



Marc Koehler Architects

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www.marckoehler.com

Project name: **Superlofts Blok Y**
Project location: **Veemarkt, Utrecht, the Netherlands**
Project type: **Multi-residential (Superlofts)**
Project cost: **€7,767,000 | US\$8.7 million**
Year of completion: **2017**
Software used: **ARCHICAD 19-20**

Superlofts Blok Y

A Cooperative Housing Project in Utrecht

Superlofts Blok Y, designed by Marc Koehler Architects, is a cooperative housing project in Utrecht. Blok Y won the 2018 Royal Institute of Dutch Architects (BNA) award for Building of the Year in the Private Housing category.



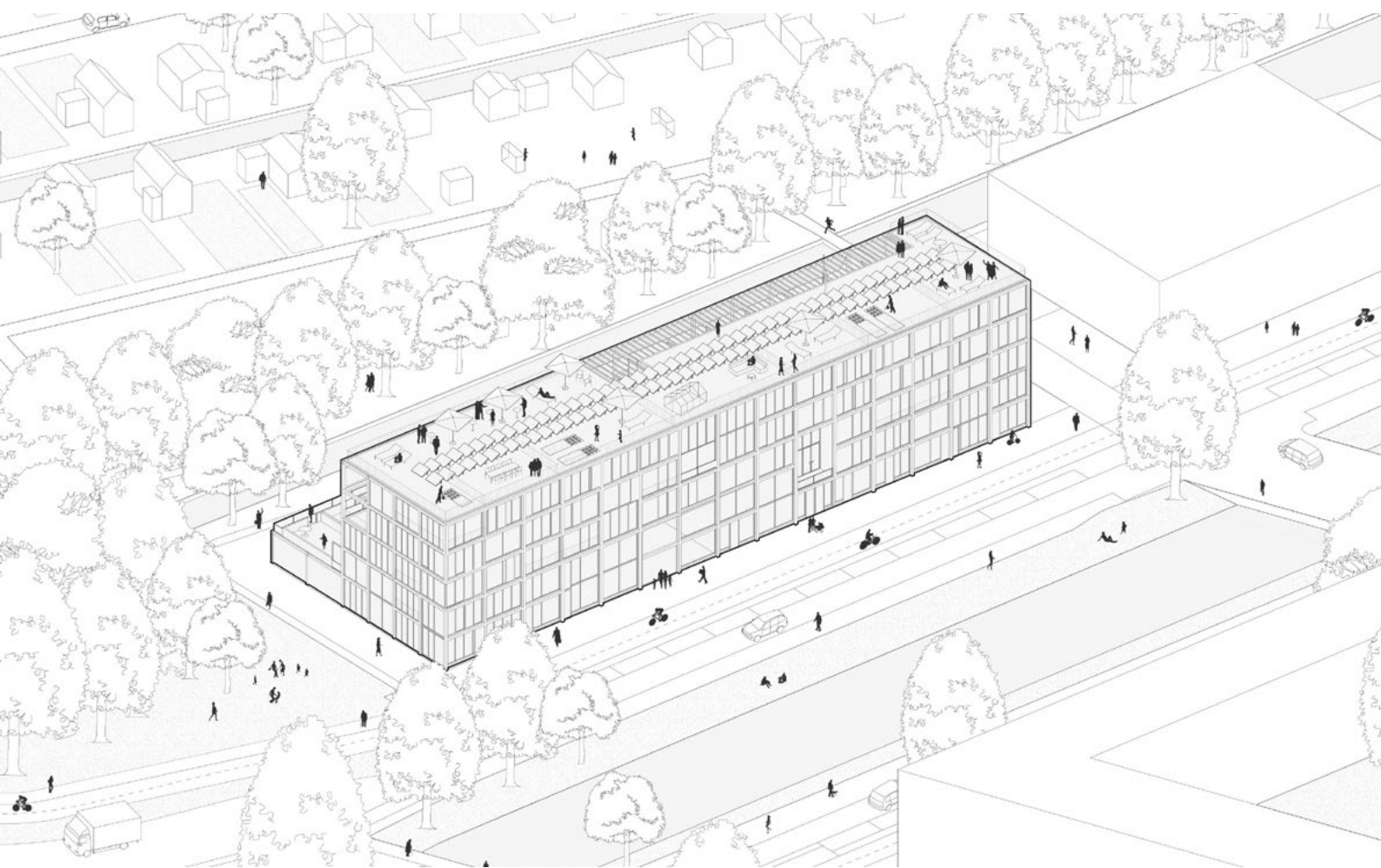
Photo: Stijn Poelstra

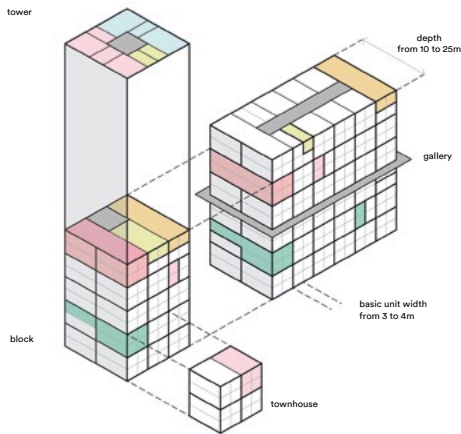
Superlofts: Flexibility, Participation and Adaptability

Designed as an Open Building, Superloft Blok Y forms part of the ongoing Superlofts project. Initiated by Marc Koehler Architects (MKA), the project focused on flexibility, participation and adaptability. It offered a collective of 30 homeowners a blank canvas to customize or design and build their apartments according to their needs, and actively engaged them from the outset to co-create the building and its shared spaces. A unique complex - where no two apartments are alike - results from the building's radical flexibility, collective character and high level of sustainability.

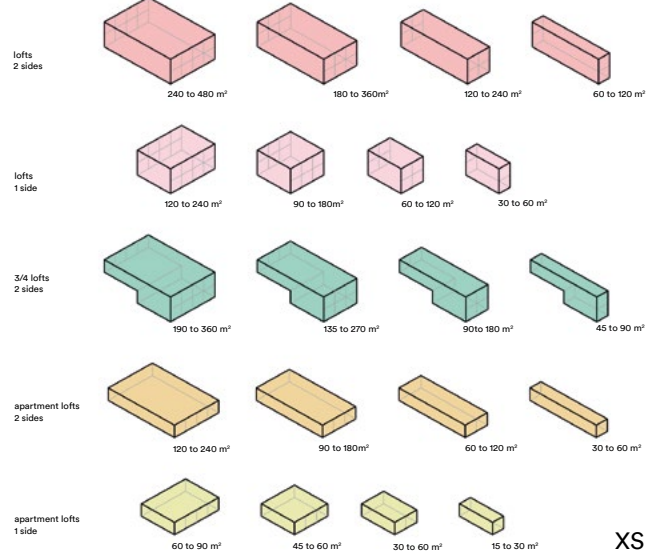
The starting point for the development was:

- (1) to develop the project with a large degree of participation of future home-owners and thereby construct an enthusiastically supported residential building;
- (2) to add quality with collective functions; and
- (3) to create tailor-made individual apartments for every resident.

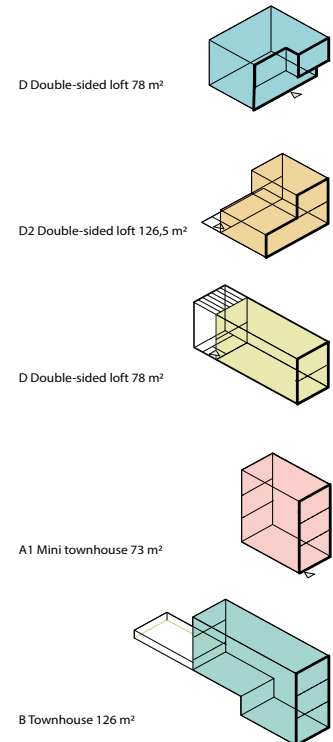
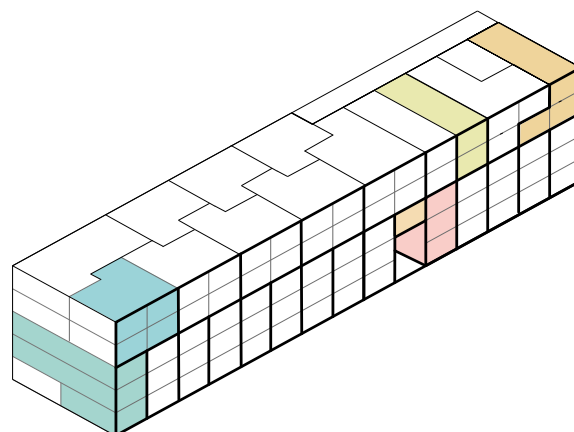


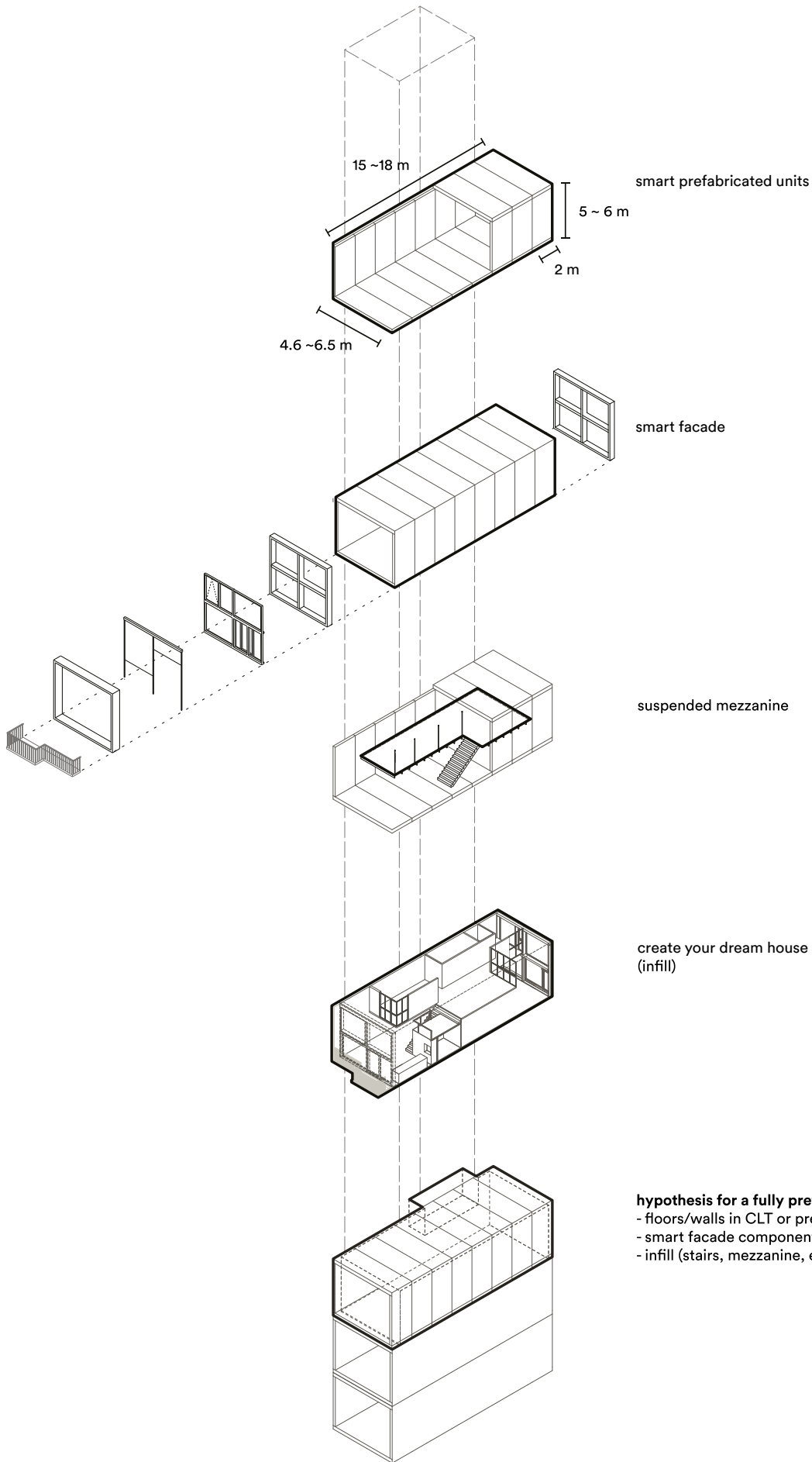


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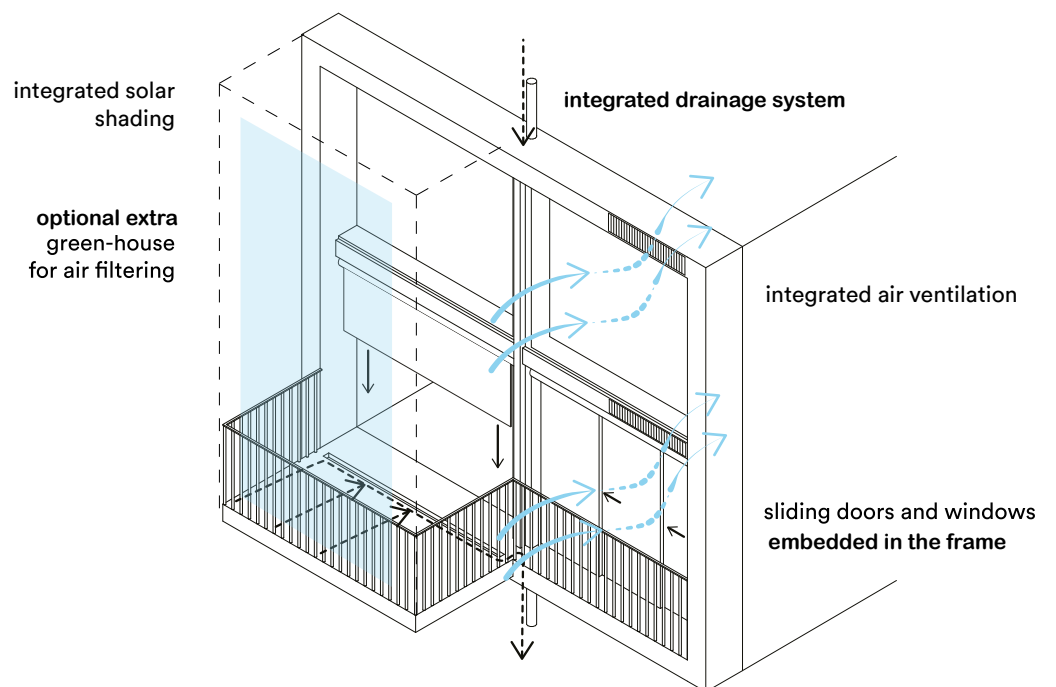


The five-story building comprises a base framework (support) that is independently fitted out by the inhabitants. Blok Y combines 30 Superlofts in 5 types - XS lofts (70 m²) to family lofts (145 m²) - resulting in a rich diversity of dwellings and mixed community. Homeowners could fit out a completely raw space by themselves or with an architect, or customize an existing floor plan, and also their exterior. The open concrete framework is organized into varying loft formats with two or three stories, single or double façade, with a roof terrace, balcony or garden. Their unique layouts are uncommon in conventional housing; many were designed to flexibly accommodate future changes, i.e. by incorporating an elevator or flexible partitions to reconfigure the interior once the kids leave home. Generous voids create a beautiful sense of space and light.





Constructed with a considerate use of materials and meticulous detailing, the façade is a simple but strong expression of the concept. The interplay of the fixed concrete grid and variation in details from the customized façades results in a robust, dynamic building that reflects the diversity of its community. The slim concrete grid is filled in with a framework of double-height windows that bring light deep into the apartments. A lively façade composition results from the varying loft exteriors, with their different entrances, balconies and window configurations. At night, modules of glowing interiors animate the framework, reflecting the changing activity within.





The project was organized as a Cooperative Development Model where the future homeowners actively helped from the beginning of the development process: shaping the overall design, including the building's form, loft formats and collective amenities. This collaborative process, empowering people to have a voice at the table and make decisions on the final design of the building, resulted in an active, close-knit community where the residents were already neighbors even before the construction began.

Influence varied between deciding on the size of their individual apartment, architectural expression of the building, material use, façade infill till the level of their interiors where they could decide their own layout, voids, floors, walls, etc. Including people from the start creates a feeling of inclusion on the site and the building. They collectively designed the communal garden (with guidance from Marseille Buiten), located on the roof of the shared car park beside the private gardens and terraces. Behind the building, the canal was widened and enhanced with a shared jetty. A shared lobby integrates a communal display and bench.



A high level of sustainability is achieved through the integrated use of technologies such as floor heating and cooling, using geothermal heat pumps with heat recovery, 180 solar panels for individual and shared energy needs, CO₂ sensors for ventilation with heat recovery, passive solar design integrating double or triple glazing with electric sun-shading and low maintenance façade materials. This results in an EPC of 0.3 and average GPR figure of 7.5.



Photo: Marcel van der Burg

Tailor-made Homes for Everyone

The municipality of Utrecht issued Lot Y for development in the new district, Veemarkt. The developers were three companies (Stadkwadraat, Bergunlimited, Dolte Stedenbouw). The brief described a residential development with a large degree of participation of the future homeowners, positioning the residents as participants in the development, rather than just as customers.

Blok Y became the cooperative vehicle to start the development, which gathered a group of interested parties and placed a bid on the lot. Marc Koehler Architects was invited as co-developer/architect with the wish to offer everyone a tailor-made home, because they had a lot of experience with their Superlofts concept — which have already been developed or are being developed in different locations — to create custom loft apartments. Together with the residents, architects opted for the development of an apartment building with 30 houses that can be divided into 5 different main types, each with its own sub-types and unique interior.

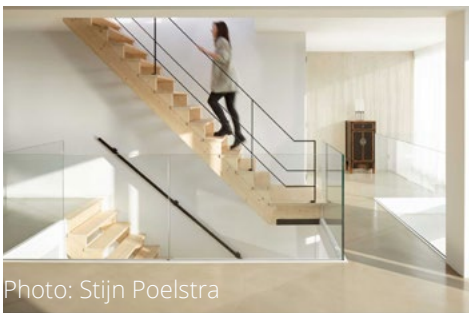


Photo: Stijn Poelstra

Launched by Marc Koehler Architects, Superlofts are constructed in the Netherlands in Amsterdam and Utrecht, and currently are being researched in several different countries: Germany, South Africa, Denmark, UK, Australia and the United States.

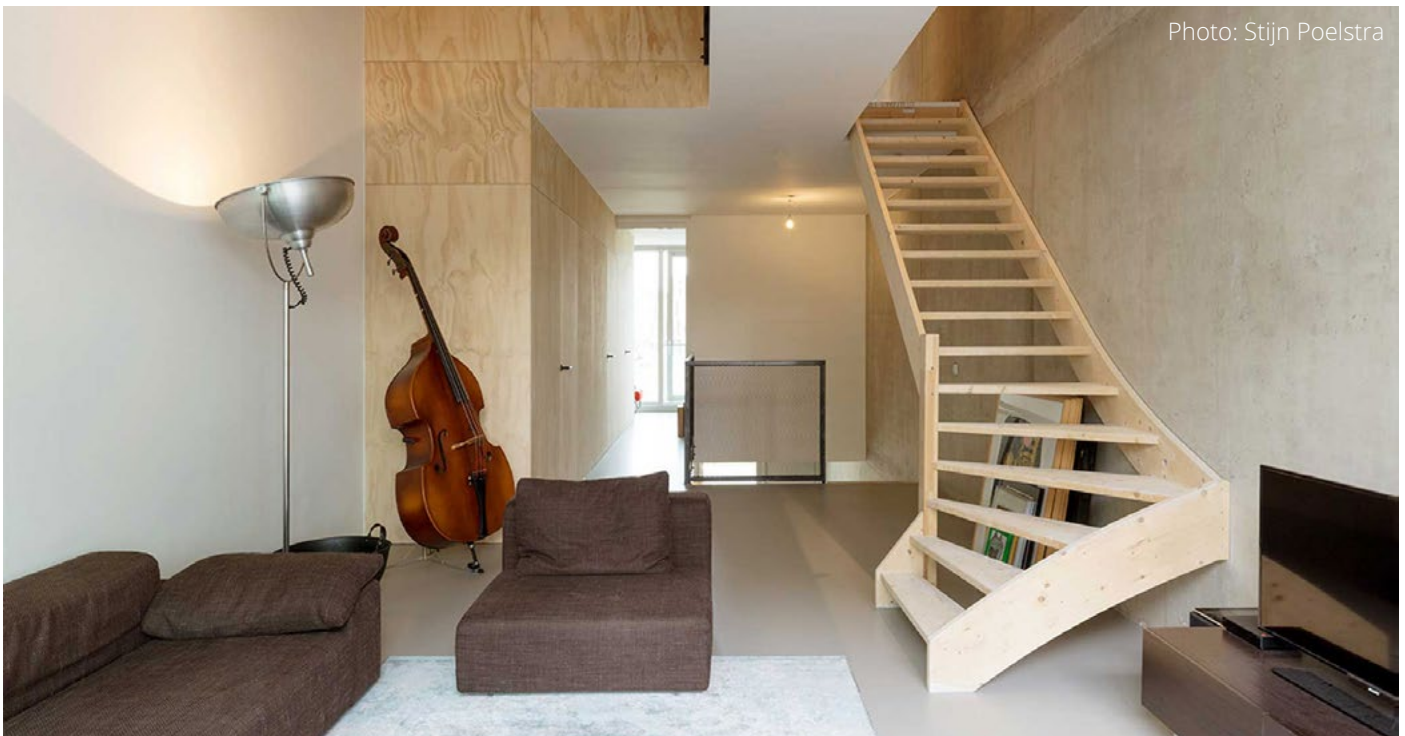


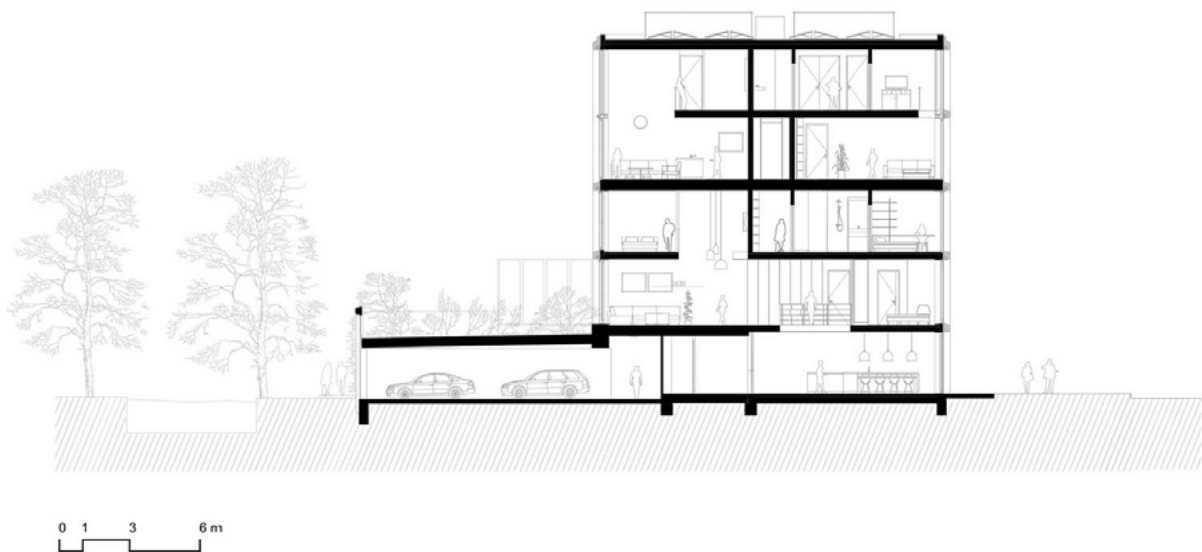
Photo: Stijn Poelstra

Designing with ARCHICAD

MKA started using ARCHICAD in 2014 with a single license running ARCHICAD 18, then expanding with 3 additional licenses the following year and undergoing a complete office-wide ARCHICAD implementation in 2016, where the standards and protocols were setup, and all projects were migrated. Now, ARCHICAD is set up office-wide across all workstations, which is approximately 25. MKA has a team of 30 designers working on the different Superlofts developments. They launched the Blok Y project in ARCHICAD 19 and finished it in 20, since they converted it during the execution phase.

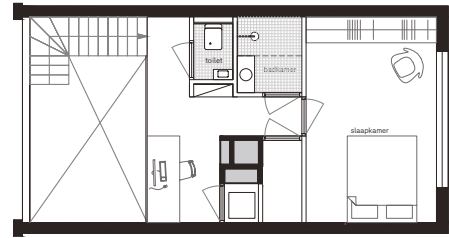
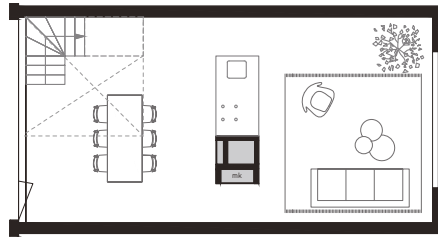
They worked in a small team from their office in Amsterdam for this project, but sometimes they required access from outside the office through our VPN connection to the BIMcloud and project. Even if this worked quite well for them, it also provided some challenges such as the synchronization of particular information, which was resolved when working again from within their office network.

For MKA, ARCHICAD is a complete end-to-end architectural tool that enables them to create fast, efficient and creative designs/feasibility studies through detailed and technical design levels, whilst always allowing flexibility and freedom. Their design workflow was enhanced on all levels by the possibilities and intuitiveness of ARCHICAD. In the case of their project, Blok Y, ARCHICAD provided them with the tools to set up a workflow for Superlofts projects containing an exterior model and interior models, each with unique designs, so that they could streamline their production for the contractor and for individual clients and future homeowners, respectively.

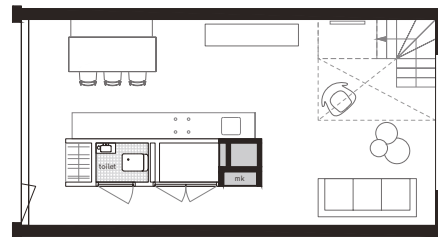


The flexibility of Superlofts allows homeowners to participate in the design process. Here are some floor plan examples from various projects:

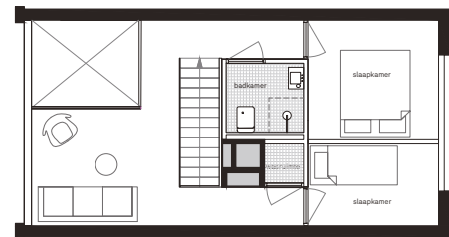
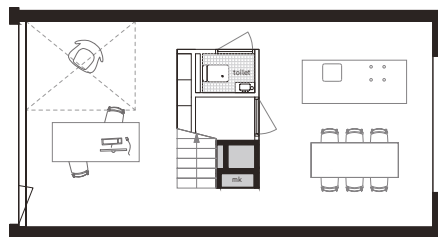
Central island kitchen, one bedroom with open study



Central kitchen partition, one and a half bedrooms with enclosed study



Side island kitchen, side workspace, one and a half bedrooms with upper living room



Central kitchen partition, one bedroom with open guest niche and corridor study



Ground floor configurations

First floor configurations

“We developed a visual workflow providing clients as well as the contractor with good visual representation and feedback over design decisions, by efficiently testing all design ideas, materialization and details in the model and then rendering with CineRender. Open BIM implementation was also critical to communicate with our consultants, especially around the detailing and execution of the prefab concrete elements composing the façade and forming the identity of the unique Superlofts project,” says Marc Koehler, the founder of MKA.

There are many ARCHICAD tools and workflows that enhanced the Blok Y project and their everyday work across all projects. Some examples are the hotlink module capability, enabling to set up an intelligent workflow between a hull model and individual interior models, whereby the interiors were hotlinked to the hull and vice versa. According to MKA, this is very powerful for the Superlofts projects, due to the variety of housing types and uniqueness of each and every interior. Hence, they had good control over the hull and interiors in terms of workflows and drawing production to cater to individual needs versus the contractors. The CineRender functionality allowed them to quickly test and visualize design ideas from concept level to detailed design level, whilst schedules were widely used to control data/BIM model quality and produce accurate quantities and schedules of elements. This information was ideal for both internal and external use and widely used to illustrate all the detailed façade elements necessary for the desired Superlofts result.

Teamwork is also a core part of MKA's workflow as they often work in small to larger teams on projects. "We're extremely happy with its functionality as it allowed our team to work simultaneously and effortlessly on different aspects of the project, with different team members allocated various responsibilities," says Marc Koehler.

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Marc Koehler,
the Founder of MKA



OPEN BIM for Open Projects

During the Blok Y project design process, the architects exchanged IFC models several times with the structural engineers and consultants, to closely coordinate the design intent and its realization. This was particularly important with the prefab concrete elements of the design and their connections. They used the following translators:

02_Building coordination model import, and
01_Building coordination model export, including basic information identifying each unique element.

BIMx is another integral tool for the office and their workflows, which was widely used by their team for the Blok Y project. They delivered BIMx models during the design phase of the Superlofts interiors to individual clients, informing and helping turn their design choices into a reality. They used BIMx frequently during the execution phase of the project to explain and resolve design issues directly onsite with the contractor and streamline the Superlofts process. They also delivered a complete BIMx model of the combined external shell and all interiors at the end of the project to all homeowners and contractor as a gift showcasing the unique Superlofts project they all created together.



Photo: Stijn Poelstra



“ARCHICAD has certainly been strategically beneficial for our office as it opened the door and possibilities in collaborating with other architectural offices on larger projects that required BIM protocols and deliverables. The combination of 2D and 3D as mentioned above was game changing for how we worked and obtained incoming commissions. Internally, it enabled the office to deliver projects with a higher level of quality control and efficiency,” says the founder of MKA, Marc Koehler.

MKA chose ARCHICAD as their design solution, since it has from the onset proven its power and potential to deliver architectural projects in a creative, efficient and intuitive way. They were also able to streamline an old 2D and 3D workflow with different programs to one workflow in ARCHICAD combining everything from drawings, live 3D, information and visualizations. Thanks to this potential, in addition to existing ARCHICAD user experience, and strong experience joining the office, they made the final push and complete implementation of ARCHICAD, revolving around the integration of protocols, workflows, templates, training and support.

About MKA

MKA takes an analytical, research-by-doing approach to ambitious, original ideas about the future of sustainable urban living. They practice a full range of design disciplines from start to finish: Concept, architecture and urban design. The team exists as 6 core associates and 28 architects, designers and engineers. They come together to explore smart, responsible ways of building spaces and communities around the world.

MKA are the minds behind www.superlofts.co, a growing international network of building communities that share ideas and know-how on self-made housing and cooperative development.

Principal Marc Koehler (1977) grew up in a Dutch-Portuguese family in the Dutch town of Naarden. He studied Engineering at the Amsterdam School of Technology, Urbanism at the Technical University of Lisbon and Architecture at the Technical University of Delft, where he completed a Master of Architecture (Honors) in 2003.

About GRAPHISOFT

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