



WEBINAR

BLUE ECONOMY SECTORS SKILLS ANALYSIS

Understanding skills challenges and opportunities in

Blue Economy Sectors across European regions

11 June 2024

10h-11h30



- 10.00** **Welcome and introductory remarks, Òscar Palazón**, Regional Ministry of Education, Catalonia & EARLALL WG Skills and Labour Market co-leader
- 10.10** **Session 1 | EU initiatives supporting the development of blue skills**
Arturo Incerti, Directorate-General for Maritime Affairs and Fisheries, Unit A1: Maritime Innovation, Marine Knowledge and Investment, European Commission
- 10.20** **Session 2 | Regional examples: Advancing the EU Blue Economy Sectors skills and careers: challenges and opportunities**
- **Simon Geldof**, Teacher of nautical techniques at GO! Maritime Institute Mercator Ostend (Flanders Region)
 - **M^a Asunción Morán Torío**, Teacher at the VET Center “CIFP del Mar” (Asturias Region)
 - **Barbara Irene Harterink**, Senior adviser – Vestland County Council (Norway)
 - **Alain Pomes**, Director of the Centre Européen Formation Continue Maritime (Brittany) and **Philippe Thieffry**, Energies Marines Renouvelables / Coordination Bretagne Ocean Power (Brittany Innovation Development)
- 11.20** **The floor is yours: Q&A session**
- 11.30** **Concluding remarks and closure**





Arturo Incerti – Policy Officer at the European Commission’s Directorate General for Maritime Affairs and Fishery

is an Italian Navy and Coast Guard Officer with more than 15 years of experience in law enforcement, international affairs, and search and rescue operations. He attended both the Johns Hopkins University – School of Advanced International Studies and the University of Bologna. Additionally, he graduated from the University of Pisa in Maritime Administration. During his career he spent several years at sea joining national and international missions, search and rescue operations, fishery inspections, and pollution patrols. He worked with FRONTEX (European Agency for Migration and Borders) and at the NATO Transport Group as the Italian national representative for the Ocean-Shipping. Currently, he works at the European Union Commission, in the Directorate General for Maritime Affairs and Fishery, DG MARE, where it deals with blue skills and ocean literacy.



EU initiatives supporting the development of **blue skills**

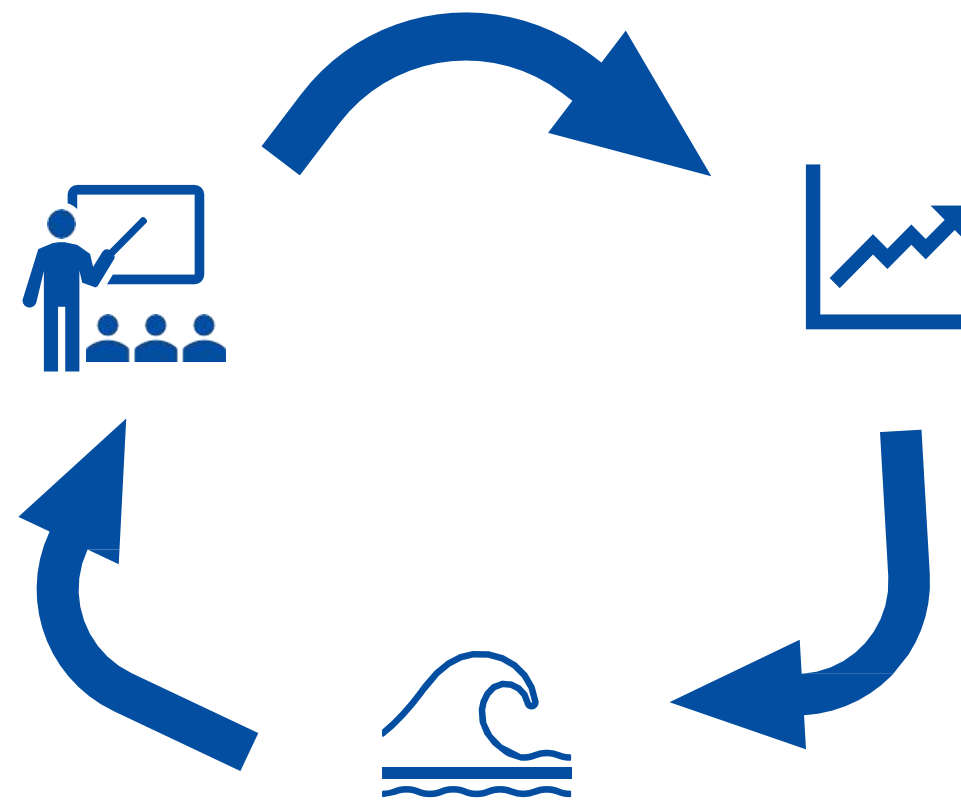
EARLALL – EU Blue economy sector – Skills analysis

11 June 2024

Arturo Incerti & Sandra Castañer
Directorate-General for Maritime Affairs and
Fisheries

We need blue skills & ocean literacy for (sustainable) blue growth

Blue skills
are needed to support
the development of
the blue economy



Blue economy
demonstrates the dynamism of
the blue economy and the
importance of the ocean for
the economy and society

Ocean literacy

is essential to demonstrate the importance of the ocean
and make careers in the blue economy more attractive

What is the EU doing?

- **Raise awareness** about the ocean, its role and protection
- **Reskilling** workers from other sectors, improve the **image** of blue careers
- **Developing** ocean literacy and blue skills trainings across the EU
- **Better cooperation** between education, government, science and bus



Trans-sectorial skills initiatives:

- **European Year of Skills**
- **Pact for Skills** (large-scale partnerships in shipbuilding & offshore renewable energy)



Calls for proposals:

- **Blue careers (EMFAF)**
- Mission Ocean (HE)
- Blueprint (Erasmus+)



EU4Ocean coalition
for **ocean literacy**

European Year of Skills to address skills gaps

When? From 9 May 2023 to 9 May 2024

How? Thousands of events and activities on skill development across Europe:



Showcasing skills development opportunities



Creating discussions between skills providers, companies and institutions

You can submit your own event or activity as contributions to the year.

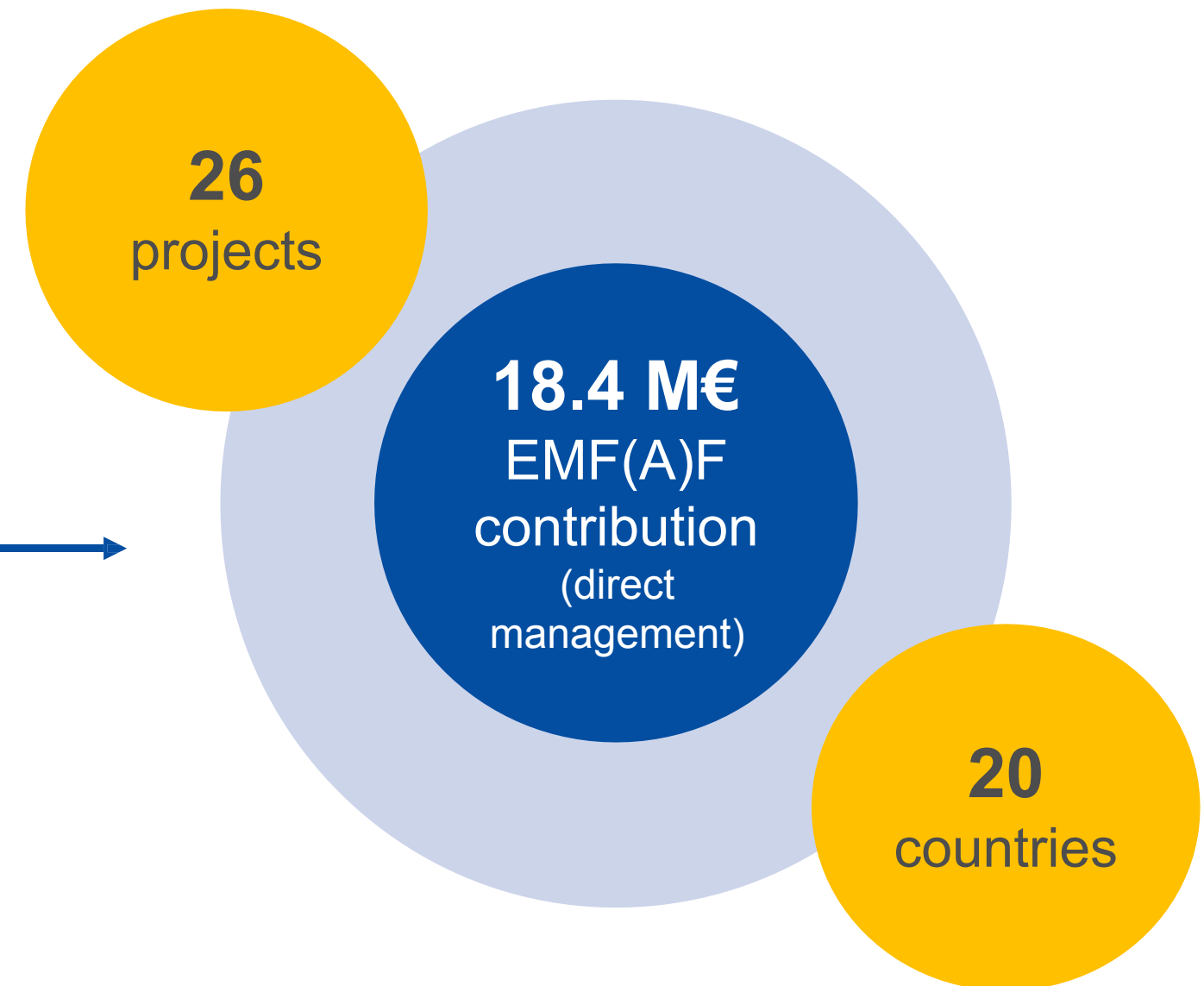


Calls for proposals to fund projects on blue skills

1. European Maritime, Fisheries and Aquaculture Fund (EMFAF/old EMFF):

Blue careers
(2016, 2017, 2018, 2023)

- + Women in the blue economy (2 projects)
- + Fishers of the future (foresight study)
- + Study on blue skills (mid-2024)
- + Actions by Member States (shared management)



Blue careers projects | 2023

Blue Career Centre for Aquaculture Education supported by a gamification approach and distance learning platform | [BlueAquaEdu](#)

Blue jobs through blue careers | [BOUTCAR](#)

The Next Blue Generation | [NextBlueGeneration](#)

Unlocking Transversal and Entrepreneurial Skills for the Blue Bioeconomy | [BlueBioTechpreneurs](#)

Training framework on Underwater Tec's as key enabler for blue careers development | [uBlueTec](#)

Blue careers in net-zero energy ports | [BLUE PORTS](#)

Integrating young offenders through the blue economy | [Turning Blue](#)

Game-based Learning of Entrepreneurship and Next-Generation Skills in Coastal Tourism | [COASTAL PRO](#)

Calls for proposals to fund projects on blue skills

2. Horizon Europe:

**EU Mission
“Restore our Ocean
and Waters by 2030”**

E.g. HORIZON-MISS-2022-OCEAN-01-08:
Student and school activities for
the promotion of education on
‘blue’ sustainability and the
protection of marine and
freshwater ecosystems



Calls for proposals to fund projects on blue skills

3. Erasmus+:

**Blueprint alliances for
sectoral cooperation on skills**

One on maritime technology:

MATES project (2018-2022)

EUR 4.9 million

11 pilot case studies on shipbuilding
and offshore renewable energy



OCCUPATIONAL
PROFILES



CURRICULUM
DESIGN



EDUCATION
& TRAINING



LONG-TERM
SKILLS STRATEGY



OCEAN
LITERACY

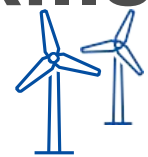


KNOWLEDGE
TRANSFER

Large-scale partnerships under Pact for Skills to create links between academia and industry

Flagship action of the European Skills Agenda to support upskilling and reskilling of workers

Existing multi-stakeholder skills partnerships for:



Offshore Renewable Energy

(supported by Erasmus+ project

ELADES)



Shipbuilding and Maritime Technology



[Find out all Industrial Ecosystems and Partnerships](#) – and consider joining?

Centres of Vocational Excellence

Networks of partners that provide high quality vocational skills to young people and adults, and contribute to regional development, innovation, industrial clusters, smart specialisation strategies and social inclusion

Existing CoVE's for:

Aquaculture ([BRIDGES](#))

Offshore renewable energy ([T-shore](#) & SHOREWINNER)

Water sector ([PoVEWater Scale-up](#))

For more information: ec.europa.eu/social/vocational-excellence

Net-Zero Industry

Solar + Hydrogen + Raw Materials + Wind + European Battery Academy



Aim: 100,000 learners per Academy within 3 years from establishment

EU4Ocean Coalition for ocean literacy



EU4Ocean Platform

for organisations and individuals engaged in ocean literacy initiatives



Youth4Ocean Forum

for young ocean advocates aged between 16 and 30

Network of European Blue Schools
for schools, teachers and staff of education services from all subjects



#EU4Ocean
#Youth4Ocean
#EUBlueSchools



European Commission

Platform
175
members

Youth4Ocean
373
members

Blue schools
530
certifications

Click on the map to get feature info

EU4Ocean Coalition for Ocean Literacy – EU4Ocean Platform members

Year: 2023

 EU4Ocean Platform member

Projects of Young Ocean Advocates

Year: 2022



Network of European Blue Schools

Year: 2020-2023



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Thank you

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Regional examples: Advancing the EU Blue Economy Sectors skills and careers: challenges and opportunities

- **Simon Geldof**, Teacher of nautical techniques at GO! Maritime Institute Mercator Ostend (Flanders Region)
- **M^a Asunción Morán Torío**, Teacher at the VET Center “CIFP del Mar” (Asturias Region)
- **Barbara Irene Harterink**, Senior adviser – Vestland County Council (Norway)
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Maritime Institute Mercator in Ostend



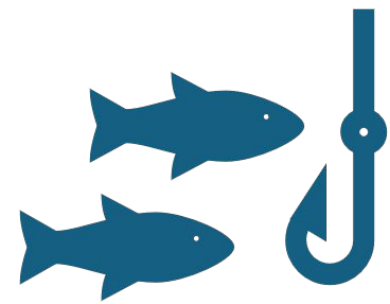
Simon Geldof, Teacher of nautical techniques at GO! Maritime Institute Mercator Ostend (Flanders Region)



He is nautical teacher at the Maritime Institute Mercator in Ostend and used to be second mate on board chemical ships. In his spare time he is a volunteer firefighter and a father of two boys. Safety and the promotion of the attitude and principles of safe working is my core business in their school. GO! Maritime Institute Mercator Ostend is the only school in Belgium educating youngsters to work in the fishery industry. Therefore, it is their school's duty to enhance the attitude with regards to safety in the Belgian fishing industry from a young age.

 Maritiem Instituut Mercator

 **GO!** onderwijs
van de Vlaamse
Gemeenschap




Safety in the fishing industry

An issue of continuous
improvement



Content



- Who are we?
 - Some facts and figures
 - A case
 - How to resolve on the long term
- 

Who are we?



Maritiem instituut
Mercator,
Oostende

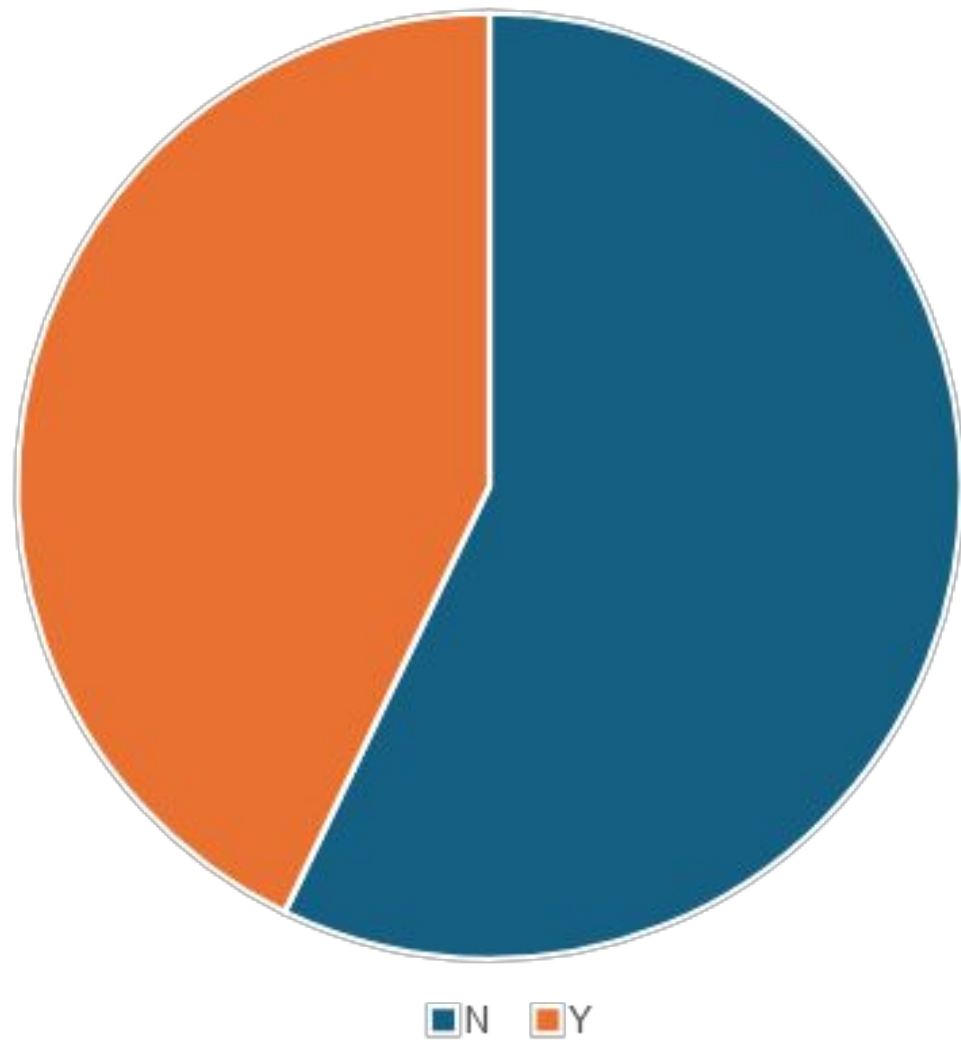
School for
merchant navy
and fishery

Education of
youghsters
between
12-25years

Only school in
Belgium
educating in the
art of fishery.

Some facts and figures

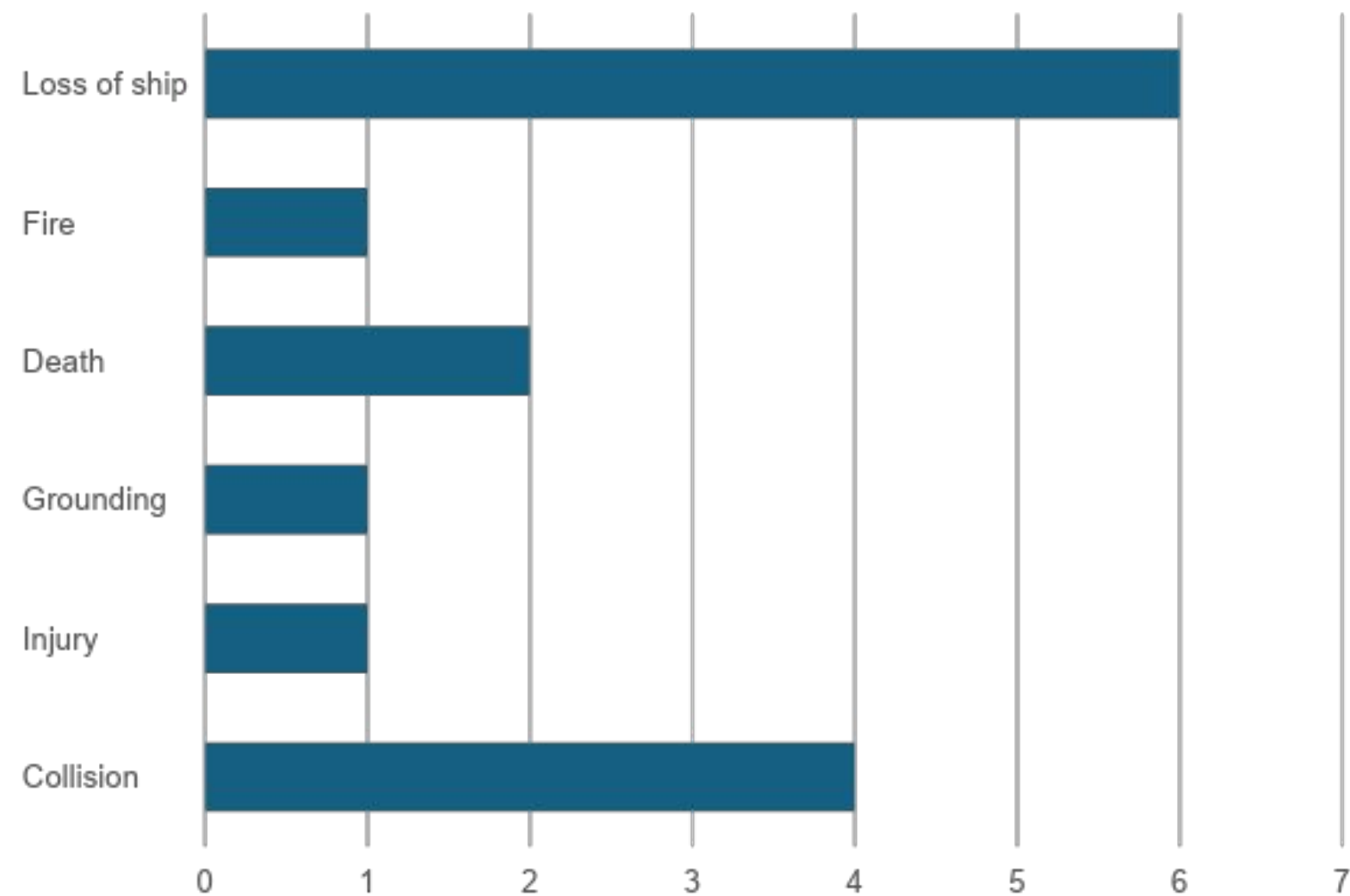
Fishing vessel involved in accident?



42,8% of all reports from FEBIMA
involve fishing vessels

Some facts and figures

Types of accidents fishing vessels are involved with

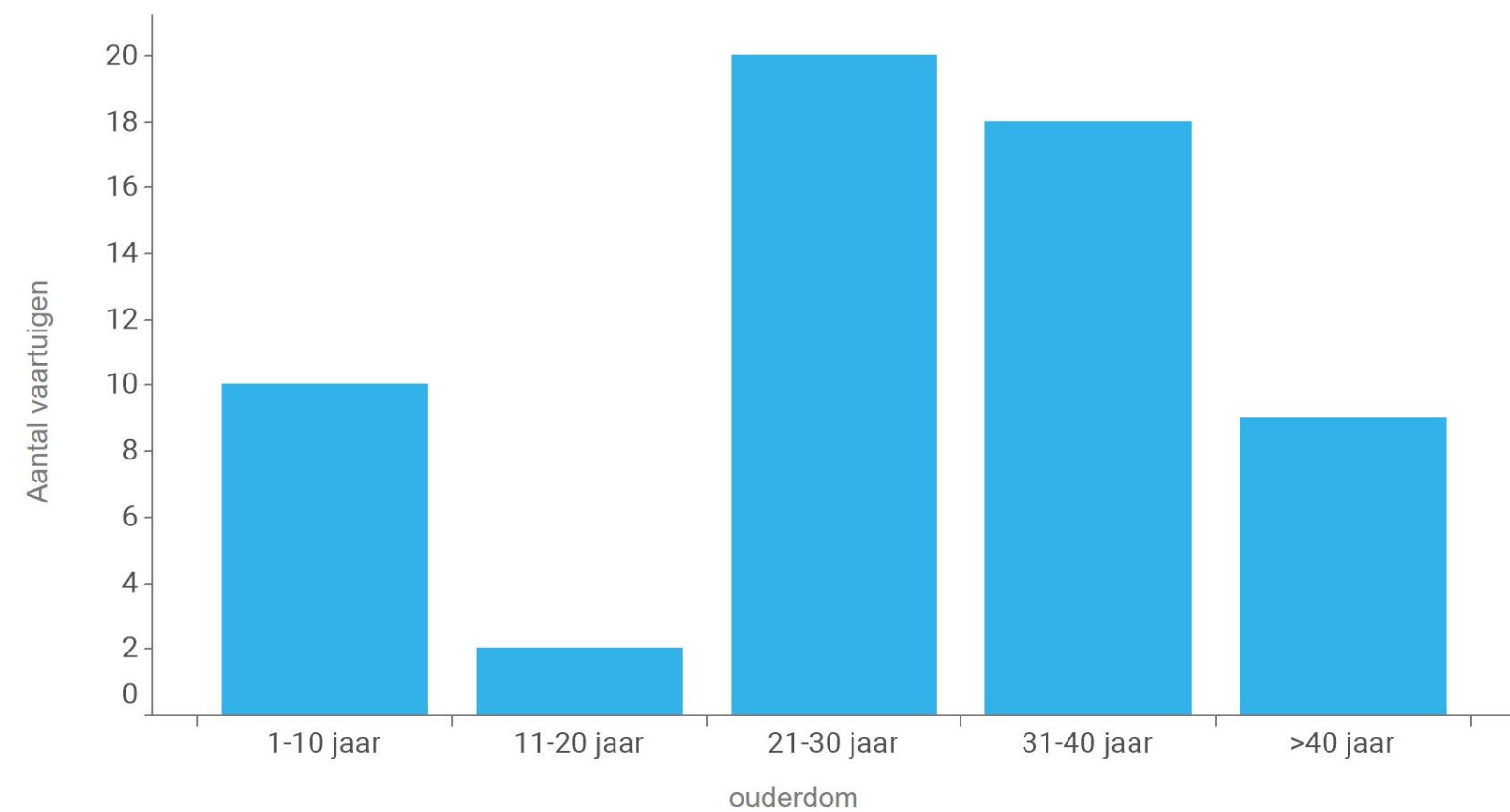


- From the 15 reports involved with fishing vessels

Some facts and figures

- Currently 59 fishing vessels

Aantal vaartuigen volgens leeftijdsklasse (situatie december 2023)

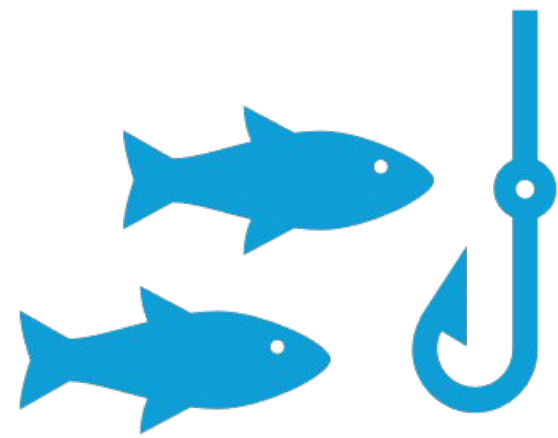


Investing in the future

- Incentive programs with regards to health and safety are in place to promote safety on board ships.
- Newer ships lead to environmentally more friendly ways of fishing.



A case close to our hearts

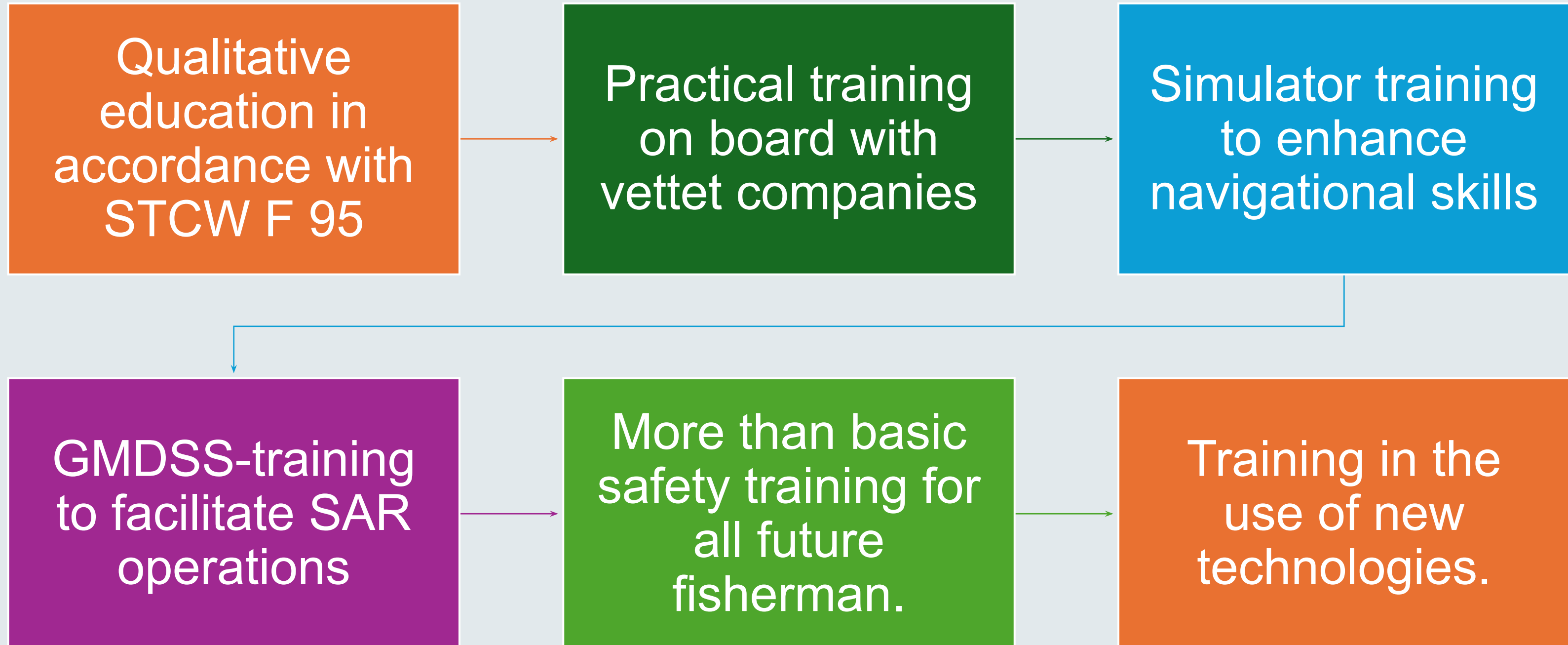


December 2023 we lost a fisherman while doing his job on board. Another was severely injured.



This fisherman was an ex-student of ours.

Our actions as school



Close relations with the industry



CIFP DEL MAR (ASTURIAS)



Mª Asunción Morán Torío, Teacher of the VET Center “CIFP del Mar”
(Asturias Region)

She is a Biologist with more than 17 years of experience working in the maritime sector.

She entered this professional field by developing emergency plans and training port workers for the fight against marine pollution.

Throughout her career, she attended the CIFP del Mar and obtained the Deep Sea Fishing Skipper certification.

In addition, she founded her own maritime enterprise where she was in charge of the management of lifelong training, environmental assessment and prevention in occupational safety.

Currently she is working as a teacher, training people whose vocation is working in the sector of fisheries, merchant marine or leisure ships industry.



BLUE ECONOMY IN ASTURIAS

- Port activities
- Shipbuilding and repair
- Maritime transport and related activities
- Fishing
- Coastal tourism
- Education and training



CIFP DEL MAR (ASTURIAS)

BLUE ECONOMY

13% OF GDP

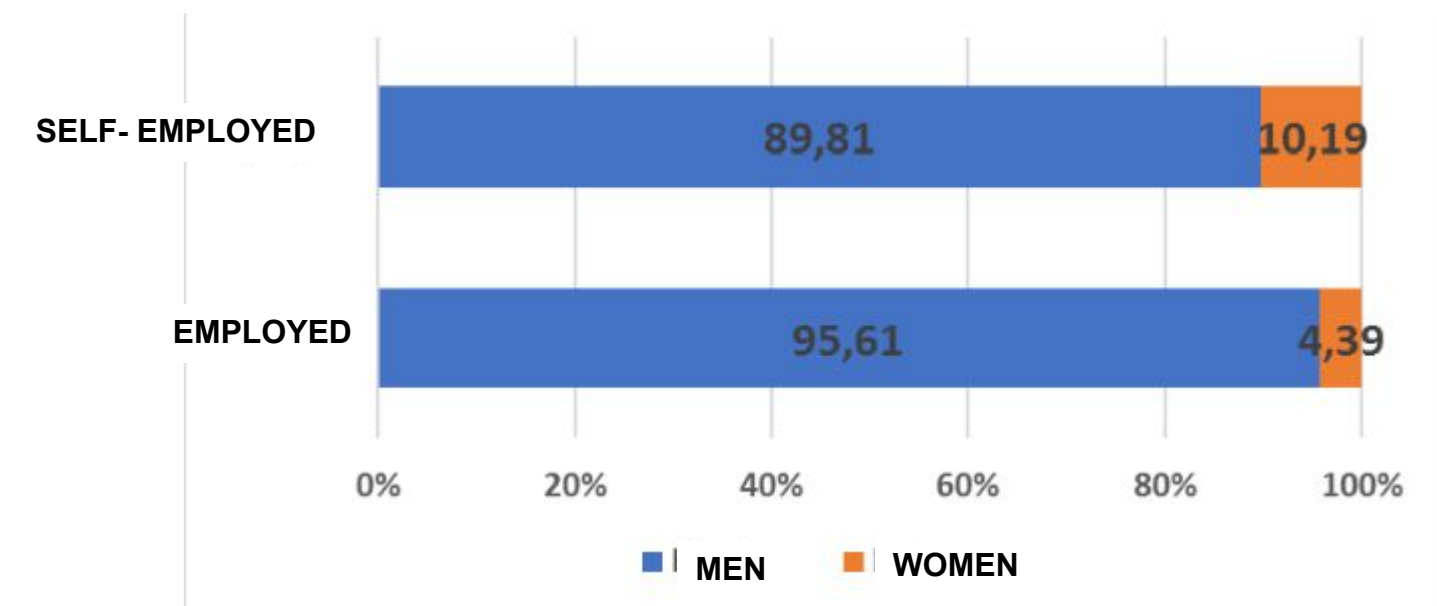
14% OF EMPLOYMENT:

Port activities: 2,5 %

Aquaculture and fisheries: 1,1 %

Coastal tourism: 65,5%

MALE/FEMALE DISTRIBUTION :

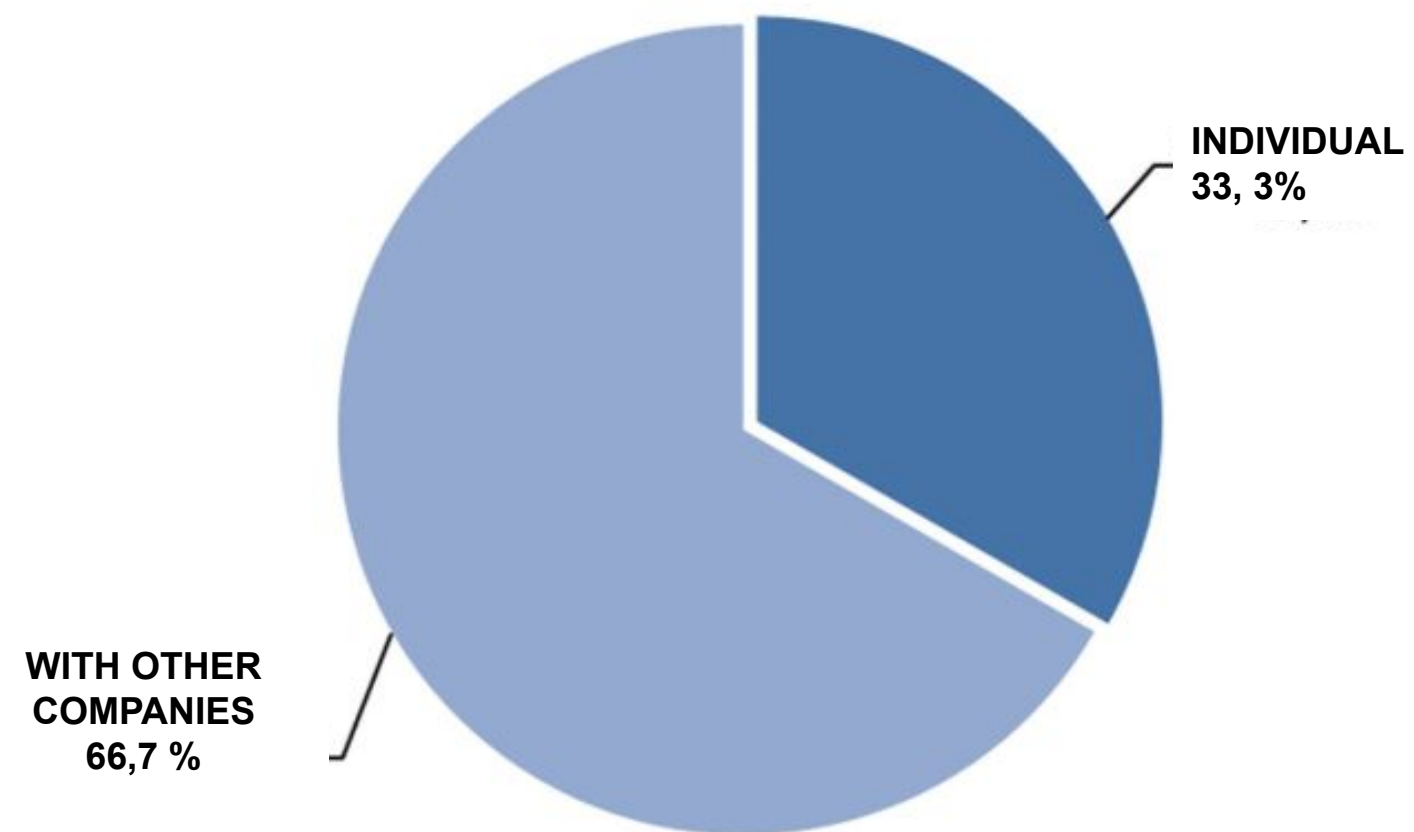


CENTRO INTEGRADO de FORMACIÓN PROFESIONAL
del Mar
GOBIERNO DEL PRINCIPADO DE ASTURIAS

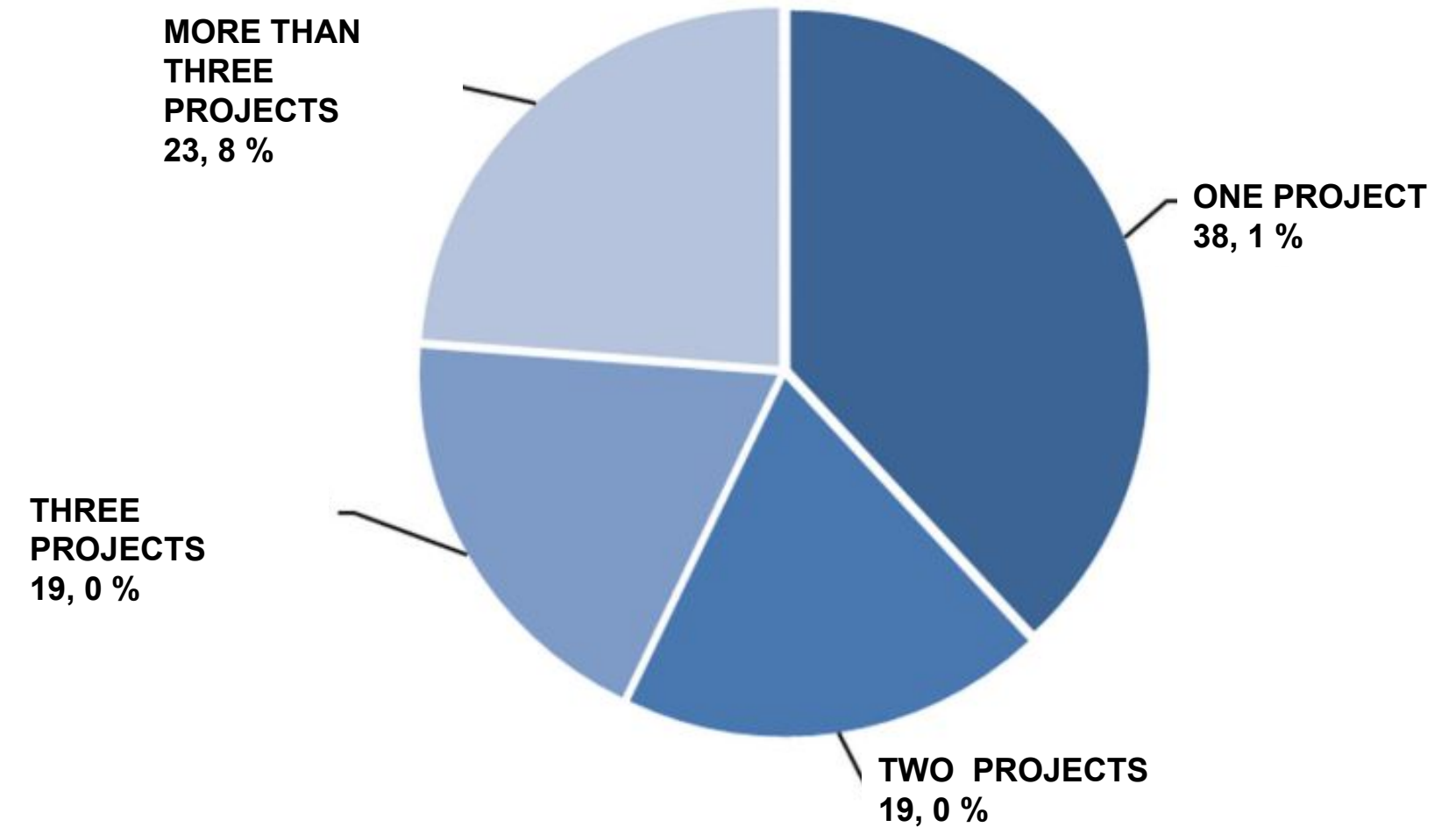


CIFP DEL MAR (ASTURIAS)

INNOVATION AND COMPETITIVENESS IMPROVEMENT PROJECTS



PROJECT COLLABORATION



NUMBER OF PROJECTS

CIFP DEL MAR (ASTURIAS)

BLUE ECONOMY EDUCATION AND TRAINING



“CIFP del Mar” : VET CENTER



UNIVERSITY OF OVIEDO: marine merchant degrees



JOVELLANOS CENTER: lifelong training



CIFP DEL MAR (ASTURIAS)

Initial Vocational Education and Training

- Intermediate (EQF level 4): 2 years
- Higher (EQF level 5): 2 years
- Erasmus + Mobilities

Lifelong education and training for adults

- In- person courses
- To incorporate to the blue economy sector
- Current professionals

Validation of non-formal and informal learning



CENTRO INTEGRADO de FORMACIÓN PROFESIONAL
del Mar
GOBIERNO DEL PRINCIPADO DE ASTURIAS



Red Estatal de
Centros de
Excelencia
en FP

CIFP DEL MAR (ASTURIAS)

CHALLENGES

- ❖ Generational handover.
- ❖ Dual training regulations.
- ❖ European network of Centres of Vocational Excellence

OPPORTUNITIES

- ❖ Centre of Vocational Excellence
- ❖ Sector with high labour demand
- ❖ Digitalization and new technologies



CENTRO INTEGRADO de FORMACIÓN PROFESIONAL

del Mar

GOBIERNO DEL PRINCIPADO DE ASTURIAS



CIFP DEL MAR (ASTURIAS)

IN PRACTICE PROJECTS: “Improving the efficiency of the maritime fisheries and port system”

- Digital transformation of the centre
- Training simulator network.
- Detection of the needs of the professional sector.
- Innovation projects and research applied to training



CENTRO INTEGRADO de FORMACIÓN PROFESIONAL

del Mar

GOBIERNO DEL PRINCIPADO DE ASTURIAS



Red Estatal de
Centros de
Excelencia
en FP

VESTLAND (NORWAY)



Barbara Irene Harterink, Senior adviser – Vestland County Council
(Norway)



**Vestland
County Council**



Vestland
fylkeskommune

Advancing the EU Blue Economy Sectors skills and careers: regional examples

VESTLAND, NORWAY

10 June 2024, Barbara Harterink, Vestland County Council



Advancing the European Blue Economy Sectors skills and careers:

VESTLAND, NORWAY



- Facts and figures
- Schools: theory and practice
- Challenges and opportunities in the blue sector:
 - Aquaculture
 - Fisheries

Barbara Harterink,
international adviser
at Vestland County Council



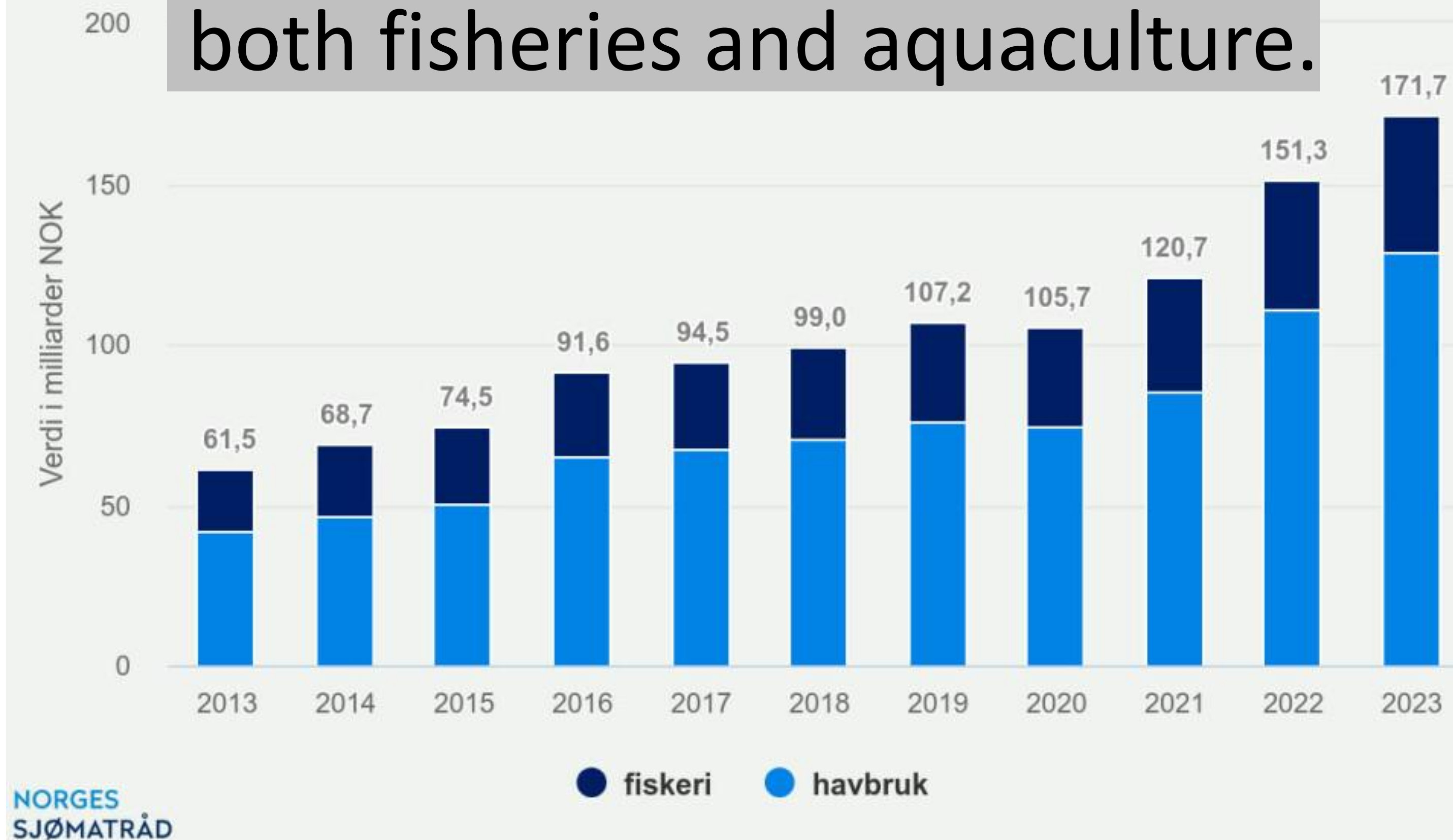


Number of employees in aquaculture

	2022		
<i>County</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>
Troms og Finnmark	1 555	377	1 932
Nordland	1 491	493	1 984
Trøndelag	1 333	360	1 693
Møre og Romsdal	800	194	994
Vestland	1 973	657	2 630
Rogaland	568	123	691
Øvrige fylker	184	49	233
Totalt/Total	7 904	2 253	10 157

In 2023, Norway exported 1.3 million tonnes of seafood from aquaculture. The value of these exports was NOK 128.7 billion. The volume of seafood exports from aquaculture fell by 1.1% compared to the previous year. However, the value of these exports increased by NOK 17.6 billion (16%) compared to 2022

Export of Norwegian seafood - both fisheries and aquaculture.



Education in the blue sector provided by Vestland County Council

Vocational schools (6)

Vg1 Natural resources, VG2 Aquaculture, Vg2 Fisheries, VG2 Maritime

Higher VET in Vestland (biggest within maritime education in Norway)

Maritime subjects and Aquaculture



Austevoll Upper Secondary School is located nearby the Institute of Marine Research. When the research station have a project that needs many hands they ask the school for help and the students work with scientists.

Our schools may apply for a teaching licence in aquacultur. They cooperate with commercial actors in the salmon and trout production. In this way the students have access to modern equipment and facilities.



The PlayStation generation....

Fish Farm feeding central,
controlling several fish farms
through cameras and sensors.

Skills needed:
technology, operational skills,
biology, data information.



Challenges in aquaculture

Salmon lice, feeds on the skin



Perlesnormanet (*Apolemia uvaria*)
This jellyfish burns the skin and
kills the fish



Colony of different individual animals

Opportunities in aquaculture

- Healthy food
- Make the fish farms more sustainable:
 - focus on healthy fish
 - focus on less pollution
 - focus on circularity
- Production of kelp



Several methods for delicing:

1. Fresh water and thermal in a wellboat



2. Laser that shoots the lice



3. Using *Labrus bergylta*



4. Aquaculture at greater deep...

Could the solution be to produce salmon in cages at greater deep, below the salmon lice?

So far the results for this kind of production are good!

Needed: good skills on every level of education, from vocational to university studies, technical education.



We are now working with The blueplanet academy and a commercial actor for making a learning tool. <https://blueplanetacademy.com/no/>

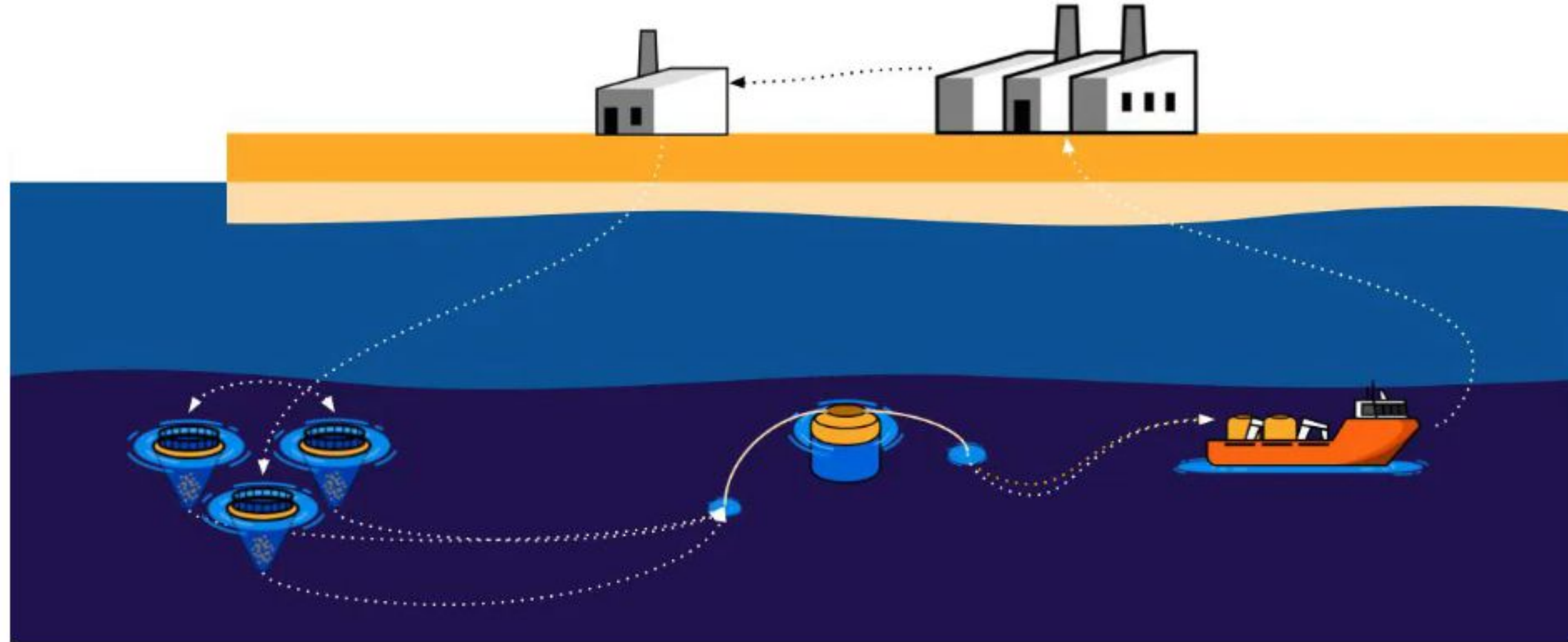
Is land-based aquaculture a better solution?



Advantages and disadvantages...

CIRCULARITY IN AQUACULTURE INDUSTRIES

Feces and feeding leftovers are more and more collected and pumped up.



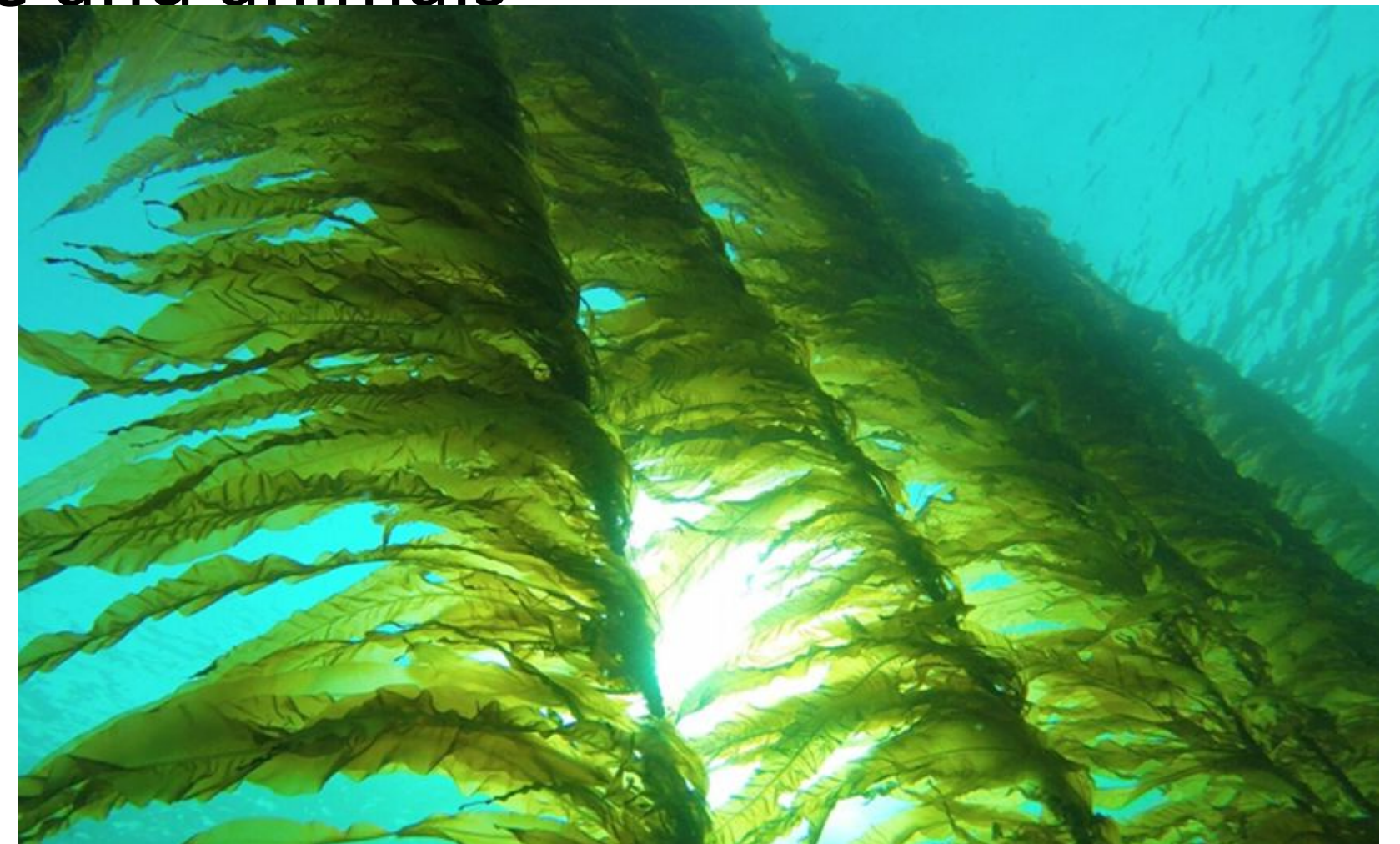
This sludge can be used for: -Biogas production
-Agriculture (sludge from sea can't be used because of salt)

Phosphorus and nitrogen are limited resources and can be used again.

Production of kelps

- Production of different kinds of kelps is a growing industry in Norway.
- Kelps need nutrient, sun and CO₂ for growing.
- In theory the kelps can use dissolved nutrient from salmon plants.

The kelps can be used in biogas/ bioenergy, packing and a source for energy for people and animals



Fisheries - school quota

Depending on number of classes, the blue schools assign a quota for fishing commercial species such as cod fishes, mackerel, herring etc.

Our schools got 579,55 tonns in total for this year

Some of the fisheries are done by commercial boats, where the students are onboard.

Severals schools cooperate with commercial boats on fishing in Lofoten, in the northern part of Norway.

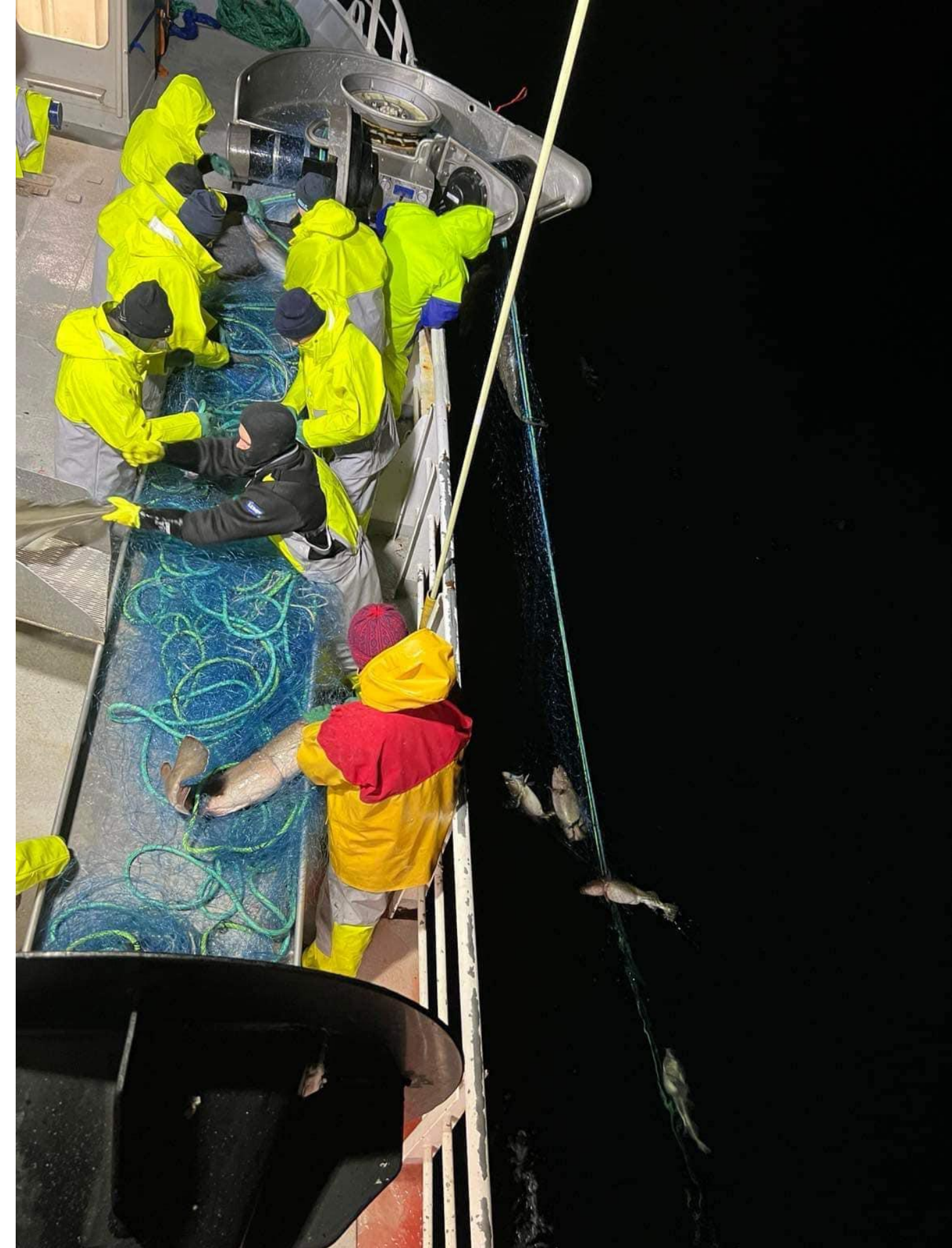
The pupils learn how to run the vessel, they take shifts, make food, etc.



Lofoten in Northern Norway



50-60 students experience this adventure every year!
THANK YOU FOR YOUR ATTENTION

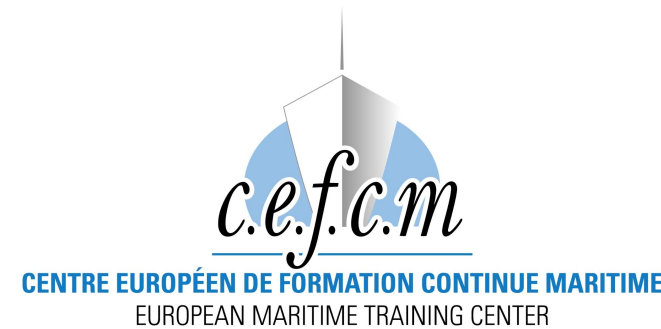


BRITTANY (FRANCE)



Alain Pomes


Director of the Centre Européen Formation Continue Maritime (Brittany)



Philippe Thieffry

Energies Marines Renouvelables / Coordination Bretagne Ocean Power (Brittany Innovation Development)





"Soon the century of the last barrier will come, the ocean will reveal an immense continent. On the marine horizon a new world will rise"

Médée, Scene III Chorus II 301-379, Sénèque

With up 9 or 10 billion inhabitants in 2050, Humanity will face 3 challenges:

- Access to water
- Access to food
- Access to energy

The Sea will be the answer to these three challenges.



BLUE GROWTH

71%
of the Earth surface
is **WATER**

Why?

Blue Growth is the European Commission's initiative to further harness the potential of Europe's oceans, seas and coasts for:



Focus Area

Five sectors with high potential for sustainable Blue Growth are to be further developed:



other **sectors of the blue economy** crucial for value & jobs



FRENCH EXCLUSIVE ECONOMIC ZONE



5 TRADITIONAL STREAMS

5



5 EMERGING SECTORS

5



8 CROSS-CUTTING SECTORS

8



2 ADVANTAGES

2



MARITIME TRAINING AND RESEARCH IN BRITTANY

Home to the Ecole Navale and the nautical training centre in Brest, which trains officers and sailors for the French Navy

- ✓ Leading engineering schools specialising in maritime science and technology, shipbuilding and naval engineering
- ✓ The European University Institute of the Sea; Three universities offering courses related to the sea; A university specialising in food resources
- ✓ The largest training centre for merchant navy seamen and a branch of the national maritime college.
- ✓ 4 maritime high schools, 3 aquaculture high schools
- ✓ The World Maritime Campus; The marine industry trades and qualifications campus; The Naval Industries Campus
- ✓ The headquarters of the French Research Institute for Exploitation of the Sea
- ✓ Maritime pollution documentation and research centre
- ✓ Two marine biology stations attached to national research centres
- ✓ Research institutes for seafood products, aquaculture and seaweed farming
- ✓ A research centre on the therapeutic applications of marine worms

THANK YOU ALL FOR YOUR ATTENTION.



CENTRE EUROPÉEN DE FORMATION CONTINUE MARITIME
EUROPEAN MARITIME TRAINING CENTER

Useful links:

www.cluster-maritime.fr

www.europarl.europa.eu

www.bretagne.bzh

www.banquemondiale.org

www.wwf.fr

www.cefcm.com

Here We Are!



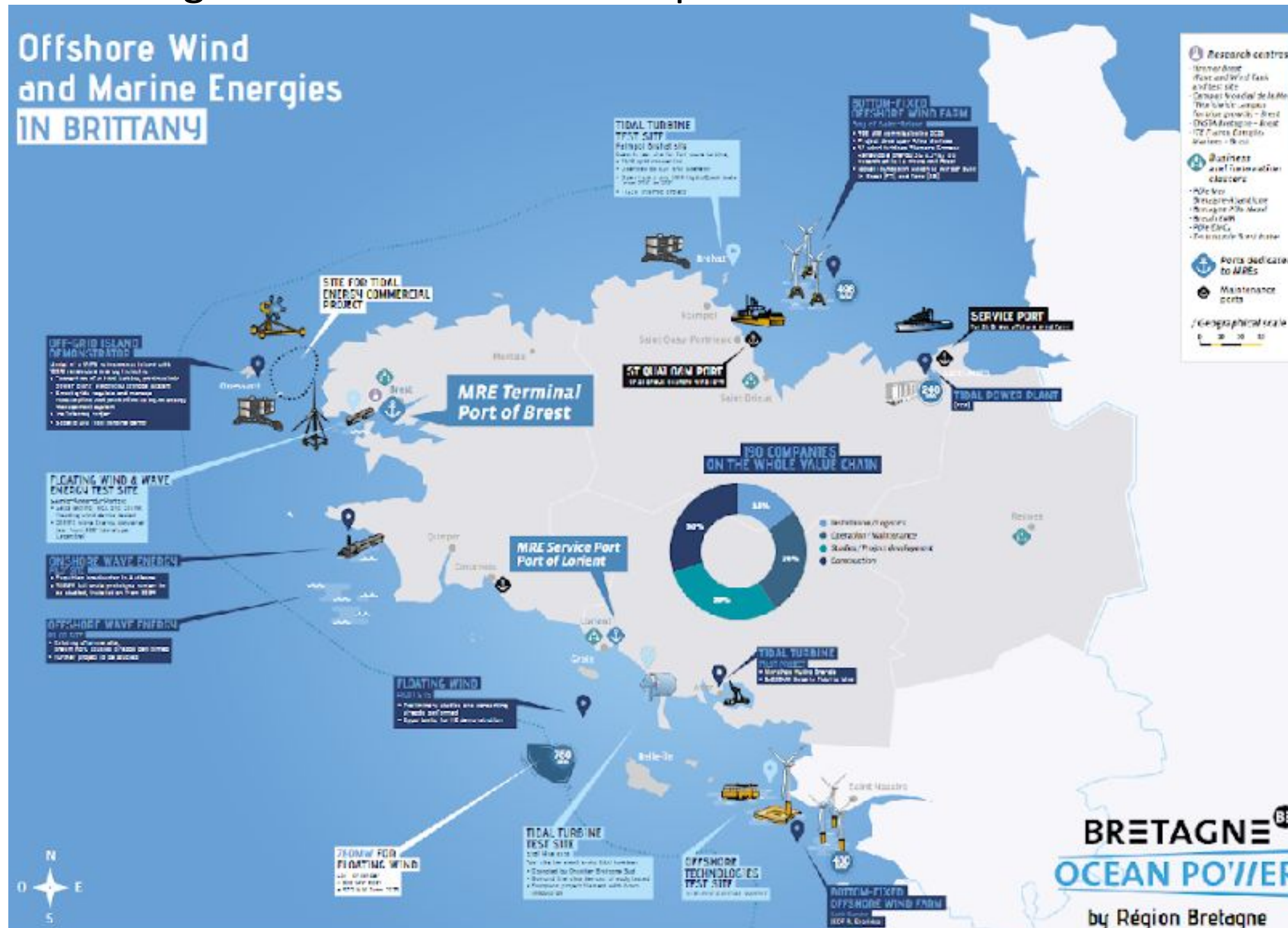


BRETAGNE^{BE}
OCEAN POWER

TEAM UP WITH BRETAGNE TO DO BUSINESS
IN MARINE RENEWABLES

Bretagne Ocean Power

- Gathering economic players and ports to promote industrial activities
- Into a regional ambition to develop MRE



Skills management for St Brieuc project

- Context

- First commercial offshore wind project in Brittany
 - 500MW
 - Construction from 2020
 - Commissioning in May 2024

- Identification of the required competences locally

- Depending on the industrial strategy of the developer and the contractor
- A complex contract organisation
- Local SMEs as tier 3 or 4
- Difficulty in anticipating the needs



Skills management for St Brieuc project

- Focus on
 - Welders
 - Sector in stress in France
 - 200+ workers needed on 18 months
 - High certification required
 - To be employed in local SMEs with very short notice
 - Charter of commitment for further projects
 - Service technicians in offshore wind
 - A new activity in France
 - Existing training courses in Brittany
 - Technician in onshore wind + Sea survival training
 - Now a dedicated session for 12 trainees/year for Siemens Gamesa projects in France
 - In partnership with local stakeholders



Thank you !

BRETAGNE^{BE}
OCEAN POWER

A potent MRE
industry accelerator



BRETAGNE^{BE}
DÉVELOPPEMENT
INNOVATION

**BREIZH
EMR**

PÔLE MER
BRETAGNE ATLANTIQUE

BRETAGNE^{BE}
COMMERCE
INTERNATIONAL

CCI BRETAGNE

**7 TECHNOPOLES
BRETAGNE**

bpn

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INNOVATION

BRETAGNE^{BE}
OCEAN POWER



WEBINAR

TEXTILES, CLOTHING, LEATHER, AND FOOTWEAR (TCLF) SECTORS SKILLS ANALYSIS

Understanding skills challenges and opportunities in
TCLF Sectors across European regions

AUTUMN 2024

Together for lifelong learning



earlall

EUROPEAN ASSOCIATION OF REGIONAL & LOCAL
AUTHORITIES FOR LIFELONG LEARNING

CONTACT US:



earlall@earlall.eu



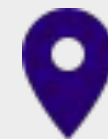
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EARLALL - European Association of Regional and
Local Authorities for Lifelong Learning



Rue des Deux Églises 27, 1000, Brussels