KARELIA
// CBC Project

CINNAMON
KA4032

Cross-Border Investment Navigator for Monocities

(KA4032, CINNAMON)

Work package 3, activity A3.1

Best practices and state-of-the-art approaches in industrial diversification

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2021

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1. Introduction

This report presents the results of Activity 3.1. of the CINNAMON / KA302 project. The report consists of an introduction, a methodological approach for determining the relevant Good Practices (GP) in industrial diversification for the Karelian monocities, and the main component of this report comprising the Good Practices and state-of-the-art approaches in industrial diversification.

The purpose of the CINNAMON project is to increase awareness of cross-border investment opportunities and in the process support the development and growth of both Karelia (RU) and Kainuu (FI) regions. This is achieved through a confluence of coherent activities, leading also to investment offers. The objectives of the project include (1) reinforcing cross-border investment opportunities resulting from the diversification of monocities and global industrial modernisation trends; (2) creation of a cross-border support mechanism encouraging entrepreneurs to enter Priority Social and Economic Development Areas (PSEDAs); and (3) increase of the investment attractiveness of the region by running joint branding efforts promoting Kainuu and the Republic of Karelia.

Description of Work Package 3 Activity 3.1:

Name of work package: Collecting the best practices and state-of-the-art approaches in industrial diversification

Description: Running research analysis of the state-of-the-art approaches in industrial diversification, including the Finnish cases (e.g Lieksa, Nurmes, Kainuu) and Russian cases (Kondopoga, Kostamuksha, Segezha).

Output: 1 report with criteria, best practice description and conclusions.

Location: Finland – Kainuu, Finland – North Karelia, Russia – Republic of Karelia

Duration: 1.10.2019 – 31.09.2021

Distribution of tasks

Responsibilities and distribution of tasks of work package 3 activity 3.3 according to the CINNAMON project plan, partner responsibilities are listed as below:

Figure 1. Distribution of tasks of the CINNAMON partners in activity A3.1

WP1	Name	PSU Role	KE Role	UEF Role		JSC Role
A3.3	Collecting the best practices and state-of the-art approaches in industrial diversification	R	R	R	A	C

RESPONSIBLE

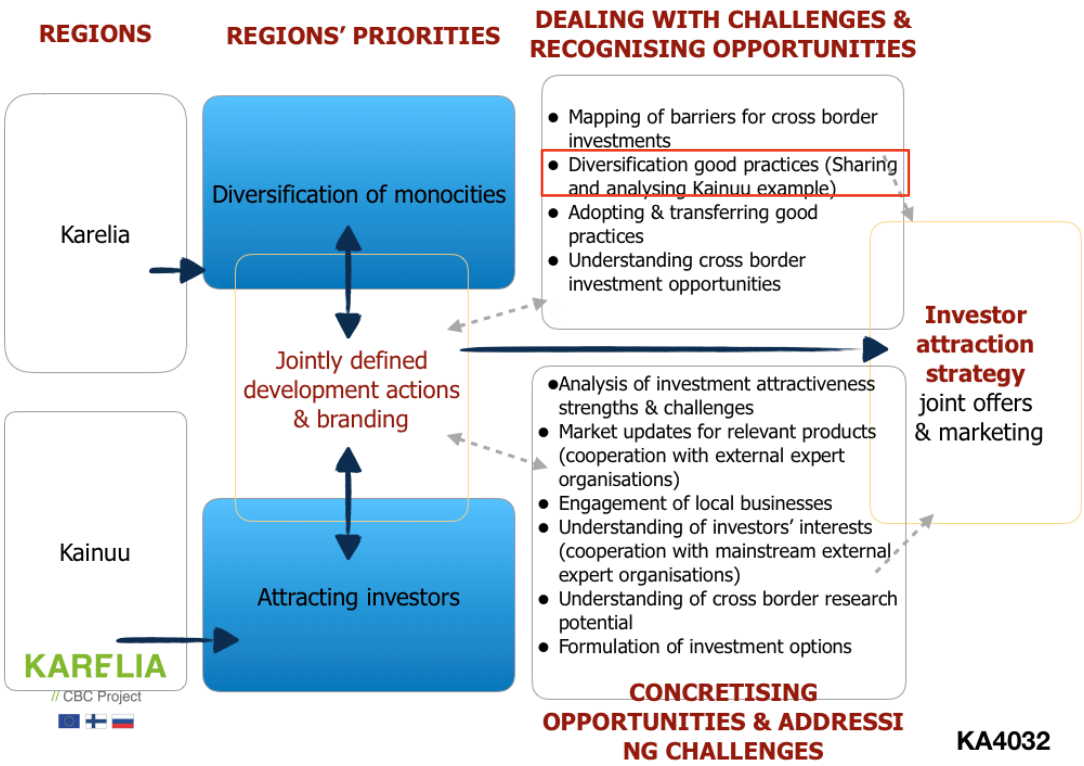
ACCOUNTABLE

CONSULTED

2. Positioning and criteria of good practice transfer

The good practices contained within are intended to form knowledge transfer of existing and successful initiatives aiding in industrial diversification for regions with similar economic, social and geographic profiles as to that of the Republic of Karelia. It is also intended, despite asymmetrical policy alignment between in the EU and Russia, that the good practices have a degree of transferability to the border regions. A reminder of the positioning of industrial diversification good practices is found below in Figure 2.

Figure 2. KA4032/CINNAMON project, from WP1, A1.1



Structure, content and usage of the good practices

Below this section comprises the main component of this output, detailing six distinct examples of good practices and state-of-the-art approaches in industrial diversification. The template of good practices has been agreed bilaterally, and thus the structure and criteria is uniform, the content is specific, and comprises of the following:

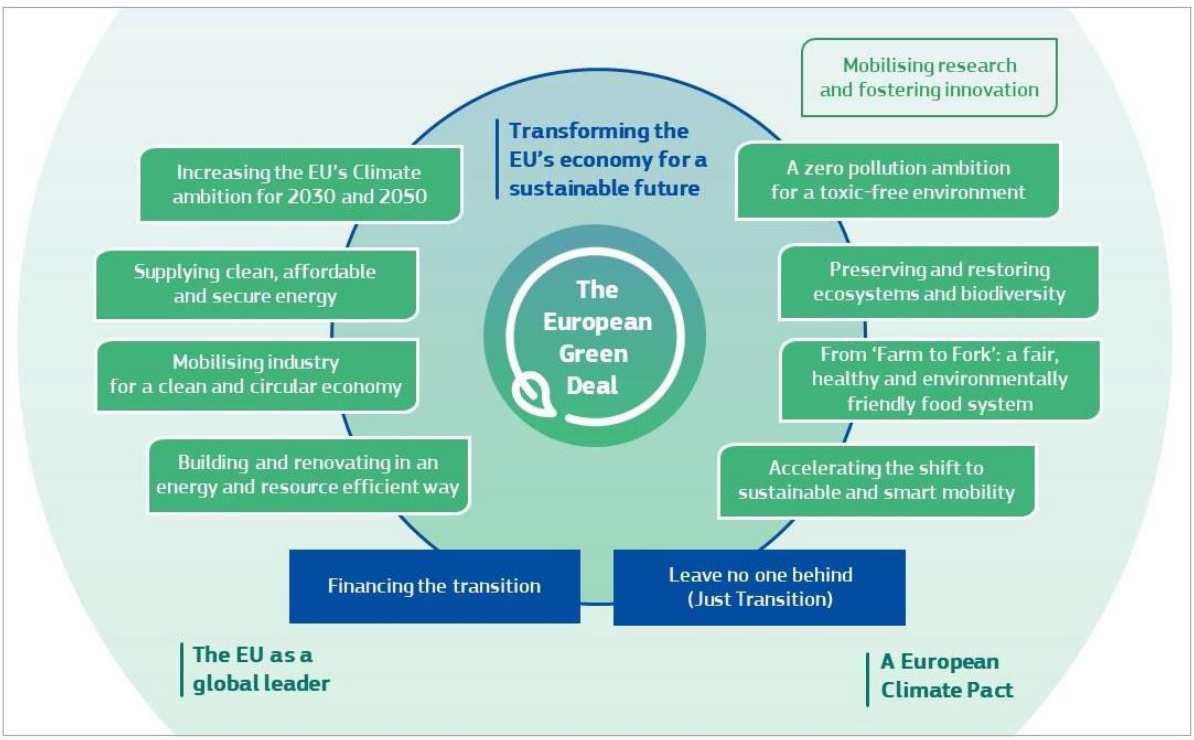
a) Contact information of the author
b) Organisation in charge of the Good Practice (GP owner)
c) Good Practice general information (Title, source, Geographic scope, location)

d) Title and detailed information of the Good Practice (1) GP: Summary, guidance, problem, activities, stakeholders, resources, regional authority role, timescales, results, challenges and 2) Investor centric: potential and learning transfer options.
e) Expert opinion – from advisory partner.

Profile and relevance of the good practices in the current climate

The good practices contained within this report are of resonance to the monocities since they contain proven knowledge-based initiatives where the regions are positively and systematically responding to economic dependence on single industries by re-positioning development actions, funding and regional policy towards demand-based considerations. Also, beyond that of the immediate regions, the process is evolutionary and such developmental framework is constructive and inclusive of both national and international markets, also in response to the current global economic scenario. With current macro trends in mind, for the regions, It is important to focus development on re-localisation and concentrate and strengthen efforts on adjacent markets, such considerations must also to be integrated into regional FDI strategies.

Figure 3. Fundamentals of the EU's Green deal[1]



[1] EU Commision (2019) Communication from the European Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal. https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF

For the Finnish side, regional FDI policy and development of investment opportunities must be alignment with the EUs green policy's principles and priorities. Driven by ambitious energy targets (40% cut in greenhouse gas, 32% share of renewables in in final energy consumption, and 32,5 % energy efficient compared to Business-as-usual[2]); the green deal seeks to transform the EU economy via sustainability principles to combat climate change and meet the UN's sustainable development goals for 2030. A reminder of the Green deal principles can be found in Figure 3 above. Certain good practices contained within this report align to the fundamentals of the EU's green deal, particularly those within the context of the wood and forest industry.

3. Good practices of industrial diversification relevant for border areas

3.1. Kantola industrial estate and Woodpolis centre of competence (KIEW)

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2. Organisation in charge of the good practice		
Is your organisation the main institution in charge of this good practice?	No Regional Council of Kainuu Jouni Ponnikas, Director of Regional Development	
Location of the organisation in charge	Country	Finland
	Region	Kainuu
	City	Kajaani

[2] EU Commission (2019) Financing sustainable growth factsheet. https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200108-financing-sustainable-growth-factsheet_en.pdf

Main institution in charge	Regional Council of Kainuu

3. Good practice general information		
Title of the practice	Kantola industrial estate and Woodpolis centre of competence	
Was this practice identified through the CINNAMON project?	No, the good practice has been identified and transferred from INTERREG Europe BRIDGES project (PGI 00040 BRIDGES)	
Please select the project acronym	KIEW	
Thematic objective of the practice	Research and Innovation	
Geographical scope of the practice	Regional, national and international	
Location of the practice	Country	Finland
	Region	Kainuu
	City	Kuhmo

4. Description	
Short summary of the practice	A successful, knowledge intensive wood processing cluster, focusing on sustainable wooden construction solutions, combining investments and knowledge transfer.
Guidance	The Kantola centre of competence (COC) GP provides a methodology for the creation, based on the principles of the circular economy, for a longer term, growth- and knowledge intensive strategy to facilitate economic diversification, providing new regional economic opportunities whilst increasing the overall attractiveness for inward investment.
Detailed information on the practice	Problem addressed: The development of wood processing industry in Kantola industrial estate is the long-term goal of the Kuhmo city. The need to diversify from the saw-mill industry towards the new types of demand. How objectives are reached: As a result of development the diverse group of woodworking companies is serving the needs of the construction industry. The considerable expansion of business in

	Kantola has caused the need to create new growth-oriented strategy for the development of the industrial area. For these purposes the master plan of Kantola Industrial estate is made. Sequence of activities: (1) Orchestration of a development vision. (2) Building the development partnership; involving actors from within Kainuu and beyond. (3) Funding application for making the Master plan. (4) Implementation workshops of the master plan. (5) Research (if needed), product development, training, and marketing activities. Main stakeholders: 1) Cluster members: Woodpolis development company and the 12 Kantola cluster businesses; 2) The municipality of Kuhmo; 3) the Regional Council of Kainuu (main funder & regional development programme); 4) regional knowledge actors (University of Oulu, Kajaani University of Applied Sciences).
Resources needed	The Kantola industrial estate forms a business ecosystem of wood industry with net sales of approximately € 100 million, 12 companies and 240 jobs where triple helix cooperation exists.
The role of the regional authorities & the structural funds	Has the company received any support from any regional / national authority; including the Structural Funds? **Regional authorities & SF funding and assistance** The development of the master plan was facilitated through a two-year **Sustainable development of the Kantola area** – project receiving a total of 380 054 EUR from the ERDF fund, of which 76 011 EUR was funded by the city of Kuhmo. The implementation of the masterplan will be completed via the currently operational **Woodpolis 2020** – project, which received total funding of 765 167 EUR, co-financing rate of 70% was applied (ERDF), for the remainder the City of Kuhmo and (Kantola-based) private enterprises provided 22,35% and 7,65% funding respectively.
Timescale (start/end date)	January 2006 – ongoing

Evidence of success (results achieved)	(1) Income generation: triple helix cooperation of wood industry with net sales of approximately € 100 million, 12 companies and 240 jobs. (2) Innovation: Woodpolis hosts Finland's first cross-laminated timber (CLT) factory; it is taking part in the building of innovative, energy-efficient wood buildings, e.g. in the newly constructed Honkasuo area in Helsinki. (3) Spillovers: energy efficiency competence. (4) Orchestration of public and private resources.
Challenges encountered (optional)	(1) Continuous funding of the development & training company (Woodpolis) (2) Growth plateau (3) Need to expand the production base (4) Need to sustainably & strategically expand demand markets
Potential for attracting investments / becoming a growth pole from within and from without	The knowledge-based development approach and triple helix cooperation of the Kantola industrial area provides investors with an ideal framework for innovative product innovations, additionally to tap into defined global value chains. The abundant natural resources of the region provide the sustainable supply side for the companies in the industrial area. Horizontal and vertical integration opportunities exist in the value chains connected to the cluster and providing attractiveness for industrial investments.
Potential for learning or transfer	1) Relevance to regional economies: Woodpolis has been successful in utilising local products and labour force in the Kuhmo area, benefiting the whole region. Product development is based on the high level of know-how. 2) Methodological facilitation: The considerable expansion of business in Kantola has caused the need to create new growth-oriented strategy for the development of the industrial area. 3) Knowledge re-sources required: Cooperating with local educational institutions as well as research institutions outside the Kainuu area is beneficial for all the parties involved. 4) Readiness to transfer: Model of programme-based (master plan) wood cluster and industrial estate with business ecosystem and triple helix co-operation as an idea is ready for transfer; all details have to be clarified per case.
Further information	https://www.interregeurope.eu/policylearning/good-practices/item/136/kantola-industrial-estate-and-woodpolis-centre-of-competence/

	and CONTACTS: The Regional Council of Kainuu; Jouni Ponnikas, jouni.ponnikas@kainuu.fi and Pentti Malinen, pentti.malinen@kainuu.fi.
Keywords related to your practice	Knowledge transfer, systems approach, innovation potential, sustainable growth and development.
Upload image	
Expert opinion	The Woodpolis model is quite suitable for introduction in Russian monocities. At an initial stage its key function could be to make Russian wood companies interested in new wooden products and technologies (e. g. cross-laminated timber, recycling technologies). Later on it could grow into a fully-fledged innovative wood industry centre. Segezha is probably the ideal place for this.

3.2. Vuokatti professional Winter Nordic sports, leisure and learning education cluster (VPSC)

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2. Organisation in charge of the good practice	
Is your organisation the main institution in charge of this good practice?	No Regional Council of Kainuu Jouni Ponnikas, Director of Regional Development, and

	University of Jyväskylä, Vesa Linnamo & Anni Hakkarainen	
Location of the organisation in charge	Country	Finland
	Region	Kainuu & Keski Suomi
	City	Kajaani & Jyväväskylä
Main institution in charge	Regional Council of Kainuu, University of Jyväskylä	

3. Good practice general information		
Title of the practice	Vuokatti professional Winter Nordic sports, leisure and learning education cluster	
Was this practice identified through the CINNAMON project?	No, the good practice has been identified and transferred from INTERREG Europe ECORIS3 project (PGI02229 ECORIS3)	
Please select the project acronym	VPSC	
Thematic objective of the practice	Research and Innovation	
Geographical scope of the practice	Regional, national and international	
Location of the practice	Country	Finland
	Region	Kainuu
	City	Vuokatti

4. Description	
Short summary of the practice	Orchestration of regional actors and support for transforming a traditional leisure tourism area into professional tourism cluster.
Guidance	Successful knowledge-based diversification of a traditional tourism activity, into a globally acknowledged and networked professional sports cluster. Parallel to the traditional leisure tourism, strong support, commitment and funding from the regional council accelerated the creation of specialised knowledge-economy cluster (VSI), 1) linked to global

	demand bases through high-level co-operation agreements (Olympic winter sports) 2) co-operation with national education and research institutes ensuring long-term knowledge base.
Detailed information on the practice	PROBLEM ADDRESSED: Transforming a winter sports leisure centre into a professional winter sports centre through clustering; long term specialisation & economic growth; combining two types of tourism & its development. REACHING OF OJECTIVES: In 1995, Cohesion funding was used to build the ski tunnel. In January 2004, the Department of Biology of Physical Activity of University of Jyväskylä launched a sports technology MSc program for students with a technical background. In 2005 a doctoral program was also started. Students are primarily taught to understand the interface between human physiology and technology in the areas of sports and wellbeing. This is achieved by combining knowledge from biomechanics, exercise physiology and science of sport coaching and fitness testing. Students are encouraged to produce a master's thesis in co-operation with companies related to coaching and testing equipment, bio signal processing and tools for human movement. In addition, international co-operation, interdisciplinary projects and the proximity of the companies are important issues in the sports technology unit. STAKEHOLDERS: Vuokatti Sports Institute, Vuokatti-Ruka sports academy, Sotkamo municipality, research and higher education within the region and beyond (University of Jyväskylä, University of Oulu, VTT-MIKES, CSC, Center for Measurement and Information Systems - CEMIS), Regional Council of Kainuu, Vuokatti businesses.
Resources needed	University research activities and education in Vuokatti Campus: they have been supported by structural funds (ESF and RDF) during last and current program period (2007 – 2013 and 2014 – 2020) all together by 4,2 million euros.
The role of the regional authorities & the structural funds	Has the company received any support from any regional / national authority, including the Structural Funds?

	CEMIS - the Centre for Measurement and Information Systems (contract-based joint centre of the Universities of Oulu and Jyväskylä, Kajaani University of Applied Sciences, VTT Technical Research Centre of Finland Ltd. and CSC - IT Centre for Science Ltd.) has received continuous support from the strucutral funds, one focus area of the centre is research-to-business solutions for professional sports. The longer-term growth-oriented strategy of the VSI as part of the Sotkamo-Vuokatti area, is considered in the master plan, funded through the regional structural funds.
Timescale (start/end date)	1995 – ongoing
Evidence of success (results achieved)	- Turnover from professional tourism: by combining sports and studying (Professional coaches and the flexible school system), for top sport training in top facilities (for example many national teams of cross-country skiing use Vuokatti), business and research on sport are created - New Ph.D.s: 4 PH.D. theses (comment: from JU 3 Ph.D Theses, 3 ongoing) - Number of specialised graduates that are employed by local businesses: 56 M.A. out of which 37 employed by local businesses.
Challenges encountered (optional)	The Vuokatti cluster relies on continuous development actions requiring public and / or at best, public private partnerships (PPPs). It started developing only when such funds were possible. The challenge is the restricted structural funds and the uncertainty about the future.
Potential for attracting investments / becoming a growth pole from within and from without	The diversification efforts in Sotkamo-Vuokatti have created a new level of niche demand, on a global scale, not only for the professional sports services, but the spill-over effect on the supporting sectors (technology, leisure, infrastructure) and overall positive impact on the destination's overall attractiveness and profile. Potential for attracting investments to cater for this new level of demand therefore is growing.
Potential for learning or transfer	1) The concept of adding leisure activities to professional tourism activities and benefitting from both. 2) Activating of the professional tourism activities based on research & as the activation of related higher educational degrees, including international operators and participants. 3) Supporting knowledge-based diversification: parallel to the professional sports activities, the Regional Council of Kainuu funded diversification through knowledge-economy applications; e.g. through a cooperation agreement with the University of Jyväskylä & by

	supporting the long-term project CEMIS on measurement technology, in which one focus area is the elaboration and productisation of measurement technology solutions for professional sports.
Further information	https://vuokattisport.fi/en/olympic-training-center/
Keywords related to your practice	Support to (tourism) sector, support to SMEs, RIS3 governance, PPP, professional cluster, specialisation
Upload image	VUOKATTI SPORT OLYMPIC TRAINING CENTER
Expert opinion	This case has high transfer potential. It is particularly relevant for the recently established Kondopoga State Olympic Reserve College, which could benefit greatly from learning how to participate in international sport networks and how to establish cooperation with industrial firms in research and development of new sport measurement devices.

3.3. Photonics Cluster in Joensuu (PCJ)

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Region	North Karelia
City	Joensuu

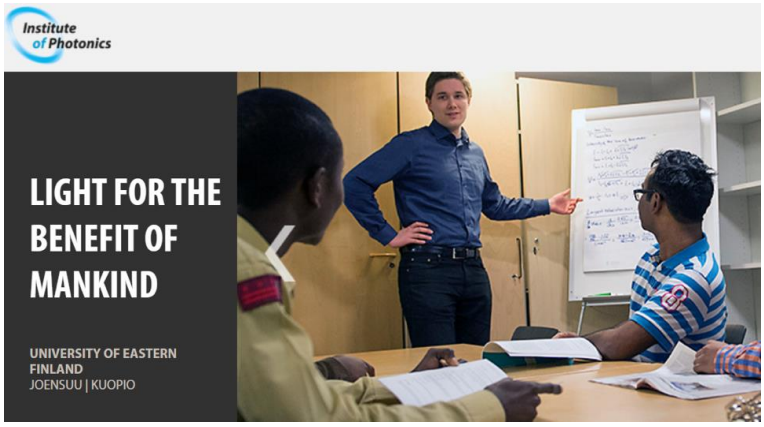
2. Organisation in charge of the good practice		
Is your organisation the main institution in charge of this good practice?	No	
Location of the organisation in charge	Country	Finland
	Region	North Karelia

	City	Joensuu
Main institution in charge	Institute of Photonics, University of Eastern Finland (UEF)	

3. Good practice general information		
Title of the practice	Photonics Cluster in Joensuu (PCJ)	
Was this practice identified through the CINNAMON project?	Yes	
Please select the project acronym	PCJ	
Thematic objective of the practice	Economic development	
Geographical scope of the practice	North Karelia	
Location of the practice	Country	Finland
	Region	North Karelia
	City	Joensuu

4. Description	
Short summary of the practice	Regional economic development through setting up a photonics cluster in Joensuu
Guidance	A carefully selected and promoted field of scientific research can give birth to a new business cluster. This requires excellence in research, proactive international networking and application of scientific findings in business practice.
Detailed information on the practice	What is the problem addressed and the context which triggered the introduction of the practice? Accumulated scientific knowledge in the field of photonics was insufficiently applied in business practice. How does the practice reach its objectives and how it is implemented? It includes the following elements: a) Cross-disciplinary scientific cooperation between UEF's Department of Physics and Mathematics, Department of Chemistry, School of Computing, Department of Environmental and Biological sciences, and

	Department of Applied Physics has led to setting up of the joint Institute of Photonics. The Institute has received financial support on part of Finland's Ministry of Education, Tekes and Academy of Finland. b) Attraction of leading experts in the field of photonics. Currently the Institute employs 19 professors, many of whom have work experience abroad. The institute's Research Director is Prof. Obraztsov from Moscow. There are also two other Russian and one French professor, as well as foreigners among the institute's researchers and PhD students. c) The institute is developing an educational programme in photonics, which will soon provide photonics training at all levels of university education. d) Proactive networking: thanks to the institute, the European Optical Society (EOS) is based in Joensuu. The city has also become home for the national photonics cluster, known as Photonics Finland. e) Members of staff of the institute participate in establishing business ventures (e.g. Finnlitho Oy, Simitec Oy, SeeTrue Technologies Oy, LUXeXceL B.V., Nanocomp Oy, Spectral Engines Oy, Arbonaut Oy), which take advantage of the accumulated expertise in photonics. f) Business Joensuu provides marketing and consultative support to EOS and Photonics Finland with the aim to further develop the photonics innovation ecosystem in Joensuu. g) Finding new niches for applying photonic knowledge: the institute seeks ways to combine photonics with forest bio-economy. Who are the main stakeholders and beneficiaries of the practice? Institute of Photonics and private firms applying photonic technologies
Resources needed	Three million euro per year (including salaries of researchers)
The role of the regional authorities & the structural funds	Has the company received any support from any regional / national authority, including the Structural Funds? Yes, research funding on part of the Finland's Ministry of Education, Tekes, Academy of Finland, and Business Joensuu. Was the support satisfactory? What kind of actions did it include? Yes. It included research projects, participation in thematic events in Finland and abroad, invitation of foreign scholars to work in Joensuu, marketing studies, and organization of promotional events and conferences.

	Would the SME expect something better from the support institution? No
Timescale (start/end date)	2005 - ongoing
Evidence of success (results achieved)	Today Finland's photonics industry includes 200 companies, which employ 4000 people.
Challenges encountered (optional)	None
Potential for attracting investments / becoming a growth pole from within and from without	Photonics-based solutions find their way to new market niches, and the scope for their practical application expands. Therefore, the potential for investments in photonics-related ventures grows. But Joensuu faces strong competition on part of larger Finnish university cities, which also strive to attract photonics-related funding and investments.
Potential for learning or transfer	This GP can be easily transferred, fully or partially, depending on available funding.
Further information	http://www.uef.fi/en/web/photonics/institute
Keywords related to your practice	Photonics, photonics cluster, cross-disciplinary, networking
Upload image	
Expert opinion	This GP cannot be applied in Russian monocities, because they have no universities. But it can be utilized by the Petrozavodsk State University or by the Karelian Science Centre of the Russian Academy of Sciences. The crucial point is the selection of the scientific field to be promoted. On the one hand, the University/Science Centre must be a recognized leader in this field, at least at the national level, and be willing to spend

	money on attracting most promising Russian and/or foreign researchers to work in Petrozavodsk. On the other hand, this field must be quite narrow and has good potential for practical applications. Ideally, this field should *not* be already self-organized in the form of a network: in this case, Petrozavodsk has a chance to become the founder (and headquarters) for the network. If the University/Science Centre could identify a relevant field, which is related to forestry, pulp-and-paper industry or mining and production of steel, they could probably secure required funding from large corporations operating in Russian Karelia: the Segezha Group or Severstal Group.

3.4. Kemi-Tornio Industrial Symbiosis (KTIS)

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2. Organisation in charge of the good practice		
Is your organisation the main institution in charge of this good practice?	No	
Location of the organisation in charge	Country	Finland
	Region	Lapland
	City	Kemi - Tornio
Main institution in charge	Digipolis, The City of Kemi, Lapland University of Applied Sciences URL: www.digipolis.fi	

3. Good practice general information	
Title of the practice	Kemi-Tornio industrial symbiosis

Was this practice identified through the CINNAMON project?	No, the good practice has been identified and transferred from INTERREG Europe SYMBI project	
Please select the project acronym	KTIS	
Thematic objective of the practice	Economic development	
Geographical scope of the practice	Lapland	
Location of the practice	Country	Finland
	Region	Lapland
	City	Kemi - Tornio

4. Description	
Short summary of the practice	Kemi-Tornio industrial symbiosis has been developed to increase energy and resource efficiency in the region. Developing and specialising with new circular business models based on existing by-products from the existing production base.
Guidance	Systematic public-private endeavour to optimise industrial symbiosis within the region. Adopting smart specialisation approach, to identify business and investment opportunities through the careful mapping and importantly open-information regarding the side streams, waste and material flows. Cross-sectoral approach including wood, metal and waste. Its location as a gateway between two countries and production is characterised by large production operators.
Detailed information on the practice	The circular and bio economy centre in the Kemi-Tornio region, northern Finland is home to large and multidimensional industrial symbiosis, based on by-products exchange. Kemi-Tornio industrial symbiosis has been developed to increase energy and resource efficiency in the region. This way, the economy of the companies involved is improved also. The symbiosis is working to: • Joint use of utilities and firm functions • Collective gathering and removal of waste materials • Combining transport of goods and people • More intensive use of space • Public utilities with high useful effects

	• Joint commercial firm facilities • Multi-modal transport and high-quality public transport. There are plenty of industrial plants involved in the process. The largest companies are Stora Enso (Kemi and Oulu), Metsä Group (forestry industry), Outokumpu (stainless steel industy), SMA Mineral and waste management companies. In the future, also mining industry will join the activities and the symbiosis is developing gradually. Innovative service sector companies are involved in the operation by conducting research and planning to make the symbiosis function even better in practice and future. The basic concepts of IS have been present in the Kemi–Tornio region for decades but the more systematic efforts to strengthen IS in the region commenced in the early 2000s. The initial IS cooperation was company based, but the development has required systematic public support. The key actors supporting industrial symbiosis development in the region are a combination of key private companies and the regional development company, which is municipally owned. Who are the main stakeholders and beneficiaries of the practice? Companies, regional institutions, academia and other stakeholders.
Resources needed	Open information about the by-products, side and waste streams and other material flows between the entities operating in the symbiosis. Industrial symbiosis initiatives in Kemi–Tornio require feasibility studies, pilot activities, etc. all requiring public funding. Strong triple helix cooperation is a prerequisite.
The role of the regional authorities & the structural funds	Has the company received any support from any regional / national authority, the Structural Funds? Yes, research funding for the Digipolis project to create the industrial by-products open access database. Was the support satisfactory? What kind of actions did it include?' The project allowed for documentation of relevant by-products and residues included recording their chemical and physical properties, analysis of the utilisation grade of the by-products and studies on markets, technology and logistics related to the by-products. Would the SME expect something better from the support institution? No
Timescale (start/end date)	2012 - ongoing

Evidence of success (results achieved)	Success stories on a general level, include: • Promoting sustainable bio-energy resources • Improving resource efficiency • Access in new markets • Sharing risks (and resources) • Opening new markets for secondary raw materials • Reducing CO2 emissions • Increasing profitability, revenue • Reducing production costs The value benefit of the improved Industrial symbiosis and environmental business in the area is estimated to be at EUR 200 million annually. 1.3 million tons of industrial side streams are generated each year.
Challenges encountered (optional)	Open information about the by-products, side and waste streams and other material flows between the entities operating in the symbiosis. Industrial symbiosis initiatives in Kemi–Tornio need feasibility studies, pilot activities, etc. that require public funding.
Potential for attracting investments / becoming a growth pole from within and from without	Open data sharing of side streams, waste and material flows can identify business and investment opportunities on local level. In extension, if such data is shared beyond the Finnish border can contribute towards the formulation of downstream identification and/or value chain linkages.
Potential for learning or transfer	The Kemi-Tornio symbiosis is a solid example of an industry-based symbiosis that can be benchmarked. This contributes to sharing knowledge between different regions in Europe. As such, this symbiosis is rather difficult to be transferred because of the nature of the industrial partners. However the symbiosis offers a learning platform for similar industries. The practice of maintaining a database of mapping by-products and waste streams could be piloted on a Kainuu- Karelia cross-border context to identify new value chains and opportunities.
Further information	Digipolis.fi
Keywords related to your practice	Industrial symbiosis, cross-sectoral, value chains, open data, side streams
Upload image	N/A

Expert opinion	As a multi-industry project, it is not directly transferable to small single-industry towns. Although, it could possibly succeed in the Imatra-Svetogorsk case, which has the required mix of industries.

3.5. Ruskeala Mountain Park (RMP)

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Region	North Karelia
City	Joensuu

2. Organisation in charge of the good practice		
Is your organisation the main institution in charge of this good practice?	No	
Location of the organisation in charge	Country	Russia
	Region	Republic of Karelia
	City	Sortavala
Main institution in charge	OOO "Kolmas Karelia"	

3. Good practice general information	
Title of the practice	Ruskeala Mountain Park
Was this practice identified through the CINNAMON project?	Yes
Please select the project acronym	RMP

Thematic objective of the practice	Economic development	
Geographical scope of the practice	Republic of Karelia	
Location of the practice	Country	Russia
	Region	Republic of Karelia
	City	Ruskeala, Sortavala District

4. Description	
Short summary of the practice	Tourism promotion through creative combination of industrial heritage and cultural events
Guidance	Cultural events performed in an unusual setting of old industrial/mining landscape can become a major tourist attraction. Private initiative and investments with support from a state railway company were the key ingredients for success.
Detailed information on the practice	What is the problem addressed and the context which triggered the introduction of the practice? Tourism development on the northern shore of Lake Ladoga in Russian Karelia has been quite successful, thanks to its proximity to St. Petersburg and Finland, good transport connections (a railroad, a new motorway, border-crossing points on the Finnish-Russian border), and excellent reputation of this area as a tourist destination and its natural and historic attractions. The Ruskeala Mountain Park (RMP), situated in 20 km from the border, was established by private company OOO "Kolmas Karelia" in 2004. It occupies the territory of a former marble quarry, which operated since the 18th century. The old quarries are now filled with water, and today the local landscape combines picturesque small lakes with manmade marble walls and grottoes, surrounded by Karelian nature. Since its opening, the RMP has been a moderately successful tourist attraction. Its owner and operator, OOO "Kolmas Karelia", wanted to develop it further, and eventually the idea to stage major open-air music concerts in RMP has been developed. (This idea was probably inspired by Finnish Savonlinna's Opera Festival.) The first concert, under the brand "Ruskeala Symphony", was staged in 2017. Then, it has become a popular annual event, which attracted top performers from Moscow, St. Petersburg and from abroad, and turned RMP into a major tourist attraction. One of the factors of its success has

	been the decision of October Railway Company to launch a regular retro steam-locomotive service connecting Sortavala with RMP. This railway connection has dramatically increased accessibility of RMP for travellers from St. Petersburg. Who are the main stakeholders and beneficiaries of the practice? OOO "Kolmas Karelia", October Railway Company, tourist service providers and residents of Ruskeala
Resources needed	1.5 million euro of private investments
The role of the regional authorities & the structural funds	Has the company received any support from any regional / national authority, including the Structural Funds? Yes, but not financial support, see below. Was the support satisfactory? What kind of actions did it include? Yes. The Karelian Ministry of Culture has taken the lead in organizing and promoting the concerts. The October Railway Company has been responsible for running the retro steam-locomotive service and its marketing. Would the SME expect something better from the support institution? No
Timescale (start/end date)	2004 - ongoing
Evidence of success (results achieved)	The number of tourists visiting RMP grew from 176 thousand in 2015 to 315 thousand in 2019. Today, the settlement of Ruskeala (pop. 700) has five places providing accommodation services to tourists.
Challenges encountered (optional)	The new coronavirus pandemic has somewhat slowed down the development of the RMP. But, nonetheless, the Ruskeala Symphony was staged also in 2020 (but just for one day instead of three, as was planned earlier). It seems the pandemic, through the closure of state borders, has stimulated domestic tourism within Russia in the second half of 2020, and such tourist centres as RMP have actually benefited from this situation.
Potential for attracting investments / becoming a growth pole from within and from without	The Ruskeala area has great potential for attracting investments in tourist infrastructure and services. The RMP can further develop the scope of its year-round services and work more to attract tourists from Finland. A partnership with a Finnish tourist company or property

	developer could be very helpful. Probably, RMP also needs one more major cultural or sport event in winter, in order to attract more visitors in the winter season.
Potential for learning or transfer	This GP is easily transferable. As this case demonstrates, funding can be secured from private sources.
Further information	https://ruskeala.ru/ and https://ruskeala-symphony.com/en
Keywords related to your practice	Tourism, industrial heritage tourism, culture tourism, Ruskeala
Upload image	
Expert opinion	The combination of industrial heritage and culture tourism is the mainstream of tourism development today. It is essential to choose very carefully the cultural niche for tourism promotion and build strong relationships with relevant regional ministries and transport companies.

3.6. Kirovsk Mining Industry Service Centre (KMISC)

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2. Organisation in charge of the good practice		
Is your organisation the main institution in charge of this good practice?	No	
Location of the organisation in charge	Country	Russia
	Region	Murmansk region
	City	Kirovsk
Main institution in charge	Kirovsk Tourism and Business Development Centre	

3. Good practice general information		
Title of the practice	Kirovsk Mining Industry Service Centre	
Was this practice identified through the CINNAMON project?	Yes	
Please select the project acronym	KMISC	
Thematic objective of the practice	Economic development	
Geographical scope of the practice	Murmansk region	
Location of the practice	Country	Russia
	Region	Murmansk region
	City	Kirovsk

4. Description	
Short summary of the practice	Creation of a cluster of firms servicing major mining companies in the Murmansk region
Guidance	Major mining companies have set up an open platform where any interested firm can win contracts to service or repair mining equipment and provide other services or supplies to the mining companies. The centre is situated in Kirovsk, on the territory of the city's PSEDA.

Detailed information on the practice	What is the problem addressed and the context which triggered the introduction of the practice? In Russia, it is still quite common that major industrial companies conclude service contracts (e.g. on repair of their equipment or provision of some services or supplies) not on the basis of open and competitive procedures, but "behind closed doors" through non-transparent negotiations with a few privileged insiders. Economically, this is not efficient, because open competition can reduce service costs. Recognizing this problem, two major mining companies, AO Apatit and AO SZFK, both situated in the city of Kirovsk, have set up a transparent and competitive platform, where any firm can win their service and supply contracts through open tenders. At the same time, potential service providers were invited to place their outlets in Kirovsk and to register as residents of the local PSEDA, in order to be eligible for considerable tax incentives. (Kirovsk obtained the PSEDA status in 2017.) This approach has been successful, and several firms have established their enterprises in Kirovsk. Who are the main stakeholders and beneficiaries of the practice? AO Apatit, AO SZFK, service firms, residents of Kirovsk
Resources needed	Circa 200 000 euro: operation costs of the Centre
The role of the regional authorities & the structural funds	Has the company received any support from any regional / national authority, including the Structural Funds? Yes, operation of the Centre was wholly funded on account of public money. (It should be noted that the Centre is responsible not only for attracting mining service firms, but also for tourism promotion, because tourism is the second most important sector in the Kirovsk economy.) Was the support satisfactory? What kind of actions did it include? Yes, it was satisfactory. The actions included: (1) submission of an application to the Russian Federal Government to establish PSEDA in Kirovsk, (2) adoption of regional and municipal bylaws regarding PSEDA, (3) setting up the Centre responsible for approaching and attracting relevant investors, (4) assistance to investors with placing their enterprises in Kirovsk, and (5) launching and maintaining an internet site of this project.

	Would the SME expect something better from the support institution? No
Timescale (start/end date)	2017 - ongoing
Evidence of success (results achieved)	In 2020, the total value of open tenders on the Kirovsk tender platform, reached approximately 45 million euro. Seven mining service companies have been registered as residents of the Kirovsk PSEDA, and, as of mid-2020, they invested 130 million roubles in Kirovsk and created 170 new jobs. (The total number of residents of Kirovsk PSEDA is nine, of which two are not related to the mining industry.)
Challenges encountered (optional)	-
Potential for attracting investments / becoming a growth pole from within and from without	The potential is very significant. In the Murmansk region, large mining companies still have a long way to go to outsource various services to external providers, and the Kirovsk tender platform has good prospects for further growth. In addition, the Murmansk region is part of the Russian Arctic Zone, where new investors are now eligible for additional financial benefits. This should make Kirovsk even more attractive for new service and industrial firms.
Potential for learning or transfer	This GP is transferable, if a large corporation is willing to find service providers and subcontractors though open and transparent tenders. The amount of tendered contracts should be big enough to secure the interest of bidders.
Further information	http://invest.welcomekirovsk.ru/en/
Keywords related to your practice	Mining, service centre, tenders, Kirovsk
Upload image	N/A
Expert opinion	There are a lot of large Russian corporations (and not only in the mining sector), which are increasingly introducing open tenders in their procurement process. Very often, they exploit imported Western technologies, equipment and machinery. In this situation, it can be expected that, in the eyes of Russian corporations, Western firms,

	associated with original producers of this equipment (e.g. authorized service providers), have a competitive edge on this market. Therefore, Western investments in this field can be significant, and the service centres, similar to Kirovsk's, could be established in other places also.

4. Conclusions

The presented good practices can be transferred to monocities with due adaptation to local circumstances. All of them offer opportunities to create new economic growth centers on account of domestic and cross-border investments. In some cases (e.g. KIEW, VPSC and KMISC), the proposed models can be transferred with minimal adjustments to Karelian monocities already possessing suitable economic profiles and institutions. For instance, Segezha could be an ideal place for the Woodpolis model, while the Vuokatti case can be quite easily transferred to Kondopoga.

In other cases (e.g. PCJ, KTIS and RMP), the transfer would be more complicated because it would require close cooperation with important external partners, such as the Petrozavodsk State University in the case of PCJ, and with the October Railway Company in the case of RMP. If the external partners agree to participate and invest considerable own resources, these good practices stand a good chance of successful transfer to Karelian monocities.