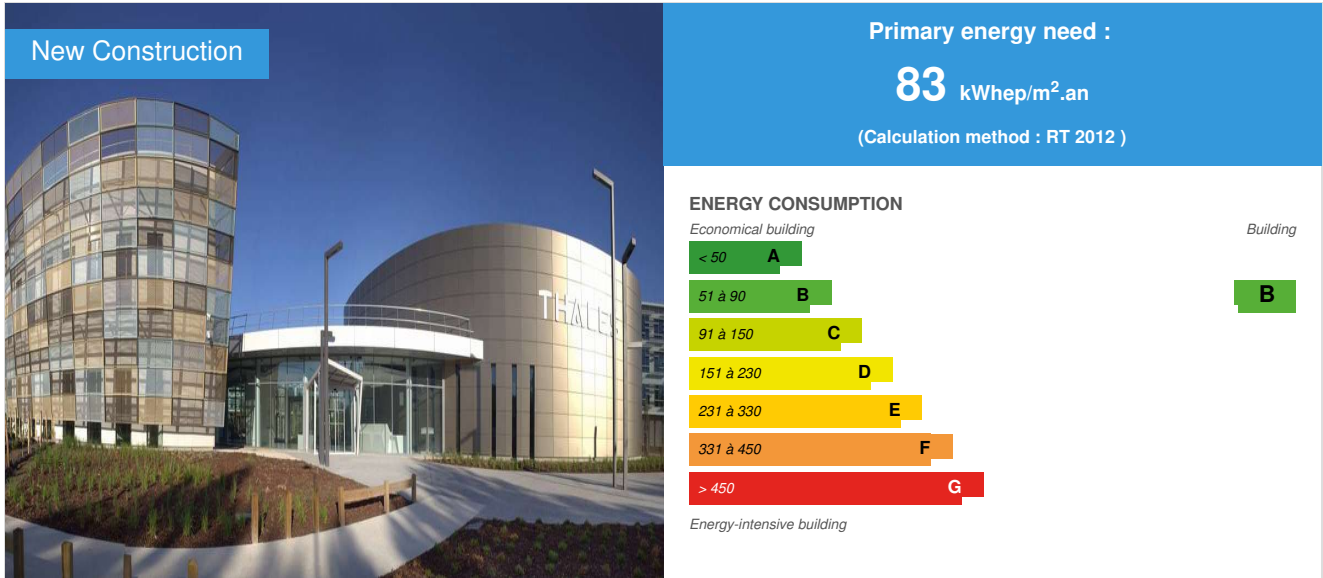


Campus Thales

by [Amandine Guillaume](#) / 2020-08-04 17:49:46 / France / 18456 / FR



Building Type : Office building < 28m
Construction Year : 2015
Delivery year : 2017
Address 1 - street : 75-77 Avenue Marcel Dassault 33700 MÉRIGNAC, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 58 996 m²
Construction/refurbishment cost : 135 000 000 €
Cost/m² : 2288.29 €/m²

Certifications :



Proposed by :



General information

When the electronics giant Thales chose GA for the creation of a new site in Bordeaux Mérignac, the Group brought the final stone to Campus Cristal, the new headquarters of Thales Communications & Security, in Gennevilliers. There is no doubt that strict compliance with the delivery deadlines for the first site as well as a similar technical background qualified GA for the construction of the new corporate building of the electronics giant in Bordeaux Mérignac.

The architect Jean-Philippe Le Covec imagined at the entrance of the site, an entire building dedicated to the reception and services with a restaurant, a business center, a space dedicated to the works council, a conciergerie, a showroom and many meeting rooms. Above all, the seven office buildings are connected by a "technological boulevard", a veritable interior street designed to encourage traffic and exchange between Thales employees. A place that combines many services, a computer, health, concierge, reprography, where employees of different departments are brought to meet and exchange.

Designed to improve the performance and well-being of its occupants, the campus is constructed in nine buildings in the heart of a landscaped park:

- At the entrance of the site, a whole building is dedicated to the reception and the services with a restaurant of company, a business center, a space dedicated to the works council, a conciergerie, a showroom as well as numerous rooms of meetings
- Seven office buildings are connected by a "technological boulevard", a real interior street designed to promote traffic and exchange between Thales

- employees. Common ground floor where one can also find the production and final integration areas of Thales
- The technical equipment of the site is gathered in another building
- The campus finally benefits from a vegetated park of 1,700 seats and 250 places for bicycles and two wheels.

Ultra-modern and of high environmental quality, the Thales Campus in Bordeaux is certified HQE® and BREEAM.

Sustainable development approach of the project owner

For several years, the THALES project owner has been committed to an environmental policy, as evidenced by its annual environmental record, the ISO 14001 certification of several of its sites and its commitment to the "THALES Air'Innov Campus" operation to implement a HQE and BREEAM certification. The entrance buildings and the technical building and general services, although out of the perimeter of certification were verified during the audit and both meet the objectives of this one including thermal ones. The client has set up an operation management system. He is assisted for this by an AMO HQE: EGIS CONSEIL BUILDINGS since the beginning of the operation, presenting references in the field concerned. The QEB objectives translated into the program and targeted at the Design stage are justified and relevant to the operation and will, if met, achieve the minimum level of environmental quality required to achieve certification.

Architectural description

Delivered in August 2016, the real estate complex designed by the architect Philippe le Covec and built by GA smart building for the Thales Group in Bordeaux is home to 60,000 m² of 2,500 employees of the electronics. Six office buildings, linked together by a common ground floor, form a real hub for circulation and exchange. The scale and color of the façades follow the inspiration of the highest regional places, like the Place de la Bourse in Bordeaux. On the service side, everything is planned to offer employees the perfect balance between well-being and quality of life at work. An entire building incorporates the corporate restaurant, a business center, the works council, a concierge, a showroom and many meeting rooms. All the technical equipment of the site is grouped in a separate building. And a vegetated parking lot includes 1850 seats including 150 places for two wheels.

Building users opinion

"It's a campus where workplaces are designed for the comfort of users: patios, natural lighting, shared spaces with lots of windows" Jean-Philippe Le Covec, architect.

If you had to do it again?

"Thales has already had the opportunity to work with the GA Group for different types of buildings, tertiary, industrial ... We know the range of its know-how. GA was chosen for the realization of our site of Gennevilliers, property of AG Real Estate. GA has reassured the realization of a project of this size (87,000 m²) in a short time (18 months). The site was well mastered, and the site delivered with the expected level of quality. Eric Supplisson - Thales Real Estate Director

See more details about this project

<https://www.ga.fr/nos-realizations/le-campus-thales-bordeaux-immobilier-dentreprise-xxl>

<https://www.tekla.com/fr/r%C3%A9f%C3%A9rences/campus-thales-bordeaux-du-groupe-ga-le-bim-au-coeur-du-projet>

Stakeholders

Contractor

Name : Thalès Direction Immobilière

<https://www.thalesgroup.com/fr>

Construction Manager

Name : Jean-Philippe Le Covec Architecture

<http://www.lecovec.com/#/accueil>

Stakeholders

Function : Assistance to the Contracting Authority

Objectim

<http://www.objectim.fr/index.html>

General AMO

Function : Assistance to the Contracting Authority

Egis

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

Function : Assistance to the Contracting Authority

Gerea

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

AMO Environment

Function :

CETAB

<http://cetab.fr/>

Office VRD study and structure

Function : Company

Groupe GA

<https://www.ga.fr>

General Enterprise

Function : Other consultancy agency

Barbanel

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

Fluid studies office

Function : Structures calculist

AVLS

<http://avls-fr.com/>

Energy

Energy consumption

Primary energy need : 83,00 kWhep/m².an

Primary energy need for standard building : 136,00 kWhep/m².an

Calculation method : RT 2012

Breakdown for energy consumption : Annual breakdown of conventional energy consumption stations for the factory building Auxiliary ventilation: 36% - 30.5 kWhep / m² Heating: 31% - 29,1 kWhep / m² Lighting: 25% - 21.5 kWhep / m² ECS: 5% - 6.6 kWhep / m² Cooling: 3% - 3.6 kWhep / m²

Envelope performance

Envelope U-Value : 0,36 W.m⁻².K⁻¹

More information :

Metal frame

Thermal insulation to the outside

Glass curtain facade

Renewables & systems

Systems

Heating system :

- Urban network

Hot water system :

- Individual electric boiler

Cooling system :

- Water chiller

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

Smart Building

BMS :

The building design offers great adaptability over time by allowing space planning, thanks to the GTB connected to addressable luminaires and fan convectors.

Environment

Urban environment

The architect endeavored in the general design of the project to respect this heavily wooded site of heathland character and subject to the presence of a water table flush while taking into account the specificity of the industrial program (complexity of internal circulation with a very important management of the safety for example), as evidenced by the following developments: an integrated management of rainwater (valleys, dry basins, water basin in the heart of the project), a neat entrance with its vineyard garden, a parking planted (600 trees) with hedges and specific wooded environments (oaks, pines, beeches, elms, hornbeams, ash trees, etc.), a careful work on the green fence that overlooks the new avenue Marcel Dassault with a path sports, patios and green roofs and a central convivial space (restaurant terrace, water basin, clearing, mail, etc.).

Products

Product

FullBIM, the 3D digital mockup that covers the entire project, from design to operation

GA

ga@ga.fr

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

Product category : Management / Facility management

the site was built using GA's proprietary FullBIM process, which offers a 3D digital model that provides a unique level of building knowledge at each stage of the project. The model, in which all the information related to the buildings and their operation is compiled, must be handed to the Thales teams at the end of the project. This digital avatar of the Campus will allow them to make the best use of the site, in terms of maintenance, space planning, GTC, indoor geolocation, eco-performance ...

The precious and detailed GA BIM software saves time and efficiency throughout the project. Because it is a unique repository between all stakeholders, the FullBIM model changes management methods and ensures collaborative and efficient work at every stage of construction.

Thanks to the training provided by GA on the FullBIM model, partners and subcontractors can develop skills on BIM, an asset for the entire profession.

At the end of the project, the BIM model is handed over to the client, who thus has access to all the information relating to the buildings and their operation. In phase of BIM exploitation, this digital avatar facilitates the adaptability of the site according to the needs of the customer.

"The FullBIM digital mockup allows you to cover a whole project, from its design to its exploitation through production. BIM solves complex problems in the design phase and not on construction sites during the construction phase. Rémi Visière, Research and Development Research Director, GA Group.

<https://www.youtube.com/watch?v=1MvgkOxH-kY>

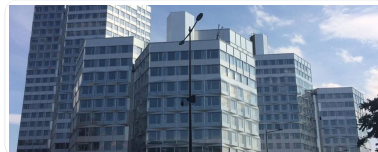
The Thales campus in Bordeaux voted best BIM project of the year 2016, world level, all categories combined

In 2016, the 73 winners of the BIM Awards from around the world competed to win the Tekla International Prize. The Tekla Global BIM Awards showcase bold projects in terms of designing and building impressive structures.

A jury made up of industry experts was to designate the winners in each category of real estate projects (commercial project, public project, industrial project, infrastructure, sports and recreation, student project). Each award recognizes innovative use of BIM technologies.

Costs

Health and comfort



Water management

Establishment of storage tanks and valleys to avoid saturation of the urban water network

Comfort

Health & comfort :

Thales wanted to make well-being a key performance issue by facilitating employees' daily lives and encouraging a healthy work / life balance. The Campus is constructed in 9 buildings in the heart of a landscaped park - At the entrance of the site, an entire building is dedicated to the reception and services with a restaurant business a business center, a space dedicated to the business, a concierge, a showroom and many meeting rooms - Seven office buildings are connected by a " *technology boulevard* ", a real indoor street designed to promote traffic and exchange between Thales employees. Common ground floor where we also find the areas of production and final integration of Thales.

Contest

Reasons for participating in the competition(s)

Histoire du projet :

Le projet a débuté dans la foulée de la signature du contrat en janvier 2015 pour une livraison le 1 août 2016. Une telle rapidité pour un chantier d'une telle ampleur a été rendue possible grâce à l'utilisation du procédé FullBIM, couplée à une conception hors-site. Ces deux modes de conception sont complémentaires en permettant une standardisation au service de la productivité. Cette approche permet à l'ouvrage de s'adapter aux besoins des différentes parties prenantes. FullBIM est un outil développé par GA qui intègre tous les éléments d'une construction et permet également de réaliser des simulations.

L'outil BIM :

GA maîtrise chacune des étapes de la construction, depuis la modélisation BIM, en passant par la fabrication dans ses usines, jusqu'à l'assemblage de ses produits sur chantier par ses propres équipes.

Grâce à une description précise de chaque procédé construction, le bâtiment constitue une base de données complète pour le processus productif en usine ; la maquette BIM assure un lien direct entre le bureau d'étude et l'usine. La 3D apporte un visuel en perspective du composant : cela engendre moins d'erreurs, plus de maîtrise, plus de rapidité et plus de qualité pendant la phase travaux.

Grâce à la maquette numérique 3D du projet, les bâtiments apparaissent dans leur intégralité et nous pouvons voir toute la complexité des installations au-dessus des faux plafonds par exemple.

Pour les éléments les plus petits, il n'était pas nécessaire de les reproduire à l'identique numériquement, à partir du moment où la fiche technique est précise. Comme cela, chaque personne ayant accès à la maquette peut se promener et aller chercher l'élément qu'il recherche et ainsi avoir directement accès à sa fiche technique.

Un opérateur de maintenance peut donc avoir accès numériquement à un élément sans devoir se déplacer sur place. Un technicien a ainsi expliqué qu'en une journée, il pouvait effectuer 1,5 à 2 fois plus d'interventions car il réalisait 2 fois moins d'aller-retours.

Critère humain :

Pas moins de 15 entreprises ont collaboré entre elles et 215 modèles ont été compilés.

Le DOE a été transmis était 100% numérique.

Le choix a été fait d'utiliser le format d'échange IFC pour éviter les non-compatibilités.

2 personnes dirigeaient les travaux :

- Le coordinateur BIM directement sur place
- Le BIM Manager à distance, pour la coordination des différents acteurs

Cela a permis de mettre en place un écosystème autour de la modélisation et de l'assister de la meilleure façon possible.

La maquette a 2 utilités majeures :

- Elle assure une synthèse, donc permet d'anticiper l'exécution depuis le virtuel et ainsi repérer des problèmes habituellement rencontrés en fin de construction
- Elle permet une bonne coordination entre les différents acteurs : voir comment on démarre une journée, animer les réunions

Une personne était dédiée à la compilation et la coordination sur site en récupérant les différentes maquettes sur site et le BIM manager fournissait les éléments de synthèse en récupérant les informations auprès des sous-traitants.

Les équipes ont pu monter en compétence tout au long du projet. Comme l'utilisation du BIM était nouveau pour beaucoup d'entre elles, il a fallu les accompagner au début, ce qui était un challenge ; effectivement, il fallait mettre en avant tous les avantages existants à travailler avec le BIM. Certaines personnes, par contre, prenaient en main très rapidement cette nouvelle façon de travailler car la trouvait assez intuitive et surtout beaucoup plus efficace.

Retour d'expérience :

Au final, grâce à l'utilisation du BIM, nous avons eu des retours positifs de la part de tous les acteurs ce qui a permis de gagner en efficacité pour un projet d'une telle envergure.





Bâtiment neuf / grand projet



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