

# 2010

## NTHS Congress in Finland



Nul-Kryds

DTU - Bygning 402

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Laivanrakentajain Kerho

Finland



Nul-kryds

Denmark



Mannhullet

Norway



Kungliga Skeppsällskapet

Sweden



Chalmers Skeppsbyggare

Sweden

## Words from the president

The 63rd NTHS congress was hosted by the Finnish delegation. It was a great experience for all naval architect students that participated. The week in Finland was packed with company visits, social gatherings and a lot of new friendships and networks were formed across all the Nordic borders.

I'm sure that these networks will become handy when large maritime projects are being realized by the students from NTHS somewhere in the future.

The congress has now been arranged for 63 years which means that a lot of traditions have formed during the years.

I would like to thank all our sponsors who made this congress possible. All the contributions from all the sponsoring companies mean really much to us. Our participation in the NTHS Congress would simply not be possible without your help.

I hope that the sponsoring companies will benefit from the corporation with Nul-Kryds.

Nul-Kryds arranges several other activities for the naval architect students. Paper boat design challenge, S/S Martha barbecue evening and our traditional Christmas lunch is our annual event. These events create a network between the students which continues in the industry after the students have graduated.

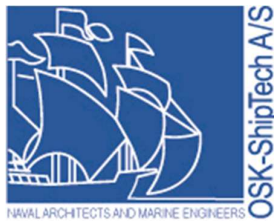
## Introduction to the report

This report includes a summary of our week in Finland, a description of the company visits and activities during the week. It also includes a list of sponsors.

64<sup>th</sup> NTHS congress will be held in Stockholm in ultimo march 2011.

Mathias Nyman Rasmussen  
President of Nul-Kryds

Thanks to our sponsors and partners



## Economy for the trip

The accounts for the NTHS 2010 trip are shown below. Unfortunately the balance is negative, due to large transportation cost, because Finland is far away. The negative result is also a product of lesser support from our sponsors, mostly due to the crisis in the industry.

The board of Nul-Kryds hopes that the support for NTHS 2011 will increase.

### Income

Sponsors	kr	34.300,00
Participants payment	kr	6.000,00

### Expenses

Participants fee		kr	-22.011,24	
Tranportation		kr	-18.001,35	
Gift		kr	-824,75	
Provision		kr	-4.298,58	
<b>Total</b>	<b>kr</b>	<b>40.300,00</b>	<b>kr -45.135,92</b>	<b><u>kr -4.835,92</u></b>

## Program for the NTHS week

Saturday	Delegations met up in Stockholm and left for Turku on a cruise ferry.
Monday	<i>Turku</i> ; visit to STX Europe Turku shipyard.
Tuesday	<i>Pori</i> : Techship Offshore Finland <i>Vaasa</i> : Wärtsila Finland
Wednesday	<i>Rauma</i> ; STX Europe Rauma Shipyard <i>Helsinki</i> ; STX Europe Helsinki Shipyard
Thursday	<i>Helsinki</i> : Aker Artic, ABB Marine & NAPA Oy
Friday	<i>Espoo</i> : HUT Campus & HUT Ship Laboratory Banquet in the evening
Saturday	End of congress.

## Participants Nul-Kryds;



Mathias Nyman Rasmussen



Christian Andreas Råe Holm



Aleksander Hamdan



Julie Uhrbrand



Michael Paludan-Müller Nylykke



Sune Thonesen



Jonas Ertmann Hansen



Nina Maria Schacht Olesen



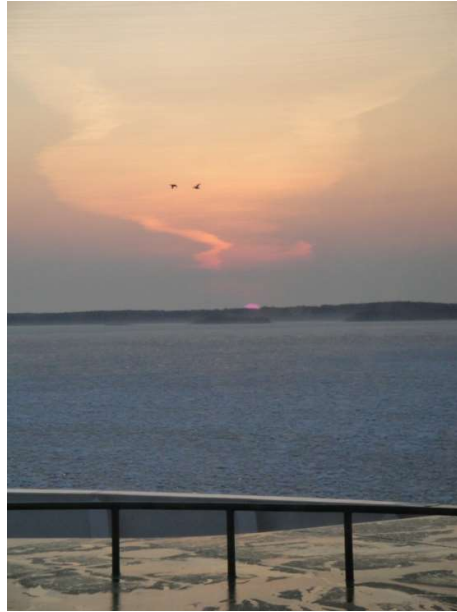
Robert Klein



Thor Peter Andersen

## Monday 12<sup>th</sup> of april

Arrival with ferry and visits at Deltamarin and STX Europe Turku shipyard



**First sight of Finland, sunrise.**

We arrived at Deltamarin sometime before noon. The presentations we saw, were about Deltamarin's redesign and design of ships and special vessels. Such as a giant offshore construction removal vessel which were order because of the need to remove some of the older offshore constructions in the Baltic Sea. In general Deltamarin mostly designs passenger ships, they can be ordered to design a complete ship or only parts of it. In different from shipyards in general Deltamarine focuses on efficiency instead of making the vessel easy to build. We were presented to a software called Catia by Mika Laurilekto which Deltamarin uses for their ship designs.



**Mika Laurilekto welcoming the delegations to Deltamarin**

Deltamarin is only a engineering consulting company and do not build any off the ships them self. We had a nice lunch at Deltamarin before heading for the hotel in Turku, for at short stop just to drop of our luggage.

In the afternoon we went on to STX Europe Turku shipyard, where they mainly build giant cruise ships. We were presented to the STX Europe cooperation, a concern with more than 40.000 employees, and the history of the company. It's a very young company, it was founded in May 2001, so it is only about 9 years old and still it is one of the largest ship building companies in the world. STX Europe does not only build the ships, they own a company called STX Pan Ocean too, which is a global shipping company.

After the presentation of STX Europe in general, we were presented with the different cruise ships and ferries that had been designed and constructed at the Turku shipyard. They presented their current situation due to the economic crises, which is that they are working on there last order at the moment and they will have to temporally shot down the yard or find some thing different to build when the Allure of the Seas is finished because as they said "even if they got an order today it would take at least 1 year before construction could start unless it was a sister ship of the one currently under construction".

At the end of the presentation they told us about the possibilities for a greener future and showed some very futuristic designs they were "working on".



**Visit at the shipyard, "Allure of the seas" in the background and from the right Thor Andersen, Michael Nylykke og Aleksander Hamden from the danish delegation.**

We went to see their ongoing construction off the cruise ship, "Allure of the seas", which is a sister ship of "Oasis of the seas". It has a giant superconstruction where the ship has an open park through the middle line of the ship, and the two side of the ship is only hold together by the bridge, on this ship the park through the centre line was going to be a copy of central park in New York. We boarded the ship and saw most of it, from the engine room to the bridge.





**Welcome at the cottage.**

Then we again had a short stop by the hotel before we went to STX Europe Turku's cottage in some forest where we went to a sauna, drank beers and had a very nice dinner, with lots of Finnish "snaps" (Vodka).

At midnight we went to Turku by night.

## Tuesday the 13th of April.

After an exciting night in Turku, Tuesday was kicked off early with breakfast in the bus. In front of us we had a three hour bus north ride to Pori. The management from STX Turku had done a thorough job with the sauna the previous night, which had taken its toll on most of the delegations. Fortunately the Danish delegation still had some energy left, so most of us spent the journey to Pori awake and in good spirit singing and joking. At Pori we were to visit the Finish division of the company Technip. We arrived at a conference center in the middle of a forest in Pori, where the Engineering manager, Jukka Leppänen, of Technip's Finish operations greeted us. He made a presentation about the company in general. Technip is an engineering company focusing mainly on the oil and gas industry. They construct and provide services for subsea, offshore and petrochemical structures. Technip in Finland has mainly been in the business of constructing large offshore structures such as enormous spar platforms and sub sea pressure vessels.

After some refreshments at the presentation we walked from the conference center to a beautiful wide sand beach nearby – The only one of its kind in Finland. Even though it was spring, the ice had not yet cleared the shoreline.

After the short break we boarded bus and had a short drive to Technip's shipyard, which was situated just nearby.

We were split into two groups to be given a tour of Technip's facilities. The Production Manager Mauri Puuska showed us around. He told us the yard did not have any major projects going on at the moment because of the economic crisis. Therefore Technip had ventured into new business areas such as construction of large offshore wind turbine foundations.



**Members of the Danish delegation at Technip shipyard.**

They did however also manufacture quite a few very strong subsea pressure vessels for use as connection hubs for underwater pipelines. The control of the submerged arc welding, we were told, was quite a challenge to control when welding plating that thick.

After the tour we had lunch at the company's canteen and then joined the bus once again. By now people had more or less recovered from the lack of sleep during the night, and the subsequent second three-hour bus ride to Waasa was completed with a lot more liveliness and energy from the five delegations than in the morning!

At Vaasa we went to the university Åbo Akademi. Here the marine engine manufacturer Wärtsilä met us, and we were given a company introduction by the Wärtsilä Finland company president and the senior management – some of which had also been on the NTHS when they were students. We were told that they tried to expand their business areas by vertical integration by moving into the thruster business and also purchasing many ship design bureaus such as “Skibskonsulent”, “SCHIFFCO”, “Vik-Sandvik” and “Conan Wu”. They had done so in order to be able to improve their engines in conjunction with the ships and thereby offering whole solutions.

Because of the new ballast water rules soon to come into effect through IMO, Wärtsilä had entered into a partnership with Trojan Technology to develop an environmentally friendly ballast water cleaning system.



**Company presentation by Wärtsilä Finland president, Juha Kytölä.**

Afterwards we went to Wärtsilä's nearby manufacturing plant, where we were shown around the production facility where we saw the four-stroke production line. The production was carried out in a very interesting manner in accordance with just-in-time and lean principles emphasizing a strict order of production sequences.

We also saw the Wärtsilä's research and development center, where they tested new suppliers and also had extensive research efforts going into developing dual fuel engines and engines running on natural gas.

After the tour, were the Danish delegation managed to get their hands on an excessive amount of souvenirs, we once again boarded the bus and drove to a restaurant outside Vaasa where Wärtsilä hosted a dinner for us. The dinner was concluded with an open air wrestling match between a member from the finish delegation and a very brave member from Swedish Chalmers delegation, before we went back to downtown Vaasa. Here the day ended with a nice plunge into the Vaasa nightlife, only to be slightly halted by the presence of road repair work, with the president of the Danish delegation showing the way for future naval architects!

## Wednesday 14th of april

After a good night in Vaasa, we went with the bus to STX Rauma shipyard, to see the yard. Here a representative from the yard told about the history of STX Rauma and what kind of ships, they have made in the past and now. The yard is mostly building ferries and cruise liners and the yard has built some ferries to Color Line and Tallink. After the presentation we had a lunch, and could talk with the representatives about the future of the yard. The yard in Rauma still has orders, but they aren't running at maximum capacitive. The reason is that ship owners still want new ferries, and yards in Asia don't want to take orders to build 1 or 2 ships, and ships owners know this yard and the yard knows how to build special ships and ferries.

We went out to see the productions halls and as every other yards production facilities there were a lot of steel. We also saw a new building of a ferry in the dry dock.



After the visit in Rauma the bus went to Helsinki. Here we would visit the yard in Helsinki, where Hammerodde got some extra lanes some months ago.



The visit to the yard was quite fast, because we met the representatives in a bar, just opposite of the yard, to have a dinner and see some presentations. From there we could see that there wasn't so much going on in the yard, so all from the delegation left the yard without any injuries. Also this evening all the delegations had to make some presentations:

KTH: 1980-2010: Thirty years of Swedish commercial-vessel shipbuilding industry

CTH: The exploitation of Swedish oil resources in powering of the Swedish container vessel fleet

NTNU: 2010-2030: The future of Norwegian oil production in relation to cod fishing

DTU: The future of the ongoing "organizational reconstruction" of the Odense Steel Shipyard

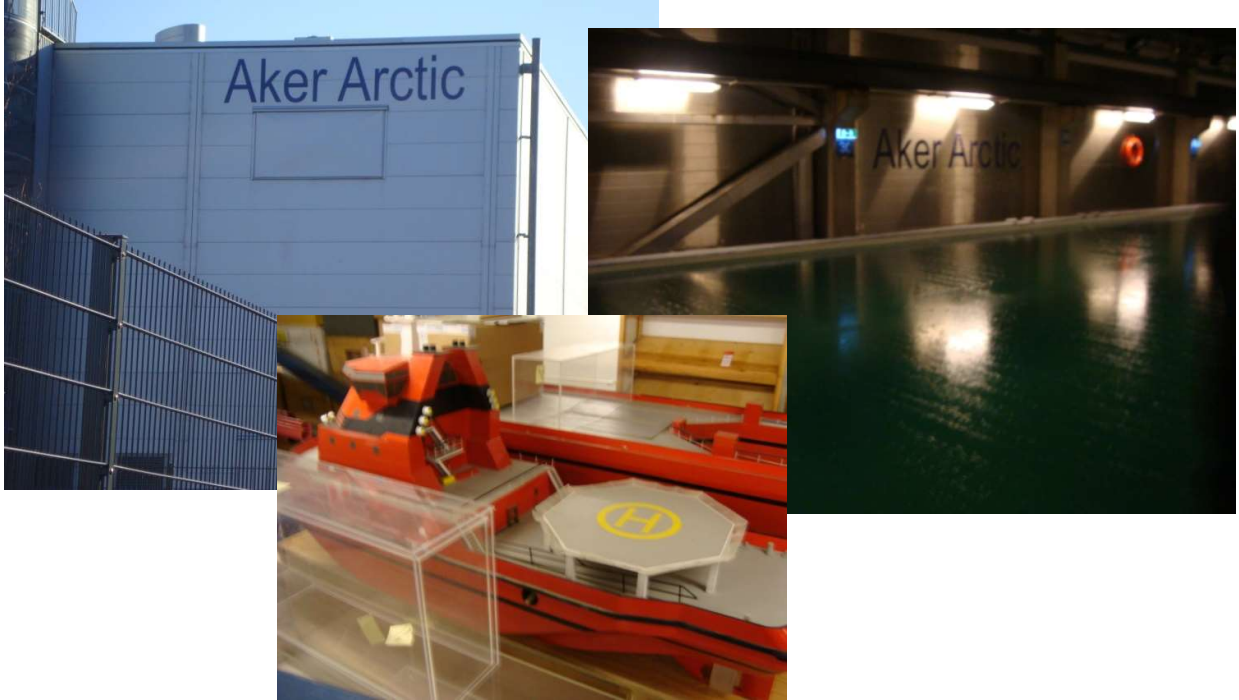
HUT: 2004-2010: The triumphal march of Finnish cruise ship building

## Thursday 15th of April

The day started with a visit Aker Arctic Technology Inc (Aker Arctic) it was established on December 30, 2004 and continues as an independent company the operations of the former Wärtsilä Ice Model Basin.

Aker Arctic is the only privately owned ice model testing facility in the world and is engaged in the business of research and development services, design and testing of icebreakers and other ice-going vessels as well as structures for arctic oil and gas field operations.

After a presentation we got the We got a trip round in the factory



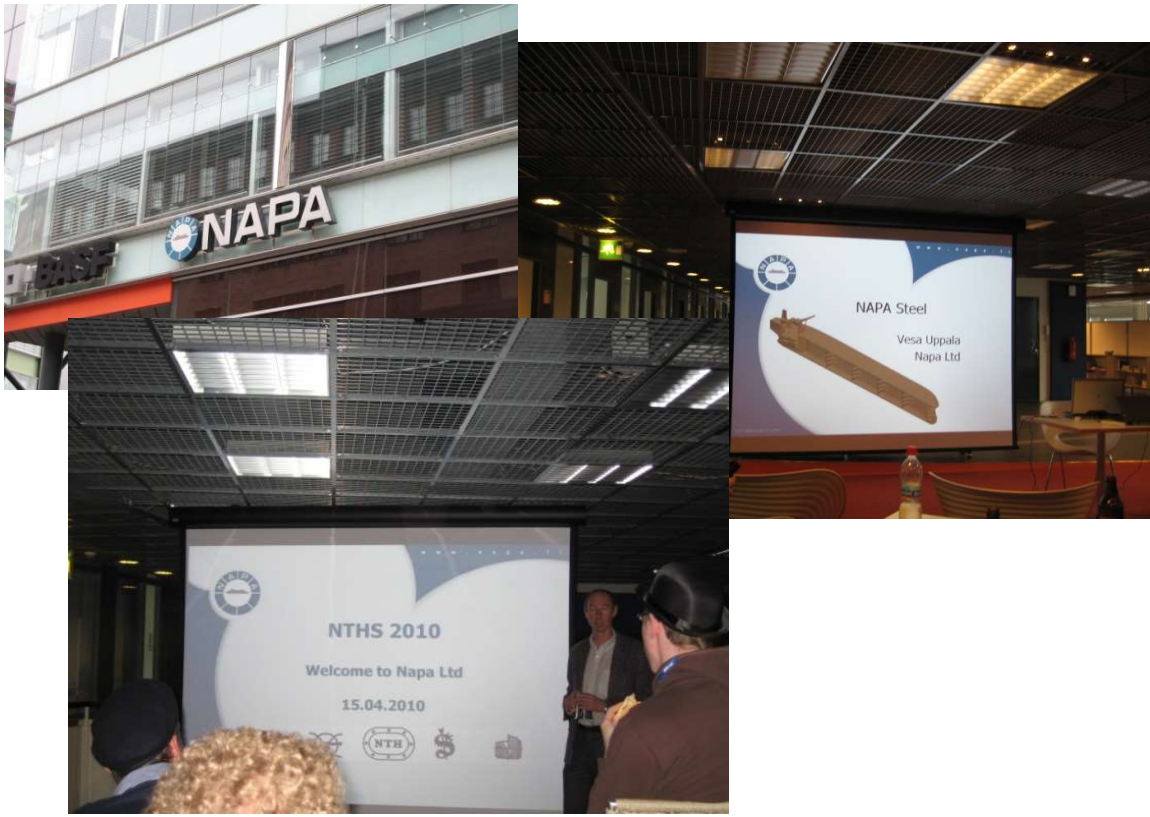
Then the journey got us too ABB to hear about Mega yachts propelled.

ABB is one of the most important suppliers for this market, working in such areas as electrical power, distribution, propulsion and automation.



In 2002, Azimut Benetti of Viareggio signed a contract with ABB for the design, engineering and commissioning of the electrical distribution, automation and Compact Azipod for the 65 meter Ambrosia III mega yacht - one of the first in the world featuring this innovative propulsion system. We got a presentation and trip round in the factory .

The last stop of the day was a visit to NAPA. The Napa Group is an independent software company supplying the marine industry with software solutions for ship design and operation. Napa has been in the forefront of software development for decades, setting new standards for marine software. The aim is to translate the innovative and modern software solutions into genuine added value for clients. The core competencies are based on in-depth understanding of 3D product modelling technologies and naval architectural analyses. From the very outset, Napa has been committed to making 3D product modelling a standard in the ship design industry.





## Friday 16th of April

Friday was the last day for the congress – the day that everyone has been looking forward to: The banquet. This event is the big finale of the congress, and the expectations are high. Every year the host delegation tries to make a party that outshines the one the year before – and they usually succeed. The dress code is nothing less but tuxedo and gala dress.

The bus picked us up at 6 pm and drove us to the location – and old brewery. From the outside it didn't look like much, but as we stepped inside it was obvious why the host delegation had chosen this place: It was old and rustic. Because of the skewed distribution of boys and girls in the congress, some finish girls from other studies were invited, so the number of girls would equal the number of boys. This has been a tradition since the first congress. Another tradition is that old congress members are allowed to join the banquet. Most of the guys from the companies that we've visited had been in the NTHS before and were therefore invited.

As we arrived to the brewery the people from the past congresses were already in a good mood, since they had spent the whole day in sauna and had stopped by a bar before going to the banquet. The reason was that the people from the outside were supposed to get a chance to know each other before the big group of students, who all knew each other, would arrive.

A seating plan was made and about 7 pm we all found our seats. The menu consisted of three courses. The starter was fish roe on blinies, which was very delicious. The main course was potato gratin and some slices of deer meat and sauce. All this was decorated with frozen berries. The meat was very tender. Finally the dessert consisted of a dense chocolate cake with raspberry sauce and whipped cream with a taste of sugar. Along with the menu came white and red wine. It was all very successful made and tasted wonderful.



During and between the different courses some speeches were held and songs were singed. Yet another tradition is that each delegation must bring a present to the host delegation to express they gratitude. The presents must involve alcohol (usually a national drink) and must have some inspiration from the maritime industry. The Danish delegation brought a ship helm and – of course – some small bottles of “Gammel Dansk”.

It is also a tradition that the youngest girl and the youngest boy re going to hold a speech for the boys and girls, respectively. Thor from the Danish delegation was holding the speech for the girls, in which he said many nice things.

During the week the delegation members are allowed to “steal” items from the different company visits and then return them at the banquet, though it seems like the Danish delegation was the only one to follow that tradition. We had borrowed several items of safety, such as glasses and vests. All the companies were amazed that we managed to “steal” all these items since they had kept an eye on all of us – they knew about the tradition.

After the dinner people could go to the bar in the corner and get beers and drinks. A live band played for a couple of hours and people were dancing happily. Two busses arrived at 1 pm to take us from the banquet and to a fancy night club in the heart of Helsinki. The club was huge and impressive, and you walked inside on a red carpet. It looked like an old theatre with a scene for live bands and huge screens for music videos in behind the dance floor. On first floor, around the dance floor, people could sit on the balcony looking down on the band. It had several different bars and a big outside atrium. The club was so big, that even though the 50 people from the congress went to the club together we still got away from each other.

All things considered it was a great and unforgettable evening with a lot of fun and it seemed like everyone was enjoying themselves and each other. Next year the Stockholm delegation is in charge – they sure have something to live up to.