Playbook

The way we work

SEMCO
maritime

Innovation in Semco Maritime

Innovation and research of the subject has existed for decades. From the fresh notion of innovation management presented by Burns and Stalker in 1961 to the now wide ranging and extensive research and practice conducted in the field, the concept of innovation has become an established, acknowledged, and indeed expected element in academia and business.

The field of innovation has expanded in many different directions. One approach might be defining different kinds of innovation (e.g., product innovation, radical innovation, etc.). Other explorations might include different approaches to establishing and driving innovation (e.g., continuous innovation, user-driven innovation, network innovation, etc.) or defining different roles in innovation (such as champions, power promoters, experts, etc.). Or one might go in the direction of defining different settings in which innovation occurs (for instance different industries, different kinds of organisations, or even different countries, etc.), or, as in this case, going in the direction of defining different levels of newness and novelty of innovations.

As a continuation to the different kinds of innovation, numerous manners and approaches to working with and implementing actual implementation processes and procedures. Design thinking has been adopted widely as a tool for innovation by companies and other organizations. Indeed, design thinking has even been dubbed as "the secret weapon for innovations". For Semco Maritime's Innovation Team, design thinking is defined as a client-centred approach to innovation that draws from a designer's toolkit to integrate the needs of our customers, the possibilities of technology, and the requirements for business success for Semco and the client alike.

What does this mean in practice? Design thinking stands out from standard practice in numerous elements – allow us to share in the table below:

Traditional vs. design thinking	Semco Maritime innovation approach
Analytic thinking vs. intuitive and creative thinking	Engineers are taught to make a decision analytically, but there are times when relying on gut or intuition is most indispensable. Design thinkers need to be able to use analytical tools such as spreadsheets next to creative tools such as visualisation, storytelling and pattern recognition. Semco Maritime Innovation team works with the approach that design thinking is an exploratory approach to problem solving that includes and balances both analytical and creative thought processes. It can be practiced by innovators across industries, and is not limited to the creative industry or to designers by job title or educational background.

Innovation in Semco Maritime

Traditional vs. design thinking

Product push
vs. user empathy

Semco Maritime innovation approach

In the traditional approach to innovation, companies push their technology and products on the customer, convinced that what they developed is the right solution for perceived customer needs. Gradually, the insight has grown that understanding customer needs requires user empathy as well.

For Semco Maritime Innovation, understanding the customer is just a first step in involving users in the innovation process. More and more, consumers and users play a central and very active role in innovation. Involving customers is not just a matter of listening to the voice of the customer, it also includes lead user methods and user co-creation. For that, Semco Maritime Innovation work with a wide range of tools and methodologies for client involvement:

Innovation in Semco Maritime

Traditional vs. design thinking

Closed vs.
open approaches
to innovation

Semco Maritime innovation approach

In 'closed innovation', a company controls its innovation processes by investing in internal R&D and protecting innovations coming out of these investments via intellectual property rights. The closed innovation approach is associated with internal focus, sticking to existing company practices, and may lead to faulty assumptions because of 'tunnel vision'.

Open innovation is about accepting that you cannot do everything inside and making the world your laboratory by bringing in external expertise and insights. Design thinking requires bringing together deep insights about humans and therefore looking at a problem from more than one perspective. It relies on sharing resources and leveraging knowledge to understand problems and develop solutions by looking for ideas among competitors, lead users, academics, suppliers and different industries.

Semco Maritime Innovation team believe in the concept of open and user-driven innovation with a clear understanding that we all need to collaborate on supply networks and that we as partners in such a network are only as strong as our weakest link in the network. As such, we believe in collaboration with and partnerships our clients and vendors alike. We continuously seek to increase and improve our network, and we have a distinct goal to work with both well-established companies, start-ups, entrepreneurs, and both national and international Innovation clusters alike – we strive and prefer to work with market leaders and the most state-of-the-art technologies, rather than the importance of a given organisational brand.

Innovation in Semco Maritime

Traditional vs. design thinking

Linear thinking
vs. non-linear,
iterative processes

Semco Maritime innovation approach

Traditional innovation follows a linear, milestone-based process: from research to development, engineering, design, manufacturing, testing, marketing and distribution. Design thinking organizations are different. 'Rapid prototyping' fits a culture that values exploration and experimentation in a fast-paced environment.

Rapid prototyping is a non-linear, iterative process. Iterative prototyping has been introduced to Semco Maritime to acknowledge that we would never be able to fully predict our customers' reactions to a final product, despite efforts to come to a deep understanding of their needs. It is a process of reengaging with our clients in parallel to development, in order to get feedback and to come to short cycles to improve the product in. With that, our team has experienced that our approach to innovation has proven to increase speed, increase the chance of success of our products/services delivered, and ensured that the highest possible value is gained from the end-users of a given product or service. Concurrent engineering, or 'synchronizing the sequences' has, for Semco Maritime Innovation, proven to be the ultimate balance between linear and iterative thinking.

Traditional vs. design thinking

Short term
vs. long term approach
to innovation

Semco Maritime innovation approach

Semco Maritime Innovation sees design thinking as the cure for the number-one wicked problem cited by corporate leaders: the conflict between long-term goals and short-term demands. Design thinking, as it is integrative thinking, has the potential to restore the balance between the short-term interests of shareholders and the longer-term interest of all stakeholders. In the services industry, balancing short-term and long-term approaches to innovation is particularly important. Service design is increasingly seen as a means for sustainable and digital transformation in the direction of a more sustainable industry, be that Oil&Gas or renewables.

Process

The Semco Maritime Innovation team works in accordance to agile principles,
and strongly believe in the Agile Manifesto:

THE AGILE MANIFESTO

We are uncovering better way of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

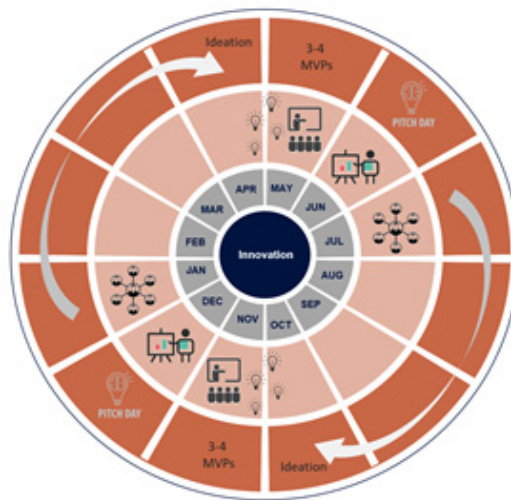**Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Essentially, working agile is the ability to create and respond to change. It is a way of dealing with, adapting to, and ultimately succeeding in, an uncertain and turbulent environment. With an outset in the Agile Manifesto, the Semco Maritime Innovation team follows the 12 agile principles:

1) satisfy the customer through early and continuous delivery of valuable product/services

4) Business people and developers must work together daily throughout the project.

7) Working products /services is the primary measure of progress.

10) Simplicity–the art of maximizing the amount of work not done–is essential.

2) Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

5) Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

8) Agile processes promote sustainable development. The client should be able to maintain a constant pace indefinitely.

11) The best architectures, requirements, and designs emerge from self-organizing teams.

3) Deliver working deliverables frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

6) The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

9) Continuous attention to technical excellence and good design enhances agility.

12) Regularly, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Process

With the agile approach in mind, the Semco Maritime Innovation team has developed an annual wheel, which determines the activities and the expected number of minimum viable products (MVPs) to be delivered to an organisation or project:
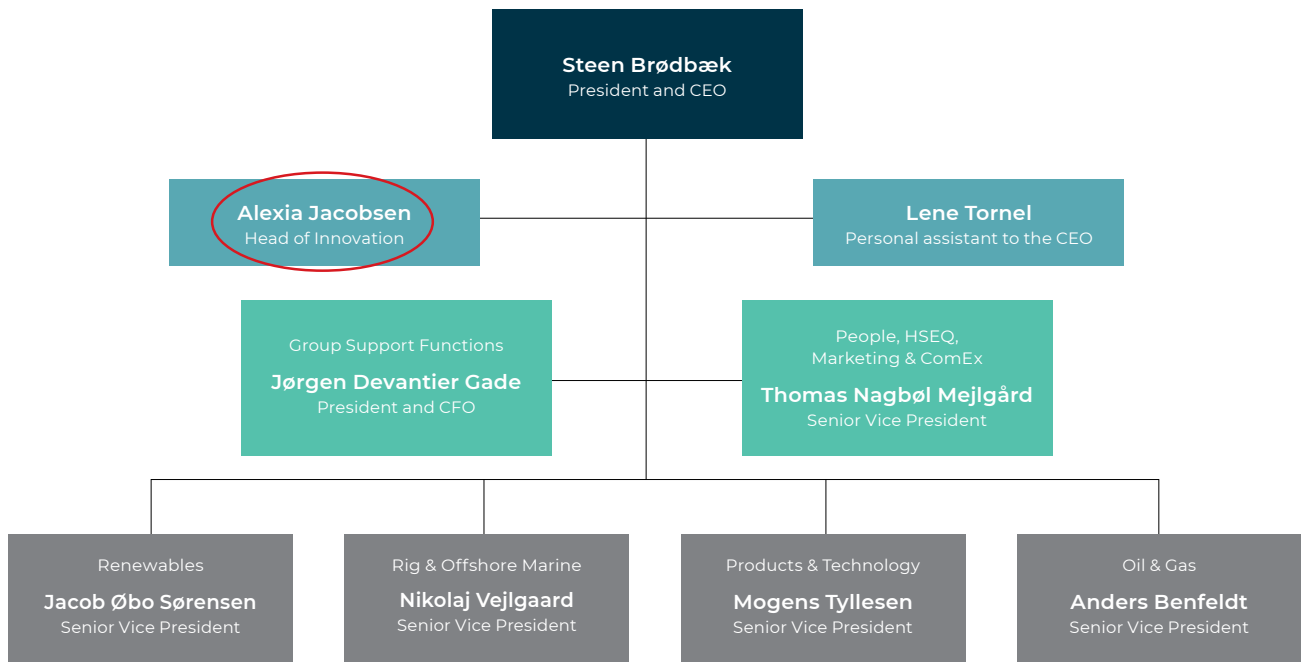
Process

Subsequent to the annual wheel, the projects of which the Semco Maritime Innovation team works with follows an innovation model, which includes a wide range of methodologies:

	Goal	Tools	People	Metrics
Searching inspiration	We have found inspiration that can generate ideas for the innovation process.	· Study trips · Desk research · Brand borrowing · Workshops	Company	Ideas generated
Validating Idea	We have an idea that has potential and is relevant to work on through an innovation process.	· »What if« questions · Scenarios · Inspirational visuals · Braínstorming · Lean canvas	Initiator from division Innovation room contact	Enthusiasm Division ownership
Valiating Problem	We have found a real, important problem that is poorly met by existing alternatives.	· Personas · Problem situation / user problem · Exploratory interviews · Workflows	Problem owner Project owner and project manager cooperate in Innovation room	Qualitative feedback
Validating Solution	We have figured out how to solve the problem in a way that customers will use and pay for.	· Hypothesis* · Value proposition design · Business model canvas* · Mock-up prototyping · User testing · Use cases	Problem owner Project owner and project manager cooperate in Innovation room	As previous, plus sign-ups
Validating Business	We have built the solution, found a way to sell it and implement it at Semco.	· Roadmap* · Minimum viable product* · Experiments and tests*	Ongoing handoff from Innovation room to Division Project owner and project manager cooperate in division	As previous, plus Engagement rate Pre-orders Sales or revenue
Validating Scale	We have found a sustainable way to roll out the solution at scale and grow it.	· Hypothesis · Business Model canvas · Roadmap · Minimum Viable Product · Experiments and tests	Full division ownership or separate organisation	As previous, plus further engagement, revenue and cost metrics to drive scale

Resources

Semco Maritime presents a dedicated team for Innovation and Digitalization who serve as main drivers, leads, and facilitators for innovation, digitalization, and continuous improvement efforts. The team reports to the CEO of Semco Martime, Steen Brødbæk, and as such, Innovation and Digitalization presents a strong foothold and strategic importance to reach the company-wide vision:

Steen Brødbæk
President and CEO

Alexia Jacobsen
Head of Innovation

Lene Tornel
Personal assistant to the CEO

Group Support Functions
Jørgen Devantier Gade
President and CFO

People, HSEQ, Marketing & ComEx
Thomas Nagbøl Mejlgård
Senior Vice President

Renewables
Jacob Øbo Sørensen
Senior Vice President

Rig & Offshore Marine
Nikolaj Vejlgaard
Senior Vice President

Products & Technology
Mogens Tyllesen
Senior Vice President

Oil & Gas
Anders Benfeldt
Senior Vice President

The team consists of the following members with the subsequent credentials:

Alexia Jacobsen
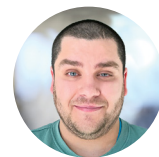Head of Innovation
✉ aja@semcomaritime.com
in Linkedin profile

Bsc. Engineering and Msc. Engineering
PhD. Innovation and Change Management

Martin Eljskov Hansen
Innovation Lead
✉ malh@semcomaritime.com
in Linkedin profile

Bsc. Business administration, business economics, strategy and organization
Msc. Strategy and Organization

Istvan Klapka
Student Assistant
✉ iskl@semcomaritime.com
in Linkedin profile

CAP Cuisine and
Bsc. International Sales & Marketing
Msc. Environment & Rosource Management

Further, we have dedicated Digitalization Lead for the PBS consortium in the GMOC for Total UK Assets.

It is expected that our partnership will include an additional colleague to, similarly to our colleague Paul Dickie, be the main lead and facilitator for innovation, digitalization, and continuous improvement efforts during the project.

Products

Working agile increases speed whilst demanding that the client perceived value of the products and services delivered are of top priority. The Semco Maritime Innovation team continuously strives to be able to deliver valuable products and services on an MVP level every 6 months. All the products are related to one of several Innovation Programs in Semco Maritime, including: