RIS3 in Lapland - University of Lapland’s role in the designing, implementing and monitoring

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Smart specialisation (RIS3): European workshop on Universities as Regional Lead Institutions, Graz 13.11.2018
Universities in their regional innovation ecosystems: designing, implementing and monitoring RIS3

- Setting the Scene
- Challenges
- Designing
- Implementing
- Monitoring
- Benefits
- Future, effectiveness post 2020
From Rovaniemi
• Helsinki 706 km
• Brussels 2114 km
• Milan 2540 km
• North pole 2 623 km

Setting the scene Lapland
### Lapland's key Numbers (based on Lapland's business trends in 2017)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>179,220</td>
</tr>
<tr>
<td>Number of workforce</td>
<td>82,090</td>
</tr>
<tr>
<td>Number of workplaces</td>
<td>68,100</td>
</tr>
<tr>
<td>GDP/capital</td>
<td>6,350 milj.</td>
</tr>
<tr>
<td>Age dependency ratio</td>
<td>161</td>
</tr>
<tr>
<td>Number of establishment</td>
<td>12,235</td>
</tr>
<tr>
<td>Turnover</td>
<td>13,200 milj.</td>
</tr>
<tr>
<td>Export turnover of Industry</td>
<td>4,040 milj.</td>
</tr>
<tr>
<td>Number of personnel (labour-years, companies and communities)</td>
<td>62,940</td>
</tr>
<tr>
<td>Number of personnel (man-year, companies)</td>
<td>38,580</td>
</tr>
</tbody>
</table>
• The northernmost region of European Union
• Total area 100 369 km²
• Only chrome mine and largest gold mine of EU
• 5th strongest export region in Finland - Value of industrial export 3.7 billion €
• Value of the tourism 1 billion €
• Versatile research and development structure: two universities and sectoral research institutions
• Strong vocational education
• Productive forestry about 50% of land area,
• World cleanest air and European purest water and world’s largest organic harvesting area (99%)
How to make the Lappish SME’s more internationally competitive and innovative.

Demographics
- Ageing population and decreasing amount of inhabitants (-20,000 from 1988),
- Population increase (Birth based) stopped 2009, sustainability or growth maintained by migration (work based and Immigration of Refugees)

Critical mass
- Loss of young people due to migration; skills and brain drain vs low attractiveness and low priority in Government investments

Distances, climate
• Story of S3 in Lapland begun 2012 - Arctic Specialisation Programme 2013
• University of Lapland and Lapland UAS acted as
  – key stakeholders in the planning process and as an active project partners and
  – contributors in the first two implementation projects of the Lapland S3 strategy
    → where Arctic Smartness and Cluster were created (First footing and
    empowering of key actors (ERDF 2014) and consolidating Arctic Smartness
    Portfolio (ERDF 2015-16)
• In addition ongoing simultaneous sister-strategy-process (ERDF 2013-2015);
  preparation of the Innovation programme 2014-2020; Fostering Innovation through
  education and research: Supporting the regional development for Lapland University
  Consortium (University of Lapland, and Lapland UAS)²

• Strengths and priorities in current Lapland S3
  – Lapland: EU’s gateway to the Arctic
  – Vast deposit of **natural resources**, pristine and fragile Arctic nature and **Sustainable utilisation of natural resources** and conditions are the key factors to maintain the sustainable growth
  – Strong RDI actors – merging and mobilising for the benefit of the region
  – Smart growth - cross cutting strategic approach for strengthening quadruple helix
  – Lapland is in charge of its own development (empowering governance)
    → Strategic step by step approach – Arctic Smartness 2014
• Updated priorities for Lapland RIS3 project 2018-2021 were published on Nov 6, 2018 as part of new Internationalisation programme for Lapland. Work was and is carried out by Regional Council of Lapland as a ERDF project, **where University of Lapland is in the steering group and one of the key contributors to the content and development.**
Implementing Lapland’s RIS3, Arctic Smartness

ARCTIC SMARTNESS EXCELLENCE - VISION 2022

**OVERALL OBJECTIVE**

03 S3 supports and enables cluster development and internationalisation

05 2022 The most innovative sparsely populated region in the EU

**DEVELOPMENT GOAL**

04 Clusters and their actors operating at EU arena

**RESULTS**

01 Execution of Lapland S3 strategy by supporting Cluster based actions, Strong Regional basis for R&D&I, Brand management and profiling Lapland as an innovative region and partner for collaboration

02 Cluster development is maturated and consolidated Lapland R&D&I Centre of Excellence established Clusters operating at international arena (EU)
### DEVELOPMENT ENVIRONMENTS’ TRL EVALUATION

**Name and organization of the development environment:**

**Address:**

**Responsible person (name, title and contact):**

### TECHNOLOGY

- Description of the thematic field of sciences
- Available facilities and other services
- Technological solutions, equipment and tools (software, services, testing, methods etc.)
- Other support services (network, subcontractors, partners, other development environments)
- Quality systems, standards and accreditation
- References (customers, rewards, success stories)
- Customer feedback (positive things)

**Human resources and know-how**

name, job, education/degree, experience, special skills

### READINESS

- Availability of the service (internal organization, opening hours, activities during holidays)
- Accessibility of the service (location, remote connections, customer use, the mobility of experts etc)
- Services (chances to meet customer needs)
- Response time
- Reliability of delivery (schedules, risk management, inspection practices)
- Knowledge of development programs and financial systems

### LEVEL

**Conclusion** (description of the outcome, interface and linkage to the case):

Evaluation scale 1-9 (general and case specific estimate)

- **General TRL estimate**: laboratory is working in TRL scale: x - x
- **Case specific TRL estimate**: x

http://trl.plab.fi/development-environments

Implementing Lapland’s RIS3, Arctic Smartness
Implementing Lapland’s RIS3, Arctic Smartness

Lapland wide Testing and Laboratories networks’ TRL assessment methodology and outputs and use in the R&D&I outputs to S3 implementation

**PLAN**
- Baseline
- Model & method analysis
- Benchmark
- Pilot & replication plan
- Validation plan (process+output TRL)

**DO**
- Pilots (7) Feb-June 2017

**ACT**
- Evolution of process
- Round 2-3-4

**RESULTS**
- TRL classification & certificates system-wide
- A Self sustaining model and replication
- TRL chains (from-to)
- Integration to S3 at local/national/EU

**CHECK**
- Pilot TRL analysis for 7 envinroments
- Validation check
- Replikation plan with adjustment 8-12/2017
From idea to market
TRL operating model helps bringing the shared ideas and concepts into practice and lifting them as market-ready products and services.

1. Arctic Development Environments
   Easily accessible regional innovation ecosystem networked under the same roof. Efficient service model based on TRL.

2. The idea of new product or service
   Entrepreneur, Public customer

3. Further development
   Increasing international funding & competence

4. TRL 7–9
   Finishing the RDI activities
   Identifying & managing the competence areas

5. TRL 4–6
   Series production
   Developing shared service models

6. TRL 1–3
   Pilot & prototyping
   Access to funding

7. Excellent research
   Industry collaboration

8. Excellent science
   Testing & development of goods & services

9. The Market
   Business growth & new innovations

10. Time to Market
    +10

The objective
To produce added value for the Lapland’s business life.
Monitoring S3 Lapland

- Ongoing monitoring of project funding in Lapland based on Regional Strategy and Smart Specialisation Strategy (Regional Council of Lapland, Regional Steering Committee)

- Monitoring data is utilised on a review process of received proposals (Regional Council of Lapland, Centre for Economic Development, Transport and Environment, Business Finland)
  - Task Force of Regional Secretariat

- National level programme evaluation (Ministry of Economic Affairs and Employment), implementation in the regions
Beyond monetary and numeric assessment we have used a Developing evaluation method to support project management to highlight the factors which enhance long term impacts, in particular learning, development of know-how and interaction, as well as strengthening the operational capacity and collaboration model.

Criteria emphasise learning, trust and accountability as well as the desired change and project outcome. The Arctic area is emphasised in the Lapland's smart specialisation program and in the choices made in the program.

Evaluation in executed against four criteria:

- external effectiveness,
- reflexivity,
- Interaction, and
- the region’s and actors’ ability to regenerate.

Evaluation (final report*) carried 2016-2018 out as project management supportive action by Professor Timo Aarrevaara and PhD Candidate Riikka Kangas

Arctic Smartness Approach- results

- The new Lappish R&D based Innovation platform as part of Lapland's Innovation Ecosystem (quadruple helix)
- Real benefit for the SMEs in the region
- Common view and OWNERSHIP about the future development of the Lapland
- Brand of innovative region increased → attractive partner
- Improved and EU level cluster cooperation
- Synergic approaches → over 10M extra funds to Lapland: Arctic Smartness actors are involved in at least 19 International EU funded projects; 9 H2020, 2 EIT-KIC, 6 Interreg Europe, 2 direct funding (tender process)
  - European Cluster Excellence consortium member
- Bottom-up approach needs good leadership and governance
Some highlights


✓ 2 Entrepreneurial Discovery ACSI Innovation Camp (DG JRC), 2016, 2018

✓ All five clusters obtained Bronze Labels from the European Secretariat for Cluster Analysis, http://www.cluster-analysis.org/.

✓ In addition September 2017, in collaboration with another Arctic Smartness ERDF project, a Silver Label Peer Review session for two clusters. Arctic Industry and Circular Economy and Arctic Smart Rural network gained Silver labels, first of their kind in Finland.

✓ Lapland actors are involved in all three themes; Industrial Modernisation, Agri-Food and S3 Platform for Energy, in a total of 6 partnerships of the Smart Specialisation Platforms by the European Commission. Two partnerships submitted/pending. http://s3platform.jrc.ec.europa.eu/s3-thematic-platforms.
Visibilty & recognition


  Innovation Camp methodology,
  [http://s3platform.jrc.ec.europa.eu/documents/20182/154972/Implementing%2BSmart%2BSpecialisation%2BStrategies%2BA%2BHandbook/2a0c4f81-3d67-4ef7-97e1-dcbad00e1cc9](http://s3platform.jrc.ec.europa.eu/documents/20182/154972/Implementing%2BSmart%2BSpecialisation%2BStrategies%2BA%2BHandbook/2a0c4f81-3d67-4ef7-97e1-dcbad00e1cc9) pp. 43-44.


Future Lapland’s RIS3, regional ecosystem

**Up to the top in good company**
- Utilising the thematic partnerships of Smart Specialisation in finding interregional financing models

**Jump in to a gondola lift!**
- Through clusters involvement regional industries and SMEs benefit from the grants and development activities

**Lifting up with the leverage**
- About 80% of the European funding focuses on clusters

**Climbing up the slope with snowshoes**
- Mapping and utilising the alternative financing and operating models

**The best skiing tips**
- Gaining the expertise of the European Cluster of Excellence network

**Balance is maintained by leaning forward**
- Ongoing projects indicate that the activities will continue even the funding ends

**Regional innovations**
- Discovering and experimenting new skiing routes and techniques with an open mind

**RESOURCES**

**ACTIVE ACTORS**

**Guiding and supporting activities**

**Regional ecosystem as the base for internationalisation**

**All together under the same roof**
- Lapish regional players building interregional cooperation together, and new governance of Lapland taking role as a team leader for internationalisation

**Technique okay!**
- Commonly agreed working models and practices take things forward in a controlled manner

**Coach’s responsibility**
- A good management model encourages towards interfacing and active international cooperation

**Coaching the new regional players to become downhill skiers at international level**

**Don’t forget the past!**
- Learning from the undesired route choices and improving the technique

**Regional success stories**
- Successful skiers inspire the new entrants to try, create a base for the emerging businesses and open up new funding opportunities

**The role of clusters and organisations in the successful route selections**
EUA key-messages aiming at maximising the effectiveness of smart specialisation strategies for regional development in the post-2020 period:

1. investing in human talent and skills to ensure enduring innovation
2. enhancing the strategic involvement of universities in regional innovation ecosystems
3. promoting the engagement of all EU regions without compromising excellence
4. strengthening collaboration and multi-level governance to induce innovation at the regional level
5. reinforcing synergies and multi-level governance

Enhanced Strategy for Economic Transformation based on Smart Specialisation 2021-27; Template (draft).
Challenges and enabling condition sections and taking into account programming for the post-2020 period related to the Policy Objectives:

- Enhancing research and innovation capacities and the uptake of advanced technologies
- Reaping the benefits of digitisation for citizens, companies and governments
- Enhancing growth and competitiveness of SMEs
- Developing skills for smart specialisation, industrial transition and entrepreneurship

Initial outlines of specific high-impact Actions to facilitate the region’s move towards an Enhanced Strategy for Economic Transformation based on Smart Specialisation.

More information..

Arctic Smartness

https://arcticsmartness.eu/