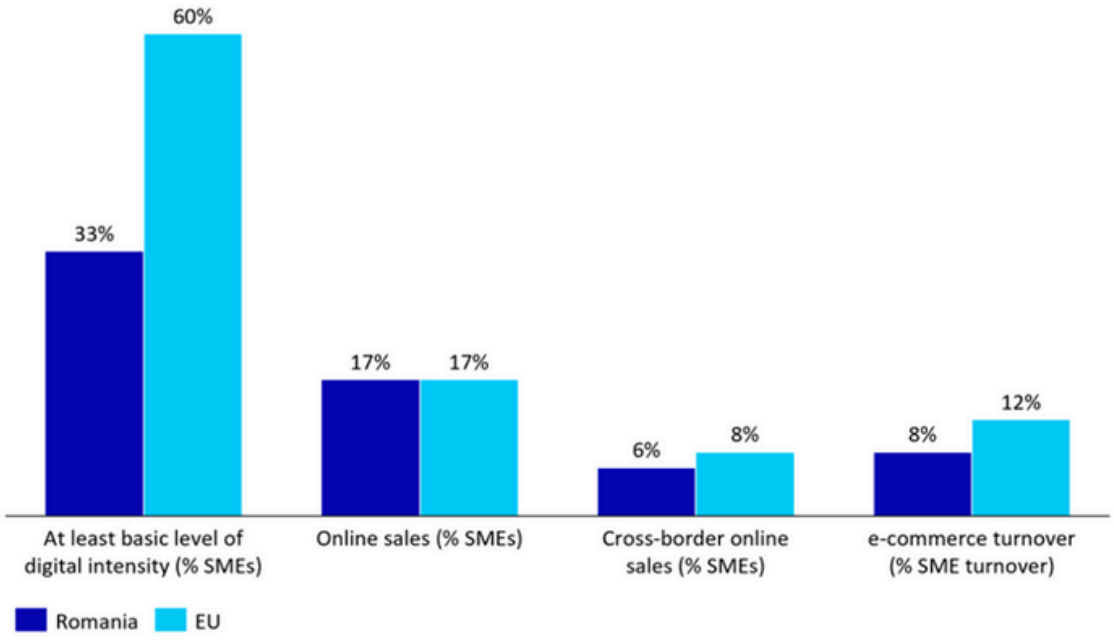
The excellent infrastructure is helping digitalization but is just a premise and needs to be integrated into the country's efforts of the business and public sectors digital evolution.

In the business sector, Romania has 52,50 % of the enterprises with basic level of digital intensity, measuring enterprises with 10 or more employees in all manufacturing and service sectors (figure below).

All the other indicators are lower, except for e-Invoices one, measuring enterprises sending e-invoices, suitable for automated processing (figure below), and the e-commerce turnover. We can mention here the two best performing Romanian brands: Smartbill (e-invoicing) and Emag (e-commerce). In 2024, 1st of January, Romania introduced the national system e-Factura, which requires all invoices to be send electronically, and uploaded into this platform. The system is managed by the Ministry of Finance.
European Investment Bank, in the study "Digitalization of SMEs in Romania, gives DESI 2021 integration of digital technology component: Romania vs. EU average, as shown below.

Integration of digital technology within business activities: Romania came 25th out of 27, scoring 23.8 compared to the EU average of 37.6. Only 33% of Romanian small and medium businesses were found to have at least a basic level of digital intensity (compared to an EU average of 60%), and they also lag in terms of digital tooling, such as using electronic information sharing, social media, big data and cloud computing/services.

Romanian enterprises also lag significantly compared to the EU average in terms of employee ICT training: only 6% of enterprises in Romania provide this, compared to the EU average of 20%.



Source: European Investment Bank – Digitalization of SMEs in Romania, 2023

At the Romanian regions level, The Regional Innovation Scoreboard 2023 places West Region in the first place among the 8 Romanian regions, in the employment in knowledge-intensive activities. The employment ICT specialists indicator places West Region 4th place. One causality of this can be the negative unemployment rate of the main cities Timisoara and Arad. Timisoara is rated under 1% unemployment rate. Here the ICT specialists are employed in a high number, and the new employments in this sector are coming mostly from the migration of these specialists between companies.
The Innovation expenditures per person employed indicator looks better, placing West Region on the 3rd place. Also, the Non-R&D innovation expenditures is a positive indicator for West Region, placing it on 2nd place among the 8 Romanian regions.

The typology of RDI expenditures – 91% current expenses and 9% capital expenditures – shows little support for investments in innovation. Other challenges that contribute to a low regional performance in innovation are the outdated "public research base" which is not adapted to trends of the double transition – green and digital, combined with the reduced connection of CDI organizations with SMEs.
In the business sector, West Region is rated 2nd on R&D expenditures, same as on Individuals with above basic overall digital skills indicator.

Within the West Region, the digitization index between the urban and rural areas, pointed out differences between the indicators, the average of the region in the urban area being 59.05, respectively 53.74 in the rural area, according to 2021 West RDA pilot Study. Among the digitization indicators analysed connectivity has the best score, but with a big difference between rural and urban (9.9). The "Internet Use" indicator obtained a better score for rural areas.

Digitization of professional activities at the level of SMEs, the West Region is above the national average (at 31%). The regional statistics indicate that approx. 50% of employees use the Internet and electronic devices in their work. Nevertheless, this level is considered low.

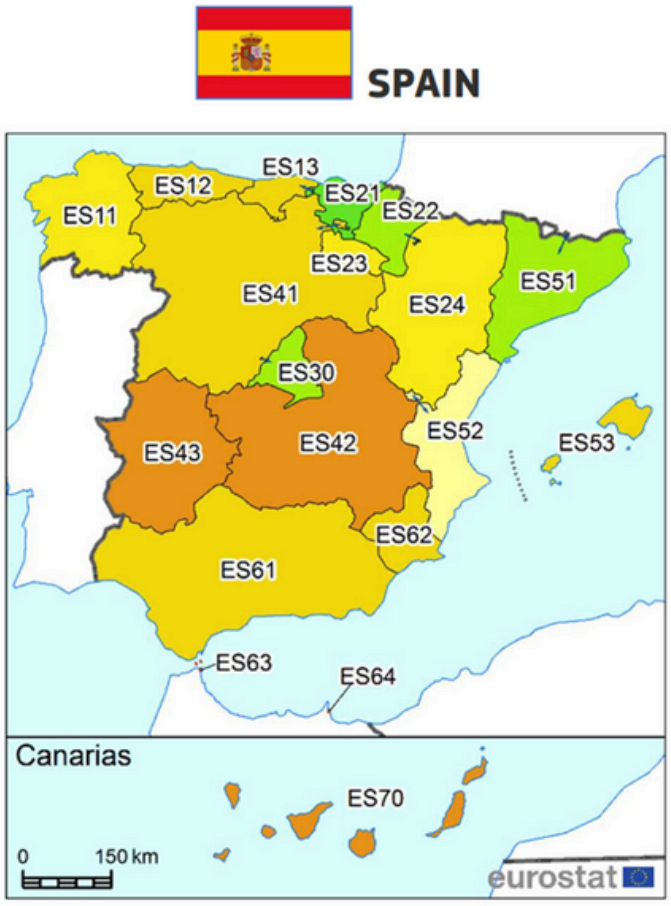
Access to IT specialists is acquired via outsourced contracts with specialized companies, and approximately 40% of enterprises have difficulties in accessing the IT specialists. Within the Region, the most affected is Arad County, where 49.3% of respondents reported difficulties in accessing IT specialists.

In terms of connectivity, the West Region is above the national performance (82%), with a percentage of 87% of businesses with internet access (regardless of speed), respectively in second place at national level, after the Bucharest-Ilfov Region.

At the business level, statistics show that over 70% of companies did not develop online platforms for sales, but 63% have web pages. In the use of social media, most companies are limited to free of charge promotion. The percentage of those who own online shops platforms is only 7.5%. The paid advertising services on the Internet are in a small percentage, only 2.8%.

The most digitized components of the business processes refer to the management of stocks and human resources, the digital archiving of documents being poorly implemented. On the other hand, more than half of the region's SMEs achieve less than 50% of their turnover through online activities. At the same time, although SMEs consider the fact that the main need for digitization is due to the archiving of documents, the use of cloud services at the regional level is low, by only 37.4%. The main operational processes that companies consider necessary to be digitized in the next 5 years are document archiving (71%), customer relations and management (65.7%).

1.5 Regional statistical profile, Regional Government of Cantabria, Spain



Map administrative boundaries: ©EuroGeographics ©UN-FAO ©Turkstat

NUTS	Region	RII	Rank	Group	Change
ES	Spain	89.2	--	Moderate Innovator	9.7
ES11	Galicia	80.7	154	Moderate Innovator	8.4
ES12	Principado de Asturias	76.9	161	Moderate Innovator -	8.7
ES13	Cantabria	76.9	160	Moderate Innovator -	10.1
ES21	País Vasco	109.8	72	Strong Innovator	11.5
ES22	Comunidad Foral de Navarra	101.8	98	Strong Innovator -	14.1
ES23	La Rioja	83.1	148	Moderate Innovator	6.5
ES24	Aragón	83.6	147	Moderate Innovator	7.4
ES3	Comunidad de Madrid	106.6	80	Strong Innovator -	12.8
ES41	Castilla y León	78.9	157	Moderate Innovator -	10.9
ES42	Castilla-la Mancha	67.0	185	Emerging Innovator +	3.6
ES43	Extremadura	65.0	189	Emerging Innovator +	8.6
ES51	Cataluña	105.9	81	Strong Innovator -	11.5
ES52	Comunitat Valenciana	94.0	121	Moderate Innovator +	10.6
ES53	Illes Balears	71.1	171	Moderate Innovator -	9.2
ES61	Andalucía	71.1	172	Moderate Innovator -	4.5
ES62	Región de Murcia	76.7	162	Moderate Innovator -	7.1
ES63	Ciudad de Ceuta	35.3	231	Emerging Innovator -	2.2
ES64	Ciudad de Melilla	46.3	223	Emerging Innovator	2.8
ES7	Canarias	57.2	208	Emerging Innovator +	11.7

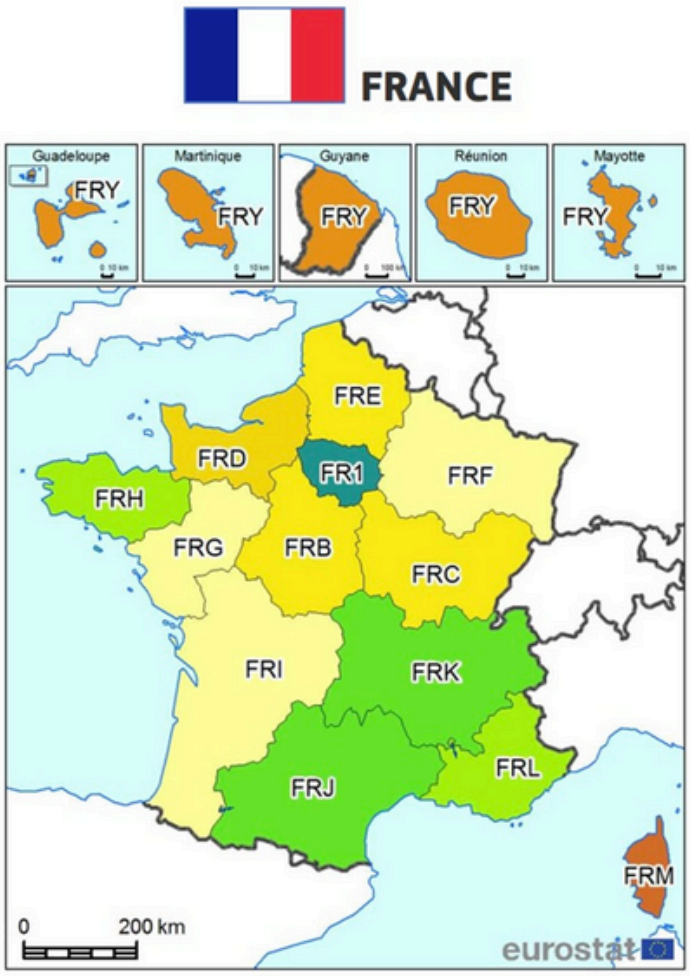
Spain performs well on digital skills, especially on 'at least basic' digital skills (64% of the population) and is making progress towards achieving the Digital Decade targets. Spanish users use regular internet (93%) and have at least basic digital content creation skills (74%). The percentage of enterprises providing ICT training (21%) is slightly below the EU average (22%) and the percentage of ICT specialists (4.3%) is growing slowly in alignment with the path registered in the EU but is still below the EU average (4.6%).

The lack of ICT specialists is partly being addressed as the percentage of ICT graduates has now increased significantly above the EU average (4.8% vs. 4.2%), thus contributing to narrowing the gap with their continuously growing demand. The share of women among the ICT specialists is at 18% just below the EU average.

On the digitalisation of businesses, the percentage of SMEs with at least a basic level of digital intensity is slightly below the EU average (68 vs. 69%), although the Spanish authorities are making efforts to improve enterprises' digitalisation. The percentage of e-commerce turnover (10%) and online cross-border selling (9%) is in line with the EU average, while the number of SMEs selling online is constantly increasing (up to 29% in 2022).

Spain is currently implementing several measures to increase the number of EU enterprises taking up cloud computing, big data, and AI services in Spain. Reforms and investments under component 13 'Support to SMEs' in Spain's RRP not only affect the specific target of SMEs' basic digital intensity but also affect the targets related to advanced digital technologies such as cloud computing, big data, and AI.

1.6 Regional statistical profile, Laval Mayenne Technopole, France



Map administrative boundaries: ©EuroGeographics ©UN-FAO ©Turkstat

NUTS	Region	RII	Rank	Group	Change
FR	France	105.3	--	Strong Innovator	-1.6
FR1	Île de France	129.5	27	Innovation Leader -	-0.7
FRB	Centre - Val de Loire	88.5	138	Moderate Innovator	-5.4
FRC	Bourgogne - Franche-Comté	89.4	133	Moderate Innovator	-10.4
FRD	Normandie	76.1	165	Moderate Innovator -	-13.1
FRE	Hauts-de-France	82.4	150	Moderate Innovator	-0.9
FRF	Grand Est	93.2	123	Moderate Innovator +	-5.9
FRG	Pays de la Loire	95.8	117	Moderate Innovator +	0.3
FRH	Bretagne	103.3	92	Strong Innovator -	-1.5
FRI	Nouvelle-Aquitaine	91.9	128	Moderate Innovator +	-6.5
FRJ	Occitanie	109.9	71	Strong Innovator	-8.3
FRK	Auvergne - Rhône-Alpes	111.4	67	Strong Innovator	-7.0
FRL	Provence-Alpes-Côte d'Azur	103.3	93	Strong Innovator -	-4.7
FRM	Corse	46.5	222	Emerging Innovator	-3.6
FRY	Régions ultrapériphériques françaises	64.4	190	Emerging Innovator +	5.4

While France demonstrates a strong national commitment to research and development, innovation efforts vary across its regions. The Pays de la Loire, situated on the West Coast, showcases a dynamic innovation landscape with room for growth.

France positions itself as a global leader in innovation, ranking among the top 5 in the European Innovation Scoreboard. However, compared to the national average (2.3% of GDP in 2020), the Pays de la Loire dedicates a slightly lower share of its GDP (1.4%) to research and development (R&D) activities.

As proven through the Regional Innovation Scoreboard 2023, Pays de la Loire Region stands out as a Moderate + Innovator, thanks to slow but uphold progresses, (Innovation Performance has increased over time (0.3%)) which places it among the national driving forces relating to digital innovation.

Despite a lower overall R&D spend, the Pays de la Loire boasts the 6th highest growth rate in annual R&D expenditure (+5.4%) within France between 2017 and 2021. This indicates a region actively investing in its future through innovation. Furthermore, the region houses a significant portion (4.1%) of France's total R&D workforce, translating to roughly 12,400 full-time equivalent positions (as of 2021).

The Pays de la Loire excels in specific innovation areas. The Regional Innovation Scoreboard suggests that the region thrives in:

- **Digital Skills:** The population demonstrates above-average digital literacy.
- **Business Process Innovation:** Companies actively seek to improve and optimize their internal processes.
- Innovative Enterprises: A high number of businesses prioritize innovation within their operations.
- **ICT Specialists:** The talent pool boasts a significant number of information and communication technology (ICT) specialists.

The **digital sector** in Pays de la Loire, an ecosystem with a total turnover of about 2 billion euros, is **very rich and diversified**, including especially software publishing, large information systems and cloud computing companies as well as software engineering, decision making, big data, artificial intelligence as well as virtual, augmented and mixed realities.

Moreover, the region is one of the most dynamic in terms of digital start-ups creation; this is also related to a large number of high-education specialized schools. As such, Eurostats data displays the region as the 11th in France in terms of employment within the high-tech sectors, with a 3.3 ratio explaining the ongoing shifts towards a more & more innovative territory for digitalisation.

As regards to the DESI outline, France is ranked 12th out of the 27 Member-States when it comes to digitalisation advances. More precisely, among the 2 main indicators of interest for this study, France culminates in top #5 for Connectivity development, thanks to the widespread broadband network covering most of the territory while in the meantime, it falls to rank #20 regarding the uptake of digital technologies in companies. Indeed Small and medium-sized enterprises (SMEs) are finding it more difficult to harness the potential of digital solutions for their business, with 47% having at least basic digital intensity, compared to the EU average of 55%. This puts France at a considerable distance from reaching the Digital Decade target of 90%.

According to the Global Innovation Index 2023, France ranks 11th among 132 economies in terms of innovation capabilities. This high ranking reflects the country's strong capacity to innovate, underscoring its potential to lead in the realm of digitalization and technological innovation.

In terms of digitalisation progress, Region Pays de la Loire is amongst the strongest digital ecosystems in France: 38 000 employees, 1820 entities, & 5 research labs with 330 teacher-researchers.

However, while the region boasts a thriving digital sector and a growing number of digital startups, there are still challenges to overcome. By looking at the broader digital sector, 13% companies (1300 firms) belongs to the “Solution Providers” category while 87% enterprises (8800 entities) are considered part of the “End-User” group. And still, according to a cross-regional pool, 56% of the sampled audience (585 persons interviewed) deems that there is a relative digital resource shortage.

The increasing number of **high-education specialized schools** in electronics, computer science, and information technology also indicates a growing emphasis on digital skills development. As a result, the region is gradually **moving towards a more mature state of digitalization**, where businesses and organizations are better equipped to embrace digital technologies and leverage their benefits for growth and innovation.

A study carried out by LMT in the framework of the DEVISE project (Interreg Europe) has identified the following challenges. Traditional SMEs in the region face **difficulties** in adopting digital technologies due to a **lack of knowledge** about new technologies and how to implement them, **fear of the disruption** they could cause on the model and the processes of the firms, and on the relations with their employees and clients, and perceiving digital transformation as a **difficult process** and as a cost rather than an investment.

Indeed, for France, Eurostats lack of figures relating to business digital strategy demonstrates how digitalisation in company remains a difficult step to overcome for all abovementionned reasons (**lacks of grants & fundings, lack of qualified employees, high competition, uncertain market**, etc) while it is ranked as the 3rd EU country facing prominent hampering factors for innovation activities in the entrepreneurial sphere.

1.7 Main outcomes regarding the regional industrial profile

Slovenia

The industrial profile is dependent mainly on exports and affected by energy prices.

The industry is growing and most available short-term economic indicators for Slovenia improved at the end of 2023. During 2023, the industrial activity was recovering but suffered a temporary drawback in April due to high energy costs. This directly affected exporting competitiveness.

Constructions however seems to remain unchanged, probably driven by the internal consumption.

Údarás na Gaeltachta, Ireland

Three large sectoral groups have been identified and assessed related to their capacity in relation to digitalisation and innovation: food and drink, audiovisual and creative and life sciences. Taken together these three sectoral groups represent almost a third of the total Údarás na Gaeltachta client base.

Companies in the **Food and Drink** sector have a large share of their activity based on physical labour force, so the existing digitalisation / digitalisation potential is varying based on scale. Consequently, medium-large companies have the potential to apply distributed team working within the administrative and non-manufacturing departments. Food clusters act as drivers of virtual ecosystems while the existing financial support acted as drivers for digitalisation of smaller companies.

The capacity of the **Audio Visual and Creative** sector for digitalisation and distributed team working is high due to its specificity and innovation experience that have already been accumulated.

The **Life Sciences** sectoral group includes manufacturing activities such as Pharmaceuticals and Dental Instruments. It covers all sizes of companies as well as good geographical distribution (national and regional) thus making it suitable to generate and engage in virtual ecosystems.

South Ostrobothnia, Finland

The region of South Ostrobothnia is considered as a region of entrepreneurship, having the highest proportion of entrepreneurs of people in employment (13,9%). South Ostrobothnia's most important industries are **food industry**, **wood industry**, and **metal** and **technology industry**.

Generating and engaging in virtual ecosystems could be beneficial as there is a need to increase the productivity, the companies are usual small and act as subcontractors with a low level of R&D as well as a low education level.

The good premises on which this transformation may take place are the following:

- good online visibility as 68% of enterprises in South Ostrobothnia have a website;
- entrepreneurs' availability to share, learn and support the ecosystem towards improvement;
- companies' close cooperation with higher education providers on concrete projects;
- significant potential of digital services that could be managed based on a distributed team model;

West Region, Romania

Most companies operate in the Services sector (highlighting Trade: 26.1% and Scientific and technical professional activities: 11.5%), Construction (11%) and Manufacturing (9.4%). The largest turnover and the largest number of employees in the region, however, comes from the manufacturing industry, supported by the export performance.

The workforce decline, the transition from manufacturing to testing and higher value-added processes and the increase of private funding towards RDI, create the emergency framework towards distributed teams working.

The existence of an extensive network of industrial locations (industrial parks, industrial zones, technological and business parks) may be engaged and act as drivers of distributed teams working within a larger transformation process. This network is present in most of the cities of the region whether in small towns such as the ones in the northern part of the region or the ones located in the peri-urban areas of capital towns such as Timisoara and Arad.

They could be transformed in scientific and technological parks to offer support services for innovative activities. This would encourage the strengthening of the collaboration between businesses and research sector and the technology transfer between foreign-owned companies and local firms thus creating the premises also for virtual ecosystems.

Cantabria, Spain

The 3 most important industries are: automotive industry covering all value chain, manufacturing, chemical industry and telecommunications.

The **manufacturing** is less prone to adopt distributed team working and this includes also the chemical part especially the basic chemical products and plastic products. However, since chemical industry is also active in the manufacture of pharmaceutical products there could be an opportunity potential to engage distribute working on RDI projects.

The **Telecommunications** sector is dedicated to cable communications with greater growth in cable telecommunications companies compared to wireless telecommunications.

Laval Mayenne Technopole, France

The region **ranks 1st** among French regions for its share of industrial employment in total employment: 15.9%, 4.5 points higher than the national average. Three industrial sectors are strongly represented: agri-food industry (25%), metallurgy (13%) and transport equipment (12%).

The region's leading industry, the **agri-food sector** accounts for 25,2% of all industrial jobs. The sector has seen significant developments, with initiatives aimed at modernising farming practices, the supply chain and the management of agri-food businesses.

Its potential to work in distributed teams is high due to the following factors:

- Flexibility for seasonal and nomadic workers
- Facilitated collaboration between experts from all over the world
- Access to a wider talent pool

However, there are several challenges to be dealt like coordination and communication, cybersecurity and data protection risks and the difficulty to maintain a strong corporate culture.

There is also a high potential within the **transportation equipment** especially due to R&D and design projects that needs collaboration as well as management models that ensure flexibility for teams working on remote sites. However, beyond coordination and management challenges there are security risks related to data confidentiality.

1.8 Policy profile and instruments

Slovenia has a long-term perspective on how digital is transforming the economy

Strategy for digital transformation of the economy 2021-2030; The strategy addresses three main or priority areas. The first represents advanced digital technologies that enable the digital transformation of the economy in the first place, the second focuses on an efficient ecosystem for a competitive economy, and the third focuses on an open and sustainable society as the basis for the growth of the digital economy

Údarás na Gaeltachta, Ireland is engaging a multitude of instruments that are focussing on skills and operational.

Global Ireland 2025 is a multi-annual, whole-of-government strategy to double the scope and impact of Ireland's global engagement by 2025 with targets to review Government of Ireland scholarships and other Scholarship schemes to meet our ambitions in international education, research and innovation, and to implement the Innovate for Ireland programme which aims to attract the best international research and entrepreneurship talent to Ireland's research and innovation ecosystem.

Regional Spatial and Economic Strategies 2020 – 2032 supports the National Planning Framework to enable conditions for creating & sustaining jobs & remote work.

Irish Industrial Development Agencies were actively supporting a large array of instruments supporting digitalisation and management transformation like:

- EILearn (access to management development resources online)
- Lean Plus / Exploring Innovation – funding for consultancy and feasibility studies
- LeanTransform – capital investment funding, R&D grants and training costs for staff
- Operational Excellence (business operational change, innovation, capability)
- Spotlight on Skills (identify company skills and challenges and develop a skills plan)

South Ostrobothnia, Finland is focusing on a mix of skills, innovation and international networking

The Regional Plan 2050 is the most appropriate policy instrument to CODIL project as it sets goals for the development in the future under the "Smart and Skillful" themes.

The policy is aiming to focus on several strategic aims that have the role of supporting distributed team working:

- Increasing competence level and expanding the educational offering
- Competent labour force and high-quality working life
- Strengthening innovation ecosystems
- International networking.

West Region, Romania joined the Harnessing Talent Platform to tackle the brain drain phenomenon

According to OECD and World Bank, the RO diaspora is the fifth largest in the world and is growing. During 2024, West RDA is participating in the Talent Harnessing Platform, that is intended to build capacity to better understand and act upon challenges related to demographic change, brain-drain and attraction, development and retention of talent.

Cantabria, Spain is focusing on practical initiatives and ecosystem building

The Industrial Dynamizer support mechanism, consists of analyzing the situation of the companies, provide services and advise them both on the generation of ideas, new investments, R&D projects and on the possibility of financing.

IBEY is a space created by CEOE CEPYME, to facilitate the distributed work to other business and the cooperation between them.

Xtela tower is a space that is provided to startups to develop their activities, there is going to facilitate the cooperation between startups both national and international.

Laval Mayenne Technopole, France is supporting the adoption of high-value digital tools and remote interaction tools

Due to the existence of the Regional Plan for Digital Economy (PREN), a policy instrument has been created tot support the SME's to invest in digital tools that generates added value to their business. The companies with fewer than 50 employees are being supported in acquiring and adopting high-value digital tools (software) to improve productivity and create value.

At local level, Schéma Directeur des systèmes d'information et données numériques 2022-2026 is reference policy heralded by the public authority for digitisation; it aims at favouring the uptake of remote interaction tools.

II. Regional innovation ecosystem map

2.1 Trend setters' area highlights

Slovenia

SRIPs (Strategic Research and Innovation Partnership Factories of the Future (SRIP FOF) is the coordinator of the Strategic Research and Innovation Partnership of the Factory of the Future (SRIP FOF). SRIP FoF has six horizontal networks that provide key technologies for future factories within SRIP TOP : robotics, management technologies, nanotechnology, photonics, plasma technology, modern technology for materials.

Údarás na Gaeltachta, Ireland

Some of the Trend Setters with high relevance in the Gaeltacht Region of Ireland include remote working infrastructure such as the GTeic Network and the Connected Hubs. Two of the trend setters (BioInnovate and the Insight Centre) also fit the category of initiatives, projects, instruments and policies that support or contribute to distributed working in the region.

West Region, Romania

Biomentorhub is an NGO that use a platform to connect researchers and specialists from within the country and diaspora with the objective to find collaboration opportunities in Romania.

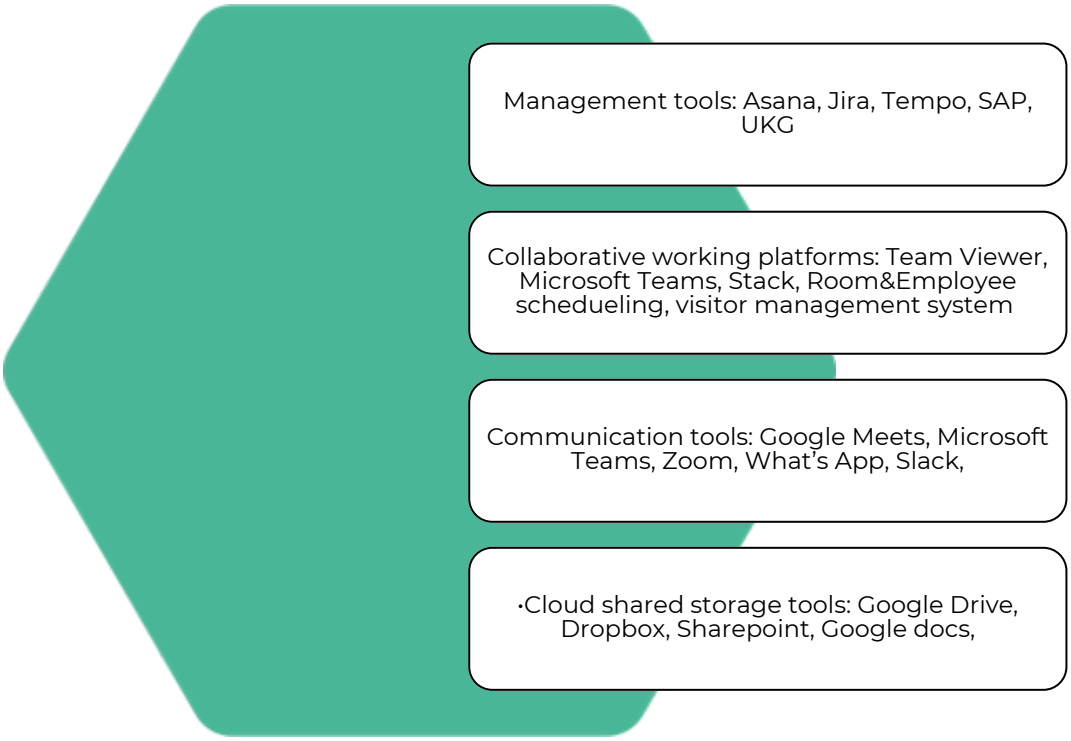
Laval Mayenne Technopole, France

La Cantine: A network of co-working spaces with several locations across the Pays de la Loire region. La Cantine provides flexible workspaces, meeting rooms, and a collaborative environment for entrepreneurs, startups, and remote workers

Nomad Workspace: A co-working space located in Nantes that offers private offices, hot desks, and meeting rooms for individuals and teams seeking a professional work environment. Nomad Workspace caters to remote workers and distributed teams.

2.2 Technologies

Several well-known technologies have been identified by partners to be used within the ecosystem. A general overview is presented below in a Maslow pyramid type form where at the base are common technologies while on the top there are technologies that suits more complex activities.



Furthermore some partners had identified regional solution and technologies that act as technology enablers / facilitators for companies. These solutions can act as drivers for the creation/consolidation of virtual communities.

West Region, Romania

Pluria is a Romanian start-up, offering instant access to +500 coworking hubs, hotel lounges and work-ready cafes. It is an **international platform** based on a mobile app or desktop webpage. The offer consists of hybrid work packages addressed to distributed teams or corporate teams working remotely.

Laval Mayenne Technopole, France

LIUM (IUT de Laval) and ESIEA are doing research on immersive environments in the framework of remote working.

Inod Solutions has developped a platform allowing to organise showrooms, tours and virtual exhibitions.

Virbela is a platform used during the COVID period in Laval to allow the organisation of exhibitions and meeting in a virtual environment that fosters the exchanges between attendees.

Laval Virtual is an international exhibition taking place in Laval since 1999 and dealing with AR / VR / XR and immersive technologies. Every year, it gathers more than 8 000 professional attendees networking from more than 35 different countries.

2.3 Incentives steering digital and business communities

Slovenia

Spirit Slovenia; Slovenian government's Business Development Agency (SPIRIT Slovenia, public agency) is a single point of contact for startups, potential investors and international companies looking for new business opportunities. The agency is an entrepreneur-friendly institution for both potential and existing investors, providing adequate assistance to businesses during their start-up, growth and development phase. Practical information is offered as well as advice on various business opportunities in Slovenia including investment locations, Slovenian suppliers, industries, and markets. There are also calls and tenders for SMEs.

Údarás na Gaeltachta, Ireland

Digital Process Innovation Scheme is a public support scheme for companies, targeting SMEs and large Companies who are willing to:
- improve their capability and operational effectiveness;
- Implement an innovative new way of working to increase quality, speed, dependability or flexibility of the company's operations.

South Ostrobothnia, Finland

Ministry of Economic Affairs and Employment enabled tax deductions for teleworking expenses thus companies themselves encouraged teleworking by their own employees.
West Region, Romania

Growceanu is a business angel platform where members invest in high-tech startups curated by experienced operators. Their mission is to catalyse early-stage investment in high-tech startups by providing the community of investors and entrepreneurs with a set of essential tools, processes, and educational resources to unleash their full potential to generate wealth and improve the quality of life.

As a Management Authority, West RDA is preparing a call on financial instruments that will act on two layers: venture capital tool for business acceleration (Accelerator combined with grant and seed fund); venture capital instrument. The funding available is 40 Milion Euro and will play a role in the creation of a start-up business community that have a technology focus.

Cantabria, Spain

Teleworking decree: a decree implemented in the government of Cantabria that regulates the distributed work.
Laval Mayenne Technopole, France

The Pass Flexmob: This pass provides financial support to employees who telework or work from a shared workspace. It is paid by the employer and can be up to €200 per month per employee.

The Aide à l'Implantation de Tiers-Lieux ("Support for the Establishment of Third Places"): This grant provides financial support to organizations that set up or expand coworking spaces or teleworking centers. It can be up to €50,000 per project.

2.4 Initiatives

Slovenia

Smart Factories Cluster connects Slovenian companies, provides them with knowledge and professional support on digitization processes and the connection with the support processes and processes of business partners, the use of advanced technologies in the analysis and layout of processes and the concept of smart factory and in the implementation of processes, as well as in a significant increase in the added value of these processes.

CEED Slovenia is part of CEED Global - an international community of entrepreneurs, which also connects and exchanges experiences. He is the founder of SEAF - Small Enterprise Assistance Fund, based in Washington D.C., which promotes the development of the business environment and invests in growing companies in 25 countries around the world.

Údarás na Gaeltachta, Ireland

A key Irish example is the Disruptive Technologies Innovation Fund, a €500 million fund available to support innovative and transformative, collaborative technology investments. Furthermore there are two categories of relevant initiatives: skills and knowledge networks (BioInnovate, Insight Centre for Data Analytics) and funding for companies that generates disruptive innovation (Disruptive Technologies Innovation Fund).

South Ostrobothnia, Finland

HUBI25 (https://jamin.fi/tietoa-jamista/hubi25/) is an open and free workspace for teleworkers, entrepreneurs, and students providing an opportunity to get to know people from different organisations and backgrounds. It has been supported by the Innovation and skills in Finland 2021–2027 driven by Ministry of Economic Affairs and Employment. Link: https://jamin.fi/tietoa-jamista/hubi25/

West Region, Romania

Entrepreneurship and Innovation Network Conference – CRAI is a local initiative of the universities having the scope to bring together under one event all Innovation and Technology Transfer Centers from Romanian universities, Student Entrepreneurial Societies and the community of Alumni Fulbright Scholars, as well as the actors of the start-up and innovation ecosystem in Romania.

Cantabria, Spain

IBEY (https://ceoecantabria.es/espacio-ibe/) is a space created by CEOE CEPYME, to facilitate the distributed work to other business and the cooperation between them.

Xtela (https://xtela.net/en/xtela-tower/) tower is a space that is provided to startups to develop their activities, there is going to facilitate the cooperation between startups both national and international.

Laval Mayenne Technopole, France

Telework Charter (2004, updated 2020): This non-binding agreement outlines best practices for implementing telework arrangements, including employee rights, equipment provision, and expense compensation.

State Aid Programs: The French government offers various financial aid programs to support companies investing in remote work infrastructure and training programs.

II. Regional innovation ecosystem map

No	SL	UNAG	RCSO	WRDA	GOBCAN	LMT
Question 1: Has your organization developed a strategy for "digital transformation"?	63 % have a Strategy for Digital Transformation	44% have a Strategy for Digital Transformation	88% do not have a Strategy for Digital Transformation	66% do not have a Strategy for Digital Transformation	It derives from RIS3	60% do not have a Strategy for Digital Transformation
Question 2: Does your company organization encounter any challenges related to Digitalization?	75% yes	78% yes	77% yes Challenges: Harnessing artificial intelligence. Making full use of digital devices and software. Software development; also, e-commerce and ERP software, automation-related issues. Cyber security; managing information security. Social media-related issues	Challenges encountered, related to digitalization, such as data management, but also communication issues, and logistics.	Yes Challenges related to digital Agenda: Infrastructure, Skills, innovation, entrepreneurship, e-governance, open data, citizen participation etc.	Only 30% of respondents consider that digitalisation is creating difficulties
Question 3: How does your organization's current practices change compared to the pandemic period, in relation to remote working?	Continuation of Pre-Pandemic Practices (31.25%) Hybrid Work Models (31.25%) Continued Remote Work (6.25%)	78% of organization's practices changed since the pandemic	62% of respondents also feel that teleworking has evolved since the pandemic.	Current practices in the organizations are mixed: remote but also hybrid. One of the organizations reported that remote working is considering the needs of the employees.	The current type of job is easier to be done from the office.	70% of the respondents have integrated teleworking in their organization
Question No. 4 What are the obstacles for remote/distributed teams practice to be implemented in your organisation?	Knowledge, Competence, and Financial Constraints (25%)	83% of companies noted obstacles for remote / distributed teams	39% of respondents who experienced barriers to their activities on: Cyber security issues and software functionality. Older workers don't know how to use the apps	Obstacles to remote/distributed teams practice in the organization was marked as: communication as an obstacle, and ad-hoc client meetings	Connecting employees with the public and infrastructure limitation	The main obstacle to teleworking mentioned are: Isolation Lack of human interactions Less efficient inter-team communication
Question No. 5 What are advantages for remote/distributed teams practice to be implemented in your organisation?	40% flexibility and work-life balance, 18% employee satisfaction and well-being	94 % noted advantages for remote / distributed teams	Flexibility, time saving, the opportunity to work anywhere, travelling and its cost reduced, easier to concentrate on work.	The advantages are flexibility and work hours adjustment, and high productivity of the remote teams.	Work-family balance	As for the advantages of teleworking, one can mention : Better management between professional and personal life More flexibility Time saving

Question No. 6 Are you aware of specific programmes /initiatives to support the funding of SMEs, to develop and implement specific strategies and approaches to enhance the interaction with employees?		50 % were aware of such supports for SMEs	88% not aware of specific programmes /initiatives	No awareness	Xtela project – is addressing startups that want to develop a business idea or that contribute with technological innovation to Cantabria	100 % of respondents are not aware of specific programs / initiatives
Question No. 7 Did your organisation apply to any of them?	44% yes, 56% no	33 % of companies applied for supports	no	no	yes	None of the respondents is participating in specific programs
Question No. 8 Does your company organization require any specific support or service related to distributed teams work approach and these are currently not available?	69% no	72% of companies require supports related to distributed teams	83% do not require support One responded: Related to the use of artificial intelligence, and help with drafting written guideline for teleworking.	2 out of three organization stated they do not need any help in services related to distributed teams work developmen t	no	None of the respondents thinks that the need support
Question No. 9 Are you aware of any social innovation practices that could steer the innovation running through distributed teams?	47% not involved	89 % of companies noted at least one social innovation practice 6% of companies were not aware of any social innovation practices	None are aware of possible social innovation practices that could guide innovation through distributed teams	Crowdfundi ng Distance learning	Distance education at the University of Cantabria, Telehealth	None of the respondents are aware of possible social innovation practices that could guide innovation through distributed teams

IV. Conclusions

The Covid 19 Pandemic acted as driver towards digitalisation and provided an opportunity for the popularisation of basic technologies that enable remote working. However, adapting to the "new normal" didn't triggered a full digital transformation as regions report that only a small proportion of respondent organization have now a Strategy for Digital Transformation (except Slovenia).

The interviewed declared a change regarding how work is taking place usually meaning the continuation of the hybrid model. Consequently, this implies also now management models and potential to generate future hybrid working communities.

According to the stakeholders interviewed, around two thirds had encountered challenges related to digitalization, but the type of challenges varies according to the type of stakeholders interviewed.

Policy challenges related to Digital Agenda: Infrastructure, Skills, innovation, entrepreneurship, e-governance, open data, citizen participation etc.

Operational:

Making full use of digital devices and software; Managing information security; Logistics

Innovation:

Harnessing artificial intelligence; Software development; Data management

Communication:

Social media

If we analyse in parallel the obstacles of the distributed team vs advantages of remote working, it seems that advantages are concerning more the employees who sees opportunities for the: work-life balance, flexibility, time saving, motivation that enables productivity, well-being etc. Consequently, there are no other spillover effects and opportunities that could be beneficial for the organisation: technology adoption and skills improvement, social innovation, etc.

The obstacles however are concerning more the organisational part: competence, financial, communication, infrastructure limitation, inter-team communication.

This shows that the organisation needs to make some additional changes and investment to fully exploit the potential benefits of remote working. Furthermore, the existing support at regional level was acknowledged in only three regions.

Also, only in three out of six regions there are traces of social innovation effects.

4.1 Future challenges and potential development areas

1. The thematic of remote distributed working is still present and active in the regions but on the medium term there is a need to have a connection with an active policy instrument that can be influenced to show the policy change.

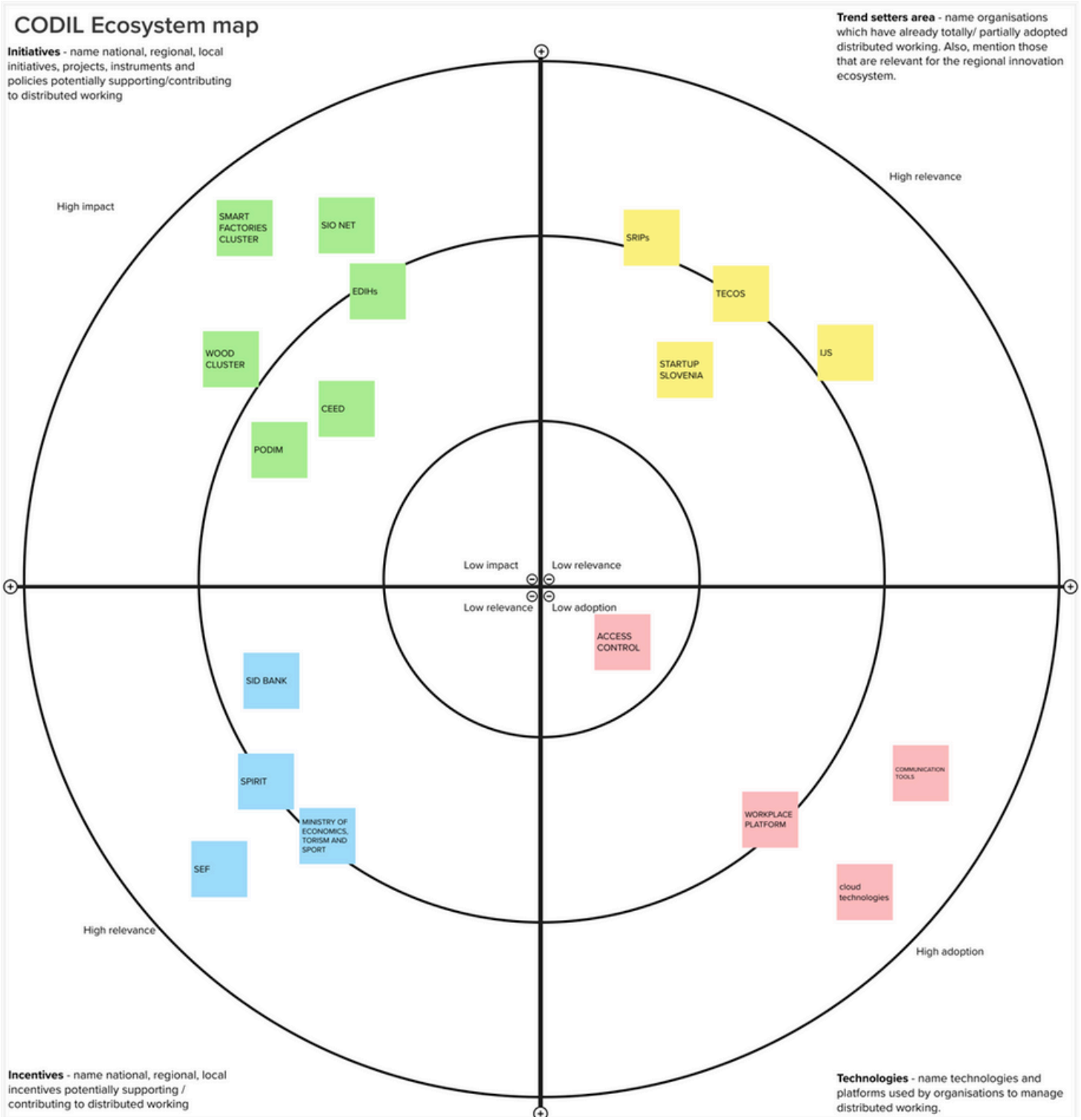
2. The technology part is still essential for the distributed team thematic but there is needed to be focused on specific topics to be clearly delimited by the general digitalisation topic.

3. Based on each region-specific challenges potential development areas could be explored and connect them with the policy level:

- Using distributed team technologies to steer social innovation and new management models.
- Developing and adoption of future High-tech solutions that enable virtual spaces, communities, business interaction and change.
- Integrating local physical co-working and community spaces into digital platforms that steers connection and knowledge change.
- Providing international reach of local existing entrepreneurship ecosystems.
- Building online communities to attract new talents, reconnect with diaspora and reduce brain drain phenomenon.
- Shaping policies that facilitate the transition from remote working to remote innovation, remote business, remote community, delocalisation made available for SMEs etc.

V. Annex 1 – Partner regions CODIL canvas ecosystem structure

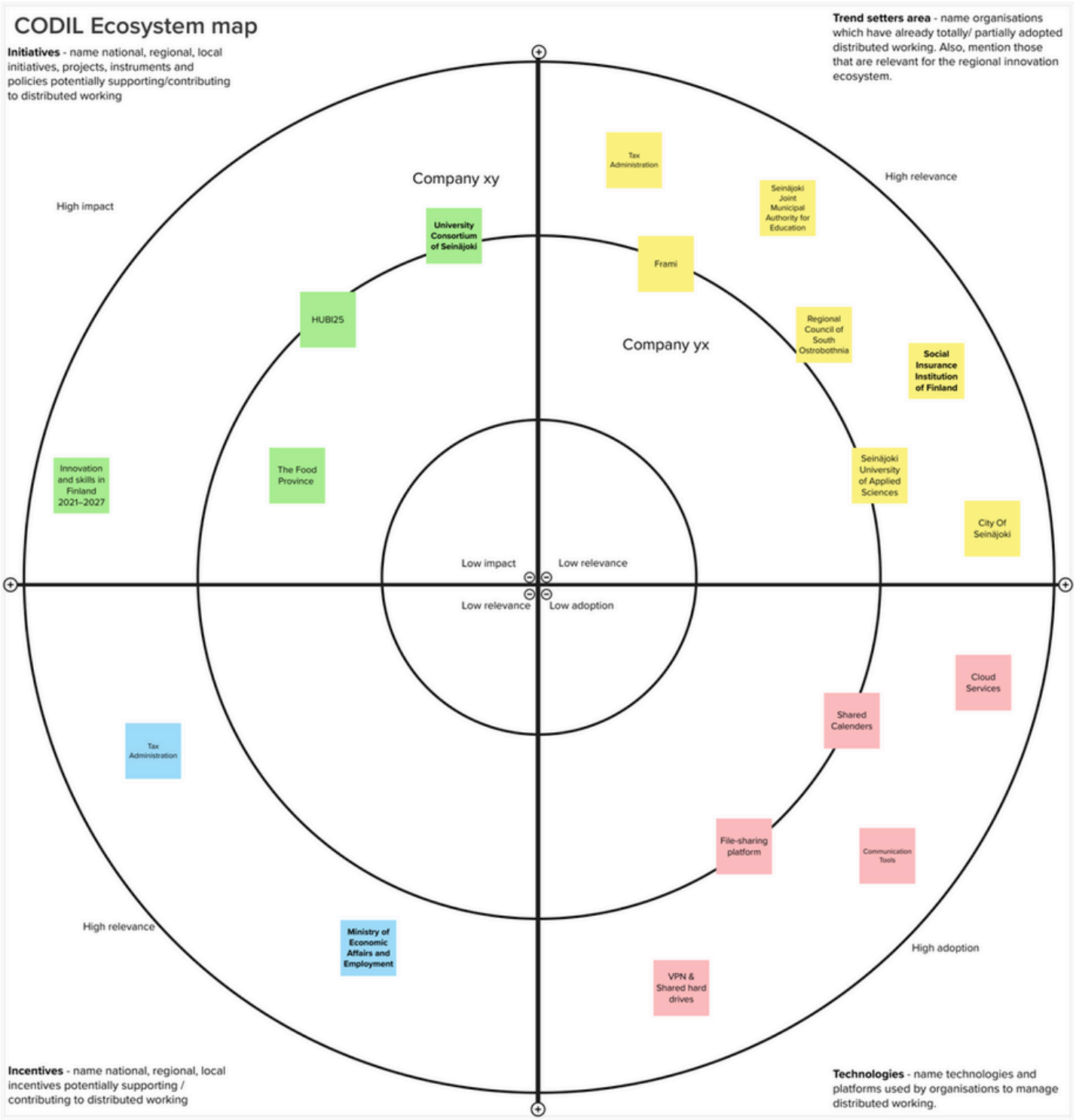
5.1 Slovenia



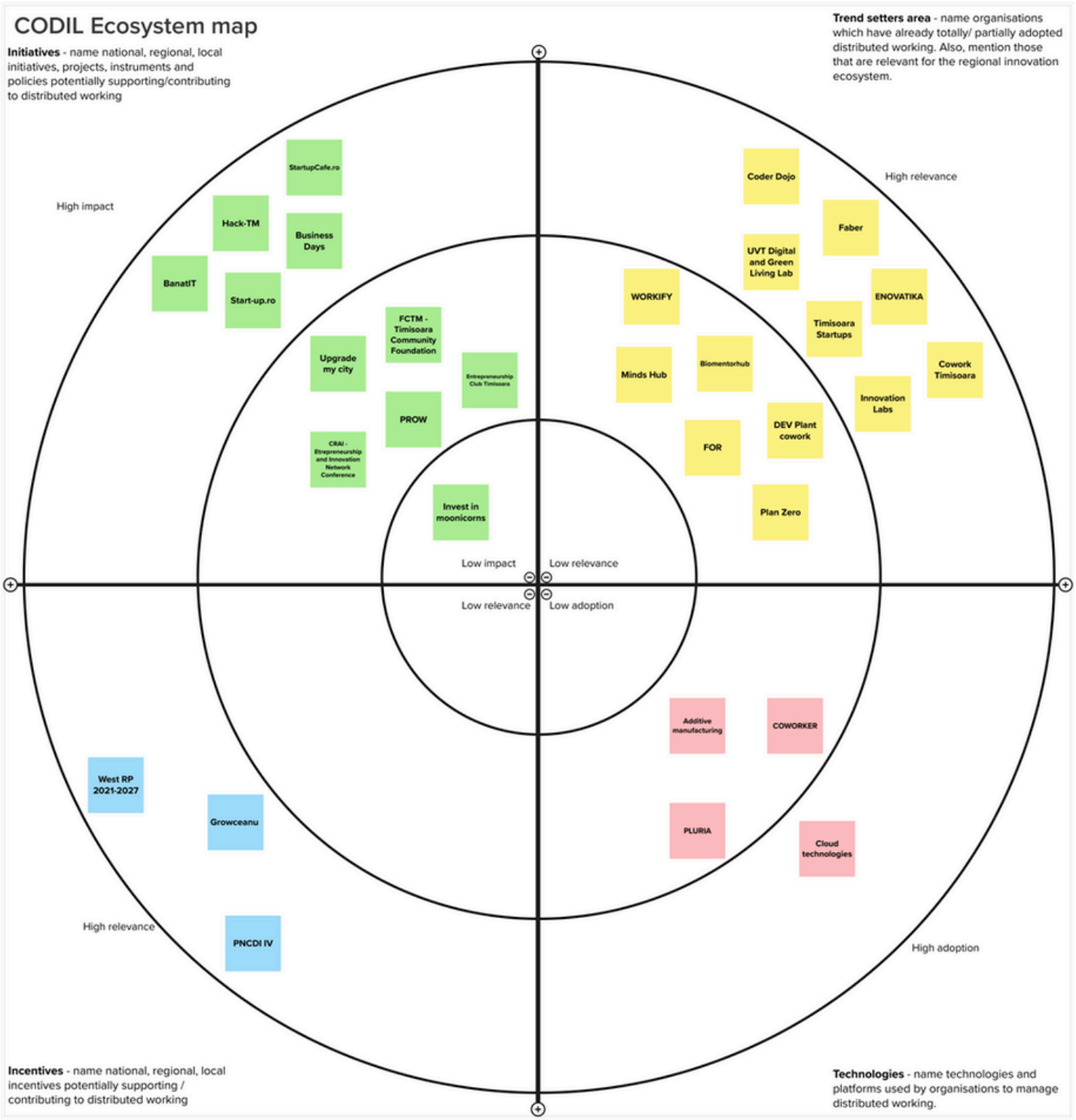
5.2 Ireland


CODIL Ecosystem map
Initiatives - name national, regional, local initiatives, projects, instruments and policies potentially supporting/contributing to distributed working
Trend setters area - name organisations which have already totally/ partially adopted distributed working. Also, mention those that are relevant for the regional innovation ecosystem.
Insight Centre for Data Analytics
Disruptive Technologies Innovation Fund
GTeic Digital Hubs
BioInnovate
High relevance
High impact
Digital Transition Fund
Connected Hubs
Data2Sustain
Smart Specialisation Strategy for Innovation
Grow Remote
Industry 4.0 Strategy
Low impact
Low relevance
Low relevance
Low adoption
innovation for Growth Scheme
Video Conferencing Technologies
in-house proprietary technology
Innovation Vouchers
Cloud based file sharing tools
Quality Management Tools
Digital Process Innovation Scheme
Communication Tools and Platforms
Process Management Tools
Exploring Innovation Supports
High relevance
High adoption
Resource Management Tools
R&D Fund
Incentives - name national, regional, local incentives potentially supporting / contributing to distributed working
Technologies - name technologies and platforms used by organisations to manage distributed working.

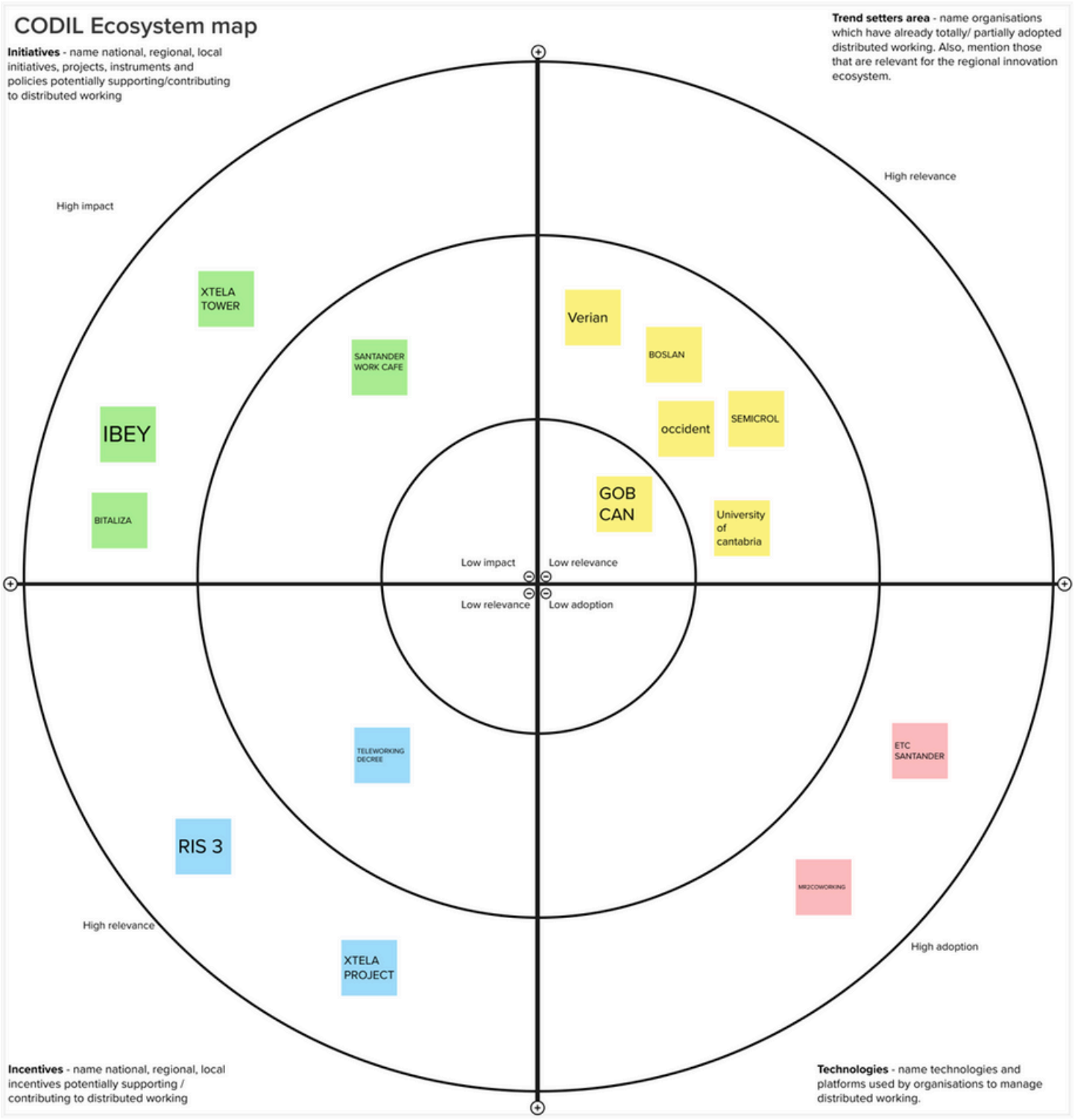
5.3 Finland


CODIL Ecosystem map
Initiatives - name national, regional, local initiatives, projects, instruments and policies potentially supporting/contributing to distributed working
Trend setters area - name organisations which have already totally/ partially adopted distributed working. Also, mention those that are relevant for the regional innovation ecosystem.
Company xy
Company yx
High impact
High relevance
Low impact
Low relevance
Low relevance
Low adoption
High relevance
High adoption
University Consortium of Seinäjoki
Tax Administration
Seinäjoki Joint Municipal Authority for Education
Frami
HUBI25
Regional Council of South Ostrobothnia
Social Insurance Institution of Finland
Innovation and skills in Finland 2021–2027
The Food Province
Seinäjoki University of Applied Sciences
City Of Seinäjoki
Cloud Services
Shared Calenders
Tax Administration
File-sharing platform
Communication Tools
Ministry of Economic Affairs and Employment
VPN & Shared hard drives
Incentives - name national, regional, local incentives potentially supporting / contributing to distributed working
Technologies - name technologies and platforms used by organisations to manage distributed working.

5.4 Romania


CODIL Ecosystem map
Initiatives - name national, regional, local initiatives, projects, instruments and policies potentially supporting/contributing to distributed working
Trend setters area - name organisations which have already totally/ partially adopted distributed working. Also, mention those that are relevant for the regional innovation ecosystem.
High impact
High relevance
StartupCafe.ro
Hack-TM
Business Days
BanatIT
Start-up.ro
Coder Dojo
Faber
UVT Digital and Green Living Lab
WORKIFY
ENOVATIKA
Timisoara Startups
Cowork Timisoara
Innovation Labs
Upgrade my city
FCTM - Timisoara Community Foundation
Entrepreneurship Club Timisoara
PROW
CRAI - Etrepreneurship and Innovation Network Conference
Minds Hub
Biomentorhub
DEV Plant cowork
FOR
Invest in moonicorns
Plan Zero
Low impact
Low relevance
Low relevance
Low adoption
Additive manufacturing
COWORKER
West RP 2021-2027
Growceanu
PLURIA
Cloud technologies
High relevance
PNCDI IV
High adoption
Incentives - name national, regional, local incentives potentially supporting / contributing to distributed working
Technologies - name technologies and platforms used by organisations to manage distributed working.

5.5 Spain


CODIL Ecosystem map
Initiatives - name national, regional, local initiatives, projects, instruments and policies potentially supporting/contributing to distributed working
Trend setters area - name organisations which have already totally/ partially adopted distributed working. Also, mention those that are relevant for the regional innovation ecosystem.
High relevance
High impact
XTELA TOWER
SANTANDER WORK CAFE
IBEY
BITALIZA
Verian
BOSLAN
occident
SEMICROL
GOB CAN
University of cantabria
Low impact
Low relevance
Low relevance
Low adoption
TELEWORKING DECREE
RIS 3
ETC SANTANDER
MR2COWORKING
High relevance
XTELA PROJECT
High adoption
Incentives - name national, regional, local incentives potentially supporting / contributing to distributed working
Technologies - name technologies and platforms used by organisations to manage distributed working.

5.6 France


CODIL Ecosystem map
Initiatives - name national, regional, local initiatives, projects, instruments and policies potentially supporting/contributing to distributed working
that are relevant for the regional innovation ecosystem.
High impact
High relevance
EDIH DIVA
right to disconnect law
Telework Charter
State Aid Programs
Team for the Planet
Penny Lane
IRT Jules Verne
La Cantine
Komodal
LS2N
Nomad Workspace
Le Trèfle
Luminess
Low impact
Low relevance
Low relevance
Low adoption
LIUM / IUT de Laval
Massive Immersive
ESIEA
INOD Solutions
CLARTE
Reality CAD
Laval Virtual
VIRBELA
High adoption
Couvrir les Frais : National Incentive
The Sustainable Mobility : National Incentuve
Support for the establishment of Third Placesw
Teleworking and Coworking Tax Credit
High relevance
The Pass Flexmob
The Laval Agglo Teleworking Charter
Incentives - name national, regional, local incentives potentially supporting / contributing to distributed working
Technologies - name technologies and platforms used by organisations to manage distributed working.

VI. Annex 2 – Laval Mayenne Technopole (LMT) complementary studies

Document structure:

Lot 1 : Study of the Practices and Needs of Teleworkers
Lot 2 : Benchmark of Coworking Spaces in Rural Areas

6.1 Assessment Study of the Practices and Needs of Teleworkers

Context

The CODIL project, managed by Laval Mayenne Technopole (LMT) and funded by the Interreg Europe program, runs from March 2023 to February 2027. It aims to enhance regional innovation policies by supporting the emerging model of distributed teams, particularly among highly skilled mobile workers, a trend that has been amplified by the COVID-19 crisis. The project aligns with the Interreg Europe's goal of fostering interregional cooperation to reduce economic and social disparities.

Objectives

The primary objective of the study was to map the needs and practices of remote workers in the rural areas of Mayenne. This study was divided into two parts: an analysis of the practices and needs of teleworkers and a benchmarking of rural co-working spaces.

Interviews

Interviews were conducted with various remote workers, primarily through video calls, between June and August 2024. The interview script covered a wide range of topics, including personal and work context, general telework habits, the impact of telework on professional and personal life, frustrations, and expectations.

Personas

The study identified four main personas based on the interview data. The first group includes full-time employees working for companies based in major cities or abroad, who appreciate the quality of life in Mayenne but struggle with isolation. The second group consists of part-time workers who enjoy the autonomy of remote work but face challenges with loneliness. The third group includes freelancers or independent workers who find remote work rewarding but isolating. The fourth persona is an exceptional case of a remote worker commuting between Paris and Mayenne.

Conclusions

The general conclusions reveal that teleworkers highly value the quality of life in Mayenne, including the peaceful environment and the welcoming community. However, the isolation and lack of in-person interactions can negatively impact their motivation, mental state, and overall well-being. While some companies have implemented solutions to mitigate isolation, this issue remains more pronounced for those managing teams remotely. Regarding co-working spaces, most teleworkers are interested in the concept, but practical concerns like distance from home and established home office setups make full-time use unlikely. Many would prefer flexible access to co-working spaces, with the ability to choose when to work from such locations.

In terms of community, there is significant interest in establishing a teleworkers' community in Mayenne. Teleworkers expressed a desire for both in-person and digital interactions, with the flexibility to engage as and when they choose. This community could offer valuable support, particularly in sharing experiences and coping strategies for remote work challenges.

Recommendations

The report suggests developing both co-working spaces and a remote workers' community in parallel, as these elements can mutually reinforce each other. It also recommends organizing flexible co-working days and creating a network of co-working spaces across Mayenne to cater to different needs. The creation of a LinkedIn group and the organization of quarterly in-person events are proposed to foster a sense of community among teleworkers in the region.

Finally, the report emphasizes the importance of offering opportunities for teleworkers to share their expertise and participate in community activities, which could include brainstorming sessions, thematic workshops, and group activities like yoga or stretching sessions during lunch breaks or at the end of the workday.

Full translation of the conclusion:

- Creating and running a community of teleworkers in Mayenne is something that is of interest to all profiles.
- For some, they would be prepared to take an active part as long as it remained flexible (no obligation to meet on a specific day or at a specific time)
- For some, they only prefer physical meetings because they feel they have enough digital interaction enough digital interaction with their colleagues and customers.
- While others think that if there is a community, it is best to nurture it across several channels (e.g. WhatsApp group, Discord + occasional lunches or afterworks).
- For all of them, Laval Mayenne Technopole makes a good reference to the community and they find it easy and enjoyable to talk to people from their own profession or from other professions as well.

- Some people find it important to share feedback from other teleworkers in Mayenne, it helps them to put things into perspective and better understand their day-to-day frustrations.
- All the people interviewed are happy and fulfilled with their private lives: belonging to their town, associations, their friendships and their loved ones; on the other hand, they may feel a little distant from the professional world around them. Many of them are often surprised
- by comments from people around them (neighbours, friends) about how lucky they are to be working from home, as if they were in two different worlds.
- This community could enable them to talk to people who understand each other and who sometimes have the same problems and feelings on a daily basis.
- The format can be varied: breakfast, lunch, afterwork. Mondays and Fridays should be avoided, when companies often hold team meetings to launch and close the week. For one of the persons interviewed (management of IT and web development teams), Tuesdays are the Tuesdays are the busiest days because the teams start to have problems following the launch of the sprint the day before. ● Some people have shown an interest in taking part in cross-disciplinary themed workshops: retirement, entrepreneurship topics (for the self-employed), graphic facilitation, ergonomics, stretching, etc.
- Some may also take part in group sessions of yoga, jogging,stretching … ,as long as this is integrated into the working day, for example at lunchtime or at the end of the day.
- Finally, many profiles, especially the most senior in terms of expertise, have a need to
- and are keen to share their knowledge with younger people (young in age but also young in a profession). They would be willing to help new entrepreneurs, for example.
- They would also be keen to take part in brainstorming sessions, roundtables and experience feedback.

6.2 Benchmark of Coworking Spaces in Rural Areas

Context

The CODIL project, part of the Interreg Europe program, focuses on adapting regional innovation policies to support the emerging model of distributed teams, particularly among highly skilled remote workers. Laval Mayenne Technopole (LMT), a project partner, is responsible for assessing the impact of remote work on innovation ecosystems in the Mayenne region, collecting best practices, and sharing these insights locally. The second phase of the study, "Benchmark of Coworking Spaces in Rural Areas," aims to identify and analyze coworking practices in similar rural regions across France and Europe, targeting highly skilled remote workers.

Study Objectives

The study seeks to identify best practices in the management, organization, and operation of coworking spaces in rural areas. It also aims to highlight the strengths and weaknesses of these spaces, particularly regarding their impact on local communities and their effectiveness in meeting the needs of remote workers.

Selected Coworking Spaces

The study focuses on five key coworking spaces in France and Europe:

Le 400 in Brive-la-Gaillarde, France: An independent coworking space with a history dating back to 2011. It serves a mix of freelancers and remote workers, offering a cozy environment with varied workspaces. Its economic model combines self-financing from space rentals and public funding, but recent financial challenges have raised concerns about its sustainability.

La Quincaillerie in Guéret, France: This space emerged from a local radio station and has grown into a vibrant community hub. It offers a mix of coworking spaces, a FabLab, and cultural activities. The space is heavily supported by public funding, which covers most of its operational costs.

Loir Cowork in Loir en Vallée, France: A newer space focused on entrepreneurship and local economic development. It offers a range of workspaces and is actively involved in networking and supporting local businesses. The space is publicly funded, with additional income generated through space rentals and services.

Coworking Gare in Poix-Saint-Hubert, Belgium: Originally part of a family-run hotel, this space aimed to blend coworking with tourism. However, it faced significant challenges, particularly after the COVID-19 pandemic, leading to its closure in 2024.

Le Rucher Créatif in Troyes, France: A larger coworking space that integrates social entrepreneurship with coworking. It operates on a mixed economic model, with one-third of its budget coming from self-financing and the rest from public funding and project-based grants. Recent financial difficulties were alleviated by increased support from local authorities.

Key Findings

The benchmark revealed several important insights:

Economic Sustainability: Most coworking spaces rely heavily on public funding, particularly in rural areas where self-financing is challenging due to lower user demand. The sustainability of these spaces often hinges on continued public support.
Community Impact: Successful coworking spaces are those that integrate deeply with their local communities, offering not just workspace but also social and cultural activities. Spaces like La Quincaillerie and Le Rucher Créatif have become essential parts of their local ecosystems.

Challenges: Common challenges include maintaining financial stability, ensuring regular user engagement, and balancing the diverse needs of remote workers, freelancers, and local businesses.

Recommendations

The study recommends that rural coworking spaces should:

- Focus on creating strong ties with local communities to ensure a steady flow of users and community support.
- Diversify their income streams to reduce dependency on public funding.
- Develop tailored services that address the specific needs of rural remote workers, such as flexible access and networking opportunities.
- Seek ongoing feedback from users to adapt their offerings to changing needs and maintain engagement.

Conclusion

The benchmark study highlights the potential of coworking spaces to revitalize rural areas, but also underscores the need for careful financial planning and community integration to ensure long-term sustainability.

Full translation of the conclusion:

What can be seen from this Benchmark is that none of the places surveyed or studied has the specific aim or desire to meet the needs of the CODIL project's target audience: highly qualified people teleworking for companies located outside the area. There are no actions as such, and among the territories and places studied, that are really dedicated to this public. In other words, none of them identified CODIL's target audience as a particular lever for territorial development, perhaps because the very purpose of a third place is to reach out to different types of audience and to have a more global impact on an area, whether in terms of social links or economic development.

As a result, the needs of highly qualified people teleworking for companies outside the region will be met indirectly by these spaces, and in particular, as we shall see in the opening section, by acting as one of the determining factors in their settling in a rural area.

In terms of more specific professional networking initiatives, in our study, only the LoirCowork team has succeeded in implementing and maintaining local practices and events dedicated to local networking.