

LAPLAND
Above Ordinary



Lapland – Economy, natural resources, main stakeholders, challenges of mining sector

REMIX – 9th peer review visit, Joensuu

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Lapland in facts and figures

- Surface area 100,366 km², of which 7,699 km² is water
- Population 180,200, population density 1.8 /km²
- Employment: approximately 69,000 jobs, of which approx. 50% are in private enterprises
- Number of private enterprises 9,100
- Annual revenue of Lapland €12,000 M, of which 70% comes from private enterprises
- Annual revenue of mining and metal industry approx. € 5,000 M
- Annual revenue of forest bioeconomy approx. € 1,300 M
- World's northernmost bio, mining and metal industry hub
- Europe's only chromium mine and the largest gold mine in Europe
- Tourism is the fastest growing sector with overall demand of approx. € 1,000 M and an average annual growth of 9%, in 2017 as much as 20%

- Agricultural production and reindeer husbandry approx. € 340 M
- Finland's fourth largest export region, 7 % of Finnish export
- Nine national parks in the area
- World's cleanest air and Europe's purest water
- World's largest wild organic harvesting area
- Strong educational structure: University of Lapland, Lapland University of Applied Sciences, Vocational College Lappland, Lapland Education Centre REDU and the education centre of the Sámi region
- Research Institutes: Geological Survey of Finland (GTK), Natural Resources Institute Finland (LUKE), Sodankylä Geophysical Observatory (SGO) as the most notable
- National circular and bio-economy centre in Kemi



Lapland has the fastest growing economy in Finland

Lapland is a unique Arctic region that wants to be the most innovative and entrepreneur-driven of all the sparsely populated EU regions by the year 2022. The future objectives are set high, but the measures for achieving those goals are tangible and close to the operators.



Smart Specialisation in Lapland

6/18/2019

- The S3 story began in 2012 - Arctic Specialisation Programme
- Vision by 2022: Lapland will be the most innovative sparsely populated region
- Vast deposit of natural resources, pristine and fragile Arctic nature → Sustainable utilisation and refining of natural resources and conditions are the key factors to maintain the sustainable growth
- Lapland wants to be in charge of its own development → Strategic step- by-step implementation/approach – **Arctic Smartness 2014 and update 2018**
 - Economy creating potential for innovation and entrepreneurship and strong RDI actors – mobilising them for regional benefit
 - Smart growth needs cross-cutting strategic approach strengthening the knowledge base
 - The region’s future is driven by innovative SMEs seeking growth
 - Tackling the lack of critical mass - “too few smart people”

Setting the frame for the Smart Specialisation

S3 Entrepreneurial Discovery Process

- Emerging industries growing out of existing industries
- Cross sectoral
- Interfaces are breeding ground for new entrepreneurial innovations
- Launching of cross-cutting priorities enabling entrepreneurial development



Sustaining the Entrepreneurial Discovery

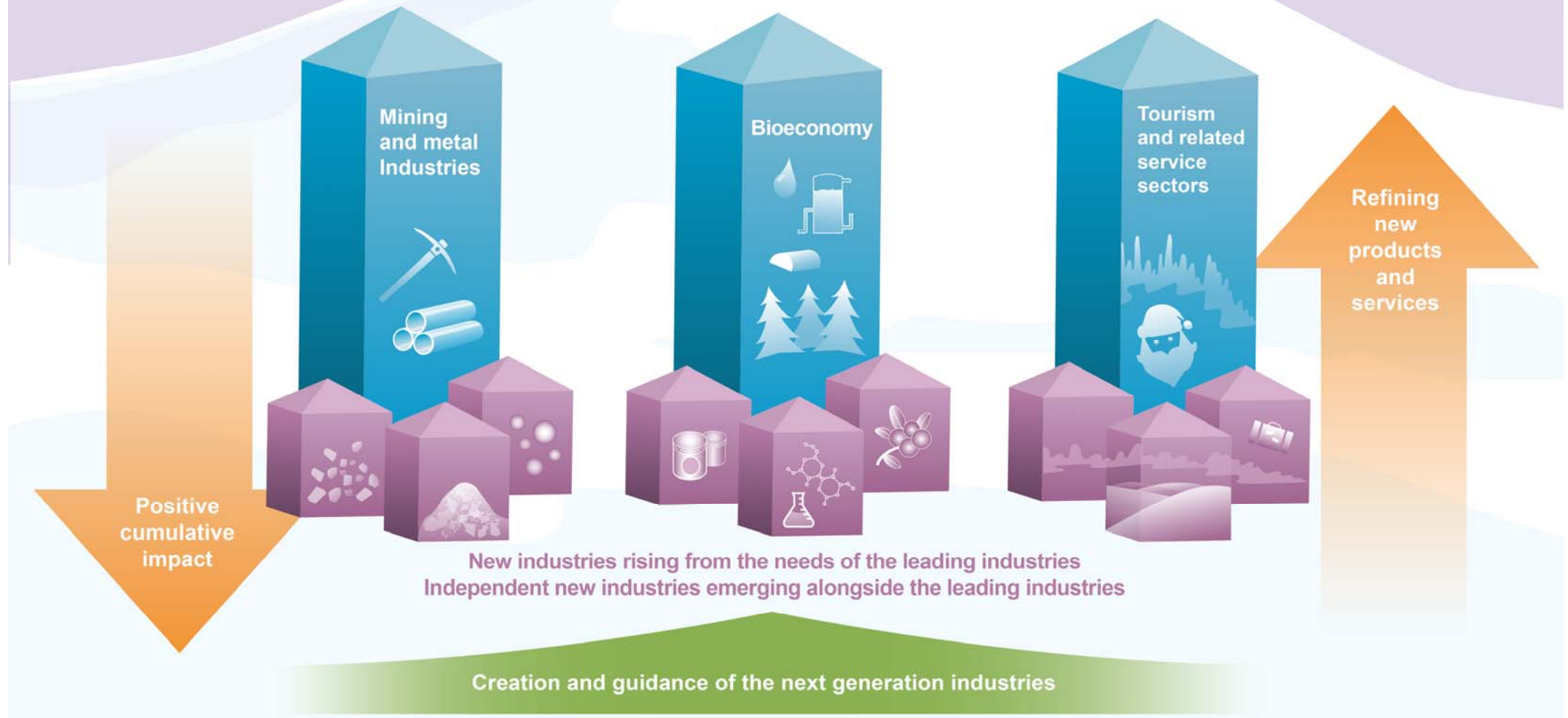
→ Synergy plan to increase RDI innovation capacity of the businesses:

- Better use of existing RDI structure
- Cross-sectoral and cross-regional collaboration
- ESI funded projects have to provide added value for the business

Modern cluster approach

- Recognising the challenges of sparsely populated regions and tackling them
- The ground of the regional approach – emerging industries

Lapland's economic backbone



..more specific
industrial focus...

Three economic backbones of Lapland
underlying the emerging Arctic business

International
spearheads for
the emerging
Arctic business



The new industries will emerge with the support of four strategic business spearheads

..New set for S3 priorities

PRIORITY 1: Advanced Arctic Industry – foundation for the growth

Arctic circular economy

Arctic sustainable tourism

Growth in business by increasing the refining of natural resources

Emerging industries as new business facilitators

Innovations

Low-carbon

Digitalisation

Energy efficiency

Sustainable regional development of Lapland

Vision 2030

Strong Arctic and international actor

Sustainable policies of the new EU industrial strategy

Educational solutions supporting the economical growth and internationalisation

Renewing regional ecosystem supporting the economical growth

Internationally strong and attractive area

Clusters strengthening the regional value chains development

PRIORITY 2:
Knowledge, renewing and innovations strengthening the growth and international business activities

Arctic innovation and development environments as drivers for the growth

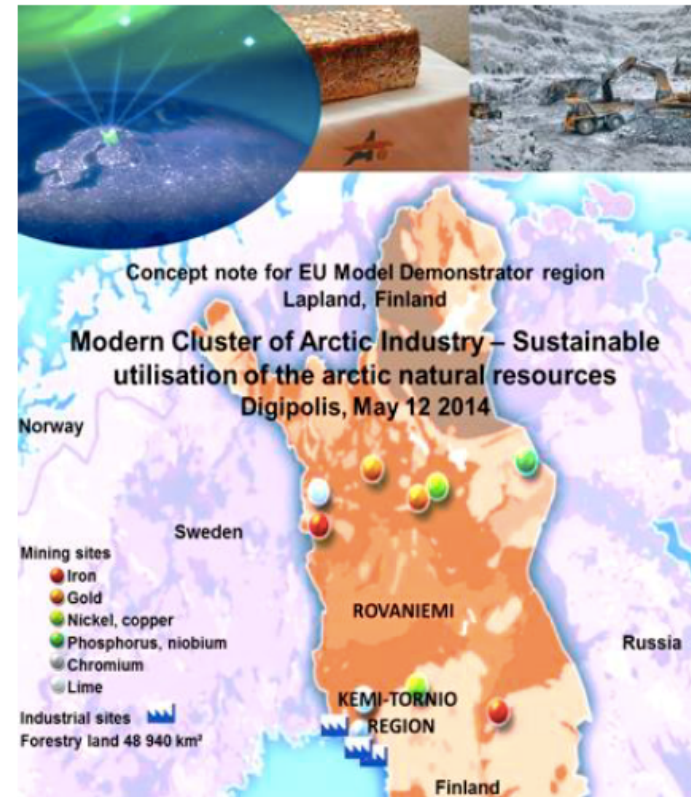
Interregional collaboration developing the whole region

PRIORITY 3:
Regional ecosystem as the base for internationalisation

Modern Cluster of Arctic industry – Sustainable utilisation of the arctic natural resources

Model region to demonstrate EC new wave cluster policy:

- The region possesses the vast deposits of natural resources and pristine nature
- Lapland has potential to become one of the leading regions in the world in the sustainable exploitation of natural resources
- The region should focus on refining of Arctic natural resources in a socially and ecologically sustainable manner, combined with high value added generation from natural resources in the region
- Focus on to maintain the balance in the sustainable development



FURTHERING THE CIRCULAR ECONOMY AND BIOECONOMY IN LAPLAND IN 2012-2016


Industry byproducts utilised

Where did it all begin?

11/2012

The key players of Kemi-Tornio industries and industrial services were interviewed in the side-stream evaluation of needs.

Lapland EU's model region

7/2014 

European Commission's selection: Lapland EU's model region in sustainable processing of natural resources


The FISS model

10/2014

FISS workshops, Finland benchmarking, business potential

Recognition for work

21 September 2016

Work carried out by the Kemi-Tornio region & Lapland and Digipolis and partners: Key project of Sitra's Finnish circular economy action plan 

Development of operations

2014

Side-stream recognition tool development together with industries across sectoral boundaries. Development of measures furthering the systematic process and taking the matter forward

27 side-stream recognition, total volume:

1.4 million tonnes annually

=

 Over 100 trucks daily

Expansion of operations

2015-2016

Entire Lapland's big industries involved in development. Synergies between mines and the processing industry, and entry of new service businesses. Expanding the process to northern Finland, northern Sweden and northern Norway.

2017 

Implementation of Sitra's action plan

Prioritisation of development tasks

4/2013

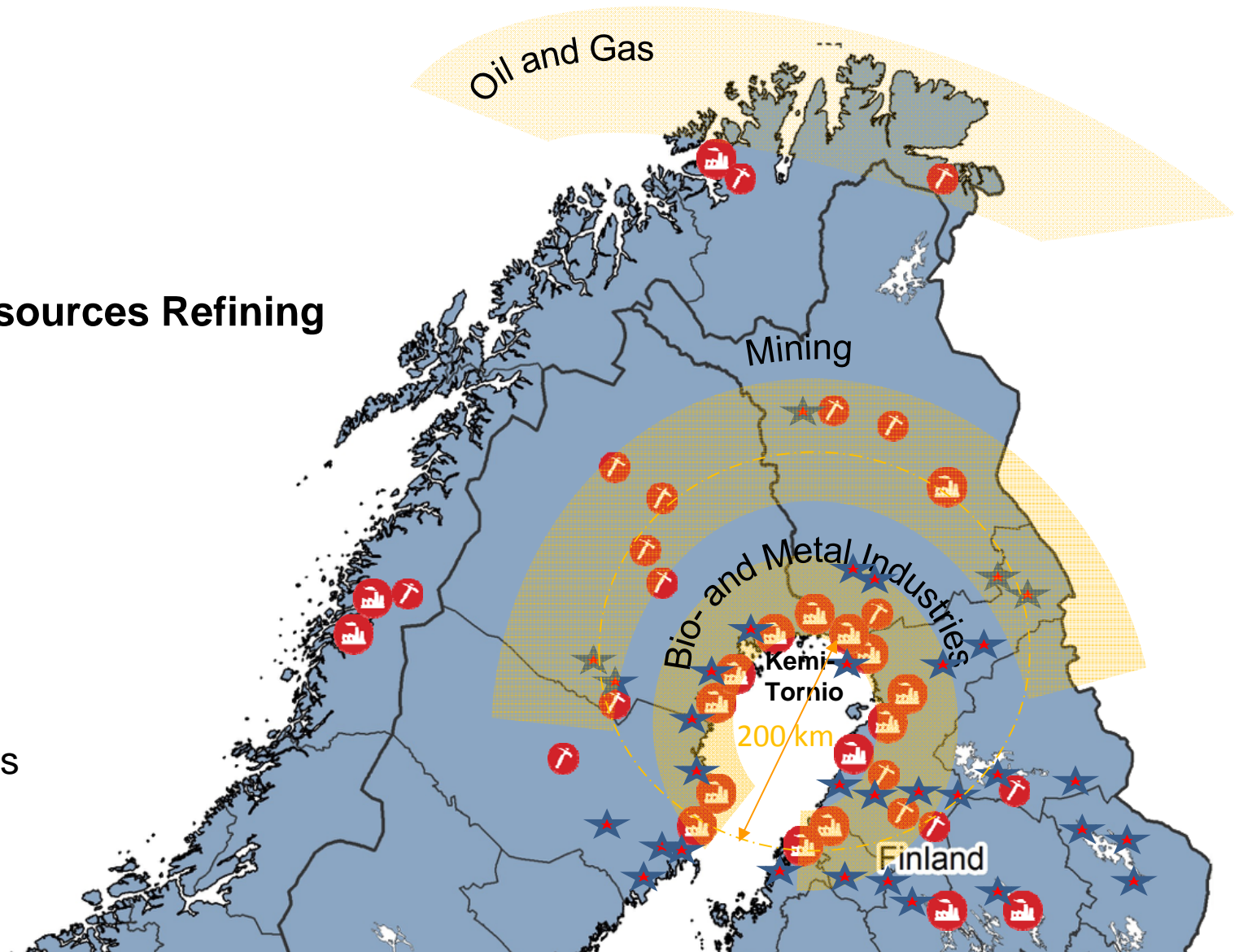
Prioritisation of development tasks with key players of industries and industrial services



Nordic Industries




Story of Natural Resources Refining

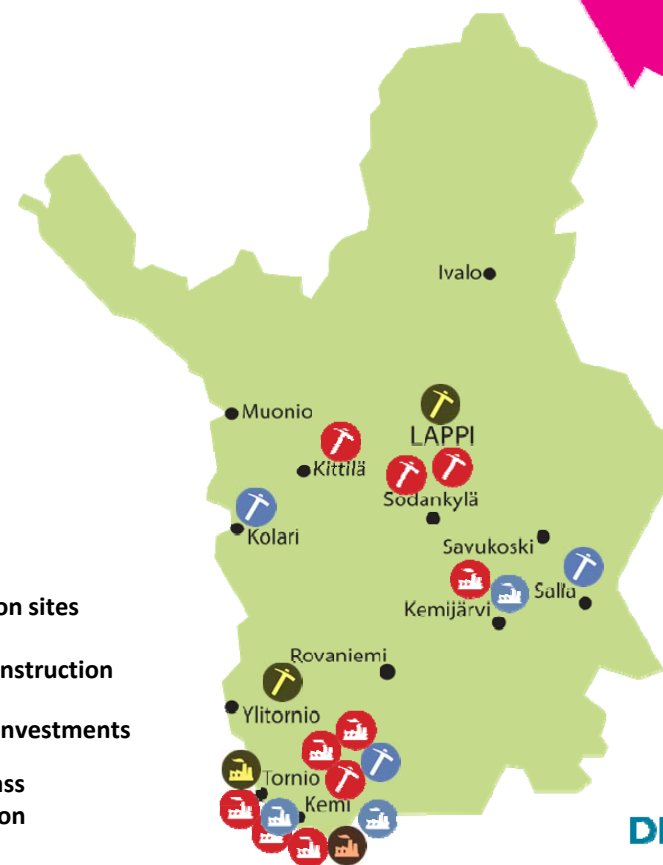
- Global Markets
- Good Connections
- Arctic Solutions
- Cleantech Solutions
- 5 Bio Refineries
- 32 Sawmills
- 16 Mines
- 5 Metal Refineries
- 2 Aluminium Smelters
- 1 LNG Refinery
- 2 Chemical Plants



Utilisation of the arctic natural resources – Lapland's Arctic Industry

- Arctic Spring, Investment boom in Arctic regions
- Industrial- and mining service companies receive orders worth of hundreds of millions.
- International-industry standards, HSEQ
- Cleantech – growing need of sustainable solutions
- Enhancing Circular Economy
- Internationalization in home market, glocalization
- Internationalization in the surrounding countries
- Own products and services

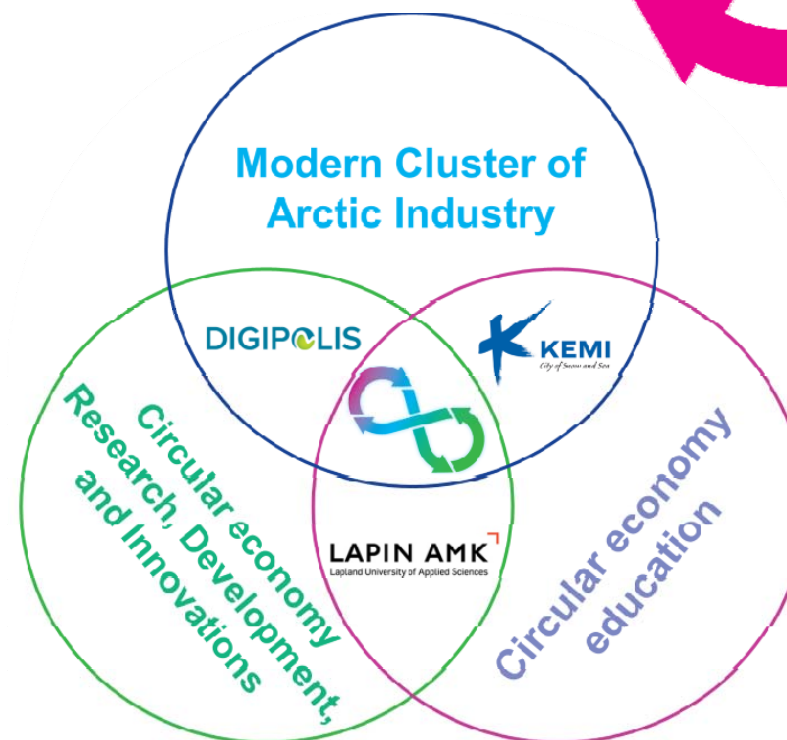
-  Production sites
-  Under construction
-  Planned investments
-  World class exploration projects



CENTRE FOR CIRCULAR ECONOMY

The main strategic focus areas of circular economy

- Network of industry & university experts and intermediaries
- Operational models for industrial circular economy platforms
- New investments and jobs
- Circular economy R&D and education
- International networks



DIGIPOLIS



LAPIN AMK¹
Lapland University of Applied Sciences

LAPLAND
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ARCTIC
Smartness



Sustainable utilisation of Arctic Resources

SILVER Cluster Management Excellence
DEDICATED TO CLUSTER EXCELLENCE



Thank you

<https://arcticsmartness.eu/>