

# 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 Laas

initials B.T. given name Bernd

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

2<sup>nd</sup> non-IDE master: \_\_\_\_\_  
individual programme: \_\_\_\_\_ (give date of approval)

honours programme:  Honours Programme Master

specialisation / annotation:  Medesign

Tech. in Sustainable Design

Entrepreneurship

### SUPERVISORY TEAM \*\*

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

\*\* chair Prof. dr. Schoormans, J.P.L. dept. / section: PIM/MCR

\*\* mentor Ir. Mulder, S.S. dept. / section: PIM/M&O

2<sup>nd</sup> mentor Govert Geerlings & Wouter Buck

organisation: Havenbedrijf Rotterdam N.V.

city: Rotterdam country: The Netherlands

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.

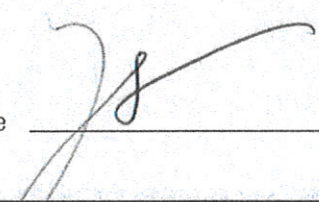
Procedural Checks - IDE Master Graduation

**APPROVAL PROJECT BRIEF**

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

chair Prof. dr. Schoormans, J.P.L.

date 20-01-2020

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: 30 EC

Of which, taking the conditional requirements into account, can be part of the exam programme 30 EC

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

YES all 1<sup>st</sup> year master courses passed

NO missing 1<sup>st</sup> year master courses are:

name \_\_\_\_\_

date 31-1-2020

signature CB

**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

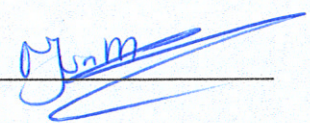
Procedure:  APPROVED  NOT APPROVED

*-title is not clear  
title will be listed in the repository,  
diploma supplement, alumni database  
and graduation calendar*

comments

name Mr Mergen

date 17-2-2020

signature 

The next step for Portmaster-insider: using strategic design capabilities 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 09 - 01 - 2020 12 - 06 - 2020 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, ...).

The port of Rotterdam is the 10th largest port of the world and the largest port in Europe. Around 3000 companies are located in the port, which covers more than 127 square kilometres. The port generates 385.000 jobs. Every year 30000 sea-going vessels and more than 100,000 inland vessels visit the port of Rotterdam, a complex logistic process with multiple stakeholders. To make sure all the activities proceed safe and efficient there is a port authority. The Port Authority of Rotterdam (PAoR) is responsible for the safe, smooth, clean and secure handling of shipping. The PAoR is part of the bigger company: Port of Rotterdam (PoR), that also develops and allocates port sites. In addition, PoR provides companies with everything they need for the safe and smooth transshipment and production of goods and raw materials. In return PoR receives rent from companies located in the port and port dues from all visiting vessels. The ambition of PoR is to become the smartest, most sustainable port of the world and the most accessible logistical hub in Europe (Port of Rotterdam, 2019a).

In order to manage this complex logistic operation PoR started building a custom made digital Port management system called HaMIS (Havenmeester Management InformatieSysteem) back in 2009. This system is an interactive system in which all shipping traffic is planned, monitored and administered by the harbour master. After a successful implementation of this system in Rotterdam, the Port of Amsterdam (the second biggest port in the Netherlands) had an interested in this digital product. Therefore, PoR started developing the HaMIS for the Port of Amsterdam. Due to the acquired experience of building these complex products and the existing knowledge of managing a large port, PoR continued on making digital products aimed at optimising port related activities. In 2018 the department Digital Business Solutions (DBS) was established. DBS works on a portfolio of new products called PortForward, see figure 2, for external customers (e.g. other ports, shipping companies, forwarders) and the port of Rotterdam. Currently 60 people working in this department consisting of developers, sales- and proposition managers (Port of Rotterdam, 2019b).

One of the PortForward products is Portmaster this product is an online port management system designed for the Harbour master to schedule, monitor and administrate port calls. The product is often connected to another product: Portinsider, which is a port community system; a single system to share operational data among all players in the port, who form a so-called port community. This operational data is a collective term and can mean e.g. the declaration of dangerous goods on board, type and amount of tugs needed for port visit, last registered depth measurements, etc.

Due to the development for external customers, PoR is transforming from having the characteristics of a task organisation alone into a hybrid organisation. Besides from the task organisation type PoR will become a market organisation type as well, see figure 2. A task organisation is totally dependent on a principal for its task, funding, strategy, the organisations output and to who it is addressed. Whereas a market organisation is independent, has various customers, is free to determine its own output and who to address it to. Besides, the funding is generated at the market and generated by the organisation itself. (Brandsen & Karré, 2008). With the addition of DBS, PoR is developing as a hybrid organisation, which can be seen as a challenge, since PoR does not have much experience with sales and DBS is also operating in a new market.

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Personal Project Brief - IDE Master Graduation

introduction (continued): space for images

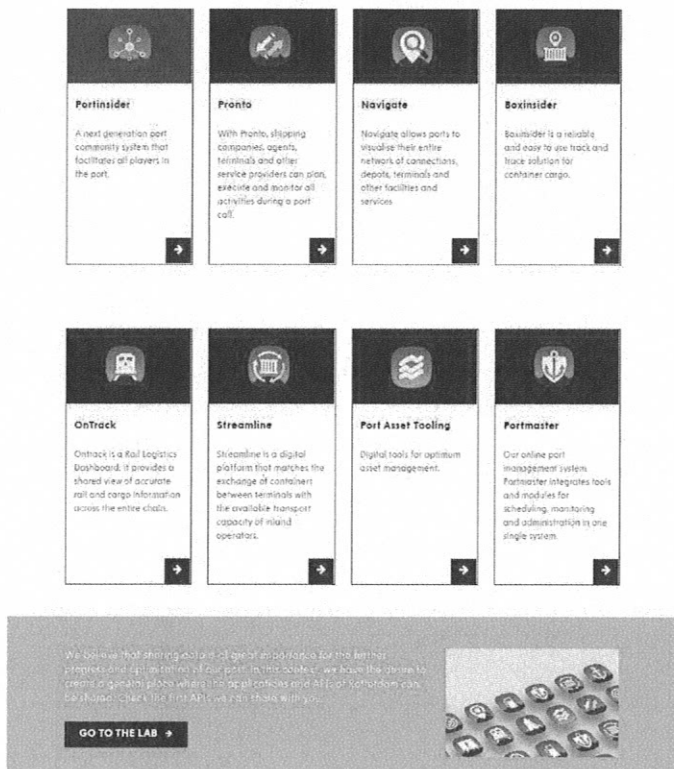


image / figure 1: Products PortForward developed by Port of Rotterdam (Port of Rotterdam, 2019)

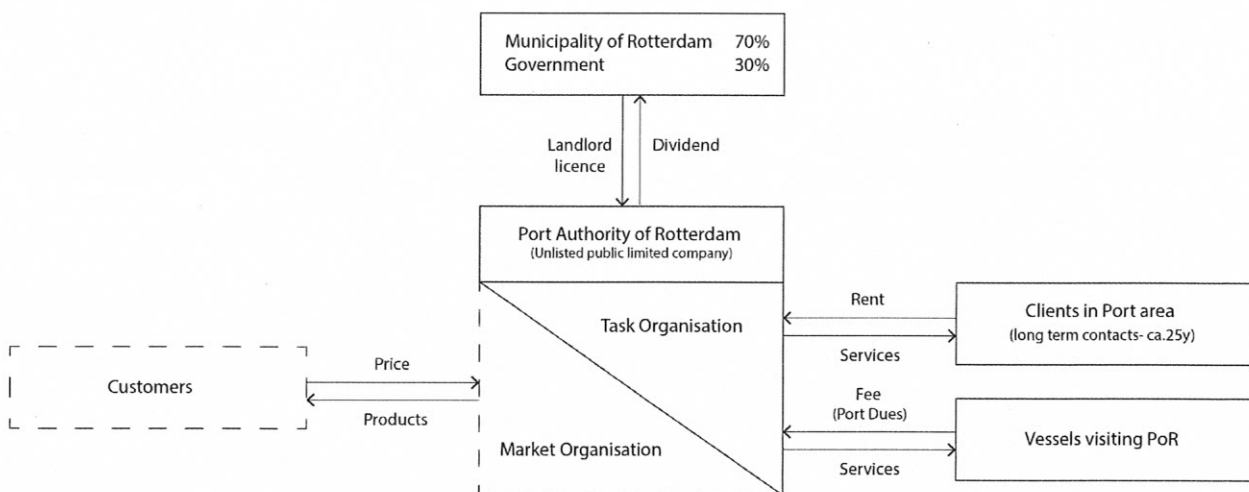


image / figure 2: Port of Rotterdam Authority: becoming a hybrid organisation (based on Brandsen & Karré, 2008).

**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.

According to United Nations Conference on Trade and Development, (2019) (UNCTAD), international maritime trade is expected to expand at an average annual growth rate of 3.5 per cent over the 2019–2024 period, mainly due to the growth in the container transshipment, dry bulk and gas cargo. For ports matching this growth means either expanding their port assets or making optimal use of their existing assets. Next to expected growth, the whole maritime sector has the challenge to comply with the requirements of the Paris Agreement on climate change. In order to meet those, IMO, the International Maritime Organization, a United Nations specialized agency, has pointed out that as an average across international shipping, there must be a CO2 emission reduction of at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008." (IMO, 2018).

Making use of a digital port management system can offer improvements compared to the current situation. Due to real-time insight in operations and assets the safe, smooth, clean and secure handling of shipping can be improved and could be a starting point of an optimized operational planning. Besides, the system enables effective communication between stakeholders in a port. Which eventually contribute to greater goals: higher efficiency, lower emissions and better (digital) connectivity. According to DBS, Portmaster and Portinsider are designed for and aimed at small and medium size ports, because their digital infrastructure can be improved and they are lacking resources to develop software products on their own. Therefore these ports depend on others to support them in digitalization. Moreover, these ports do not always have a large budget of for IT solutions, also the users of the product are often not the people who decide to acquire it. Large ports, that process more than 5mln twenty foot containers (TEU), are not targeted. This is because DBS assumes that they already have their own systems or resources to develop those and do not want to be dependent on a competitor.

Although there seems to be a need for digital port managements systems, like Portmaster-insider, the expected sales growth of the products is not met. Further, it is not yet clear how DBS and developed product portfolio fit the new market and contributes to own goals of PoR.

**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.

Research the unique selling points (USP's) of Portmaster-insider, envision a future scenario based on company input and market developments and match those in a designed product strategy and deepened proposition for the product to obtain a better product-market fit.

As mentioned before, there seems to be a need for digital port managements systems, which can be delivered by DBS, however a large take-off stays out. Therefore research is needed to understand the current situation, this contains product, company and competitor(s) and context research. Also it is important to identify possible opportunities and envision future scenario(s) in order to see the differences with the current situation and where to adapt. From this research and findings a design direction and deepened product proposition could be formulated which has a better fit with the future market. Finally, an implementation plan will be designed to integrate the research findings and identified opportunities into a next step for Portmaster-insider (e.g. a roadmap).

# Personal Project Brief - IDE Master Graduation

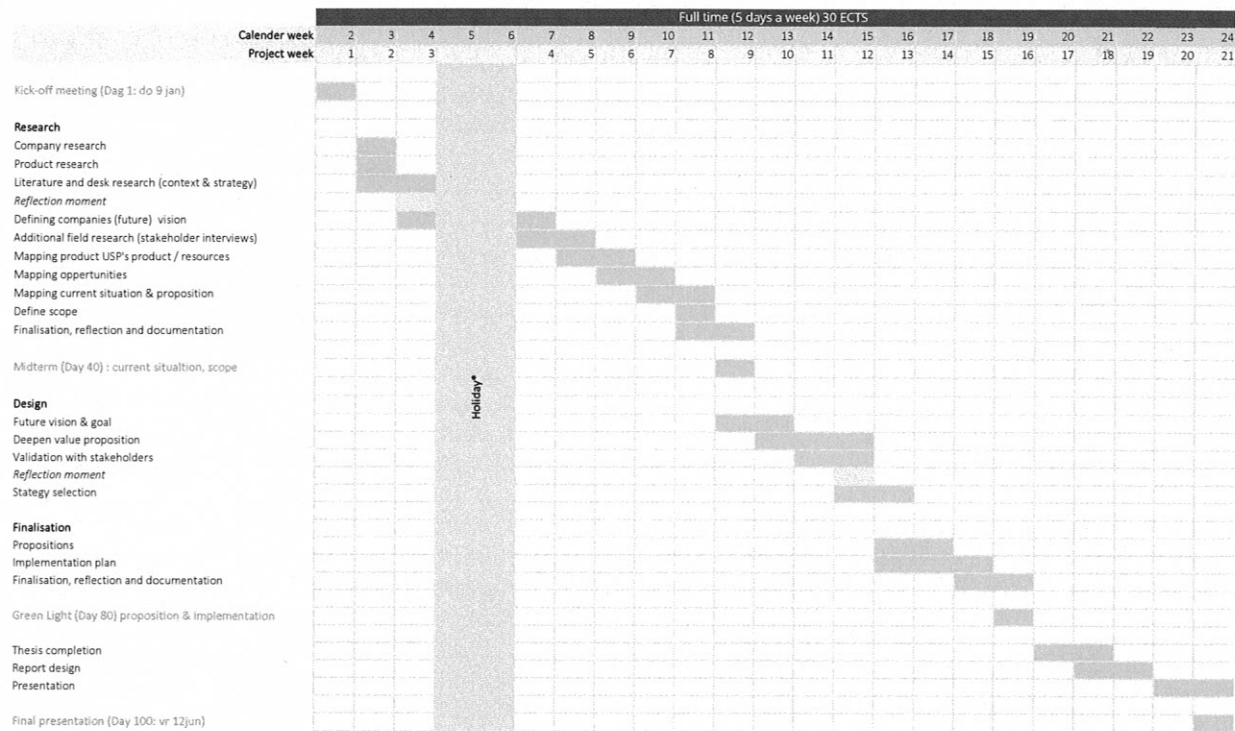
## PLANNING AND APPROACH \*\*

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 9 - 1 - 2020

12 - 6 - 2020

end date



### Fase 1 Research Week 0 – 9

Creating an understanding of the company, product, context and market developments and a future scenario.

### Fase 2 Design Week 9 – 16

Translating the research findings in into deliverables like, a design roadmap, strategy, deepened propositions and an implementation plan.

### Week 16 – 20 Finalisation

Creating a final visuals and documentation.

\*Gantt chart contains 2 weeks of holiday in calendar week 5 & 6. (In reality only 2 days of week 5 are used for holiday purposes, the other 3 remaining days are spread over other weeks, in consultation with company and university.) This was done to keep the chart visually well-ordered.

**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.

During my study I worked as an information officer at Futureland, an information center about the construction of Maaskvlakte 2 of the Port of Rotterdam. During the years that I have worked there I learned a lot about the company and gave tours and presentations to people and companies about the new area, located companies and responsibilities of the Port of Rotterdam. As information officers every once in a while we got updated by the headquarters about their new developments and ongoing projects, in this way I got to know the innovative character of the company and the Digital Business Solutions department. With this department I saw a strong connection to my own background as Strategic product designer: developing new (digital) products for a new market. I want to know what the added value of a strategic designer is in this company, for this reason I arranged the graduation project. Also it motivates me to work for a real client and I can get to know the company better then I already did.

During my graduation project I want put emphasis on presenting a complete project. Which for me means also more focus on the textual part of the project. To be more specific this means paying attention to the argumentation e.g. writing persuasively to convince the reader and justify claims using Toulmin model of argument. And attention to coherence of my writings at and between chapter, paragraph and sentence levels. This because during my study I developed my graphical and design skills very well and most of the time I took that responsibility in team work. Now not having other team members task as writing become more important, and that is also what I want to learn during the project.

Furthermore, I want to improve my knowledge about strategy. In my opinion, my learning and reading about strategy is not completed during the master. So in this project I want to deepen my knowledge by reading leading papers and articles on strategy and try to apply those in the project, for example selected bundles of Harvard Business Review: 10 must reads papers on strategy. Next to that I think my team can learn me a lot on strategy, both from my university team and my company mentors which are proposition managers.

**FINAL COMMENTS**

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