State-of-the-art sustainable energy efficiency technologies roadmap for waterborne transport towards the fit-for-55 guidance compliance

Project 101192661— FLEETfor55

Executive Summary D9.5 – RP1 Exploitation Plans and IPR

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Acronyms and Abbreviations	Meaning
AiP	Approval in Principle
DSS	Decision Support System
EET	Energy Efficient Technologies
FTO	Freedom-to-Operate
IPR	Intellectual Property Rights
KER	Key Exploitable Result

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Executive Summary

In the framework of the FLEETfor55 project, Deliverable D9.5 presents the updated version of D9.4, the Exploitation Plan and Intellectual Property Rights (IPR) Strategy. The purpose of this deliverable is to provide updates related to the progress of the project, with a particular focus on the Key Exploitable Results (KERs). Deliverable D9.5 represents the second of four exploitation-related deliverables and provides a more in-depth analysis of the market surrounding each KER, specific protection measures, related background and foreground knowledge, as well as a high-level Freedom-to-Operate (FTO) assessment through a targeted questionnaire.

More specifically, the latest developments concern an early version of the first KER, the Decision Support System (DSS), as well as the initial building blocks necessary for the second KER, the validated EET packages, including concept and basic design drawings based on the 11 use cases. Considering these developments, a preliminary market analysis has been conducted, focusing on each KER's market needs, target users, existing alternatives, competing market solutions, and exploitation potential.

A key distinction between the two KERs that shaped the analysis is that they differ in the nature of their outputs, resulting in different exploitation pathways. KER1 is closer to a software-based, product-oriented solution and can therefore be considered a reusable decision-support tool with replication potential across different users and contexts. In contrast, KER2 is better positioned as an engineering asset: a project-derived technical result that can support various stakeholders through replication, adaptation, and further deployment of EETs.

In addition, the market analysis revealed the significant potential of these two KERs and their added value compared to existing maritime market solutions. For the DSS, its added value lies in its potential to be positioned as a flexible and cost-effective solution that meets the growing demand for integrated and structured sustainability assessments of EET combinations. For the validated EET packages, the added value lies in addressing the fragmented nature of current market approaches, by offering a more integrated, comprehensive, and validated solution that can better support technical planning, investment decisions, and implementation.

Last but not least, D9.5 presents a high-level FTO assessment based on the two KERs, helping to identify potential third-party dependencies, ownership issues, licensing restrictions, confidentiality requirements, disclosure risks, and any aspects requiring further review as the project progresses. This assessment was conducted through an FTO questionnaire shared with the partners responsible for the development of the two KERs. For KER1, the questionnaire supports a more focused review of the DSS software, methodology, and algorithms, while for

KER2 it provides an initial screening to preserve future protectability, considering that the EET packages are still at an early stage of development. In future versions of the deliverable, the FTO assessment will be re-evaluated and further refined, with any required updates incorporated accordingly.

Finally, D9.5 discusses in more detail the regulatory and legal framework surrounding each KER. More specifically, the DSS should be designed to reflect the evolving IMO and EU regulatory landscape for vessel decarbonization, incorporating key compliance requirements and lifecycle emissions metrics. Its methodology should remain adaptable to future regulatory developments to ensure long-term relevance and credibility for maritime stakeholders. On the other hand, the validated EET packages should demonstrate alignment with relevant IMO and EU decarbonization, safety, and classification requirements, including energy efficiency, emissions, alternative fuels, and vessel integration standards. Additionally, Approval in Principle (AiP) is important for supporting technical credibility and stakeholder confidence, however, it does not represent full approval for installation or operation. Therefore, further approval, certification, and operational validation will be necessary before implementation on commercial vessels.