DESIGN FOR our future

TU Delft

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy".
Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name: Schols
initials: R T given name: Ruben
student number: [redacted]
street & no.: [redacted]
zipcode & city: [redacted]
country: [redacted]
phone: [redacted]
email: [redacted]

Your master programme (only select the options that apply to you):

IDE master(s): ★ IPD ○ DfI ○ SPD
2nd non-IDE master:
individual programme: - - (give date of approval)
honours programme: ○ Honours Programme Master
specialisation / annotation: ○ Medisign
○ Tech. in Sustainable Design
○ Entrepeneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair: Elmer van Grondelle dept. / section: IDE
** mentor: Susie Brand-de Groot dept. / section: IDE
2nd mentor: Jan Fischer
organisation: Mercedes-Benz, Daimler AG
city: Sindelfingen country: Germany

comments (optional)

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..

Second mentor only applies in case the assignment is hosted by an external organisation.

Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

Procedural Checks - IDE Master Graduation

TU Delft

APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair Elmer van Grondelle date - - signature

CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: _____ EC

Of which, taking the conditional requirements into account, can be part of the exam programme _____ EC

List of electives obtained before the third semester without approval of the BoE

YES all 1st year master courses passed

NO missing 1st year master courses are:

name date - - signature

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: APPROVED NOT APPROVED

Procedure: APPROVED NOT APPROVED

comments

name date - - signature

Initials & Name R T Schols Student number 4473728

Title of Project Researching sustainable interior design for a new way of driving for MB

Designing sustainable interior solutions for a new way of driving for MB

project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 28 - 09 - 2021 07 - 03 - 2022 end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Currently we are in the middle of a shifting mobility paradigm. With increasing numbers of electric cars and the introduction of new technologies that enable for autonomous driving (on more and more sophisticated levels), automobile companies are constantly pushing, developing and presenting ideas for this new paradigm.

New driving possibilities result in interesting design opportunities. Therefore, we must first understand this new way of driving and how (we should want) people (to) spend their time in vehicles that can operate on an autonomous level 3 or higher. Subsequently, the way we arrange and use our cars is likely to drastically change. Together with the ever increasing demand for more sustainable and durable design in the whole field of mobility, there is an equal demand for creative solutions. New arrangements and philosophies to possibly maintain, refurbish and/or update parts of our car to, in the end also, reduce the CO2 footprint, will allow us to sketch a future vision, design guidelines and to present new ideas.

With luxury and customer centeredness as Mercedes-Benz's main focus points, the company is looking for innovative interior design for their new electric car packages/platforms. Furthermore, they state the aim to: take less from the environment whilst giving more to the customer.

Such ambitions can already be seen through ambitious projects such as the movie inspired AVTR Mission ('limit what we take - replenish what we use) and the new all electric EQS, as well as its new factory, 'factory 56', in Sindelfingen which operates CO2 neutrally. Mercedes clearly puts effort into its commitment to push the development of sustainable revolutionary car design and communicates its desire for acquiring a proactive leading position in this industry.

Taking less from the environment (in this case; by measuring the carbon footprint (over time)) is extremely broad in our design context. It is requested that we consider a broad spectrum of design opportunities. Within a sustainibility framework we need to research what we must create in which manner to facilitate new ways of driving, specifically tailored to Mercedes-Benz' customers and market.

For this project, we can identify a number of different stakeholders. The first one is Mercedes-Benz and the Daimler group as a whole. We have to consider the company, it's sales department, branding and development and a producing party. With this first stakeholder we obviously introduce a second one; the customers and users as well as the context these customers operate in. Furthermore we can consider the whole mobility research and development sector, but an extra plus would be to find design guidelines or philosophies applicable for a broader spectrum of design. We also have the TU-Delft and its kennisbank as a stakeholder and finally, myself.

space available for images / figures on next page

introduction (continued): space for images

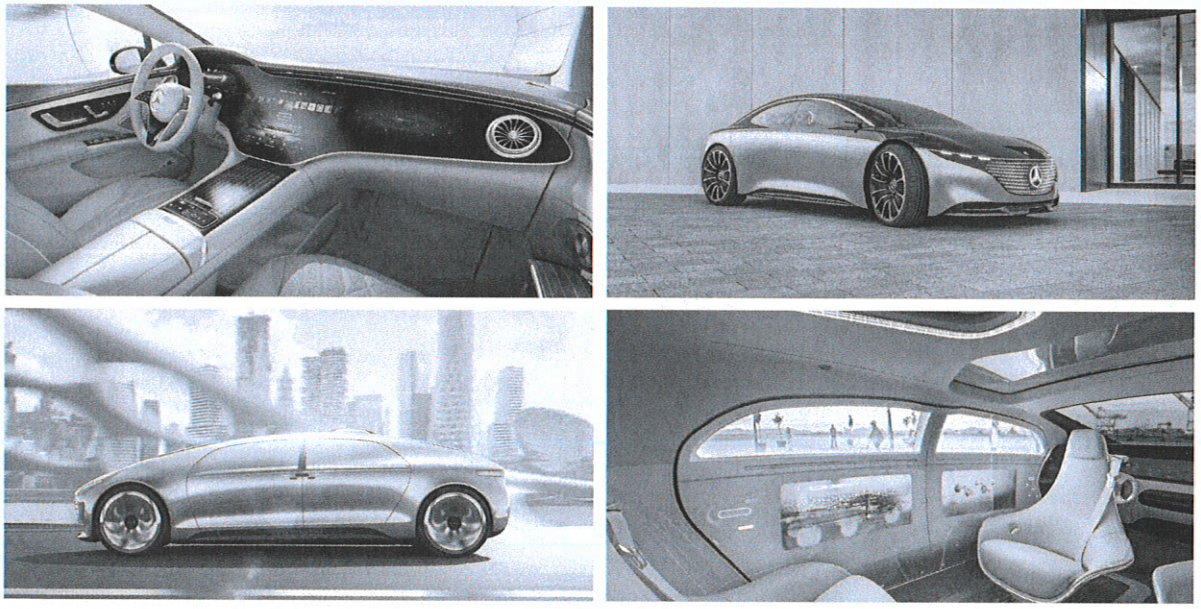


image / figure 1: Mercedes Vision EQS Concept and F-Class Concept; ideas for a new way of driving

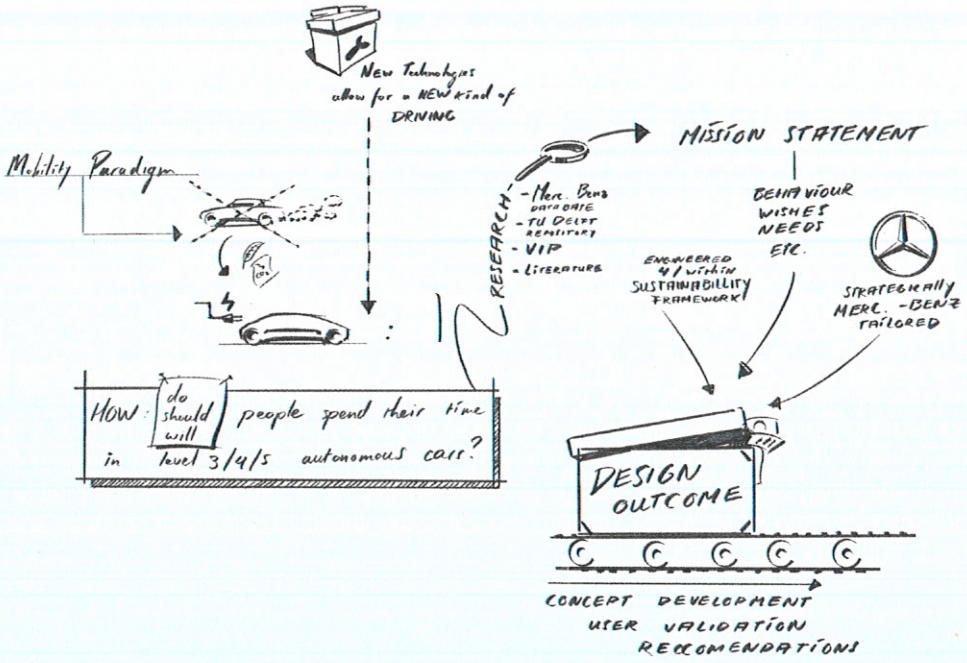


image / figure 2: Rough Graduation Project Layout

Initials & Name R T Schols Student number 4473728

Title of Project Researching sustainable interior design for a new way of driving for MB

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

Cars are increasing in complexity, and with the car becoming more and more of a living/working space (from place to ride in to place to reside in), the question of how we want to spend our time in them and what the car should provide is very topical. Next to this there is the ever pressing urge to design for greener and more sustainable mobility, also for luxury brand Mercedes-Benz. So, with a new way of driving comes a new way of cabin arrangement, and considering Mercedes earlier stated main goals, we are obliged to look into new directions regarding design, production, distribution, maintenance and the recycling of cars.

The core challenge is to find out what the user truly wants and needs in a future proof level 3-5 autonomous car interior. Then we can aim to find creative solutions in engineering, service arrangement and production (repair, update, refurbish) layout, whilst suggesting the optimal user experience Mercedes-Benz strives for within the earlier mentioned sustainability framework.

Findings must result in a future vision and appropriate design guidelines. In the second part of the project, the aim is to find and work out tangible design solutions.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

This assignment shall consist of a research part and a design part. In the research part we shall consider a worldwide context and domain in which we (amongst others) implement the Vision In Design Method (VIP) to research the shifting definition of the car and how it is (should be) used. This key behaviour/interaction// mission statement will be leading in further generating and development of the idea.

Furthermore, we can research and give an indication of the necessary components for a durable and future-proof interior package (service/system/layout) that is fitting for the brand Mercedes/the Mercedes customer.
In the design part we can take these findings and create sustainable tangible design solutions. These solutions shall be communicated through sketches, and (virtual) impressions.

Furthermore the aim is to deliver a complete project, from research to design impressions and a (virtual) prototype. The main limitations in this project will be the complexity and its scale, and during the project, important decisions and choices will have to be made in order to achieve a valuable and complete end result.

Initials & Name R T Schols Student number 4473728

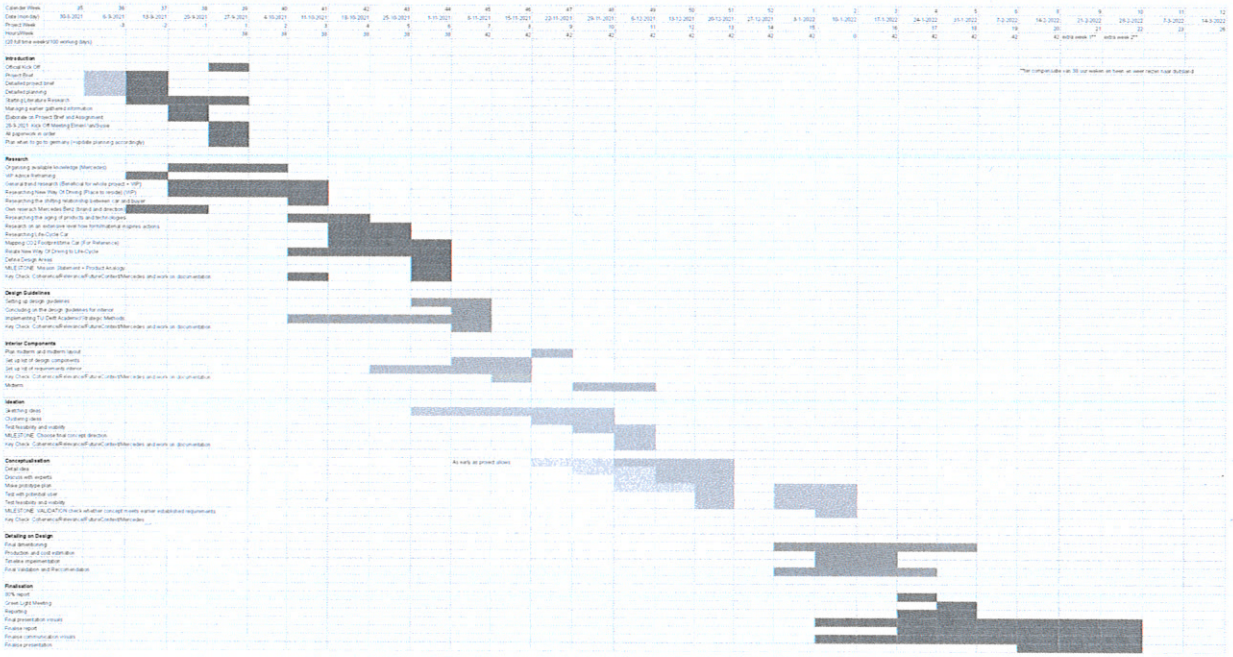
Title of Project Researching sustainable interior design for a new way of driving for MB

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 28 - 9 - 2021

7 - 3 - 2022 end date



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MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... Stick to no more than five ambitions.

I have always found it fascinating what a complete and complex challenge a design assignment in the automotive sector can provide, as designing cars touches upon so many different design aspects. Next to this I found cars to be a striking design opportunity, in which beauty and functionality can go hand in hand. Ambitious goals that Mercedes has stated, in terms of sustainability and durability, tie straight in with one of my core values as a designer: to create valuable design that lasts. This is why I see this assignment as very fitting for my graduation thesis, and I aim to test my competence as a designer and to inspire myself and my audience. I am also excited and enthusiastic to take a look inside the automotive world and learn from the experts by visiting and experiencing the Mercedes facilities in Sindelfingen, Germany.

For my graduation thesis, I state the following learning goals:

- Deliver impressions according to professional industry standard
- Present findings and story in a slick fashion
- Show a coherent and inspiring process/story during the whole thesis
- Create valuable design that lasts
- Through thorough planning make little design concessions

I am very happy with my coaching team and I have full faith in them to offer great guidance and insights throughout the project. Next to the critical attitude I extremely value Elmer for, I furthermore hope he can guide me in how to effectively consort with the people from Mercedes and their approach that probably differs from my academic approach. This way I hope to communicate a coherent story that's to the point, in an effective (and hopefully a somewhat confident) manner. I know Susie to offer great advice in storytelling and communication (in all areas), but also, in the past I've been impressed many times by her feedback coming from a totally unexpected point of view or angle, and subsequently giving a project more depth and dimension. Next to this, she's always been a great tutor and lends an ear when you lack just that bit of confidence.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

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