MICROFACTORY H-BUURT

TEXTILE, A SOLID BASE FOR URBAN REGENERATION

(PRODUCTIVE) H- NEIGHBOURHOOD

Located in Amsterdam Zuid-Oost, good connected to city and periphery, lots of (mature) green public space, water and a colorful population with a high entrepeneural mentality, but an area also with low productivity on 'the street', characterized by high rise mono-functional residential buildings and anonymous offices buildings separated by huge infrastructural elements and known for its relatively high unemployment- and poverty rate.

To give a change, build a new succesful community out of this neighboorhoud there is the need to introduce a new economic driver that regenerates the development of labour and economic growth. An economic driver that's easily adapted by the many; accessible, feasible, but also attractive to the rest of the city. An economy that makes sense, has history and future and will facilitate social inclusiveness; from Low End till High End labour, from traditional craftsmanship till innovative new technology.

Cooperating together, with many ways to participate in a new economic ecosystem, will improve social cohesion amongst residents, economis growth and well-being in general.

INCLUSIVENESS

People are constantly balancing between independency and social interaction; privacy can be seen as where residents control their interaction. According to different studies, social contacts within the living environment are important; these contacts are based on the recurrent sharing of everyday live and space. Public spaces of living environments act as chance encounters for the local community.

Working together in the same place, High and Low end, Craftsman and Innovator will empower and facilitate existing-, new- as well as next connections and business.

SUSTAINABLE TEXTILE

The economic driver with great potential in H-buurt will be Sustainable Textile. Both existing business and craftsman (for example a turkisch tailor) and resources (textile waste) are locally present. With the high density residential building structures nearby we can provide the first resource stream of collected textile waste within the neighbourhood. Focus on collecting textile waste in the neighbourhood can be the first step in awareness of new activity and connectivity between local residents.

Textile and clothes recycling is a beneficial activity from both environmental and economic points of view. Through the recycling of used clothes and textiles, we can avoid pollution and energy intensive production of new clothing. Additionally, clothing that cannot be reused can be repurposed into such products as rags or recycled into fabric or other material for reprocessing. In fact, as cities increasingly are diverting other high volume waste streams such as organics, the recycling of old clothes has been called the next frontier for cities looking to reduce solid waste.

This business generates labour on very different scale; collecting and store waste-textile, sorting for re-sell and re-use, separation for recycling and (re)making new products out of the renewed resources. Labour that requires different levels of education, creativity and entrepreneurship. A new ecosystem of commercial enterprices, small shops and ateliers with focus on producing and selling sustainable fashion will be new asset of H-buurt.

The mixture in labour will also be the key to an inclusive mix of residents in the above situated appartments.

MICROFACTORY

The micro-factory will be a small dimension factory, where digital technology drives a new understanding of custimization and adaptability. A neighbourhood scaled urban factory that creates a new ecosystem of production and consumption. A place where creative business combines traditional techniques with new technologies. The factory enables local recycling of textile waste, that leads to a manufacturing system that uses the reclaimed resources.
The microfactory operate in a global, interconnected economy (driven by digital technology)

It creates local jobs where everyone has the opportunity to participate in creating new business out of local resources. Living in both the physical city and a digitally networked community, the factory defines a new kind of commerce; unbound by location but bound together by the intimacy of local actors.

MODULAR CONSTRUCTION

In order to be socially, economically and environmentally sustainable the construction of the buildings need to be capable of responding to social changes both at a macro and a micro level.

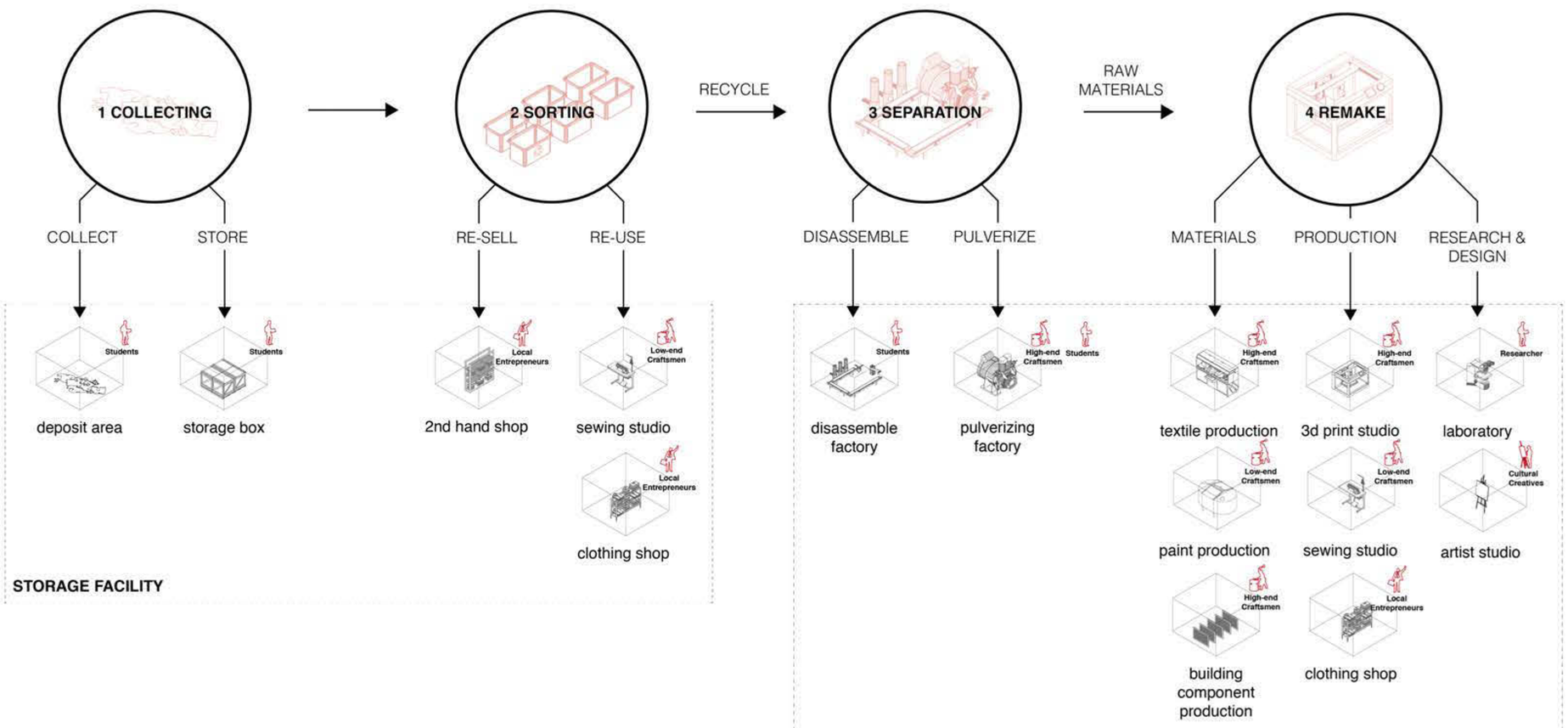
Therefore the buildings are constructed out of three-dimensional sized modular frames and prefabricated 2D-building elements like sandwich-walls, floors or windows. The module consist of building parts which contains both standardized and functional properties.

The modules are built with elements under factory conditions. The service elements (HVAC) of the apartments will be prefabricated in floors and walls. The façades of the modules can be finished at the factory and assembled on site. The frame structure of the modules is based on a light steel cell structure.
The positive effects of modular construction on life-cycle costs are mostly the result of speeding up the construction phase, the potentially lower repair costs of modular buildings and the possibility of recycling the modules and during time being able to extend, modify and deconstruct the modules in stages.

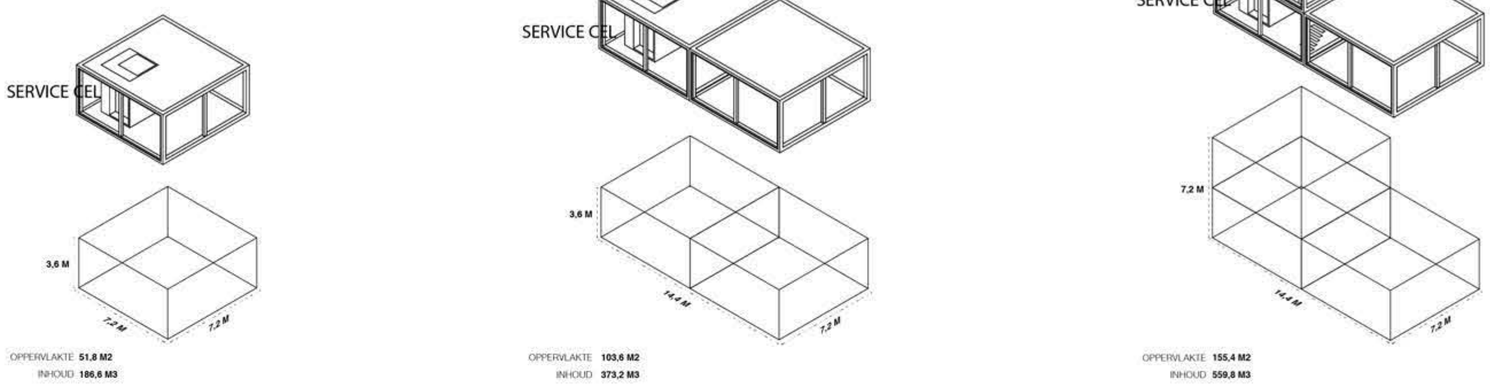
DIFFERENTIATING NEEDS OF RESIDENTS

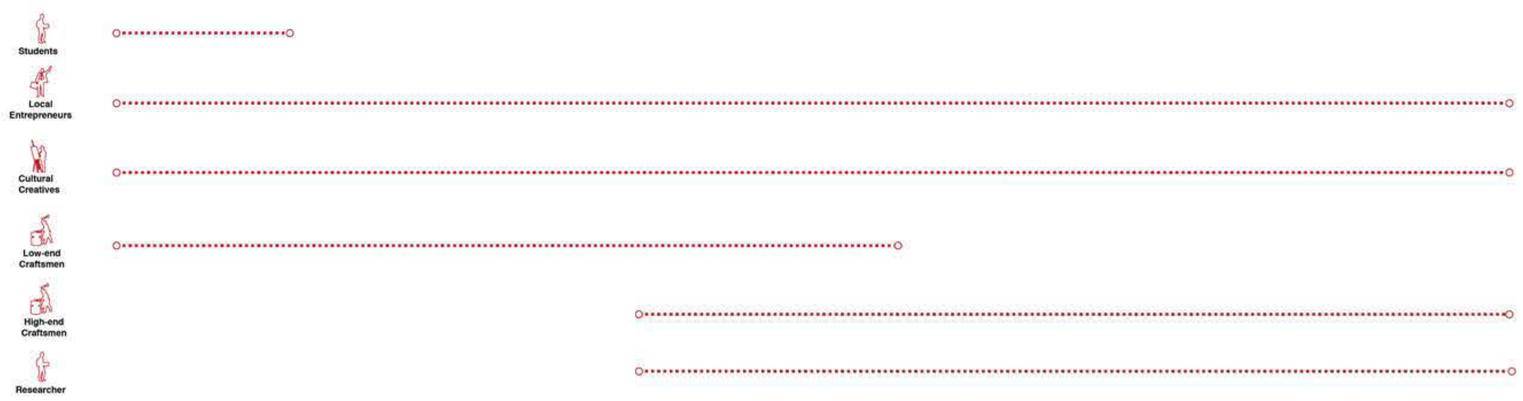
The questions of housing production in our time is how to create individual apartments which adapt to the lifestyles and living of residents in a socially, ecologically and financially sustainable way. There is a need for more customizated alternatives but, in order to keep costs under control, industrial series are needed. With a modular building concept the production methods of construction have developed from craftsmanship to mass-production. Serial customization makes it possible to offer industrial solutions adapting to individual needs, to create various housing alternatives within the same price category.
The system is primarily based on standardsize modules in order for their construction to achieve large industrial levels and thus maximize cost efficiency.

PROCESS OF TEXTILE RECYCLING



APPARTMENTS & TARGET GROUP BUDGETS





SECTION BUILDING

SECTION BUILDINGS IN CONTEXT

MAP +1 M

MODULAR SYSTEM
The idea of standardized factors enabling countless individual solutions and ensembles is included in the modular system of this project. The customized module can be seen as an unorganized part of an organized structure. Large openings at groundlevel leaves covered outdoor area underneath the building mass; this area could be used as a public urban space or as a shared yard for the residents. Varying rooftop levels enables the use of different kinds of terraced building solutions. A terraced yard located on the roof of the building mass is characterized by privacy, as the space is away from the outside passageways. Large openings in the modular building mass provides a quasi-public or quasi-private community yard. Depending on the design solution, the yards can be available to the entire building community or to the residents of a certain building part. An atrium space in the middle of the modules can form a communal meeting place for the residents. When the central shared atrium is located in the middle of the floor plan, in the intersection of everyday routes, it can be used to promote social contacts between residents.

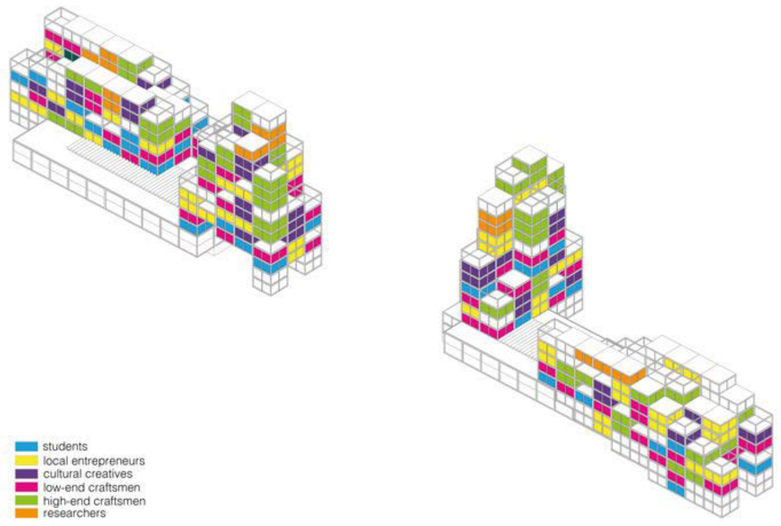
Apartments are traditionally seen as units with a certain set number of residential squaremeters and rooms. Apartments also usually have just one actual entrance. This modular construction concentrates on the possibilities of convertible housing complexes.

Reducing or expanding the size of the apartment can be easily condemned by calling it an unrealistic solution in modern residential construction. The goals set by the flexibility of apartment size highlight the significance of proactive planning. You also can see the potential for apartment size flexibility as an advantage of modular construction increasing sustainability. The flexibility provided by the reduction and expansion of apartments is not only designed to constantly satisfy the needs of the changing life situations of single individuals, residents or families, but to respond to the changes in ways of living and size of households on a longer term.

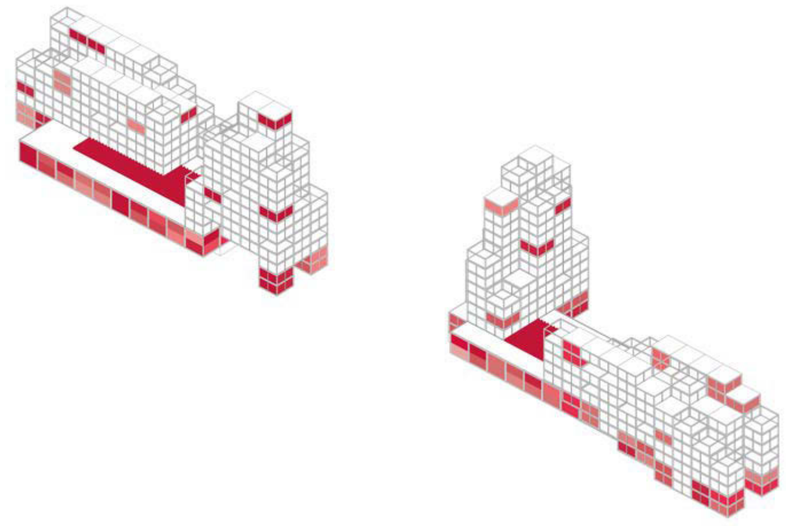
FLEXIBILITY AND INDIVIDUALIZATION
The chance to modify and individualize a living space is important for creating a sense of compatibility between the resident and the living environment. According to the basic idea of open construction, changes in the living environment happen on different scale levels and at different paces. The load-bearing outer frames of the modules form the so-called upper level of modular construction, enabling the virtually unlimited modification of the residential areas within the modular frame. As the modules are self-supporting, there is no need for load-bearing partition solutions.

The possibility of combining and separating apartments is bound to the idea, that outer frames of the modules have been prepared for certain structural reservations and changes already during the construction phase.
One of the basic properties of a neutral space is its sufficient size. The used definition of the frame-size is 7200mm x 7200mm with an subdivision standard of 3600 x 3600mm. The potential for dividing the space increases the flexibility of the space; in order to enable division, the space should have two entrances. Increasing the height of the module for 3.6 m allows many flexible and multi usable space solutions in apartments; a mezzanine floor can be placed so that a space

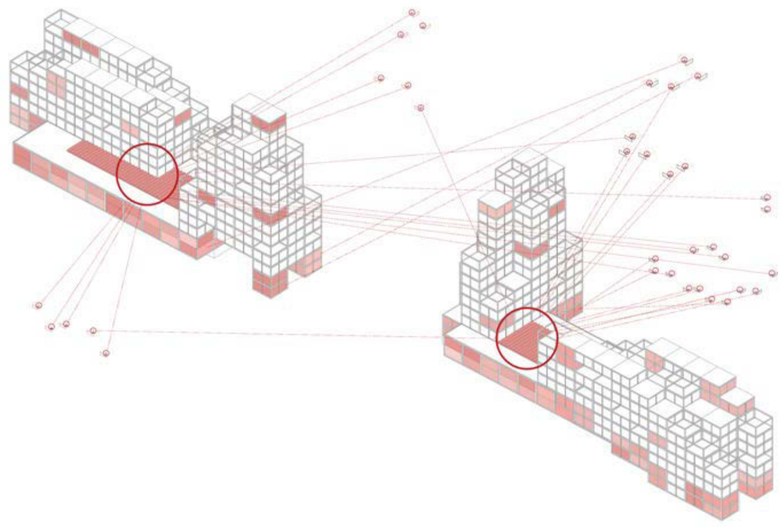
The use of prefabricated serviced modules encompassing for example all bathroom and kitchen facilities could offer an interesting possibility to increase efficiency of construction even further. Serviced modules are carried out so that serviced module includes bathrooms but only one side of the kitchen. The second side of the kitchen is located in the free space part of an apartment. All building technology should be installed inside the serviced module. The kitchen worktop in the free space should be mostly dedicated to the working platforms and small household appliances.



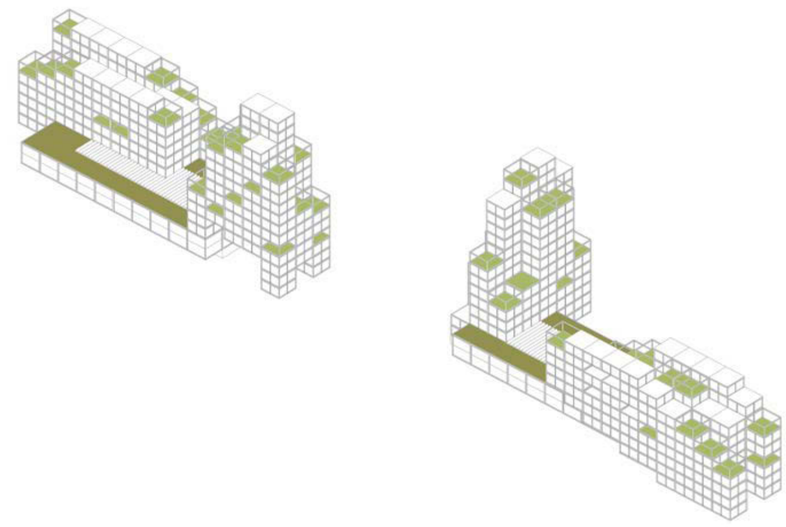
INCLUSIVE BLOCKS
the modular grid provides a decent base for an inclusive block. Appartments are ranging from 50m2 up to 150 m2 and can be combined in multiple ways according to the target group.



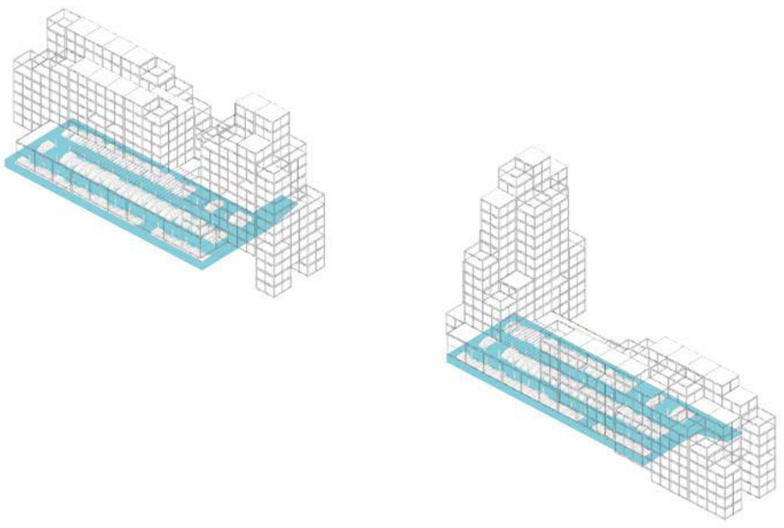
PRODUCTIVE SPACES
the productive spaces are mainly located at the first and second floor for retail and accessibility purposes. The heigher located area's are suitable for working at home.



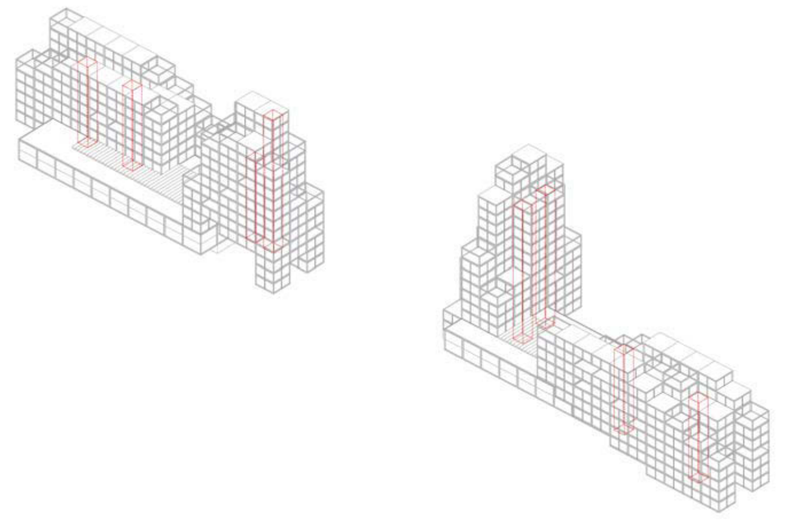
EMPLOYMENT FOR SURROUNDING AREA
the surrounding area can benefit from the microfactory and the collection and processing of textiles. Students and low-end craftsmen from the surrounding area are necessary in the production process.



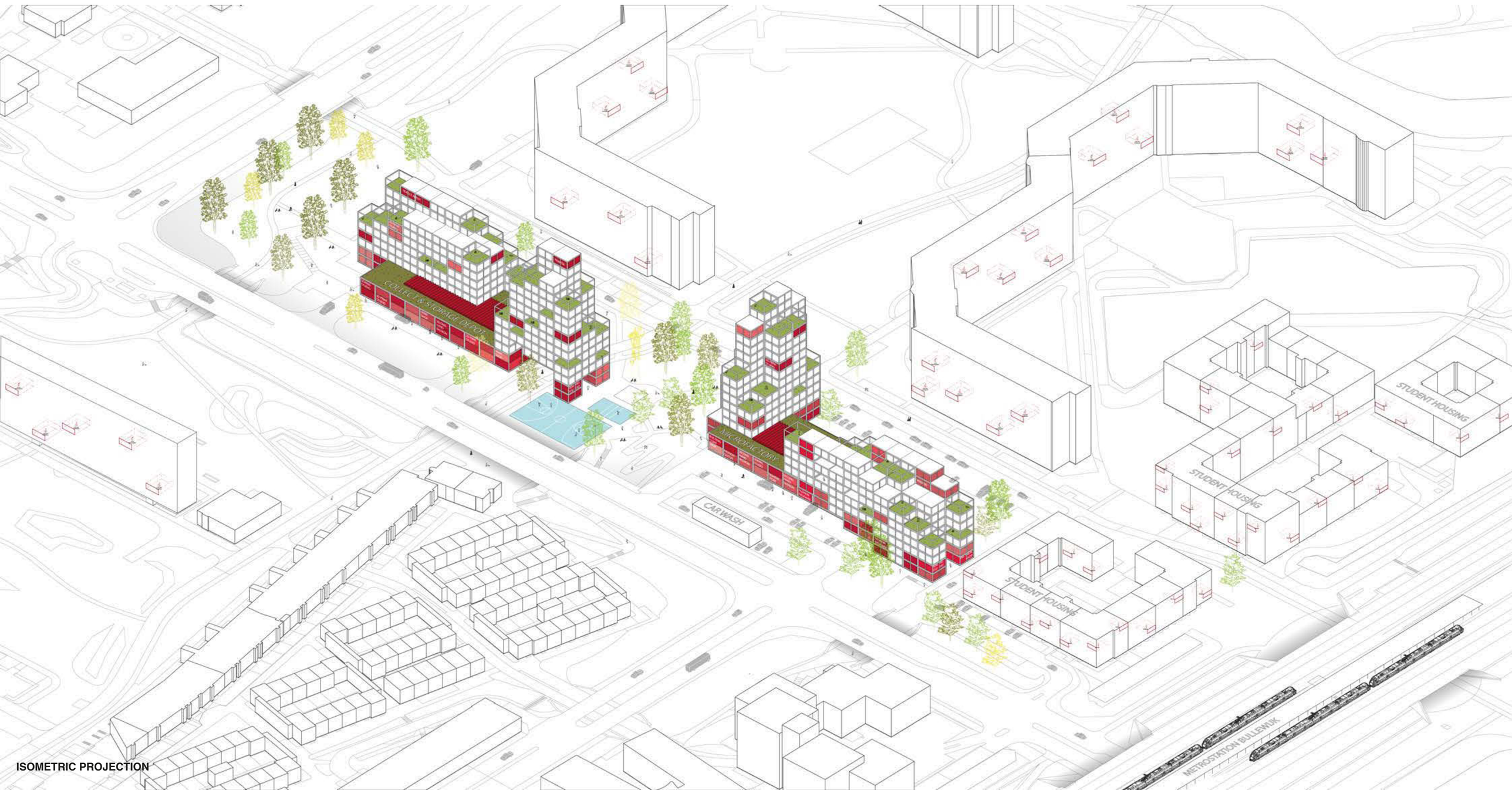
ROOFTOP GARDENS
rooftop gardens provide an healthier urban environment and strenghten the overall green appearance of the area.



PARKING
parking will be solved in two ways: parking garages and parking in the public domain. Two garages can't provide the necessary parking space so there will also be some parking in the public domain at already existing parking areas.



BUILDING ACCES
the building can be accessed by multiple vertical acces points. These points connect to all the surrounding appartments.



ISOMETRIC PROJECTION