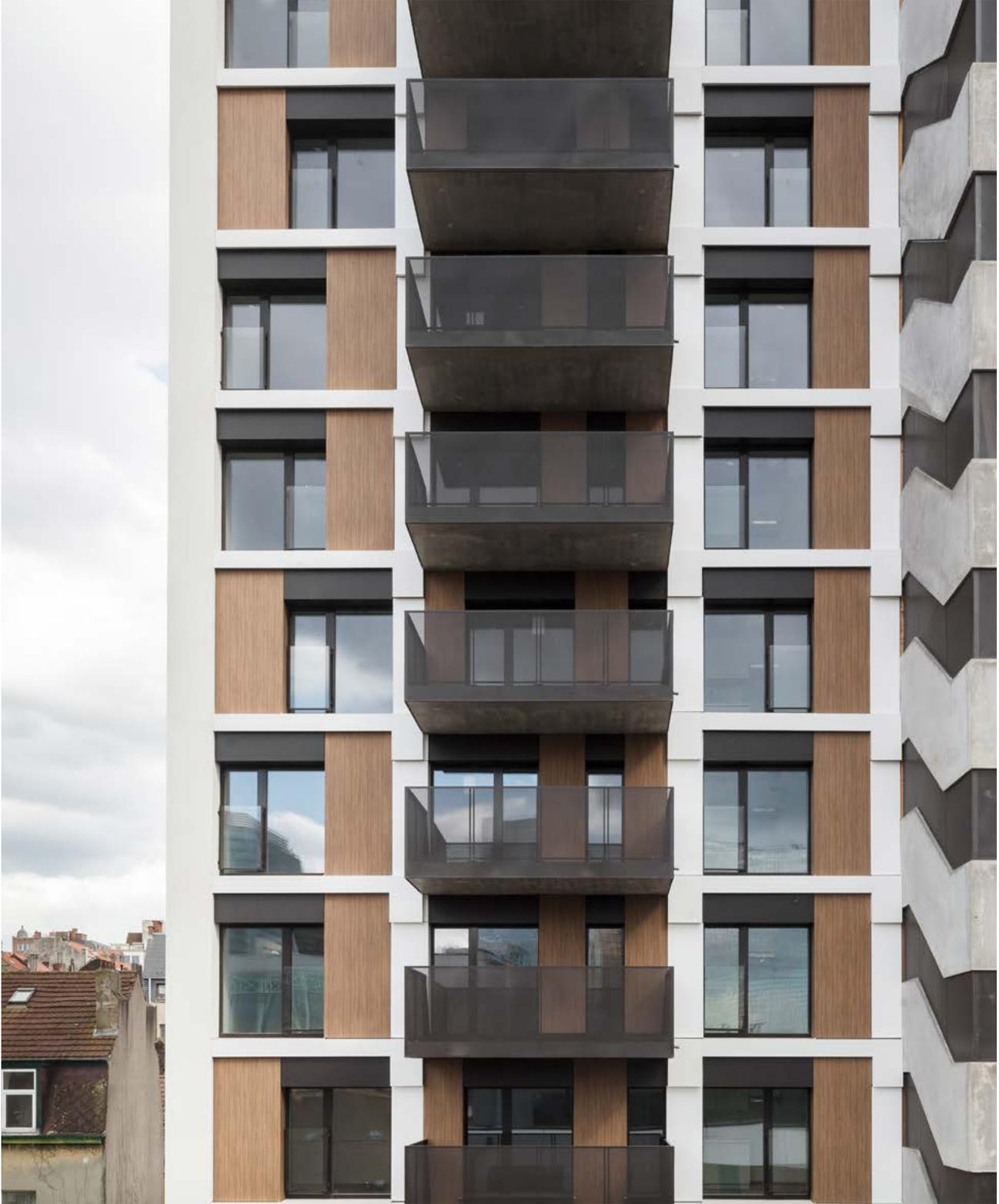


linné- plantes

passive renovation
of 50 social housing units
+ nursery for 36 children
+ public park

2018



brussels

a2m.be

M

linné-plantes

programme

50 social housing units, nursery and district park

owner

HBM

project manager

Beliris

location

Brussels, Saint-Josse-Ten-Noode

budget

€13.5 m inc. VAT

size

Homes: 5,636 m²
nursery: 484 m²
underground parking: 582 m²

timetable

2013-2018

architect

A2M

monitoring managers

Siegfried Smeets and Alice Herman

stability

Stubeco

special techniques

Istema

contractor

Artes TWT / Jacques Delens

performance

passive, zero energy, batex

press contact

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The A2M architecture practice gave themselves the aim of making our world more liveable, by promoting quality architecture with a high environmental value.

Amongst the design tools available, the passive standard proved to be the most useful for making specific, significant and pragmatic progress on this path.

This approach, which has become a methodology, permits A2M to explore new territories in the search for a holistic vision which covers social, urban, functional and formal questions.

After more than 10 years of leading zero energy, passive projects in Europe, Africa and the USA, A2M is exploring projects which go beyond simply limiting their impact on the environment, to actually regenerating it.

The agency projects translate this universe using an elegant, apt and contemporary vocabulary.

linné- plantes

The project concerns the renovation of a social housing tower block which dates back to 1958. The renovation incorporates a global and integrated approach which allows for a new relationship with the surrounding area. The modernist aesthetic of the Linné building is a landmark in the area.

As part of the revitalisation projects for certain areas in the Brussels-Capital region, Linné-Plantes is a seminal development which embodies the desire of the Saint-Josse-Ten-Noode commune to provide a new momentum to this area, which is located behind the gare du Nord (Brussels-North train station), very close to the 'Manhattan' of Brussels.

As a project undertaken for the benefit of the Low Cost Housing (HBM)* bodies of the municipality, and executed in close collaboration with the owner, manager and participants from the respective regional and municipal services, this Beliris-financed** initiative has been rightly considered as an extraordinary opportunity for the HBMs and their tenants.

The project is also part of the "Bâtiments Exemplaires - BATEX" (Exemplary buildings) framework which was initiated by the Brussels-Capital region to promote the construction of sustainable buildings and the sustainable renovation of existing buildings.

At the end of the competition organised by Beliris, the full brief of the project was entrusted to the Brussels architectural office A2M, pioneer of passive construction in Belgium, in collaboration with the construction company Artes TWT, winner of the public contract and responsible for managing the construction site.

This assignment specifically involves a complex of buildings and their surroundings. A residential tower block which dates back to 1958 and was created by the

architect Marcel Lambrichts, with a total of 13 floors, is located at number 95 rue Linné. Additionally, an apartment complex dating back to 1970 with 5 floors is found on the road located parallel to this, at numbers 94 to 96 on rue des Plantes.

These two buildings have benefited from an extensive renovation, meeting the passive standard. Fifty social homes from 1 to 3 bedrooms were completely rehabilitated. A nursery with a capacity of 36 children was also incorporated within this complex, which now houses a semi-public green space.

The result has met all expectations, to say the least. It is a vision of the future which weaves together space, light, transparency and a better quality of life, and which both occupants and residents will benefit from. It is a new momentum for vitality for the neighbourhood, and a new stimulus for an increased appreciation of the whole municipality.

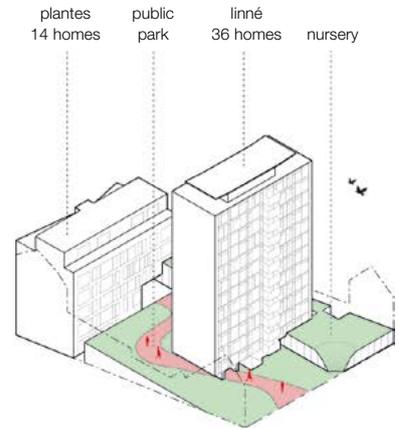
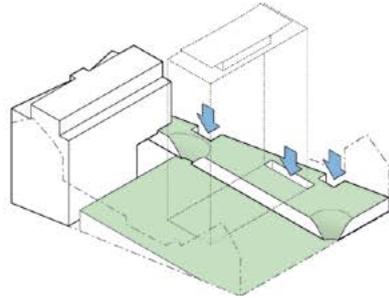
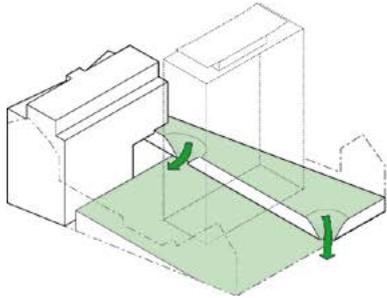
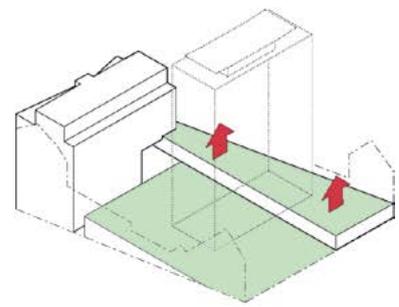
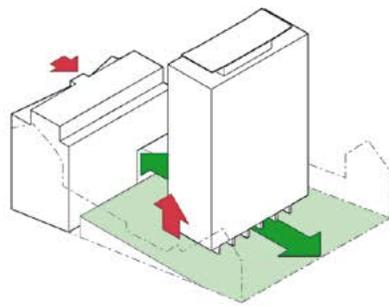
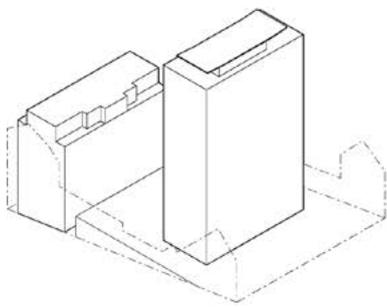
* HBMs fall under the Société Immobilière de Service Public, or SISP category (Public Service Property Companies). They offer and manage 800 social homes, or similar, in the Saint-Josse-ten-Noode municipality.

** Beliris is a federal team, which originates from a cooperation agreement between the Belgian Federal State and the Brussels-Capital region. Beliris manages construction, renovation and restoration projects in varied sectors such as mobility, green spaces, culture, heritage, sport, revitalisation of areas and social housing.









a holistic approach

Three key questions fuelled A2M's reflections in the project's development phase. How to implement a project in a context as special as the Gare du Nord area? How to make an almost insalubrious building a healthy and pleasant place to live? How to reconcile different uses of public space in the Linné and Plantes streets to create a new and positive connection to the neighbourhood? The project responds to each of these questions, to embrace this double challenge of individual and collective well-being.

respect of heritage

The architectural style of the Linné tower block, marked with the seal of the modernist movement, constitutes a strong element in the landscape, and a landmark in the neighbourhood.

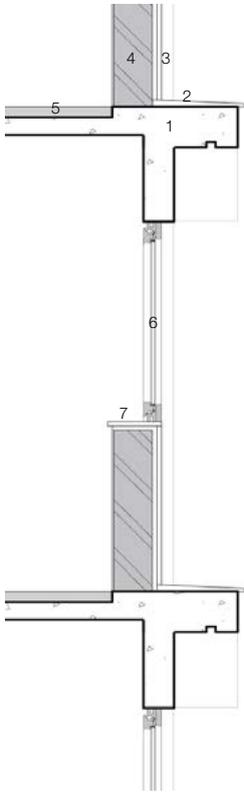
In terms of the project requirements and its immediate environment, A2M chose to respect this heritage by reinterpreting the modernist principles which characterise it, such as stilts which expose the ground within the ground floor footprint, to free up communal space and maintain visual transparencies, and also the open-plan form of the slab-columns structures.

In this dense and mineral district, the need to invite light and nature was obvious. The ground floor of the tower and the entrance to the buildings were therefore fully exposed to become an open space; a path linking the two parallel roads.

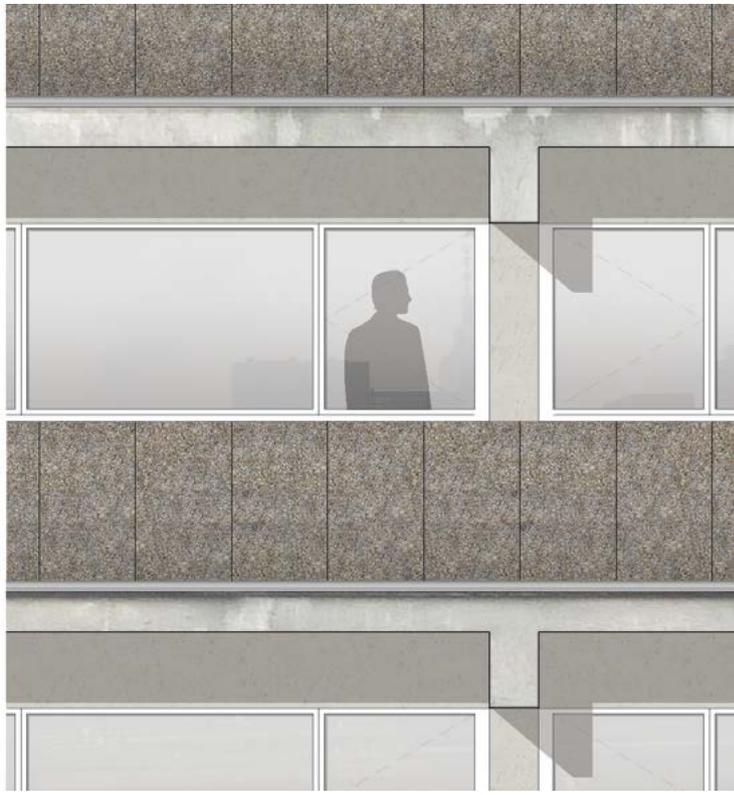
a very green proposition

This space, which resembles a form of porosity, offers a new lightness to the two buildings. It provides authentic transparency over the whole site, encouraging it to be crossed. Acting as an invitation, this pedestrian passage opens up from an inner-court onto a semi-public space, a park which is shaped by organic-based lines.

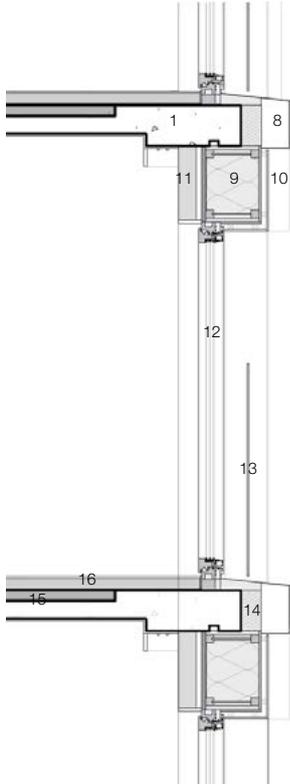
A green crossing acts as a breath of fresh air, a green breath of fresh air. It softens and embellishes the austere reality of the neighbouring streets. At the same time, it focuses on the well-being of the residents who - thanks to the thoughtful and clearly delineated integration of elements - have their private spaces and intimacy fully preserved.



^ old Linné building façade



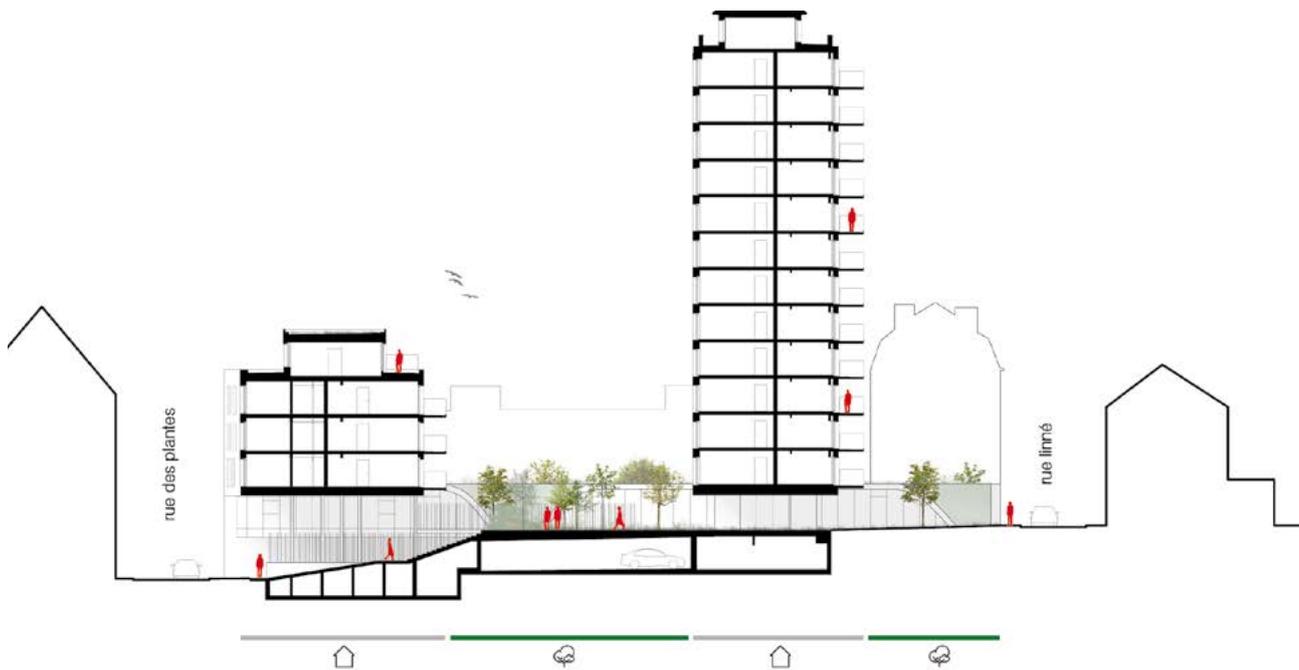
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^ new Linné building façade



- | | | |
|-------------------------|---|--|
| 1. concrete slab | 7. granite shelf | 12. triple glazed aluminium/wooden frame |
| 2. fibre cement sill | 8. white aluminium sheet sill | 13. glass railing |
| 3. washed flint panels | 9. wooden box with cellulose | 14. stone wool insulation |
| 4. concrete slab wall | 10. panel made from thermosetting resin | 15. concrete slab |
| 5. cork concrete screed | 11. plaster slabs | 16. acoustic insulation + screed |



a new skin which brings everything together

Although the original volumes of the buildings have remained the same, their envelopes have been fully redesigned in a spirit of openness and proximity. This results in a profound transformation in the architectural landscape of the area.

The façades have been fully re-clad, using prefabricated wooden boxes in a very carefully constructed composition.

Withdrawals of the two buildings from the streets, which can be considered as very narrow in relation to the roads, have been preserved. However from the Rue des Plantes, this enlargement was designed to revive the junction with neighboring façades and avoid areas conducive to waste deposits.

The pedestrian route is therefore marked by a crease in the façade. This looks as if it is supported by the glass cube which accommodates the new entrance of the building, and covers two levels.

like a suspended garden

The site and its park are now fully visible from the street and are enlivened by the presence of the nursery. It's slender form extends along the surrounding building and is sheltered under a layer of plants which - in a set of soft mounds - extends to bring the bare gables of the neighbouring houses to life.

Bathed in natural light thanks to the draping façades which accommodate large windows and patios which these look onto, the nursery offers children scenic views over the park, while protecting them from anyone looking in from the external area. It extends outside with a relaxation area.

The nursery therefore forms a bridge between the top, bottom and parallel forms, as a suspended garden or a link, uniting inhabitants, residents and different generations.



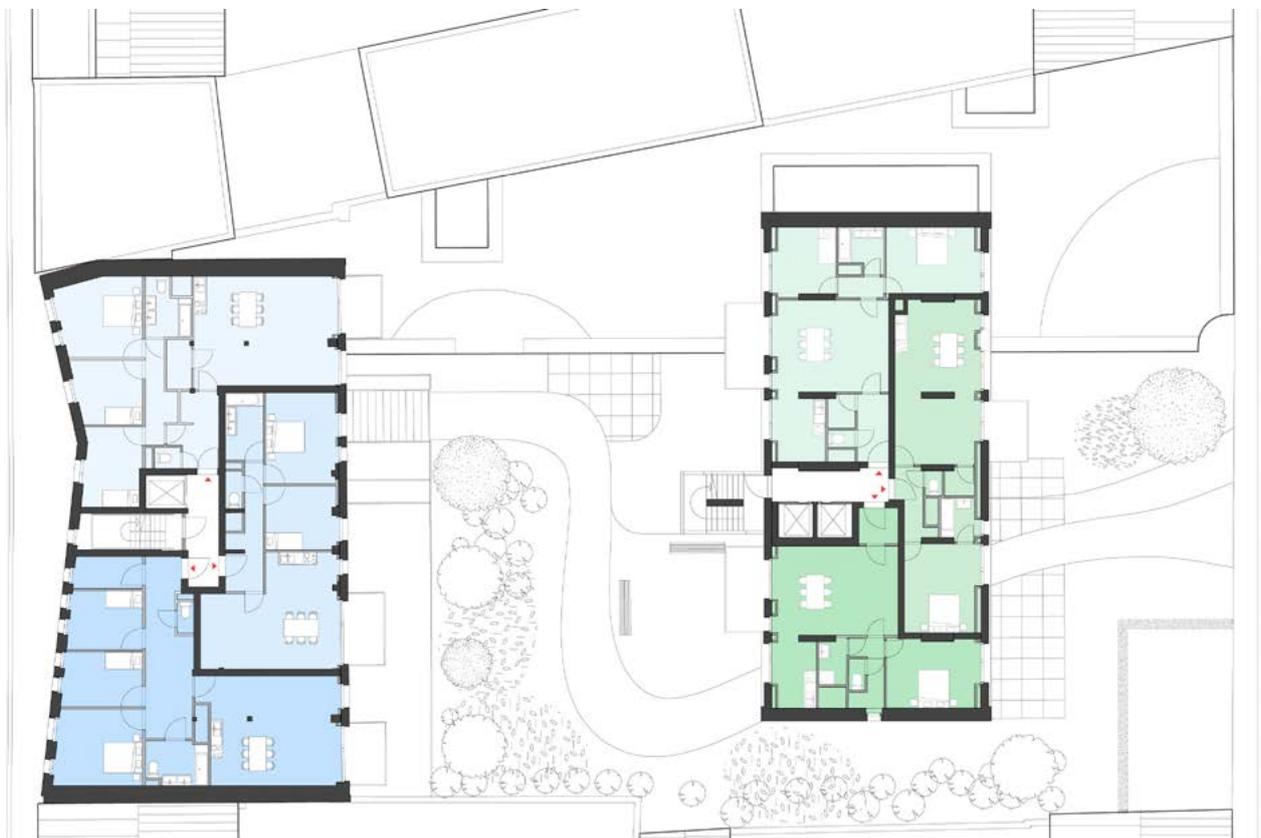
before renovation (2012)



after renovation (2018)







increased living quality

The existing buildings have numerous constraints, which have consequences for the spatial organisation. Overcoming these and finding the right balance to create quality spaces which meet today’s comfort requirements was therefore necessary. Because these social housing units needed to be enhanced by providing larger and more comfortable living spaces, quality became the key focus. The internal layouts and the circulation flows were therefore completely reviewed.

The residents now benefit from large windows and comfortable balconies which offer unprecedented panoramas. Designing these balconies was not included in the initial request from the project manager, but is a real benefit for the residents.

Several types of apartments have been developed to better respond to the various compositions of households.

This diversity was pushed further by the creation of different configurations, each with their own qualities: apartments which run across the building, exclusively south-facing apartments, duplex apartments, or apartments suitable for people with reduced mobility. 14 configurations were created in total, of which some can easily be transformed into other layout options.

The building located on the rue des Plantes features two duplex apartments, each with a street entrance, and 14 apartments with 2 or 3 bedrooms.

As for the tower block located on rue Linné, it includes 36 one or two bedroom apartments. Great attention was also paid to mobility. The existing underground parking was completely renovated, and a space created for bicycles was created.

Lastly, the thirteenth and last floor, the penthouse of the tower block, offers a vast communal space and magnificent panoramas over the city. Called “Cocolo”, it will be managed by the HBM.





a promise kept

The almost insalubrious existing buildings have been extensively renovated to meet the quality requirement proposed by A2M. The renovation therefore far exceeded the low energy standard, by meeting and even optimizing the passive standard. The original energy consumption of 160 kWh/m² per year is now 13 kWh/m² per year, without any additional construction costs. This follows the proposition and promise made in 2012 which convinced the project manager.

To achieve this goal, the construction site managers from Artes TWT, for whom the passive standard was completely new at this point in time, worked hard to follow the training provided by A2M via the Brussels-Capital Construction Confederation. The project has therefore gone from an experimentation field to a new benchmark for Artes TWT

and Jacques Delens. The study of the technical provisions to reduce energy costs was naturally based on A2M's strong desire to combine energy performance and reduced servicing costs. This is why a centralised power production solution was preferred to an individual solution. Thanks to the high degree of insulation and the excellent air tightness of the renovation, the heating requirements for the whole building have been limited to 50,000 kWh/year, and to 5,900 kWh/year for the nursery.

No less than a 180 m² area of solar panels facing due south provide the electricity and heating requirements of the communal spaces and nursery.

The total power installed for the auxiliary heating of the homes does not exceed 47 kW.

The most important energy installation is for domestic hot water. In response to this, 30 m² of glazed thermal solar collectors were placed on the roof of the Linné tower block to significantly reduce the requirements and produce 14,000 kWh of thermal energy. The power consumption costs were therefore dramatically reduced, to the benefit of the residents.

Lastly, the dual-flow ventilation with heat recovery (up to a maximum of 90%) guarantees continuous air quality within all of the homes and the nursery.

an exemplary building

In 2012, the project was selected by the Brussels Region to receive the Bâtiment Exemplaire designation (BATEX). This meant that the project needed to try to find a balance between suitable technologies, environmentally friendly materials and positive economic consequences. The building and achieved performances were carefully monitored by Bruxelles Environnement, the environmental body.

A2M easily achieved their goal, and this, for the 19th time. A2M has already received regional recognition in the form of 19 BATEX.

With 300 exemplary buildings completed to date, and a great deal of useful information collected from the service providers, the Brussels Region currently has a unique and

extraordinary shared database to support sustainable development issues, for the benefit all residents of Brussels.

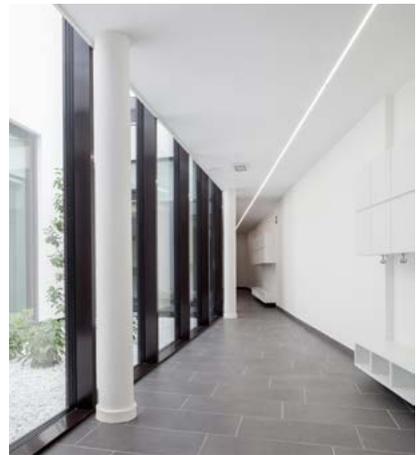
Beyond this exemplary nature which has been acknowledged, and the contribution of the project to transforming a neighbourhood whose intrinsic qualities could only be enhanced, the Linné-Plantes project shatters all of the common social housing clichés.

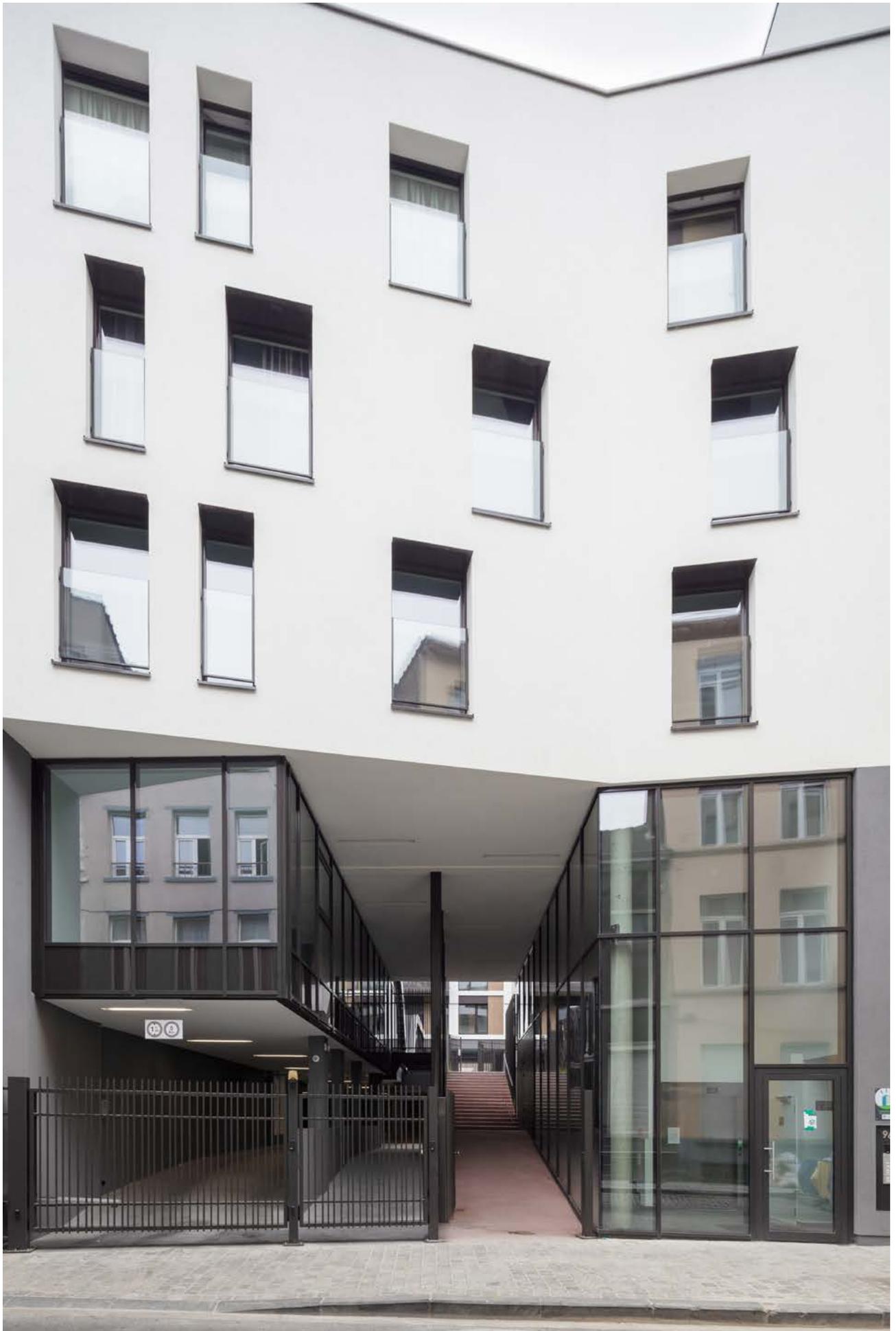
A2M is proud to have participated and contributed to a more habitable world. A natural commitment for a utopia in the making.





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