Development of a Scale Model Autonomous Cargo Vessel based on an Open Source Software Framework

Thesis Background

Automation can replace hard, monotonous work in a challenging or hazardous environment while increasing productivity or quality. Unmanned vessels use sensors & AI to observe the environment without any crew; potentially lowering costs and improving safety. In this thesis a scale model of an autonomous cargo vessel will be developed. The basis of the automation package will be an open source software. OpenDLV is an open software framework intended to run in autonomous self-driving vehicles and it is vehicle type independent.

Thesis scope of work

- Build a scale model platform based on a base platform that was previously developed for a different application. 3D printers are available for this project.
- Modify the open source automation platform (OpenDLV) for the specified application, in collaboration with Chalmers Revere Lab
- Test and verify it in a physical field
- Demo of the system

Qualifications & Required Documents

- Two students with a background in mechatronics, signal and systems, automotive engineering or similar
- Knowledge of automation, optimization and verification
- Programming, Matlab, Simulink

Please send your application including CV, Cover Letter, and Transcript of grades.
Practical information

Thesis Level: Master (30 ECTS points)
Language: English
Starting date: January 2019
Number of students: 2 students
Last application date: December 1st, 2018
Examiner proposal:

Contact
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Entity: AB Volvo Penta
State / Province: Västra Götaland
City/Town: Göteborg
Employment/Assignment Type: Thesis
Functional Area: Technology