



Bachelor thesis

Theory, Scientific writing, Publication

Requirements and challenges for safe remote-controlled and autonomous waterway systems: Analysis and scientific processing of existing research results

Keywords: Autonomous inland navigation, Safety and reliability

Conditions

Duration:	3 Months
Requirements:	Experience of literature research, scientific writing
Language:	English
Target groups:	Bachelor students

Content:

The development of technologies for remote-controlled and autonomous operations in inland navigation has the potential to fundamentally change navigation on our waterways. These innovations promise not only to increase efficiency and safety, but also to make shipping more environmentally friendly and economical. Against the background of challenges such as a shortage of skilled workers and increasing transport volumes, this technology opens up exciting prospects for the future of shipping.

In this context, the Bachelor's thesis offers the opportunity to take an in-depth look at the requirements and necessary measures for safe, autonomous and remote-controlled navigation and to analyze and document these in the form of a scientific paper on which you will be listed as co-author, which is a valuable experience in the academic environment. This offers you the unique opportunity to learn high-level scientific work and deepen your knowledge in a highly topical and practice-relevant field.

The aim of this bachelor thesis is to analyze and bring together existing research results on the topic "Automation approaches making new generations of inland vessels safe: What is (really) needed for safe remote and autonomous operation of ships?". The aim of the thesis is to create a scientific paper based on existing results and a manuscript and make it ready for publication. The steps in detail are:

- Research on the current state of the art and systematic processing of existing studies in the field of automation of inland waterway and maritime vessels, with a special focus on safety aspects (0,5 month).
- Analyzing an existing manuscript and identifying areas that need to be improved or updated (1 month).
- Revision of the existing manuscript according to the standards and requirements until it is publication-ready and preparation for submission to a scientific journal (1,5 months).
- Documentation and presentation of the results.

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