

POLITECNICO DI TORINO
Master of Science in Architecture Construction City
Honors theses

***REDEVELOPING THE PUBLIC RESIDENTIAL BUILDING STOCK
A PROJECT FOR BRIONE'S ITEA HOUSING ESTATE IN ROVERETO AND SOCIAL
BENEFIT ASSESSMENT***

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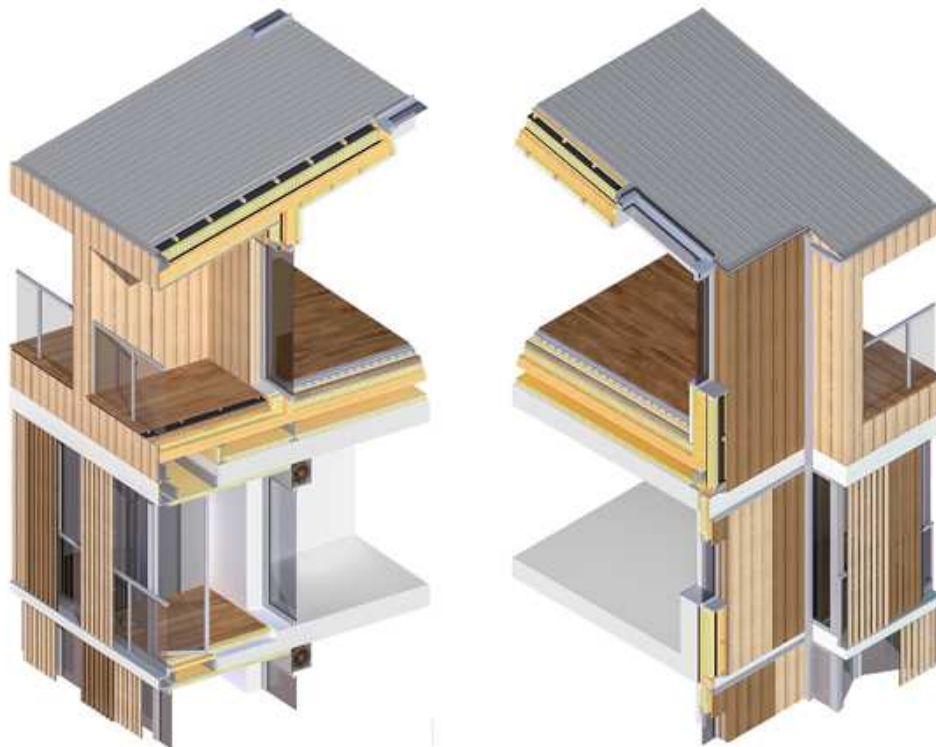
The goal of this paper is investigating the possible intervention strategy on existing buildings, with a specific focus on building process techniques and social aspects. The paper starts with an overview at European level of the building heritage, doing a quantitative analysis on the stock to be restored, pointing out that the manufacturing sector should focus on this area, limiting on the other hand, new buildings. In fact, this strategy is the best way to reduce both the energy consumption from a point of view of sustainable development, following the European Directives' goals, and to increase and adapt the housing offer to the new markets, not compromising the land use.

The paper analyses some case studies, comparable with our study area, in order to propose a project in line with European best practices as a model of intervention. One of the main aspects to consider when we think about requalifying the existing buildings is the people living in, that needs to be protected from the negative impacts of the construction sites. This requires being quick in the building operations, using prebuilt systems in order to reduce their timing and costs. This is the case of experiences like SuRE-FIT, REHA e TES Energy Facade, described in this paper.

In the second part, starting from the above, we developed a project which takes into account not only the architectural "field" but also the urban, economic and social aspects. All focusing on the building process reorganization, bearing in mind the social aspect of the proposed interventions. The project idea foreseen the Redeveloping of a residential public building from the 70s, property of ITEA – S.p.A. (Istituto Trentino di Edilizia Abitativa) in Rovereto. We propose a retrofit of existing buildings, exploring a new scenario using a prebuilt cover. The redevelopment made possible the hypothesis of new shingle lodging, thanks to an upper storey in timber construction. In our project we want to have a more comprehensive and global approach, thinking about the possibility of improving the quality in general and new land use, thinking about creating new social spaces.



Photorealistic 3D rendering by the upper storey



Axonometric sections

Thanks to the involvement of local stakeholders, we decided to develop, together with the project, an analysis on social impacts and benefits of the intervention. In doing this, we have used an innovative approach (Social Return On Investment – SROI), still in progress. Being an ERP, the most interesting part is surely the social convenience of the new project and not only its economic feasibility. Customers have been involved several times, with the submission of a questionnaire to the local inhabitants, after a conference where we presented the project.

FASE 5 - CALCOLO DELLO SROI				
Anno 1 (€)	Anno 2 (€)	Anno 3 (€)	Anno 4 (€)	Anno 5 (€)
54.492,75	54.492,75	54.492,75	54.492,75	54.492,75
98.136	98.136	98.136	98.136	98.136
1.864.080	0	0	0	0
6.477.480	0	0	0	0
1.124.550	1.124.550	1.124.550	1.124.550	1.124.550
157.763,70	149.875,50	142.381,7	0	0
22.572	0	0	0	0
0	0	0	0	0
1.848	1.848	1.848	1.848	1.848
171	171	171	171	171
513	0	0	0	0
6.720	0	0	0	0
0	0	0	0	0
9.808.326,45	1.429.073,25	1.421.579,45	1.279.197,75	1.279.197,75
Valore Attuale con saggio di sconto fissato al 3%				
9.522.647,04	1.347.038,60	1.300.946,58	1.136.550,63	1.103.447,22
Valore Attuale Totale				14.410.630,06
Valore Attuale Netto (VAN)				4.846.302,06
Valore degli inputs				9.564.328,00
Ritorno sociale Euro x Euro				1,51

The table show the social return on investment calculation

With our analysis, we have noticed the importance of a rethinking of the strategies and action plans, from the very first phases to their execution, especially when these actions are planned on public residential buildings.

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