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Abstract

T H E F O O D S M A R T C I T Y **I N T H E F R A M E W O R K O F T H E C I R C U L A R E C O N O M Y**

A morphological and functionalist approach for the revitalization of Porta Genova in Milan

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Impressive data show that cities all over the world are devouring 75% of Earth's resources. At the current rate, the urban population is predicted to be double by 2050, meaning the 70% of the total global population, thus raising serious questions about how cities could feed themselves in the future. This thesis was moved by the urgency of addressing this topic and the reasoning about how food could foster the revitalization of the disused or abandoned areas. Two main themes were discussed to tackle these issues.

The first one is strictly related to food. Since ancient city-states, food and animal routes have historically shaped the urban morphology. The reasoning about food led to the choice of the city of Milan as a case study for this work, since it is one of the leaders in the contemporary urban food policy scenario. Taking advantage of the moment of great visibility given by EXPO 2015, the city of Milan, in fact, launched an international protocol aimed at tackling food-related issues at the urban level, and developing new resilient urban systems, to be adopted by as many world cities as possible. The Milan Urban Food Policy Pact and the EXPO experience were interesting drivers for the project.

The second theme regards the choice of Porta Genova as the specific area for the project. Its revitalization is part of the larger reordering vision of seven railway yards, with the aim of fostering innovative urban spaces and reconnecting several areas of the Milan inner periphery. The place, formerly occupied by the railway, is an interesting urban slice which divides the district of Tortona-Solari and the area of the Navigli. The presence of two important ways of transportation, the railway and the Naviglio, makes it the perfect place for the reasoning about food and city. The site is a place of barriers, well-shaped by its boundaries, the Naviglio, the walls and the railway, still very accessible from different parts of the city, but also a place of empty places.

The project set the goal to reach three main objectives:

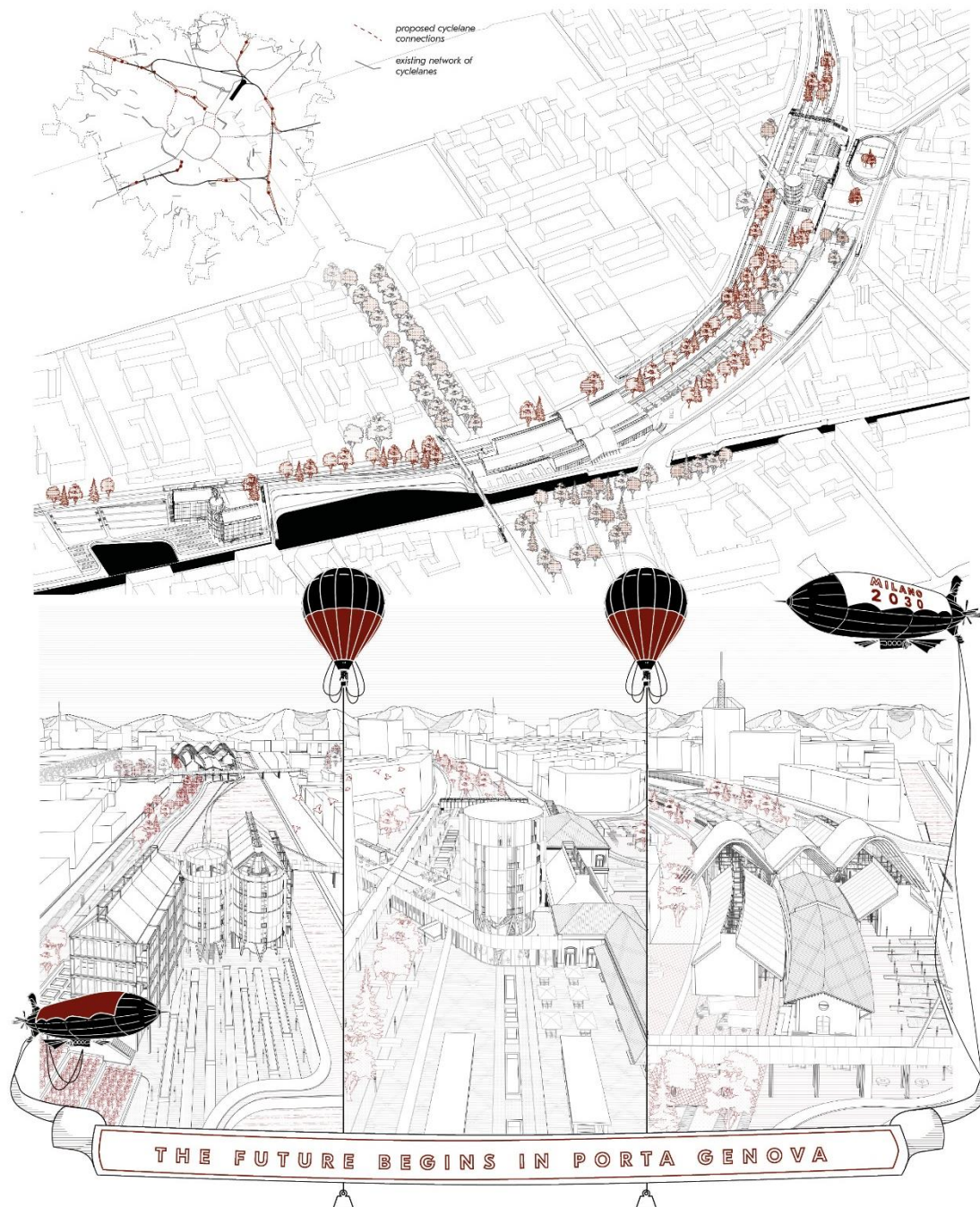
- Study how food can influence the urban morphology and the architecture;
- Find a solution to manage a vast empty space in the city of Milan, as part of a wider system;
- Design an original system of food production in urban environments, which could be used as a device to foster renovation of degraded or abandoned areas.

The project was approached through three topics: administration, retail and production of food in the city. These macro-topics were declined in three architectural projects within the framework of the circular economy. The first topic transforms the former railway station in an innovative place of catering, with specific attention to the new food habits and the delivery methods. The second one renovates and expands the former railway warehouse, placing a food market. The third one proposes a novel prototype of vertical farm, a future food hub, which serves the other two spaces. The quite small scale, the compactness and the low construction budget of the farm (compared to similar concepts) supports the attempt of making it a replicable prototype.

The three projects are connected by a general redefinition of the entire area of Porta Genova through a new agricultural park, with urban gardens and crops, bridges, a fish basin and a new water reservoir, the Darsena Nova.

All the buildings are also designed with the specific purpose of being circular, with completely dismountable wooden and metal structure. The general organization of the masterplan is also thought as a closed-loop system of energy and resources.

This thesis represents an attempt to discuss an urgent topic such as that of resource scarcity together with a more traditional study on the urban morphology. The project shifts from the macro-urban scale to the architectural and construction level, considering different aspects of sustainability, innovation and culture. The final outcome can be read as a suggestion for future similar interventions or a provocation to try to approach the urban and architectural project under new perspectives.



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