

# Designing services for a greener future



**Reykjavík**

**4. – 8. September 2023**

**Green Ocean**





## **PARTICIPATING COUNTRIES IN THE PROJECT**

### **Designing services for a greener future**



Kalmar, Sweden



Riga, Latvia



Reykjavík, Iceland



Tartu, Estonia

## **WELCOME TO REYKJAVÍK**

This is the 3<sup>rd</sup> mobility within our project Designing services for a greener future. In spring 2023 we visited Kalmar in Sweden and learned a lot about Green eCommerce and we met in Riga Latvia and learned about Green Education in Autumn 2022. This week in Reykjavík we will work with the topic of Green Ocean and visit several companies and meet entrepreneurs in this field.

I hope you will have enough time to explore our wonderful city and make new friends for life. Let us have a great week!

Project Coordinator in Iceland

Petra Bragadóttir

## **PARTICIPANTS**

### **SWEDISH TEAM**

Mr. Patrik Gahm  
Mrs. Elin Johansson

Mr. Shawn Brown Ek  
Ms. Meja Granstedt  
Ms. Nicole Isabelle Epacka  
Ms. Ebba Rosendal  
Ms. Augusté Visockaité  
Mr. Robin Bolin



### **ESTONIAN TEAM**

Mr. Aare Ristikivi  
Mrs. Ülle Seevri

Mr. Teder Joonas  
Mr. Nirk Robert  
Mr. Ploomipuu Ats-Artur  
Mr. Suur Henri  
Mrs. Pürn Kärt  
Mrs. Tederov Marjette Andrea



### **LATVIAN TEAM**

Mrs. Inga Treimane  
Mrs. Ieva Apīne

Mrs. Amanda Henka.  
Mr. Jēkabs Reinis Vilsons  
Mr. Roberts Raitums  
Mr. Dāvids Ēberliņš  
Mr. JēkabsTirāns  
Mrs. Hilda Mikšus



### **ICELANDIC TEAM**

Mrs. Petra Bragadóttir  
Mrs. Harpa Sigmarsdóttir

Mrs. Bergljót Júlíana Kristinsdóttir  
Mr. Birgir Máni Inguson  
Mr. Brynjar Bragi Einarsson  
Mr. Daði Víðisson  
Mrs. Jóhanna Júlíusdóttir  
Mrs. Laufey Steinunn Kristinsdóttir



## Keynote speakers:

### Matís



Jónas Rúnar Viðarsson  
Head of Value Creation  
jonas@matís.is

#### Value Creation in the Icelandic Fisheries Sector

Significant progress has been made in improving the management of marine catches over the last 20-30 years. Fisheries companies, high-tech companies, the government, universities, Matís and others have made great efforts to increase the knowledge of all those involved in the industry regarding the handling of this delicate raw material. Bleeding, gutting, washing, hygiene and cooling are all important factors that have to do with the quality of the raw material. It was once said that one does not make good products from poor raw materials; then rightly so for our fish.

#### Research and science are the future currency of the fishing industry

The fishing industry, like other industries, relies on research and product development. Experience has shown that increased value creation in the industry is based on ingenuity and Icelandic companies have done ambitious and remarkable work in that field. Matís has often played a key role in this, being a kind of core of knowledge when it comes to the application of science in the fisheries sector and a bridge between educational institutions and the business community.

By law, Matís' role is to increase value in the food industry, improve food security and promote public health. Matís is state-owned but operated as a public limited company and has a clear service role with the fishing industry and other food sectors, but also obligations towards the owner, the nation.



[https://youtu.be/8gWo\\_rhOiWE](https://youtu.be/8gWo_rhOiWE)

## Ocean Cluster



Svandís (Dísa) Friðleifsdóttir  
Innovation & Marketing Specialist  
disa@oceancluster.is



**The Mission of the 100% Fish Project at the Iceland Ocean Cluster is to inspire the seafood industry and seafood communities to utilize more of each fish, increase the value of each fish landed, support new business opportunities, increase employment and decrease waste.**

100% Fish presents the range of products made out of fish in Iceland. Seafood, supplements, medical and design products are made out of fish and fish parts.

Included in these products is the traditional business of providing seafood but a lot of innovation is happening in Iceland with regards to how fish is utilized, and new products are being made from this development.

The Icelandic success with regards to 100% Fish has been made possible because of improved processing and handling and through research and development. Dried heads and bones of fish are a prime example of this. Tons of these products are now made and exported each year out of materials previously wasted. Icelandic companies within the Icelandic Ocean Cluster develop supplements, proteins, cosmetics, pharmaceuticals and other high-value products from different parts of the fish.

### **30-fold increase in 30 years**

Technological advances in commercial fisheries have brought considerable improvements in product yield. For instance, Icelandic producers of cod fillets have seen their fillet product yield increase by as much as 20% over the past two decades. However, the fillet only makes up 35% to 45% of the cod's weight. The remainder is head, bones, skin and intestines. Nonetheless, due to strict fisheries management regulations, Icelandic fisheries have been forced to innovate and invent profitable ways to exploit these by-products. Since the 1990's, the utilization of fishery by-products has increased 30-fold, the export value per cod kilogram has risen by a factor of 4 and the array of different marine products has multiplied. Today, Icelandic cod producers typically make use of up to 80% of their raw material.

One of the greatest challenges of the 100% Fish project is to show seafood companies the value in cooperation. This is done by building trust and showing companies that cooperation can brighten the future for seafood companies and coastal regions all around. The 100% Fish project assists companies in making valuable connections with academia, start-ups, R&D etc. The Ocean Cluster Network, which is a network of global ocean clusters established by the Iceland Ocean Cluster, is a valuable tool to share information and knowledge in full utilization of seafood across oceans.

### **Half of the fish is wasted**

According to our research the average raw material utilization rate of cod in Europe and North America is just over 50%, meaning that about half of each fish's weight goes wasted in the production process. Clearly, the opportunity for sharing of knowledge and experience in fully utilizing seafood products is enormous. By doing so, the world's protein supply will increase (and fisheries profits) substantially. In Iceland, the industry has reached 80% usage of white fish.

Innovative health-, pharmaceutical- and even fashion products from the wild fish stock (groundfish, lobster etc.) are being developed in the Icelandic economy. There lies our opportunity; Icelanders are putting their minds to create more value from each fish. The results are already in: We are getting at least 30% more value from each Cod than most developed countries. Fish is not only the fillet, it is also a rod becoming health products, the liver becoming omega and pharmaceuticals, the head and bones used – basically nothing is left for the trash bin.



MENNTASKÓLINN  
VIÐ HAMRAHLÍÐ

## Programme for the theme

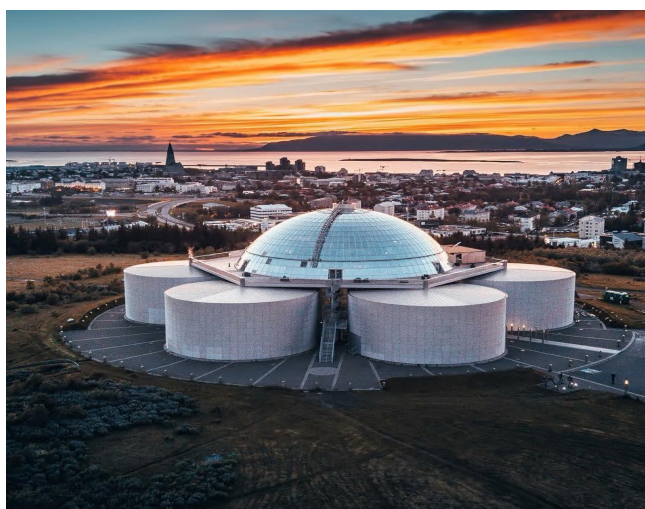
### Green Ocean

Organized by Menntaskólinn við Hamrahlíð

September 4. - 8, 2023

Day	Time	Activities	Location
Mon 4.9		Arrival of teams	Cabin Hotel
Tue 5.9	9.30-9.40	Meet all participants	School hall
	9.50-10.00	Welcome from our Headmaster Steinn Jóhannsson	
	10.00-11.00	The Icelandic school system (Teachers) Steinn Jóhannsson	Headmaster´s Office
	10.00-11.00	Ice breaking activities (Students) Excursion around school (Students)	School hall
	11.00-11.30	Introduction – Hackathon Green Ocean	School hall
	11.30-12.10	Lunch	School canteen
	13.00-15.00	Presentation from Jónas Rúnar Viðarsson Head of Value Creation at Mátis jonas@matis.is	Mátis Vínlandsleið 12, 113 Reykjavík
	15.30-17.00	Hackathon in Menntaskólinn við Hamrahlíð Green Ocean	School
	17.00-18.30	<a href="#">Perlan The Wonders of Iceland</a>	Perlan 105 Reykjavík
	18.30-19.30	Dinner at School - Grilled hamburgers	School canteen
	19.30-22.00	<a href="#">Laugardalslaug</a> Outdoor swimming pool in Laugardalur	Sundlaugarvegur 30, 104 Reykjavík
Wed 6.9	9.00-11.00 11.00-17.30	Working in groups <b>Travel day</b> – Kleifarvatn, Seltún, Grænavatn, Grindavík Reykjanes, Stolt Sea farm. Bridge between Continents	School South of Iceland

	13.30-14.30	Lunch <a href="#">Salthúsið Grindavík</a>	Stamphólsvegur 2, 240 Grindavík
	15.00-16.00	Company visit to <a href="#">Stolt Sea Farm</a>	Vitabraut 7, 233 Reykjanesbær
	17.30	Back at Hotel	
	19.00-19.59	Dinner in School Pizza	School
	20.00	Free time	
Thu 7.9	9.00-12.00	Workshop student prepare business idea linked to Green Ocean Steering Committee meeting for teachers, plan for Tartu 2023 Presentation on Business idea	School hall
	12.25-12.45	Lunch at <a href="#">Bæjarins bestu</a>	101 Reykjavík
	13.00-14.30	Company visit to <a href="#">Iceland Ocean Cluster</a> Presentation from Svandís Friðleifsdóttir Innovation & Marketing Specialist and Þór Sigfússon CEO of Ocean Cluster	Grandagarður 16, 101 Reykjavík
	15.00-16.00	Fly Over Iceland  Scavenger hunt in Reykjavík City Center	Fiskislóð 43, 101 Reykjavík
	19.00-?	Free evening for students – dinner together somewhere  Teachers dinner at Petra´s Home	Stigahlíð 68a, 105 Reykjavík
Fri 8.9.		Departure of teams	





## Organizers

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## School

Menntaskólinn við Hamrahlíð  
Hamrahlíð 10  
105 Reykjavík, Iceland  
<https://www.mh.is/>  
Tel: +354 595 5200



Menntaskólinn við Hamrahlíð

## Hotel

**Cabin Hótel**  
**(<https://hotelcabin.is/en/>)**  
**Borgartúni 32**  
**105 Reykjavik, Iceland**  
**Tel: + 354 511 6030**



# Map: Cabin Hotel to Menntaskólinn við Hamrahlíð

**Hotel Cabin, Borgartún 32, 105 Reykjavík**  
**Menntaskólinn við Hamrahlíð, Hamrahlíð**

Send directions to your phone

via Kringlumýrarbraut/Route 40	<b>5 min</b>	2.3 km
Fastest route now due to traffic conditions		
<a href="#">Details</a>		
via Kringlumýrarbraut/Route 40 and Hamrahlíð	<b>5 min</b>	2.3 km
10:49 PM—11:04 PM	<b>15 min</b>	

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## Travel day Southern Peninsula Region

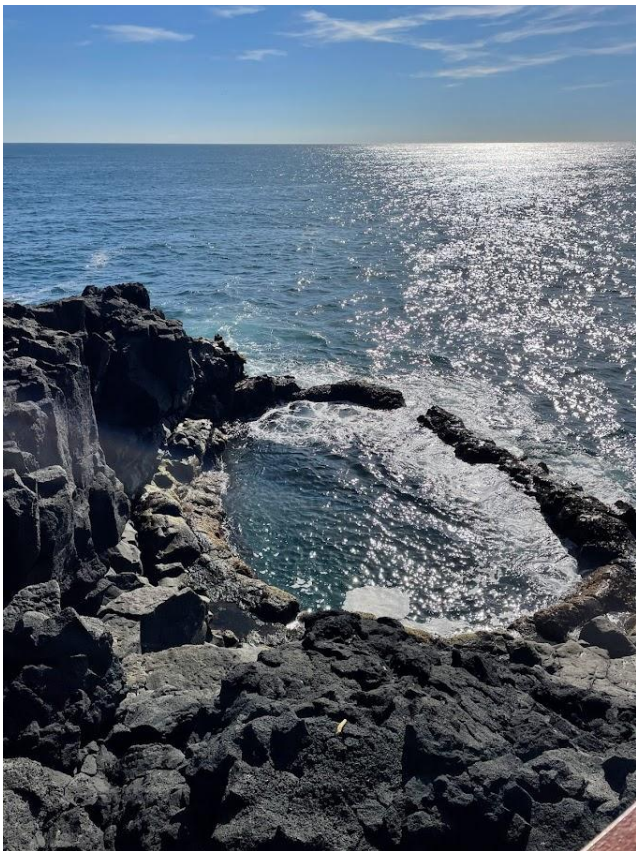
**Kleifarvatn**



**Grænavatn**



**Brimketill**



**Seltún**



**Stolt Sea farm**



## **CALMARE INTERNATIONAL SCHOOL (CIS), KALMAR, SWEDEN**

Calmare International School (CIS) is a private gymnasium in the small city of Kalmar. There are about 200 students aged 16-19 who study the programs of Economics, Social science, Natural science and Technical science.



The school is founded in 2000 by a former teacher Mr. Tomas Eriksson, today he is still the owner and reinvests the profit every year in the school. CIS started year 2000 and now there are also a preschool and two lower secondary schools with approximately 450 students. In CIS there are about 30 teachers. One of the main topics at CIS is international exchange and there are exchanges with more than 10 countries.

CIS is working with Junior Achievement (JA) in Sweden called UF and every year more than 50% of CIS students have their own student company. CIS believes that the future belongs to the companies and persons who can manage a sustainable business so that is why CIS wants to participate in the project.

## **RIGA STATE GYMNASIUM NO 2, RIGA, LATVIA**

Riga State Gymnasium No 2 is a state school with 800 students and 80 teachers located in the centre of Riga, in Latvia. There are students aged 12-19.



Secondary school students (age 16-19) study the programmes of Economics, Nature Sciences, Humanitarian Science and Maths. The school has participated into several Comenius, Erasmus+ and other international projects. They have experienced project coordinators and teachers of Economics and Business. The school has developed a cooperation with the Stockholm School of Economics in Riga for student business competitions.

The school is cooperating with Junior Achievement (JA) in Latvia and students organize student companies every year. International cooperation for student companies is a development need. There is also a need to add modern teaching methods to the syllabus of Economics.

## **HUGO TREFFNER GYMNASIUM, TARTU, ESTONIA**

Hugo Treffner Gymnasium (HTG) is the leading state school, located in Tartu, Estonia. The school have about 540 students, girls and boys aged 16 to 19 and about 40 teachers.



The school follows Hugo Treffner's principles and provides the best opportunities for the development of independent, broad-thinking and broad-minded young people. Independence, the ability to learn, make choices and take responsibility for themselves is a prerequisite for success in this century.

At Treffner learning and teaching have always been held in high regard. The teachers are working for the future - most of the Treffner students continue their studies at universities and colleges. The teachers take great pride in the achievements of all students. Academic rigour, sound progress and supportive relationships are fundamental to Treffner Gymnasium's education. Founded in 1883, Hugo Treffner Gymnasium boasts a combination of a historic building and modern facilities in the heart of Tartu.

The school is working with Junior Achievement (JA), their student companies have won twice the best student company title in European award (last time in 2017). International experience for the teachers and students is a development need. There is also an Economics club of students that are interested in the latest developments and tendencies in Economics and Entrepreneurship

## **MENNTASKÓLINN VIÐ HAMRAHLÍÐ – HAMRAHLID COLLEGE, REYKJAVÍK, ICELAND**

Menntaskólinn við Hamrahlíð is situated in the city of Reykjavík. Hamrahlíð College is an upper secondary school that mainly focuses on preparing students for university studies.



MENNTASKÓLINN  
VIÐ HAMRAHLÍÐ

While the school offers several programmes of study, the vast majority of students are enrolled in the programme that culminates in the Stúdentispróf (the diploma required for students to begin university studies in Iceland).

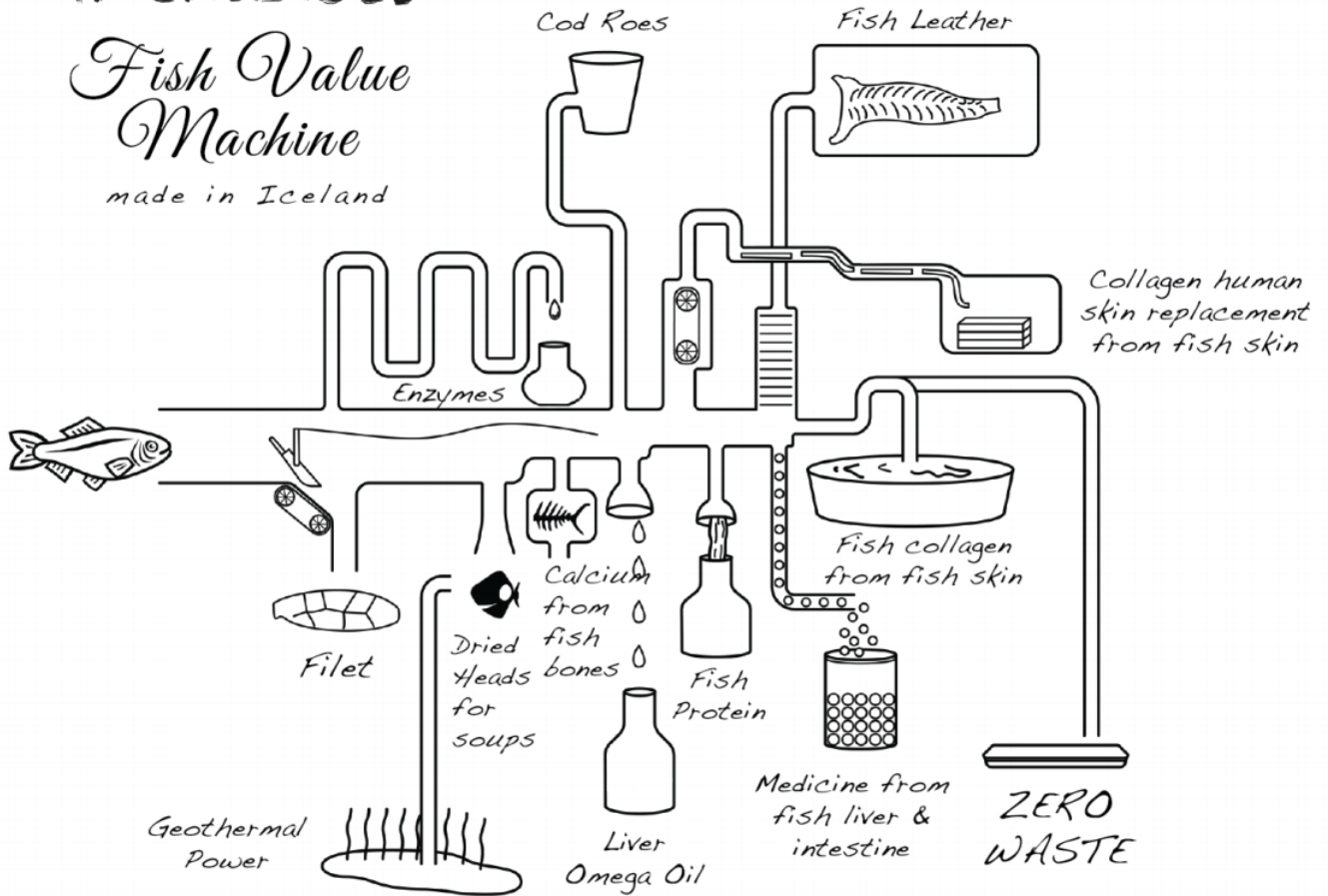
The school was founded in 1966 and in 1972 became the first school in Iceland to adopt a modular system of instruction. The modular system is a course-based system of instruction which allows students more freedom in choosing their courses and more flexibility in constructing timetables than the traditional class-based system.

In addition to the Stúdentispróf programme, Hamrahlíð Colleges offers the International Baccalaureate (IB) Diploma Programme as well as a four-year Special Education programme.

The school is the second largest study preparatory school in Iceland with 1100 students and about 90 teachers.

**Memo**

THE  
**INCREDIBLE**  
*Fish Value  
 Machine*  
 made in Iceland



Stolt Sea Farm 

**matís**