



## **Action plan of Kainuun Etu Oy, ecoRIS3 project partner 5**

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## Part I General information

**Table 1** General information and contacts

Project:	ecoRIS3
Partner organisation:	Kainuun Etu Oy
Country:	Finland
NUTS2:	North East Finland
Region:	Kainuu
Contact person:	Antti Toivanen (Managing Director) <a href="mailto:antti.toivanen@kainuunetu.fi">antti.toivanen@kainuunetu.fi</a> , +358 44 5514554 Project team alphabetically: John Wideman; <a href="mailto:john.wodemand@kainuunetu.fi">john.wodemand@kainuunetu.fi</a> , +358 44 5513832 Markus Leinonen; <a href="mailto:markus.leinonen@kainuunetu.fi">markus.leinonen@kainuunetu.fi</a> , +358 44 5513831 Ninetta Chaniotou (main author); <a href="mailto:ninetta.chaniotou@kainuunetu.fi">ninetta.chaniotou@kainuunetu.fi</a> , +358 50 4026921

## Part II Policy context

**Table 2** The Action plan aims to impact

Investment for Growth and Jobs programme, name of policy instrument here		X
Type 1: Implementation of new projects		
Type 2: Change in the management of the policy instrument (improved governance)	X	
Type 3: Change in the strategic focus of the policy instrument (structural change)	X	
Other improvements not corresponding to types 1-3 (please comment)		
European Territorial Cooperation programme		
Other regional development policy instrument, name of policy instrument here		

*Name of the policy instrument addressed:* Sustainable growth and jobs 2014 – 2020, the Finnish Structural Fund program 2014F116M2OP001, Eastern and Northern Finland regional plan, Priority Axis 2 Producing and using the latest information and knowledge / Thematic Objective 1 Re-search technology development, & effectiveness of innovation; Investment priority 4, specific objective 4.1 Research, knowledge and innovation focus on the development on the basis of regional strengths / Investment priority 5, specific objective 5.1 Strengthening enterprises innovativeness.

*Improvement needs:* (1) To increase the functionality of innovation; (2) To identify criteria for project generation effectively promoting open innovation through the structural funds. (3) To strengthen cooperation and long-term networking based on Open Innovation options. (4) To enhance the development of an appealing innovative milieu in Kainuu.

*Self-defined indicator:* Number of interregional open innovation projects to be implemented during Phase 2.

## Part III Overview of the action plan

Kainuun Etu, PP5 joined the ecoRIS3 project in order to address structural gaps in the understanding and practice of innovation support actions as much as for benefitting from longer term innovation-based partnerships. Benefitting from open innovation options was and is one of the priorities. The self-defined indicator, i.e. at least two projects benefitting from open innovation options is still valid. The indicator was defined taking into account also the improvement of the innovative milieu in Kainuu.

The notion of innovative milieu, introduced in the mid 1980s<sup>1</sup>, is part of the territorial development discussion focusing on meso-level, i.e. regional contexts<sup>2</sup>. It has been argued that the innovative milieu approach opened a new field for regional, innovation-based growth, beyond technological breakthroughs, towards more holistic concepts, that take into account social, cultural, administrative, political, environmental, and economic factors<sup>3</sup>. The main hypothesis of the innovative milieu approach is that the creation of firms is a product of its milieu rather than something separate from it<sup>4</sup>. Since in more recent periods we have been working more with the concept of regional innovation systems (at least in Finland), we have reviewed how

<sup>1</sup> Aydalot, P. (1984). *Technologies nouvelles et développement territorial*. Report of the Groupe technologies nouvelles et espace. Paris: Sorbonne.

Aydalot, P. (cd.) (1986). *Milieus innovateurs en Europe/Innovative Environments in Europe*. Paris: GREMI.

Camagni, R. on behalf of GREMI (Groupe de recherche européen sur les milieux innovateurs) (cd.) (1991). *Innovation Networks: Spatial Perspectives*. London & New York: Belhaven Press 1991.

Maillat, D., and Perrin, J.-C. (eds.) 1992. *Entreprises innovatrices et développement territorial*. Neuchâtel: GREMI and EDES.

Marshall, A. 1919. *Industry and Trade*. London: Macmillan.

Perrin, J.-C. 1983. "Économie spatiale et méso-analyse". In J. H. P. Paelinck and

Saliez (eds.), *Espace et localisation*. Paris: Economica 1985. "Redéploiement industriel et aménagement du territoire: le cas français". In M. Boisvert (ed.), *Redéploiement industriel et aménagement de l'espace*. Montreal: Université de Montréal, Faculté de l'aménagement. Planque, B. 1988. "La PME innovatrice: quel est le rôle du milieu local?" *Revue internationale PME* 1(2):177-191.

Ratti, R. 1992. *Innovation, technologie et développement régional*. Lausanne: Istituto di Ricerche Economiche and Méto-Editions, S.A. *Revue d'économie régionale et urbaine*. 1991. (Special issue):3-4. *Revue internationale PME*. 1989. 2(Special issue):2-3.

<sup>2</sup> Proulx, M.-U., (1992). Innovative Milieus and Regional Development. © Canadian Journal of Regional Science/Revue canadienne des sciences régionales, XV:2 (Summer/été 1992), 149-154. ISSN: 0705-4580. Accessed on 22.7.2019 at <http://www.cjrs-rcsr.org/archives/15-2/INTRODUCTION.pdf>. Page 150: "The principal influence underlying the extensive empirical and theoretical work on innovative milieus is that of meso-economy".

<sup>3</sup> Ibid. above, page 150: "Recently, it has been observed that innovation also can stem from the internal dynamism of an area. There are passive spaces, which do nothing but catch onto innovation originating outside, and active spaces, which are inherently creative through the interplay of their endogenous elements (Aydalot 1986)".

<sup>4</sup> Andreas Pernblad (2016). Innovative Milieu, theoretical approach and policy concept – A comparative study surrounding the use of the European Regional Development Fund in Sweden. Master's Thesis. Accessed on 22.7.2019, at: <http://www.diva-portal.org/smash/get/diva2:858709/FULLTEXT02>, page 15.

<http://www.interregeurope.eu/ecoris3/>

the two concepts compare. In our understanding the difference, as discussed by researchers, is not clear<sup>5</sup>, i.e. innovative milieus and regional innovation systems could, in a sense, be referred to interchangeably. This allows us to link directly to the policy instrument (RIS3 basically) and to the long-term focus of regional policies in Finland.

Open innovation is a possible solution to benefit regional innovation systems with imperfect knowledge & research resources or insufficient critical mass of the localised economy. Open Innovation was defined as the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively<sup>6</sup>.

Traditionally, new business development processes and the marketing of new products took place within the firm boundaries, and this is referred to as 'closed innovation'. The closed innovation approach changed as companies started to look for other ways to increase the efficiency and effectiveness of their innovation processes. This happened because innovations tend to be produced by outsiders and founders in start-ups, rather than existing organizations. The central idea behind open innovation is that, in a world of widely distributed knowledge, companies cannot afford to rely entirely on their own research but should instead buy or license processes or inventions (i.e. patents) from other companies. In addition, internal inventions not being used in a firm's business should be taken outside the company (e.g. through licensing, joint ventures or spin-offs)<sup>7</sup>. Open Innovation can thus be described as<sup>8</sup>: combining internal and external ideas as well as internal and external paths to market to advance the development of new technologies.

Gassman and Enkel, 2004, researched at an early stage core processes of open innovation, on the base of 124 business-sample space. This led to clarifying that the process can be classified into three archetypes, depending on the business priority to exploit innovation internally, externally, or both, internally and externally: (1) the outside-in process: Enriching a company's own knowledge base through the integration of suppliers, customers, and external knowledge sourcing can increase a company's innovativeness. IP Management for co-operative innovation processes (Gassmann and Gaso, 2004). (2) The inside-out process: The external exploitation of ideas in different markets, selling IP and multiplying technology by channelling ideas to the external environment. (3) The coupled process: Linking outside-in and inside-out by working in alliances with complementary companies during which give-and-take are crucial for success. Consequent

<sup>5</sup> Ibid., previous, page 25: "While the concept of IM describes its main actors in far more general definitions and their synergy and cooperation is focused on mainly informal (but also formal) relationship. The point that is to be made is that the concept of IM tends to provide more versatile definitions of the elements that it consists of. This enables the concept to often stretch itself well into an often-similar replica of the RIS, making a distinction between the two almost impossible".

<sup>6</sup> <https://www.forbes.com/sites/henrychesbrough/2011/03/21/everything-you-need-to-know-about-open-innovation/>. Chesbrough, who coined the term "Open Innovation" describes in his book "Open Innovation: The New Imperative for Creating and Profiting from Technology" (2003) how companies have shifted from so-called closed innovation processes towards a more open way of innovating.

<sup>7</sup> Chesbrough, Henry William (2003). "The era of open innovation". MIT Sloan Management Review. 44 (3): 35–41.

<sup>8</sup> <http://www.openinnovation.eu/open-innovation/>.

thinking along the whole value chain and new business models enable this core process<sup>9</sup>.<sup>≈</sup>

The approach and perspectives discussed above, are confirmed by the EC reference to open innovation, namely the 5<sup>th</sup> pillar of the ERA<sup>10</sup> policy on *Optimal circulation, access to and transfer to scientific knowledge, including via digital ERA*, on knowledge transfer and open innovation. The objective of the 5<sup>th</sup> pillar is  
 ≈ Removing barriers to the wider use of knowledge to increase growth and competitiveness for Europe by fully implementing knowledge transfer policies<sup>11</sup>. This is achieved through actions ≈ Promoting effective knowledge transfer mechanisms, establishing policies and procedures for intellectual property management<sup>12</sup>.

It follows that open innovation, rather than being a radically novel concept, it is more about institutionalising better tools for facilitating /activating inbound, outbound and coupled innovation processes, including: devising a means to properly identify and incorporate external innovation<sup>13</sup>; realigning innovation strategies to extend beyond the firm in order to maximize the return from external innovation<sup>14</sup>; ensuring adoption of cyclic innovation models<sup>15</sup> including emphasis on feed-forward and feedback mechanisms.

In turn, public policy needs to carefully balance between a) promoting the formation of international linkages for knowledge sourcing and information exposure; b) providing incentives for domestic industry intramural

<sup>9</sup> Chesbrough, 2003, page 15.

<sup>10</sup> ERA = The European Research Area (ERA) is a unified research area open to the world and based on the internal market. [https://ec.europa.eu/info/research-and-innovation/strategy/era\\_en](https://ec.europa.eu/info/research-and-innovation/strategy/era_en).

<sup>11</sup> ERA Progress report 2018, page 12. <https://publications.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/5641328c-33f8-11e9-8d04-01aa75ed71a1>.

<sup>12</sup> ERA Progress report 2018, page 12. <https://publications.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/5641328c-33f8-11e9-8d04-01aa75ed71a1>.

<sup>13</sup> Paul Trott and Dap Hartmann, 2009. WHY - OPEN INNOVATION- IS OLD WINE IN NEW BOTTLES, International Journal of Innovation Management Vol. 13, No. 4 (Dec. 2009) pp. 715–736 © Imperial College Press. ≈ To profit from R&D, we must discover, develop and ship it ourselves. ... innovation is inherently a cyclic process where new innovations build upon previous innovations ... ≈ (pages 719 & 729).

<sup>14</sup> West, J.; Gallagher, S. (2006). "Challenges of open innovation: The paradox of firm investment in open-source software". R and D Management. 36 (3): 319. doi:10.1111/j.1467-9310.2006.00436.x. More issues to take into account include as well: Possibility of revealing information not intended for sharing; potential for the hosting organization to lose their competitive as a consequence of revealing intellectual property; increased complexity of controlling innovation and regulating how contributors affect a project.

Schutte, Corne; Marais, Stephan (2010). "The Development of Open Innovation Models to Assist the Innovation Process". University of Stellenbosch, South Africa.: Similarly to product platforming, an organization incorporates their contributors into the development of the product. This differs from platforming in the sense that, in addition to the provision of the framework on which contributors develop, the hosting organization still controls and maintains the eventual products developed in collaboration with their contributors. This method gives organizations more control by ensuring that the correct product is developed as fast as possible, while reducing the overall cost of development.

<sup>15</sup> CIM; Berkhout, AJ, Patrick van der Duin, Dap Hartmann & Roland Ortt, (2007), The Cyclic Nature of Innovation: Connecting Hard Sciences with Soft Values. Advances in the Study of Entrepreneurship, Innovation and Economic Growth, Vol. 17, Elsevier, Amsterdam. ALSO, On linear innovation: Cooper, RG and EJ Kleinschmidt (1986). ≈ An investigation into the new product process: steps and deficiencies and impact. Journal of Product Innovation Management, Vol. 3, 71–85.

<http://www.interregeurope.eu/ecoris3/>

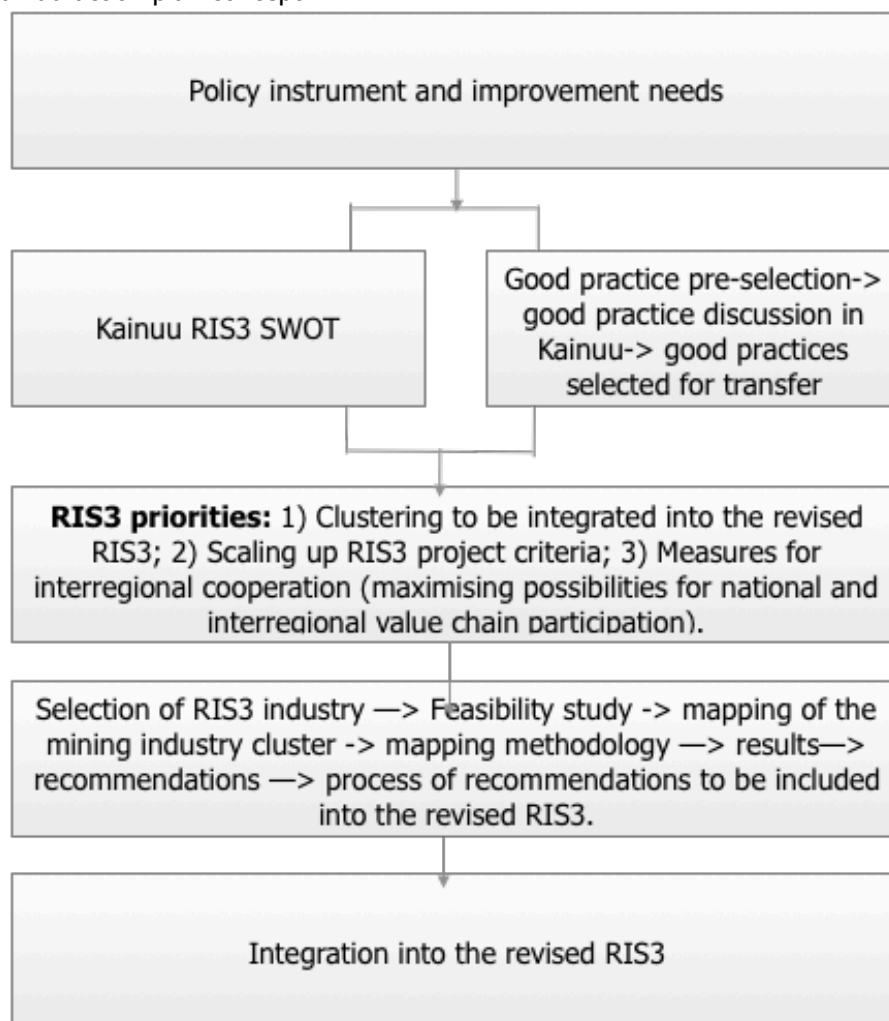
R&D for the purpose of building absorptive capacity and knowledge accumulation; c) sustaining domestic networking to allow accumulated knowledge to diffuse and recombine (Sverre 2010).

In this overall context, the ecoRIS3 policy learning, has contributed solutions that close practice and awareness gaps in open innovation, namely two good practices the IntoA! Lean Business and the V-Linc and which link to industrial renewal (confirmed by the SWOT as important) through the enhancement of the transformative potential of the Kainuu RIS3.

The Kainuu ecoRIS3 action plan has one action, Action 1 Policy instrument governance improvement. The policy improvement is done by integrating industrial development and new methodologies in the revised RIS3,

**Figure 1** Kainuu action plan concept.

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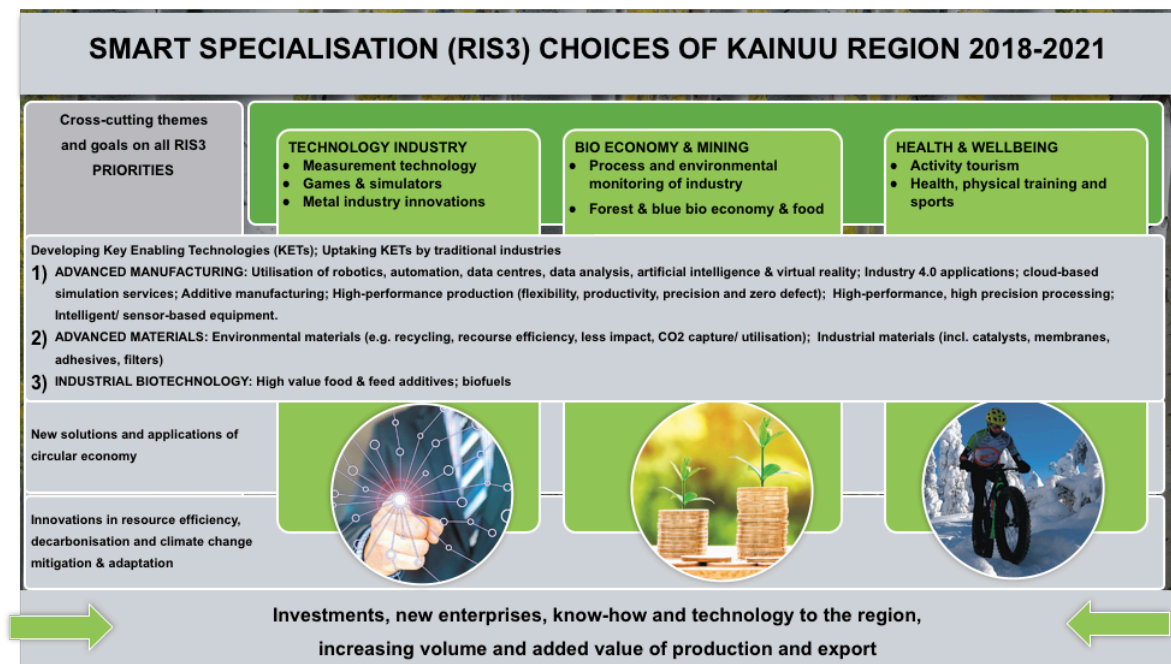
## Part IV Background

In Part IV are discussed three key inputs that form the background of the action plan: the Kainuu SWOT analysis, the good practice transfer and the results of the study for the drafting of the action plan.

### IV.1 Kainuu SWOT analysis

The RIS3 of Kainuu is what could be called a 2<sup>nd</sup> generation RIS3. This means that since the first RIS3 option that was formulated, at the start of the 2014-2020 period, it has evolved into a clear, industrial priority-based policy, with many initiatives seeking to address the regional innovation system, while internationalisation & network based-cooperations have become practical options. The Kainuu RIS3 is presently under revision. This is done in view of better serving the on going as much as the forthcoming Structural Funds period. The RIS3 industries will not be questioned, they have been confirmed, but more effective ways of addressing scaling-up growth and industrial renewal will be the focus of improvements.

**Figure 2** RIS3 choices of Kainuu<sup>16</sup>



A SWOT of the Kainuu regional innovation system and the RIS3 was conducted in 2017-2018, based on the methodology provided by the ecoRIS3 lead partner. The findings are summarised below.

### Strengths<sup>17</sup>

- Good awareness of the levels of operation of the RIS3 strategy at regional and national levels; policy coherence

<sup>16</sup> Jouni Ponnikas, Regional Development Director, Regional Council of Kainuu, presentation to ecoRIS3 project meeting, 29.11.2017.

<sup>17</sup> Kainuu SWOT from the *ecoRIS3 Composite analysis*, page 28.



<http://www.interregeurope.eu/ecoris3/>

- Analytical work for the RIS3 preparation and involvement of stakeholders
- Helix-generated collaboration base exists, but needs to be re-assessed in terms of delivering more growth and innovation-oriented results
- Cluster policy exists, and it is good (but no interaction with the Cluster Observatory and projects)
- Industrial transition support good, but is it sufficient?
- Efficient implementation through development agency with private companies (projects)
- Small agile region

### Weaknesses

- Lack of actual collaboration between different actors in helix
- Educational institutions not encouraging co-operation between private companies and student base
- Lack of communication
- Lack of critical mass (population, amount of businesses)
- Relatively low educational level

### Opportunities

- New innovative growth companies emerging
- Industrial renewal
- New growth sectors (Bio economy, gaming)

### Threats

- Regional reform (it has now been delayed, but the main question remains: how will it affect the regionalised decision making?)
- Long term sustainability of higher education and research in the region
- Retaining and attracting innovative businesses

The conclusions from the SWOT confirm the reasons for which Kainuun Etu joined the ecoRIS3 project in the first place: Kainuu is in need of and has the potential for industrial renewal. One part of the industrial renewal will be by the upscale expansion of traditional industrial performers; another part will be by exporting solutions from the industrial performers (e.g. the gaming industries) and innovative start-ups. Research-to-business solutions and policies are among the priorities of the region. Open innovation solutions, based on business-to-business, research-to-business, and business-to-research-to-business options is a way to sustainably contribute the regional renewal, while at the same time possibly benefitting from inputs from the gaming industry and measurement technology. Integrating open innovation into the RIS3 revision (including project provisions for ensuring efficiency of the development approaches), will be one of the ways to strongly embed the process locally and also prepare the region better for RIS3 platforms, cluster, Widening<sup>18</sup>, EUREKA as well as national open innovation initiatives.

## IV.2 Good practice transfer

Kainuu will transfer two good practices: V-Linc from Ireland and IntoA!Lean Business from western Finland. V-Linc is a methodology for mapping cluster and therefore value chain options and IntoA!Lean Business is

<sup>18</sup> The H2020 programme that remains in the forthcoming Horizon Europe.

<http://www.interregeurope.eu/ecoris3/>

an innovation project about linking pre-IPR innovations to medium and larger businesses (MLEs). In the discussion that follows the two selected good practices are summarised and then their importance to Kainuu briefly explained.

The selection of good practices in Kainuu has been a lengthy process that matched the regional SWOT to prioritised good practices (Figure 3). Kainuu pre-selected four good practices. The discussions with the stakeholders and the policy priorities at this relatively late stage of the 2014-2020 Structural Funds, led to the final selection of two good practices. The good practices finally selected are mutually reinforcing, since they both lead to value chain operations and clustering, they reinforce strengths and address development priorities.

**Figure 3** The selection process of the good practice transfer in Kainuu

Kainuu RIS3 SWOT	Good practice transfer			
	CETIVE	V-LINC	Open access R&D centres	INTO A! Lean Business
Industrial renewal	XXX	XX	XX	XX
New growth sectors	XXX	XX	XX	XX
Cluster policy exists at some level		XXX	XX	XX
3-triple helix interactions ineffective		XX		

1)

## 2) V-LINC – Cluster Analysis and Mapping<sup>19</sup>

The V-LINC expert research group is located within the School of Business at the Cork Institute of Technology.

They use specially designed software to map, analyse and evaluate current and potential links and relationships between different actors within economic ecosystems and value chains. The V-LINC expert research group is located within the School of Business at the Cork Institute of Technology. They use specially designed software to map, analyse and evaluate current and potential links and relationships between different actors within economic ecosystems and value chains.

- **For Kainuu**, the added value of the GP: i) the possibility to cooperate across regions based on the side-flows valorisation at interregional level, and this could be one of the open innovation projects; ii) in addition, the support of the interregional innovation partnership could be part of the policy impact.

<sup>19</sup> <https://www.interregeurope.eu/policylearning/good.../open-r-d-centres-in-lithuania/>

### 3) IntoA! Lean Business<sup>20</sup>

The good practice is problem-based, responding to needs to medium and large enterprises (MLEs), and matching them with the options of more strategic solutions. The problem solved is twofold: the GP addresses MLEs problems and supports the productisation of research results into spin-offs. It also captures the market potential of unexplored research at an early stage. IntoA! Lean Business is currently practiced in the University of Turku. There is effort to productise the overall approach at the end of the project (2019). It is at the centre of the most recent approaches addressing cooperation schemes between start-ups and MLEs, i.e. a business management strategy appreciated and still evolving since the 2<sup>nd</sup> half of the 1970s.

From a more comprehensive point of view, <sup>21</sup> collaboration between technology start-ups and large corporates is key for fostering innovation in Europe. It can benefit both sides, helping corporates to enter and create new markets, and start-ups to develop their products, and to scale<sup>21</sup>.

- **For Kainuu**, the added value of the GP: The experience proposed by the GP, will be adopted as a possible project-based initiative, to be (i) expand the local economic base and increase its cohesiveness between localised SMEs and MLEs, and in combination with the V-linc application and the identification of national & interregional multi-sectorial clusters to (ii) expand the attractiveness of the economic base for knowledge actors beyond Kainuu, and (iii) for expand the impact of localised innovations to actors located beyond Kainuu. Through the GP adoption, tailored according to the findings of the V-Linc national and interregional mapping, we look forward identifying potential investors from beyond Kainuu, that correspond to the supply – side opportunities of Kainuu University – based knowledge.

The adoption of the two good practices and their relevance to Kainuu and integration fields of the revised Kainuu RIS3 are summarised in Table 3 ecoRIS3 GPs in the Kainuu context below.

**Table 3** ecoRIS3 GPs in the Kainuu context

Good practice (GP)	Important aspects of the GP for the Kainuu RIS3	Transfer focus of the GP
V-LINC – Cluster Analysis and Mapping (Clustering) <sup>22</sup>	The possibility of having a systematic tool for identifying national and interregional clusters, cross sectorial and otherwise; the possibility of having concrete value creation information from the mapping.	Adopt clustering approaches at strategic level for developing local industries and research resources; test the V-Link approach in two on going (beyond ecoRIS3) projects (e.g. ELMO, INNO PROVENT, SKILLS+).
IntoA! Lean Business <sup>23</sup>	Linkages between potential spin offs to medium and larger businesses (One project	We need to understand better what worked most in the case of UTU, and what are the crucial issues for motivating. Larger businesses

<sup>20</sup> <https://www.interregeurope.eu/ecoris3/news/news.../the-intoa-lean-business-program/>

<sup>21</sup> World Economic Forum (2018), page5.

<sup>22</sup> <https://www.interregeurope.eu/policylearning/.../v-linc-cluster-analysis-and-mapping/>

<sup>23</sup> <https://www.interregeurope.eu/ecoris3/news/news.../the-intoa-lean-business-program/>

Good practice (GP)	Important aspects of the GP for the Kainuu RIS3	Transfer focus of the GP
	dedicated to commercial linkages between knowledge intensive. Spin offs and medium/ large companies).	join this effort.  Kainuu has a policy of joining - global value chains - as a response to the imperfect. Market base of the region and insufficient critical mass. Projects supporting this kind of cooperation are foreseen in the on-going RIS3 revision and the forthcoming structural funds planning.

### IV.3 Inputs to the Kainuu action plan: the feasibility study and the evolving enabling context

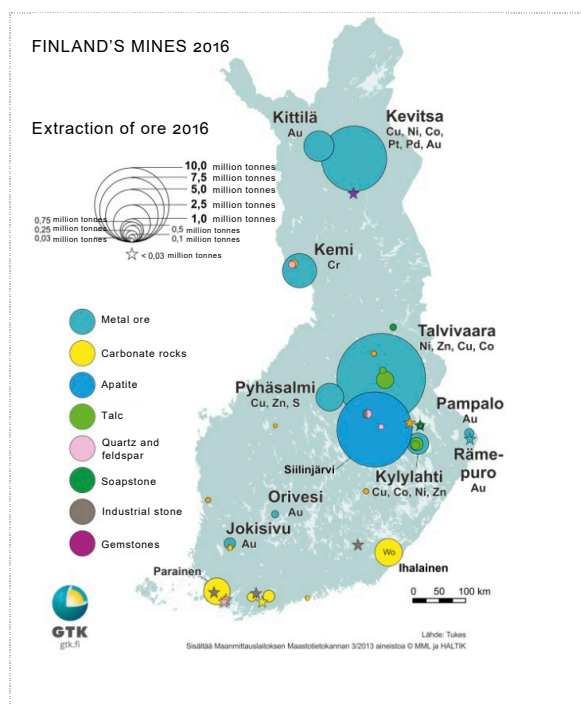
The study for the drafting of the action plan took place during September 2019 – March 2020. The overall objective has been to map the clustering patterns and intensities in the mining industry in Kainuu and draw recommendations relating to the densification and diversification of the mining cluster. Mining sector is an important sector for the Kainuu economy.

#### An overview of the mining sector in Kainuu

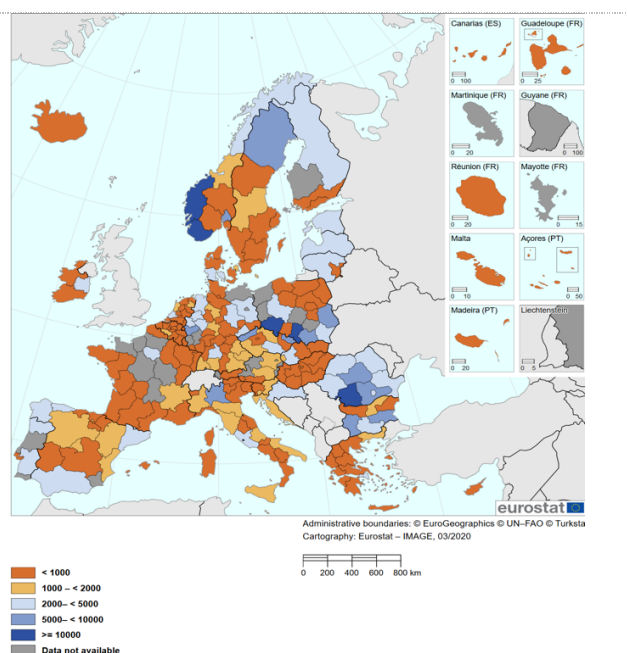
Finland generates 1,2% of the EU-28 value added in mining and metal ores, and that classifies it among the largest and most specialised Member States in mining and quarrying (EUROSTAT<sup>24</sup>). According to Statistics Finland, in 2016, enterprises classified under Mining of metal ores (TOL 07) operated in 34 establishments in Finland's municipalities. Three enterprises in 12 establishments carried out excavation of limestone, gypsum, chalk and dolomite (TOL 08112). The number of establishments falling under the 'Other mining and quarrying' group (TOL 0899) was 21. Companies that provided mining support service (TOL 09) were located in 49 establishments. The number of enterprises that provided mining support services grew from the previous year<sup>25</sup>.

<sup>24</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:T3\\_Largest\\_and\\_most\\_specialised\\_Member\\_States\\_in\\_Mining\\_and\\_quarrying\\_\(NACE\\_Section\\_B\),\\_EU-27,\\_2017.png](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:T3_Largest_and_most_specialised_Member_States_in_Mining_and_quarrying_(NACE_Section_B),_EU-27,_2017.png)

<sup>25</sup> Ministry of Economic Affairs and Employment of Finland (MEAE) 2018. Business Sector Services, Sector Reports, Mining Sector. Spring 2018. Page 14.

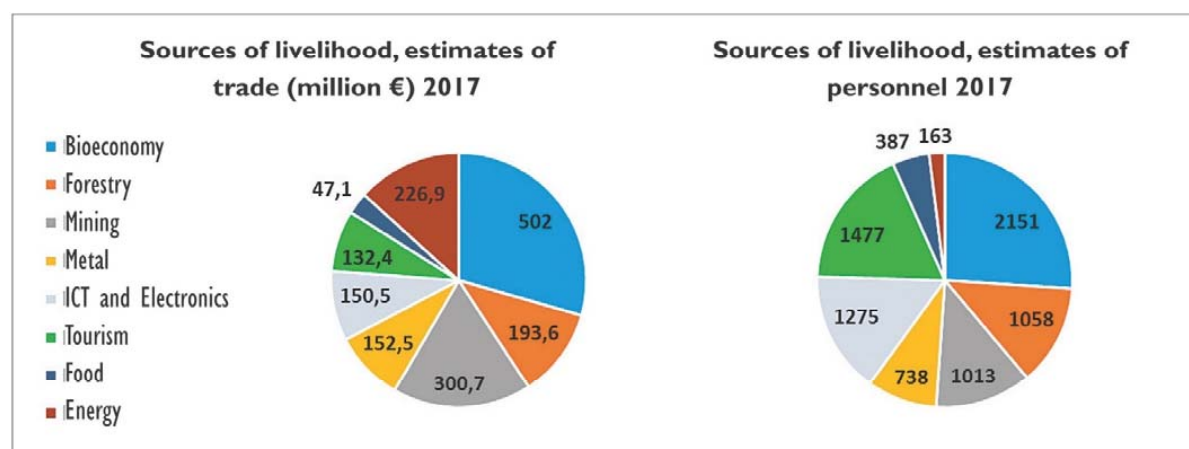


**Figure 4** Active mines in 2016.<sup>26</sup>



**Figure 5** Mining and quarrying in the EU: NUTS2 regions in terms of employment 2017.<sup>27</sup>

As evidenced in Figure 6 and Table 4, mining and quarrying are important activities in Kainuu.



**Figure 6** Operating and planned mines in Kainuu<sup>28</sup>

<sup>26</sup> Ibid. previous, page 17. The figure depicts the volume of ore extraction at various mines.

<sup>27</sup> EUROSTAT, online data code: sbs\_r\_nuts06\_r2.

28

[https://translate.google.com/#view=home&op=translate&sl=fi&tl=en&text=Kaivannaisklusterin%20henkilöstömäärä%20kasvaa%2015%20%25.%20%200ALiikevaihto%20kasvaa%2025%20%25%20\(reiluun%20200%20miljoonaan%20euroon\)%20vuoden%202016%20tasosta%20vuoteen%202021%20mennessä.%20%200A%20Kainuun%20kaivannaissstrategia%20vahvistaa%20Kainuun%20kaivannaisalan%20kehityksen%20kannalta%20relevanttien%20yksityisen%20ja%20julkisen%20sektorin%20toimijoiden%20yhteistyötä.%20Kaivannaissstrategian%20toteuttamista%20ja%20seurantaa%20ohjaavaksi%20työkaluksi%20perustetaan%20yhteistyön%20koordinaatioryhmä%20C%20joka%20organoi](https://translate.google.com/#view=home&op=translate&sl=fi&tl=en&text=Kaivannaisklusterin%20henkilöstömäärä%20kasvaa%2015%20%25.%20%200ALiikevaihto%20kasvaa%2025%20%25%20(reiluun%20200%20miljoonaan%20euroon)%20vuoden%202016%20tasosta%20vuoteen%202021%20mennessä.%20%200A%20Kainuun%20kaivannaissstrategia%20vahvistaa%20Kainuun%20kaivannaisalan%20kehityksen%20kannalta%20relevanttien%20yksityisen%20ja%20julkisen%20sektorin%20toimijoiden%20yhteistyötä.%20Kaivannaissstrategian%20toteuttamista%20ja%20seurantaa%20ohjaavaksi%20työkaluksi%20perustetaan%20yhteistyön%20koordinaatioryhmä%20C%20joka%20organoi)

**Table 4** Kainuu GVA per industry, 2016 and 2017<sup>29</sup>**Income and production by area, annually by Transaction, Sector, Industry, Information and Year**

	At current prices, millions of euro		
	2016	2017	2018*
B1GPH Gross value added at basic prices			
S1Y Private sector			
A Agriculture, forestry and fishing (01-03)	4,979.0	5,178.0	...
B Mining and quarrying (05-09)	674.0	940.0	...
D, E Electricity, gas, steam and air conditioning and water supply; sewerage and waste management (35-39)	5,637.0	5,846.0	...
F Construction (41-43)	12,915.0	13,674.0	...
G Wholesale and retail trade; repair of motor vehicles and motorcycles (45-47)	17,034.0	17,772.0	...
H Transportation and storage (49-53)	8,868.0	9,181.0	...
I Accommodation and food service activities (55-56)	3,187.0	3,426.0	...
J Information and communication (58-63)	10,327.0	10,899.0	...
K Financial and insurance activities (64-66)	6,161.0	6,471.0	...
M Professional, scientific and technical activities (69-75)	8,056.0	8,631.0	...
N Administrative and support service activities (77-82)	6,009.0	6,601.0	...
O Public administration and defence; compulsory social security (84)	11.0	11.0	...
P Education (85)	1,298.0	1,282.0	...
Q Human health and social work activities (86-88)	5,577.0	5,748.0	...
R, S Other service activities (90-96)	4,662.0	4,757.0	...
T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use(97-98)	326.0	372.0	...

According to Finland Statistics<sup>30</sup>, Kainuu's gross value added (GVA) was 2 093 million € in 2017, out of which 940 000 000€ come from mining and quarrying. The rate of growth of the industry is impressive: from the 2016 GVA 674 000 000€ to 2017 GVA 940 000 000€, i.e. growth approximately 30%; Figure 6. This growth is due mostly to exports, exports to other parts of Finland and beyond Finland.

Extractive activities are usually implemented by medium and large businesses. In Kainuu there are five (5) important extractive businesses and which produce the 940 000 000€ GVA: Elementis Minerals<sup>31</sup> (ex Mondo Minerals, kaolin (talc) producer), Sotkamo Silver Oy<sup>32</sup>, Terrafame Oy<sup>33</sup> (zinc, copper and nickel producer),

soi%20Kainuun%20kaivannaisalasta%20EU%3An%20klustereiden%20laatukriteerit%20täyttävän%20teollisen%20klusterin.

<sup>29</sup> [http://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin\\_kan\\_altp/statfin\\_altp\\_pxt\\_12bc.px/](http://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin_kan_altp/statfin_altp_pxt_12bc.px/).

<sup>30</sup> [https://www.tilastokeskus.fi/tup/suoluk/suoluk\\_kansantalous.html](https://www.tilastokeskus.fi/tup/suoluk/suoluk_kansantalous.html).

<sup>31</sup> <https://www.elementis.com/mondo-minerals-acquisition>.

<sup>32</sup> <http://www.silver.fi/sivu/fi/>.

<sup>33</sup> <https://www.terrafame.fi/terrafame-oy.html>.

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Tulikivi Oyj<sup>34</sup> (quarry and stone products), Otanmäki Mine Oy<sup>35</sup> (vanadium- pentoxide, ilmenite and iron concentrate (Fe-pellets)). From these businesses, the largest is Terrafame, one of the larger extractive businesses in Finland, too; Table 5.

**Table 5** Finland's metallic mineral mines 2016. Source: Tukes.<sup>36</sup>

Mine, municipality	Company name	Name of the parent company	Key valuable minerals	Average number of personnel
Kittilä (Suurikuusikko), Kittilä	Agnico-Eagle Finland Oy	Agnico-Eagle Mining Ltd. (CA)	Gold	459
Kemi, Keminmaa	Outokumpu Chrome Oy	Outokumpu Oyj	Chromium	457
Jokisivu, Huittinen (concentrating plant in Sastamala)	Dragon Mining Oy	Dragon Mining Ltd. (AU)	Gold	81
Orivesi, Orivesi (concentrating plant in Sastamala)	Dragon Mining Oy	Dragon Mining Ltd. (AU)	Gold	
Pyhäsalmi, Pyhäjärvi	Pyhäsalmi Mine Oy	First Quantum Minerals Ltd. (CA, UK)	copper, zinc, sulphur, iron	226
Talvivaara, Sotkamo	Terrafame Oy	Terrafame Group Oy	zinc, copper, nickel	626
Pampalo, Ilomantsi	Endomines Oy	Endomines AB (publ) (SE)	Gold	76 (2015)
Kylylahti, Polvijärvi (concentrating plant in Kaavi)	Boliden Kylylahti Oy	Boliden AB	copper, cobalt, nickel, zinc	133
Kevitsa, Sodankylä	Boliden Kevitsa Mining Oy	Boliden AB	copper, nickel, PGE	393

Currently, Terrafame is diversifying into the battery<sup>37</sup> industry and uranium production. It was recently granted permit to commercially extract and refine uranium<sup>38</sup>. Uranium is a side flow of the main extractive activity of zinc and nickel. Terrafame intends to refine the uranium into yellowcake, which is used to make fuel for nuclear power plants. Therefore, what has so far been waste from the metal mining process could be turned into an export product. According to the Radiation and Nuclear Safety Authority (Stuk), there is now no uranium production in the EU, since the Czech Republic and Romania have halted operations. Terrafame does

<sup>34</sup> [https://www.tulikivi.fi/konserni/tulikivi\\_oyj](https://www.tulikivi.fi/konserni/tulikivi_oyj) .

<sup>35</sup> [http://www.otanmaki.fi/Otanmaki\\_Mine\\_brochure\\_2017.pdf](http://www.otanmaki.fi/Otanmaki_Mine_brochure_2017.pdf)

<sup>36</sup> SVT: Tilastokeskus, Alueellinen yritystoimintatilasto – FOS: Statistikcentralen, Statistik över regional företagsverksamhet – OSF: Statistics Finland, Regional statistics on entrepreneurial activity. Page 12.

<sup>37</sup> <https://annualreport2018.terrafame.fi/responsibility-2/economic-impact.html> .

<sup>38</sup> [https://yle.fi/uutiset/osasto/news/finland\\_set\\_to\\_become\\_eus\\_only\\_uranium\\_producer/11196479](https://yle.fi/uutiset/osasto/news/finland_set_to_become_eus_only_uranium_producer/11196479) .



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not plan to refine uranium into fuel for use in Finland's two nuclear power plants. Rather its yellowcake would be exported to elsewhere in Europe or to North America for conversion into fuel.

Given the importance of the extractive activities, it is no surprise that the mining industry is one of the Kainuu RIS3 industries. At the moment, the focus is on green mining and on ICT & metrology solutions. However, the RIS3 is being revised and the mining sector is evolving in new directions. In autumn 2019, the Kainuu mining strategy<sup>39</sup> was approved.

### **Contributions of the feasibility study: Clustering state of play & recommendations**

The purpose of the feasibility study was to transfer the V-Linc good practice for the development of the mining industry. Terms of reference were prepared taking into account this objective. There was a restricted call first.

The feasibility study was finally collaboratively done between the designated Expert and the Contractor (Kainuun Etu). The cluster mapping questionnaire was jointly finalised and agreed between the Expert and the Contractor (7.2.2020)<sup>40</sup>. A letter of introduction was formulated by the Contractor to facilitate the Expert access mining industries. The overall approach was presented by the Expert to the Kainuu Mining Group on 25.2.2020. The mining cluster mapping draft was delivered on 20.3.2020, it was presented to the regional steering group (Kainuun Etu Oy and Regional Council of Kainuu) and comments were made. The feasibility study was completed and paid out on 31.3.2020.

#### **Findings:**

- Common to all business cases:
  - (1) The clustering intensity of the extractive industries in the region is not strong for the time being.
  - (2) There is overall potential for re-use of critical elements, now being pile stocked in the mining sites.
  - (3) In Kainuu the mines produce different commodities for different down-stream actors, the formations are in different rock type units etc. For promoting cooperation between the mines an outside facilitator might be beneficial.
- Backward linkages:
  - (4) Engineering workshop services, soil and rock construction services and to some extent maintenance services. Very few mining specific technology or service companies exist in the region.
  - (5) The capacity of local suppliers in larger construction, operation or maintenance projects is not enough to meet the needs of the mining companies. On the other hand, the local mining companies do not see this as a major problem, the construction and maintenance services are tendered nationally or even internationally in more demanding projects. The bigger national suppliers hire local subcontractors and, in this way, promote the local business ecosystem development. However, all mining companies see that it would benefit the business ecosystem development of the region if the local supply companies could form joint venture e.g. providing 24/7 maintenance service.
  - (6) Main mining machinery providers for the mines are Swedish companies, mainly produced in the company's Tampere plant.

<sup>39</sup> <https://www.kainuunliitto.fi/ajankohtaista/kainuun-kaivannaistrategia-2019-2025-rakenteilla-kerro-mielipiteesi> .

<sup>40</sup> The agreed cluster mapping questionnaire is available upon request.



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- (7) Mining equipment are acquired abroad, i.e. originating from international giants.
- (8) Chemicals, like sulphuric acid are mainly provided by Finnish chemical companies outside Kainuu.
- Forward linkages:
  - (9) Practically all zinc, copper and nickel output is sold abroad (China).
  - (10) Approximately 90 % of the silver-lead concentrate production is exported (Sweden).
  - (11) Talc output is sold to paper, paint and plastic industries, all of them outside Kainuu, but located in Finland. UPM, a leading global paper company, is one of the main forward linkages.
- Enabling conditions, context:
  - (12) Kainuu has relatively good education and research resources to provide vocational and upgrading education and training. However, there is currently lack of electric and automation engineers, process operators and maintenance staff. Higher level professionals are practically not educated in the region.
  - (13) Need of the industry is for shared learning portals utilizing whenever possible virtual and e-learning education technologies. Apparently mining companies are willing to increase their co-operation in this field. Recruitment of students has turned out to be challenging to directly mining related education.
  - (14) Kainuu has traditionally had good position in developing measurement and testing technology and recently game industry technology and data visualization. Industry partners consider that there is need to commercialize technology for the industry.
  - (15) It is also commented by the industry that the mining business know-how in the education research organizations is thin.
  - (16) Mining, like all process industry, is very much dependant on good logistic infrastructure. Road infrastructure also outside the main road network is critically important to the mining industry. Electrification of the railroad on southern side of Oulunjärvi is seen very important to lower mining industry carbon footprint.
  - (17) According to the industry Kainuu region should develop its attractiveness as a living environment for families to keep the professionals in the region.
- Recommendations:
  - 1: Cluster development project** is recommended to be set up aiming to strengthen Kainuu region mining business ecosystem. The project must have very clear and practical focus and work plan, consisting of mutually agreed and prioritized themes as work packages. The tentative themes could be: Availability of skilled staff and education, R&D facilitation and promotion of entrepreneurship and business linkages.
  - 2: Research** should be focused on existing strengths and needs of the industry. The key performance indexes of the research projects should be more based on measurable impacts. Commercialization plan and party should be specified in project plans. Involvement and commitment of industry in project planning and steering should be strengthened. The above-mentioned R&D facilitation group is recommended to be used as an advisory group and cross-region, national and international co-operation must be highly prioritized. Recommendable R&D themes are related to mining industry:
    - Big data interpretation and artificial intelligence
    - Virtual modelling of ore formations
    - Water processing

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- Digitalization in environmental monitoring and reporting

Business Finland jointly with Mining Finland is currently preparing a research programme for mining digitalization with tentative themes: data integration, digitalization in environmental licensing, monitoring and reporting and e-learning and virtual learning. Additionally, there will be a Eureka call for artificial intelligence in industry.

**3. Education** is recommended to be one of the flagship development programmes in Kainuu jointly with its cross regional partners in Eastern and Northern Finland. There good possibilities to create world class education and training facility in Oulu and Kajaani regions. Synergic co-operation and education service development with Oulu Mining School is crucial. Virtual and e-learning technology and methods should be emphasized. The aim should be to provide a coordinated training facility for current and future mining companies and for newcomers to the industry and to develop Finnish mining technology export. Recommended actions include e.g.:

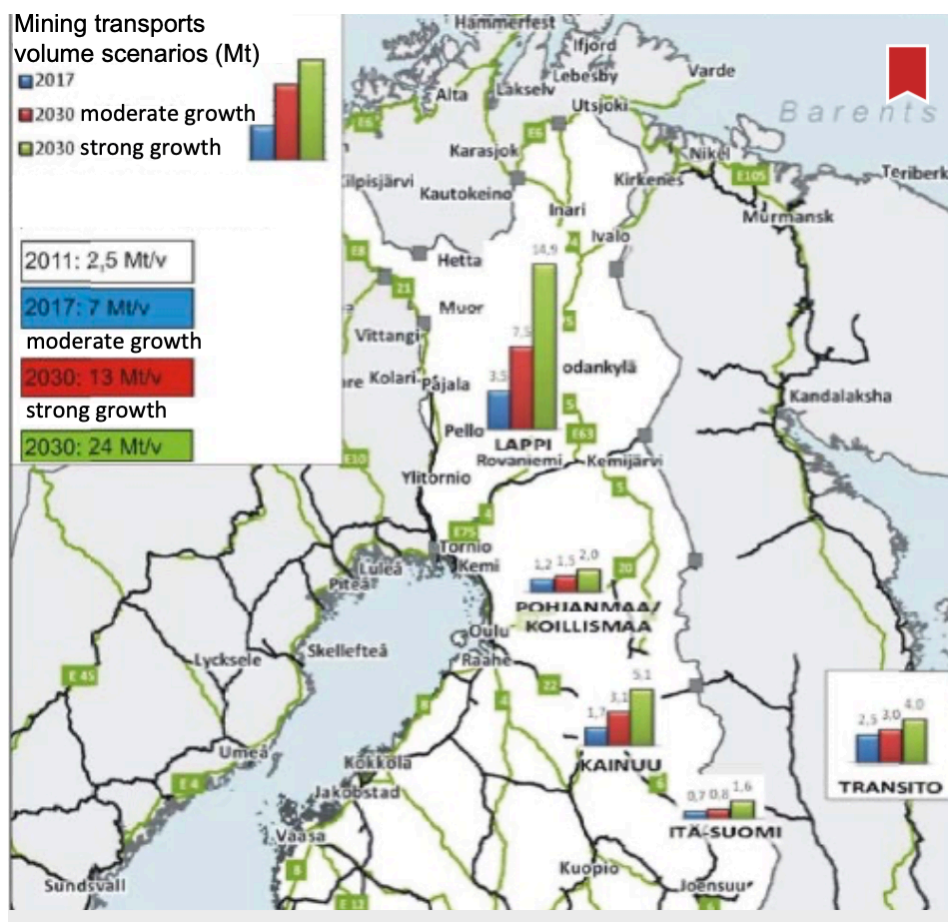
- The started cooperation within - Process Academy- between Oulu Mining School, Kajaani University of Applied Sciences and Kainuu Vocational College could well be the basis for a long-term development programme aiming to establish a shared and modular education platform for the industry. Structured and shared apprenticeship training programme is one important part of the education platform.
- Refreshing the intended - Flexible education path- (suom. joustava opintopolku) project in co-operation with Oulu Mining school to promote recruiting of students for higher mining education.
- Further development of the curriculum and commercialisation of the Arctic Mines Summer School, as part of over-all mining technology export. The involvement of Finnish mining technology and other Finnish mining education organisations are highly recommended.
- Active participation of Mining Finland coordinated - Finnish mining technology training and development centre-initiative, which is planned to be piloted in Zambia.
- The implementation of signed Memorandum of Understandings between Oulu Mining School, Kajaani University of Applied Sciences and Copperbelt University should be activated. Potential financing sources are EIT Raw Materials. Life-long learning programme and Developing Markets Platform. An outside integrator having experience of education and training export commercialization is recommended to be involved.

**4.** It is recommended that Kainuun Liitto and Kainuun Etu would jointly with their cross-regional counterparts, Geological Survey of Finland and Mining Finland increase their role in promoting the region as an attractive exploration and mining area.

## Additional inputs and considerations

<sup>41</sup> (1) Infrastructure: the Finnish Government made a decision-in-principle on supporting infrastructure projects for mines.

- Transport services are used for transfer of materials within the mining area as well as for the delivery of products from the mining area to refining plants. Additionally, arranging transport for consumables, such as explosives, chemicals and fuels, needed by mines in a cost-efficient manner will impact the cost-effectiveness of mining activities. At the mining site, excavated material is hauled by mining trucks, specialised transport equipment and conveyor systems.
- Mining companies make decisions on the route selections for transports according to the current market situation. The construction of new roads and railways takes time due to their need of land use plan, environmental impact assessment and financing processes.



**Figure 7** Logistics related to the mining industry projections

- The transport routes and methods used by the mining industry for the transport of their products depend on the mineral or metal produced, the degree of refining and the production volume. As a rule industrial

<sup>41</sup> Ministry of Economic Affairs and Employment of Finland (MEAE) 2018. Business Sector Services, Sector Reports, Mining Sector. Spring 2018. Page 24.

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minerals are refined in Finland, small amounts of metal ores are transported for example to other parts of Europe and to Asia for refining.

- New mines also require that new roads leading to the mines are built and improved. The post-financing model can be applied to the construction of roads and railways. Based on this model, the Government repurchases the roads and railways after the mining activities have been launched. The public state-maintained road ends at the boundary of the mining concession. The mining company builds the road network within the mining concession.

(2) According to a Finnish Government decree which entered into force in Jan 2019<sup>42</sup>, the maximum length of a vehicle combination has increased from 25,5 to 34,5 metres. This evolution helps cargo vehicles especially. The decree relates to mining logistics, cross border transport logistics as well as alternative fuels and mobility.

(3) Environmental goods and services sector by industry, 2017 shows very weak response in relation to the mining sector<sup>43</sup>.

## Conclusions & suggestions for the RIS3 revision

The overall findings including the contributions of the feasibility study reinforce the Kainuu Mining Strategy<sup>44</sup>, among the key recommendations of which are that 'the number of personnel in the mining cluster to increase by 15% by 2021; revenue to increase by 25% by 2021; to strengthen the cooperation between private and public sector actors relevant to the development of the Kainuu Mining Industry; to organise an industrial cluster meeting the quality criteria for EU clusters in the Kainuu extractive sector<sup>45</sup>'.

- Commercialisation of research should be strengthened, involvement in national, regional, and EU initiatives.
- Densification of the mining cluster through (1) commercialisation of research possible university spin-offs linking to existing mining business (good practice transfer of *Into A!Lean Business*), (2) new businesses

<sup>42</sup> [https://valtioneuvosto.fi/en/article/-/asset\\_publisher/ajoneuvoyhdistelmien-enimmaispuiteuudeksi-34-5-metria](https://valtioneuvosto.fi/en/article/-/asset_publisher/ajoneuvoyhdistelmien-enimmaispuiteuudeksi-34-5-metria): The maximum length of a vehicle combination in road traffic will increase from 25.25 to 34.5 metres. The maximum permissible mass remains at 76 tonnes. New type of vehicle combinations that differ from the current standards may also be used on the road. A Government decree on the matter will enter into force on 21 January 2019.

<sup>43</sup> SUOMEN TILASTOLLINEN VUOSIKIRJA 2019 • Tilastokeskus, page 466

<sup>44</sup> <https://kainuunetu.fi/mining-industry> and <https://www.kainuunliitto.fi/ajankohtaista/yhteistyota-ja-vuorovaikutusta-kaivannaisalan-kehittamiseen-kainuun>.

<sup>45</sup>

[https://translate.google.com/#view=home&op=translate&sl=fi&tl=en&text=Kaivannaisklusterin%20henkilöstömäärä%20kasvaa%2015%20%25.%20%0ALiikevaihto%20kasvaa%2025%20%25%20\(reiluun%20200%20miljoonan%20euroon\)%20vuoden%202016%20tasosta%20vuoteen%202021%20mennessä.%20%0A%0AKainuun%20kaivannaisstrategia%20vahvistaa%20Kainuun%20kaivannaisalan%20kehityksen%20kannalta%20relevanttien%20yksityisen%20ja%20julkisen%20sektorin%20toimijoiden%20yhteistyötä.%20Kaivannaisstrategian%20toteuttamista%20ja%20seurantaa%20ohjaavaksi%20työkaluksi%20perustetaan%20yhteistyön%20koordinaatioryhmä%20C%20joka%20organisoii%20Kainuun%20kaivannaisalasta%20EU%3An%20klustereiden%20laatukriteerit%20täyttävän%20teollisen%20klusterin](https://translate.google.com/#view=home&op=translate&sl=fi&tl=en&text=Kaivannaisklusterin%20henkilöstömäärä%20kasvaa%2015%20%25.%20%0ALiikevaihto%20kasvaa%2025%20%25%20(reiluun%20200%20miljoonan%20euroon)%20vuoden%202016%20tasosta%20vuoteen%202021%20mennessä.%20%0A%0AKainuun%20kaivannaisstrategia%20vahvistaa%20Kainuun%20kaivannaisalan%20kehityksen%20kannalta%20relevanttien%20yksityisen%20ja%20julkisen%20sektorin%20toimijoiden%20yhteistyötä.%20Kaivannaisstrategian%20toteuttamista%20ja%20seurantaa%20ohjaavaksi%20työkaluksi%20perustetaan%20yhteistyön%20koordinaatioryhmä%20C%20joka%20organisoii%20Kainuun%20kaivannaisalasta%20EU%3An%20klustereiden%20laatukriteerit%20täyttävän%20teollisen%20klusterin).

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addressing side-flows of the extractive processes.

- Link alternative mobility with mining industry logistics.
- Strengthen the mining clustering range and depth through EU-level collaborations and platforms.
- Specialised higher education and further capacity building through platforms.
- Qualified business services for green mining activities should be established and developed.

## Part V Details of the actions envisaged

The ecoRIS3 Kainuu action plan has one action, **Action 1 Contribution to the RIS3 revision**. . The policy impact will be recognisable in these parts of the RIS3 document: (1) Technical assistance actions for the introduction of new domains (activities undertaken by the Intermediate Body); (2) Reinforcing the competitiveness & innovativeness of the mining cluster of Kainuu (projects); (3) Measures for interregional collaboration; Interregional clustering (one of the measures) (projects & platform initiatives)

The RIS3 revision occurs at a time when many lessons learnt from the overall implementation period are assessed and considered for mainstreaming and policy improvement. The ecoRIS3 project is one of these important sources. It follows that the cost of processing the RIS3 revision regards many sources of inputs.

### Action 1 Contribution to the RIS3 revision

The process of the RIS3 revision happens stepwise:

**Step 1** Setting up of the RIS3 revision team, thematic regional workshops and supportive studies (if needed), formulation, discussion and final approval by the regional board of the revised RIS3. *The RIS3 revision team was set up during the late Spring 2019.*

The IB (Regional Council of Kainuu) has been the main channel guiding the RIS3 revision and ensuring linkages to the national & EU levels. The revised RIS3 takes into account already the seven enabling conditions of RIS3 proposed by DG Regio as RIS3 preconditions.

Strategically, the RIS3 must ensure that it is linked to mainstream policy, research and market priorities, i.e. resonating. The EC and national levels on the potential of the place-based (=localised ) approach. It implies that side flows, in Kainuu case from natural resources and from the mining activities, will need to be opened up in the sense of what exactly the focus of the RIS3 support will be about, why and what resources are available at regional and national or even EU level to support this priority.

Moreover, Kainuu is capitalising on the IE projects to mainstream into RIS3 important good practices that proved useful to the region, and which, also, link to projected future potential and trends. For example, regionalised innovation and research base, permanent interregional innovation partnerships, interregional clustering, Industry 4.0 uptake and so on, will all be inputs to the revised RIS3.

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**Sept 2** Confirmation / diversification of the RIS3 industries, one of which is the mining industry, which was agreed to form the reference framework of the feasibility study. The selection of the mining industry as the focus of the feasibility study (and therefore one of the revised RIS3 priorities) has been discussed extensively in the preceding section ([IV.3 Inputs to the Kainuu action plan: the feasibility study and the evolving enabling context](#)).

Currently (April 2020) the writing of the revised RIS3 is progressing. The RIS3 revision structure was agreed at the end of 2019. **The revised RIS3 structure is available upon request.**

**Step 3** Introduce concrete types of project concepts relating to the Kainuu mining cluster into the revised RIS3 document.

Workshops with stakeholders reviewing the content and recommendations of part [IV.3 Inputs to the Kainuu action plan: the feasibility study and the evolving enabling context](#), list of final priorities to include into the revised RIS3. (August – November 2020)

In parallel exchanges with the mining innovation platform ReCONFIRM (on going).

**Step 4** The revised RIS3 headlines are agreed, and the content is finalised.

*It is expected that the RIS3 revision will be completed by 31.12.2020.*

## Outputs, costs and timetable

### Expected outputs

- 1 study for the drafting of the action plan
- 1 policy instrument impacted: 2014-2020 RIS3 of Kainuu. The policy impact will be recognisable in these parts of the RIS3 document:
  - o (1) Technical assistance actions for the introduction of new domains (activities undertaken by the Intermediate Body)
  - o (2) Reinforcing the competitiveness & innovativeness of the mining cluster of Kainuu (projects)
  - o (3) Measures for interregional collaboration; Interregional clustering (one of the measures) (projects & platform initiatives)

### Anticipated costs

The planning costs are estimated at 65 390€ and the implementation budget is estimated at 370 000€, total of 435 390€. Out of these costs 32 300€ come from Phase 1 ecoRIS3 budget; 33 090€ are own costs, and 370 000€ are planned to be co-financed operations of Structural, other Europe, national and regional funds. The rationale of the calculations is summarised in following Table 6.

## Timetable

**Table 6** RIS3 revision timetable

<b>RIS3 revision</b>	<b>Funding sources</b>	<b>Comments</b>
<b>Study for the drafting of the action plan</b>		
<b>Study for the drafting of the action plan</b> for the transfer of the V-Linc good practice.	Kainuun Etu Oy, ecoRIS3 partner 4) Experts costs: (i) study for the drafting of the action plan 20 000€; (ii) local meetings and stakeholder events: 800€ 5) Staff costs: 10 000€ 5) Administration costs: 1500€ 7) Travel costs (meetings inside Finland possibly): 2000€	80% of the costs are paid out during Phase 1, and 20% are paid out during Phase 2 as delayed costs.  1.10.2019 – 30.6.2020
<b>RIS3 revision</b>		
<i>Regional Council of Kainuu, Intermediate Body</i>	Staff costs 60 000€ (only part of it is only for ecoRIS3 GP transfer – we assume 10%)	1.6.2019- 31.12.2020
<i>Regional Council of Kainuu, Intermediate Body</i>	3 meetings, stakeholders and ad hoc meetings, catering 900€ (only part of it is only for ecoRIS3 GP transfer – we assume 10%)	1.6.2019- 31.12.2020
<b>Implementation of new action lines in the RIS3 relating to the ecoRIS3 GP transfer</b>		
	(1) Technical assistance actions for the introduction of new domains (activities undertaken by the Intermediate Body) (2) Reinforcing the competitiveness & innovativeness of the mining cluster of Kainuu (projects) (3) Measures for interregional collaboration; Interregional clustering (one of the measures) (projects & platform initiatives).	January 2021 onwards



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## Part VII Endorsements

For Kainuun Etu Oy

Date: 17.6.2020

Signature: [Signature]

Name and task of signatory: Antti Toivanen, Managing Director

Stamp of the organisation (if available): \_\_\_\_\_



For the Intermediate Body (Regional Council of Kainuu)

Date: 25.6.2020

Signature: [Signature]

Name and task of signatory: JOONI PÖNNIKÄ, DIRECTOR REGIONAL DEVELOPMENT

Stamp of the organisation (if available): \_\_\_\_\_



*For the Intermediate Body (Regional Council of Kainuu)*

Date: 25.6.2020

Signature: Pentti Halinen

Name and task of signatory: PENTTI HALINEN REGIONAL MAYOR

Stamp of the organisation (if available): \_\_\_\_\_





**KAINUUN ETU**

Etu Oy is committed to the monitoring of the implementation of the action plan for as long as it has the capacity (currently under structural reform).



Antti Toivanen

Managing Director