EngD Program Automotive/Mechatronic Systems Design Information Final Projects November 2024 – October 2025



Project Proposal Information for Industry

Date February 9, 2024 Our reference

Your reference

M&CS/EngD/ASD

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1 Introduction

The EngD Automotive Systems Design (ASD), existing since 2011, is an accredited and challenging two-year doctorate-level engineering degree program. Since 2015 the sub-track Mechatronic Systems Design (MSD) is part of this program. During these programs trainees focus on strengthening their technical and non-technical competencies related to the effective and efficient design and development of technologies and applications for high tech automotive and mechatronic systems. In particular, there is a focus on the multidisciplinary design aspects of project-based research and engineering.

The EngD-program Automotive/Mechatronic Systems Design is embedded in the department Mathematics and Computer Science, and supported by the departments Mechanical Engineering, Electrical Engineering, and Applied Physics. The program is also supported by the High Tech Systems Center. For more information please visit <u>www.tue.nl/asd</u> and/or <u>www.tue.nl/msd</u>.

During the first year the trainees get courses in systems thinking, various technical courses, and professional skills (also project management). In addition, the trainees will in teams perform assignments for industry. <u>During the second year each of the trainees will perform an individual assignment, preferably in industry, in which they will develop a (sub)system design with a demo or prototype. And for that, we'd like to get into contact with you.</u>

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 ASD/MSD program, please, read the further information in this memo.

2 Contact Persons

Interested? Please, do not hesitate to contact one of the persons below.

Projects Automotive Systems Design	Projects Mechatronic System Design
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3 Proposal Requirements

We are looking for design projects posing a serious challenge to a graduated Master in Automotive Technology, Mechatronics, or related studies. Typically, these projects are part of the R&D roadmap of the company, or part of the timeline of a product development, such as for providing 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 EngD 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 2023-2024 projects the company contribution amounts to € 6.200,- excl. VAT per month, though reductions can be discussed like by applying for subsidies, e.g.:

- for industrial high-tech projects (PPS, via TU/e, just contact above);
- topics that include research of materials or use of new materials (M2i, 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.

4 Matching Procedure

After receiving the project proposal, you will receive two or more CV's of the EngD trainees of whom their background and experience fits with 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, and will take place in June and September 2023, on the so called matching days. Earlier interviews are possible.

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

Important project dates	
Matching days, period 1: June, 2024	
Matching days, period 2: September, 2024	
Project start: October 30 - November 1, 2024	
Project end: October 29, 2025	
Graduation Symposium: October 29, 2025	

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 ASD/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 (Exam)

The results of the industrial design and development project executed by an ASD or MSD trainee are to be assessed by the exam 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 exam committee. The 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

Ir. Riske Meijer

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