

Examine the boarding system for an amphibious electric vehicle

A thorough examination of the boarding system, through co-creation on the smaller amphibious vehicle NEWT. Through the design process, the boarding resulted in one solution on land and one in water. The study found that easy access and space optimisation was mainly requested.

This project is derived from a project started by the Institution Aeronautical & Vehicle Engineering at Kungliga Tekniska Högskolan on behalf of Ivan Stenius. The purpose was to examine the boarding of the existing amphibious vehicle called NEWT and how to optimize it.

The traditional use of fossil fueled vehicles increases the critical carbon dioxide emissions into our atmosphere. The population is constantly increasing and the need of transportation forms an unsustainable society. Through an electric driven amphibious vehicle, which can transport the user protected in a cabin on both land and water, new possibilities are created.

The main methodology used for this project was a combination of two Design Process Models by ResearchGate and SVID. With support from literature studies, field studies, user studies, prototyping and idea generations, the research question "How to optimize the boarding of the amphibious vehicle NEWT, through Co-creation?" could be answered. The user studies and prototyping was performed in three iterative loops, to gather holistic insights. The result of this project is a compilation of insights from the study of how to optimize the boarding. The side is used as the boarding on land and the rear is used as the boarding in water. A conceptual proposal of the final design was presented based on the results, through a vertically rotating door at the side and a foldable sliding door at the rear.

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First loop - Field Studies



Second loop - Co-Creation



Third loop - Proposed concept



Commissioner - The Institution Aeronautical & Vehicle Engineering at Kungliga Tekniska Högskolan

Authored by - Martin Enström & Lukas Hedenstedt

Contact information

Martin-engstrom@hotmail.com
Lukas.hedenstedt@gmail.com