

Team name / University

May 10, 2023

NOTE:

The report should be no longer than 5000 words. If you feel some sections need a more detailed description of advanced concepts, you may add them in an appendix, and refer to them in the main report.

1 Introduction

Your report should start with an introduction. The introduction should include, but is not limited to:

- A brief introduction to your team and university. You can include things such as your mission and purpose.
- Your motivation for participating in the NJORD-Autonomus ship challenge 2023.
- If any: the teams previous endeavours and projects.
- Brief summary of technologies and methods used to "solve" the challenges in the NJORD-Autonomus ship challenge 2023.

2 Vessel design

2.1 Hull design

Should include the following:

- Outline of design-process, iterations, choices influencing the design.
- Reflections around stability and hydrodynamics

2.2 Propulsion

Should include the following:

- Choices made regarding the propulsion system.
- Mode of propulsion.
- Azimuth / Rudder / Multiple propellers
- Output power
- Other specs you wish to include

2.3 Batteries

Should include:

- General battery specs.
- Some reflection regarding dimensions and weight versus power battery capacity

2.4 Sensors

Should include:

- Overview of sensors used.
- Brief discussion about why they are used.

2.5 Hardware implementation

Should include:

- Circuit diagram of all hardware components.

3 Software

3.1 Software Design

Should include:

- Languages used.
- Brief description of algorithms and data-structures used.

3.2 Architecture

Should include:

- Labeled diagram describing interaction between software modules.
- Comments and discussion regarding diagram.

3.3 Implementation

Should include:

- Brief description of how different modules are implemented.
- Brief discussion regarding challenges faced during implementation.
- Brief outline of measures taken to overcome challenges.

4 Digital competition

NOTE:

Teams competing in the physical competition may skip this section.

4.1 Description of methods used in digital competition

5 Testing

5.1 Vessel testing

Should include:

- Any additional testing done to the vessel itself, not mentioned in section 2.

5.2 Hardware testing

Should include:

- Outline of testing process for individual hardware components.
- Outline of testing process for the overall hardware system.

5.3 Software testing

Should include:

- Outline of testing process for individual software modules.
- Outline of testing process for the overall software system.

5.4 Integrated testing

Should include:

- Outline of testing and preparation of the final vessel.
- Test scenarios, challenges, etc.

6 Good luck!

References

A Vessel

A.1 In depth explanation of vessel-parts

B Hardware

B.1 In depth explanation of hardware-components

C Software

C.1 In depth explanation of software-modules

D Testing

D.1 In depth explanation of testing