POLITECNICO DI TORINO

Honors thesis

Master of Science in Sustainable Architecture

Abstract

Smart Working and the flexibility of its spaces.

A Smart Office project in the former CNMA at Mirafiori Sud.

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In the current historical period, daily life has had to be transformed and adapted to the new needs that society requires about events that are affecting the whole world. These events have also led to changes in the world of work, hearing more and more talk of Smart Working. This concept, however, is not limited only to remote work, but encompasses a set of key principles, including flexibility, autonomy, collaboration, technology, but above all includes a physical and spatial layout suitable for the application of this new model.

This study first explores the concept of Smart Working, the Italian and European regulatory context and its diffusion. Then follows a study on Smart Office, starting from a historical excursus of the evolution of the office from the twentieth century to the present day, coming to analyze case studies of private companies that have adopted the concept of Smart Working in the spatial layout of their headquarters.

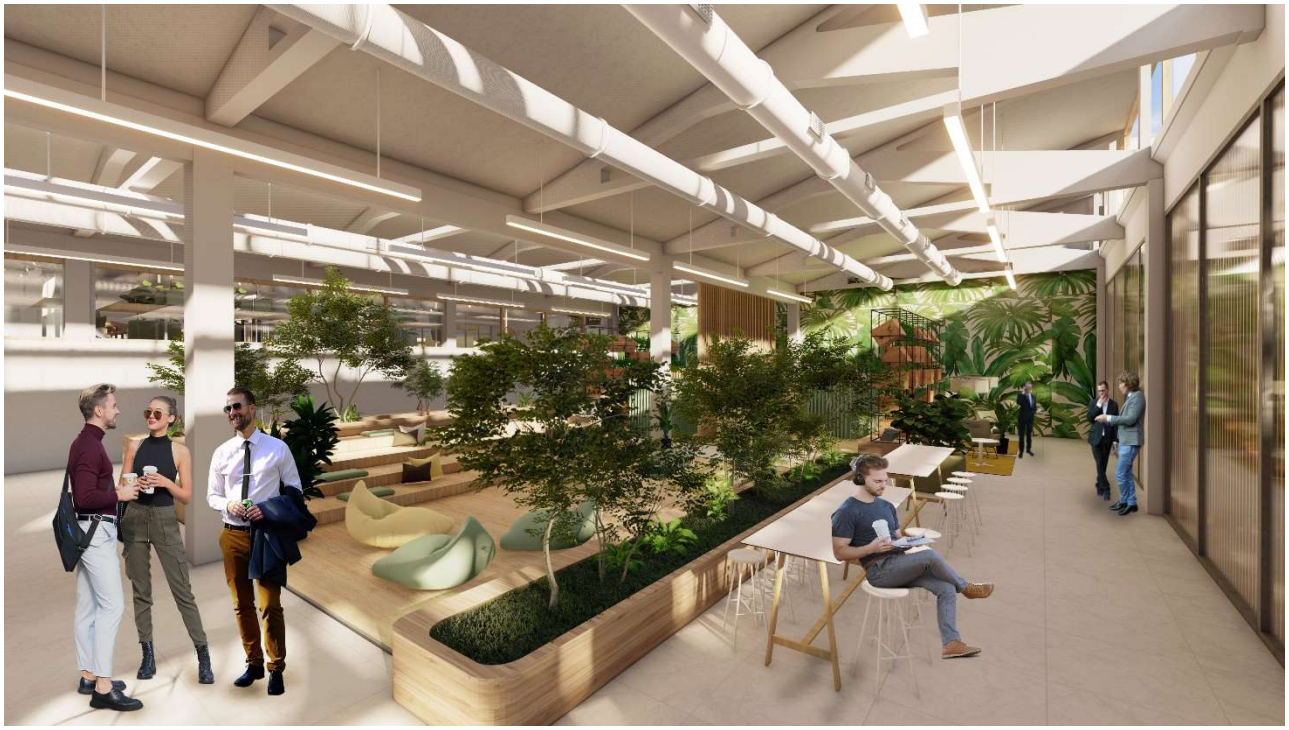
This work will also focus on thermal, visual and acoustic requirements that the workplace must have in order to ensure the greatest possible comfort to the user, referring to both current regulations and protocols LEED and WELL.

This concludes the research part, giving way to the design part, which begins with an analysis of the context in which the building undergoing transformation is located, namely the WOW 102. This former factory for the production of agricultural equipment is located in the Turin suburb of Mirafiori Sud and was designed by Vittorio Bonadè Bottino. Currently the building is in a state of decay, but is the subject of interest by the City of Turin for a possible re-functionalization. First works have already been carried out in small portions and natural solutions have been applied for the regeneration of the area.

The project of this thesis involves the redevelopment of the building, mostly creating spaces suitable for Smart Working. The deepening involves several aspects. First of all, the spatial layout, which is integrated with innovation, ergonomics, flexibility and tries to meet a wide range of user's working needs. The second aspect concerns the comfort, for which we have deepened the design from the thermal point of view, then plant engineering, from the visual point of view, then the design of artificial lighting, carried out after an analysis of natural light, and finally from the acoustic point of view. Also this aspect has been designed, following the guidelines of the Smart Working model, mostly according to the concept of flexibility.

To conclude, the last part of the work concerns an economic analysis of the project and, being a public building, a cost-benefit analysis was carried out.

The objective of this project is to identify the model of the office of the future, also wanting to touch and analyze the main aspects of sustainability: social, energy-environmental and economic.



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