We are on the edge in several ways. Climate change poses severe threats, and fast digitalization provides new solutions. Our culture changes, and our roles at work change. As robots are better than humans at many things, the skills to create by hand, think creatively and analytically, as well as work as part of multidisciplinary teams becomes more important in the future. It is easy to presume that soon comes a day when artists and creative experts are needed as consultants for various projects as members of organisations. Combining knowledge in a new way is the key to next generation innovations. But how can an engineer co-create with an artist, and how do artists adjust to industrial fields? At least the participants of the IRM-Tool project, both in maritime and creative fields, think that there should be more creative starting points for the R&D projects. This publication brings forth implementation and results of the innovation project that explored preconditions and obstacles of maritime innovation and combined creative knowledge with maritime challenges to boost problem-solving of the companies. The IRM-Tool project was implemented during 2017-2019. It was coordinated by the Aboa Mare Maritime Academy of the Novia University of Applied Sciences. Other partners were the Turku University of Applied Sciences and Åbo Akademi University. Meyer Turku acted as a strategic partner. Project was co-financed by the European Social Fund. The IRM-Tool project has been innovative and agile project that has been able to make a lot of initiatives, boost new co-operation and even create new jobs. The project has made the innovation more accessible for companies and experts despite of the company size, field of expertise, and prior experience of innovation work. Innovation knowledge within both maritime and creative fields has increased. In this publication, the reader is first introduced to the IRM-Tool project journey to provide the idea of the whole. Then, Design Thinking requires its own chapter as it has been the baseline for project implementation. Following, the reader gets an understanding of the development of the Innovation tool, which is the main result of the IRM-Tool project. Next follows a deeper look into the several encounters between maritime and creative professionals that the IRM-Tool project has arranged. Many creative professionals, such as writers, visual artists, game developers, musicians and service designers were interested in learning about the maritime industry. Similarly, many maritime experts such as architects, designers, engineers, HR professionals, quality managers, R&D managers and CTO’s took part in the project to explore how they could innovate better. These encounters have been very meaningful to local business ecosystems especially in Turku and Pietarsaari, in Finland. The publication introduces also the experiences and results in testing the innovation tool to maritime innovation challenges and concludes with the applicability and significance of the creative industries’ knowledge for the future innovations. The publication ends with boosting the reader to find his/her own innovation flow. IRM-Tool project team would like to thank all the workshop participants, experts, students, companies, and other project stakeholders for participating and contributing to the project. Hope you enjoy your reading and find new ideas for your work! Rita Rauvola, Project Manager, The IRM Tool Project

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Inledning

Flertalet initiativ har lyckats göra projektet ett innovativt och kombinerat kreativ kunskap med marina innovationsprojekt som har utforskat villkor för FoU-projekt. Industrins deltagare i IRM-Tools projekt se genom att lära sig om den marina industrin. Tillika, andra kreativa professionella såsom skribenter, arkitekter, designers, ingenjörer, HR-experter, studenter och andra partners genom experter, konstnärer, företag, tjänstedesigners var intresserade av att lära sig mer om marina industrin och resultatet av att testa Innovation tool.

Olemme nunnaan monistona tänkään innovation tool ensimmäisen kohdasta ja ts oikea digitalisointi mukaan tekemisen tekemisen teknologian ja hyvin selkeä teknologi ja luovuus saattaa olla kyseessä. Koekuvat roobotit ovat monissa asioissa paremmin kuin ihmiset, koska robotit ovat tehtävässä yhteistyötä sekä monialainen ymmärrys. On nyt pystynyt tekemään paljon aloitteita, vaadittavina on olla hyvä ja myös innovaatiotyökalun kehittäminen projektin toteuttamisen tilanteessa. Sitten esitellään Design Thinking periodi, sillä se on ollut lähtökohtana innoVationtool.fi, joka on IRM-Tool hankkeen toteutusaika. Tänä julkaisuna löydät uusia ideoita työhösi! Toivottavasti nautit lukemisesta ja kaikkia työpäiviöillä osallistumisesta ja asiantuntijoita, opiskelijoita, yrityksiä ja muita sidosryhmiä osallistumisesta ja panoksista IRM-Tool hankkeen. Toivottavasti nautit tutkimuksesta ja löydät uusia ideoita työhösi!

Rita Ravuina
IRM-Tool projekt

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Welcome to the journey with the IRM-Tool Project. In this way, at the beginning of the project publication, it is important to illuminate what kind of map the project has had, what kind of landmarks it has encountered, and how it navigated to the end harbor through it all: beautiful summer days, storms, and the Pacific Plaque. This will help to understand the results of the project, and the contents of this publication.

The Innovation Resource Moderating Tool, or the IRM-Tool, started out with the need to make innovation more accessible to small maritime businesses. The difference in innovation processes and practices between the creative and maritime industries was acknowledged, and therefore it was thought that the industries could learn a lot from each other. However, it was also seen that their need and the benefit for both industries to learn about innovation in order to provide a nutritious soil for co-creation that the project aimed to boost.

The aim of the project, simply and shortly, was to bring the fields together and to attract experts in both fields to joint development; to find tools to create a common ground and thereby create new creative job opportunities in the maritime industry. To this end, workshops were organized to include both fields. The topics of interest of the maritime industry were introduced and addressed through service design and creative methods. At the same time, the Innovation tool (www.innovationtool.fi) was compiled through theory, study cases, creative methods and other contents created in the project. The Innovation tool (www.innovationtool.fi) was compiled through theory, study cases, creative methods and other contents created in the project. The project started with a service design, reviewing the needs of the target groups, maritime industry and creative experts. The project plan, or the map in used, told the project team to proceed in modules: innovation theory, creative skills and service design for each innovation theme, which poses a practical business challenge. In practice, project first explored the needs that were acknowledged by its strategic partner, Meyer Turku Shipyard, and then proceeded with other companies interested in the project. The needs were explored by service design students who interviewed Meyer Turku Shipyard’s subcontractors. According to them, communication and the transfer of needs from one level to another and understanding of the whole, were the biggest challenges that required an “innovation tool”. Project implemented also another kind of interview study that asked the maritime industry representatives about “how innovations are made”. Here, both opportunities and challenges in innovation work were revealed.

Navigating and exploring the landscapes

The IRM-Tool project organized workshops for companies in the maritime and creative industries about current topics such as modular shipbuilding, sustainability, life cycle assessment, and customer-driven product development. In the end, the project organized 21 workshops (including 10 workshops, 5 test workshops with Innovation tool, and 1 process with 6 workshops) and 4 company visits, with a total of 300 participants. Of these, about 52% represented maritime, 34% creative, and 14% other fields. All the workshops had participants from both the creative and maritime industries. The workshop texted the suitability of service design methods for the joint development as well as investigated the factors promoting and hindering multidisciplinary cooperation.

1 THE JOURNEY OF THE IRM-TOOL PROJECT
Written by Riita Rautava
Through the workshops and company visits, more people in the creative industry are now interested in working within the maritime industry, and some have also started working in the maritime industry either for a single project or longer-term employment. The tested methods included Backcasting, Six thinking hats, 635 with five points voting, and Double reversal. These methods are described in the attachment 1. Also storytelling, live visualization, future scenarios and online methods were used.

In addition to applied art, the project also involved the core of the art, exhibiting artists, to the project activities. The project aimed also addressing the challenges of individual companies more concretely. This developed into a unique collaboration with the Arts Promotion Center Finland. In the process, seven professional artists designed art concepts to meet the challenges identified by three maritime companies. In this process, a more open atmosphere was achieved. The concrete challenges provided structure for the artistic work while process still provided artists the artistic freedom. Ten art concepts were designed by the artists, and at least three of the concepts have proceeded in the organizations in the time of writing this publication. The feedback of the process was also very inspiring, and in the end, everyone should remember the importance of the intrinsic value of art and creativity, not just as purposeful activity, even though art has great potential for that, too.

Based on the theory, research and workshops, the content of the Innovation tool was then developed. The tool includes tools, methods, infographics, short films, animations, service design, and cases. The tool content was co-created with project team experts, students from the fields of media, leadership and service design, as well as the experts and influencers in the maritime and creative industries.

Terminal port

It is often discussed if one workshop can make any change. Not necessarily immediately, and there might be difficulties to hear the results afterwards, too. IRM-Tool project has had many happy news after a few months, or even a year. With the help of the organized workshops, a few creative professionals have got jobs in the maritime industry and been considering starting a new business. Also new creative projects within and between the participated companies have started. Finally, at least five persons have been employed, three companies have been established and at least five new development projects have started from in collaboration that has begun in the IRM-Tool workshops.

The most significant result of the project, however, is the Innovation tool, published at www.innovationtool.fi. The Innovation tool makes innovation more accessible to all because it is well-suited to different users and scalable to various needs regardless of initial knowledge and training about innovation.

The purpose of the Innovation tool is to help developing innovation skills and to act as an agravator for the multidisciplinary co-development, which requires finding a common language and playground to be able to utilise the diversified expertise. More information about the purpose and application opportunities of the Innovation tool can be found in the end of this publication. Also, the Innovation tool test workshops with Auramarine, Baltic Yachts and WISTA (Women’s International Shipping and Trading Association) are all shortly described in this publication.
Service Design

Service design brings the end user’s perspective to the centre of the service development process. In the world of service design, people discuss about the customer and understand the customer, the users and users’ knowledge. Service design starts in understanding the human actions, needs, feelings and motivations. New service tools can be created based on the user knowledge. (Miettinen, 2016)

Service design is closely connected to innovation. Service Design was one of the “ingredients” in the process and a guide throughout the project. For example, service design was applied in the workshops, and the web-based Innovation tool developed in the project is based on service design thinking.

Service design methods for enabling interaction between the maritime industry and creative field

Written by Päivi Kajakoppi and Elina Vartela

Utilising the service design approach was one of the starting points of the project. Service design refers to developing new services or improving existing ones by involving different stakeholders in the work. Service design aims to take customers or involving different stakeholders in the work. To return to an earlier phase for further research, test prototypes one or more times and create alternative solutions until the best possible service is developed. The development work continues into the service development process. In the world of service design, people discuss about the users and users’ knowledge. Service design is closely connected to innovation. Service Design was one of the “ingredients” in the process and a guide throughout the project. For example, service design was applied in the workshops, and the web-based Innovation tool developed in the project is based on service design thinking.

Design Thinking

Service design is based on design thinking, which refers to a human-centred approach for answering to different development challenges regarding the effort required for understanding the user, as well as all circumstances affecting the phenomenon. It is also a mindset; thinking outside the box and finding new ways to approach issues, rethinking by questioning the conventional ways, brainstorming and co-designing. (Humanific 2019)

In design thinking all problems are approached from point of view of design. It is important to have a holistic approach in order to understand the connections between people, matters and systems, by looking at the issue from both near and far, as well as from the different perspectives. The idea of understanding the experiences and feelings, and finding the reasons is essential in design thinking. Fast experimenting in practice (prototyping, service mapping) is a fundamental starting point for design thinking. (Humanific 2019)

Design thinking refers to, in addition to the design function itself, a company’s ability to act creatively and proactively, adapt its operations in order to change and provide the best possible service is developed. For example, the contents of the Innovation tools were tested in several phases with the potential users. At the end of the project, concrete cases for utilization of the Innovation tool were provided by Auramarine Ltd, Baltic Yachts and WISTA (Women’s International Shipping and Trading Association).

Service Design Principles

According to Marc Stickdorn (Tuulaniemi, 2011, p. 60), service design is an interdisciplinary approach, a process, that combines different methods and tools from various disciplines, from design to engineering sciences and from leadership to social sciences. All areas of expertise can use this paradigm for developing successful services.

The six principles of service design according to Stickdorn et al. (2018, p. 27) are following:

1. Human-centred: Considering the experiences of all people affected by the service.
2. Collaborative: Stakeholders of various backgrounds and functions should be actively engaged in the service design process.
3. Iterative: Service design is an exploratory, adaptive and experimental approach, iterating towards the implementation.
4. Sequential: The service should be visualised and orchestrated as a sequence of intentional actions.
5. Real: Needs should be researched in real life, ideas prototyped in real life, and intangible values ensured in a physical or digital reality.
6. Holistic: Services should address the needs of all stakeholders sustainably throughout the service provided and across the whole business.

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6. Holistic: Services should address the needs of all stakeholders sustainably throughout the service provided and across the whole business.
Service Design Process in the IRM-Tool Project

Written by Päivi Katajamäki and Elina Vartama

As mentioned before, one of the main outcomes of the IRM-Tool project is a web-based tool, published at www.innovationtool.fi, which is for helping companies to develop their innovation capabilities. The tool is developed from the perspective of the maritime industry by utilizing case studies, innovation theory, service design, media expertise, and other creative knowledge. An iterative service design process is depicted by The Design Council in the UK as a double diamond. The service design approach and the following methods have been used during the different phases of the IRM-Tool project. They are presented in this section thought out and applied according to the double diamond model.

Discover.
The first quarter of the double diamond model covers the start of the project. The goal is to look at the phenomenon from a new perspective, discover new things and gather insights. During the initial phase of the project, the stakeholders were mapped out by means of online ethnography, interviewing stakeholders – especially representatives of the maritime industry – and surveying maritime companies’ representatives. Early prototypes of the future innovation tool were ideated and visualised e.g. as customer journey maps and service blueprints.

Define.
The second quarter represents the definition stage; and thus makes sense of all the possibilities identified in the Discover phase. Asking questions like “Which matter the most?” “Which should we act on first?” “What is feasible?” might help define a clear development goal and provide a briefing in order to frame the fundamental design challenge. Several workshops were facilitated by the students from the Leadership and Service Design Master’s degree programme by Nova University of Applied sciences and Turku University of Applied Sciences. Gradually the understanding of the contents of the tool started to shape.

Develop.
The third quarter is a period of development, in which solutions or concepts are created, prototyped, tested and iterated. The contents of the tool were built by brainstorming in the workshops and working together with mind-maps, other visualisations and digital tools in groups. Various workgroups consisting of students from the Master’s degree programme and TUAS Arts Academy began generating ideas as well as designing infographics and workshop instructions for the tool together with the IRM-Tool project team. Design was based on the previous research and innovation theories. The user personas of the tool were created and tested.

Deliver.
The final quarter of the double diamond model is the delivery stage, in which the resulting project (a product, service or environment etc.) is finalised, produced and launched. The instructions of the workshops were based on the tested workshop formats. Representatives of the maritime and creative industries tested the comprehensibility of the contents of the tool before the work with the web page started. The contents and usability of the tool were tested with different stakeholders several times during the development process until the ideal solution was discovered.

Co-creation in the workshops

One of the main goals of the IRM-Tool project has been to create encounters between the creative and maritime industry. These meetings have been arranged mainly through different types of workshops. Various workshop methods were implemented in the project and tested in cooperation with mixed groups of the maritime and creative field representatives regarding the themes related to the maritime industry. For instance, the following workshop methods were tested during the project: Brainstorming, Double reversal, Backcasting and Six thinking hats (see attachment 1).
3 MARITIME INNOVATION

The maritime industry is considered a rather traditional and old-fashioned industry, although the industry has various examples of game-changing innovations. Engineers are very creative at solving technical problems. However, is it always a technical problem that needs solving? And can R&D projects be based on creative problems instead? This question was asked more than once in the IJM-Tool workshops.

This chapter introduces the reader to the maritime industry, open innovation in the maritime industry as well as the potential innovation conflicts within the maritime industry.

Gathering insights on the maritime industry

Written by Rita Rauvola and Päivi Katajamäki

Service design students from the Master’s degree programme of Leadership and Service Design of both Nova University of Applied Sciences and the Turku University of Applied Sciences prepared a background study for the project during the summer of 2017.

The students’ task was to map the innovation challenges of maritime companies and their needs for developing the collaboration with the shipyard, as well as the subcontractors. The insights were gathered by performing interviews and surveys, which were presented with different visualisation methods.

The study also showed that one challenge is knowledge management. For example, Meyer Turku Shipyard has 1,700 employees, and it is estimated that over 40,000 people work in a maritime cluster network (Meyer Turku, 2019). According to the findings knowledge is shared inside the Turku shipyard network as in Figure 4.

Transparency and confidentiality were the issues which should be solved in order to enable knowledge sharing between the stakeholders. Even though co-operation between the suppliers and the shipyard exists, companies have a challenging business culture with an atmosphere of protectionism of the ideas as everyone is considered as a competitor.

In order to enable co-creation for new innovations, more openness in idea and knowledge sharing between the stakeholders is needed. Some companies experienced that, at the time of the bidding phase, the requirements of the recipient of the bid are so precise that they cannot provide all the expertise they possess or alternative solutions.

In the case of subcontractors, previous co-operation between different suppliers can enable higher-quality and more cost-efficient overall solutions. Smaller subcontractors expressed that, to be able to provide better solutions, more information from the shipyard and collaboration with the other suppliers of the subcontractor network are required.

Open innovation and the maritime industry

Written by Rita Rauvola and Teerisa Othman

The markets in the maritime industry are highly competitive. The competitive advantage of many companies has already changed due to increasing costs or changed demands, but also because of novel and tempting opportunities in the market waiting to be captivated. However, taking advantage of new opportunities requires renewal of business models, if income potential is not a direct match with the core business or the core expertise of the company.

On the other hand, the existing competitive advantage needs to be protected, too. This means that creating an “agile strategy” that requires both strengthening the existing core, means that creating an “agile strategy” that requires both strengthening the existing core, but also capturing new technologies and increasing costs or changed demands, but also because of novel and tempting opportunities in the market waiting to be captivated. However, taking advantage of new opportunities requires renewal of business models, if income potential is not a direct match with the core business or the core expertise of the company.

On the other hand, the existing competitive advantage needs to be protected, too. This means that creating an “agile strategy” that requires both strengthening the existing core, but also capturing new technologies and markets and creating value of them. For the latter, if managed carefully, outbound open innovation could provide a tool for the maritime company.

(Rauvola, 2015, p. 58)

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Innovation can be either open or closed. Table 1 presents the contrasting principles of closed and open innovations. Closed innovation is a situation where all the products and services of the company are produced and sold by the company itself, thus the company needs to invest in machines, personnel and legal services to keep up with the company needs. Inbound open innovation activities vary from free revealing a product to for example journalists and reviewers to selling, out-licensing and transferring knowledge to external companies. Free revealing can be used by a company for example new articles, objects, items or concepts that solve a technological or social problem (Hansén & Wakonen, 2007) or responds to a need in the market, also including the adoption or use of the new solution. The main goal of inbound open innovation is to create something new, which refers to creating something new, improve the quality of technical, social and political problem (Hansén & Wakonen, 2007) or responds to a need in the market, also including the adoption or use of the new solution. The main goal of inbound open innovation is to create something new, which refers to creating something new, improving the quality of the new information in order to identify, select, utilise and internalise ideas. Outbound open innovation activities vary from revealing a product to for example journalists and reviewers to selling, out-licensing and transferring knowledge to external companies. Free revealing can be used by a company for example new articles, objects, items or concepts that solve a technological or social problem (Hansén & Wakonen, 2007) or responds to a need in the market, also including the adoption or use of the new solution. The main goal of inbound open innovation is to create something new, which refers to creating something new, improving the quality of the new information in order to identify, select, utilise and internalise ideas. Outbound open innovation is about acquiring expertise from outside the organisation by scanning the external environment for new information in order to identify, select, utilise and internalise ideas. Table 1: Closed Innovation vs. Open Innovation (Chesbrough & Eichenkolz, 2013).

Closed Innovation

In order to profit from R&D, we must discover, develop and skip ourselves. We don’t have to be the ones who started the research in order to profit from it.

Open Innovation

In order to profit from R&D, we must discover, develop and skip ourselves. We don’t have to be the ones who started the research in order to profit from it.

The smart people of our field work for us.

If we are the first to commercialise an innovation, we will win.

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Innovation conflicts in the maritime industry

Written by Riita Rautava

IRM-Tool project explored innovation practices in companies in order to collect innovating ideas and entrepreneurs. As a part of the IRM-Tool project, a workshop (from Åbo Akademi University) led by Alexander West was called “From Artisan Work to Automational Innovation – In the Finnish Maritime Cluster”. The study was conducted by Alexander West and can be found in full in the thesis “A.R. Ostrobothnia and Åland” of Åbo Akademi University (see references). Interviews were implemented between November 2017 and May 2018. The interviews were in-depth and semi-structured interviews describing individuals’ thoughts regarding the wider study question “How are innovations made?” The participants were seen as a resource for inspirational videos and other media production implemented by the media producers of the Åbo Akademi University of Applied Sciences during the project.

A total of 38 different companies were contacted in the Turku region, Jussilaiset, Ostrobothnia and Åland. A total of 25 companies were eventually interviewed, 3 of which were large companies, 5 medium-sized companies, 2 micro-businesses and 2 organizations. According to the study, there are six main themes that describe the innovation conflicts in the maritime industry. Interviewees described the field as e.g. quite old-fashioned and traditional, hierarchical, and they felt that improving communication between various stakeholders would support innovation work.

According to the study, typical conflicts in innovation work in the maritime industry are, for example, the following themes: 1) traditions vs. new ideas, 2) different time frames of projects in the corporate network, and 3) investment decisions take time and are challenging 4) engineers vs. others, 5) internal hierarchy and 6) communication as a power tool. (West, 2018)

The findings based on the interviews:
1. Traditions vs. new ideas
Companies are being cautious about adopting new ideas. It seems that all people working in the maritime industry knows each other. Long-lasting work relationships are typical for the maritime industry, and changes are common between suppliers and shipyards, or inside the supplier network. Trust is important, and it enables collaboration. However, sometimes conflicts between individuals or companies can disturb development.

Time frame of the projects in the shipyard vs. in the supplier network
The time frame in which the ships are built is rather long. For example, a typical cruise ship project lasts 1 to 3 years and a shipyard may have 1 to 3 simultaneous ship projects. However, shipyards’ projects are longer than those of SME’s in the supplier network who only perform a specific part of the ship. These projects may vary from 2 weeks to several months. When economical ups and downs are measured in years for shipyards, smaller companies experience monthly, or even weekly, fluctuations. The extended duration of different projects and economic cycles cause conflicts and challenges for the collaboration in the supplier network.

Companies are struggling with choices between making profitable solutions. Currently, customers are increasingly interested in eco-friendly solutions. It seems that all people working in the maritime industry knows each other. Long-lasting work relationships are typical for the maritime industry, and changes are common between suppliers and shipyards, or inside the supplier network. Trust is important, and it enables collaboration. However, sometimes conflicts between individuals or companies can disturb development.

4. Engineers vs. others
You have ever heard somebody starting a speech by saying “I am an engineer”, “I think like an engineer” or “I am an engineer.” 5) Engineers value their education and are proud of being engineers. They repeatedly want to tell you that they are engineers and that they want to work with engineers. Also, they think that engineers understand each other. The industry values engineers and pays them well when compared to other lines of work. Engineers are remembered in jokes as well, but they are usually failed joking from jealous people, and they have probably made the engineer communities even stronger. A non-engineer among engineers is considered an outsider.

5. Internal hierarchies
Education and long work histories are appreciated in the maritime industry. Education matters more in some companies than it is in others. Those who do not have a college degree have a long time having to prove their career with hard work, slowly improving their position. Hierarchy is expected from the younger, less-experienced workforce, as well as from people from other lines of work. Maritime industry networks are strong and hierarchical and it can be challenging for newcomers to bring out new ideas in the organisations with a strong hierarchy. The industry is also considered rather traditional and also an old-fashioned. New and undergraduate diet is not visible in the industry, but there are many women working there, as well. In one of the IRM-Tool workshops, it was interesting how some of the women from universities have experience that is very similar to the maritime industry and that is more valued than maritime industry commented that it was not visible that so many women participated in the event. He had felt that it should have been affected some way the workshop that so, surprisingly, many women participated. One interpretation might be that it is a proof of the fact that gender doesn’t matter, that knowledge is the only thing that matters in the industry. In fact, there are some women entrepreneurs in the maritime industry, as well as women working in high positions. They also have their own professional organisation. Indeed, two of the IRM-Tool workshops was designed with collaboration with WISTA, Women’s International Shipping and Trading Organization. WISTA is boosting women’s careers in the maritime industry and developing the industry internationally, as well as locally.

6. Communication as a power tool
Shipbuilding projects are enormous. The communication between companies with a total of thousands or tens of thousands of people with varying cultures, languages, lifestyles and working styles. The communication between companies can be demanding or in other lines of work. Many maritime organisations and companies are being cautious about adopting new ideas. It seems that all people working in the maritime industry knows each other. Long-lasting work relationships are typical for the maritime industry, and changes are common between suppliers and shipyards, or inside the supplier network. Trust is important, and it enables collaboration. However, sometimes conflicts between individuals or companies can disturb development.

As in all, it is evident that the Finnish maritime cluster is more and more dependent on IT. It is probable that boundaries of maritime industry and hi-technology industry are blurring in the future. Almost all of the interviews included topic of automation and how it can come to affect the Finnish maritime industry. IRM-Tool project team members believe that this kind of development enables more job opportunities for the creative experts, too, as companies need to innovate new business models.

Some quotes of interviewees in the study:
“Managers with no technological background tend not to lead too long-time in the maritime industry, because technological skills are not necessary understanding the projects and processes that are being carried out in organizations.”

“You should have good technical know-how, but the majority of what is really important is practical experience. The more you have been during your career, the better it is. Also, it’s easier to introduce a new product to the IT market than it is to the maritime industry. But it is also more challenging that when you try something else, you can make improvements during such a short period of time. It makes many companies think that it is easier to introduce a new product to the IT market than it is to the maritime industry. But it is also more challenging that when you try something else, you can make improvements during such a short period of time. It makes many companies think that it is easier to introduce a new product to the IT market than it is to the maritime industry. But it is also more challenging that when you try something else, you can make improvements during such a short period of time.”

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The Co-creation Workshops

4 THE CO-CREATION WORKSHOPS

In this section, the purpose, methods and results of the IRM-Tool project workshops are presented. 21 workshops were arranged during 2017-2019. Ten workshops tested the creative methods and the co-creation approaches in the maritime and creative fields in maritime related topics. Process with the other 12 workshops included three pre-workshops and three co-creation workshops. Additionally, the workshops tested the innovation tool contents and workshop concepts in developing maritime challenges.

The aim of the workshops was to test creative knowledge and different methods, and ensure their applicability in real maritime challenges, as well as to gather ideas and needs and provide information regarding the usability of the innovation tool. The first workshop processed the creative industries’ vision (such by region or company network) and exploring more environmentally friendly opportunities in the maritime industry. Navigating the vessels, is the only thing seen that could not be provided by the creative field. Long work experience, practical and empirical knowledge gained from it were still, it is apparent that many, both factual and fictitious, presumptions exist in both fields. Where the workshops aimed best found in the creative field consider making an offer of their services for the maritime companies. Several functions, for example for improving safety, improve customer experiences, accessibility of different kinds of users, improving digitalisation and developing new services for new needs. The latter is probably increasingly important in the future due to autonomous vessels. It might take time to even recognise the effects. It was seen crucial that all design tasks involve several suppliers as early as possible in order to provide better solutions that creative knowledge can be utilised for. How can added value be brought and expectations be met, if the true problems are kept secret? In the future, new methods are also required for enabling the maritime companies to seize the innovation opportunities, for example online co-working methods, and a need for developing innovation knowledge and capabilities in both fields exists.

All in all, at least five persons have been employed, at least three companies have been established and at least five persons from new development projects have begun in collaboration that have sparked from IRM-Tool project workshops. One maritime company also applied financing from Business Finland for a new digital development project with a gaming company and several persons from the creative field considered making an offer of their services for the maritime companies.

Workshop: Creative job opportunities in the maritime industry

Written by Rita Haavisto

What can and cannot the creative field offer the maritime industry?

First the maritime industry was introduced both in theory and in practice. In the practice was a test drive with ship simulators under the supervision of the Aboa Mare Training Centre. One of the two groups navigated the new cruise ship “Viking Grace” through chilling weather along the icy Baltic Sea. The second group navigated a cargo vessel through a busier fairway in international waters. Some of the more courageous also tried out virtual reality (VR) glasses and tried their skills in surviving in emergency situations in a cruise ship, for example a fire. In the workshop part, the participants first considered ideas for which creative field could offer the maritime industry. The results were obvious: arts and visualisations, entertainment and design of services. However participants continued by reversing the starting point, what can the creative field not offer the maritime industry. The most impossible outcome was selected. After a discussion regarding what cannot be offered, the groups discussed how the aforementioned impossibilities could be provided to the maritime industry. Navigating the vessels, is the only thing seen that could not be provided by the creative field. Long work experience and empirical knowledge gained from it were considered crucial, especially regarding safety matters. However, the difficulty of coming up with cases where creative skills would be unsuitable for the maritime industry was surprising. The creative field seemed inspired of full of ideas and concepts of their own. But still, what the creative field can offer the maritime industry, is far from being used. Navigating the vessels, is the only thing seen that could not be provided by the creative field. Long work experience, practical and empirical knowledge gained from it were still, it is apparent that many, both factual and fictitious, presumptions exist in both fields.

As a result, several obvious and not so obvious co-operation opportunities were found (see Figure 4). The participants felt that creative knowledge can be utilised for several welfare purposes and innovating co-operation processes in multidisciplinary design work solve some of the present new business models. In addition, the discussions regarded topics, such as new co-operation structures, developing new situations and environments. The latter is probably increasingly important in the future due to autonomous vessels. By utilising multidisciplinary co-creation in earlier phases of the design processes, the projects themselves could become more cost-effective and faster, as well.

The challenges (see Figure 5) identified in the workshop included attitudes, problems in understanding the bureaucracies, norms and professional vocabulary. However, there seemed to be quite effortless solutions for the challenges. There might be a need for reviewing the regulations concerning the shipping industry from other perspectives. Especially now that we are living the fourth revolution of the shipping industry. As in other industries, the maritime industry also recognises opportunities and threats concerning digitalisation and autonomous transport options. Participants from the creative field considered themselves to be of great help for identifying the facts and developing new services for new needs. It was discovered that the greatest challenge was that the influences of the creative input cannot be measured in money, at least not directly. It might take time to even recognise the effects. It was seen crucial that all design tasks involve several suppliers as early as possible in order to provide better solutions that creative knowledge can be utilised for. How can added value be brought and expectations be met, if the true problems are kept secret? In the future, new methods are also required for enabling the maritime companies to seize the innovation opportunities, for example online co-working methods, and a need for developing innovation knowledge and capabilities in both fields exists.

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What knowledge creative branches could offer to the maritime industry?

- Design
- Art/Visuality
- Visualisations
- Interior design and solutions
- Restaurant design
- Shop design
- Beautiful interior design for ships
- Lighting
- Textiles, carpets, curtains
- Routes on the ship
- Stimulating working environment
- Creative activities for staff
- Art Works of art by professional artists
- Utilization of fine arts in ship interiors
- Graphic images
- Many uses of photographs
- Visualisations
- Company branding
- Graphic materials
- Signage, info etc.
- Infrastructure/systems
- Other
design
Scenery routes
- In ship design, the ideas of artists and designers in outer shell
- 3D-modeling
- Simulation
- Development of usability
- Re-design of safety equipment
- User interface design
- Atmosphere / user experience
- Interaction / experience
- Customer experience
- Creating an atmosphere
- New amusements for ferry passengers
- Art events, art cruises
- Theme courses
- Hobbies and program
- Music
- Leisure and sports
- Entertainment
- New experiences
- AR and VR
- Reality game, shipwreck -> survival experience
- Modern technology and content to enhance the comfort
- Adventure Park -> wave simulator
- Gamification
- Moving images inside cruise ships
- Adventure spaces
- Empty spaces and their significance
- Soundscape
- The light and video art is projected from the ship at night to the sea
- Art as a part of designing of the wind turbines offshore wind farms
- Re-design of lighthouse lights
- Better consideration of customers - service concepts
- Human-orientation
- Service design to improve the cruise experience
- Out of the box thinking
- Ways of interaction
- New service concepts
- Work processes and methods
- Help in change management
- Design methods
- Process thinking
- Ergonomy
- User research
- Improvisation exercises
- Creative problem solving
- Going on-site
- Simulators
- Development of education
- Lean of subcontracting process
- Process improvement
- Design tools
- New/different processes
- Confidence to explore previously unseen opprotunities
- Creative approaches
- innovation methods
- Imagination
- Unlimited ideas
- Changing the perspective
- Organization of work in new ways
- Different perspectives in problem cases
- Combining different sectors
- Outside view
- Freedom from old habits
- A more instinctive and intuitive process to approaching problem solving
- Improved communication
- Business and marketing
- Advertising
- Marketing
- Advance marketing
- New business models
- Estimation tool
- Visualization of standards and visibility and ease of use
- Visualization of consumption for customers and operators (fuel)
- Environmental themes
- Enhancing environmental awareness
- Ecological shipbuilding culture and methods
- Talking and doing together towards the purity of the sea
- Looking at nature
- Possibilities for logistics
- Possibilities for maritime & creative fields
- Applications

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Figure 4: Mind map created by Elina Vartama, Novia University of Applied Sciences and Päivi Katajamäki, Turku University of Applied Sciences. (IRM-Tool project 2017).

Figure 5: Mind map created by Elina Vartama, Novia University of Applied Sciences and Päivi Katajamäki, Turku University of Applied Sciences. (IRM-Tool project 2017).
Workshop: Creative and technical solutions in shipbuilding projects

Written by Rita Rauvola

Matching creative and technical solutions in shipbuilding projects

The workshop was designed together with Meyer Turku shipyard. The background for designing a workshop was the feedback from smaller subcontractors regarding the need to get more information earlier from the shipyard and other suppliers of the subcontractor network, in order to provide better solutions. Some companies experienced that, at the time of the bidding phase, the requirements of the recipient of the bid are so precise that they cannot provide all the expertise they possess or alternative solutions. From the perspective of the subcontractors and the suppliers, previous co-operation between different suppliers could enable higher quality and more cost-effective overall solutions.

On the other hand, the workshop also dealt with the creative field participants’ feedback regarding their need for receiving more information about the marine industry and its practical processes, in order to provide their knowledge better at the right place and time. On the basis of this, Meyer Turku and the IRM-Tool project came up with a concrete challenge, where creative methods could be tested. In addition, a demonstration tour to the shipyard was arranged.

Modularization

The main challenge handled in the workshops was about modularisation projects in shipbuilding. The participants got familiarised with the modular design process and its development needs in adapting creative and technical solutions, especially in interior design solutions. Based on the amount of questions the keynote speakers Kari Sillanpää and Ilari Graf received, modularisation was rather a new thing for most of the participants, surprisingly not only for creative fields’ participants.

Modularization refers to the assembly of various parts, modules. There can be various modules in a big “block” or a “grand block”. Modularisation is not just about standardisation and cost-efficiency. Successful modular construction requires involving the whole supplier network in co-design and collaboration between different units at the shipyard. And that requires not only common language and understanding, but probably also novel ways of co-operating and organising the working processes. Better coordination of creative and technical solutions can develop the concept much further.

Safety is a priority in ship design

Safety defines a lot in the shipyard development projects. The workshop started by opening the design processes to provide participants an overview what kind of technical and creative problems the shipbuilding projects include. Also the different stakeholders of the shipbuilding projects were introduced.

The ship owners look at brand value, onboard revenue, operating costs and capital costs. The shipbuilders look at hull form, machinery, structure, safety and reliability. The passengers on the other hand look at offered experiences, cabin standards, onboard service, safety and reliability. From ship architect’s point of view the most important thing in shipbuilding is safety. Every material, joint and even the smallest part must withstand movement, sound and vibration. Everything must withstand different weather conditions onboard. All changes in design affect the unity and may cause the need for further changes to keep unity safe and usable.

Backcasting and designing modular spaces

The workshop participants were introduced to two different methods in the workshop. The creative methods of the two different parts was led by Leena Ketonen and Kati Routti from Solidabis Oy. The first method, the Backcasting method, first outlined the successful outcome, then identified important stages and events along the way and later created short-term goals along the way. Serviceability and changing the interior design afterwards as needed seemed to emerge as important parts of the discussions.
In the second phase, various modular spaces were designed, utilising the spectrum of competence by the multidisciplinary groups. At the end, the groups presented their results as success stories. Some results described timelines, network and process development, and some perhaps managed to even turn the whole process on its head. The biggest question seemed to be: how can we be open enough so that we can enable the creativity and novel combinations of knowledge, but keep the projects on schedule and budget, as well as keep the “core” hidden from the competitors?

Workshop: Competitiveness, safety and sustainability in ship demolition projects
Written by Rita Rauvola

New perspectives on ship demolition in Finland
Approximately one thousand ships are demolished annually. The demolition usually happens in Asia due to the low labour costs. Safety issues, sustainability and ecological recycling have not been considered enough. An EU regulation stipulates that ships owned by companies of member countries must be demolished in a safe and sustainable way. This regulation will be completed by 2020. Participants got insights on the topic from two keynote speakers. This workshop started by providing perspectives to the group sessions from an innovation management perspective. Participants were encouraged to benchmark solutions from different fields and turn the discussion from costs to income and from risks to opportunities by utilising value creation. The fact is that the technology and knowledge exist, but the potential is not yet discovered. Therefore, the discussion needs new participants.

Business ideas and action plans
Six thinking hats and Backcasting methods (see attachment 1), were both applied. The Six thinking hats method was applied so that all group members joined the same hat (i.e. the perspective and attitude regarding the topic or question), one by one. This created an atmosphere of trust and made all perspectives richer, as everyone concentrated on the same perspective. Backcasting was implemented by using a wall, so that two groups were able to see and reflect on each other’s results continuously. To sum up the discussions, more consideration should be put on the whole life cycle of the ship, from design to demolition and beyond, all the way to reusing the material. In addition, a few wild ideas (or maybe not that wild?) came up: how can one module or block be removed and used in somewhere else? Furthermore, one artist mentioned that parts of a ship are valuable decorative items in the archipelago and that a lot is paid for items from old ships. Artists were hoping for a visit to the repair yard together with architects in order to possibly discover the market potential for the waste materials, as well as to design-processes for recycling.

It was mentioned that the biggest risk is whether any European ship owners exist after the regulations get tighter and costs higher in Europe. Can we afford not to make the after-sales markets effective and demolition processes competitive? Participants believed that cost savings are possible to achieve by reorganising activities and working together with different fields. However, it requires collaboration instead of “working separately all in their own corners”, as one participant put it. With Finnish knowledge, technology and a joint multidisciplinary network the future scenario could be that acting responsibly creates added value to the ship owners. How about working together with Greenpeace or other powerful organisations? On the other hand, what if shipbuilders could provide discounts when building the next ships if the old ones are delivered to a strategic partner for recycling? What other strategic partnerships can be created?
Workshop: Sustainable development in ship interior design
Written by Rita Rauvola

The competitiveness of Finnish design and how sustainability can be cost-efficient

This workshop continued from the earlier workshop results with the theme of modularization. The creative participants were considered more, and the technical theme of modularization was changed to include sustainable issues, still not forgetting the challenge of matching the creative and technical solutions in design.

Participants were first introduced to ship interior design and sustainability by the case of FCR Finland, a company founded in 2009 focusing on ship refurbishment. CEO Mikko Varjanne pointed out that there will be a lack of ship interior designers in the upcoming two years. Nevertheless, he thinks that formal education, such as a degree programme in ship interior design, would not be a fast-enough solution for meeting the demand.

This was followed by a discussion regarding the challenges in previous newbuilding projects between architects and designers, as well as the differences between interior design in newbuilding and refurbishment. FCR Finland’s projects, from interior design to implementation, generally takes 2 months, whereas in newbuilding it might take up to 2 years. In addition, a participant in the earlier workshop pointed out that according to an interior designer of a shipyard, customers (ship owners) want foreign design due to its lower price, but most of FCR Finland’s customers are still foreign, and many of them appreciate Finnish design. In their perspective Finnish design has its place in the market. However, FCR Finland imports parts from other countries as well, for example from Italy. Approximately 70% of the components and materials are imported, and 95% of their products and services are exported.

A practical example of sustainability in FCR Finland was the new flooring component. Mikko Varjanne told the audience that cabins are the most important part of the design, as it brings the most revenue to the ship owners. In addition, as cabin design starts from the sanitary spaces, FCR Finland started a new R&D project. The new flooring component developed by the company is 30% lighter, provides better fire safety and does not get mouldy. The used material is completely recyclable. In addition, the used materials do not produce toxic gases when heated. Due the lighter product, FCR Finland can offer a more sustainable and cost-saving product to the ship owner. A good example of a win-win solution for all parties; the ship owner, the end-customer and the environment.

Matching sustainability, creativity and practice - what is sustainable after all?

The 635 brainstorming method was used to bring ideas for the sustainable interior design. Participants were surprised when they realised how different ship interior design is from regular interior design. The ideas were mostly too creative and not sustainable at all.

For example, one of the alternative ideas for the changing needs in interior design was to use lights that change colour. However, using that much electricity is not sustainable. Also, illuminated fishes were considered a bit too unethical and thus not suitable. All groups agreed that the nature itself should be valued as such and that the interior design should not disturb the calmness and landscapes of nature. In addition, nature conservation and knowledge of materials should be presented to the end users in a fun way, for example by using gamification.

Luckily, two of the participants had the practical experience from being part of a cruise crew. It is important to note that if the furniture becomes dirty, it is more sustainable to be able to wash, maintain and apply fire safety spray by the ship personnel at sea than it is to send it somewhere and wait for the furniture to be sent back to the ship. It was agreed that the use of good-quality, washable and easy-to-use fabrics is the best solution in many cases. This raised the importance of user-oriented design.
Also, creativity and the best ideas can be right in front of you. In this case, it was the cruise manager who came up with the most ecological and cost-effective solutions for cruise interior design and materials. Participants concluded that sustainable solutions mean focusing more on different users and the length of the logistics chains, thus providing added value to the end customers. However, it is difficult to find solutions that consider both the valuable knowledge of the users, as well as the cost-oriented minds of the ship owners. Things that may attract and provide value for the cruise customers may be considered as extra cost by the ship owners. Still, small issues in design might boost sales and marketing, such as the round widows of Viking Grace. Many customers like to sit there, look at the sea and take photos for social media.

The existing issues could be resolved better by building new strategic partnerships as well. For example, a campaign where taking a specific photo means that the person donated money for preserving the nature. This brings value to the customer, boosts the appreciation of nature and provides visibility to the ship owner. FCR Finland’s new floor material for the sanitary spaces of ships is an ecological solution that is also more cost-effective to ship owners. Thus, a sustainable solution can add value to the ship owner as well, not only to the cruise personnel or the customers. Recyclability of materials will especially have an even more important role in the future, as the new regulation for ship recycling in the EU enters into force in 2020.
Workshop: Identity and creative knowledge in boat industry network of the Kvarken region
Written by Rita Rauvola and Ann-Charlotte Hästö

Unique knowledge of luxury boats in the Kvarken region

The narrowest part of the Gulf of Bothnia is called Kvarken. Kvarken divides the Bothnian Bay in the North from the Bothnian Sea in the South. The Kvarken region in Finland is famous for handicrafts and luxury boats, Baltic Yacht and Nautor to name the biggest companies. The network also consists of smaller companies that build, for example, traditional wooden rowing boats. The boatbuilding industry in the region has its roots deep in the history – it started as long as 200 years ago. Many small companies have stories about their entrepreneur parents. Entrepreneurs of the region value trust, good reputation and self-made products, which they are very proud of. The creative field is broad; for example, Novia University of Applied Sciences provides education in photography, graphic design, interior design, fine arts, music, and performing arts there.

Customers of the luxury boats are usually families buying the boat together. Buying a boat is a process with a long list of smaller decisions that the whole family takes part of. It is a dream come true, and everything needs to be perfect. Many customers have their own designers with them, so that they can be sure the boat reflects their identity and wishes. Companies stay competitive, because they always say “yes” to the demanding customers, and leave the problem-solving to the engineers, architects and designers. Thus, every single workshop of carpenters and sailors includes new problems in need of a solution. Finally, the yacht is a unique piece of art consisting of a huge amount of creative problem solving and unique solutions. All yachts are one of a kind – everything is self-designed and self-made, such as handles, doors, and even fridges on bigger yachts. Therefore, the price tag is quite remarkable as well. Still, for example, when asked what the core knowledge of the company is and how it differentiates from the competitors, one of the local entrepreneurs shrugs and smiles, and mentions that they “sometimes work for their competitors as well” and continues that the competing company “perhaps just needed something they cannot do themselves”.

Better communication by doing something everyone knows well

Ann-Charlotte Hästö, CEO of ACH Architectures facilitated the workshop by applying a contextual thinking model she has developed for business development purposes. She believes that local companies need to recognise their skills better and use it for business development and growth in order to create a common language and shared values for a regional identity. She also believes that the common language can be found in the materials: “they all know the materials, they work with them every day. They know what the materials feel like and how they function, and they are comfortable with working with them”. Ms. Hästö also says that collaboration at an earlier point between companies is required for enabling the common language that saves all partners’ time and money. This is also the goal of the contextual thinking method.

In the workshop, the creative experts and experts from boatbuilding companies worked together to design keychains that reflect the values, beliefs, knowledge, history and stories the companies are based on. The purpose of this was to help the companies understand who they are and why they exist. Creative participants then expressed their comments on whether the companies reflected on the right things in the finished keychains, and it led to a deeper discussion. While working and analysing, the participants also learned from each other’s knowledge and got ideas for future collaboration and future growth. Making keychains provided a needed focus to bring up the right questions, in order to identify and acknowledge the core expertise and skills the companies possess. The keychain symbolises the core skills as metaphors. After the workshop, all participants shared at least one common goal - to embed the creative branches as part of the boatbuilding network.
Workshop: Digitalization in the maritime industry in the upcoming 10 years

Written by Rita Rauvola

Oily hands on the touchscreen - a dive into maritime companies’ digitalisation needs in the next 10 years

At first, participants first tested AR and VR tools for a metal factory, a space station and sports. AIS has also developed many tools for hospitals. Then, keynote speakers Dr. Mikael Luimula, Head of Turku Game Lab, and Pasi Porramo, CEO of Ade, provided insights on the digital development in the region. The speeches answered the beforehand provided questions such “How can the new AVR Turku Innovation and Competence Factory support digitalisation needs in the maritime industry?” and “Methods for improving the installation works and quality onboard the vessel by using digitalisation.”

The aim was to explore the needs, challenges and opportunities in digitalisation in the maritime industry in the upcoming 10 years. The roundtable discussion was facilitated according to the needs and key interests. Primary interests included 3D models for exhibitions and training needs, cabin mock-ups to get first-hand approvals and save money on R&D. Communication tools between architects, designers, turnkey suppliers and their suppliers were also brought up. Small changes in one place can lead to several delays and extra work in the process, as the documents are not up-to-date anymore. Transferring the data in digital format presents several challenges, such as confidentiality issues and software update problems. For example, companies might have different versions of Cadmatic and therefore files cannot be opened. Some standardisation or unified design and data platforms are needed for data sharing as well. These might be problematic due to the amount of metadata included in the company’s own systems.

Digitalisation was also seen as a good way to provide ecological and cost-efficient solutions. With good digital clones of the ships, the ship crew would be able to perform some of the installations and maintenance onboard the ship, eliminating the need for long flights. In addition, with remote control and AR data, problems and failures could be investigated from a distance as well.

It seems that the list of digital solutions available in the future is endless, but companies face challenges to enter the era of digitalisation. Digitalisation is becoming an important part of several aspects of the maritime industry, but the development speed of the industries versus expectations of utilising digital solutions do not match. In addition, some digital solutions still require improvements in order to fulfill the needs of the company. The current situation is that companies struggle to share enough information in order to develop digital solutions. It takes time to get the financing in place for the development project. In the meantime, new technologies are already being launched. Technology develops faster than companies can commit time and money. Therefore, the risk is that great concepts emerge, but none are implemented.

Companies cannot be left alone; guidance is needed for the entire marine ecosystem. It is important to open broader collaboration between the creative and maritime industries, and it is a potential topic for co-development. Perhaps it allows for a new digital era in the maritime industry to be discovered and innovated.
Workshop: Work stories and Wista’s Fall gathering

Written by Rita Rauvola

Women discovering problems and opportunities in organisations through work stories

It was not only sunshine stories, but rocky wills and strong skills that emerged when women from the maritime industry and creative field gathered to connect and talk about their career experiences. All participants had prepared the preliminary assignment for the workshop and were very open to tell about their experiences. It shows that the field has a need for sharing experiences among women.

The goal of the workshop was to recognise knowledge through storytelling situations in which the participants had succeeded and felt appreciated but also failed or felt underappreciated or misunderstood. This is a way to acknowledge for example barriers for innovation in the organisations.

During the workshop, a live illustration was used to make stories concrete and to visualise the processes. Live Illustrations can be used in many ways in organisations, instead of long meeting memos. Feelings are remembered better than words or writing, therefore it can be much more effective. Besides visual arts, experiences can be conceptualised also with word-arts (poems, short stories, metaphors, son lyrics), theatre (performing in scenes oneself or by using a third person, as improvised theata), drawing cartoons, creating music, doing handicraft or building Lego bricks projects.

The workshop was organised in collaboration with WISTA (Women’s International Shipping and Trading Association), which is a network for women. Wista is active in over 40 countries and has over 3,000 members in the shipping and logistics industry or related industries.

In Finland, the network has around 130 active members from shipping companies, ports, insurance companies, legal agencies, commerce, government and logistics. Wista’s goal is to persuade more women to apply for leading positions in the shipping industry.

The workshop was facilitated by Janne Junttila and Anni Linko. The women’s stories were illustrated by visual artist Salla Lehtipuu. The participants were divided into two groups, and both groups had one story picked for visualisation. In addition, live illustrator Salla Lehtipuu produced a mind map for the themes that existed in the stories.

Women shared funny stories and success stories, but also stories of difficult and challenging situations that they have experienced during their careers. It is possible to recognise problem solving techniques and survival strategies by sharing experiences. The stories demonstrated that women have special strengths to get over tough situations, to be flexible in rapidly changing situations and to prioritise the common good. For example, sometimes someone else takes the thanks they deserve.

In one case, even the general safety was compromised due to a colleague not listening or not caring about the other person’s expert opinion. It was a little surprising that so many of the women felt that they were not taken seriously or were treated unequally in different work-related situations, some just because they happen to be women. It was noted, however, that there has been a lot of activity in the maritime industry over the past ten years, in a positive sense.

Nowadays, an increasing number of women are working in fields related to shipping, also in leading positions.

The feedback after the event was positive, and the participants hoped that similar events would be arranged in the future.

Women are important for the industrial change we are living in – in fact, many participants considered women more adaptable to change than men. Is it so?
Workshop: “Together we work, together we shall learn” - future oriented workshop
Written by Rita Rauvola

Together we work – together we shall learn

A future focused strategy starts by creating a view of a common future and a dream of the future. What will happen in the future and what do we want to happen?

The IRM-Tool project agreed to this workshop with FCR Finland due to earlier workshop feedback which indicated that there was always someone missing from the network when development was discussed. Especially smaller companies think that they have more to offer as co-developers than just by being the last link in the tendering process. In this event it was possible to reach out to one complete network, and make its members work together.

This workshop was part of an existing network event in which FCR Finland had invited supplier and customer companies from Finland, the Baltic region and other countries in Europe.

From FCR Finland’s perspective, the goal of the whole day was to deepen participants’ insights on the company. For example, some companies are familiar with a 10-30-day project, even though the company works 12 months a year. FCR Finland’s message to its network is that they are doing well, and that it is good to be in the network, as together they are even stronger.

Futurists and business consultants Niko Herlin and Kirsi Kostia from Great Minds Ltd facilitated the workshop. Kirsi Kostia and Niko Herlin are futurists with extensive experience in consulting companies and running future related workshops and trainings.

Many potential alternative futures and scary dreams

The participants were given some insights on what the future practically means, and how it should be related to in order to be able to not only be prepared but to shape it as well. Firstly, there are many possible alternative futures; there is not just one course of action that can happen, but rather several outcomes, which may even happen simultaneously. Secondly, the future is in the things we say; when we talk, we influence. The words we use, the feelings we have when we express ourselves, the choices we do – they all have reactions and counterreactions, which again influence somebody else. The more we talk about something, the more familiar it becomes, which is when it becomes today instead of the future. This is the reality in the autonomous shipping boom as well. Several companies shape their business, and education changes to meet their needs, although this concept was resisted a lot at first. Thirdly, it was reminded that dreams should be a little bit scary in order to become great business ideas. For example, adequately long-term and followed by a continuous process of dreaming. Regarding the network, dreams should also be shared: crowdourced, even. Additionally, dreams shouldn’t only be owned by leaders, but the whole company and its network should be engaged as well.

A sneak peek into the future by a multicultural ship refurbishment business network

The participants in the workshop worked with iPads and a special online tool in which the facilitators had chosen a relevant field some wild cards as topics.

The topics included both rising and descending trends that are updated daily at www.futuresplatform.com. The task was to choose seven topics that the groups thought will have a strong influence on their work in the future, and some that they think will not influence their work. After a while, the topics were discussed together. The five most influencing phenomena to ship refurbishment business, as seen by the participants, were 3D printing, ageing population, big data applications, identifying everything and development of nanotechnologies.

Picture 14: Sharing experiences is empowering. Picture: Teemo Nurminen.
The phenomena that got votes for both influencing and not influencing were for example data security, new pensioners and shipping containers as homes/floating cities. As biggest threats were seen a collapse of the world economy, immunity to antibiotics and changes in industry and manufacturing.

Why is a changing industry a threat then? Answers included for example space travelling. However, after discussing it for a while, a lot of opportunities were found from this “threat”. A collapsing world economy was also an interesting theme, as many felt that they had kind of experienced it already, and some of the businesses had been launched a year or two years after the financial crisis in the US. Thus, it was also considered an opportunity. One big issue was robotics.

A good question was that “if 90% of the work is done by robots, who has the money to pay for all the products?” and one participant answered that “at least somebody needs to start hiring robots then”.

The general mood and atmosphere were good, and some groups had very intensive discussions. In some groups, however, it seemed that different cultures had difficulties to orientate for the future. One of the facilitators pointed out that some of the participants who had difficulties talking about the future chose very difficult topics to discuss about, therefore making it even harder.

The last part of the task was to find more concrete actions on how to utilise the opportunities and threats that were discovered. Half of the groups discussed threats and the other half of them discussed the surely influencing phenomena. In the concluding discussions, participants were already more active and positive about all the phenomena. A collapsing world economy was also an interesting theme, as many felt that they had kind of experienced it already, and some of the businesses had been launched a year or two years after the financial crisis in the US. Thus, it was also considered an opportunity. One big issue was robotics.

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Workshop: Customer-oriented product development and perspectives for innovation

Written by Rita Rauvola, Marja Rak and Elina Rebers

Unrealised customer needs and unused resources

Local boatbuilders and boat industry companies gathered in the IRM-Tool project workshop to deepen their understanding of product development and the importance of different roles, for example, between the designer and customer. The goal in the workshop was also to provide interaction and discussion between different actors in the creative field and the boat industry in the Kvarken region. The participants told each other about their own special skills, and they had a chance to get acquainted with the experts in different fields in the region.

Designer Marja Rak (founder of the sustainable lifestyle brand Noolan) facilitated the workshop. Participants were first to consider why design is needed and how different choices in the process can affect the product outcome. Participants were encouraged to see new opportunities in their business: customer orientation, changing needs, added value, seasonality, refining your own product etc. Marja Rak’s introduction to the topic included, among other things, the impact of values and choices on the product and thus on the corporate image, the designers role in product development, innovation and added value, preparedness for change in the fast working environment, and how to develop problem solving skills.

The ME-WE-US method was used during the workshop. The participants first mapped out the needs of their own field for the coming 5-10 years. Then the participants were divided into four groups and the task was to think about the following aspects: what is the product or service that the customer does not yet know they need? The ideas were evaluated with points and the ideas that got the most points were developed further in the groups. Finally, the groups introduced their best ideas for all the participants. In the end one concept of each group was developed further.

The four concepts - customers want to have more choices

The groups worked intensively and enthusiastically. As a result, they presented four new concepts. The first concept was associated with a new type of luxury boat experience. The indoors of a boat completely excludes the awareness of being at sea. Internal sounds come from the engine and other devices. With the help of new technology, the group wanted to have the sound of the sea and environment inside, thus making the experience more holistic. Thus, the sea would also be experienced inside the boat, visually. Another concept "Elkontfabriken" is an environmentally friendly container house consisting of recycled materials. It is simple and configurable. Each container is unique because it is made of reusable components. The living space can be enlarged by building upwards and the sides can be opened if the weather is appropriate. It can also be moved from one place to another because it’s mobile.

The final concept of "Choose Home" allows you to customise your home according to your mood. For example, the colours or patterns on walls, ceilings and floors can be easily be changed via the remote control to match your current mood. You can also see live pictures on the edges. Others also came up with the idea that a resident’s mood could be read immediately upon arrival, and the decor automatically adjusts to it. This proposal received the most points in the final qualifying round. A similar concept was discussed during the workshop with the shipbuilding industry on April 5, 2018 in Turku.

Picture: Groups designed four concepts at the workshop. Picture: Tomas Olsen.
Process: Developing the maritime industry through arts

Written by Rita Rauvola

Professional artists and maritime companies

During 2018, the IRM-Tool project started a co-operation with the Art Promotion Center Finland. The aim of the process was to create interesting examples of arts concepts through cooperation, which are in line with the real challenges presented by maritime companies. The project opened a new kind of interaction between arts and the maritime industry, as well as enables different forms of cooperation in the future.

Rita Rauvola, project manager of the IRM-Tool, acted as an intermediary for the maritime industry participants, and regional artists Krista Petäjäjärvi and Annika Dahlsten from Arts Promotion Centre Finland worked as art counsellors in the process. They facilitated the creative process from artistic perspectives. The IRM-Tool project has also evaluated the process from a service design and innovation perspective.

The maritime companies Meyer Turku, Wilhemsen Ships Service and Arctech Helsinki Shipyard provided challenges in which known Finnish artists Heini Aho, Jukka Hautamäki, Sini-Meri Hedberg, Sampo Kerola, Oona Tikkaoja, Ville Pirinen and Tobias Zilliacus engage with their artistic knowledge and creative problem-solving process. Clap Ltd. was also involved in the cooperation by analysing methods to boost the utilisation of artistic interventions in traditional industries as an intermediary company.

Challenges and Solutions

The challenges presented by Meyer Turku were related to the development of the work culture, the coherence of the ship concept, both interior and exterior design, as well as sustainability and environmental awareness in concrete everyday jobs. For example, do projects start in different ways? Maritime companies recognized that usually projects start from technical problems to be solved, so they it was wondered if creative problems could also start a project. There was a lot of discussion about a change where workers do not have only an engineering background, and how interdisciplinary expertise is increasingly important. However, the fact is that technical background is more appreciated in maritime companies. The art concepts that answered these challenges were Heini Aho’s scientific laboratory Tiedelaboratorio on board, Jukka Hautamäki’s digital space concept Matka matkassa which also provides an experience of the sea to the environment inside the ship, Sini-Meri Hedberg’s drawing workshop Viva la Viiva! where participants can learn from each other and remove various obstacles from collaboration, Sampo Kerola’s Dream Model Unelmamalli concept where projects would start from any problem or skill, thus creative concepts can be solved in a technical way and technical problems can be solved in a creative way, and Oona Tikkaoja’s art game Yhteispeli that brings employees together through various tasks.

Meyer Turku was considered the most surprising concept by all company representatives, whereas Sini-Meri Hedberg’s work called Viva La Viiva! was the easiest to implement right away, requiring only few investments and little time.

Arctech Helsinki Shipyard presented challenges that discussed internal and external company identity, and e.g. how strong the professional pride is and how to use it in marketing. Tacit knowledge was also discussed due to the shipyard have many workers aged 30+ and 60+, but not so many in between. Arctech also raised an issue of boosting sustainability at the shipyard in everyday work.

So, how should companies retain important professional experience in the company but also motivate new employees to get new ideas and their knowledge conveyed. It was interesting to discuss how the shipyard could be more visible and acknowledged in the urban environment and become more recognized.

Picture 17: Tobias Zilliacus was one of the seven artists designing art concepts to maritime companies. Picture: Teemu Nurminen.
The art concepts that answered these challenges were Jukka Hautamäki event concept *Laivan aika*, which brings together the shipyards and citizens with the help of art and science, Sampo Kerola’s musical *Yritysmusikaali* that responds especially to problems with the continuity of tacit knowledge in different ways, and Sampo Kerola’s mural art that strengthens the company’s identity for both employees and city dwellers including e.g. historical events in artistic way. Also, the concept of Tobias Zilliacus was *Bulkhead*, which included a lot of methods from his and his colleagues’ knowledge in improving the interaction.

Leena Vederä, Kira Aurinen and Saara Suvio from the Arctech Helsinki shipyard were especially happy about Sampo Kerola’s musical and wall mural concepts, as well as Jukka Hautamäki’s concept *Laivan aika*, which combines learning from history and inspiration from something new. Musical might be implemented later.

Wilhelmsen Ships Service provided challenges related to safety, quality and health at work. For example, how to strengthen leaders’ understanding and commitment for quality work? How to motivate workers to report errors and problems in different processes? For example, would visualization of standards help everyone understand how a small change in how they work affects the whole process and why it is important?

The only art concept that especially responded to these challenges was Ville Pirinen’s cartoon drawing concept *Sarjakuvitus* where comics are used in different ways to visualize processes and their meanings and create a unified spirit. Anita Åkerlund from Wilhelmsen Ships Service was inspired by the use of cartoon characters to motivate and commit people in safety and quality matters. Thus, concept has been developed further in the Wilhelmsen Ships Service company and seems to be implemented. Finalised concepts included, for example, expertise of gamification (Oona Tikkaoja), neural networks (Jukka Hautamäki), music, dance, light art (Sampo Kerola), drawing (Sini-Meri Hedberg), comics (Ville Pirinen), a combination of science and art (Heini Aho), and art and theatre (Tobias Zilliacus). All concepts provided communal solutions to the challenges that dare the employees of the companies to learn from each other, share their expertise and not only commit to common values and rules, but also to innovation and development. Process is described in more detail in attachment 3.
How do autonomous ships affect the business?

The workshop focused on the impact of the autonomous ship concept on business operations. The theme was selected due to the fact that several companies still experience that the autonomous ship concept or even the new possibilities of remote control do not affect their business in any way. However, new digital solutions will enable new business models for shipping, as well as for other industries. This means that the impacts will come sooner or later, at least through the network companies, even though a completely autonomous ship will not be sailing in the near future.

The topic was initiated by project manager, researcher and sea captain Johanna Salokannel, who coordinates the new research platform MAST! at the Institute of Maritime Software Technology. The institute aims to answer the needs arising from maritime digitalisation and autonomous shipping trends, especially related to remote operation of vessels. One of the projects ongoing in MAST! Institute is MasterSIM, which develops a remote operation simulator for use as a research and educational platform related to remote operations.

In the beginning of the workshop, Johanna Salokannel explained the current situation of development of the autonomous shipping concept: “It has been estimated that the first autonomous vessels will sail the seas before 2030, but it is acknowledged that an autonomous vessel does not necessarily mean an unmanned vessel. Removing humans from the vessel operation process is not necessarily the aim, nor is it possible, and successful visions about the autonomous future will be designed for human-machine collaboration. Autonomous systems can enhance safety and effectiveness, but they also change the nature of human-performed tasks, which results in a need for changes in the whole maritime infrastructure and logistics.

There are no clear guidelines for remote operations. The legislative framework is expected to be finalised in the near future. A high level of automation in future shipping will decrease the needed amount of humans, but at the same time there are challenges to implement all human-performed tasks, such as “Good Seamanship” and ensuring the seaworthiness of a vessel without any crew to do the final check.”

Increasing automation will enable many functions to be supported with different levels of automation still keeping humans in the loop, from manual remote manoeuvring of a vessel to monitoring, as well as fully autonomous vessels with no human intervention at all during operations. But as things go wrong and systems fail, humans are expected to intervene and manage the situation. This has an impact on the skillset required from a future seafarer. The strengths of humans lie in their ability to be creative, innovate and especially, in complex systems, improvise and adjust performance according to situational needs. These resources cannot be ignored. Humans do have a vital role in ensuring safe and sustainable shipping in the coming autonomous maritime world as well.

Online workshop as a process and suitability for co-development

The online workshop concept was developed in response to the needs of maritime industry companies working together in an agile way and in line with the spirit of time. In this online workshop, Google Hangouts was used for topic initialisation, workshop tutorials and communication. Then the free online tool Miro was applied to do the SWOT analysis. The language of the workshop was English. The online workshop was attended by 10 participants from different fields. Experts were invited, especially from the maritime industry and creative field.

Online workshop: The autonomous shipping concept and its effects on business

Written by Rita Rauvala

In the beginning of the workshop, Johanna Salokannel explained the current situation of development of the autonomous shipping concept: “It has been estimated that the first autonomous vessels will sail the seas before 2030, but it is acknowledged that an autonomous vessel does not necessarily mean an unmanned vessel. Removing humans from the vessel operation process is not necessarily the aim, nor is it possible, and successful visions about the autonomous future will be designed for human-machine collaboration. Autonomous systems can enhance safety and effectiveness, but they also change the nature of human-performed tasks, which results in a need for changes in the whole maritime infrastructure and logistics.

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The workshop received positive feedback and the online workshop concept showed great potential for future use as an ecological and agile alternative to co-development.

“The impact on the business of an autonomous ship and remote control was a well-chosen topic for an online workshop. The topic is both topical and challenging at the same time, so there were views and development ideas from all participants. Implementing the workshop with the online tool was also a success. The biggest challenge was to listen to the instructions when I wanted to rush into the innovation work. The tool worked well and created a credible experience for doing things together”, said Ilkka Rytkölä, Technology Director at Auramarine Oy, who was one of the workshop participants.

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Picture 22: Online workshops can be time-efficient, flexible and environmentally friendly as they do not require travelling. Picture: Elina Rebers.
Online workshops matching future co-creation needs

Written by Riis Rauvala, Peter Björkroth and Milla Järvisjärvi

Working life becomes more and more international, i.e. projects often involve participants from many different countries. There is thus a need for tools and methods enabling interaction online, complementing physical meetings. Co-creation workshops online are time-efficient, flexible and environmentally friendly, because they do not require travelling. Working online also represents a modern way to combine knowledge, creativity and initiatives. It is important though, to consider whether trust, openness, communicativeness and a relaxed atmosphere can be achieved and facilitated online.

Media producer students from the Turku University of Applied Sciences designed several online workshops matching future co-creation needs. The group of media producer students participating in the concept creation was already familiar with online-oriented work. Their first drafts by using video recordings. The concepts created by the students provided platforms for expressing certain moods and amusing, as well as complementing to the co-development professionally.

The ideas included competitions, fairs, 3D design platforms and Habbo Hotel-type ideas. Some ideas required software programming for creating a new platform and some were designed for Skype for Business. The most feasible concepts used already existing online platforms or tools. They would therefore have been relatively easy to realise and develop further. For example, media producer students Marju Aavikko and Pia Gardberg used the Ship is loaded concept utilising the proofme.com and mentimenter.com platforms.

As encounters between the creative and maritime industry were arranged, many creative experts wished for maritime company visits in order to see the industry in practice and thus gain a better understanding of the needs and necessities of the field. The first visit was at the Aboa Mare Maritime Academy and its maritime simulators on November 16, 2017. Training Director Mikael Varjanne introduced the centre and how the education of sea captains has developed during the years.

The concepts created by the students were introduced at a maritime industry event and project participants also discussed challenges regarding the assignment, and brought up different ideas for realising it. We decided to give the students feedback on their first drafts by using video recordings. The participants from the maritime industry were introduced. Teachers, students and project participants also discussed the differences in ship newbuilding and refurbishment projects. According to Mikko Varjanne, the need for interior designers both in newbuilding and refurbishment sides will increase a lot in the next 2 to 3 years. The visit gave the creative field representatives a chance to study ways to apply their creative knowledge in the maritime industry. Two of the participants were considering that their next career challenge could be in the maritime industry.

Online workshops matching future co-creation needs

Written by Riis Rauvala

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Creative visits to maritime companies

Written by Riis Rauvala

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Testing workshops of the Innovationtool.fi
Written by Elina Vartama, Rita Rauvola, Elina Rebers and Tommy Nyman

The content and usability of the Innovation tool were tested with different target groups as soon as some content was ready. The target groups included representatives of the maritime and creative industries. The Innovation tool was mostly tested to work on a design task or development challenge in a workshop. The workshops were facilitated by the IRM-Tool team or moderators from the creative industries.

The table 2 summarizes the key actors, objectives, and results of the testing workshops that were held during seven months over the period 27.3. - 30.10.2019. First workshops tested the usability and contents of the Innovation tool. Last three workshops tested also the facilitators perspective on applicability in designing a workshop to specific maritime needs.

First Innovation tool workshop concept was designed by service design students Haroon Rustam, Amruta Shingte and Riina Salmivalli to Auramarine’s case. The aim of the workshop was to discuss innovation and service design and to test the Innovation tool in the company’s retrofit products’ sales innovation case. The discussions were lively and focused on finding solutions for innovative sales and many “Aha!” moments raised from the discussions and from the co-creation part. Also facilitators felt that tool content helped in designing the workshop.

Second Innovation tool workshop was open for all interested in developing innovation culture in their organizations. The theme was suggested by WISTA. The goal was to recognize individual and organizational obstacles and preconditions to boost success in the innovation work and in each participant’s own work. Workshop concept was designed, and the workshop was facilitated by artist Liana Pотila and consultant Arte Karmola.

Facilitators felt that tool content helped them to find a common language and bring in knowledge from both in their collaboration as an artist and consultant pair. In the third Innovation tool workshop concept the tool contents tested out in cooperation with Baltic Yachts in Pietarsaari. Baltic Yachts had a R&D challenge related to balancing between standardization and customization in order to serve the customers well but keep the budgets in control. R&D team felt the workshop helped them communicate better between each other around the problem, and it was a platform and kick-off for a great internal development work. Architect Ann-Charlott Hästö from ACH Architecture was designing and facilitating this workshop. Ann-Charlott Hästö was also inspired of the contents of the Innovation tool and thinks it is useful for the small and medium-sized companies when they try to explore innovation opportunities and develop their team skills. All the feedbacks from the test workshops indicate that the tool serves as a cross-disciplinary tool; opening up the discussion of development needs and the creative development solutions that can be found in them. In this way, the creative expert or artist is able to offer his or her expertise in the right development needs or apply his or her expertise as an innovation consultant. The visual content in the tool has been praised especially by the creative industry.
Table 2: The Innovation tool test workshops (IRM-Tool 2019).

<table>
<thead>
<tr>
<th>Date</th>
<th>Target groups</th>
<th>Facilitators</th>
<th>Objective of testing</th>
<th>Used methods</th>
<th>Viewed contents</th>
<th>Key results</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.3.2019</td>
<td>Engineering and Marine Engineering students</td>
<td>IRM Tool project staff</td>
<td>Testing the tool as a study-related design assignment</td>
<td>Videofilms and IRM-Tool helped to think about the problem from a broader perspective.</td>
<td>Videofilms and animations.</td>
<td>IRM-Tool helped to think about the problem from a broader perspective. Materials, such as different examples, could be more precisely targeted at different user groups.</td>
</tr>
<tr>
<td>7.5.2019</td>
<td>Creative Professionals</td>
<td>IRM Tool Project Staff</td>
<td>Exploring and analyzing the content of the tool</td>
<td>How comprehensive the content of the tool is, how understandable, interesting and easy to use</td>
<td>Exploring and analyzing the content of the tool, brainstorming.</td>
<td>All content at the structural level.</td>
</tr>
<tr>
<td>14.6.2019</td>
<td>Maritime Industry Company’s personnel</td>
<td>Master Degree students in Service Design</td>
<td>Applicability of the tool in implementation of an innovation workshop</td>
<td>Senior, Au Marine, Maritime Innovation</td>
<td>Picture cards, Backcasting.</td>
<td>Innovations, Design Thinking, customer orientation.</td>
</tr>
<tr>
<td>27.8.2019</td>
<td>Members of the WISTA Network and other maritime industry representatives</td>
<td>A representative of the creative industries</td>
<td>Representativeness of the creative industries</td>
<td>Applicability of workshop methods to solve the challenges of the maritime industry.</td>
<td>Theatres, methods, Design Thinking.</td>
<td>Innovations.</td>
</tr>
<tr>
<td>30.8.2019</td>
<td>Staff of the boat industry company (Baltic Yachts)</td>
<td>A representative of the creative industries</td>
<td>Suitability of workshop methods and innovation material in developing the company’s future strategy</td>
<td>Zoo, Backcasting.</td>
<td>Design Thinking.</td>
<td>The workshop concept was considered to enable dialogue within the working groups to develop a strategic plan.</td>
</tr>
</tbody>
</table>

The main outcome of the IRM-Tool project is the Innovation tool, published at www.innovationtool.fi. It is a website that is based on Professor Alf Rehn’s theoretical input and texts, innovation studies from the maritime industry, workshop cases and guidelines, short films based on innovation themes and infographics based on the theories, ideas from the different workshops and blueprints.

The purpose of the Innovation tool is to help companies utilise innovation theories and develop their innovation know-how. Despite helping with innovating processes, the tool can also be used to evoke discussions about the challenges in innovation in an organisation or between the organisations. Its purpose is also to function as an intermediary between the maritime and creative expert fields. The creative field experts can benefit from the tool when managing an innovation workshop or selling their services. The Innovation tool can open a dialogue about innovation between the maritime industry and the creative experts.

By testing the Innovation tool, IRM-Tool has trained three experts and many service design students as IRM consultants during 2019. The IRM consultants develop their own concepts of utilising the Innovation tool in innovation workshops. Three concepts were tested during the summer of 2019. One was the case of Auramarine’s retrofitted products and the user experience development, second was developed for the needs of WISTA (Women’s International Shipping and Trading Association) and the third was designed for Baltic Yachts case.
About the Innovation tool
Written by Rita Rauvola and Päivi Katajamäki

The tool can be used at www.innovationtool.fi.

Even though the tool was developed together with the maritime industry, it can be adapted to the other industries as well. By applying the contents of the tool to their own development policies, organisations can take advantage of the tool in their own actions.

Potential users for the tool
The user profiles (attachment 4) were created for maritime and creative sectors to describe the potential user segments of the tool. They can be seen as examples of the applicability, but the Innovation tool can be used also by wider user groups and perspectives.

The Innovation tool can be used by
Creative experts or artists who want to
- work as consultants
- apply and sell their expertise to the maritime industry or other industries

Maritime and other fields’ R&D managers/employees/companies who want to
- boost the R&D teams’ innovation knowledge, habits, processes and practices
- explore new ways to innovate and look for creative inspiration
- apply creative knowledge for their innovation purposes
- learn about innovation, creativity and applying creative knowledge
- create openness, co-creation and team spirit inside their organisation

Anyone who wants to
- learn more about applying knowledge of the creative field to new fields, as well as how increasing the innovation knowledge and capabilities can increase innovation opportunities in the company

The contents of the tool
The contents of the tool are in form of text, videos, infographics, cartoons, canvases, worksheets and graphics.

The contents include
- the innovation theory, which consists of both the Seannovation innovation theory by Professor Alf Rehn and practical texts. Seannovation includes twelve innovation themes with supporting questions and tips for further readings. Practical texts provide help in understanding the meaning of innovation, innovation management and innovation culture. It consists of advices, challenges and opportunities, as well as other inspirational material for learning about innovation, boosting creativity and social collectiveness, and matching creative and maritime fields in a new way. The support questions as well as videos, animations, infographics and canvases help to evoke discussions inside the company and between different organisations
- theory of design thinking approach and concrete methods and instructions for workshop facilitating. This part helps in understanding the design thinking
approach, that is one of the starting points of innovation processes and projects. Concrete instructions help the workshop facilitator to choose the right methods for the workshop objective. Case descriptions are examples of the used methods, and challenges which were answered by using them. The instructions for a workshop organizer works also as a memory list about the things to be taken into consideration when planning and implementing a workshop.

* special parts for creative and maritime professionals. These parts include reasoning why co-operation between creative field and maritime industry as well as the use of the Innovation tool would be useful for both industries. Tips in form of infographics, and what to take into consideration when working with creatives or maritime industry representatives are included.

shortly about the IRM-Tool project.

The Innovation tool has been developed iteratively and its contents have been tested during the development process, as described before. According to the feedback, the content of the tool supports answering the challenges the organisations have in their way to innovation.

6 CREATIVITY FOR ALL

Creativity is the process of generating ideas, whilst innovation is the shifting, refining and the implementation of those ideas. Creativity is about divergent thinking, and innovations is about convergent thinking. This means that creativity is about the generation of ideas, and innovation is about putting them into action. Creativity is not enough; we need innovation to take existing ideas and turning them into actions. Coming up with new ideas is the food of innovation. (Gurteen 1998)

The goal of the IRM-Tool project was to bring together the maritime industry and the creative experts, and through these interactions make creation and innovation possible. Interaction between people gives opportunities to learn, influence and make things happen. (Gurteen 1998)

In this chapter, the publication concludes with the importance of creativity in organisation and individual level. First, the coordinator project Creative Finland’s project manager Anu Perttunen summarises the results and ideas of almost 20 projects that have exploited creativity and creative expertise in various ways in different fields. IRM-Tool project is just one of the projects. Following, the IRM-Tool project manager Rita Rauvola wants to inspire each reader to explore what factors and things have effect on his/her individual innovation flow, and thus actively develop the preconditions of innovation work at the workplace.

Talent Is Everywhere - Opportunity Is Not

Written by Anu Perttunen

The heading is a quotation used often and in different situations, but it suits our present situation especially well: in Finland there is a large group of talented creative professionals available to development experts both in the public and private sectors to help create new value. The creative expertise is there, but the means and actions to put it into use are missing.

Companies try to provide their customers, partners, investors and employees with more and better reasons and opportunities to participate and to buy and use their goods and services. Customers are interested in new, surprising and strange concepts. Expertise in creating-experiences, influencing, visualization and meaningfulness plays a significant role throughout all branches of business. Creative expertise is in a key role in developing customer experience, in user oriented design, product design and development, branding, communication and in building sustainable business models

Diverse Creative Expertise

Three projects funded by the European Social Fund – the Innovation Resource Moderating Tool project , The City Drivers project and Creative Finland – have examined creative professionals’ fields of expertise, and what they could offer other areas of business. The list is surprisingly long, and a clear indication of the versatility of education in the creative field. An infographic (on next page), which can only cover a part of all the professional expertise available has been composed based on these findings. For more information, see the publications and websites of the projects mentioned.

1 www.aboamare.fi/IRM-Tool
3 www.creativefinland.net/creative-industries-info
Creative Expertise Is a Source of Renewal

World Economic Forum has conducted an analysis of the kinds of expertise needed and the skills that will be central in the future. According to that analysis, complex problem solving, critical thinking, creativity, people management and emotional intelligence, among others, will be indispensable in the 2020’s (Gray, 2016). A report by the National Forum for Skills Anticipation agrees that creativity is one of the most important fields of expertise in the future. The report connects creativity naturally to the core of creative professions, but also to innovation expertise and multidisciplinary expertise. The significance of creativity is emphasized in connection to standing out from competition in business (Opetushallitus, 2019). Creative expertise opens up opportunities to unprejudiced thinking and the ability to solve problems, to originality and ability to find alternative solutions to problems at hand.

We Need Real Actions

Growth ecosystems need to be more open to offering opportunities to actors in the creative field, as their expertise plays a significant role in solving social challenges and building a sustainable society. In Finland the development of multidisciplinary ecosystems must be strengthened: we need a strategic, target-oriented plan for how creative fields will strengthen and diversify the structure of economic life and the economy, how creative expertise integrates into growth ecosystems, and the methods for the realization of these goals in the long term.

Talent is everywhere - we must ensure opportunity is too.

Anu-Katriina Perttunen
Chief Networking Officer
Creative Finland

Find out your innovation flow!

Written by Rita Rauvola

There is always learning occurring in functional, social and cultural situations. Flow for the learning occurs when self-capability and self-regulation are in a balance. These are also the elements of building internal motivation (Lehtinen et al., 2016) The Self Determination Theory (Ryan and Deci, 2000) explains that internal motivation for a person is compiled from three different needs: the need to feel capable (competence), the need for social attachment (relatedness) and the need for independence and ability to influence (autonomy). The same goes for a capability to innovate and develop as an organisation.

Human capital is the most important asset for innovation, and it should be nurtured. This means that the responsibilities and the control/power to influence one’s work, as well as the price for achieving the expectations, need to be in a balance. Also, the company structures need to be in balance and communicated concisely, for example the balance of freedom vs. control, goals vs. resources, decision power vs. responsibilities of individuals.

For innovation managers, individual and environmental factors are needed for being able to boost the innovation flow at the workplace. Is the environment enabling the needed functions, in which the individual has the capability to implement, and/or does the individual possess the competence needed for the functions in the environment that enable innovation? Below are some of the most important factors that boost the innovation flow.

Motivation

Motivation is the inner feeling of a person that launches, directs and builds internal motivation. It includes feelings, attitudes and the ability to concentrate on the things that are implemented. Motivation influences one’s choices and efficiency (Lehtinen et al., 2016) Motivation is a key factor in affecting individuals to be able to learn, work hard and improve efforts. The innovation manager’s job is to create practices that boost the opportunities of the personnel to attach to the organisation’s values and goals, and to join the work community as an equal member.

Organisational learning

There is also a need for knowing the teams well and creating structures for lifting up the existing knowledge and providing challenges in which the boundaries of the existing knowledge can be crossed. The teams should have the possibility to influence the way they do their work, develop it and come up with new challenges, failures, and successes. A person learning something participates in shaping the knowledge and creating it, thus sharing it and applying it, leading to a boost in organisational learning.
Supportive working environment

Leading expert work is like teaching a child: one needs expectations, rules and boundaries, but also trust, appreciation, a chance to do mistakes, learn and grow as a person, as an employee. The same goes for enabling innovation in the organisation. The possibilities and expectations of something happening should be in balance with the available efforts and efficiency. If the employees feel that they lack skills, time or support, they get stressed. If the employees feel that tasks are too fast and easy to do and that they are not that meaningful to the organisation, they become bored and do not provide the best quality and effectiveness for the company (Csíkszentmihályi, 2005).

Deploying the natural creativity and intelligence of the human being

A person can achieve a flow feeling related to his or her work when he or she feels that the competences and expectations as a team member are in balance. This feeling spreads among team members. Once it has reached every team member, the organisation benefits from a strong innovation flow. It’s as simple as that!

Balance

When everything is in balance, one can achieve the feeling of a flow. Achieving a flow refers to the feeling when all of the stars are in their right place in the universe, and moving on and solving problems becomes rather easy, while enjoying the feeling of getting forward and succeeding. Generally, the flow feeling is related to virtual games and learning. Boosting teamwork skills, supporting learning, developing in teams and communicating about matters important to the organisation influences employees’ feelings regarding the challenges, as well as their motivation for solving problems. Work effectiveness can be increased by providing good tools and processes, an enjoyable working environment, as well as support and trust for the employee’s work (Csíkszentmihályi, 2005).

Implementation

The IRM-Tool project has built its activities on innovation theory-based themes. The themes derive from the text written by Alf Rahn: Innovation theory is applied to the maritime industry context in a short and simple way. During 2018, the themes were applied in co-creation workshops, but also in multimedia production, for example in short films that explain, describe or tell a story about innovation challenges or opportunities. The short films were produced during 2018. Their transcripts are based on innovation theory and practical cases, as well as on stories collected by interviewing maritime industry companies between 2017 and 2018.

The Innovation tool is thus developed from the perspective of the maritime industry by using the case studies and innovation theory, utilizing service design, media expertise and other creative knowledge. Workshops test the creative knowledge, methods and their application in real challenges faced by the maritime industry, thus providing information on the usability of the tool. More information can be found at www.aboamare.fi/IRM-Tool.

Background

IRM in “IRM-Tool” comes from the words “Innovation Resource Management”. The initial idea is from the international Bridge Resource Management course website called the Maritime Resource Management (Rehn, 2006). The word “resource” is used in the maritime industry context in a short and simple way. During 2018, the themes were applied in co-creation workshops, but also in multimedia production, for example in short films that explain, describe or tell a story about innovation challenges or opportunities. The short films were produced during 2018. They are based on innovation theory and practical cases, as well as on stories collected by interviewing maritime industry companies between 2017 and 2018. The Innovation tool is thus developed from the perspective of the maritime industry by using the case studies and innovation theory, utilizing service design, media expertise and other creative knowledge. Workshops test the creative knowledge, methods and their application in real challenges faced by the maritime industry, thus providing information on the usability of the tool. More information can be found at www.aboamare.fi/IRM-Tool.
The IRM-Tool project in numbers

- 21 workshops
- 4 company visits
- 300 participants (approx. 52% from the maritime industry, 26% from the creative field and 12% from other fields)
- 47 companies
- 14 organisations
- 10 creative methods
- 10 art concepts
- 4 cities
- 3 languages
- 33 articles or publications in media
- 20+ videos, animations or podcasts
- 300 followers in social media

Impacts on target groups after the workshops:
- 5 persons have been employed
- 1 company applied “Innovationseteli” by Tekes
- 3 unemployed persons have started planning entrepreneurship
- 2 new companies established
- 1 new freelancer
- 6 new co-operation projects within the network

Read more about IRM-Tool project:
- www.innovationtool.fi
- www.aboamare.fi/IRM-Tool
- www.facebook.com/luovameri
- https://www.linkedin.com/groups/13564048

#irmtool #maritimecreativity #luovameri #luovameriteollisuus #kreativsjofart

The IRM-Tool team

The IRM-Tool core project team consists of project manager Rita Rauvola and team members Peter Björkroth, Milla Järvisetälä, Elina Vartamo, Päivi Katajamäki, Elina Rebers, Tommy Nyman and Tereisa Ottman.

In earlier phases we had input also from Nina Kivinen (Åbo Akademi), Alexander West (Åbo Akademi), Kyung-Yool Chan (Novia University of Applied Sciences) and Carina Virtama (Novia University of Applied Sciences) as well as many students with media, service design, and technical expertise from Novia University of Applied Sciences and Turku University of Applied Sciences.

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See IRM-Tool project team’s thoughts of the project in attachment 5.

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References


The process continues by studying the group's ideas and categorising them. The Five Point Voting method is a way of selecting the best ideas from several alternatives. Each group member rates five points to the ideas they like the most. The participants can allocate all of the points to one idea or distribute the points between several ideas. The group can continue discussing the results and select the ideas that got the most votes for further development.

A. 635 With Five Point Voting
635 is a brainstorming method that produces a large quantity of ideas. It allows for equal participation among the group without anyone taking over the session. Since the whole brainstorming session is performed in silence, it is important to discuss the results and summarise them in order to share the ideas between the participants.

For example, there are six participants sitting around the table. Each participant is given a worksheet with a challenge or problem written on it. The participants are given five minutes to generate three ideas and write them down on the worksheet in concise sentences. After 5 minutes the sheets are passed down on the worksheet in concise sentences.

B. Six Thinking Hats
The goal is to produce as many innovative ideas as possible, see the problem from different perspectives and finally evaluate the produced results. The facilitator wears the blue hat at all times. All participants hold a hat of the same color and change to another color at different stages of the workshop.

White Hat: Information and data. Summarizes and makes conclusions.
Red Hat: Feelings and intuition. Focus on the positives.
Yellow Hat: Why it could work. Benefits, values, plus points. Provides logical reasons. Focus on the positives.
Green Hat: Why might it not work. Cautions, difficulties, weaknesses, dangers, problems, identification of risks.
Blue Hat: Creative thinking, ideas, alternatives, possibilities, problem solving. In the end everybody wears the blue hat to piece together the thoughts and ideas into a practical plan of action for solving the problem.

C. Double Reversal
The goal of the brainstorming is to produce as many innovative ideas as possible and take advantage of the participants' varied skills and experiences. The general rules of brainstorming are:

No criticism or rejection of ideas.
Go for a large quantity of ideas.
Build on each other's ideas.
Encourage wild and exaggerated ideas.

The double-reversal brainstorming session includes a reversed thinking process, that allows you to continue generating ideas by looking at the topic from a new perspective. Reversing each reversed idea again can produce new points of view and potential actions to consider in a later problem solution phase. The method progresses as follows: Brainstorm individually and write down at least 10 ideas or problems in silence, or continue from what was produced earlier. Now, instead of thinking “how can we solve it?”, reverse your thinking process and instead think “how can we make it worse or more difficult?” View the reversed ideas together in groups and pick the ten most impossible ideas.

Turn the chosen ideas over into possible solutions for the original topic or problem. Categorise all of the possibilities and name the categories. Discuss the challenges concerning the chosen topics and ideas.

D. Backcasting version 1
The goal: Backcasting is a method that usually starts by defining a vision of the future, then moving backwards in time to identify trends, changes or events that affected the future situation. In this version, however, the process is done in reverse, starting from a point in the present and moving towards the future.

Define the current state.
Add changes, decisions and actions that would have happened on the way.
The starting point is the future scenario, moving backwards to the current state.

Backcasting version 2
The goal: Backcasting is a method that usually starts by defining a vision of the future, then moving backwards in time to identify trends, changes or events that affected the future situation. In this version, however, the process is done in reverse, starting from a point in the present and moving towards the future.

Discuss the path from the current state to the future scenario.

Attachements

Attachment 1 - The workshop methods
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In this version, however, the process is done in reverse, starting from a point in the present and moving towards the future.

Define the current state.
Add changes, decisions and actions that would have happened on the way.
The starting point is the future scenario, moving backwards to the current state.

Write down a trend, change or an event that made this possible on pink sticky notes.
Write down important decisions or choices that affected this on blue sticky notes.
Discuss with the other group members and present the most important findings to them.
Summarise your thoughts from the previous phases.
Move from the present to the future. Draw and describe the paths that would lead to the future, goal by step by step. What are the prerequisites? What should the phases of different operations be in different circumstances? What are the effects of the operations?

E. Backcasting version 2
The goal: Backcasting is a method that usually starts by defining a vision of the future, then moving backwards in time to identify trends, changes or events that affected the future situation. In this version, however, the process is done in reverse, starting from a point in the present and moving towards the future.

Define the current state.
Add changes, decisions and actions that would have happened on the way.
The starting point is the future scenario, moving backwards to the current state.

Analyse the risks associated with the changes, decisions and actions.
Analyse the opportunities associated with the changes, decisions and actions.
Discuss the path from the current state to the future scenario.
A. Workshop: Creative job opportunities in the maritime industry

Date & place: Nov 16, 2017 Aboa Mare Training Centre, Turku

Who was there? 21 participants: 13 experts representing the creative field and 5 representatives of other fields

Keynote speakers: Mikael Vaurio, Aboa Mare Maritime Academy

Purpose:
* To get knowledge and ideas regarding the kind of know-how the creative field could provide the maritime industry.

The workshop was mainly targeted at creative field participants.

* To inspire the participants to explore innovation opportunities of multidisciplinary collaboration between the fields.

* To find a network of creative professionals who are able and willing to apply their knowledge in the context of the industry as well as in maritime cases.

Methods: Double reversal (see attachment 1)

The goal of the method is to produce as many innovative ideas as possible and take advantage of the participants’ varied skills and experiences.

Results:
* A mind map on the maritime industry’s needs for creative skills from the perspective of the creative field

Feedback & observations:
* Many artists are interested in applying their knowledge for industrial purposes and, unlike 5-6 years ago, they don’t feel that their artistic value decreases because of that.
* Artists think that their skills are needed in the maritime industry. However, artists wish to increase their knowledge regarding the maritime industry in order to improve their capabilities in responding to the needs and selling their knowledge.
* Artists wish for commitment in the form of time and resources in order to explore the opportunities, problems and challenges of the maritime industry

B. Workshop: Creative and technical solutions in shipbuilding projects

Date & place: Feb 7, 2018 Turku, Meyer Tuks, Shipyard, G23 Seminar room

Who was there? 29 participants: 20 experts representing the creative field, 7 representatives of the maritime industry and 2 representatives of other fields

Keynote speakers: Kari Sillanpää, Ilari Graf and Kaisu Tunkelo-Hering (Meyer Turku)

Facilitators: Leena Ketonen and Kati Routti, Solidabis Ltd

Purpose:
* The theme of the day was the development of modular shipbuilding. Meyer Turku invited experts from various fields interested or involved in modular shipbuilding.

The goals were to develop a model for collaborative modular shipbuilding and discover collaborative models and ways for matching the creative and technical solutions.

* The workshop also responded to the earlier findings of the project, for example, suppliers want to know more about the shipyard’s planning process so that they can offer better solutions and play the role of an associate rather than a mere subcontractor. In addition, the creative field experts want more information regarding the maritime industry, so that they could provide their services better at the right time with regards to the construction processes.

Methods: In this workshop the Backcasting method was used. Backcasting is a scenario method that aims to find out different alternatives for reaching predetermined goals. The main idea is Backcasting is to think what stakeholders should do and what decisions they should take to be able to reach the goal.

Results:
* Meyer Turku’s reflection on what the creative field could offer for them
* The cases learnt in this workshop was a basis for designing a workshop about sustainable interior design
* Automarine and Meyer agreed on meetings to continue the development within modularization projects

Feedback & observations:
* A lot of confusion and mixed feelings among both fields’ participants
* Some artists is not finding a common language, due to too many technical words
* Both field’s participants were interested in the topic. Both fields pointed out and admitted that the lack of openness in the maritime field complicates the interaction.
* Some creative field representatives felt that their ideas were not listened to and that engineers deliberately talked in a technical language so that others cannot understand. It can be concluded that creative representatives need more knowledge about the industry and more “creative space” in order to represent their skills without disruptions.
* The maritime company representatives wished for more time to learn about the topic as well, and due to many practical and urgent issues related to their current work, they were not able to anticipate the near future. In addition, it was noted that some key persons related to the topic were absent. This can mean, for example, that maritime companies are living in the present too strongly, and lack resources to develop their working methods and processes.
"I genuinely believe that engineers need to learn service design more. In the workshop though, it was easier to talk the same language with engineers who understand the technical details. The technical stuff limits the creativity. Broader concepts work better for designers, I think. Auramarine could provide for example a thesis study to develop the aftersales market service process of our products.

I think we need varied teams in which we have the project lead and business lead together with a service designer and technical expertise, and possibly a visual artist to illustrate the new solutions the team comes up with, and similarly the challenges, questions, and doubts the business professional might bring up."

Ilkka Rytkölä, Chief Technology Officer at Auramarine Ltd

"I participated in the User Orientation in Service Development course at Novia as part of my studies. It was a great opportunity to learn about different aspects of service design and to work with a multidisciplinary team. The course covered various methods and tools for service design, and we were able to apply them in a real-world context. It was a valuable experience that I would recommend to anyone interested in service design.

I also had the opportunity to work on a research project with the Creative Field and the maritime industry. We explored some new concepts for ship demolition and tested them with the users. The results were promising, and I think there is potential for service design to play a role in improving the sustainability and competitiveness of the shipping industry.

In my opinion, service design can be a powerful tool for solving complex problems and creating innovative solutions. It requires a multidisciplinary approach and involves working closely with stakeholders to understand their needs and perspectives. Overall, I found the course and the research project to be very valuable and rewarding experiences."

Kati Routti, Service & UX Design consultant at Solidabis Ltd

C. Workshop: Competitiveness, safety and sustainability in ship demolition projects

Date & place: March 23, 2018, Aboa Mare, Auriga Business Center, Turku

Who was there? 22 participants: 10 experts representing the creative field, 11 representatives of the maritime industry and 1 representative of other fields

Keynote speakers: Thomas Lundström and Oskari Kosonen (Turku Repair Yard)

Facilitators: Janette Aaltonen, Laleh Dawoodi, Janne Granfors, Heikki Mäenpää, Laura Runola, Peniel Villa Zarazúa and Laura Vuorinen, Master degree students in service design from Novia University of Applied Sciences and Turku University of Applied Sciences

Purpose: Discussions regarding new ways of co-operation and development of operating models, but also on adding value to the ship demolition business. The purpose was to find out how the ship demolition business could be competitive in Finland as well, and whether creative fields can help with it.

Methods: Two methods were used: Six thinking hats and Backcasting method.

Six thinking hats (see attachment 1)

- The objective of Six thinking hats is to take advantage of the participants’ variety of skills and experiences, and explore phenomena from various perspectives, one perspective per each hat.

Backcasting (see attachment 1)

- Backcasting is a scenario method that aims to find different alternatives to predetermined goals. Backcasting differs from other scenario methods, because the goal or the future status is predetermined, and building up scenarios will lead to a determined goal.

Results:

- Many new ideas on how to collaborate and build value around ship demolition business to make it competitive in Finland. Also, it was realized that if the business is not enabled now, there might be big economical and sociocultural influences on the Finnish shipbuilding industry.

- One of the service design students employed 6 months after the workshop

Feedback & observations:

- A common value base (such as safety and ethical issues in the current ship demolition industry in Asia) helps find the persons "behind their titles", as one creative observations: representative put it. This topic included various technical words and processes, but collaboration between the different fields was quite fluent according to the feedback. Also, when compared to the discussions in the media and public panels, participants could discuss about more than just the costs of the ship recycling business.
"It was interesting to learn about EU regulations, for example that in 2020 a ship under an EU flag needs to be demolished sustainably and responsibly. This can mean that most of the ships will be owned by non-Europeans in 2020 and onwards, because the ships can be demolished at a lower cost in a non-European country. The modularisation of vessels, meaning that vessels are built in modules that are easy to handle when the vessel is being recycled or demolished, was also an interesting part to learn about. This should be taken into consideration already at the design phase of a ship."

Janette Aaltonen, Documentation Assistant at Etteplan, Ltd

"I think IRM-Tool project has an innovative concept for exploring the tools for innovation resources. The issues we discovered during the Modularization workshops kept me thinking about practical innovation, and the Digitalisation and the Ship demolition workshosp made me look at the future of the industry. I have learned a lot about innovation and its development processes.

It was surprising how the creative field can understand the maritime industry so well. We small and medium-sized network company members need a playground for exercising our skills in a more useful way, finding the right channel to communicate with the innovation resources in the most ecological way, as well as a platform for exchanging the information and creating value together."

Kyung-Yeol Chun, CEO at KF Marine

"I wanted to understand innovation and practices within the maritime industry in greater detail, because industry is growing fast. Modern technologies and methodologies would give competitive edge to the maritime companies. The idea of boosting innovation in a fairly traditional industry with well-established practices was inspiring. Also, Meyer Turku’s willingness to include smaller companies to cooperate on the field of heavy industry, such as shipbuilding, was a fresh breeze of sea wind."

Leena Ketonen, Head of Service Design and UX at Solidabis Ltd.

D. Workshop: Sustainable development in ship interior design

Date & place: April 5, 2018, Yrkeshögskolan Novia, Henrikinkatu 7, Turku

Who was there? 19 participants: 12 experts representing creative branches, 5 representatives of the maritime industry and 2 representing other fields

Keywords: speaker: Mikko Varjanne (FCR Finland Ltd)

Facilitators: Jussi Huuskonen, Jenny Koskelainen and Camilla Salenius, Master degree students in service design from Novia University of Applied Sciences and Turku University of Applied Sciences

Purpose: To share knowledge between the maritime industry and creative field, as well as to co-design sustainable ship interior design solutions.

To continue the discussion about developing modular shipbuilding, which was started in an earlier workshop. Modularisation was considered to be a solution for consolidating the technical and creative expertise.

To come-up with new ways of working together and discuss sustainable interior design solutions.

Methods: The chosen method for the workshop was the 635 method (see Attachment 1); a brainstorming method that produces a large quantity of ideas in a short period of time. 108 ideas were produced.

Results:

* Ideas and discussion on various ways to make interior design adaptable to situations
* Insights on understanding the customer and user (for example the ship personnel) as early as in the design phase
* Collaboration between FCR Finland and IRM-Tool project continued with both as a company visit for creative experts and as a new workshop for refurbishment business networks.

Feedback & observations:

* Participants were interested in the differences between the refurbishment and newbuilding businesses
* Participants were interested in the possible job opportunities in marine interior design.
"I have been exchanging ideas with project manager Rita Rauvola about an online platform for selling leftover materials from maritime companies in order for them to be reused. There's a real need for this, as big leftover materials are only a cost at the warehouse. I also had the opportunity to present our company's operations as a case in the IRM-Tool workshop on 5 April regarding sustainable ship interior design. Participants were interested in our solutions and for example differences in refurbishment and newbuilding, so I also invited them for a visit to our factory in Nousiainen 29 May 2018. It is good to have this type of fearless outside-the-box thinking encouraged."

Mikko Varjanne, Chief Operative Officer at FCR Finland

"By participating IRM-Tool project I got fascinated by ships and the sea, and wanted to see how I could possibly connect my expertise into maritime community and industry. I wanted to build networks and let people know my skills and knowledge. I’m still looking for a new challenge, but I learned that there is a lot of expertise that we artists can share also outside of the arts field. I am more confident in approaching ship industries to offer my artistic innovations. I can say that I understand a little bit better their work-related language and industry now."

Liana Potila, multidisciplinary freelance artist

E. Workshop: Identity and creative knowledge in boat industry network of the Kvarken region

Date & place: April 20, 2018 Yrkeshögskolan Nova, Campus Allegro, Pietarsaari

Who was there? 23 participants: 13 experts representing creative branches, 8 representatives of the maritime industry and 1 representative of other fields

Keyword speaker & Facilitator

Ann-Charlott Hästö (ACH Architecture Ltd)

Purpose: The workshop was held so that the building owners of Osmo, subcontractors and representatives of the creative field could meet. The building industry in Osmo consists of small companies and their respective networks. The goal is that the creative field would become part of these networks. Communication and encounters were emphasized during the workshop, but also recognition of the identity of the company.

Methods: Conceptual thinking, drawing by hand, metaphors

The facilitator introduced participants to her own conceptual thinking theory, concentrating especially in the role of the communication in product design and customer orientation. After this, the participants made keychains to represent the company values and core knowledge and discussed how it could be made more visible. This opened discussions between the fields, so that they know the materials used, fabrics, leather and metal.

Results:

* A novel knowledge-based network combining the building industry and creative field
* One new job for a person representing the creative field in the maritime industry
* Various new collaboration suggestions for the Novia University of Applied Sciences from the participants
* Development ideas of Fiskets Hus started to come to fruition actions (Fiskets Hus finished 2019, and was in nomination for the years tree award, "Vuoden puupalkinto")

Feedback & observations: Creating something together by hand functions as a good icebreaker. The keynote speaker known by participants of both fields was able to facilitate the collaboration well, thus challenges and solutions were observed in the most constructive way possible.
“I find the combination of creativity and entrepreneurship very interesting and that’s why I wanted to participate in the IRM-Tool project. I’m familiar with the boat industry network of the Northern Ostrobothnia, because as an interior designer at Nautor’s Swan I was in contact with the companies in this field. These companies have a very high level of knowledge and therefore I wanted to emphasise their pride in their work, but also the humbleness towards understanding design. Many of these companies may have fulfilled a specific need of the industry, but really don’t know why they exist and what their core know-how is. This knowledge is vital for doing business with customers. I was surprised to see how eagerly and actively all participated during the workshop. No-one rushed away, even though it was Friday afternoon. I’m very happy with my input and that the participants were so engaged.”

Ann-Charlott Hästö, Architect SAFA and CEO at ACH architecture Ltd

“I wanted to participate because the boat industry was something I did not yet have any experience in, but it seemed interesting. I liked the lecture that was held during the workshop, it was very inspiring. I was a student of interior design at the time of the workshop and got to collaborate with a person representing a boat company. After the workshop, I got very interesting job offer and got the opportunity to start working for them. Now I work for the same company as a consultant, and my main task is updating the drawings of the boats.”

Sarah Smeds, alumna of Novia University of Applied Sciences

F. Workshop: Digitalisation in the maritime industry in the upcoming 10 years

Date & place: April 25, 2018, Joki – Visitor and Innovation Centre / ICT-City, Turku

Who was there? 10 participants: 3 experts representing the creative field, 6 representatives of the maritime industry and 1 representing other fields

Keywords: speakers: Mikko Luomanen, Game Lab Turku 

Facilitators: Pasi Penttinen, ACH Ltd

Victor Blomström, Saarekari and Ahti Virta, Master degree students in service-design from Novia University of Applied Sciences and Turku University of Applied Sciences

Purpose: 

Methods: Digital tests and a round table / café dialogue conversation

Results: 

Feedback & observations: A collaboration project was suggested in which Caddicam and other similar companies would participate. Collaboration and communication between the customers, subcontractors, shipowners and shipyards were also major topics in this workshop. The need for mapping was discussed. Mapping the development needs and guidelines, so that the solutions would work together, as well as the need to share knowledge effectively and in real-time. Ecological and energy-efficient solutions were discussed. When thinking of digital solutions, for example, the vast amount of paper that still is used within the maritime industry. The collaboration with shipowners was crucial, so that the benefits of the investments would be understood and the whole network could collaborate.

The big question for everyone was: is it worth for a single company to invest or should the whole network be involved?
G. Workshop: Work stories and Wista's Fall gathering

Date & place: August 23, 2018, Abyss Nova Training Centre, Auriga Business Centre, Turku

Who was there? 20 participants: 15 from the shipping industry and 5 from the creative field. The workshop was implemented in collaboration with the Women’s International Shipping and Trading Association and thus aimed at women. However, one man participated as well.

Keynote speakers: Rita Rauvola, IRM-Tool project

Speakers: Maija Mattila, WISTA Finland

Facilitators: Anni Linko and Janne Junttila, Junttila&Linko

Visualization: Salla Lehtipuu

Purpose: * To raise awareness of women's skills in the maritime field, thus boosting creation of the novel knowledge network that would combine skilful women from the maritime industry and creative field.
* To test the usability of storytelling and live illustration in encounters between the fields.

Methods: Storytelling and visualisation of stories

Results: * Through storytelling it was possible to identify obstacles and opportunities for innovation from the stories.
* Facilitator pair Junttila&Linko was launched after the workshop
* Participant from Wilhelmsen Ships Service was inspired of visualisation as a method and decided to take part in the piloting project that IRM-Tool started with Arts Promotion Centre Finland. After taking part in this process, Wilhelmsen Ships Service has decided to buy services from an illustrator to develop an improve understanding of and commitment to quality standards in the company.

Feedback & observations: Many participants reported that they wished to have more networking events for women. One participant had an idea on how to utilise live illustrations for making safety and quality standards more human-centred, being thus easier to understand and apply concretely in everyday work.

"Although the event was not directly linked to my work as a QHSE manager, it was extremely interesting and gave me a lot of ideas on how visualisation could be used in our line of work as well. In hindsight, I think that it is harder to find places where such an approach could not be used... It was interesting to see how much more life visualisation can bring to a story. I would love to test this kind of approach when implementing standards in our company. We have recently implemented the OHSAS 18001 standard and have performed a risk assessment for office employees in our company, and using this approach would have made it a hundred times easier to understand!

I work it is a brilliant idea to combine creative work and the maritime industry, both can certainly benefit from each other. I think creativity could be used to a greater extent in all industries, as today the focus seems to be so much more on technology and digitalisation."

Anita Åkerlund, Area QHSE Manager Northern Europe at Wilhelmsen Ships Service Ltd

"When I came to the workshop, I didn't know what to expect, but the idea sounded interesting, so I signed up. Workshop was fun and it was interesting to hear work stories of other people. Usually I talk about my work only with people within the same field, so it was a bit challenging, in a good way, to try to describe what I do, to someone from a completely different background. On board we are always told to think outside of the box, so it would certainly be interesting to see what somebody working in the creative field could do with visualisation on a ship. For example, people working in the game industry probably would be able to help develop aids for navigators, such as a simulation app where we could do a test run into a port we have never been to before. In my daily work involves quite a lot of applied math and physics, the end result is often presented with at least some visual information included, whether it is a graph describing the stability, a track line on an electronic chart or a docking plan with the intended manoeuvre and mooring line configuration. If somebody with no background in shipping looked at the visual information we use on board, perhaps they would be able to come up with different solutions on how to present the information in a better way or provide a fresh view as to what might need to be changed in order to make it more understandable."

Mareena Viljanen, 2nd Officer at Holland America Line"
"IRM-Tool is an interesting project. It was interesting to hear other people’s experiences of their working life. Many of the stories were related to women working in a male-dominated environment. The reason was probably that the event itself was directed at women. It was also interesting for Wista members to get to experience the Alba Marie simulators."

Foreseeing the changes in working life and the readiness for changes will be even more important in the future. It’s important for the education organisation to develop an operating model in which the foreseeing, readiness and future knowledge are constantly and systematically analysed within the co-operation network between businesses, working life organisations, authorities and the educational establishments. It’s important for the educators to examine future development paths outside their own branch as well. This kind of knowledge in foreseeing is also needed inside the maritime educational field.

**Eija Velin**, Education Manager at University of Turku / Centre for Maritime Studies

**My partner Annie Junttila had participated in the IRM Tool workshop on 7 February at Meyer Turku, and we decided to start a new business concept with the operating name Junttila&Linko (www.junttila&linko.com). We made an offer to facilitate IRM-Tool workshop and our offer was accepted. This was the first workshop organised as a Junttila&Linko production. The aim of the Workstories workshop was to hear participants’ stories related to working life, both successes and challenges. The stories were first shared in small groups and then two of the stories were visualised by our illustrator Salla Lehtipuu. The idea was to learn and get inspired by others and also bring the experiences alive by using visualisation. I was surprised to see how the participants shared their experiences and how inspiring it was to hear them. The workshop also inspired by others and also bring the experiences alive by using visualisation.**

"IRM-Tool is an interesting project. It was interesting to hear other people’s experiences of their working life. Many of the stories were related to women working in a male-dominated environment. The reason was probably that the event itself was directed at women. It was also interesting for Wista members to get to experience the Alba Marie simulators."

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"I participated in the workshop on 10 September 2018 at the Visitor and Innovation Centre JOKI, Turku, as part of the team day of FCR Finland Oy. AHA Logistics is a logistics supplier for FCR Finland. Tiina Haapala from AHA Logistics participated in the workshop with me. It was great to meet most of the FCR Finland supply chain, work together and get to know everyone a bit better. The workshop was organized in a fun and relaxed way, which made participation easy. I was reminded to always have dreams and plans for the future. To always keep an open mind and think about the positive things development can bring to our business. Each new thing can be an opportunity. We are developing a new software for our company, and this way of thinking might have some effects on the outcome of that."

Jonna Ahkila-Niemi, Co-owner and founder of the company Oy AHA Logistics Ltd

"We met project manager Rita Reuvola a couple times to plan the IRM-Tool workshop that was held on September 10 at the Visitor and Innovation Centre JOKI in Turku. In this workshop on September 10, the IRM-Tool project was the main organiser, and our role was to facilitate the workshop. Kirsi also participated in the workshop at Aboa Mare on August 23, 2018, which was targeted for women in maritime and creative branches, where they could share work stories and discuss obstacles and opportunities for innovation.

Our main challenge as facilitators in the workshop was that the participants came from various backgrounds and nationalities, so we needed to be clear in our introduction and guidance. People were interested and talked a lot about future business opportunities, as well as threats. We see great opportunities for maritime companies to utilise business foresight in developing their business and the way the companies cooperate. The same goes for all the individual experts on the field. Future fitness should be one of the basic skills in the future working life! Innovation is a life and death question for everyone! If you do not renew your competences or business, you will not have a future as a professional or as an organisation."

Kirsi Kostia and Niko Herlin, Great Minds Oy

I. Workshop: Customer-oriented product development and perspectives for innovation

Date & place: November 2, 2018, Novia University of Applied Sciences, Campus Allegro, Pietarsaari

Who was there? 13 participants: 6 persons from the creative field and 7 persons from the maritime industry

Keynote speaker: Marja Rak, speaker: Noolan Ltd

Purpose: The workshop was organized for persons working in the creative field or the maritime industry. The purpose was to find new opportunities to collaborate and get synergies and new ideas for developing their products and work.

Methods: The ME-WE-US method was used during the workshop. At first the participants thought of their own field and its future needs. Then the participants were divided into groups and were given the task of thinking about the customer’s needs. At the end, the groups presented their outcome and one concept was selected as the best one.

Results: * Participants learnt about customer-oriented design. * Four concepts were developed during the workshop. * Noolan brand was re-launched after the workshop. * Baltic Yachts got interested in the development of innovationtool.fi and they agreed on testing workshop with the IRM-Tool project. Later also a company visit for students was arranged. * Collaboration with Concordia and IRM-Tool project was launched

Feedback & observations: The workshop was a success. The participants seemed satisfied and they thanked for the possibility to be part of an encounter like it.

The duration of the workshop was a bit short. If it would have been for the whole day, it would have given more time for the participants to dive deeper into the topic and learn from each other.

A new project with Concordia is possible. The operators thought that closer cooperation between the maritime industry and the creative field as early as during the studies would be important, but also cooperation between the companies.
During 2018 the IRM Tool started a co-operation with the Art Promotion Centre Finland. The aim of the process was to create interesting examples of arts concepts through cooperation, which are in line with the real challenges presented by maritime companies. The project opened a new kind of interaction between arts and the maritime industry, as well as enables different forms of cooperation in the future.

Rita Rauvola, project manager of IRM-Tool, acted as an intermediary for the maritime industry participants, and regional artists Krista Petäjäjärvi and Annika Dahlsten from Arts Promotion Centre Finland worked as art counsellors in the process. They facilitated the creative process from artistic perspectives. The IRM-Tool project has also evaluated the process from a service design and innovation perspective.

The maritime companies Meyer Turku, Wilhemsen Ships Service and Arctech Helsinki Shipyard provided challenges in which known Finnish artists Heini Aho, Jukka Hautamäki, Sini-Meri Hedberg, Sampo Kerola, Oona Tikkaoja, Ville Pirinen and Tobias Zilliacus engage with their artistic knowledge and creative problem-solving process. Clap Ltd. was also involved in the cooperation by analysing methods to boost the utilisation of artistic interventions in traditional industries as an intermediary company.

**Background**

The process started with a meeting between the participants from the IRM Tool project and Arts Promotion Centre Centre. The purpose of the IRM Tool project is to boost creative job opportunities in the maritime industry by enabling encounters between creative fields and the maritime industry.

In addition to including participants from the creative fields, the IRM Tool project aimed to reach the centre of creativity, something that we call "true art." The IRM Tool project also aimed to transcend one-time workshops focused on one topic at a time with a process for continuous interaction with the same participants in order to further deepen their knowledge and capabilities with topics selected by them. Arts Promotion Centre Finland has also started a new development programme to boost the intermediary process for helping artists do more business with companies.

**Process**

The first ideas between the coordinators were discussed in the spring of 2018, and after several meetings during the summer and autumn of 2018, the co-operation started to shape. In September 2018, the IRM Tool project manager contacted the companies and reached an agreement with three of them. In October 2018, the art counsellors contacted the artists and reached an agreement with seven of them. For all participants, it was made clear that the process requires commitment, openness and trust, as well as courage and willingness to explore something new. Therefore, the commitment level was rather high among the artists, as well as the maritime companies.

At first, all companies met with their own teams. Before the meeting, the companies were provided inspiration material and directions on how to think of challenges suitable for the process. The teams presented several challenges during the meetings. For example, Arctech was very innovative and came up with 15 challenges of which three were selected to the process and developed further in order to present them to the artistic audience. Meyer Turku had already listed about seven challenges. Three of them were selected to the process. Wilhemsen Ships Service had only one challenge in mind, but during the meeting it was split into several smaller ones and finally these were selected to the process. 2 to 3-hour pre-workshops with the companies were held during October and November 2018.

In the beginning of December 2018, each company presented three challenges. The challenges were carefully selected so that the participants could work on well-defined and concrete challenges during the
process. The challenges regarded safety, quality, product development processes, company image, as well as communication and cooperation in the companies.

The first common workshop was held on the 11 December 2018 at the Åbo Mare Maritime Training Centre in Turku. The workshop launched a novel cooperation process in which the maritime companies provided challenges to be solved through arts. In this workshop, the goals were presented, and a cooperation agreement was signed. A common language was selected, and the terms were discussed. For example, what does the concept “art” in fact mean? What kind of results can be expected and how can the outcomes be utilised? Who owns the rights of the concept? For example, what does the concept “art” in fact mean? What kind of results can be expected and how can the outcomes be utilised? Who owns the rights of the concept?

Artists and companies introduced themselves, utilised? Who owns the rights of the concept? For example, what does the concept “art” in fact mean? What kind of results can be expected and how can the outcomes be utilised? Who owns the rights of the concept?
The artists’ felt they needed collegial support and wanted to co-operate more groups so that two artists heard the challenges and the challenges were presented in small groups. The artists discussed the challenges in private. Everybody was excited about the cooperation, I can imagine that both art concepts could be a perfect fit to the challenges presented by the shipyard. An arts puzzle or comic strip-type approach would suit us best. As a matter of fact, there were some comic strips, which is something which I had secretly hoped for, although the concept was quite generic and fitting for any type of company.

Artists and companies participated in the discussion about the first ideas.

The second workshop was held on 1 January 2019. It was not entirely open, as it was mainly organised for the artists. However, 1-2 hours was reserved for questions to companies and general discussions. In the first part the artists presented their ideas and shared their feelings, doubts and questions. In the second part the artists further developed their ideas in two smaller groups, and Ville Pirinen facilitated both groups. In the third part Sini-Meri Hedberg spontaneously held a short drawing workshop for all the participants. Artists, organisers and Meyer representatives participated, and Wilhelmens Ships Service was contacted through Skype for business. The atmosphere eventually got more relaxed, and more questions were asked from company representatives. In this workshop it was agreed that a part of the artists would contact the Arctech Helsinki shipyard to agree on a visit, while others would contact the Meyer Turku shipyard to visit them. Some of the artists agreed on meetings with art counsellors to further develop their ideas. Artists had also started their own Facebook and other social media groups to keep contact. Everybody was excited about the cooperation and the challenges regarded safety, quality, product development processes, company image, as well as communication and cooperation in the companies.

The concluding event was held on 5 February, 2019 at the Åbo Mare Maritime Training Centre. All participants were present in this event. After three months of creative work, nine different art solutions were presented to the companies. Finalised art concepts were presented by artists Heinis Ahl, Jukka Hautamäki, Sini-Meri Hedberg, Sampo Kiviela, Oona Tikkanen, Ville Pirinen and Tobias Zilliacus.

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Feedback and thoughts from the process by artists, maritime companies and organizers

I became interested in this project after the Työkävrat event in August. The phrase “visualization of standards” caught my mind. I started wondering, whether it contains something for us.

Originally, I sought for ideas to visualise standards and bring them closer to the employers. I essentially had occupational safety and well-being standards on my mind.

The process was well planned and managed. I especially valued the way the challenges were dealt with during the two initial meetings, I was able to better describe our challenge after my first hesitations.

It would have been wrong to present vague challenges to the artists. How we’ve gone through the process, made us able to better present them. Being involved in the process has not had a direct impact on my work, but there have been indirect consequences: I’ve gained new energy and ideas for my work, even though they aren’t a direct result of this process. Or perhaps the involvement in this process has awakened my sleeping creativity?

The most memorable arts concept was the shipyard mural, although I do not think that it was suitable for us. It was such an interesting and amazing concept that it made me regret that I do not work on the shipyard... The proposed wall mural for the Arctech shipyard was also an excellent idea! I can imagine that both concepts could be a perfect fit to the challenges presented by the shipyard.

Anita Åkäred, Wilhelmens Ships Service, 6 February 2019
“The process seemed interesting. It was interesting to hear the thoughts of other artists on the challenges presented by the companies and take this into consideration. The multiplicity of viewpoints was fruitful, also when taking into consideration the common discussions. The moderation performed by the art counselors was a success, facilitating different viewpoints and working methods to combine these elements into a process. The intermediary plays an important role as an implementer of the discovered potential.”

Jukka Hautamäki, Artist, 6 February 2019

“Cooperation with the IRM-Tool project was good. We had a clear common goal: to have artists and maritime companies clash into each other within the topic of genuine corporate challenges. In my opinion, this cooperation is a good example of using the strengths of both parties in order to create something unique. This process required good networks and relationships to companies of the IRM Tool project, as well as the artist networks of Taake – these formed a good combo. It was surprising to see how enthusiastic the companies and artists were about the cross-border dialogues. It felt like two estranged worlds were brought closer to each other. Everyone participating in the process gained new perspectives and became acquainted with something new. That's quite a big deal! This difference in the worlds creates an energy and sparks that result in a lot of possibilities. I'm looking forward to seeing the interesting things this brings; an artist of expertise in creativity. There is a demand for creativity everywhere, which means that there is a lot of potential. We need curators and bridge-makers that are interested in cross-border dialogues. These are pilot activities that still seek their form, which means that we have to be courageous. We also need bridgebuilders, i.e. intermediaries between the artist and the company. The intermediary recognizes the starting points of both parties, puts common goals to words and combines these elements into a process. The intermediary plays an important role as an implementer of the discovered potential.”

Krista Petäjäjärvi, Arctech Helsinki Shipyard, 7 February 2019

“We became involved in the process because the thought of the confluence of arts and engineering science is fundamentally an interesting conflict, and this confluence has potential to bring synergy benefits for both parties. Also, the project itself enabled the expansion of the thoughts inside the company. This brings us outside the box, which is always beneficial. At first, we were not quite sure on what to expect from the process, but this became clear along the way.

The process was interesting and inspiring. It opened up a lot of new thoughts on development possibilities at the workplace. The process was well organised and directed by the organisers, so it was easy to be part of it as a representative of the company. Also, it was inspiring that the artists visited the shipyard. It felt like we could have spent hours discussing the challenges and possibilities at the production line. All concepts contained interesting and thought-provoking observations. Our challenges were best met by the concepts of Sampo Karvia and Jukka Hautamäki. They had also visited our shipyard and clearly gained deep insights on our challenges, which enabled them to provide concepts that would really answer our challenges.”

Leena Vedensipä, Arctech Helsinki Shipyard, 7 February 2019

“I had worked with both maritime and creative fields since 2011, but I learned more again with this process. It is very different to work with the true artist who has the strong need for artistic freedom, belonging to art community, and be categorized by certain values. I think both the artists and companies that participated in this process were very brave and open, and they can be proud of being such a forerunners and example-makers for other artists and companies. We need this kind of piloting trials to understand what is needed. In general, the artists were surprised of how open and engaged companies were and the companies were interested and inspired by the discussions they had with the artists. It is amazing that already the first meeting between the artists and the companies had already such an empowering influence on all participants. And after, I know that at least three concepts have been taking its first steps for implementation. Even the biggest innovations need more than one channel of approval, before they are acknowledged and recognised. I am happy and honored to be involved in the first push towards something new.”

Project manager Rita Rouonla, 11 October 2019
It was really interesting to be involved in the process and be spared by Taike and other artists. It’s great to work with companies who have already been enlisted and whose challenges have been knowledgably laid out. It’s surprising to see the amount of gains from such a short process!

I have recently participated in workshops in the form of games and researched the history of Fluxus. A game seemed like a suitable solution to the challenges presented.

It was great to see how devoted the companies were. The high-quality cooperation is a great reference for me. I really hope that I’ll get to implement and develop my concept!

Artist Oona Tkikka, 2 February 2019

Attachment 4 - User personas within the creative and maritime fields

Maritime Industry

Mathias (43 yrs) works as a Project Manager / CEO in a supplier company for a tug company. He has worked for over a decade and feels that he is competent in his work. He is a practical thinker, handling large amounts of information with a good mathematical and engineering competence. He wants to use the tool with the creative industry, as he wishes to develop his skills and get new knowledge and innovations to the company and shipbuilding business. Also, he thinks he has a plenty of knowledge and development ideas to share with other people. He is interested in future technological opportunities.

Samantha (23 yrs) works as a Naval Architect with conceptual design and ship architecture. She did her master’s thesis on the maritime industry since she graduated. She has also another earlier degree and work experience. She wants to co operate with the creative field to get innovations to boost the department’s work. She is looking for establishing long-term partnerships with the creative companies. She is eager to learn and understand the big picture better. Therefore, she is willing to work in multidisciplinary teams.

Thomas (55 yrs) is an R&D Manager or Head of unit in the maritime industry. He leads and executes cutting-edge engineering, architecture or development projects in the maritime industry. He is an experienced engineer, and has worked both in several positions at shipyard, and in the network companies. Therefore, he knows the field and its needs well. He likes to work with people who are experienced as he is due to his involvement in many development processes, both failures and successes, he is critical to new ideas. However, he is interested in all new development possibilities, so he is capable to speed up the well started projects.

Creative field

Harry (49 yrs) is a professional from creative arts (i.e. visual arts, performing arts, music). He has known for traditional exhibitions or performances and commissioned artworks, but has also a strong vision how to apply and offer his creative knowledge to a wider range of customers. Lately, he has also studied and got interested in projecting and consulting business. He wants to expand his knowledge to the maritime industry and develop his competences and ensure new career possibilities in the future. He aims to develop a set of new, lightly deliverable products including i.e. innovation workshops with artistic twist.

Linda (29 yrs) is a professional from creative industry (i.e. design, media, cultural management, gaming industry). She has / is planning to establish own enterprise or a sole proprietorship. She has already begun to build network as due to his involvement in many start-up circuits. To offer her competences for the maritime industry is one of her goals. Linda is looking for frameworks, seeking new opportunities and co-operation possibilities. She has strong skills in facilitating workshops and organizing events as she is already one of her goals. Linda is looking for frameworks that leads to new opportunities and co-operation possibilities. She has strong skills in facilitating workshops and organizing events as she is already one of her goals. Linda is looking for frameworks, seeking new opportunities and co-operation possibilities. She has strong skills in facilitating workshops and organizing events as she is already one of her goals. Linda is looking for frameworks, seeking new opportunities and co-operation possibilities. She has strong skills in facilitating workshops and organizing events as she is already one of her goals. Linda is looking for frameworks, seeking new opportunities and co-operation possibilities. She has strong skills in facilitating workshops and organizing events as she is already one of her goals.
“I have been the project manager for the whole project, but I jumped into a project team that had been planning the project already, so the start was a bit bit challenging, especially due to the very tight budget and time. The passion for my work comes from the positive feedback from the project participants, so I am happy and excited that the project has been able to achieve so many good results.

I believe that by learning from each other’s knowledge, we can better respond to the needs of the future, find synergies and create innovations.”

Rita Rauvola
Project manager
Novia University of Applied Sciences

“My role was to initiate and come up with the idea that resulted in this project, which, by the way, is not quite the same as the project I initiated. I had a strong vision about how the Innovationtool.fi could be used. I most enjoyed inspiring students to produce material for the tool and, using it in the future. It has surprised me that innovation/innovating/innovations raise such passions. It has also surprised me how extremely innovative and skilled students can be when they are given proper space for it.

The Innovationtool.fi developed in the project could be great for further development, and utilising it would also be nice. The kind of research-oriented activities would be nice to work with, more than what was possible during this project.

Peter Björkroth
Project expert
Novia University of Applied Sciences

“In spite of the fuzzy beginning the design projects often have, we managed to weave different strings together and reach our target. Actually, this doesn’t surprise me, as we had excellent team members and talented students. It was also amazing that we had so many committed participants from the creative field and maritime industry involved in the development process.

Working with different people inspires me. Future perspectives and the design thinking approach is something that I would like to continue with, I would also in the future like to work with co-development projects bringing different fields together for new innovations. Maybe with the help of the Innovationtool.fi web page.”

Päivi Katajamäki
Project expert
Turku University of Applied Sciences

“The versatile expertise of the group members and the way we succeeded in collaborating and proceeding with the Innovationtool.fi step by step made me happy. These kinds of research and development projects are a very good way for a senior lecturer to utilise the expertise and learn new things from the ‘real working life’. That is valuable, and I am happy to continue with other projects – and possibly utilise the Innovationtool.fi in them, and also with my students.”

Elina Vartama
Project expert
Novia University of Applied Sciences

“As the cooperation is the most enjoyable part of R&D work, the tight cooperation with other team members has taught me new areas of interest during the IRM-Tool project. I have learned a lot about innovation theory, design processes and the maritime industry. The innovation processes are interesting and it would be very appealing to participate in such a process.”

Mika Järvenpää
Project manager
Turku University of Applied Sciences
“The most valuable things during this project have been networking, cooperation and curiosity, which create the basis for something new. We need time and resources for these kinds of research and development projects in order to make them even possible. I'm mostly surprised by the fact that the boat industry here in Pietarsaari manufactures boats that are absolutely stunning, and the handicraft is first class. The workshops have been successful also in the sense that one of my students got a job in the boat industry after the workshop. That was a very nice surprise.”

Elina Rebers  
Project expert  
Novia University of Applied Sciences

“The things that I will take with me to future challenges is cooperating, networking and understanding different work cultures. Among other things I learned that in large companies there are different work cultures that you have to keep in mind, but in smaller companies you have to adapt to their work culture. As an educator or facilitator you need to be able to change the level you act according to the audience. In teaching, there is a lot going on, and I will try to work in different fields in the future.”

Tommy Nyman  
Project expert  
Novia University of Applied Sciences

“This has been an interesting project to be involved in, because of the encounters between the maritime industry and the creative field. This was something new and exciting to me. Especially the part of the project, where artists collaborated with maritime companies was something else and it was eye-opening for me and made me learn what a hardcore industry can gain by collaborating with artists.”

Teresa Othman  
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