Development and optimization of an external handheld RPM-meter for motor vehicles

Project Overview:
We are offering a unique opportunity for a driven and technically-minded student to participate in an exciting thesis project. The project involves testing, evaluating, improving, and finalizing an external handheld RPM meter for motor vehicles. The focus will be on collecting and analyzing measurement data in the form of sound and vibrations from engines with varying numbers of cylinders. The goal is to replace an existing solution and have the new RPM-meter sold to customers worldwide.

Responsibilities:
- Conduct field tests with the handheld RPM meter on engines with different cylinder counts.
- Collect data on engine sound and vibrations under various operating conditions.
- Analyze collected data to assess and improve the meter’s accuracy and reliability.
- Perform statistical data analysis to understand the relationships between the engines’ acoustic and vibrational characteristics and their RPM.
- Develop and implement improvements in the meter’s hardware and software based on the analysis results.
- Collaborate with company engineer and supervisor to discuss progress and challenges.

Qualifications:
- Advanced level student in electrical engineering, mechatronics or a related technical field.
- Basic knowledge of signal processing and data analysis.
- Ability to work independently and in a team.
- Good skills in programming and hardware design are advantageous.
- Interest in vehicle dynamics and acoustics.

Offer:
- Could be performed by one or a team of two students.
- Opportunity to work on a real-world application and contribute to technical innovation in the automotive industry.
- Access to testing equipment and resources.
- Possibility to work from the company office in Bilddal (Gothenburg)
- Potential for employment or further collaborations depending on the project’s outcome and performance.

Application:

Please send your application including a CV and a personal letter describing why you are suitable for this project. Also, include relevant coursework and project work you have completed.

About Us

EnviroClean Sweden AB develops, manufactures, and sells exhaust gas analysis instruments to the global market for automotive workshops and vehicle inspection stations. EnviroClean has office and assembly facilities in Bilddal (Gothenburg, Sweden), as well as subsidiaries in Germany and China. In China the company has a factory for component production. The company is 100 % owned by Sustainion Group AB.

Sustainion Group AB is an industrial conglomerate that invests in companies with sustainable technologies operating in future-oriented industries with underlying growth. The operations are conducted through four subsidiaries: EHC Teknik AB, EnviroClean Sweden AB, Elpro i Alingsås AB, and EWF Eco AB. The company’s stock is listed on the Spotlight Stock Market under the ticker symbol (SUSG) and is traded through banks and brokers.

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