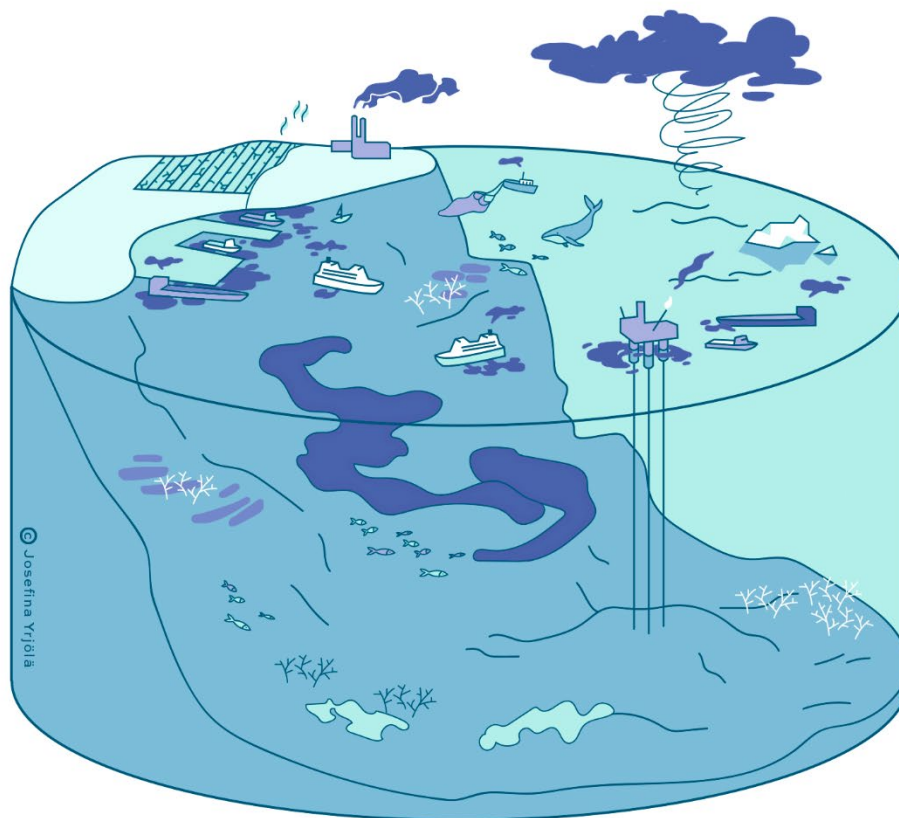


Merikartta-project final report

4.11.2022



Turku University of Applied Sciences implemented the Merikartta project (October 1, 2020–June 30, 2022) with a grant from the Ministry of employment and Economy. The working title of the application phase of the project was "Ship transport in a carbon-neutral circular economy future", but the name was established as "Merikartta" right at the beginning of the project. Experts and students from Turku University of Applied Sciences' Circular Economy Business Models research group and other experts worked on the project. Due to the prevailing corona situation, the project was worked entirely virtually. This publication is the final report of the Project.

More information: kierotalous2.0@turkuamk.fi ja merikartalla.fi



Sisällysluettelo

1 The background, purpose and working method of the project	3
2 Project goals and their implementation.....	5
2.1 Raising research needs	5
2.2 Building an ecosystem	11
2.3 Know-how, business, sustainable growth, and systemic change.....	12
2.4 New project openings.....	14
3 The effects, outputs and results of the project.....	16
3.1 Effects of the project	16
3.2 Project outputs	17
3.3 Project results.....	17
4 Communication	19
5 Conclusions.....	21
6 The strengths, weaknesses, opportunities, and threats of the project	22



1 The background, purpose and working method of the project

Most of the world trade, about 90%, goes by sea. Maritime transport and the entire maritime cluster have significant effects on the climate, and it also consumes a significant amount of the world's resources.

Work has been done in Finland for a long time to promote the carbon neutrality of the maritime industry. In the years 2020–2022, Turku AMK together with many actors brought together Merikartta ecosystem, which strives for a carbon-neutral circular economy in Finland, as part of the Ship transport in a carbon-neutral circular economy future project. The purpose of the project was to bring together maritime industry operators and know-how and to develop the sector in line with the circular economy. The goal was to build a carbon-neutral and circular economy maritime ecosystem through cooperation.

Merikartta is not just a project, it is a force for change, with which the carbon-wise and circular economy marine cluster develops even faster than it is now. This report presents how the goals set for the project were achieved and what effects the project's measures have had on the maritime industry and society.

The vision of the Merikartta

“We are building a sustainable future by creating a Finnish maritime cluster, all actors of which implement sustainable shipping. Carbon neutrality and the circular economy are considered in all operations and throughout the life cycle of the value chain. No more carbon dioxide emissions are generated than are bound. The operation is economically, ecologically, and socially sustainable. This is how we build a sustainable future”.

At the beginning of the project, a steering group was appointed, whose task was to guide the work of the project to achieve its goals. In the initial phase of the project, two virtual workshops were also organized, where the work was started and the activities to be done were defined. Participants from various areas of the maritime industry were widely invited to the workshops.

In the workshops that started the project, it emerged that a carbon-neutral circular economy marine cluster is a very broad theme, and it consists of many different topics and perspectives. Because of this, together with the actors participating in the project, we decided to form a total of five theme groups around different themes. The theme groups started their work in April 2021. The themes of the theme groups were as follows:

- Well-being sea
- Carbon-neutral fuel and energy
- Sustainable and circular economy operation of shipping
- Circular economy marine cluster
- Modularity and sustainable materials



It was later decided to combine the theme groups Sustainable maritime operation and Circular economy maritime cluster into one theme group, because the competence needs and ideas that arose in them were so close to each other.

More companies and actors important to the theme were actively invited to join the theme groups. In the meetings of the theme group, there was always a pre-agreed topic that had been shaped together, what we wanted to learn together or what the actors wanted to present to each other. Mainly the participants were members of the theme group.



2 Project goals and their implementation

The ship transport in a carbon-neutral circular economy future project had four goals:

1. The research needs, development work needs and other issues that need to be promoted are highlighted so that carbon-neutral circular economy ship transport progresses, and business is created.
2. Such structures (ecosystem) will be created to enable the promotion of carbon-neutral, circular economy ship transport.
3. With the help of cooperation, know-how and business will be created, through which a carbon-neutral and circular economy ship transport ecosystem is built and developed.
4. Projects related to the theme are brought together while encouraging new projects to start.

In the following, the goals are presented in more detail and what measures were taken to achieve them and how the goals were reached.

2.1 Raising research needs

Merikartta's first goal was to highlight the research and development needs and issues that must be promoted for carbon-neutral circular economy shipping to progress and business to be created.

The theme groups each started to raise different research needs in their own meetings. ***The research needs that have emerged are presented in the next section, while the work of the theme groups is also described.*** In the spring of 2022, the project's assignment, the Route towards carbon-neutral and circular economy-compliant seafaring report, was completed, which opens where the creation of a carbon-neutral, circular-economy maritime cluster is going now and what should happen and be done next.

In the theme groups, it was noticed that there are a lot of topics that we wanted to learn about together and share our own know-how. On some of the themes brought up by the theme groups, speeches were requested at the project's events, and the entire network's people were invited as listeners to these events. In addition, the most suitable topics were selected from the topics raised in the theme groups to be presented in the joint Stay on the Map -webinars of the entire network. The timings, topics and initiators of the webinars were as follows:

Stay on the Map -webinars

1. A carbon-neutral maritime cluster in accordance with the circular economy
2. Financing and regulation
3. Fuel
4. Education

5. Marine cluster ecosystem

There are recordings of all Stay on the map webinars, and you can get them by asking the Circular Economy Business Models research group of Turku University of Applied Sciences.

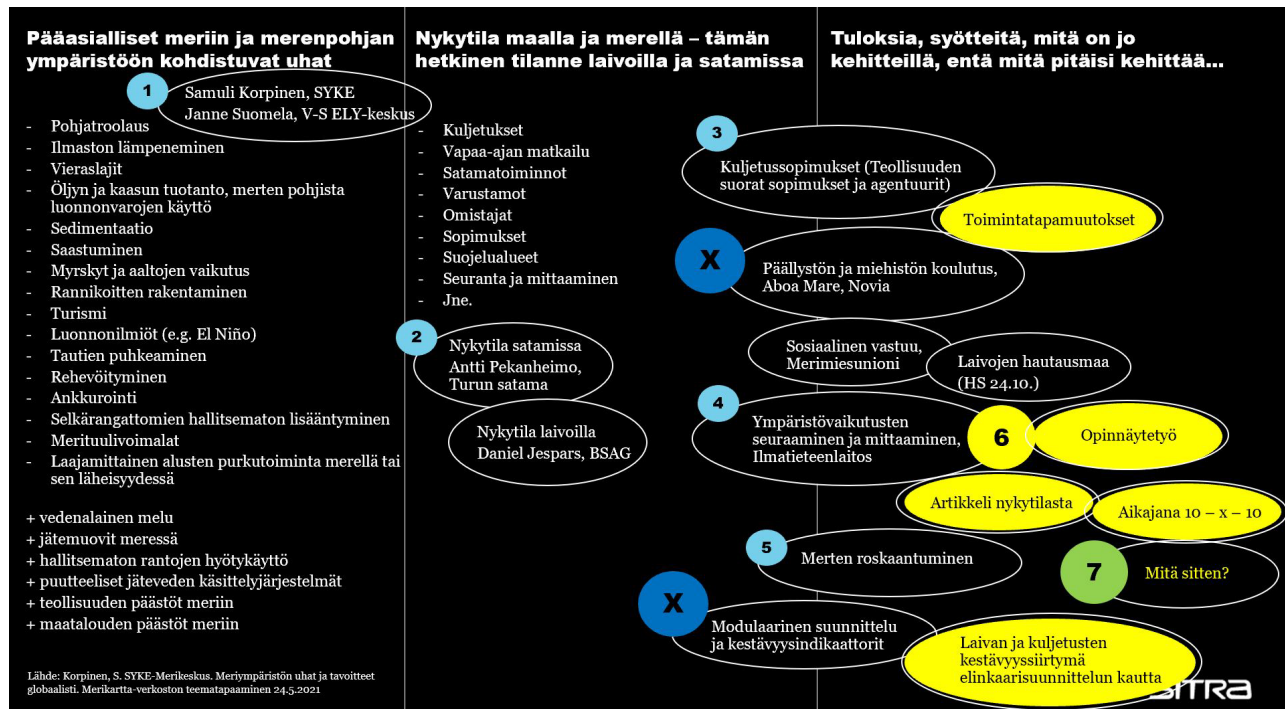
Next, the activities of the theme groups and the research needs raised by them will be presented. Answers to some of the research needs were already sought during the project with various surveys and reports, the results of which were presented in the theme group. [These surveys and reports completed during the project have been compiled on Merikartta's website.](#)

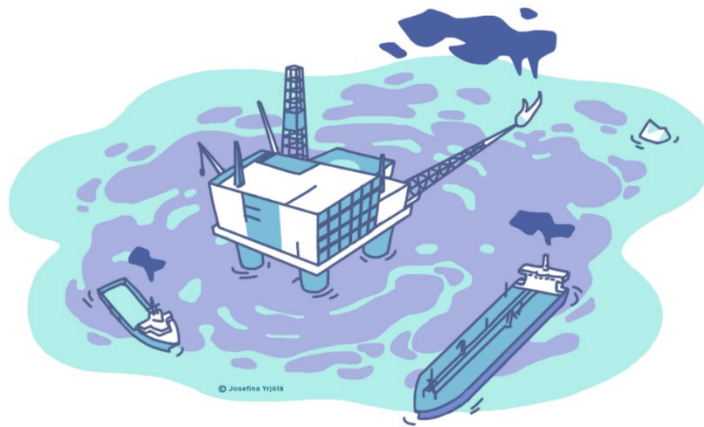
2.1 Theme groups



Well-being sea

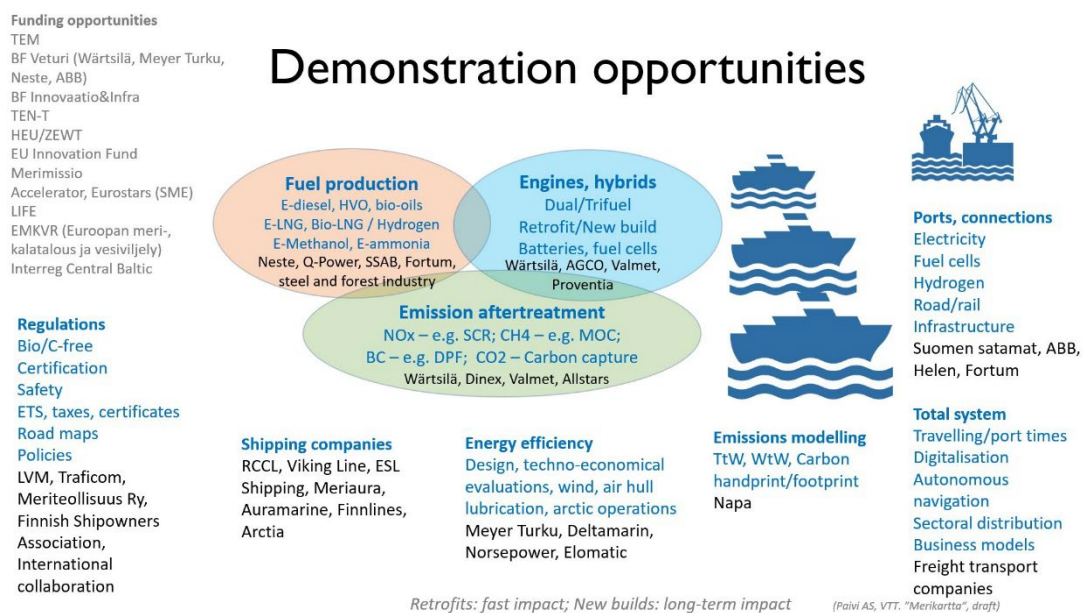
The "Well-being sea" theme group was led by an expert from Sitra. The well-being of the sea theme group investigated various issues affecting the well-being and malaise of the seas, such as the main threats to the seas and the seabed environment, both in domestic and global waters. Various solutions were also considered in the meetings of the theme group. Some of the solutions were discussed on Stay on the map in webinar no. 4, such as the situation in education, or in cooperation with another thematic group, such as modular design. On the assignment of the theme group, one thesis was made on the maritime timeline and the following nautical miles. In addition, an article was made about the whole for Sitra's publications. Attached is the theme group leader's summary of the theme group's work.





Carbon-neutral fuel and energy

The carbon-neutral fuel and energy theme group is led by experts from VTT. Carbon-neutral fuel and energy in the theme group familiarized themselves with various power transmission possibilities in the marine industry. In the meetings of the theme group, liquid and gaseous fuels, battery technology and the minimization and capture of carbon emissions were introduced. The theme group's topics also resulted in webinar No. 3 of the entire Stay on the Map network. The theme group resulted in a thesis assignment, which analysed the stakeholders of carbon-neutral solutions. The leader of the theme group outlined the research and piloting ideas that emerged from the theme group in the following picture.





Sustainable and circular economy operation of shipping

Sustainable and circular economy operation of shipping theme group was led by an expert from the Baltic Sea Action Group. When the group merged with the Circular Economy Maritime Cluster theme group, an expert from Turku University of Applied Sciences became the co-leader.

Sustainable and circular economy operation theme group persistently tried to find out different circular economy solutions in the maritime cluster. In terms of operations, we learned about, among other things, retrofitting and optimizing sea transport. The theme group made reports on the waste management requirements of ports and carbon neutrality. Interesting research topics emerged from the theme group, for example, how the contracts of large Finnish industrial companies can influence sustainable operations and what circular economy business models mean in shipping.



Modularity and sustainable materials

The modularity and sustainable materials theme group was led by experts from Turku University of Applied Sciences and Meyer.

In meetings, the modularity and sustainable materials theme group discussed, among other things, the importance of the material database as a tool for sustainable materials and materials management. The theme group also found out, for example, how the classification institute DNV affects the possibilities of sustainable use of materials and how it is possible to calculate the environmental footprint of the life cycle of shipbuilding.

Future research needs include, among other things, the development of a material passport or a similar materials management method, as well as making a more accurate life cycle calculation of the value chains of certain parts of the ship.

In general, about finding out research needs

At the end of the Merikartta project period, an anonymous feedback survey was conducted for the network. The survey examined which topics Finnish research institutes should work on for the benefit of maritime industry innovations and industrial transformation.

- according to the survey, new project topics that should be prepared are:
- curbing noise and light pollution (incl. underwater effects)
- reducing maritime traffic
- introduction of sustainable driving speeds
- all littering and wastewater emissions etc. into the sea should be banned immediately.



- sustainability criteria must be included in trade agreements immediately.
- how to retrofit the ships with new engines/fuel options, etc. as quickly as possible.
- the role of the financial sector in the change
- increasing education and skills
- social responsibility in the industry
- tackling climate change seems to require new economic models and how they are applied to the shipping industry.
- how business will change when renewable fuels and carbon taxes come into play
- how to transfer know-how or solutions with applicable parts or with the smallest modification to new fields and back from there

In addition, an overall picture is needed of how the various projects related to, for example, those mentioned above are linked to the overall sustainability transition of the maritime industry - with which schedule and ambition to quickly move forward.

The feedback survey also asked what kind of forum and ways the maritime industry in Finland could hold an innovation discussion. The respondents suggested that it is already being done, for example, in the Maritime industry research committee. However, one respondent stated that there is still a need for a forum of the same type (as Merikartta) where it is possible to discuss across organizational boundaries and even with competitors and broadly with different industries and the maritime cluster.

2.2 Building an ecosystem

The second goal of the project was to create the structures (ecosystem) that enable the promotion of a carbon-neutral marine cluster in accordance with the circular economy. With the help of the ecosystem, sustainable growth can be built in the sector, which contributes to the implementation of systemic change. The goal was to build an umbrella for the industry, under which together with one voice and through one channel, a carbon-neutral ship transport ecosystem in line with the circular economy will be brought to the fore and built together.

Building the ecosystem was based on openness and trust. The focus of the ecosystem was calls and meetings throughout the project period. We invited everyone to participate in the work, and the work was done in open cooperation. The project took into account the entire life cycle of shipping, from product design to dismantling, and companies that are linked to these value chains were all welcome to join the ecosystem.

The project succeeded in building the foundation for an ecosystem that enables the promotion of a carbon-neutral marine cluster in line with the circular economy. It was decided to consider only the rather narrow term shipping transport, and we used the term "maritime cluster". *The umbrella, ecosystem and/or carbon-neutral and circular economy marine cluster created in the*



project was named Merikartta, which is a circular economy ecosystem under development and an ever-expanding network. The maritime map is a force for change, through which the carbon-wise and circular economy maritime cluster advances even faster than at present. It has been possible because different actors have been identified, activated and the actors have been able to discuss together. We see that Merikartta is not a project but rather a force for change. The Merikartta is a culture, a way of working and an attitude.

In total, about 200 people from different companies and organizations participated in Merikartta. The most important representative organizations of the Finnish maritime industry, research institutes, shipping companies and material and technology suppliers were involved in the Merikartta. In addition, several ports, ship unloaders, engineering firms, service providers and authorities were involved.

Stakeholder survey and feedback survey

The project promised to conduct a stakeholder survey twice so that the ecosystem could be evaluated during the project and at the end of the project. According to the latest stakeholder survey (spring 2022), Merikartta was considered a good platform for learning and meeting during the corona period. Bringing things up was easy, the existence of the network was felt to be useful, and it would be good to have a continuation of the project. Peer support was found to move things forward, and Merikartta has combined expertise within the organizations. The lack of real actions within the project came up as bad aspects. It was felt that the effectiveness of the network would have been more effective if it actively sought to solve development needs. In addition, the survey was considered ineffective for the industry association, as the responses of the membership cannot be averaged, and they do not work in production.

Merikartta has been a good meeting place for Finnish maritime cluster actors and the existence of the network is considered a great thing.

The force of change has already started to show. This can be seen, for example, in the results of the surveys conducted for Merikartta's stakeholders and the feedback survey aimed at all Merikartta operators. Based on the surveys, Merikartta's organizations have already started to develop their operations in the spirit of the project.

2.3 Know-how, business, sustainable growth, and systemic change

The third goal was, through the cooperation described above, to create know-how and business, through which a carbon-neutral and circular economy ship transport ecosystem is built and



developed. The goal was to use the ecosystem to build sustainable growth in the industry and to help implement systemic change.

Sharing expertise

During the project, it was noticed that the prerequisite for building a carbon-neutral and circular economy ecosystem is to increase the expertise of all actors in these themes. The sharing of know-how became a prerequisite for building the entire project and the ecosystem, and therefore a lot of effort was put into it. It should be noted that a lot of development took place in the field during the development of Merikartta as well. During the project, for example, there was an opportunity to learn together about the new EU regulations.

Sustainable growth, business, and systemic change

According to the stakeholder survey conducted in the project, the majority (65%) of the respondents to the spring 2022 stakeholder survey felt that the Merikartta ecosystem has had some impact on environmentally friendly and sustainable operations in their own organization. A good quarter (26%) of the respondents felt that the Merikartta ecosystem has affected the organization's operations only to a small extent. In the opinion of one respondent (4%), the Merikartta ecosystem had greatly affected the operations of their own organization, and correspondingly, only one respondent felt that the ecosystem had no effect at all.

According to the stakeholder survey, several organizations have started to develop business in the spirit of Merikartta. The Merikartta has improved internal cooperation and information sharing and made us think about things anew. The presence and sharing of information emerged as one of the most mentioned effects, and according to the respondents, Merikartta has also acted as peer support in moving things forward. The speeches at the meetings have given the respondents concrete ideas about what could be done differently and better in their own company. Many of the respondents mentioned that they learned something new during Merikartta and that the network increased their knowledge, inspired them to focus on things and plan development. Expanding the network also came up in the answers, and some of the respondents felt that they got good examples from the meetings to share with their colleagues.

Some of the respondents felt that Merikartta has not had an impact on the organization's operations because there have been few operators in their own field in the network. However, these respondents also felt that the activity was interesting. Some felt that Merikartta was mainly a discussion club that could not influence the activities with the current operating models. Some of the respondents admitted that Merikartta's impact was minimal due to their own participation opportunities.



2.4 New project openings

Merikartta's fourth goal was to bring together projects related to the theme, while encouraging new projects to start.

Before the start of the project, within the framework of the Baltic Sea initiative, the needs of the companies, which are required for the maritime sector to develop more sustainably, had been mapped. The steering group estimates that this work has now successfully continued in the work of the Merikartta ecosystem. The steering group estimates that with the help of the project, the players in the field have learned from each other and heard from others what kind of development projects are currently underway.

Working in theme groups during the project provided a good framework for assembling different projects and planning new ones. An actor involved in working with Merikartta aptly describes Merikartta's role in the development of the maritime cluster towards a carbon-neutral circular economy and the relationship with previous projects and new projects as follows:

"The Merikartta is at the centre of it. Arrows and paths lead to this Merikartta ecosystem, and then new paths start from it where all these previous paths are connected, so that has been precisely the significance of the Merikartta ecosystem".

The project has also had a positive effect on the fact that Meyer Turku was selected for Business Finland's leading companies and ecosystems funding program, which challenges companies to increase their research, development, and innovation (RDI) investments in Finland. Meyer's NECOLEAP program develops carbon-neutral and sustainable technological solutions for cruise ships with the help of a wide cooperation network. The goal is to get a ship order in the billion range for the Turku shipyard. With Meyer's NECOLEAP, it is possible to utilize the operating methods, outputs and results created in the Merikartta project. Merikartta has done the groundwork and created an ecosystem whose operating principles and collected material can be used in the future, as in NECOLEAP.

VTT also has expertise in the project's themes, and in the future the organization will certainly focus on the research of themes in the following projects. The Merikartta ecosystem can also be of help in the opening of new projects. SYKE and Motiva are opening a new Circular Economy program that brings together different networks under one umbrella. The Merikartta ecosystem has a natural place in this umbrella project as well.

According to the results of the stakeholder survey carried out in the project, several organizations are building or starting related projects. The organizations also require new participants to commit to sustainable development, guide stakeholders in a carbon-neutral direction and increase understanding of the impacts in their field. Some organizations study sustainable development as an independent topic and train their staff and customers on the topic. Several organizations expressed their hopes for the continuation of Merikartta and how important it would be to



commit the participants to the future, so that the continuation of the activity would be guaranteed regardless of the continuation of funding.



3 The effects, outputs and results of the project

3.1 Effects of the project

A stakeholder survey was conducted to monitor the effects and effectiveness of the project. The survey was carried out twice, in the fall of 2021 and in the spring of 2022. The surveys are similar, but at the end of the 2022 survey, two new questions about the perceived effectiveness of Merikartta were added.

The results of the 2022 survey consist of answers from 23 respondents representing 21 organizations. Of these, nine organizations were those that had not previously responded to the stakeholder survey and 12 organizations were those whose representative also responded to the survey in the fall of 2021. The organizations represented a diverse range of operators in different fields of the maritime cluster and those working in different jobs. Environmentally friendly operations (carbon neutrality, circular economy, and sustainable development) in different areas of the organization have improved compared to the fall 2021 estimates. The majority of respondents (65%) felt that the Merikartta ecosystem has had some influence on environmentally friendly and sustainable operations in their own organization. [A report has been compiled from the results of the stakeholder survey, which you can read here.](#)

When comparing the different areas of the survey, trust in the activities of the Merikartta network clearly received the highest average (3.9). According to the respondents, all areas were already at a good level on average. Environmentally friendly operations (carbon neutrality, circular economy, and sustainable development) in different areas of the organization improved compared to the autumn 2021 estimates. It was considered at the level of strategy and in innovations and inventions. The average values correspond to at least systematic consideration of environmentally friendly and sustainable operations, and it improved the most in operations and recruitment compared to the results of autumn 2021.

Below is a list of concrete measures from organizations aiming for carbon neutrality, circular economy, and sustainable development:

- reducing the amount of waste and waste management
- recycling and the use of recycled material
- development and monitoring of emission calculations
- purchase of low emission means of transport and carpooling
- information and training
- launching projects
- product development and investment responsibility
- safe and equal work culture.



The effectiveness of the project will still be evaluated with Merikartta's management team at the end of 2022, when half a year has passed since the end of the project. In this case, new project openings on the project's themes may already be visible.

3.2 Project outputs

During the project, the experts working in the project produced a lot of new information for the information needs that arose from the ecosystem. 10 different reports were made. [Some of the reports have been collected on the project's website.](#)

A list of reports is also below:

1. Report and summary: **"How to build a carbon-neutral marine cluster in accordance with the circular economy"**. Published on Howspace and presented to the network at the first workshop.
2. Report and summary: **"Traffic lights on the Merikartta"**
3. Report and summary: **The situation of the carbon-neutral circular economy in the maritime cluster: a summary of 2019–2021 carbon-neutral, circular economy solutions in the maritime cluster.** Published on Merikartta's website.
4. Report and summary: **Stakeholder analysis of marine cluster energy-neutral solutions.**
5. Report and summary: **Maritime cluster logistics according to the circular economy.** Published on Merikartta's website.
6. Report and summary: **Merikartta for a sustainable future - the next nautical miles.**
7. Report: **Merikartta – results of the stakeholder survey Autumn 2021**
8. Report: **Merikartta - results of stakeholder survey Spring 2022**
9. How to build trust in ecosystems: case Merikartta. Published on Merikartta's website.
10. Sitra's article: **The well-being or malaise of the seas - the role of maritime transport in the sustainability transition.** Published on Sitra's website.

3.3 Project results

The leaders of the theme groups and members of the steering group were asked to evaluate what the most important results of the project have been.

Ecosystem

One of the most central and important results is that a functioning ecosystem has now been created for the marine sector, which did not exist before the project.



Growing competence

Secondly, with the project, the maritime cluster's operators' knowledge and expertise on carbon neutrality and the circular economy has increased, which is a prerequisite for all development. A particularly good thing about the project has been that it has enabled discussion between projects of different organizations. After the project, there is a forum where discussions can also take place outside of the organizations' own projects.

Clarification of necessary measures

The third significant result is that, based on the work during the project, a picture has been formed of where we are going now in the creation of a carbon-neutral marine cluster in accordance with the circular economy and what should happen and be done next. A study on this topic, *The route towards carbon-neutral and circular economy shipping*, was also made, which presents what the future of the maritime cluster looks like in Finland and internationally. The report highlights what we can learn from the past, what actions are currently underway and how to act in the future, so that the maritime industry follows carbon-neutral and circular economy operating methods. The project resulted in a picture of where we are going now and what should happen next. These results facilitate and help the planning of future activities.



4 Communication

At the beginning of the project, the communication goal was that the information gathered during the project would be easily accessible to everyone. The communication was also planned to be high-quality, impressive, modern, and interesting during the entire project period by utilizing different communication channels.

At the beginning of the project, a communication plan was made. [A website merikartalla.fi was created for the project to support the construction of the ecosystem](https://merikartalla.fi), which at the same time act as both the project's business card for parties interested in the ecosystem and as a compilation channel for the project's results. Theses and reports completed in the project have been collected on the website, and the goals and results of the Merikartta work have been presented in the blog section.

Current projects, and studies on topics related to the project's themes were collected in the website's reference bank. The reference bank wants to support the developers of sustainable shipping by sharing results and successes. It is possible to update the content of the reference bank in the future.

For the needs of the project, eight images were created as part of the Environmental Challenges visualization, which were used to support communication. These images have also been used in this final report. Various environmental challenges related to the sea were described with the environmental challenges visualization. The picture responds to goal 1, because the picture gathers the problems, to solve which more sustainable solutions are also needed in shipping.

Internal communication was implemented using the Howspace platform. The table below contains the news, articles and blog posts published in Merikartta.

Merikartta for a sustainable future	Nani Pajunen	Published on Sitra's website on 28.12.2020
Maritime logistics should be included in the industrial emissions trade	Jussi Mälkiä	Published on Merikartta's website on 20.1.2021
Maritime cluster towards a carbon-neutral circular economy	Uusiouutiset	Published in Uusiouutiset magazine on 1.2.2021
A pioneer in carbon-neutral shipping from Finland	Aarni Karjalainen, Ona Vassalo ja Laura Rantanen	Published in the 3/2021 issue of Uusiouutiset magazine
Huge sea, huge responsibility	Aarni Karjalainen	Published on Merikartta's website on 14.9.2021



Towards a carbon-neutral tomorrow through dialogue	Anna Liedes	Published on Merikartta's website on 15.9.2021
Working together towards carbon-neutral shipping	Laura Rantanen, Marketta Virta ja Inka Mäkiö	Published on Merikartta's website on 24.11.2021
How to save marine nature, Scientific article, Nani Pajunen & Ona Vassallo	Ona Vassallo ja Nani Pajunen	Published on Baltic Rim Economies Review, 12/2021.
The well-being or malaise of the seas - the role of maritime transport in the sustainability transition	Nani Pajunen, Elisa Mikkolainen, Inka Mäkiö	Published on Sitra's website on 7.6.2022



5 Conclusions

The project succeeded in building a carbon-neutral ecosystem for the maritime industry that aims for a circular economy, which is made up of diverse players in the industry. Work has been started on the marine map ecosystem, but work is still needed. *The new leader projects now move the work forward.* The role of Turku University of Applied Sciences, on the other hand, could be found, for example, in facilitating the ecosystem, if there is a need.

Sharing know-how, goal-oriented facilitation and building trust have been the foundation of the project, on which the ecosystem has been built. The sharing of know-how has been the foundation of the entire project, as has been strongly highlighted in this final report. To increase the network's expertise, the latest research and development projects in the field were assembled. These were presented in the project's workshops and information was shared on the Howspace platform and in theme group meetings. In addition, Stay on the Map expertise sharing webinars were organized, in which the entire network's expertise level was increased on the topics raised in the theme groups. The articles, reports and recordings of expert talks that were mentioned as the output of the project now form a comprehensive library of what a carbon-neutral marine cluster with a circular economy means. It is possible to use the project's materials in the future. Recordings from various events are on YouTube.

The steering group of the project pointed out that there were many participants in the theme groups and there were very distinguished performers as speakers. According to the leaders of the theme groups, working in the theme groups was active and advancing the project's goals.

The building of the ecosystem has required an open attitude from all actors involved in the ecosystem to work together and to pursue a carbon-neutral lifestyle. This has required an open-minded opening of cooperation and goal-oriented facilitation. The structure of the ecosystem has been facilitated carefully, consciously and goal oriented.

The project team, leaders of the theme groups and members of the steering group were asked to evaluate the reasons why the project's goals were reached. During the project, trust has been the foundation of the work. Planned and goal-oriented facilitation produces results.

Merikartta-work continues as follows:

- TEM sustainable maritime industry development program
- Cooperation with leader projects
- Center of competence for sustainable maritime transport in Turku
- Theme groups continue their activities.

The project was ceremoniously concluded on 17.6. at a joint party, finally face to face. The work to build a carbon-neutral marine cluster in accordance with the circular economy did not end here but continues here.



6 The strengths, weaknesses, opportunities, and threats of the project

The steering group was asked to give feedback briefly and anonymously on the operation of the project in May 2022. According to the steering group, the strengths of the Merikartta project have been that it succeeded in building a large ecosystem and connecting actors together. The project succeeded in creating an inspiring atmosphere both in the larger group and in the steering group activities. The project succeeded in bringing together representatives of various actors in a multidisciplinary manner. According to the steering group, Turku AMK's concept has been tested and is in order, and Turku AMK has coordinated the ecosystem excellently. Although the challenge has been that the whole project has been carried out remotely, all key players have been involved from the beginning. The goal of the work is big and a common direction has been reached in the ecosystem.

The project received thanks for the fact that the participants' knowledge and expertise about the project's themes has increased. The seminars have been particularly useful. The steering group gave special praise for the fact that the events were well facilitated and had good themes and speakers.

The most important thing has been putting together a confidential cooperation network and bringing a positive vibe into the network. The maritime map ecosystem has brought the maritime industry together. Now it is important that this good spirit and work that has been set in motion in Merikartta continues.

The steering group considers Merikartta's weaknesses to be that during its time hardly any new projects were created, and concrete progress was not taken. On the other hand, the reason was thought to be that no suitable financial instruments were available during the project and that the project was carried out completely remotely during the corona virus. Even more in-depth investigations could have been done during the project period, and the circular economy in particular could have been emphasized more as a theme.

The steering group estimates that the project has provided a good basis for the continuation and especially for the leader projects. Actors now have better knowledge of what other actors are doing in the theme. The project has also provided a lot of information and things for thought. One member of the steering group pointed out that the exchange of information outside the projects is important and that, in turn, can create new opportunities to create new expertise and subject areas.



The steering group felt that future threats to Merikartta could be, for example, the continuation of the corona pandemic and similar future pandemics, as well as the effects of the Russian attack on companies' business operations and especially on development activities. The steering group pointed out that the themes discussed in the Merikartta consist of multifaceted themes and the challenges to be solved are large. However, these things must not be allowed to influence, but must be able to work to advance systemic change. The answers are not ready, but as stated in the workshop that started the ecosystem:

"If this gang can't succeed, nothing will." Forward with that spirit! We have no choice. A sustainability transition must be made!