

REVIEWING MARITIME COMPONENT MANUFACTURERS' CIRCULARITY READINESS, Spring 2024

Report and data insights in connection with workshop at LOOP Forum, 2024

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Introduction

In connection with LOOP Forum 2024, the ready2LOOP team carried out a data analysis of the circular economy transition readiness of relevant component manufacturers supplying to the maritime branch. The analysis covered 27 Danish companies from ready2LOOP's database of over 900 companies, selecting relevant ready2LOOP primary sectors and OECD branch (NACE) codes as a first filter in the database, followed by a manual check and selection of the filtered companies, to ensure the 27 identified companies were indeed relevant for the analysis.

As with all companies that use the ready2LOOP platform, the sample was self-selected, meaning that their very presence on the platform is a sign of their decision (and therefore motivation) to understand how to improve their potential to effectively transition part or all of their business to a circular economy modus operandi.

Overall picture of circularity

The 27 companies reviewed display an overall circularity readiness score of 47%, with smaller companies showing an overall greater readiness (55% on average) than large organisations (37%). From the 27 companies reviewed, 94 individual respondents were represented.

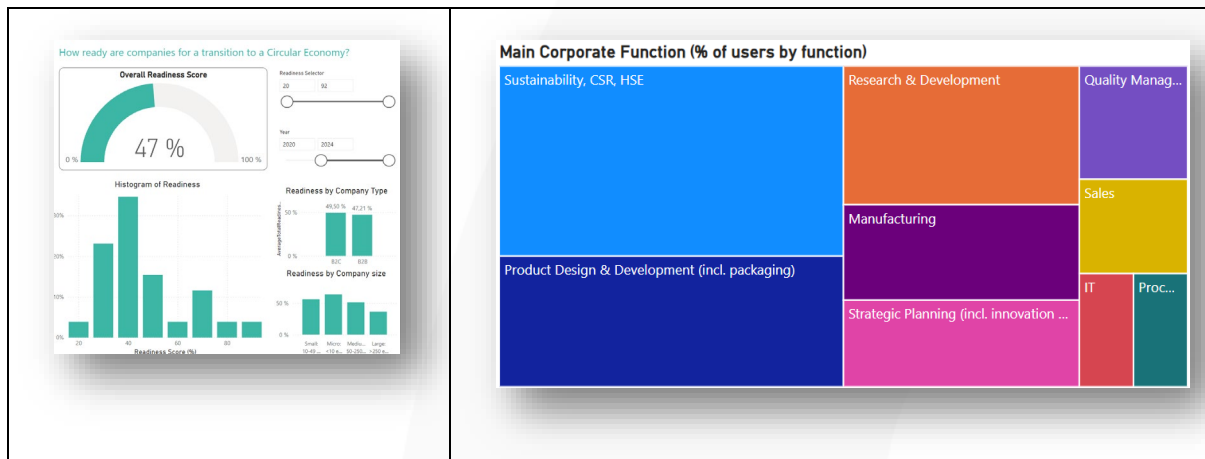


Figure 1 - Overall picture of circularity for Danish maritime component manufacturers + demographics of respondents

Dimension view of strengths and gaps

From the sampled companies, the four primary sectors shown in Figure 2 have the highest readiness to transition to circular economy. As can also be seen from the figure, the dimensions “manufacturing & value chain readiness”; “organisational readiness”, “readiness of product/service-systems” and “readiness in terms of circularity strategy & business model innovation” are the areas where the maritime component manufacturing companies at the forefront are most advanced. On the contrary, the dimensions “takeback & end-of-life-strategies”, “readiness with respect to use, support & maintenance” and “technology & data readiness” are the least well performing, of even the leading companies from the branch. The dimension “policy and market readiness” was not even charted by the participating companies at the forefront of their circularity transition.

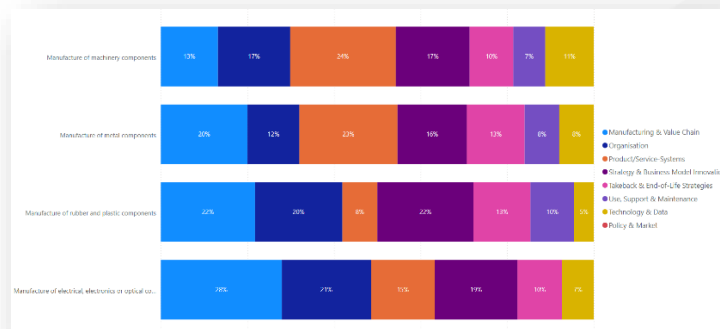


Figure 2 Strongest to weakest circularity dimensions of top-4 primary sectors

Circularity aspects

Going one step close to the companies with respect to their readiness on a specific circularity aspect, Figure 3 shows that value-in-use activities (such as “service support”, “monitoring during use”, “repair services” and “technology for extended use” are the clear priorities for leading companies within this branch sector.

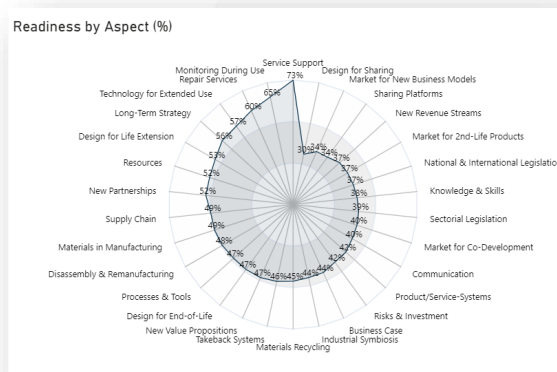


Figure 3 - Overview of circularity aspects and their attention across 27 sample companies

Workshop responses at LOOP Forum

During the LOOP Forum’s workshop “Advancing towards zero emissions – circular economy in the maritime industry”, the ready2LOOP team carried out a small interactive session, “How ready is the Danish Maritime Industry to Transition to a Circular Economy?”, to take the audience’s temperature on the maritime sector’s circularity transitions readiness. Due to timing and audience size constraints, it was decided not to carry out a full readiness assessment, as reported for the branch on the previous pages, but instead to gather qualitative inputs from the delegates, regarding a number of key factors for circularity transition in the maritime branch. The results are displayed in the following.

Key drivers for circularity in the maritime industry

With cost, regulation, responsibility and sustainability in first place, the key drivers for the shift to circular economy were interesting, particularly as this sector was mentioning regulation and responsibility (later ascertained as liability) as top issues for transitioning, which is (i) in contrast to many other branches, which are taking a less regulation-led approach; and (ii) in contrast to the 27 companies’ readiness in the area, where the dimension does not even show up as being an area of any form of readiness.

Also prominent in the word-cloud are economical viability, simplicity and business opportunity/competitiveness.



Figure 4 - Key drivers for circularity in the maritime industry

The potential of circularity aspects to maritime component suppliers' businesses

The broad and all-encompassing definition of circular economy is often difficult to grasp for practitioners, who often equate circularity to recycling at end-of-life. First when exemplifying the expanse of possible strategies for circular economy, such as those displayed in Figure 5, does the true potential of circular economy present itself. The figure shows a prominence of “service support”, “establishment of new value chain partnerships”, “repair services”, and “monitoring during use” as the four clear winners in the survey about new business potential. The remaining four aspects were relatively close behind and should not be discarded.

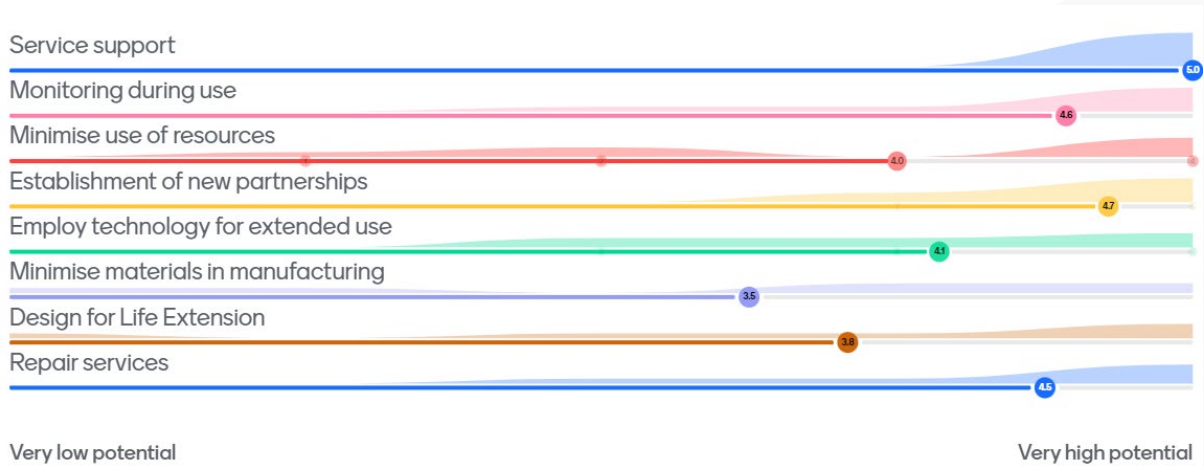


Figure 5 - What is the potential of circular aspects to your business?

The most challenging circularity implementation aspects in the maritime branch

Based on ready2LOOP’s own sample of companies, we presented the delegates with the most prominent barriers and roadblocks for circularity transition in the maritime branch. The ranking of main barriers can be seen in Figure 6; the ranking is not so surprising.



Figure 6 - Most challenging circularity implementation aspects in the Danish maritime branch

Who are the leaders to be inspired by?

Turning to the audience to ask for some examples of the leaders within circularity (broadly understood), the following response revealed some known names, but also some hidden champions.

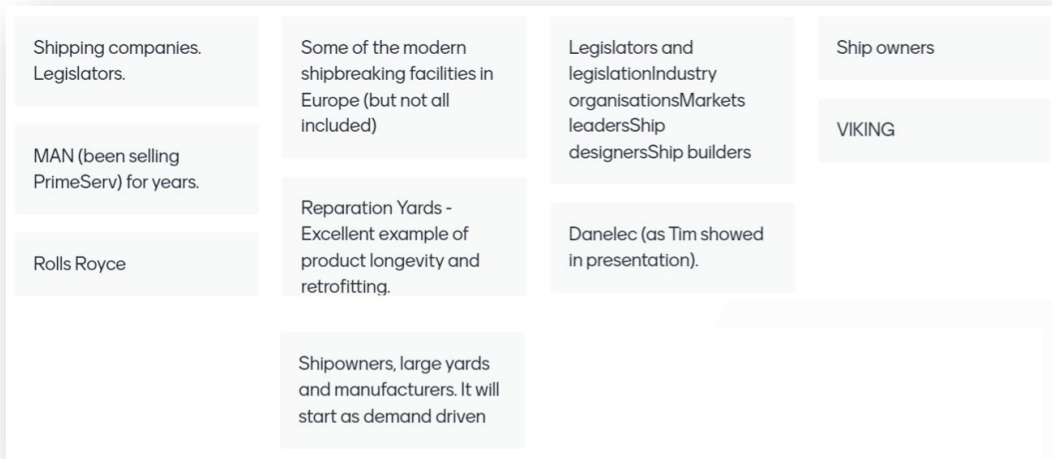


Figure 7 - Leaders of circularity implementation in the maritime industry

How can circularity enhance the competitiveness of the maritime industry?

To the final question of future competitiveness, the respondents had some interesting suggestions as to the “why” of circularity transition.

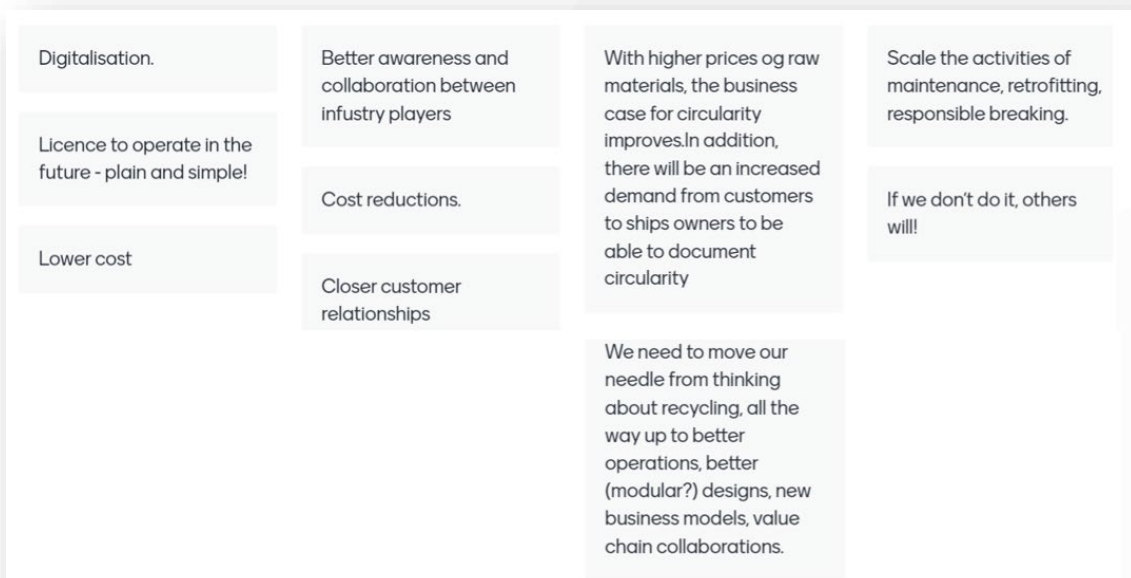


Figure 8 - Competition factors for circularity in the maritime industry

Summary

This short report provides insights into the readiness of Danish maritime component manufacturers to transition to a circular economy. Based on an analysis of 27 companies, the report reveals that smaller companies tend to have higher circularity readiness (55%) compared to larger ones (37%), with an overall readiness score of 47%. The analysis focuses on key sectors and circularity dimensions, such as manufacturing, value chain, and business model innovation. However, the companies showed gaps in areas like technology readiness and end-of-life strategies, with little focus on policy and market readiness.

We also highlight the findings from a workshop at the LOOP Forum 2024, where participants identified key drivers for the circularity transition in the maritime sector. These drivers include cost, regulation, responsibility, and sustainability, with a particular emphasis on regulation, which contrasts with the companies' actual readiness in this area. Additionally, participants noted that economic viability, simplicity, and business opportunities play crucial roles in driving the transition, further underscoring the need for alignment between business goals and circularity strategies.

Finally, we address the potential business benefits of circularity for maritime component suppliers. Leading companies in the sector prioritise value-in-use activities, such as service support and repair services as key strategies for improving circularity. However, significant challenges remain, such as overcoming barriers related to implementation and transitioning to circular business models.

Next steps

Building on the insights gained from the analysis and workshop, several areas for future work and practical next steps emerge for both industry stakeholders and researchers to further advance circularity readiness in the maritime component manufacturing sector.

- 1. Deepening the Assessment of Policy and Market Readiness:** The current analysis highlighted a significant gap in policy and market readiness among the companies studied. Future work could focus on conducting more in-depth assessments of this dimension, identifying the specific regulatory challenges and opportunities that companies face. Engaging with policymakers to align industry needs with regulatory frameworks will be critical in overcoming this gap.
- 2. Developing Technological and Data Capabilities:** Technology and data readiness were identified as weak points in the circularity transition for the branch. Further research could investigate the specific technological barriers and data needs in the maritime sector. Collaborative initiatives between technology providers, academic institutions, and industry could help develop tools and platforms to enhance data integration and support circular strategies, such as product life cycle monitoring, predictive maintenance, and enhanced end-of-life tracking systems.

3. **Scaling Best Practices and Industry Collaboration:** The workshop highlighted a few “hidden champions” and leaders in circularity implementation. Future efforts should focus on creating platforms for these leaders to share their best practices with smaller or less advanced companies. Workshops, case studies, and cross-sector collaborations can help scale successful circularity models and foster an ecosystem where companies learn from each other’s innovations and strategies.
4. **Exploring New Business Models and Value Chain Partnerships:** As many companies are focusing on service support, repair services, and extended value-in-use strategies, there is an opportunity to explore and develop new circular business models. Future work could focus on understanding the potential of these models to generate long-term profitability, as well as the necessary value chain partnerships to support circular economy strategies, including reverse logistics, takeback programmes, and remanufacturing initiatives.
5. **Longitudinal Tracking of Circularity Progress:** Finally, establishing a framework for continuous tracking of circularity progress across the maritime component sector will be essential. Regular reassessment of circularity readiness, coupled with updated benchmarking data, could help companies track their progress over time and adapt their strategies accordingly. Integrating these assessments with actionable feedback mechanisms can foster a more agile and responsive transition towards a circular economy.

In conclusion, whilst this small analysis and connected workshop have shed some light onto the circularity readiness of maritime component manufacturers, there is still much potential to fully capitalise on the opportunities the circular economy initiatives and capabilities. We encourage industry stakeholders to continue exploring these findings and to take actionable steps toward advancing their circularity strategies. As the transition unfolds, the ready2LOOP team is available to support the branch in navigating these challenges and opportunities. Do not hesitate to contact us in the future should further guidance, collaboration, insights and/or tools to be desired, to help drive the transition to circular economy in the maritime branch.

A handwritten signature in blue ink that reads 'Tim C. McAloone'.

Tim C. McAloone
25th September 2024