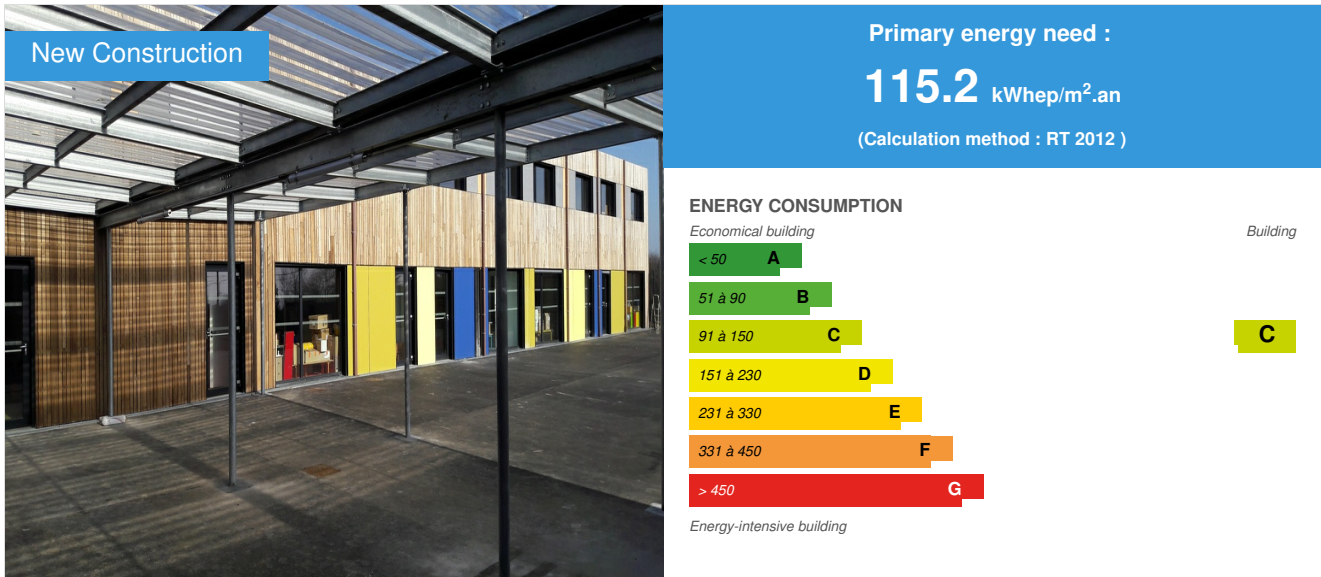


## School of Blénod-lès-Toul

by Guy Turner / 2017-06-12 10:59:06 / Frankreich / 9283 / FR



**Building Type** : Preschool, kindergarten, nursery  
**Construction Year** : 2016  
**Delivery year** : 2017  
**Address 1 - street** : 54113 BLÉNOD-LÈS-TOUL, France  
**Climate zone** : [Cfc] Marine Cool Winter & summer- Mild with no dry season.

**Net Floor Area** : 1 769 m<sup>2</sup>  
**Construction/refurbishment cost** : 2 500 000 €  
**Number of Children** : 250 Children  
**Cost/m<sup>2</sup>** : 1413.23 €/m<sup>2</sup>

Proposed by :



### General information

Realization TCE of a nursery school, primary school and an extracurricular reception of 250 pupils using the technical process of Smart Module Concept, which consists of prefabricating in the factory wooden frame modules assembled then on the site. An innovative technical approach guaranteeing a quality construction, on time and at reduced costs.

### Sustainable development approach of the project owner

Reflection on the 14 HQE targets and in particular Energy management Care and maintenance Acoustic comfort Visual Comfort Olfactory comfort Quality of the air

### Architectural description

Realization TCE of a nursery school, primary school and an extracurricular reception of 250 pupils using the technical process of the company SmartModule Concept, which consists of prefabricating in the factory modules with wooden frame assembled then on the site. An innovative technical approach guaranteeing a quality construction, on time and at reduced costs.

## See more details about this project

<http://robotdutilleul-lorraine.e-monsite.com/album-photos/nos-produits/enseignement/>

### Stakeholders

#### Stakeholders

Function : Contractor

Syndicat de construction du pôle intercommunal de Blénod-lès-Toul

Function : Designer

SCP Rabolini

<https://www.archiliste.fr/architectes/scp-rabolini-et-schlegel>

#### Contracting method

Lump-sum turnkey

### Energy

#### Energy consumption

Primary energy need : 115,20 kWh<sub>ep</sub>/m<sup>2</sup>.an

Primary energy need for standard building : 136,00 kWh<sub>ep</sub>/m<sup>2</sup>.an

Calculation method : RT 2012

Breakdown for energy consumption : Heating: 29.7 DHW: 4.3 Lighting: 8 Breakdown: 2.6

#### Real final energy consumption

Final Energy : 44,60 kWh<sub>ef</sub>/m<sup>2</sup>.an

### Renewables & systems

#### Systems

Heating system :

- Radiant ceiling

Hot water system :

- Individual electric boiler

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

#### Smart Building

BMS :

Connected platform for equipment management and comfort control

<https://www.construction21.org/france/data/sources/users/6262/energy-vision---blenod-les-toul.pptx>

### Urban environment

Development of the project in coherence with the level of the plot. Integration of existing frames and access to public transport.

## Products

### Product

Double-stream ventilation unit

HELIOS

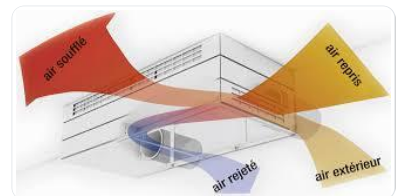
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<https://www.helios-fr.com/>

**Product category :** Table 'c21\_germany.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 = '19'

Autonomous unit placed in each classroom allows to modulate the temperature and thus ensure the comfort of the children and the teaching body, while controlling the consumption of energy.

In line with the planned modular design of the project



SMC module (Smart Module Concept)

SMC

Thibaut Leroy, t.leroy@smartmoduleconcept.com

<http://www.smartmoduleconcept.com/>

**Product category :** Table 'c21\_germany.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 = '29'

Traditional construction sites impose the intervention of a set of trades which depend on one another, thus lengthening the delivery time and increases the risk of errors. Especially since the application of the new standards increasingly technical and binding complicates the work of the prime contractors. Smart Module Concept had the idea to bring together industry and architecture to meet the need for innovation in building.

After years of research and development, Smart Module Concept has developed its own modular construction system. Our buildings are 95% factory built in order to guarantee quality, delivery time and budget. Constructed of modules that can be combined in different ways, our constructions meet the needs of space and functionality while favoring architectural quality.

Adapted to the configuration of the site and, to the architectural will on the project



## Costs

## Health and comfort

### Indoor Air quality

Materials and products integrated into prefabricated modules with lower sanitary impact (biosourced insulation, wood, etc.)

### Comfort

**Health & comfort :** Autonomous unit placed in each classroom allows to modulate the temperature and thus ensure the comfort of the children and the teaching body, while controlling the consumption of energy.

## Carbon

## GHG emissions

GHG before use : 6,00 KgCO<sub>2</sub>/m<sup>2</sup>

Contest

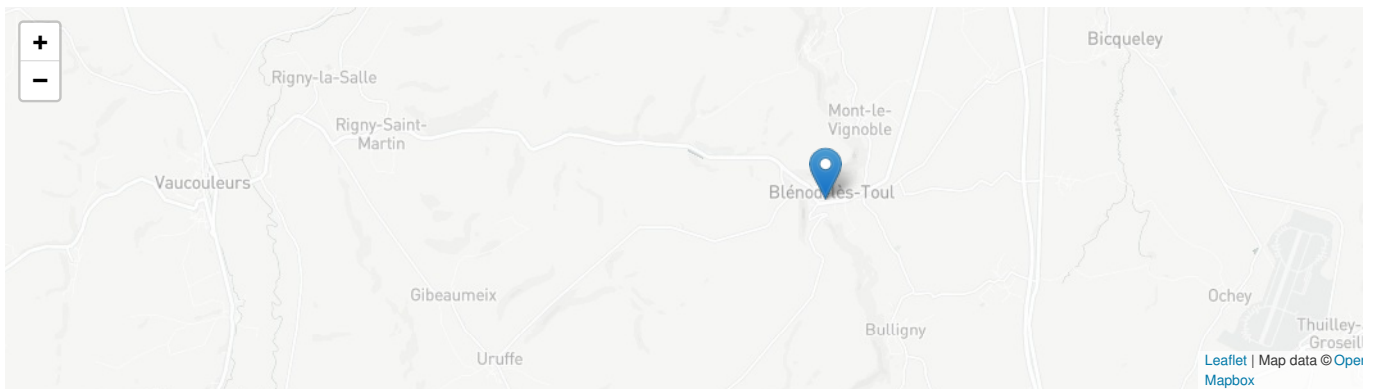
### Building candidate in the category



Bas Carbone



Coup de Cœur des Internautes



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