The SUBMARINER Network as facilitator for sustainable & innovative blue growth cooperation

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Programme Manager

BlueBioSites

Overall Objective	Identify OPTIMAL SITES for the BlueBioEconomy in the Baltic Sea Region. Establish Standards for continuous Monitoring of these Sites. To that end: improve the knowledge base, analyses and disseminate tools / results to identify and monitor Blue Bioeconomy sites throughout the BSR. The project is expected to showcase efficient and rewarding ways to gain and integrate the necessary data and information, as well as to transfer this knowledge to a wide range of stakeholders depending on sectoral needs.					
	WP0 Project Management & Communication					
	WP1	**WP2**	**WP3**	**WP4**	**WP5**	**WP6**
WPs	**Framework Conditions in BalticSeaRegion** Policy, Strategies, Targets in all countries **Recommendations / Best Practices / Standards**	**Identifying OPTIMAL sites for the BlueBioEconomy:** Available spatial tools, data, spatial criteria **Data Availability - Needs**	**Green Deal /Climate Targets: To what extend can the Blue BioEconomy contribute?** **Data Availability - Needs**	**Monitoring Standards & Technologies** **Private / Public** **Minimum Baltic wide agreements**	**Communities of Practice: Intelligent Collaborations / Conflict Mitigations with other stakeholders / How do BlueBioSites into current MSP frameworks?**	**Develop and Apply Regional Decision Support Tools to encourage growth in the Blue BioEconomy Sector?** **What are the socio-economic impacts of more BlueBioSites?**
LINK			Address Climate Change Test Business Models for Ecosystem Services	Reduce risks of water pollution	Facilitate joint use of water and land Develop value chains	Diversify blue economy Test Business Models for Ecosystem Services Provided
Results	Updates on current Blue BioEconomy Strategies Workshops with Policy Makers / Industry What would be needed to satisfy industry / company demand?	Which tools / data sets are already available in BSR countries? How are they similar? In what do they differ? What kind of underlying spatial criteria have been used?	What are possible scenarios in view of bluebiosites functions for Nutrient Uptake, Water Cleaning, CO2 Uptake ? Provide model calculations of blue bio value chains in view of contributions to ecosystem services / climate goals	Compare current monitoring practices & technologies across sectors, countries (also outside Baltic) both at public and private level	How can the optimal sites identified fit into current MSP Frameworks?	Co-create visions for the blue bioeconomy development in given pilot regions with stakeholders Assess the socio-economic consequences of increased shift to local production, incl. ecosystem services
	Synthesis of BlueBioSites project results: Recommendations / Policy Briefs for Blue Bioeconomy improvements in the Baltic Sea Region.	GIS decision support tool user-guide How to integrate the data and insights gained within BlueBioSites with existing MSP data portals and MSP implementation	Predict plausible climate-change driven consequences and risks on the blue economy sectors. Providing recommendations on how best to adapt to climate change	Suggestions for how to monitor these best and most optimal aquaculture sites (taking into account EU WFD and MSFD indicators)	How are other sectors affected – positively or negatively? What kind of solutions can be found? Where are possibilities of collaboration?	Develop regional blue bioeconomy development & actions plans and integrate them into the regional strategies (i.e. climate, social, etc.)
Who	LIAE	**Utartu EE**	IOW? DTU Aqua?	**BioParkEE, Innovatum SE**	**Latvian Ministry**	Uni Wismar?
	SUBMARINER	SYKE, KU	SYKE, KTH		GMU, SYKE, Utartu, Klaipeda Uni, SDU, IOW	

SUBMARINER NETWORK

BlueBioTECH project

Technology transfer support for circular bioeconomy

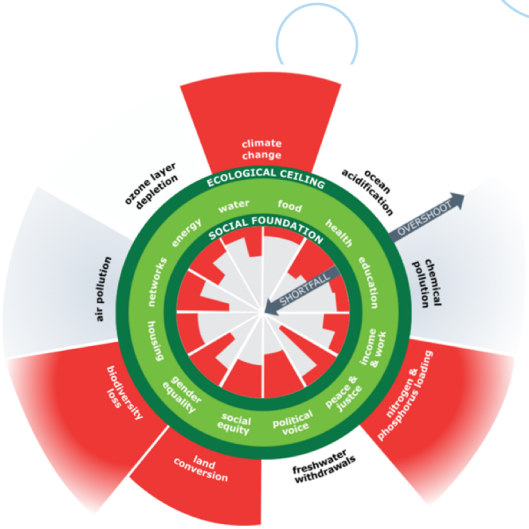
SUB MARINER NETWORK

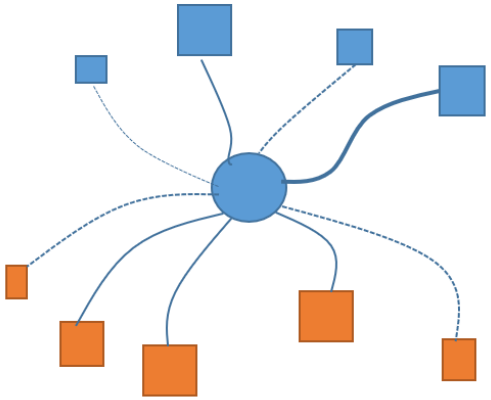
Efthalia Arvaniti

Programme Manager

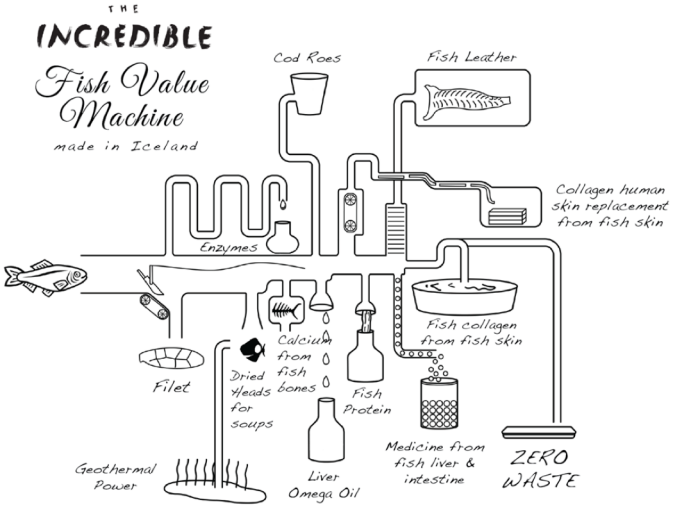
Scope

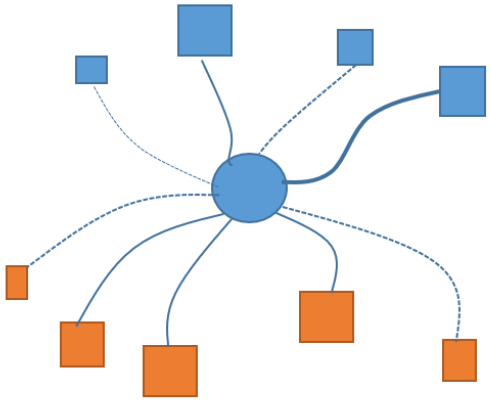
- Increase sustainability by expanding bioeconomy – increase social foundation and reduce ecological impact
- Establish new ”connections” in a robust business ecosystem by combining well-established companies on the marked- and innovative start-ups
- Support innovation and new business models rural communities (in the region)





How can we establish the new connections in a robust business ecosystem





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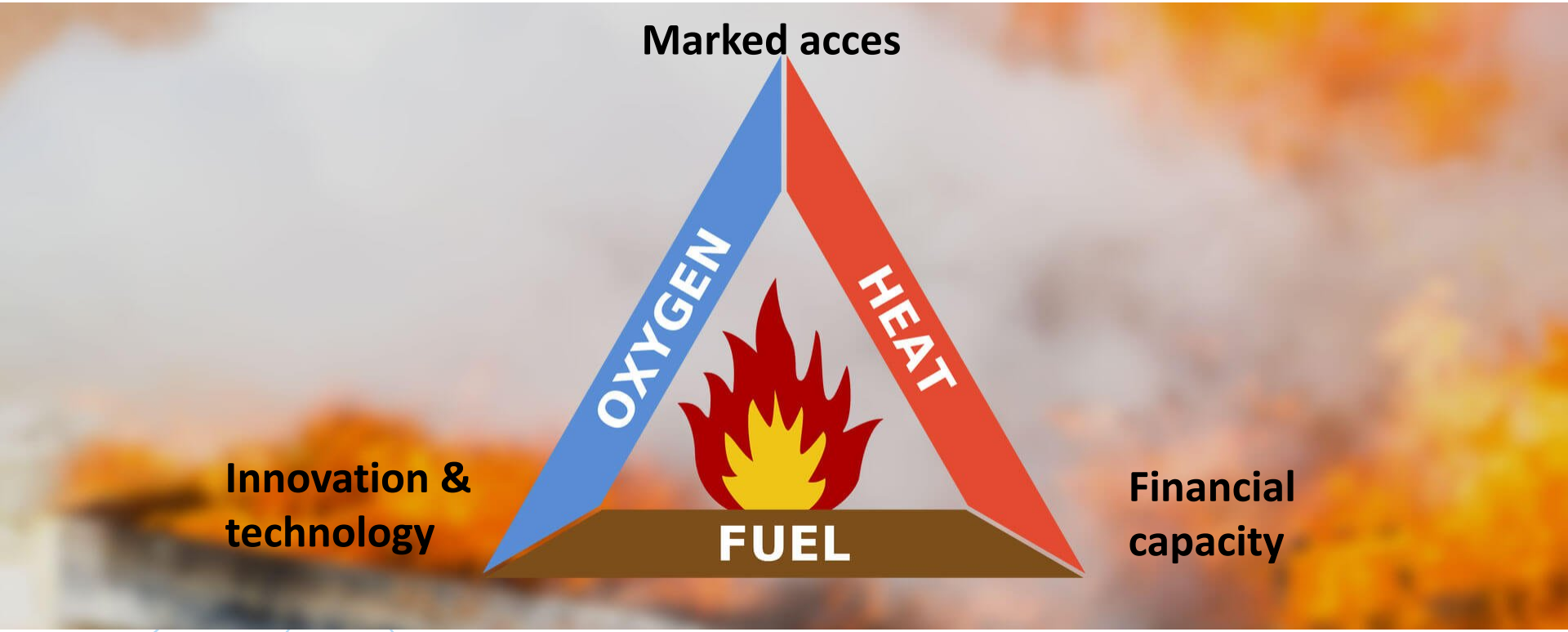
Combining well-estabiliched companies on the market and innovative start-ups



SUB MARINER NETWORK

Development of 3 ”machines”

RAS finfish aquaculture

Narrative:

- high intense production
- very concentrated on a single production site
- with the goal to produce a single main product (e.g. salmon)
- with several potential side streams that can be used by other industries
- with high specific needs in energy, land-use, social acceptance, high capital / asset binding, high investment costs and risk, high degree of independence from other operations (they can stand alone) with the effect that all externalities (e.g. emissions) have to be dealt with individually

Diverse blue biomass production

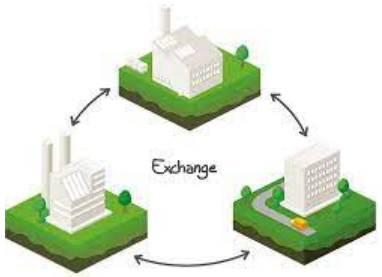
Narrative:

- primary production or abstraction/wild harvest of low trophic blue biomasses (esp. mussels and algae)
- mostly SMEs with smaller operations, decentralized locations, close to the coast in rural areas
- limited cooperation among producers, limited access to finance,
- produce a diversity of products (derived from algae and mussels) but with low efficiency
- providing ecosystem services (nutrient catch/ removal, habitat management)

Industrial Symbiosis

Narrative:

- Aquaculture / other blue bioeconomy activity in SYMBIOSIS with another industry
- can be located on land or sea
- both businesses co-exist and mutually support each other by delivering goods and services
- coupled operations are only viable when they work together, the individual process is not viable
- the SYMBIOSIS enables more sustainable/ effective use of resources, enables better social acceptance and solves mutual problems



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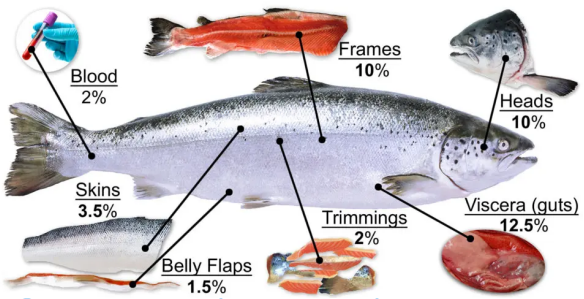
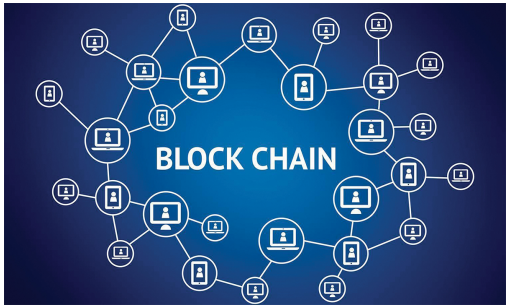
Cross-cutting topics as tools

Cross-cutting topics/tools:

1. digitalization, AI, blockchain
2. definition of products / access to markets
3. use of side-streams (incl. energy), circular economy
4. permission, certification, social acceptance
5. business ecosystem development





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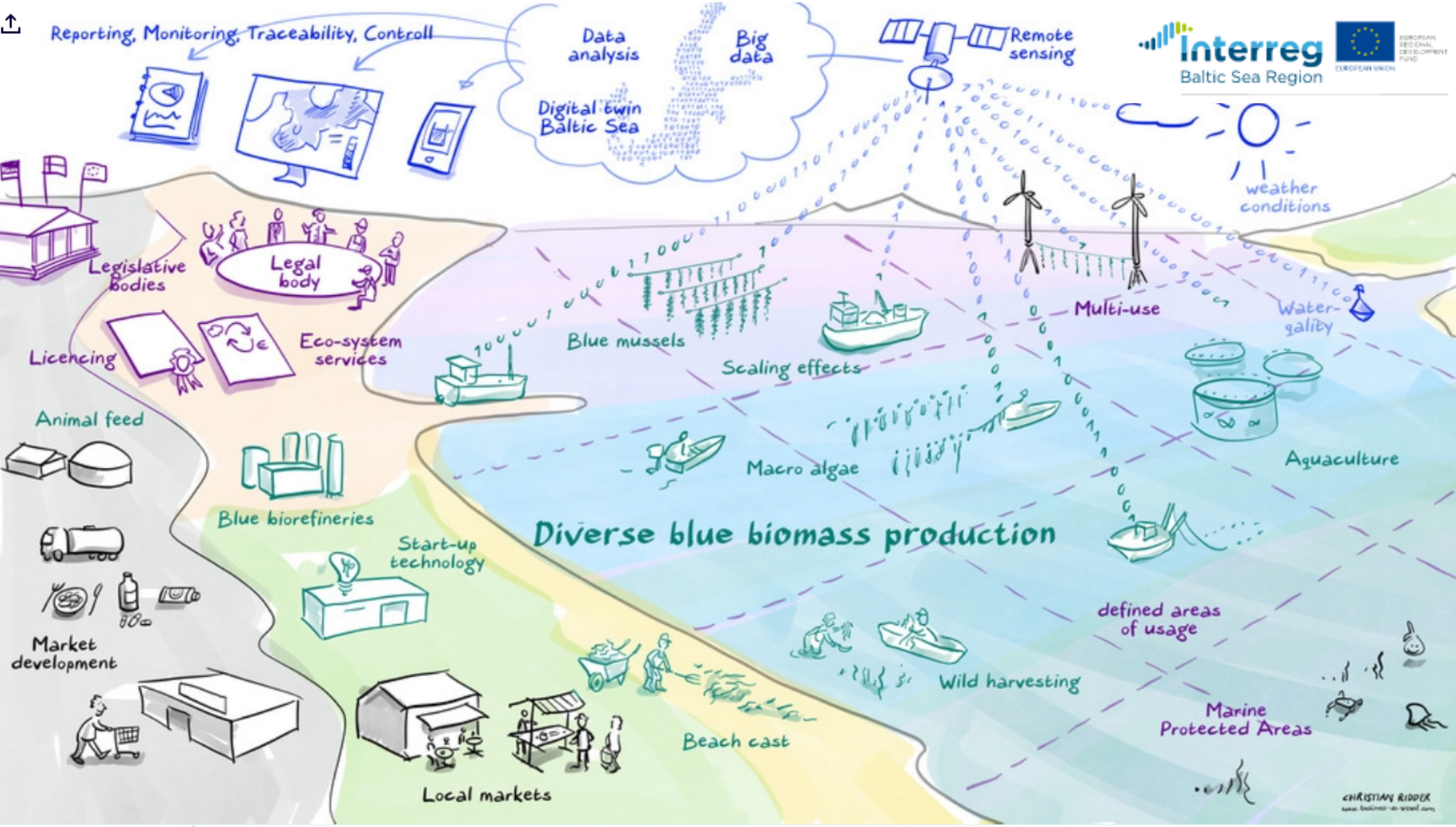
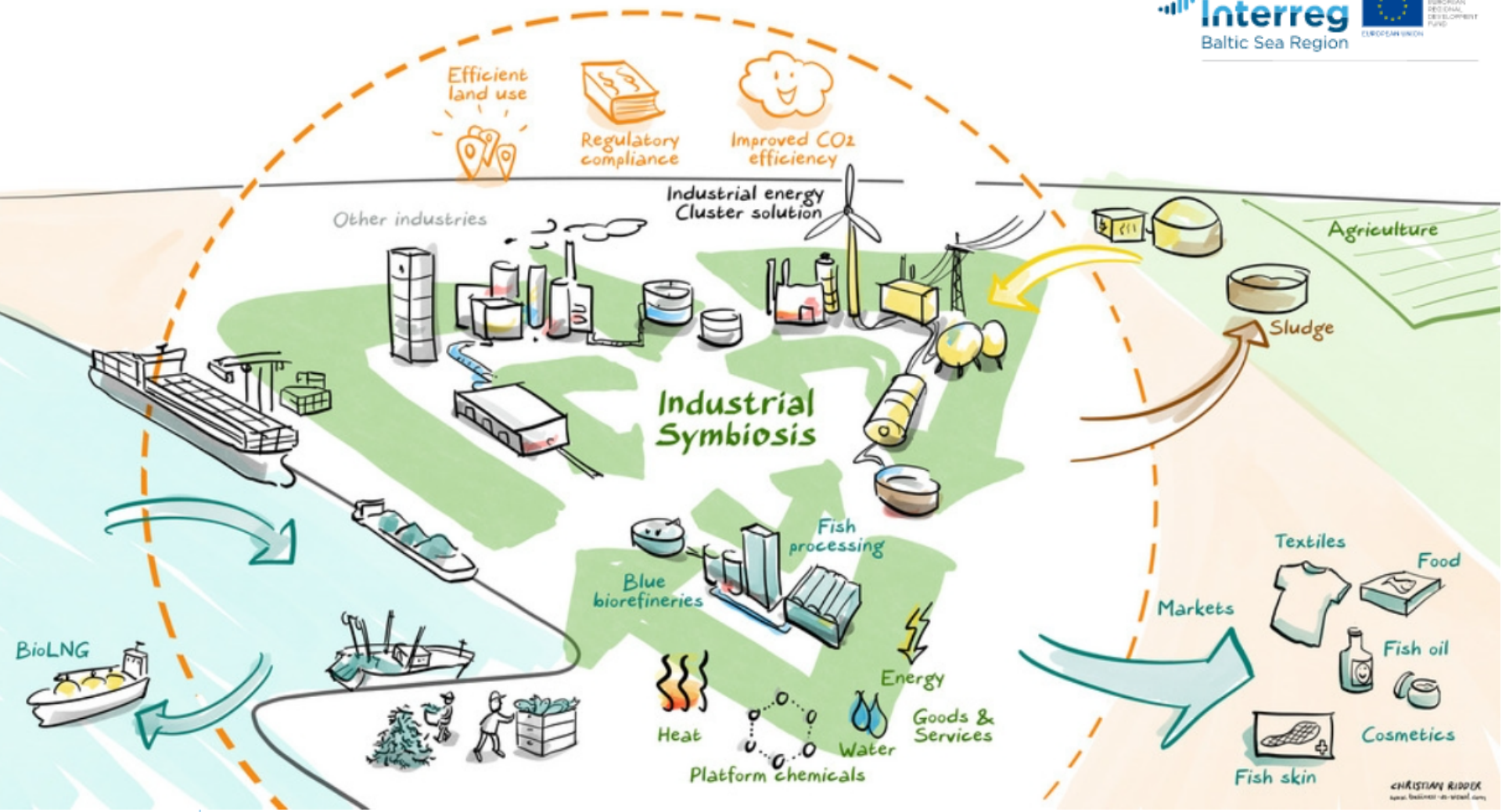
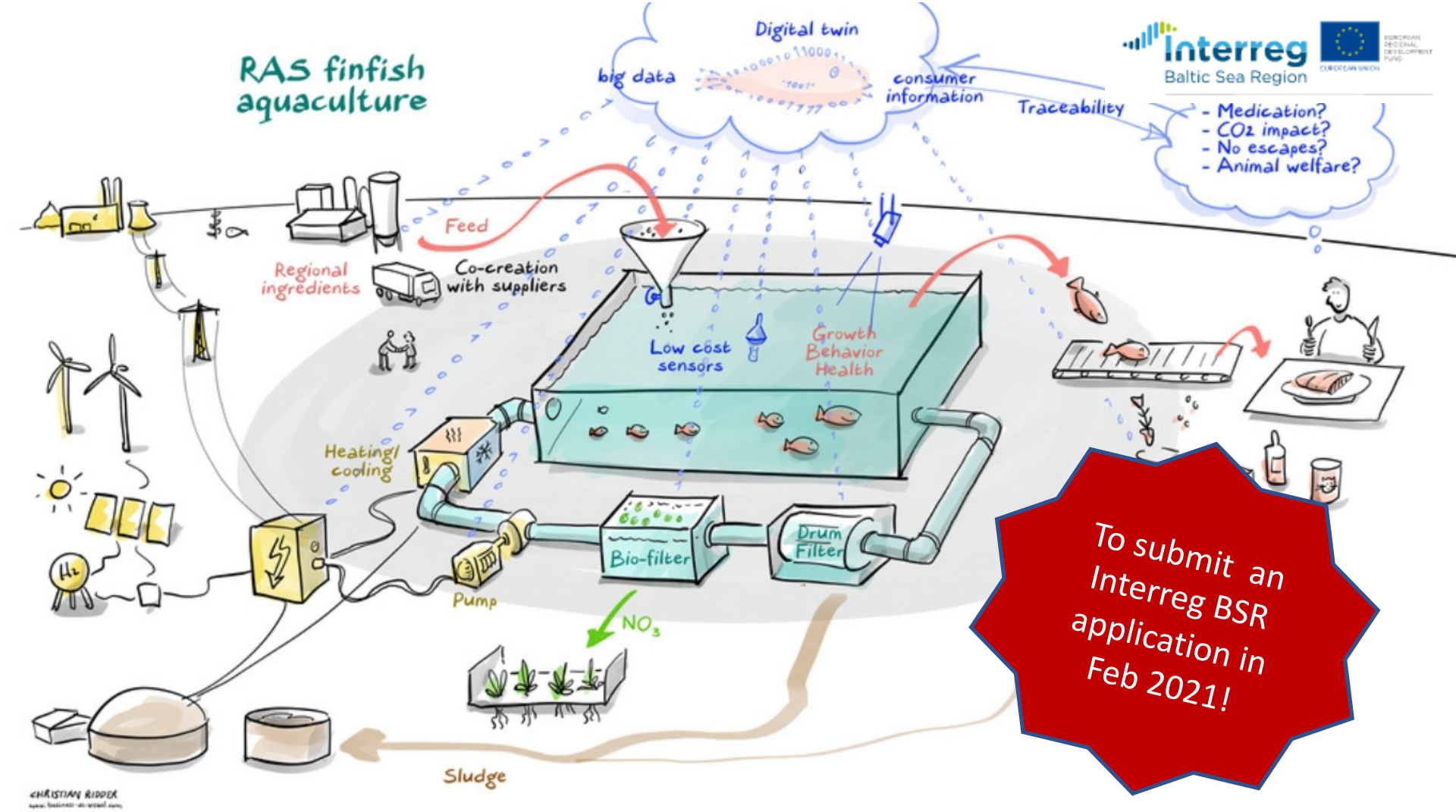


1. More **efficient/sustainable production - upstream, downstream, logistics.**
2. Improve **economy/efficiency**/support better governance, by digitalisation of operational management and in environmental monitoring
3. Support **new business** by organising small farmers (share equipment, know-how)

SUBMARINER NETWORK



1. Support **biobased economy**: Use of algae in agriculture e.g. biofertilizer, biostimulant or feed
2. Support **Zero waste/support biobased economy:** Biorefining (algae, mussels, beach-cast)



To submit an Interreg BSR application in Feb 2021!

1. **Sustainable** local fish feeds: From microalgae, mussels, macroalgae replacing soy
2. **Sustainable** energy integrating geothermal, Industrial Symbiosis concepts

RAS Consortium (tbc)

- KSTP, LT (LP)
- CORPI/Klaipeda University, LT
- SUBMARINER Network, DE
- University of Gdansk, PL
- OIFO, NO (tbc)
- Blue Research, DK (tbc)
- Local Ocean, LT (tbc)
- Kiel Uni (tbc)

- Submit under Interreg BSR Objective 3.1 Circular economy
- Estimated budget 2.5million EUR