# Vivegnis Footbridge

by Baptiste Thieffry / 2019-06-07 10:26:23 / Belgique / 5313 / FR

**Year of commitment** : 2019
**CO2 Impact** : Carbon storage thanks to the use of 80m³ of wood.

**Green energies** : Wood, Carbon capture
**Sustainable mobility** : Engineering structures, Pedestrian Mobility, Bicycle path, Footbridges/Walkways, Accessibility
**Circular economy and waste management** : Eco-Design, Preservation of natural heritage, Bio-based materials
**Biodiversity & Ecosystems** : / Carbon capture /
**Label/Certification** :

- HQE Infrastructures

**1 200 000 €**

### Builder

Wood lot: Stabilame sa; Concrete batch: Serbi sa; Steel batch: TMI sprl

### Manager / Dealer

City of Liège

## GENERAL INFORMATION

The structure, as a whole, connects the hillsides to Vivegnis Square by passing over railway tracks. The bridge, made of steel, has a span of 29.5 m and is supported on one side on a wooden prismatic structure ("wooden cage") containing oblique ramps and landings and on the other on a retaining wall existing. The wooden cage length L = 28 m, height H = 12 m, width l = 7 m, is a structure combining glued laminated wood and solid wood. At the top a clearing area is a privileged point of view on the square and the district. Stairs are by-passes that allow a variety of routes depending on moods, fears, means of travel. Throughout the ascent and descent, the walker is staged, in a relationship between the static and the mobile, between the observer and the observed. A transparent cover is provided. An outer skin made of discontinuous sluices provides some protection.

### Progress Status

Delivered

### Data Reliability

Self-declared

## Funding Type

Public

## Website Enterprise / Infrastructure

https://aa-ar.be/projets/051/
https://www.stabilame.be/realisations/passerelle-de-vivegnis/
http://www.bureau-etudes-bois.be/project/08-044-passerelle-vivegnis/

## Sustainable Development

### Attractiveness :

The origins of the project date back to the end of the 90s. In a survey carried out among the inhabitants in 1997, the demand to make a connection to the slopes of the citadel emerges as a priority demand. The inhabitants live painfully the lack of green spaces in the neighborhood.

### Well Being :

The Vivegnis gateway project is basically designed to improve the well-being of users. Indeed their main goal is to enhance the Vivegnis square by creating a direct access to the slopes of the citadel, emblematic places of the city of Liège. This accessibility to a green space responds directly to the demand for improvement of living conditions of the inhabitants of the district.

In addition to its vocation to improve the access to a space of relaxation. The wooden ramp has been designed taking into account the well-being of the user. Stairs are by-passes that allow a variety of routes depending on moods, fears, means of travel. Throughout the ascent and descent, the walker is staged, in a relationship between the static and the mobile, between the observer and the observed.

### Social Cohesion :

The valorization of the Vivegnis place and the creation of an easy access to a green space, will allow the grouping, the interaction and the meeting of the inhabitants of the district.

The bridge may also be a place of passage of a cultural event or sports.

### Preservation / Environmental Improvement :

The footbridge is erected at the place of the old railway station which connected Liège to the coal mine of the Bâneux. There was therefore no environmental impact on the space used. The use of wood from sustainably managed forests, allows the storage of carbon. In addition, the gateway can be a showcase of the use of wood in construction and raise awareness among users on the use of a noble and renewable resource.

### Resilience :

The wood structure is an external structure. The species used are larch (60m³) and oak (20m³). The durability of the structure is guaranteed by **purging the sapwood** , **avoiding any stagnation of water** and **ensuring good ventilation** of the joints. The horizontal elements are oak, naturally more resistant for outdoor use. The design of the assemblies was therefore paramount in this book and the attention to detail was pushed to the extreme. The structure is counter-vented by four central cages (L = 1.95 ml = 1.75 m H = 12m). These cages are assembled by the system of studs glued (choice of the company). This system offers **good durability** , as well as a quality of finishing essential. The rest of the assemblies are traditional designed for **outdoor use of wood** .

### Responsible use of resources :

The wood used comes from sustainably managed forests. The "wooden cage" is a carbon sink. The company Stabilame supply wood, especially local wood.

## Testimony / Feedback

*Testimony of the company in charge of the Wood: Stabilame sa*

*"Making a wooden exterior art work was a great challenge for Stabilame, and although our company is recognized for its expertise in the manufacture of wood structures in all building systems, a 28 m long and 12 m high walkway is a major work.*

*Winning this public contract has enabled our Research & Development department to provide technological solutions, such as the use of epoxy resin-bonded spindle assemblies, which, in addition to high rigidity, completely concealed hardware. , while increasing the durability.*

*As carpenters, we managed the supply of wood, especially local wood. A technological challenge was added to our manufacturing, with an external quality control, involving destructive tests on samples, control whose results proved to be excellent.*

*Thanks to state-of-the-art wood technology at our Walloon factory, the entire Stabilame notched work has been 3D modeled. And the direct connection of this 3D drawing to the 6-axis CNC notching centers of our workshops, made it possible to cut and cut with great precision. Some parts of the bridge have been pre-assembled in 2 D and 3 D, in the workshop, which has optimized the timing of construction and the quality of some masterpieces.*

*This is thanks to our mastery of the wood material, to our factory at the forefront of wood technology, but also to our Research & Development department that we brought our "beam" to the building.*

## Governance

City of Liège

Holder Type : Local Authority

Wood lot: Stabilame sa; Concrete batch: Serbi sa; Steel batch: TMI sprl

Builder Type : Construction Industry

City of Liège

Manager / Dealer Type : Public

The project, of the momentary association of architects **Maximilien Cornet and Alain Richard** , has been selected by the city of Liège.

The stability of the project was studied by the design office **Ney & Partners** , for the Steel and Concrete part, and by the **Ney & Partners WOW office** , for the Wood part.

The execution of the project was separated into three lots: the concrete batch realized by the company **Serbi** , the steel batch realized by the company **TMI** and the wood batch realized by the company **Stabilame** .

## Sustainable Solutions

Stud glued

Description :

For assembly nodes with the greatest efforts, glue stud technology. This system makes it possible to limit the contribution of steel in the assemblies to use the wood with a yield of 100%. The principle is to assemble two pieces of wood using a threaded rod and epoxy resin. This type of assembly has been proposed by the company Stabilame for questions mainly to facilitate manufacturing, precision, assembly. The glued dowel also offers **good durability** , as well as a quality of finishing essential.

- Low-carbon materials/ infrastructure

Company (es) Website :

Ney&Partners WOW

Company (es) Website :

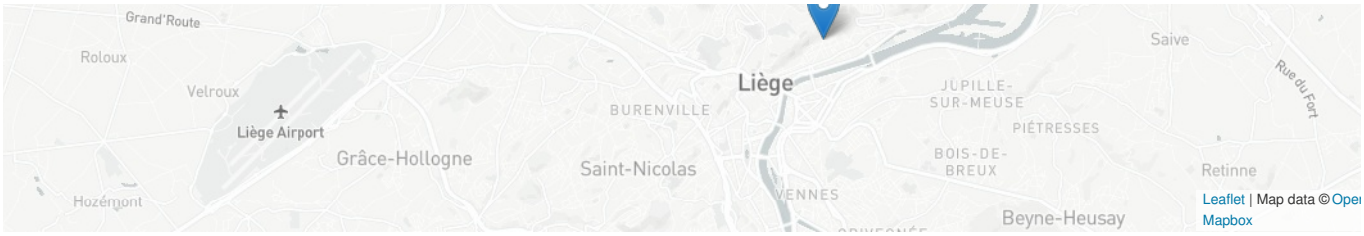
Company (es) Website :

## Contest

### Building candidate in the category

Grand Prix Infrastructure Durable

Prix du public

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