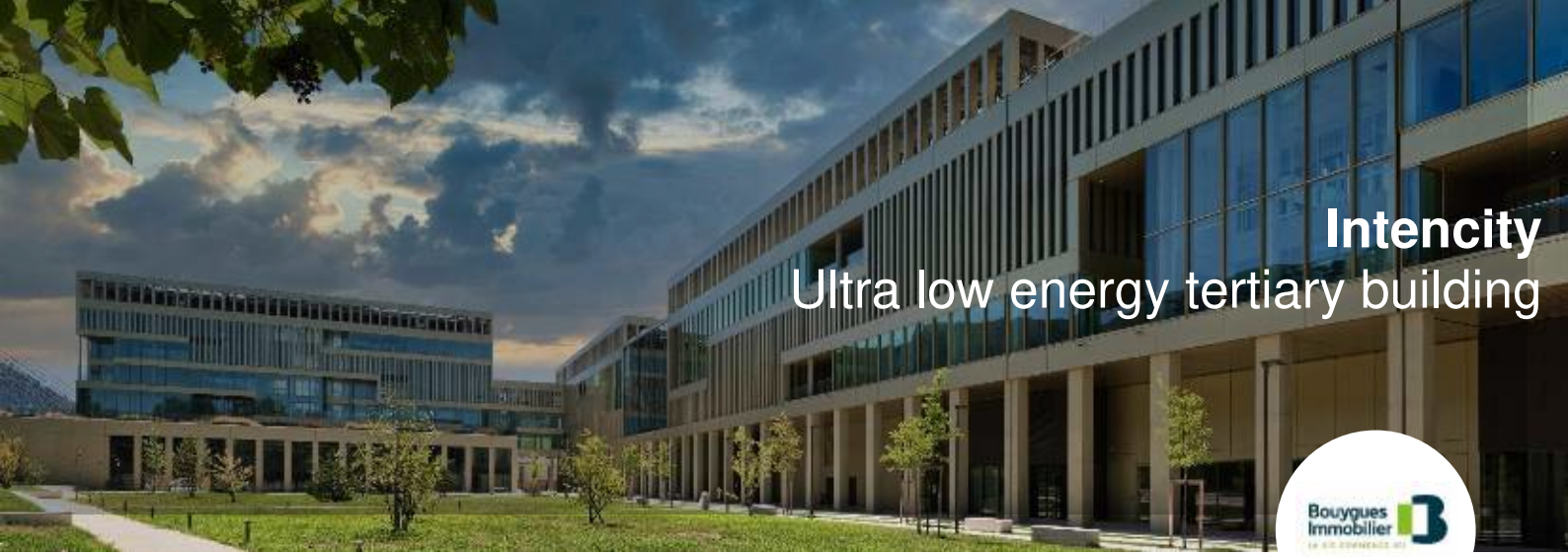

Intencity
Ultra low energy tertiary building

Intencity, the building housing the Schneider Electric research and development campus, is one of the most efficient office buildings in the world with an energy consumption of 37kWh/m²/year (final energy). In particular, it obtained LEED PLATINUM V4 certification and a gold award at SIATI 2021 for the most innovative project in the real estate category.

Starting date of the project	Start of the design phase: 2016. Delivery of the building on June 4, 2020.
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	The project is located on the Grenoble peninsula. It is reproducible everywhere in France.
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	Construction of a low-energy building, producing its own energy and injecting the excess into the network (positive energy building).
Detailed project description	IntenCity, located on the Presqu'île de Grenoble, is a 27,000 m² building (concrete structure, steel-aluminium façade) co-designed by its users (Schneider Electric teams) to make it their new campus. It is a demonstration of the Group technologies. IntenCity incorporates advanced technologies for controlling energy consumption while promoting the well-being of users. Designed in BIM (Building Information Modeling), its digital twin allows the verification and optimization of its consumption : 50,000 data are collected every 10 minutes to optimize comfort and energy control. Apps allow the user to modulate the comfort of his environment himself, to visualize the availability of shared resources (availability of rooms, waiting time at the restaurant, etc.) and to program their uses. This tailor-made management is precursor and is essential in the age of networking, combining on site and remote working. IntenCity marks the appearance of a new generation of buildings that are both energy efficient and capable of offsetting their consumption through local production: • equipped with EcoStruxure™ Building solutions, the site aims for a consumption of 37 kWh/m2/year (compared to the European office buildings average estimated at 330 kW/m2/year) • this consumption will be ensured by more than 4,000 m2 of photovoltaic panels installed on the roof and two wind turbines which will produce an average of 970 MWh per year, thus making the building self-sufficient in energy. As a "smartgrid ready" building, IntenCity is equipped with technical solutions that will allow it to interface with other buildings in the district through a local network, with the possibility of reducing its consumption in the event of high demand for electricity or high tariffs, to store electricity (battery storage), and to defer its consumption for the benefit of neighboring buildings. IntenCity has been part of a LEED Platinum certification process from the design phase, the highest level of this ecological construction label. The building is aiming for 103 credits score which would allow it to be the most efficient in the world (ahead of the current leader, a building in Barcelona which totals 101 points; 80 credits are enough to obtain the label). . Beyond that, the site is designed to offer users the possibility of reducing the carbon footprint of their travel (substantial bicycle parking, provision of electric vehicles and charging stations to employees, etc.).

Main project's drivers for reducing the greenhouse gas emissions

Enter the information in the appropriate boxes

Reduction levers	Details on the aspects of the project
☐ Energy and resource efficiency (including behaviour)	
☒ Energy Decarbonisation	- 4,000 m2 of photovoltaic panels installed on the roof and two vertical wind turbines which will produce 970 MWh per year.
☒ Energy efficiency improvements	- Efficient thermal insulation - Controlled and efficient management of energy flows.
☐ Improving efficiency in non-energy resources	
☐ Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)	
☐ Financing low-carbon producers or disinvestment from carbon assets	
☐ Reduction of other greenhouse gases emission	

Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope

Indicate the aspects of the project that contribute to the reduction of emissions per category of emissions considered (left-hand column) and the quantification of associated emissions.

Indicate the main hypotheses and calculation steps in the intended section (below the table)

For further details, please refer to the methodology guidelines.

	Aspects of the project contributing to the reduction of emissions by emission category	Quantification of associated GHG emissions by emission category Please follow the quantification methodology used in the Afep guidelines.
Reduction of the company's carbon dependency		
Scope 1 *Direct emissions generated by the company's activity.*	Construction of the building	18 900 tCO2e
Scope 2 *Indirect emissions associated with the company's electricity and heat consumption.*	/	
Scope 3 *Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.*	Reduction of GHG emissions from products sold by BYIMMO through the energy sobriety of the building delivered and the production of renewable energy.	+29 tCO2e / year or 1450 tCO2e over the 50 years lifetime of the building.
Increase of carbon sinks		
Emissions Absorption *Carbon sinks creation, (BECCS, CCU/S, …)*		
GHG emissions avoided by the company at third parties		
Avoided Emissions *Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.*		14 ktCO2e/year or 700 ktCO2 over the lifetime of 50 years. (This value is likely to decrease if the average energy mix of the building is decarbonized in the future).

Clarification on the calculation or other remarks: The reduced emissions are calculated by considering as a reference the average energy consumption of the European office buildings park. The emissions associated with the use of the Intencity building are calculated assuming that the energy consumed is half photovoltaic and half wind. The emission factors considered for electricity are as follows (ADEME data):
- average carbon footprint of collective housing in France 2020 = 525kgCO2/m².
- onshore windpower : 14,1 gCO2/kWh
- PV : 43,9gCO2/kWh.

We consume an average of 37 kWh/m²/year, or ultimately (with 50% Wind power and 50% PV) 1.2 kgCO2/m²/year.
- The lifetime is 50 years.
- Building area = 27000 m².

The savings made are therefore 27,000 x (525-1.2) = 14 ktCO2/year.

The construction of the building (concrete structure, steel-aluminium facade), generates the emission of 18,900 tCO2 considering an emission factor of 700 kgCO2/m². This emission factor is to be refined (probably downwards) by a complete life cycle analysis.
- click here to specify

Modality of verification of the quantification.

Calculation standard used (ADEME base, GHG protocol, etc.): ADEME

Verification of the calculation (internal or external): click here to enter the information

Other environmental and social benefits of the project

The architecture of the building promotes collaboration, comfort and efficiency. Each material and IT equipment has been designed to make the working environment as pleasant as possible.

If possible, list the impacts and Sustainable Development Objectives concerned	Priority is given to collaborative spaces and hybrid workspaces that promote both moments of works ans relaxation. The ground floor favors open spaces and places of exchange. Flex offices are the new norm instead of individual offices. Outdoor spaces are adapted to working outside thanks to the many loggias, terraces and gardens. Circulation is via a staircase with multiple uses: classic steps provide access to the floors, and a part made as terraces is actually a new open space.. A Digital Workplace promotes access to a collaborative space and experimentation with new work formats (brainstorming, prototyping, agile meetings, co-creation, etc.). And a Digital Showroom allows you to organize meetings, activities and exhibitions around digital.
Project maturity level Tick the corresponding current maturity level	☐ Prototype laboratory test (TRL 7) ☐ Real life testing (TRL 7-8) ☐ Pre-commercial prototype (TRL 9) ☐ Small-scale implementation ☒ Medium to large scale implementation **Remarks**: click here to enter the level of maturity of the project
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	The technologies implemented on Intencity to achieve such a level of energy performance can be deployed on any office building project.
Amount of investment made (in €)	xxx
Economic profitability of the project (ROI)	☐ ST (0-3 years) ☐ MT (4-10 years) ☐ LT (> 10 years) **Remarks:** click here to enter the information
Engaged partnerships	xxx
Open comments from the project owner	xxx
More about the project	
Contact the company carrying the project Please specify an ad hoc e-mail address that will allow the reader to contact the project company directly	xxx
Project URL links	https://blog.se.com/fr/batiments/2021/02/04/et-si-intencity-etait-le-batiment-le-plus-performant-du-monde/
Illustrations of the project 3 photos/videos minimum (in HD format to be attached)	https://www.youtube.com/watch?v=0VVnUVR2XXs