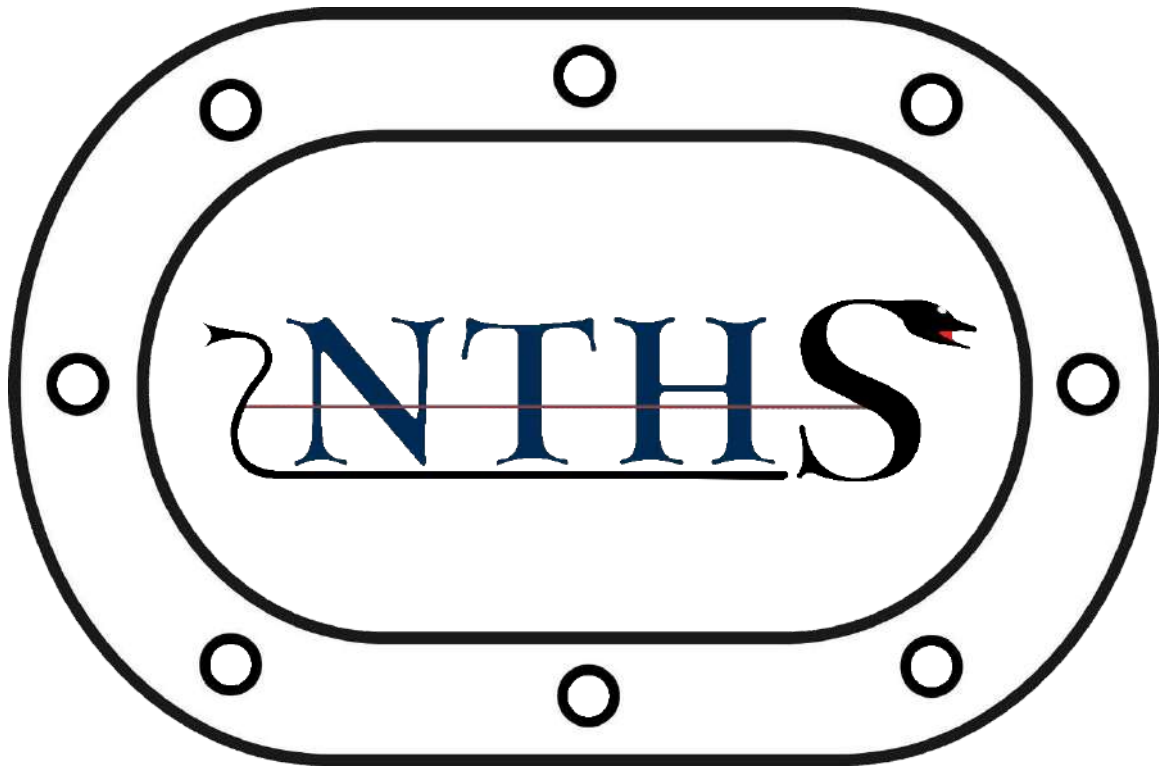


**Official report
74th NTHS**



Denmark 2023

20th – 24th March

The Norwegian Delegation



Words from the 74th Norwegian President

First of all, I would like to thank the Danish delegation for hosting an excellent week visiting companies in every corner of Denmark! It has been an unforgettable experience getting to know what the Danish maritime industry is about. There is no doubt that this is an experience that I will remember for many years to come.

The NTHS is not only about visiting companies but also to meet our nordic student colleagues. Without any experience from previous NTHS congresses, the other Nordic countries gave us a good introduction and took us in with open arms. We all had a lot of fun meeting up with people from different countries with the same interests as us. In the evenings, as well as on the bus, there have been a lot of social activities, laughs and memories made. The congress would not be the same without these experiences.

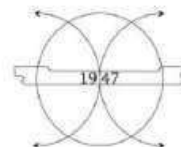
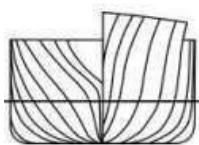
I want to congratulate Carl Henrik as the next President for not only the Norwegian delegation, but also the entire NTHS. I am sure next year's delegation will organize a memorable congress. You will see me at the banquet!

Last but not least, I want to give a big THANK YOU to all our partners. NTHS would not be possible without the contributions and support you have shown us!

On behalf of the Norwegian delegation,

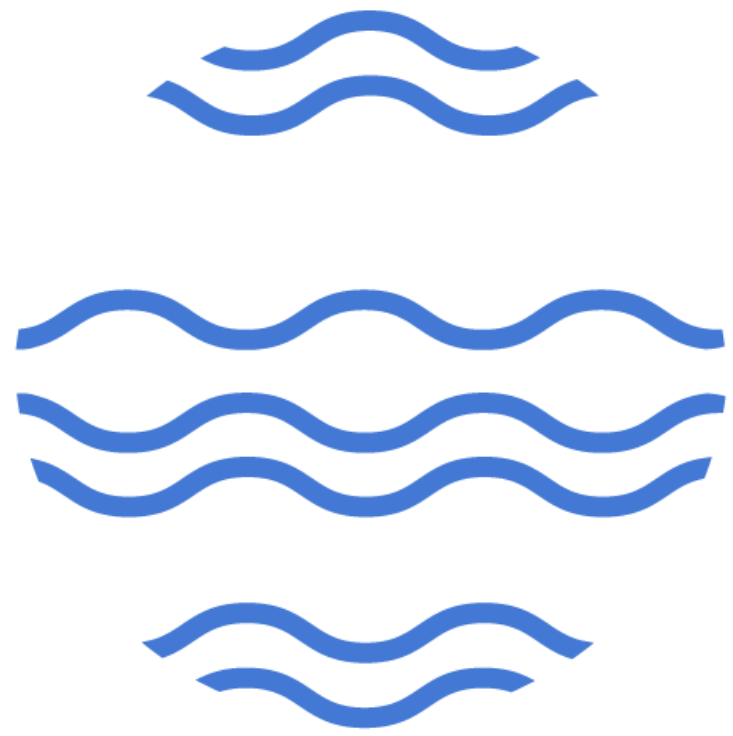


Per Henrik Ramberg
President, NTHS Mannhullet



Official program 74th NTHS

Sunday 19.03.23	Mandag 20.03.23	Tuesday 21.03.23	Wednesday 22.03.23	Thursday 23.03.23	Friday 24.03.23
	MAN Frederikshavn	OSK Ship Tech	Fayard	MAN Energy Solutions KBH	Fotra Technology
Meeting at stena ferry terminal Göteborg 17:20	Karlstensen Skibs Værft	Bus Tur	tur to KBH	DFDS	Odense Maritime Technology/ DTU
Departure ferry 18:20	Alfa Laval	Viking Life Saving Equipment	KBH	Coach Solutions	Vessel Performance Solutions
Arrival Frederikshavn: 21:45	Jom Fru Ana Gade	Staden	Anecdote evening	Oldtimers evening	Banket
 74 NTHS Schedule - Denmark					
Sober	Act Sober/ behave	Party			



OFFSHORE NORGE

The Norwegian Delegation



Per Henrik Ramberg



Maria Voldsund



Anna-Louise Wangen



Einar Steen-Johnsen



Jan-Erik Hygen



Amund Helle



Caritha Marianayaganam



Ragnhild Nestvold



Jacob Midtsæther



Axel Grönquist



FLEX LNG

Monday 20th of March



The 74th NTHS congress started on Monday 20th of March, where we started off at Fredrikshavn. Here MAN Energy had the honor to start off the 74th NTHS congress with the first company presentation. At the presentation we learnt about their engines and how to design an optimal engine. Afterwards we got a tour at the location, including the workshop where the engines are assembled. After the first presentation we were ready to leave Fredrikshavn behind, taking the bus to Denmark's northernmost city, Skagen.

In Skagen we visited Karstensens Skibsværft. This shipyard specializes in designing all sorts of fishing vessels. Luckily for us, they were very close to finishing a large trawler that we were fortunate enough to have a look at. Afterwards we were served a delicious lunch in their cafeteria. With our stomachs full, we went to the bus to begin our journey towards Aalborg and our third company visit of the day





On our way to Aalborg, we stopped to visit our next company: Alfa Laval. They presented different ways to transport energy, their different boilers, and new solutions to obtain energy (hydrogen fuel cell). It was an interesting presentation served with an exquisite

cake. The rest of the evening was spent in Aalborg, getting to know the rest of the delegations under a nice dinner.



Department of Marine Technology

Day 2 - Tuesday 21st of March

We left Ålborg early in the morning heading towards OSK-ShipTech offices in Århus. Here we got to experience virtual reality, listen to some great presentations about the company's many activities and areas of expertise, and were given a tour at their offices. After having a delicious lunch and a few beers, we were off to Esbjerg to visit Viking life-saving equipment's headquarters.



Viking life-saving equipment supplies and services a wide range of safety equipment and solutions to all kinds of marine vessels and installations. Here we were given an entertaining fashion show of their life suits and got to check out one of their large inflatable life-rafts. We rounded off the day with a delicious burger-buffet in central Esbjerg followed by some excellent pool and shuffleboard performances at the

local sports bar. We went to bed late, but very excited for tomorrow's trip towards Copenhagen!





KRISTIAN GERHARD JEBSEN SKIPSREDERI

PART OF THE KRISTIAN GERHARD JEBSEN GROUP

Kristian Gerhard Jebsen Skipsrederi AS (KGJS) is a shipowner and commercial and operational manager with vessels in the product tanker and dry bulk segments with focus on high performance service in chartering and pool management.

SETTING THE STANDARD

KGJS shall provide bold, sustainable and innovative solutions within our business segments and at the same time act responsibly, ethically and trustworthy. In KGJS, we are working together to reach our common goals and believe that as a team we achieve more than we can do individually. Doing the right thing is a condition for our future success and we continuously encourage our employees to act based on the the company values:

Professional
Open Minded
Responsible
Teamwork

KGJS is working actively to minimize the environmental impact from our operations. We believe in making good decisions to protect the environment and that these decisions are contributing to the long-term value of KGJS. We target zero spills, minimized operational waste and continuously reducing carbon footprint.



Day 3 - Wednesday 22nd of March

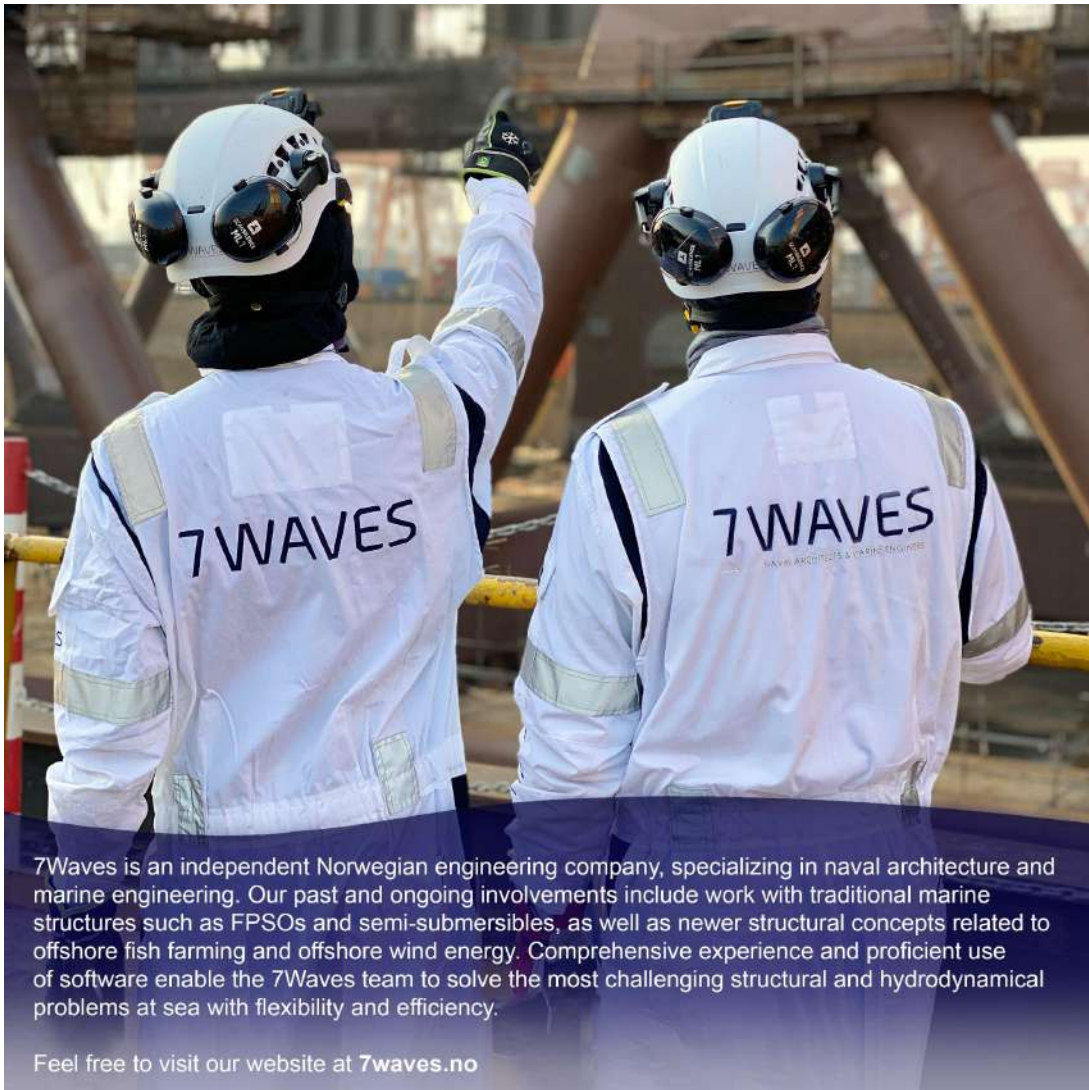
After yet another slightly too early morning, we sat on the bus on our way to the first and only visit of the day, Fayard Ship Yard. Fayard Ship Yard is a ship repair and conversion yard located in Odense. It was established in 1916 and has since become a recognized player in the ship repair industry, largely due to its strategic location in the heart of Scandinavia. The yard offers a wide range of services, including dry docking, steel construction, mechanical repairs, electrical work, and painting. During the visit to Fayard



Ship Yard, we were introduced to a busy working environment and gained insight into the ship repair and conversion industry.

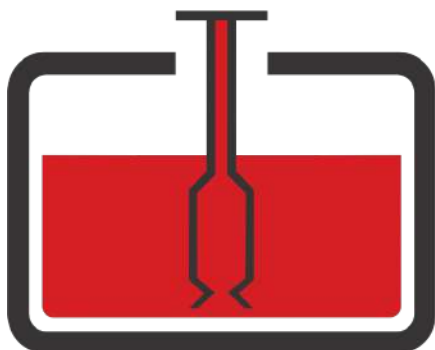
After a thorough tour of the yard, the bus continued on to Copenhagen where we would spend the rest of our stay. After a few hectic days, the 2-hour bus ride gave us the opportunity to catch up on some sleep. After a brief stop at the hotel, we made our way to the restaurant where we were greeted with an "all you can eat buffet." After a very enjoyable dinner, we moved on.





7Waves is an independent Norwegian engineering company, specializing in naval architecture and marine engineering. Our past and ongoing involvements include work with traditional marine structures such as FPSOs and semi-submersibles, as well as newer structural concepts related to offshore fish farming and offshore wind energy. Comprehensive experience and proficient use of software enable the 7Waves team to solve the most challenging structural and hydrodynamical problems at sea with flexibility and efficiency.

Feel free to visit our website at 7waves.no



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an Alfa Laval brand

Day 4 - Thursday 23rd of March

The fourth day of the congress started with a visit to MAN Energy Solutions (MAN ES) in Copenhagen which is the headquarters of the low-speed division in Denmark. Here the business comprises administration, design and development of 2-stroke engines and propulsion packages, and research and development for customers worldwide. During the visit we got an introduction about their business in addition to a tour in their museum learning about the history of the development of MAN engines.



After the visit at MAN ES the bus took us to the second company of the day - DFDS. Aboard the vessel serving on the route to Oslo we got a tour around the vessel's engine room and bridge. This was followed by presentations from former Marine Technology students from DTU who are now working for DFDS. They provided us with knowledge about DFDS' newbuilding program in addition to their vessel performance and their measures to minimize the CO₂ emissions from their vessels.

The DFDS' CPH-OSL vessel routing port was located a mere 15-minute walk from our final company visit of the day: COACH Solutions. Upon arrival, we were greeted by even more of DTU's former Marine Technology students, who expounded on the company's core objective. COACH Solutions is dedicated to delivering cutting-edge tools and solutions to monitor and optimize vessel performance, as well as facilitate voyage planning for optimal efficiency.

After the company presentation it was time for the long-awaited anecdotes, where the Norwegian delegation was assigned with the subject "One day onboard Helge Ingstad". This was held by Caritha and Amund (substitute for a sick Jan Erik) and told through "memes" and videos. One may argue that it made little to no sense.

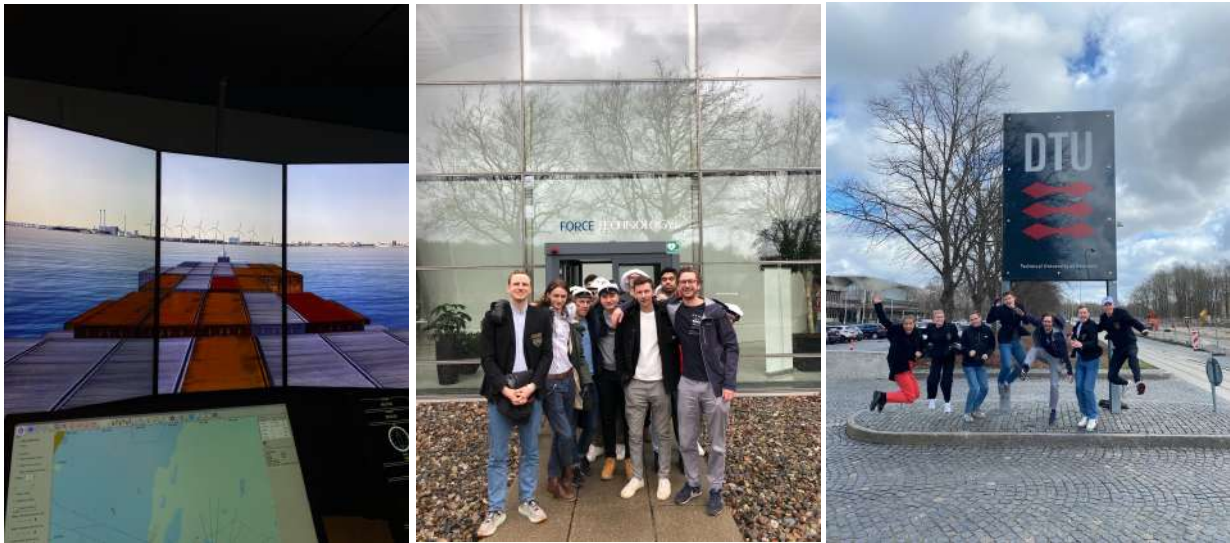


As the anecdotes came to a close it was time to head back to the hotel and get ready for the old-timers evening. Before meeting the old-timers we were lucky enough to experience all-you-can-eat “stægt flæsk”, which absolutely lived up to the standards of Scandinavian cuisine. The old-timers evening was a blast (from the past) and made for a truly memorable (for some maybe not) night.



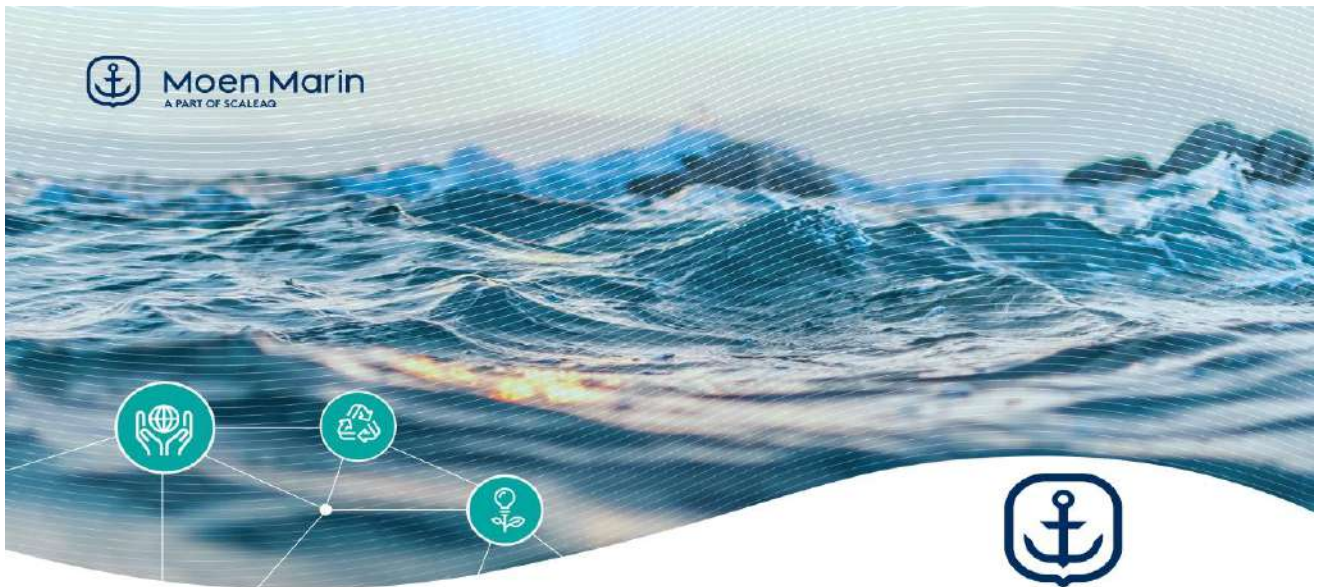
Day 5 - Friday 24th of March

The last day of this year's conference was packed with a lot of company visits and of course a lot of fun. The day started with a visit at Force Technology. We got an introduction to their work as well as a tour of their facilities. This included wind tunnels, test labs, tow tank as well as training simulators for all kinds of vessels. For the next and final visit, we went to the Technical University of Denmark, DTU. At DTU we got presentations from several Danish maritime companies as we ate lunch. These were Cadeler, Odense Maritime Technology, Vessel Performance solutions and DTU.



When the company visits for the week were finished we could get some much needed rest, but not long after it was finally time to dress up and attend the banquet! At the banquet there was time to meet the old-timers again and sit down for an impressive 3-course meal. The wine classes were never empty and the delegation's drinks were moving from table to table. During the evening we got to listen to the men's and women's speeches, both held by members of the Norwegian delegation, Jacob and Caritha. We also got to officially take over the responsibility of putting together the NTHS congress for 2024 that is to be held in Norway. This was definitely a night to remember! We want to thank the entire Danish delegation for an amazing week which we are going to remember for a long time! Hope to see you in the upcoming years!

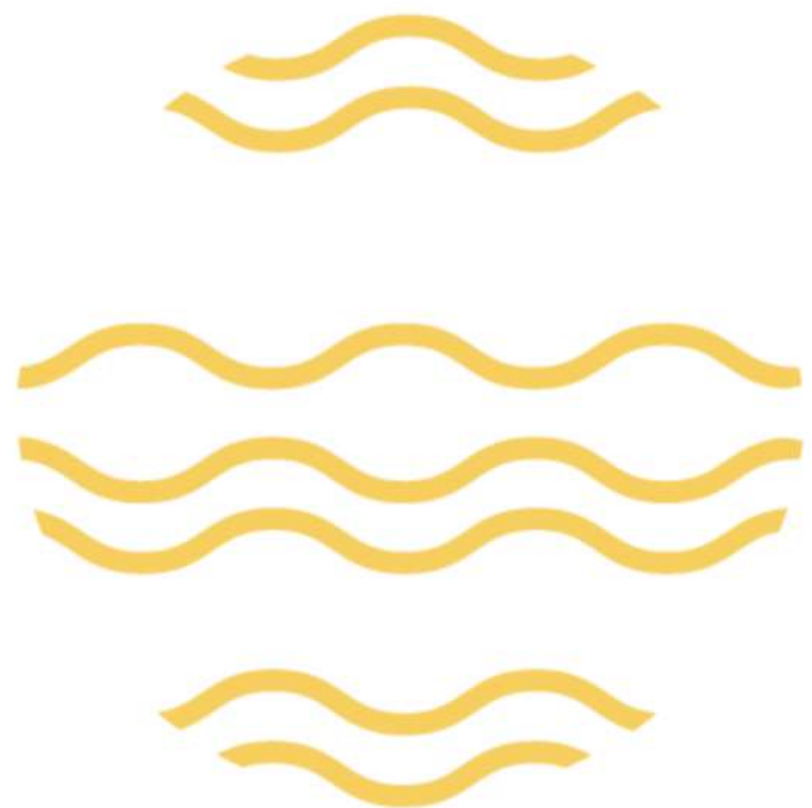




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OFFSHORE NORGE

Words from the 75th Norwegian President

Firstly, I want to thank the delegation from Nul-Kryds for hosting a remarkable congress. From what I've heard, the delegation from Norway had a fantastic week this year. I am confident they represented Mannhullet in the best way possible and gained a lot of new Nordic acquaintances. In addition, they increased their knowledge about the interesting Danish maritime industry.

Next year is the 75th anniversary of NTHS, and we will have the honour of hosting the congress in Norway. We can't wait to show all of you our phenomenal and versatile industry. Input from people in the industry and the companies themselves is both helpful and valuable. Therefore, we are open for suggestions and ideas in order to create the best experience possible for everyone.

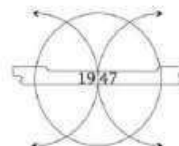
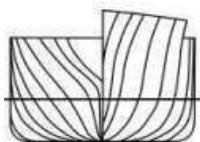
The next year's delegation will be concluded in a couple of weeks, and I am looking forward to seeing who will join Andreas, Sarah, Christian, Hedda and me for the exciting year to come. We are also excited to meet the newcomers from all the delegations and hope to see as many as possible old timers at the 75th banquet in Norway.

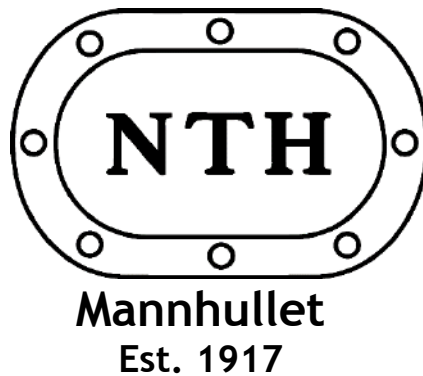
Lastly, I would like to thank all our partners for the support this year. I am looking forward to further collaboration with you.

Best regards,

Carl Henrik Torjuul

President, NTHS 2023





The Norwegian Delegation represents Mannhullet, the student association at the Department of Marine Technology at the Norwegian University of Science and Technology (NTNU) in Trondheim.

Mannhullet is a very central part of the student life of those seeking marine engineering for the future. Leisure time can be spent on the sailing boat *Steinbiten III* or the motorboat *Havfruen IV*. These boats also give the students experience with the sea - an element that every marine engineer must master.

Social gatherings, such as quizzes, company presentations, sports on TV and those crazy parties only marine students know how to make are situated in Mannhullet's own bar; *Skipslogen*. Every year there are festivals such as Tyholt Rock Festival, the Regatta or RUKA, and the cabaret of Mannhullets Interne Teater (MiT), which are highlights of the year.

But beer contains calories, and for those who want to burn it away Mannhullet has a gym at Tyholt Campus called *Kraftgangen*. The sporty students of Mannhullet have access to a range of wildlife equipment, and annual trips to the woods and the mountains have become a tradition. Recently Mannhullet also started an own football club, FK Marin. The supporter club, Bulben, contributes to a good environment at the football matches.

There are constantly things going on in Mannhullet, and the choir *Tåkeluren* (The Fog Horn) making every gathering unpredictable. Luckily, the marine students have the newspaper *Marina* to keep track of it all - especially the gossip.

Mannhullet's undergroups

Skipslogen - bar

Several student unions have a bar in Trondheim, but *Skipslogen* is indisputable the largest and the best. Students in the bar-group serve a wide variety of drinks, beers and home- brews for all occasions.



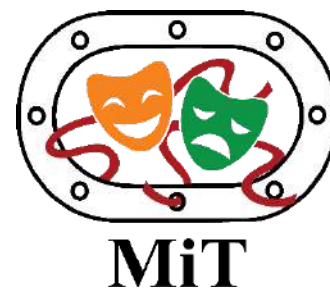
COMA - tramping club

The COMA group is responsible for all outdoor trips. They arrange mountaineering trips on skis and on foot as well as surfing trips to keep the students of the union fit and active.



MiT - Mannhullets Internal Theatre

The theatre group create one, unforgettable show every year with huge success, drawing a massive crowd to cheer them on. The show consists of skits and songs that consider today's happenings and problems.



Tåkeluren - choir

Tåkeluren is the most infamous choir in Trondheim, known not for their beauty in tone, but loudness of voice. They gather by the hundreds and have been able to get kicked out of almost every possible choir festival in Norway.



Marina - newspaper

Marina is the newspaper for students and by students. The columns and articles summarise various happenings and presents the gossip that follows a party. No one is safe from the scrutiny of the editors.



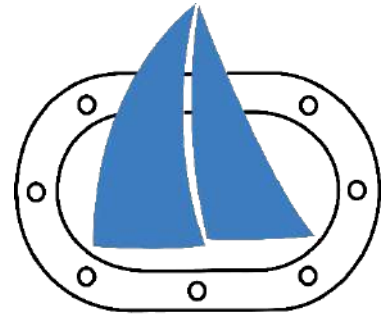
Motorboat Committee

The motorboat committee owns its own day boat so that students may go fishing, water skiing or just relax on the fjord outside Trondheim. The newest boat - the fifth of its kind - was purchased as a gift to ourselves on the 100th anniversary of the student union.



Sailboat Committee

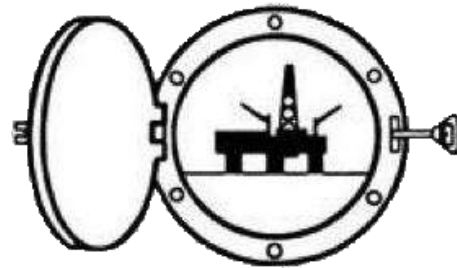
Mannhullet also owns its own sailboat, a Hanse 370 from 2004. All students have access to her during the semester, while the committee members sails her from Trondheim to Oslo or Lofoten every summer.



SEILBÅTKOMITÉEN

Bedriftskontakt - industry networking contact

Bedriftskontakt Marin arranges company presentations throughout the year where companies from the maritime industry present their companies and possibly recruit the senior students for permanent positions at their companies. They are also active in advertising summer internships and occasionally arrange excursions.



Marin FK and FKK - men's and women's football club

Mannhullet has two individual football clubs, for male and females. They compete against other students teams from other student unions. They don't always win, but will never lose support from their fan club *Bulben* (faction of *Tåkeluren*)



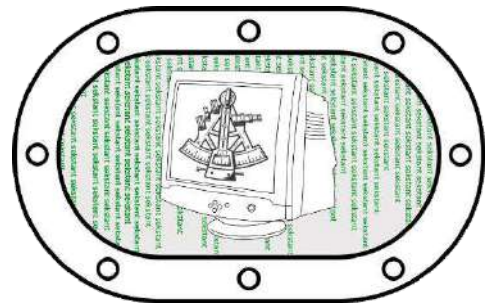
Ølbryggelauget - the brewing club

Mannhullet also has its own brewing club making delicious beers such as lagers, ales and stouts that are served on tap in our bar. They also make large quantities of beer for quizzes and internal festivals.



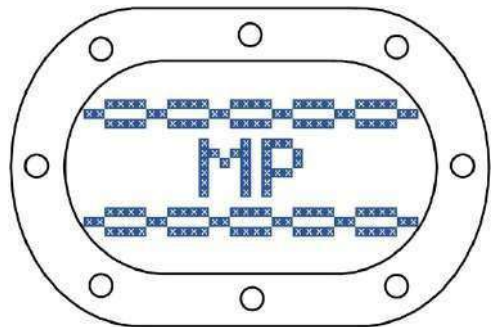
Sekstanten - coding group for mannhullet.no

Sekstanten is a group that have developed and is currently maintaining mannhullet.no. Their main objective is to see that the website is fit for Mannhullets needs, and it is constantly under development.



Marine Pinnar - knitting group

Marine Pinnar meets every week for coffee and knitting and is also introducing Mannhullitter to knitting. Some even knit their own Mannhullet sweater.



MMUG - Media and equipment group

MMUG has been a part of Mannhullet for a long time, but just recently became an undergroup. Famous for its own band “Ship Happens”. They control and know how to use all the digital equipment and is responsible for all the technical for concerts or internal festivals.

