

# Material Flows

## Construction materials recycling and logistics hub, Brussels, Belgium

### Main authors

Ana Castillo, Jan Terwecoren, Lieven De Groote and Annekatrien Verdickt, TETRA architecten, Brussels, Belgium

### Summary by the jury

The construction materials village at the Vergotedok in the Port of Brussels, Belgium is an illustration of sustainable urban logistics. By distributing construction materials to the city and collecting construction waste from the city, the village functions as an important logistics and distribution hub between port and city. Rather than purchasing an eco-label as an individual building, the village is part of a larger urban ecosystem. The modular and hierarchical structure of the warehouses makes the architecture receptive to different programmatic demands of various concession holders; for example the rainwater collected on the large roof and the energy produced can be put to the service of the ready-mix concrete plant on site and serve future developments in the surrounding neighborhood.

### Appraisal by the jury

The jury considers the strength of the project to lie in its objective to situate architecture – as node or relay – within a dynamic, metabolic system of material flows in the midst of a city environment. Addressing an important missing link in the material life-cycle management of the contemporary urban realm, understood as an eco-system, the design proposal aims to apply sustainability principles to the construction of infrastructure.

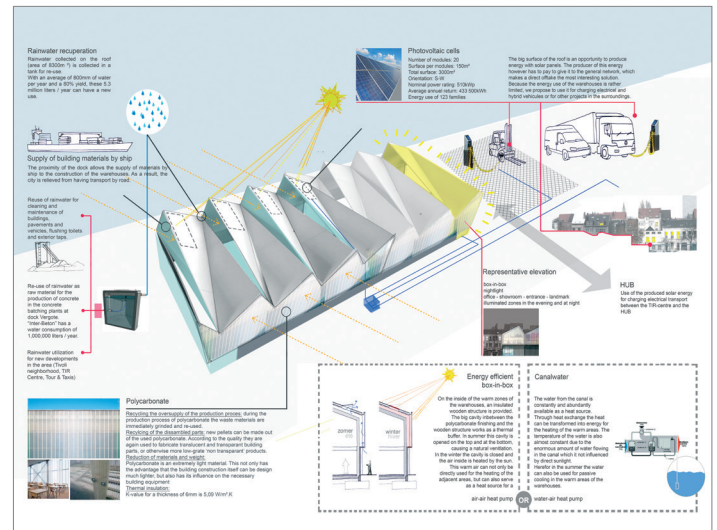


Image 1: Plentiful rainwater will be used by two concrete plants at the site which consume hundreds of thousands of liters of water annually for the production of concrete and rinsing their installations. Production of electricity with solar panels is utilized on-site through lighting, machinery, charging electric forklifts, etc, and since surplus electricity has to be paid to the net administrator, it is economically more self-sustaining to share the energy with the neighborhood.

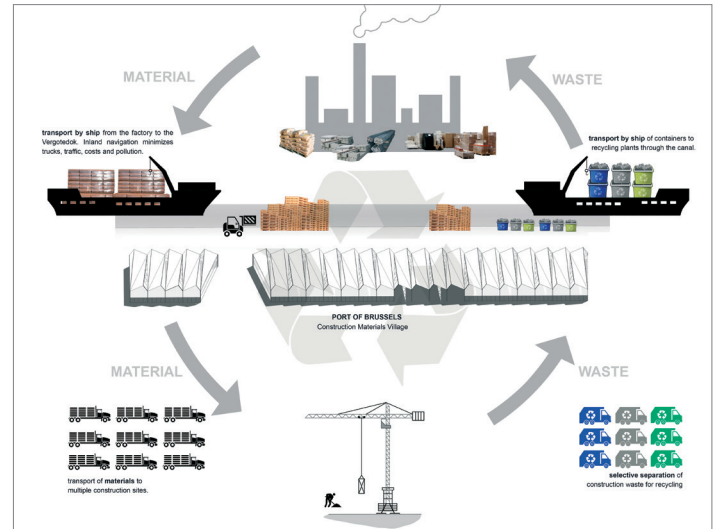


Image 2: The construction materials village is a powerful statement of sustainable urban logistics and distribution. By distributing construction materials to the city and collecting construction waste from the city, the village functions as a logistics hub between port and city. The village will become an important link in the product life-cycle management of materials.

### Project data

Context	Architecture, building and civil engineering
Client	Port of Brussels
Background	Public commission
Planned start	September 2014

### Further authors

Bjorn Gielen, Landinzicht, Brussels, Belgium; Studieburo Mouton, Gent, Belgium; Henk Pijpaert, Henk Pijpaert Engineering, Oudenaarde, Belgium

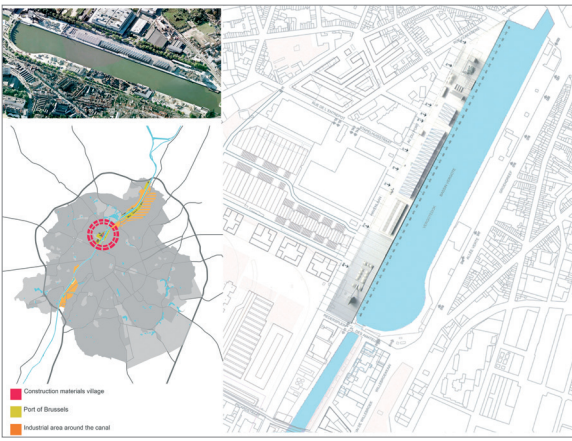


Image 3: Located in the city center, the industrial activity operates as an integrated zone in an urban area.



Image 4: The Vergotetok in the Port of Brussels, Belgium.

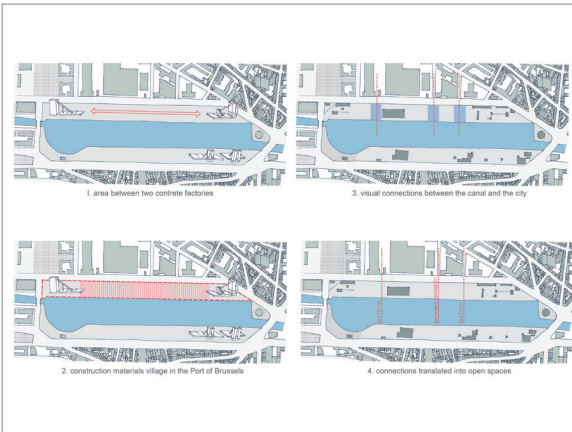


Image 5: Open spaces create spatial connections between the urban tissue and the port.

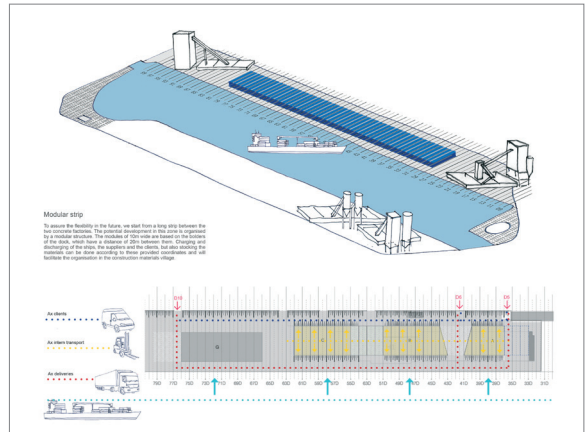


Image 6: Modular site layout: based on the 20m distance between bollards of the quay.

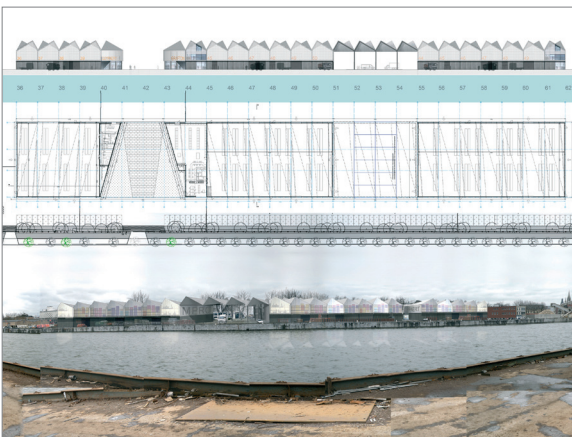


Image 7: The showrooms of the concession holders are situated at the end of the volumes.



Image 8: Construction kits are created to enhance the functional flexibility of the village.

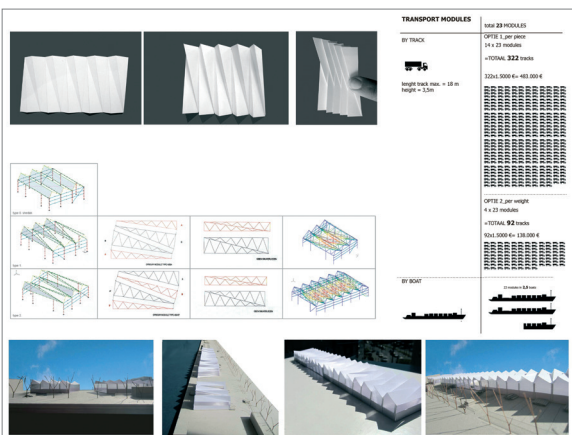


Image 9: The folded shape of the roof acts as a reverse spatial carpet on the 500m-long axis.

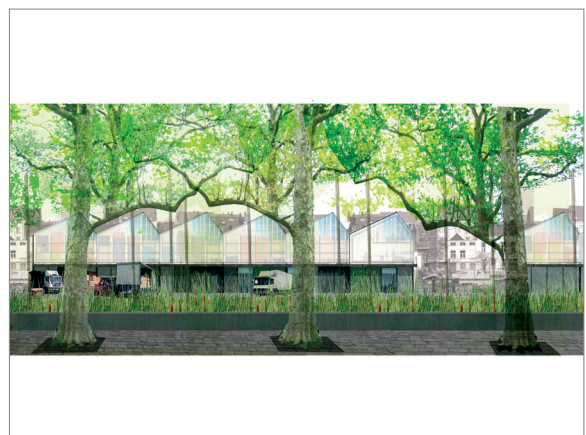


Image 10: View of the construction materials village from Avenue du Port.