

EENX15-21-29 Electrical waterjet board with possible foiling feature



Background

Today there is a line-up of variants of electrical waterjet boards with or without a foiling feature. Most of the line-up is really expensive and has a limited effect and battery life.

The product that we would like to focus on should fit different type of users for an example “the whole family”. If it is possible a scalable product, build in modules with a nice robust design. The goal is also to have a cheaper product than the products that’s already on the market. It shall be easy to transport. A possible feature should be that the board could act as a lifesaver.

Other desirable features are: Log, GPS, automatic stabilizer, smartphone connectivity and autonomous drive.

Goal is to manufacture, build a prototype to test during spring 2021.

The market today and our competitors:

<https://awakeboards.com/ravik-s>

<https://www.radinn.com>

<https://www.silent-yachts.com/lift-foil-category/>

<https://eu.fliteboard.com/>

The technology and materials that the competitors use today:

- Carbon fiber
- Power, batteries and performance
- Electrical safety, smart functions and quality
- Automotive-classified driveline
- Foiling technics
- Marine-classified quality of functional safety and service life
- Log function on performance and use
- Online communication & support

Problem description

The challenge is to find a way to produce the product cheaper with better performance and quality than the competitors today. The product that we would like to focus on should fit different type of users for an example “the whole family”. It should be a scalable product, build in modules with a nice robust design. It shall be easy to transport. Another feature should be that the board could act as a lifesaver. Other desirable features are: Log, GPS, automatic stabilizer, smartphone connectivity (its own application) and autonomous drive.

Suitable background: TKAUT, TKELT, TKMAS, TKDES

Group size: 3 to 6 students

Number of groups: 1–2

Prerequisites: Basics of Automatic Control, Mechatronic Systems, Programming

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