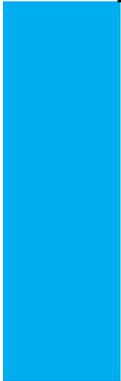


Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Thomas Misset
Student number	

Studio		
Name / Theme	Architectural Engineering Graduation Studio	
Main mentor	Anne Snijders	Architectural engineering + Technology
Second mentor	Craig Martin	User-centred design, climate & environmental design
Argumentation of choice of the studio	I have a personal interest to connect the large, systemic scale with the human scale in a multidisciplinary and integral approach. The studio focus on processes, technology and systems helps me to pursue this fascination	

Graduation project	
Title of the graduation project	Turning heat into warmth <i>A neighbourhood ecology of people. technology and warmth</i>
Goal	
Location:	Post-war neighbourhood Moerwijk, The Hague, NL
The posed problem,	Technology has become indirect and stripped down, the costs of sustainable transformation lie heavy on agency-lacking and marginalised people and the post-war neighbourhood is a spatial cluster where these problems converge. Moerwijk is one of the poorest neighbourhoods in The Hague. A regional heat distribution pipeline is constructed through important axes of the neighbourhood. Such infrastructural projects have potential to be a driver of (socio-spatial) changes, which can answer to a wider range of broad and local needs. For this, some strategic adjustments are needed.
research questions and	<p>What public/collective program of requirements for the post-war neighbourhood Moerwijk answers to both local and broad trends, needs and aspirations, creating synergies between sustainable technology and the local community and resulting in participation and empowerment?</p> <ul style="list-style-type: none"> • <i>What are local needs and aspirations in Moerwijk?</i> • <i>What are relevant broader needs and aspirations and what form do these take within Moerwijk?</i> • <i>What are the positions of participation and empowerment of local organisations and relevant case studies?</i>
design assignment in which these result.	Integral spatial transformation strategy for Moerwijk combining sustainable infrastructure and public/collective spaces related to youths, self-development and work

Process	
Method description	
Method 1: Fieldwork & empathy in design	
<p>To find out local needs and aspirations, fieldwork research is conducted. A model for empathy in design is adapted describing a loop of four stages: (1) Discovery, (2) Immersion, (3) Connection, (4) Disconnection.</p> <p>Through this fieldwork, contact is made with the context and local community (1). By immersing myself through extensive visits and conversations (2) I gain better understanding of local needs and aspirations and can empathize with the local community (3). Finally, I detach myself from the local community and context and synthesize the findings along with the other findings into a coherent program of requirements or design proposal. The loop can be repeated multiple times and can be used to attain feedback on proposals.</p> <p>The fieldwork consists of multiple visits with local community members and organisations. This involves interviews, event participation, observations during visits and a lot of personal communication.</p>	
Method 2: Literature study for broader needs and visions	
<p>To find out about the local consequences of sustainable transformations in public and collective space and to find out other relevant themes and their specifics to integrate into my proposal, literature study is conducted. The studied literature includes a lot of official reports and documentation from the national and local government and publications from established statistics agencies, such as CBS and UWV. The findings will be connected to the results of the fieldwork.</p>	
Method 3: Position on participation and empowerment	
<p>To better position my proposal within a scientific framework of participation and empowerment, and to map the existing levels of these parameters within Moerwijk, a study is conducted to position local organizations and some relevant case-studies within a scientific framework. Scientific literature is used to establish a matrix that shows the degree of participation and empowerment for the local community. By analysing the organizational structure and daily affairs through project documentation and site visits, their position is determined.</p>	

Literature and general practical references

General design precedent:

AP + E, studio dmau, waag - commons lab (2021). *Schalkwijk Commons*.
<https://www.appluse.eu/SCHALKWIJK-COMMONS>

Integral spatial transformation strategy for a post-war district in Haarlem. Covered items are: green infrastructure, spaces for meeting & play, re-use of buildings, densification & diversification as well as social capital.

Method 1: Empathy in Design

Kouprie, M., & Visser, F. S. (2009). A framework for empathy in design: stepping into and out of the user's life. *Journal of Engineering Design*, 20(5), 437–448.
<https://doi.org/10.1080/09544820902875033>

Hatchuel, A., & Weil, B. (2009). C-k design theory: an advanced formulation. *Research in Engineering Design*, 19(4), 181–192. <https://doi.org/10.1007/s00163-008-0043-4>

Method 2: Literature study for broader needs and visions

Official reports from the national government and the municipality of The Hague, documents from renown organisations for sustainable infrastructure and statistics from CBS, UWV and the municipality. The most important sources are listed below:

Gemeente Den Haag. (2022). Transitievisie warmte Den Haag. In <https://duurzamestad.denhaag.nl>. Retrieved December 6, 2023, from https://duurzamestad.denhaag.nl/wp-content/uploads/2022/12/Transitievisie_Warmte.pdf

Gemeente Den Haag. (2023). Structuurvisie Zuidwest 2040. https://denhaag.raadsinformatie.nl/document/12654932/1/RIS315261_Bijlage_1_1_Structuurvisie_Zuidwest_2040_Groen%2C_stedelijk_en_vitaal_Zuidweststructuurvisie_2040: p.65: kansen voor ontwikkelingen

Nationaal Programma Lokale Warmtetransitie. (2023, september). *Warmtenet Factsheet*. <https://www.nplw.nl/technieken/warmtenet/warmtenet+factsheet/default.aspx>

Netbeheer Nederland. (2019). Basisdocument over energie-infrastructuur. https://www.netbeheernederland.nl/_upload/Files/Basisdocument_over_energie-infrastructuur_143.pdf

Method 3: position on participation and empowerment

Arnstein, S. (1969) A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216–224

Rocha, E. M. (1997). A Ladder of Empowerment. *Journal of Planning Education and Research*, 17(1), 31-44.

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

My project focusses on connecting sustainable technology, and its needed infrastructural transformations in the built environment with people and their needs within the context of the post-war neighbourhood. This relates to the studio in terms of its focus on technology and one of the studio's topics: transformation of post-war neighbourhoods.

The project relates to the Msc AUBS master programme because it is exploring an innovative integral approach to develop a spatial and programmatic master-plan for the neighbourhood that fits within the larger need for sustainable transformations and user-sensitive design in the built environment and post-war neighbourhoods in specific. Additionally, an architectural form and language is developed to facilitate the formulated programmatic requirements and to relate the added spatial elements together and to their context. A picked selection of these elements will be elaborated in more detail, showing how they are built and taking into account sustainability, functionality and architectural expression. To sum up, the project addresses different scales of spatial innovation related to technology, infrastructure and programmatic requirements in the built environment, creating an elaborated urban and architectural design proposal.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

My graduation project aims to expand the boundaries of the architectural profession by expanding the skill set of the architect/designer in the social field, with the aim to better and more sensitively answer to the needs and aspirations of users. This is in line with the ambition stated in TU Delft's strategic priorities 2022-2024, striving to deliver socially responsible engineers. In times of political polarization, growing socio-economic inequalities and complex global challenges, I think the connection between the human and global scale, between the social and technological world is paramount to create true societal and equally distributed value and to grow the support base for much-required and top-down agendas such as the battle against climate change.

The scope of this project is the strategic and integral sustainable transformation of a typical post-war neighbourhood. These neighbourhoods often show similarities in their spatial layout, building stock, socio-economic challenges and therefore have similar potentials and weaknesses. They are abundant in Western-Europe: The Netherlands alone counts 1800 post-war neighbourhoods. Before 2030, there are huge challenges to bring down carbon emissions in the built environment and there are big improvements possible in these districts.

This project has the potential to inform the transformations for neighbourhoods alike, to plan sustainable transformations more integrally, strategically and more sensitively for the local community, answering to their needs and aspirations.

The developed knowledge for other post-war districts lies mainly in the applied research methods and the spatial elements and programs that inform and compose the integral and strategic plan.