Niels Buring

4089049
Personal Information

Name                          Niels Buring
Student Number                4089049
Telephone                     (+31) 6 53 2008 53
Email                         nielsburing@gmail.com

Studio
Name                          Architectural Engineering Graduation Studio
Tutors                        Roel van de Pas, Thaleia Konstantinou
Title of graduation           Home after office hours
Location                      Rotterdam
Argumentation of choice of the studio

I chose this studio mainly because of the freedom we get to formulate our own graduation, as well as the opportunity we get to create and implement totally new concepts in our designs. I also like to bridge the gap between the dream of the building we architects have, and the technical feasibility to eventually construct it. For me this means taking the technical ‘problems’ and implement them in the design in a way that this can support the architecture, rather than counteract it.

Problem statement

In the Netherlands there is an ongoing problem noticeable, and that is that of vacant office buildings. There is an indisputable change in the way we work and do our shopping, which eventually is leading to a structural decline in the need for physical office and commercial space, especially in the stock built around the 70’s. Those few companies that have the need for a physical office are constructing brand new office spaces far away from the old ones, leaving mostly inner cities with unused buildings and their environments. It is in these buildings that the need arises for transformation. The main problem with these vacant offices is that they are often solely used for offices, which leads to monotony in function but also in building use around the clock. Another problem is that the buildings have an outdated appearance, which makes it quite unattractive to look at, but also for potential new users to rent the building.

Goal

The goal of this graduation project is to transform a vacant office into a lively building that can house a variety of different functions and can adapt to future needs. All this in a way that revitalizes the building energy efficiency and performance.

Overall design question

The overall design question is as follows:

How can a vacant office building be transformed into a building that can adapt to future needs and host a variety of functions, while improving its energy efficiency and performance?
Thematic research question

The thematic research question will be dealing with different functions being in the same building, and how the building can be made to adapt to future needs:

*How can transformation turn a vacant office into a building that can house a variety of functions and is able to adapt to future needs?*

Sub-questions

In order to get to an answer, sub-questions need to be answered first:

*What is adaptability and what does it mean in buildings?*

*What are the parameters that need to be addressed to make a building adaptable?*

*How can different functions exist in the same building?*

Design assignment

This results in a design assignment in which a vacant office building will be transformed into a building with a variety of different functions and target groups.

Method description

Different methods will be used to answer the thematic research question. To answer the first sub-question, a literature study will be done to research the concept of adaptability and what it means in the transformation of buildings. For the second sub-question, there will be a literature study into the parameters that are important to make a building adaptable. The third sub-question will be answered by doing a literature study into the hybrid building to appoint the most important aspects of combining different functions in the same building.

Techniques

*Research*

Literature studies

Example-studies and comparisons
SWOT-analyses

*Design:*
Sketching on paper in both 2D and 3D to quickly visualize ideas generated

Sketching/modelling in both 2D and 3D to test whether initial ideas can be used

Modelling in 3D and in the form of mass-studies

Mock-ups and models to give insight in both the architecture and method of construction

3D elaboration combining 2D drawings with a three-dimensional BIM-model

Drawn/rendered impressions (of key elements) of the design

Diagrams and presentations
Relevance

Most of the building stock that is now present doesn’t meet energy efficiency requirements in order to cut our excessive energy use by 2050. A big part of that building stock, in the Netherlands, is vacant at the moment. This doesn’t only affect the owner of the building; its surroundings will also be influenced by the building being empty. Site deterioration and bad image of the context are real threats. An intervention like transformation can be the solution to address both of these problems, therefore eliminating the threat of the buildings being part of the discard cycle.

This research and the resulting design assignment will have a lot of overlap with the Beyond the Current program. Although their focus is more on residential buildings, a lot of starting points resemble that of this research. Both are dealing with the existing stock in order to prevent demolition and have the goal of upgrading the building to make it more energy efficient and also to upgrade its appearance, improving also its surroundings. Where the two projects differ is the scope of the physical building layer the focus lies on. In Beyond the Current, this focus is the façade and the way it provides comfort for the users, in this case the inhabitants. Although the building envelope is of great importance in the following design assignment in order to improve the energy efficiency and the aesthetical representation of the building, the focus lies on the functions within the building.

Literature


