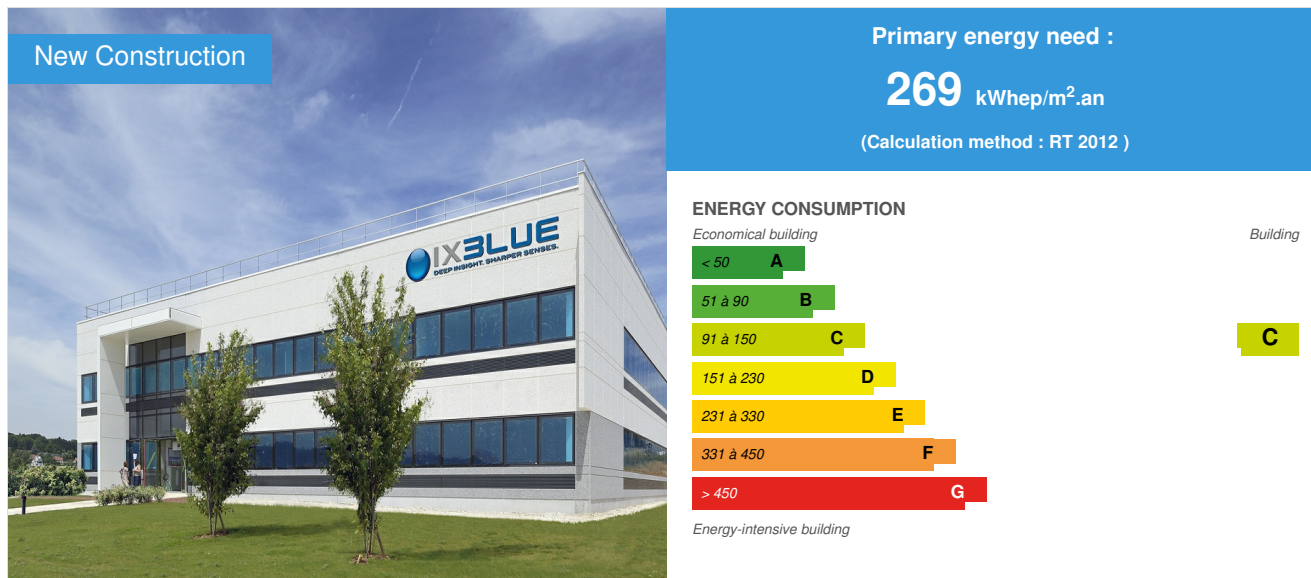


IXblue, the industrial building for satellites

by GA Smart Building / 2018-02-22 09:00:00 / France / 6882 / FR



Building Type : Factories
Construction Year : 2014
Delivery year : 2015
Address 1 - street : 3 rue Sophie Germain 25000 BESANÇON, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 1 299 m² SHON RT
Construction/refurbishment cost : 2 850 000 €
Cost/m² : 2194 €/m²

General information

In accordance with the projected schedule, GA Smart Building delivered at the end of July 2015 a new tertiary building with laboratories on the Technopole Microtechnique & Scientifique TEMIS in Besançon, on behalf of AKTYA (real estate subsidiary of Grand Besançon) / SEDD (Community of Communes of Besançon) and their renter IXBLUE (formerly PHOTLINE). This 2,500 m² SP building includes a ground floor mainly dedicated to laboratories and a floor dedicated to office activities. IX BLUE, renter of AKTYA, is specialized in the production of opto-electronic components (photonics). The ground floor dedicated to laboratories includes:

- 1 clean room of 350 m², class 1000, classified ISO 6 and 7
- 1 production area of 400 m², classified ISO 8- 32 000 m³/h of blown airflow
- 2 air handling units of 18,000 m³/h and 7,000 m³/h

Sustainable development approach of the project owner

For this project, GA Smart Building has implemented all the technologies developed by its research teams, thus ensuring a very low level of energy consumption thanks to the technical solutions chosen.

The concrete envelope allows good insulation and maximum thermal inertia (in winter, the walls and slabs restore the accumulated heat, conversely in summer, they restore freshness).

The building, in addition to being equipped with a BMS, is managed with meaning, simple measures can limit energy consumption:

- The extremely fine regulation of heating with the GAPEO system (BMS) allows to adapt the energy intake depending on the occupation of the premises and their exposure: the temperature is pre-programmed at 22°C during office hours, and decreases during the evening. The building is in a standby state on weekends and

holiday periods.

- The dual flow system ensures the recovery of 83% of the calories carried by the extracted air.
- The installation of triple-glazed windows with motorized and controlled integrated venetian blinds is an active protection against the summer sun.
- The installation of luminaires equipped with photometric sensors that automatically adapt to the ambient light.
- Awareness-raising actions for ecogests were conducted with building staff. - Maintenance is anticipated when installing new machines / processes

Architectural description

IX BLUE (formerly PHOTLINE), a tenant of AKTYA, specializes in the production of electronic modulators.

The building was oriented according to the luminous contributions:

In the North, steel cladding.

To the south, the building has large windows to benefit from the sunlight.

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See more details about this project

<http://www.ga.fr/nos-realisations/ixblue-le-batiment-industriel-au-service-des-satellites>

Stakeholders

Stakeholders

Function : Construction Manager

GA Smart Building

Franck Lambert

<https://ga.fr>

Function : Designer

CDA Architectes

+33 5 61 52 84 94 - cda.archi@wanadoo.fr

<http://www.cda-architectes.fr/>

Function : Contractor

AKTYA/SEDD BESANCON

M. Koehler

<http://www.sedd25.fr/>

Function : Environmental consultancy

IX BLUE

M. Porte

<https://photonics.ixblue.com/>

Tenant occupying

Function : Construction Manager

Energy

Energy consumption

Primary energy need : 269,00 kWh_{ep}/m².an

Primary energy need for standard building : 400,00 kWh_{ep}/m².an

Calculation method : RT 2012

Breakdown for energy consumption : Annual consumption Process: 89.9%

Lighting: 3.2% PC: 1.6%

ECS: 0.2%

Systems

Heating system :

- Individual gas boiler
- Heat pump

Hot water system :

- Individual electric boiler
- Urban network

Cooling system :

- Reversible heat pump

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Heat pump

Other information on HVAC :

PACs (type GA 8.1) have been installed. Given the constant work activity in the premises, the required level of comfort can be provided by this type of machine, for the following reasons:

- Efficiency of the machine in heating mode: 2,37.
- Efficiency of the machine in cooling mode: 2,33.
- PACs located in the light of powerful joinery to which they are connected via a BMS which automatically puts the machine in stop in case of opening of chassis.
- System simultaneously ensuring the renewal of air by a low energy consumption fan.

Smart Building

BMS :

BMS (GAPEO) also flexible to optimize the hours of operation and frost protection for savings.

During the day, pre-programming heating and ventilation systems at a temperature of 22°C. The temperature is decreased in the evening and the weekend, and reprogrammed to 22°C for the arrival of the occupants.

Environment

Urban environment

The building is located in the heart of the TEMIS campus in Besançon (Microtechnology and Scientific Technopole) 5 minutes from the A36 motorway and 10 minutes from the TGV station. This 250-hectare technology campus is home to high-tech companies.

Products

Product

Gapéo

GA Smart Building

ga@ga.fr

<http://www.ga.fr/nos-technologies/gapeo>

Product category : Management / Facility management

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

Health and comfort

Indoor Air quality

Air renewal is provided by two ACTs.

Comfort

Health & comfort : The GTC makes it possible to regulate the thermal comfort of the users according to their presence in the building. Presence detectors installed can also optimize energy consumption.

Acoustic comfort : undefined

Carbon

GHG emissions

GHG in use : 3,00 KgCO₂/m²/an

Methodology used :

RT2012



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