



MSc Thesis “Smart Shaft using energy harvesting”

About the project

The Vinnova project within the program Challenge-driven innovation - Stage 2 ‘Miniaturized self-powered industrial sensor systems using energy harvesting technologies-Energy Supply Toolkit’ focuses on the development of energy-saving solutions by harvesting energy from the environment, which is the most promising technology for smart self-supporting sensor systems for digitizing modern industry.

Specifically, for this Master work, the focus is to further develop theoretically and experimentally a very first prototype piezoelectric energy harvester using rotation and vibration-displacement for ‘intelligent shaft’ application.

The tasks and acquired knowledge are:

- Literature survey for piezoelectric energy harvester (EH) using vibration-displacement for ‘intelligent shaft’ application;
- Learn theory about piezoelectric EH as well as COMSOL and Matlab for simulation and modelling of EH and electric circuit;
- Development of ‘shaft’ EH by build a setup for measurements and test the ‘shaft’ EH in lab;
- Correlation between experiments and simulation;
- Learn to work with individual tasks and team assignments;
- Learn to take initiatives;
- Get experience in communication: written (report) and verbally (presentation);
- Deliver work on time.

Retribution

18 000 SEK will be paid at project completion.

Start time: September -October 2019 (6 months)

Placement: RISE, Gothenburg

Contact:

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About RISE

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