



NORDLANDSFORSKNING
NORDLAND RESEARCH INSTITUTE

Regional diversification in the spaces between KIBS, process- and seafood industry in Nordland

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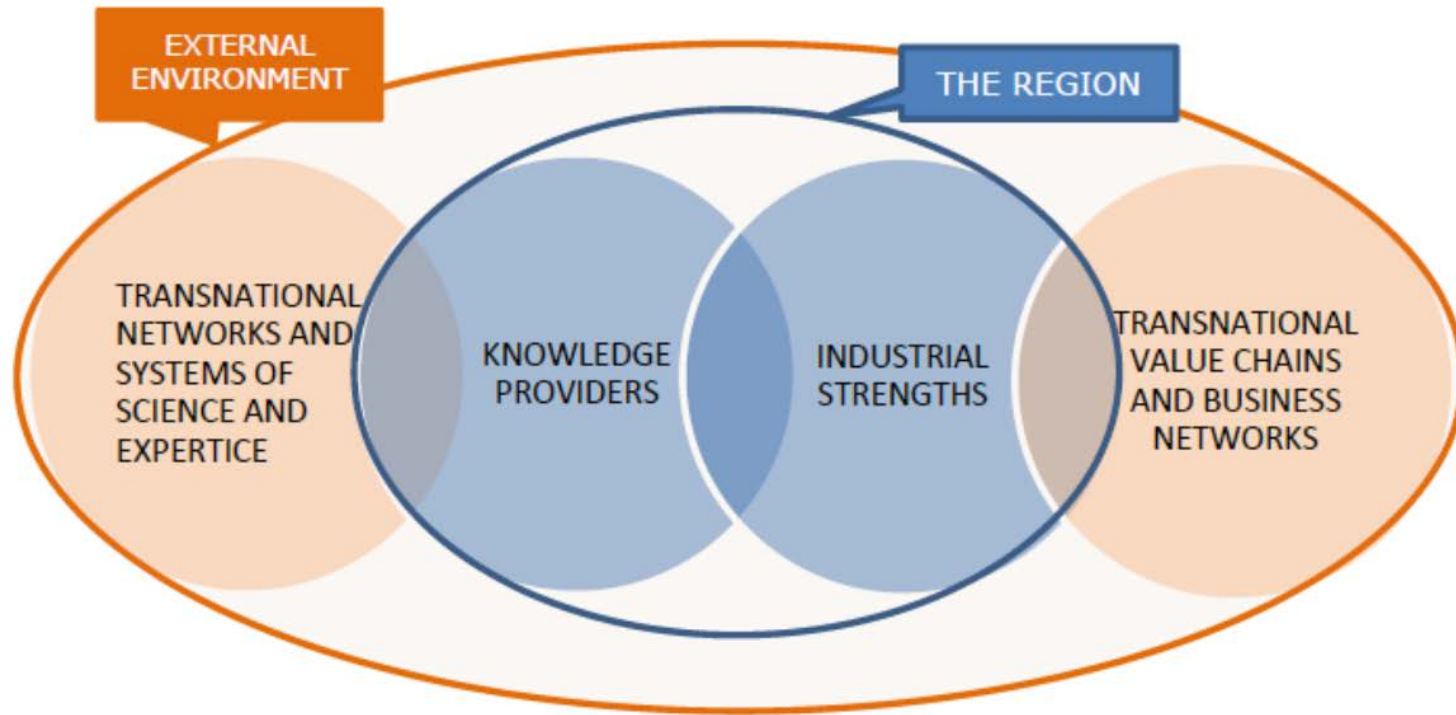
Topics

- The regional economy in Nordland – areas of revealed competitive advantages (RCA)
 - Core export industries with global linkages
 - Related industries embedding and supporting the core export businesses
 - Potential for export oriented growth in related industries
- Structural preconditions - related variety, proximity
- Strategies – gap analysis and climbing in value chains
- Cases: Areas for diversification from core areas (related varieties)
 - Marine aquaculture and process industry
 - Circular industrial economy development
- Concluding remarks
 - Clusters and their role in structuring the regional diversification process
 - Resources, governance and roadmaps



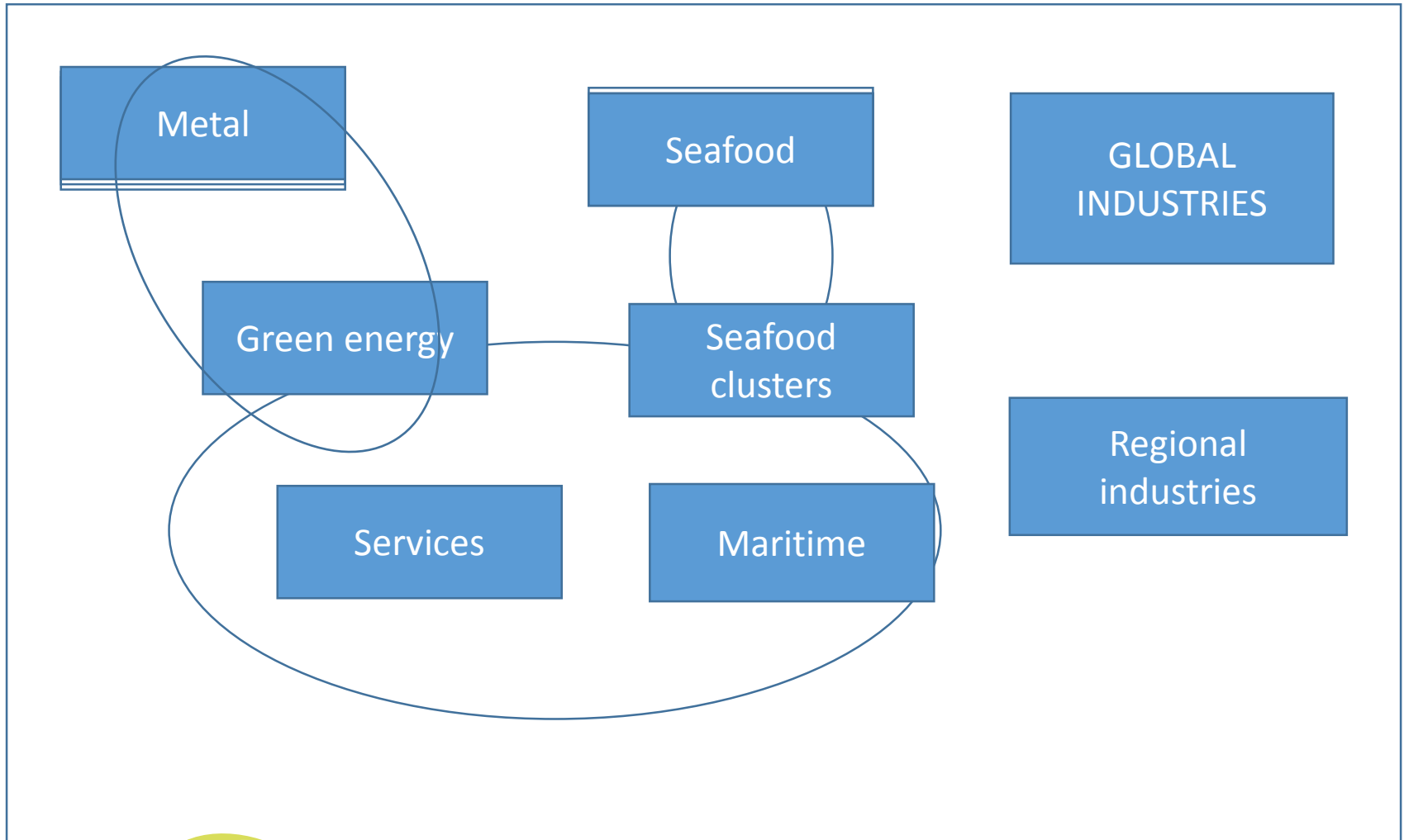


Regional and global connectedness



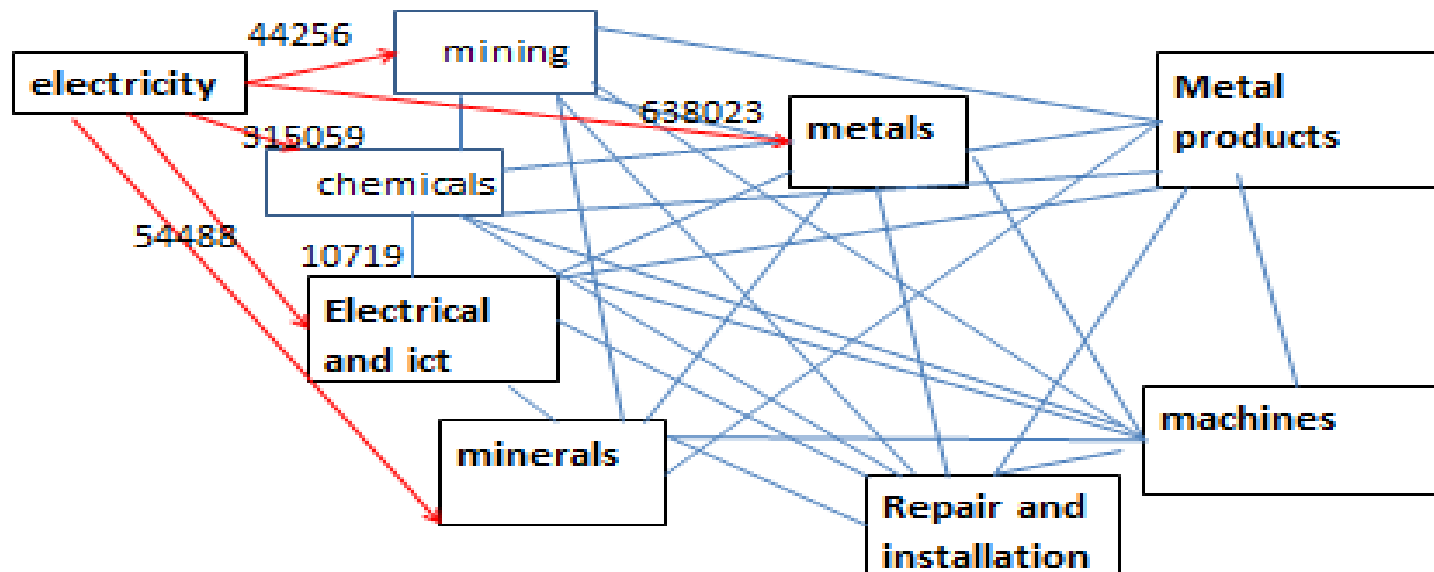


Structural connections





Industry structure and revealed competitive advantage (2013) – green energy cluster





Entrepreneurial discoveries: Experimental search for new related areas

- Search
- Discover
- Experiment
- Grow





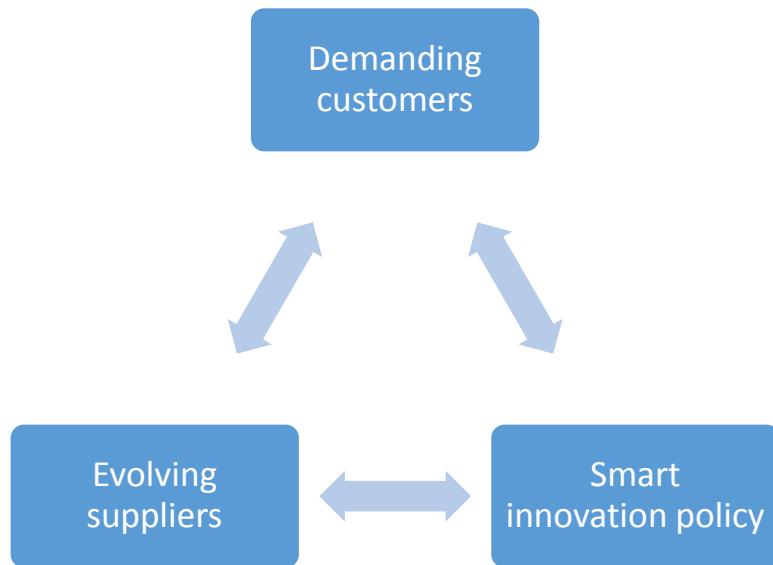
Upgrading value chains (EAAR)

- **Engaging** with the industry and its stakeholders on a continuous basis,
- **Anticipating** the likely evolution of the industry globally,
- **Assessing** the challenges and opportunities that are likely to ensue from future industry trajectories, and
- **Responding** to those challenges and opportunities in a proactive manner





Bio-Pharma in Ireland: EAAR

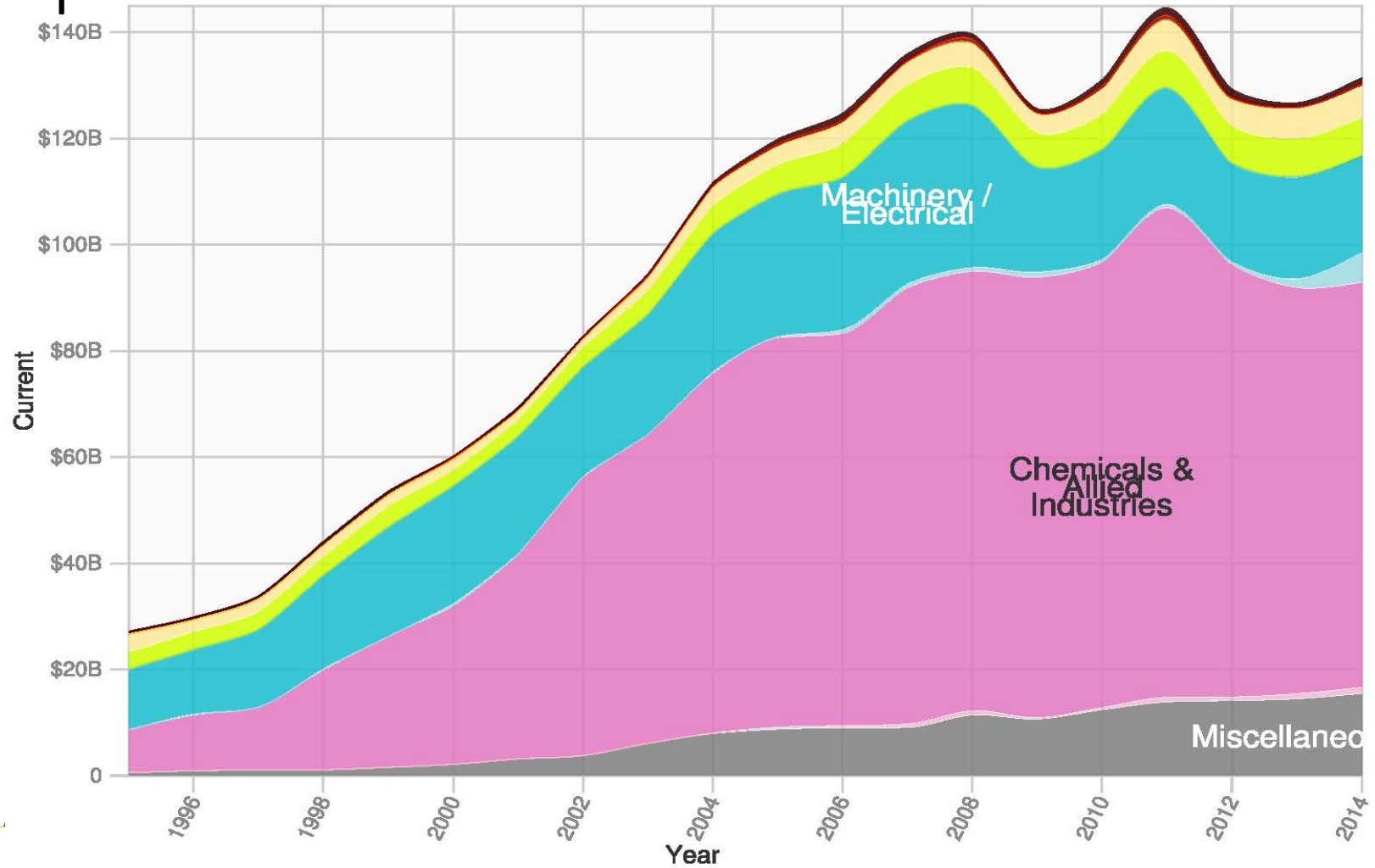


- I. Engaging* with the Industry and its stakeholders on a continuous basis,
- II. Anticipating* the likely evolution of the Industry globally,
- III. Assessing* the challenges and opportunities that are likely to ensue from future industry trajectories, and
- IV. Responding* to those challenges and opportunities in a proactive manner.





Exports from Ireland 1996 - 2014





KIBS in the space between industry and seafood: the case of BILFINGER

- From simple service products in local markets to complex services with global markets
- Spin-offs from large companies, matures and becomes regional (Hydro Production Partner/Bilfinger)
- Advanced customers: Alcoa
- Alcoa - Bilfinger relationship: Engineering, maintenance for the processing industry
 - Also oriented to the seafood / marine sector
 - Bilfinger located both in Meløy and Rana

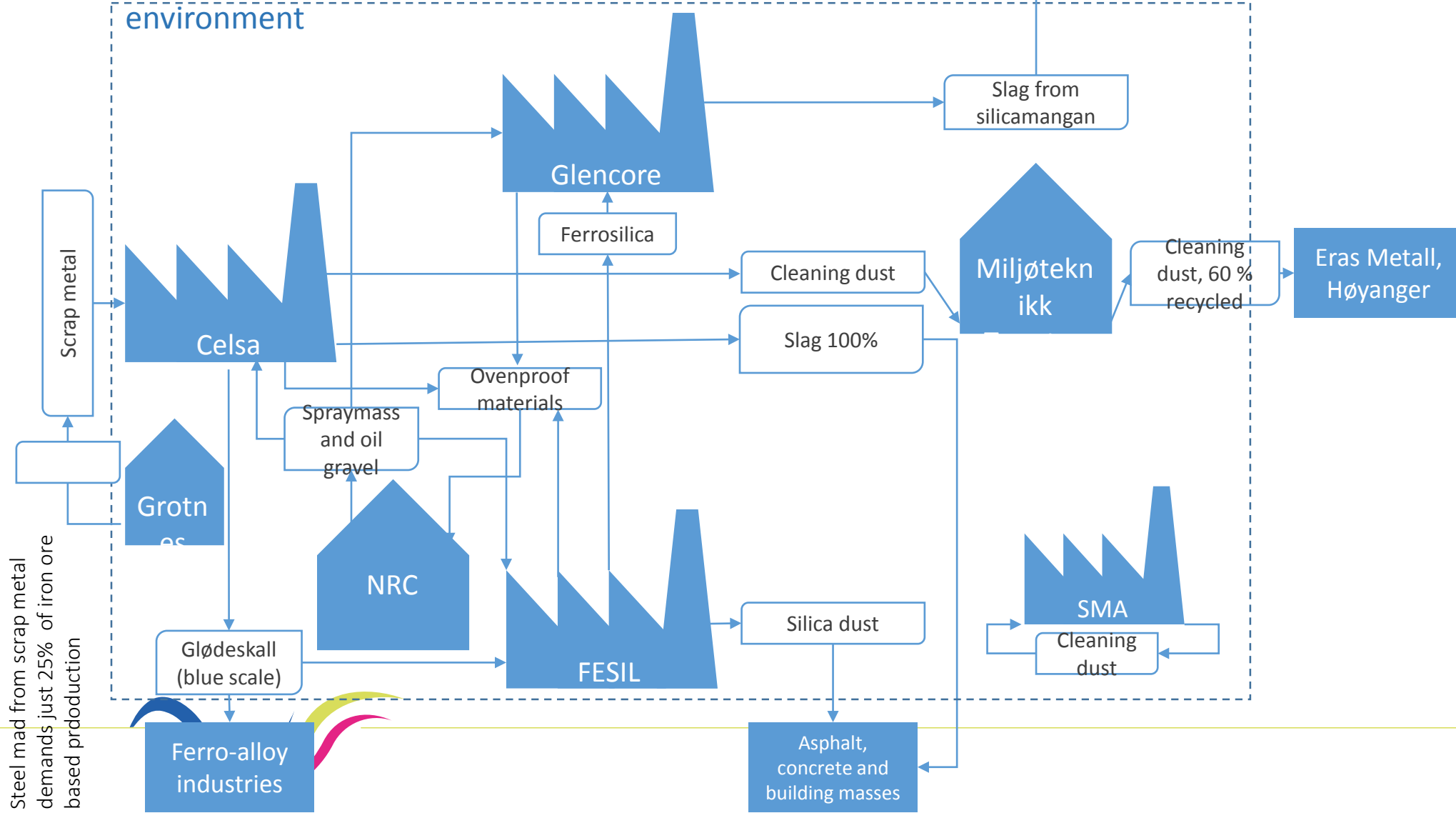




Exchange of biproducts between enterprises

Årlig volum

External environment



Steel made from scrap metal demands just 25% of iron ore based production



Asphalt, concrete and building masses

Eras Metall, Høyanger

Øijord & Aanes

Slag from silicamangan

Miljøteknikk

Cleaning dust
Slag 100%

Glencore
Ferrosilica

Ovenproof materials

Spraymass and oil gravel

NRC

FESIL

Silica dust

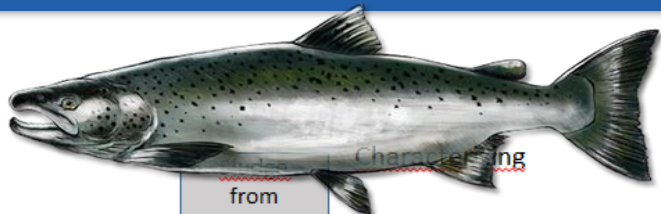
SMA
Cleaning dust

Celsa

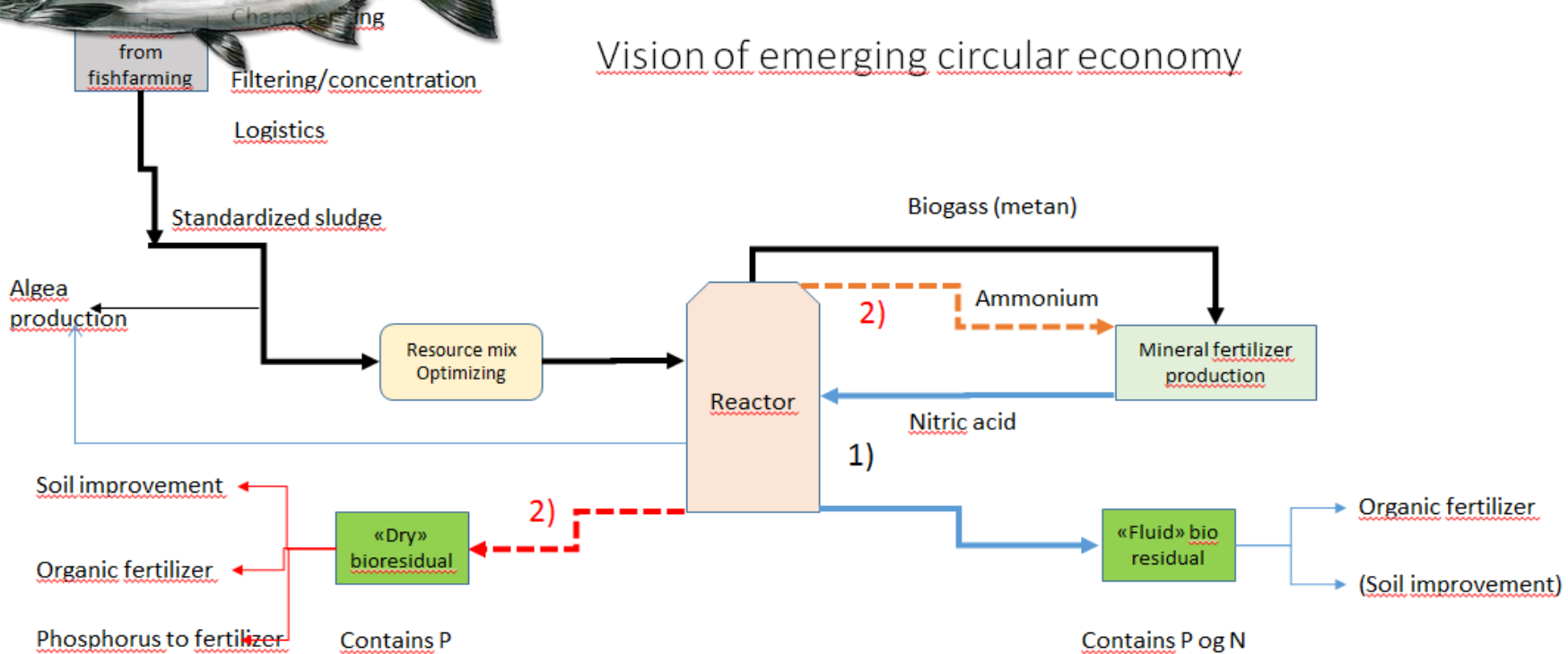
Grotnes

Glødeskall (blue scale)

Scrap metal



Vision of emerging circular economy

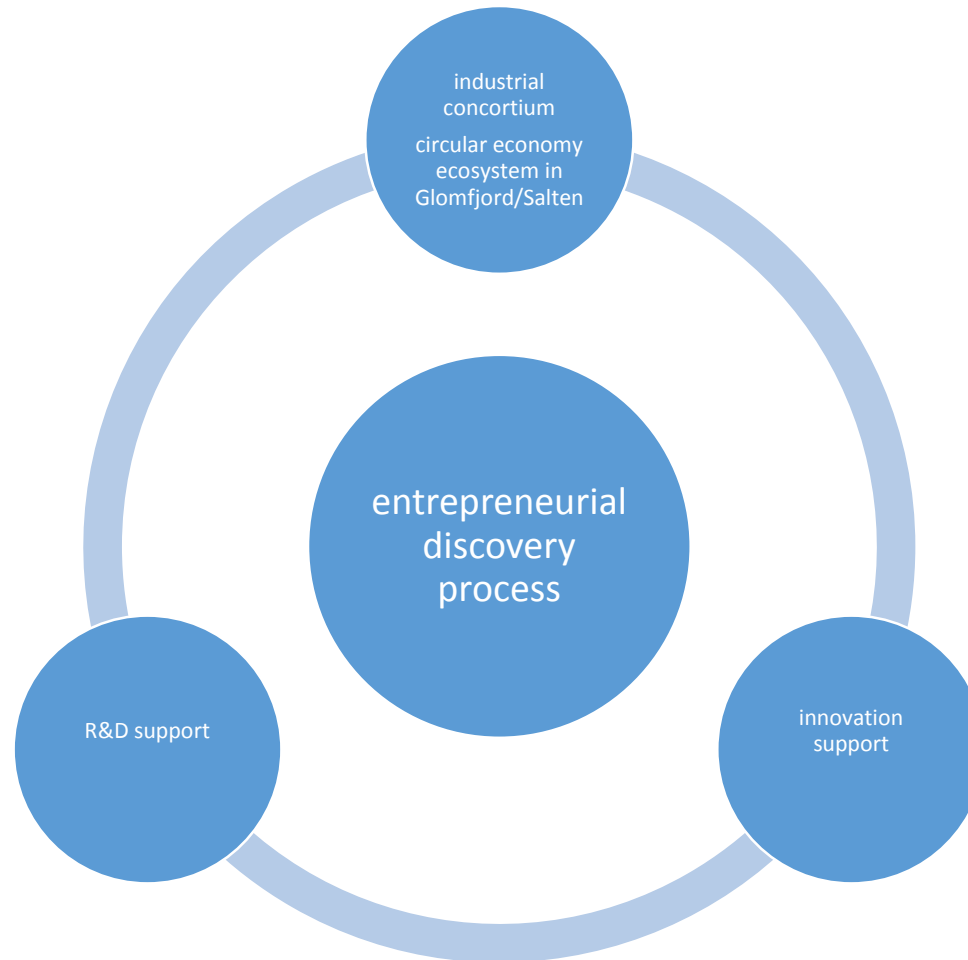




In search for sustainable entrepreneurial discoveries – the biomarine case in Meløy/Salten

Foray	Our case: an emergent paradigm
Discovery	The idea to use sludge as a resource
Knowledge spillover	Motivation of partners to join the project
Entry of activities and firms	Further diffusion, copying from others ?
Agglomeration	From experiment to industrial practice?
New path, path renewal	New eco-friendly way to produce salmon, new products, energy recycling?







Knowledge building: Major contribution from R&D to the entrepreneurial discovery process

1. Analysis and overview based on theories of circular economy, entrepreneurial discovery theory and others. This analysis will provide a conceptual and analytical background for the development process
2. Process support through the RDPM method provided by the Smart Specialization platform. It includes:
 - a. Mapping of circular economy process flows and logistics today
 - b. Mapping of the development platform of the consortium through a matrix of knowledge providers, such as technological experts, and industrial capabilities and knowledge
 - c. A foresight process where long term trends affecting the development platform, requirements in terms of new external knowledge,
 - d. Development of shared vision, through dialogues relating to various scenarios and solutions
 - e. Analysis of a roadmap, linking the vision with the current situation, and identification of steps to be taken
 - f. Setting up of an organization of implementation, capable of following the roadmap
3. Monitoring and analysis, with reference to the Foray theory of entrepreneurial discoveries:





CONTRIBUTION FROM THE INDUSTRY CONSORTIUM TO THE PROCESS:

- Relevant and key industry experience and competence within the sectors and activities forming the basis for the SmartT_BIOCIRC project
- Active participation in joint activities of the project and use of knowledge base, foresight process, roadmap and action plan development
- Mobilization and complementation of the industry consortium partnerships to support entrepreneurial discoveries and circular process and product innovation
- Decision process on potential JV company formation and pilot plant in Meløy related to biogas and other products based on marine bioresources
- Decision of potential upscaling of production based on commercial experiences and roadmap implementation





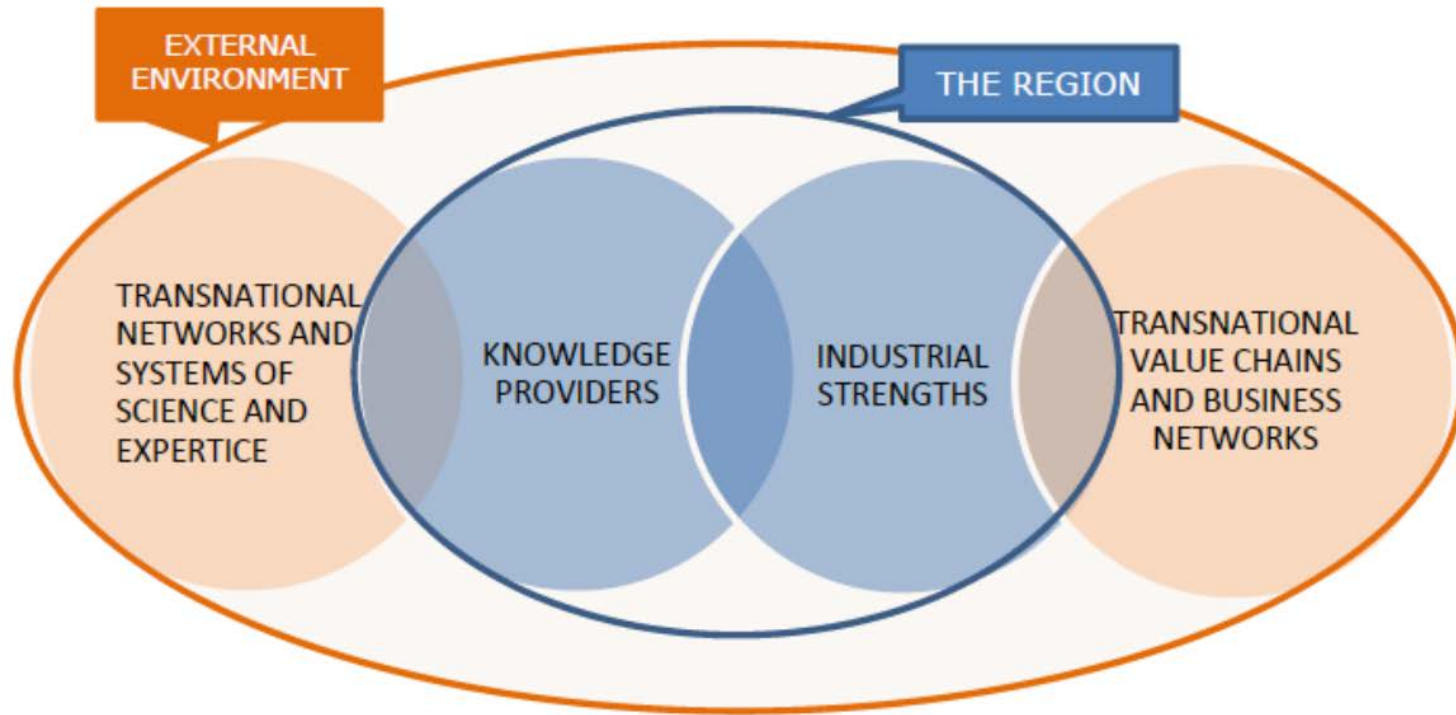
Other potential areas for entrepreneurial discoveries and growth:

- Joint market orientation and synergies between the fisheries and aquaculture value chains and experience based value creation
 - Global export of fresh products based on global fresh product logistics developed by the aquaculture industry
 - Sortiment and economics of scope – salmon and white fish species
 - Supporting long term critical mass in integrated coastal industry clusters as demanding customers for diversification
 - Link experience based value creation and exports to food sector (food experiences in tourism)
 - Winter tourism and destination development
- Selection and long term experimenting and development
 - EAAR
- Visions and long termed governance & coordination
 - ROADMAPS AND ROLES (INCLUDING CLUSTERS)





Regional and global connectedness





Some concluding remarks

- Opportunities and limitations with relatedness
 - Core areas of Nordland economy with global and regional ties
 - How to deal with limited complexity ?
- Coordination more important to develop thin RIS structures
- Strategies for entrepreneurial discoveries (industry):
 - Align with industry driven innovation and development of demanding customer relationships to supplier industries and KIBS
 - Organize ED processes with broad participation around these linkages
 - Align the roles of cluster initiatives in the strategy
 - Establish long term governance of resource base, roles, policy mix and monitoring

