

Reflection paper

Graduation Studio: Architectural Engineering: 'Intecture'
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Introduction

This reflection paper is written as part of the graduation process at the faculty of Architecture, Urbanism and the Built Environment. The studio 'Intecture' by 'Architectural Engineering' was followed within the master track 'Architecture'. The studio has, as implied by its name, a strong link with technical and material aspects of architecture. The studio has the motto: 'if technology is the answer, what is the question?'. I started with a strong fascination with emerging technologies like big data and blockchain. It was not clear how these aspects could be of influence to architecture and within that question a graduation topic was born. Now, at the final stages of my graduation, I can look back at a process in which a research has been undertaken followed by a design. This reflection tries to look back at the process of these, the relationship between them and the relationship of the graduation to a broader scientific field.

The relationship between research and design.

When looking at my research and design from a figurative 'distance' the relationship is easily found within a strong focus on circularity, material tracking and innovative new technologies and strategies. If we look at it in more detail though we see that the research was focused on a very non-architectural aspect. It proposed a framework for the start-up Circularise on the functioning of their blockchain platform to track materials within the industry of the Built environment. The direct link between the research and design is therefore not easily found. The design is a temporary, circular building on the Marineterrein in Amsterdam, trying to accelerate the transition towards a Circular economy.

Although the direct link may not seem obvious the research turned out to be very important in the development of my personal views of the industry, parties within the industry of the built environment and their roles and interrelationships. These findings, that were not intended as a main chapter within my research became a main part of my design. If we consider research as a broader aspect than the specific research paper spoken about before there are more aspects of research to be found in the design. Different theoretical frameworks, mainly about transition and transition management were studied and applied. Next to these literature research the design was very much influenced by case-studies, and design studies.

The relationship between the graduation topic, the studio topic, the master track, and the master programme.

The master track Architecture is meant to educate students towards the profession of architect. The studio topic is Architectural engineering which focusses on the different technical innovations and how these can have an effect on architecture. In both my research and design the circular economy is a central principle and this is very much related to the studio topic, but also to the architect in general. Because the built environment is responsible for 40% of the amount of waste it is a big challenge for architects to adopt more circular strategies. Therefore my graduation topic has a very close relationship with the master track and the studio. Having said that, the specific research topic was broader than just the role of the architect and focused more on the entire built environment industry and all roles and parties involved.

The research method and approach in relation to the graduation studio methodical line of inquiry.

The research was undertaken mainly using literature research combined with interviews to understand the different topics and aspects. These were combined into a proposed framework of how Circularise's blockchain platform could function within the Built Environment and what effects this could have. The scientific relevance of the work lies mostly in the scientific framework of the functioning of blockchain technology within the built environment. The part of the framework specifically focused on Circularise's technology has less scientific relevance. The study into transition and transition management is very limited but offers an interesting new topic that could be more incorporated in the architectural field.

The relationship between the graduation project and the wider social, professional and scientific framework.

In a wider social and scientific framework the design is of more interest. The exploration of the possibilities and opportunities for architecture and the architect to stimulate the transition towards a circular economy as well as the practical examples of how to design a building in a circular and temporary way. Of course these results need to be tested with experts and prototyped to see how they will work when built but as a theoretical exploration they offer interesting insights. The transition towards the Circular economy proves to be a very interesting topic but a lot broader than just the architectural field. This field is very much un-explored and although it is not made very explicit in the design this aspect was explored throughout the design process. It was concluded that a broader team of experts is needed than just the architect to make a project aimed at accelerating a social/economical transition successful. For the municipality of Amsterdam the results of the exploration could be of interest to inspire future developments of the Marineterrein. It also could be of interest to them because of their agenda to push and showcase the innovation potential of Amsterdam.

The ethical issues and dilemmas encountered in doing the research, elaborating the design and potential applications of the results in practice.

Firstly, the decision to turn the Marineterrein into a Transition Campus as proposed in the project is based on the topics that were studied in the research and during the design. This scenario is not compared with other possible future scenarios that can be proposed for the Marineterrein that might be of even more (social, economic, historic) relevance.

Secondly, the role of the marine within the site changed during the project, because of a decision to not make all the buildings available that they would have in an earlier stage. This fact was not considered within the graduation because the design and research was in a stage that these events could not be taken into account.

Thirdly, because of the hypothetical nature of the project a lot of factors were not taken into account, most importantly the costs of the building and the business case that would need to drive the project. However the decisions made within the design are based on a general goal to make a low-cost intervention to have a more realistic proposition.