


115 Arche

by [Amandine Guillaume](#) / 2018-06-13 09:00:00 / Francia / 6700 / FR

Extension + refurbishment



Primary energy need :

64.2 kWhep/m².an

(Calculation method :)

ENERGY CONSUMPTION

Economical building *Building*

< 50	A	
51 à 90	B	B
91 à 150	C	
151 à 230	D	
231 à 330	E	
331 à 450	F	
> 450	G	

Energy-intensive building

Building Type : Office building < 28m
Construction Year : 2016
Delivery year : 2017
Address 1 - street : 115 avenue de l'arche 92400 COURBEVOIE, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 2 920 m²
Construction/refurbishment cost : 5 108 635 €
Cost/m2 : 1749.53 €/m²

Certifications :



Proposed by :



General information

The project is part of the recently built Arche neighborhood. It is located in a mixed housing and office area. It enjoys an exceptional situation. It develops on the avenue of L'Arche. This axis connects Defense to Courbevoie.

The "115 Arche" project, currently undergoing HQE Excellent, BREEAM Very Good and Effinergie + certifications, responds to this qualitative neighborhood challenge by helping to renew the image of the city and Boulevard de l'Arche.

The renewal of the building dilapidated by contemporary architectures, the development of a diversified commercial offer, the connection of neighborhoods by a continuous public space and quality meet the challenge of this site.

Sustainable development approach of the project owner

The project has several ambitions:

- Renew and extend the image of the site by creating a new entity and anchor the new renovated project in the neighborhood ensuring continuity, consistency and links
- Integrate into the neighborhood and provide employees with a quality work environment that encourages exchange and teamwork
- Optimization of workspaces in day one
- Function / image adequacy
- Investment / maintenance performance
- Flexibility of workspaces

The project responds to the desire to develop exemplary buildings on environmental issues, sustainable development and savings of space and resources.

The openness and transparency created allow a panoramic view of the entire site.

A unifying and efficient project

The composition of the project meets several objectives voluntarily affirmed:

- Creating new links with the city
- Readability of access to the entire site
- The search for urbanity and conviviality
- The creation of terraces with plantations to fight at the scale of the building against heat islands
- Optimizing spaces and maximizing open spaces
- The comfort requirement

Particular attention has been paid to the comfort and quality of use of the spaces, be it hygrometric, acoustic, visual comfort, the concern of the sanitary requirements related to the quality of the air, materials and the maintenance of spaces.

Architectural description

The building is built in a second plan in relation to the Boulevard de la Mission Marchand.

At the corner of Avenue de l'Arche, rue du Réverend Père Cloarec and the boulevard, a non-built space treated in a vegetal place creates a visual breakthrough from the boulevard on the façade of our project.

The transparent hall develops on a double level with a generous interior volume. Reception, cafeteria and meeting spaces are organized at the DRC level.

The project responds to two scales of the city: the metropolis and the urban fabric.

The height of the existing building is raised from R + 3 to R + 4 and upgrades to the last level office space of 280 m² of sdP.

The silhouette of the project fits into the urban context of the neighborhood, the juxtaposition of housing and office buildings on the theme of "working differently" by creating a space of conviviality.

In our approach for this project, we audited the elements that could be preserved at the functional and structural level.

The existing plan enhances the working spaces on the first day in a building thickness of about 12 meters.

The intervention in relation to the existing and the extended has consisted in valuing and maintaining the maximum workspace in the first day, while integrating the functional elements with the evolution of the dimensional standards.

The project considerably improves this treatment by providing green spaces planted in the ground, planted planters and a special soil treatment to mark the functions (traffic, parking, pedestrian area).

The choice of materials is part of a trend of urbanity, durability, ease of maintenance and modernity, while respecting the guidelines of High Environmental Quality.

2 materials are available for the entire project: glass and thermo lacquered steel.

The volume is expressed with an identical color so that the project is perceived as an "urban sculpture" that varies according to the angles of view from the city, from Paris, La Défense and the ring road.

See more details about this project

<https://www.ga.fr/nos-realizations/ga-renove-limmeuble-dentreprise-115-arche>

Stakeholders

Contractor

Name : AEW Ciloger

Contact : <https://www.ciloger.fr/form/contact>

<https://www.ciloger.fr/>

Construction Manager

Name : ARTE Charpentier

Contact : Alexandre Maneval - 0661098468

<http://www.arte-charpentier.com/fr/>

Stakeholders

Function : Construction company

GA Smart Building

<https://www.ga.fr/nos-implantations-retrouvez-toutes-nos-agences-en-france>

<https://www.ga.fr/ga-smart-building>
builder

Function : Developer

GA PROMOTION

<https://www.ga.fr/>

Energy

Energy consumption

Primary energy need : 64,20 kWh_{ep}/m².an

Primary energy need for standard building : 110,00 kWh_{ep}/m².an

Calculation method :

Breakdown for energy consumption : Distribution of final energy consumption (kWh_{ep} / m².year): Heating: 10.6 Cooling: 1.3 Hot water: 2.9 Ventilation: 4.3
Auxiliary: 2.0 Lighting: 3.7

Real final energy consumption

Final Energy : 24,90 kWh_{ep}/m².an

Real final energy consumption/m² : 24,80 kWh_{ep}/m².an

Real final energy consumption/functional unit : 24,80 kWh_{ep}/m².an

Year of the real energy consumption : 2 018

Envelope performance

Envelope U-Value : 0,73 W.m⁻².K⁻¹

More information :

See the details of the envelope in the thermal study attached in the description

Building Compactness Coefficient : 0,11

Indicator : n50

Air Tightness Value : 1,67

Users' control system opinion :

Very satisfied

More information

See the details of the consumptions in the thermal study attached in the description

Renewables & systems

Systems

Heating system :

- Heat pump
- Electric heater

- o Fan coil
- o Aerotherm Heater
- o Others

Hot water system :

- o Individual electric boiler

Cooling system :

- o Fan coil
- o VAV Syst. (Variable Air Volume system)

Ventilation system :

- o Single flow
- o compensated Air Handling Unit
- o Double flow heat exchanger

Renewable systems :

- o No renewable energy systems

Other information on HVAC :

See the document Description of Systems Attached

Smart Building

BMS :

GAPEO: Active Management of Energy Performance by Computer, in order to optimize the consumption of energy.

Users' opinion on the Smart Building functions :

GAPEO system provides customers with significant energy savings for their customers

Environment

Urban environment

Land plot area : 2 837,00 m²

Built-up area : 85,00 %

The project is located in a mixed neighborhood of housing and offices and enjoys an exceptional location on the Avenue de L'Arche. This axis connects Defense to Courbevoie. The vehicles access the project via Mission Marchand Boulevard and National Boulevard. The tram and bus lines serve the site from La Défense and Garennes-Colombes. The tram station is located 120 meters from the project, Tram line 2 station Les Fauvelles. From the Grande Arche de la Défense, pedestrians travel a distance of 1 kilometer across the district of l'Arche, district of offices, shops and housing. The public spaces of this district are landscaped with quality green spaces, rows of trees on the sidewalks. Pedestrians walk along the Avenue de L'Arche and streets formed by the alignment of buildings around islands open gardens. The plant has developed occupying a preponderant place. The pedestrian crossing of this district is pleasant, qualitative, and bathed in light. Various perspectives frame the urban landscape. This rectilinear avenue puts into perspective the urban silhouette of La Défense from the entrance of the building. The visual cue and orientation on the site are legible and obvious. The site is not very dense, the office buildings on the periphery of the project have an R + 4 spanning, the dwellings have a height of R + 6.

Products

Product

GA NewSkin

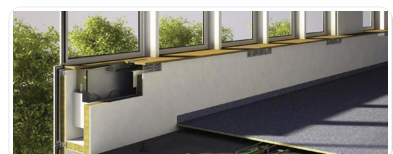
Groupe GA

gaparis@ga.fr

<https://www.ga.fr/>

Product category : Table 'c21_spain.innov_category' doesn't exist SELECT one.innov_category AS current,two.innov_category AS parentFROM innov_category AS oneINNER JOIN innov_category AS two ON one.parent_id = two.idWHERE one.state=1AND one.id = '9'

NewSkin allows the replacement of the old facade of buildings with a new envelope that integrates all the exclusive GA equipment: triple glazing with integrated blind and air handling module. The facade becomes active by hosting all the technology of the building, while false ceilings are removed. Equipped with the Gapéo integrated steering system, the renovated buildings become intelligent.



GAPÉO®

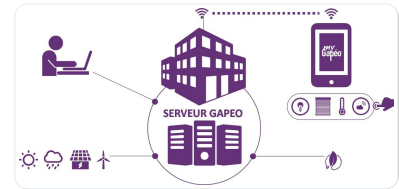
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The Gapéo technical management system, Active Management of Computer Performance, allows to control the comfort and the environmental and energetic performance.



Thanks to Gapéo's centralized technical management system, all equipment designed, built and installed by GA Smart Building can be controlled from the same point. The control center analyzes the data recorded by the individual devices and sends them instructions. Each space has a level of comfort optimized, according to the wishes and habits of each user. The Gapéo solution also enables GA Smart Building to commit to a specific energy consumption level with its customers as part of a performance contract.

Costs

Construction and exploitation costs

Total cost of the building : 5 108 635 €

Carbon

GHG emissions

GHG in use : 2,00 KgCO₂/m²/an

Methodology used :

Energy label

Building lifetime : 50,00 année(s)

GHG Cradle to Grave : 100,00 KgCO₂ /m²

Does not consider GHG emissions before use, and assumes a 50-year building life.

Life Cycle Analysis

Eco-design material :

Description of the different materials and constructive elements in attachment

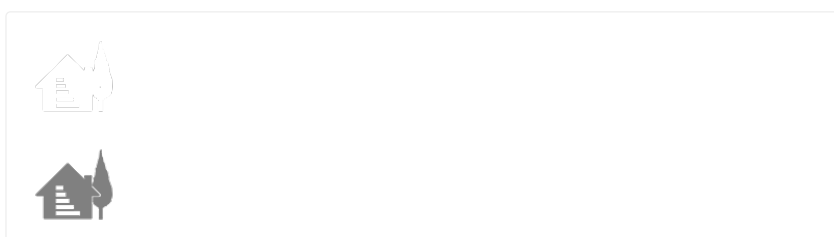
Contest

Reasons for participating in the competition(s)

The 115 Arche project has been renovated with NewSkin, optimizing building insulation. The thermal comfort is optimal: The air treatment modules, integrated into the facade, are connected to a reversible production installed in the basement. They provide heating, air conditioning of offices as well as air treatment and night cooling (free cooling). The integration of air treatment to the facade eliminates all false ceiling networks and maximize height free of office trays. Employees who occupy these offices can take full advantage of natural light and work in generous volumes.

Energy and environmental performance are provided by the GAPEO monitoring and consumption monitoring software.

Building candidate in the category



Energie & Climats Tempérés



Coup de Cœur des Internautes



Prix des Etudiants



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