

Project Proposal Information

Date	Our reference	Your reference	M&CS/PDEng Automotive Systems Design
March 30, 2022	-	-	T +31 (0)40 247 3908 asd@tue.nl www.tue.nl/msd

1 Introduction

The Professional Doctorate in Engineering (PDEng) degree education on Mechatronic Systems Design (MSD) is provided as track of the program Automotive Systems Design by the Department of Mathematics and Computer Science of Eindhoven University of Technology. This is one of twenty programs which are part of the 4TU.School for Technological Design, Stan Ackermans Institute. The ASD program, including the track of MSD, is accredited by the CCTO (Certificatie Commissie voor Opleidingen tot Technologisch Ontwerper). The program quality is monitored by the Doctorate Board of Eindhoven University of Technology.

The track of MSD is a 2-year post-graduate (post-MSc) education and training program that puts a strong emphasis on Systems Thinking and skills for managing a mechatronic design project. The program is executed in close cooperation with the Departments of Mechanical Engineering and Electrical Engineering, and supported by the High Tech Systems Centre (team of Eindhoven Artificial Intelligence Systems Institute).

As part of their education and training program, our trainees have to participate in an industrial design and development project for a period of one year during the second year of the program. Such a project is a fixed-date, fixed-price project. In order to support a high-quality design process and product, this brief memo defines a number of general rules and guidelines for such projects. When you are interested in contracting an industrial design and development project to the MSD program, please, read the further information in this memo.

Interested? You are very welcome to contact Ton Peijnenburg or Jan-Jaap Koning (see below).

2 Project Contact Information

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3 Proposal Requirements

We are looking for design projects posing a serious challenge to a graduated Master in Mechatronics or related studies. Typically, these projects are part of the R&D roadmap of the company, or part of a product development, such as a demo or prototype. Preferably, the project offers the opportunity to include steps like requirements engineering, specification, architecting, design, implementation, and testing.

As the trainee is expected to learn to act in a professional environment, it is good that the project is part of a team effort, and at the same time the trainee should have his or her own responsibility as a design engineer. The company is expected to provide sufficient support to our trainee, and to appoint a mentor. As a rule of thumb, the company mentor should be able and willing to spend at least 2 hours per week with the trainee.

The trainee is on the payroll of the TU/e during the full two years of the PDEng program. The company is asked to contribute a fee for funding the project. This fee includes the participation of TU/e senior staff members as a project supervisor, the project IP, and possibly use of licenses for software and lab facilities. For the 2022-2023 projects the company contribution amounts to € 6100,- excl. VAT per month, though reductions can be discussed like by applying for subsidies, e.g.:

- for industrial high-tech projects (HTSM TKI, via TU/e, just contact above);
- for the use of new materials (<https://www.m2i.nl>, just contact above);
- on the road map of the Dutch government (<https://www.rvo.nl/subsidie-en-financieringswijzer>);
- as part of an EU project (https://europa.eu/european-union/about-eu/funding-grants_en);
- etc.

Proposals for the project period of November 1st 2022 to October 31st 2023 should be made known as soon as is possible. The sooner, the more choice you will have between trainees, and as such a higher chance on a good fit between the project, company and trainee.

4 Matching Procedure

After receiving the project proposal or explanation of the project, you will receive CV's of the PDEng trainees of whom their background and experiences fit with the field of research of the project proposal. From the CV's you can make a selection who you would like to interview. Interviews will be organised for you via asd@tue.nl.

When both the trainee and the company agree, a contract agreement will be completed for signature. When the contract is being made, we will not propose the selected trainee to other companies. In case the signing of the contract by the company takes too long, we will inform you before we will propose this candidate for other projects.

5 Project Roles and Responsibilities

5.1 Industrial Partner

During the project, the following is expected from the industrial partner:

- Before or at the start of the project, provide a project manager to monitor and control the progress and quality of the design and development process and the resulting products.
- Before or at the start of the project, provide a project mentor who has sufficient domain knowledge and skills to support the trainee during his/her final project, and is available for approximately 2 hours per week.
- The project manager and the project mentor participate in the various activities and meetings, and support the integration of the trainee in a project team and/or in the company.
- The project manager and/or the project mentor participate in two intermediate evaluation meetings, and in the final project evaluation meeting (graduation).

- Provide the necessary facilities including an appropriate working environment with all necessary hardware, software, and literature. Trainees do have their TU/e laptops with software available.
- The project manager and/or the project mentor will be invited to address their trainee during the graduation ceremony.

5.2 Eindhoven University of Technology

The TU/e provides an academic supervisor who has the following responsibilities:

- Monitor and control the quality and progress of the project and the resulting products.
- Provide regular feedback to the Program Manager of the Automotive Systems Design program on the status of the project and on the quality of the work of the respective trainee.
- Support the trainee with (references to) relevant domain knowledge and relevant colleagues.
- Participate in the various project-related activities and meetings.
- Review the project report with respect to the technical and academic contents.
- Assess the results of the project as described below.
- Participate in the intermediate evaluation meetings and the final project evaluation meeting (graduation).

5.3 MSD Trainee

The following is expected from the trainee:

- Show a professional and goal directed attitude.
- Proactively execute project and risk management.
- Compose and maintain their Project Management Document, including a risk management section.
- Initiate and manage the required project meetings, progress meetings, and evaluation meetings.
- Regularly reflect upon the quality and the progress of their project.
- Submit the documents that are necessary for the various project-related meetings in time, in order to allow their supervisors to read them carefully.
- Arrange the various project-related presentations in time.
- Write a project report conforming to the rules of the university and the industrial partner.
- Arrange that the texts for the diploma booklets are reviewed and approved by the respective project manager or the project mentor(s) and the academic supervisor. The approved versions should then be sent to the operational manager for a final review.
- Deliver a project report that was accepted by the project manager, the project mentors and the academic supervisor at least one week before the final presentation.

6 Assessment of Project Results (Graduation)

The results of the industrial design and development project executed by an ASD trainee are to be assessed by the graduation committee, consisting of the academic and company supervisors, one or two external advisors and/or the scientific director. This will be arranged by the program management, however you will be involved in the formation of the graduation committee. The graduation exam normally takes place in the last month of the project.

7 Formal Employment Status

During an industrial design and development project, the trainee remains an employee of the Eindhoven University of Technology. During the project the trainee can use 30 leave days, exclusive of a week Christmas break, and exclusive of the national holidays as applied by the company. During the project trainees will be looking for a job to start after their graduation, for which they need to use their leave days. For the use of leave days he/she needs the permission of the company project manager, company mentor, TU/e supervisor and the program manager.

8 Scientific Director

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9 Program Management

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