

Market Analysis and Economic Viability Study for Modular Construction Robots



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MARKET ANALYSIS



Description

Aiina Robotics develops modular robots for the construction industry, initially used for concrete renovation. The goal of this master's thesis is to analyze and evaluate the market potential for additional applications such as drilling, painting, etc. The focus will be on customer value, economic profitability, and technical feasibility.

Objective of the Thesis

To create a market analysis and potential calculation for the use of modular robots from Aiina Robotics in new construction tasks. The thesis should focus on customer value analysis, economic viability, and technical feasibility.

Research Focus Areas

- **Customer Value Analysis:** Analyze which additional construction tasks (e.g., drilling, painting) offer the greatest customer value when automated with modular robots.; Investigate customer demand and the specific needs of construction companies in these areas.

SUPERVISOR

Prof. Dr.-Ing. Matthias Althoff

ADVISOR

Dr. Lena-Marie Pätzmann

TYPE

Master's thesis

LANGUAGE

English, German

CONTACT

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REQUIREMENTS

Latest starting date: 1st July 25
Business Informatics, Business Administration or related background

- **Economic Viability Analysis:** Calculate the economic profitability of robot deployment in additional tasks.; Analyze cost savings through the use of robots compared to human labor and specialized machinery (including robot production, maintenance costs, and ROI).; Market calculation (TAM, SAM, SOM)
- **Technical Feasibility Assessment:** Assess the technical feasibility of deploying modular robots for various tasks.; Investigate the complexity of modularity and the required sensor technologies for performing different tasks (e.g., precision drilling, surface treatment for painting).

Methodology

- **Secondary Research:** Analyze market reports, industry data, and scientific articles
- **Primary Research:** Interviews with industry experts and customers, and surveys with potential customers to identify demand and preferences.

What we offer

- Intensive support in researching the potential markets.
- An innovative start-up environment with hands-on experience in robotics.

Your Profile

- Interest / experience in market analysis, robotics, and the construction industry.
- Strong analytical skills and interest in economic calculations.
- Good proficiency in English, as the thesis will be written in English.
- Ability to work independently and proactively.

Application

If you are ready to take on this challenging and rewarding project, please apply with:

- Your CV.
- Your academic transcripts.
- A proposed timeline for the thesis.
- A motivation letter (max. 300 words) explaining your interest and skills in this thesis topic.