

Dwelling in Memory

Adaptive Reuse and Technological Design Strategies for the Bestetti Hangar in Arcore

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Abstract

In Italy, numerous early 20th-century public buildings lie abandoned, often undervalued despite their historical and social significance. Among these, structures from the industrial and productive sectors embody a collective heritage that calls for innovative strategies of adaptive reuse. This paper presents a research project developed at the Politecnico di Milano, focusing on the disused Bestetti Hangar in Arcore (MB), built in the early 1900s and abandoned since the 1970s. The project forms part of a wider urban regeneration initiative centred on the former Falck steelworks area in Arcore. It proposes a comprehensive methodological and procedural framework aimed at supporting public administrations in reimagining and reintegrating such buildings into contemporary urban life. The approach combines historical-architectural analysis, spatial and regulatory assessment, design alternatives, and technical-economic feasibility studies, culminating in a meta-project vision for the hangar. The reuse strategy highlights the building's potential as a civic and educational hub, in line with sustainability objectives, land preservation, and energy efficiency. The process involved many stakeholders, including public authorities, research institutions, private companies, and third-sector organisations. This collaboration ensured technical and managerial feasibility and helped secure regional funding. This case study exemplifies how adaptive reuse can activate social and cultural value by transforming obsolete industrial heritage into spaces for learning, collective memory, and community engagement. It contributes to the broader discourse on reuse as an ethical and architectural practice, fostering a new culture of transformation grounded in historical continuity and civic responsibility.

Keywords: Decommissioned Heritage, Industrial Architecture, Reuse Processes

Introduction

The layering of architectural artifacts within a territory acts as a generative element, playing an active role in shaping the history and identity of a place and its inhabitants. Their testimonial value is pivotal for understanding and initiating any intervention on «cultural heritage», considering it as a «witness of civilization» assigns it a deeper and more significant value than viewing it merely as «real estate» (Dichiarazione della Commissione d'indagine per la tutela e la valorizzazione del patrimonio storico, archeologico, artistico e del paesaggio 1967). These assets are best understood as “common heritage,” not only for their

architectural qualities—which often entail legal protection—but above all for their social and communal legacy. In recent decades, the obsolescence of technological systems and the abandonment of industrial activities have rendered much of our architectural heritage inefficient for its original purposes. Yet, these sites remain important traces of historical memory and local development. Their complexity calls for regeneration strategies that move beyond traditional approaches, embracing a long-term vision where interventions are planned not just to preserve objects, but to support their ongoing adaptation and relevance. The value of heritage is not static; it evolves through continuous research, dialogue, and reinterpretation, allowing for creative and context-sensitive reuse. Heritage assets are deeply embedded in a network of social, cultural, and economic relationships, making the involvement of communities and stakeholders essential for sustainable regeneration. Design and planning are no longer isolated acts, but dynamic processes in which needs, opportunities, and knowledge interact, shaping solutions that respond to changing contexts (Della Torre 2023, 8). By adopting these principles, cities and communities can work together to imagine new uses and functions for heritage assets, ensuring that interventions are inclusive, resilient, and responsive to the evolving needs of society. Processes of inclusion and social innovation are expressed through urban regeneration projects that anticipate shifts in living conditions and population composition. Through targeted urban regeneration efforts, disused industrial assets are reimaged as common goods and active elements within new relational frameworks, fostering cultural promotion (Faroldi 2021, 103).

The Decommissioned Industrial Heritage in Italy

While the restoration of architecture from previous centuries is widely accepted and recognized as necessary in Italy, mobilizing public opinion around the regeneration and reuse of twentieth-century architecture remains a challenge. It is difficult to recognize the historical and documentary value of recent works. Their temporal proximity and the lack of protective regulations make it hard to adopt common frameworks for interpretation and critique. Nevertheless, interventions involving these types of buildings are set to increase irreversibly in the coming years, driven by material degradation, adaptation to evolving typological standards, and, above all, regulatory and energy requirements (Reichlin and Pedretti 2011, 125; Musso and Franco 2020). One of the most discussed processes is the decommissioning of industrial complexes, or parts thereof, that are no longer functional, and create discontinuities within the urban fabric, freeing up strategic areas for new interventions (Bergeron 2012). These opportunities can help restore urban continuity, improve the connection between different spaces, adapt to various social rhythms, and address infrastructural gaps. The goal is to foster healthy, safe, and inclusive cities. This situation highlights the need for an enhanced system of services, that are accessible to a broad and diverse user base, in line with a radical rethinking of the role of industrial infrastructure within the city. Such actions require the adoption of advanced management models based on collaboration among the various public and private stakeholders involved in the design process (Fondazione Fitzcarraldo 2019, Campagnoli 2019). The importance of participatory and cooperative practices, new institutional geometries, inter-scalar and integrated planning tools, and equitable operational references emerges, all aimed at building new assets and physical and intangible configurations capable of raising standards

of settlement quality, environment, social inclusion, and economic growth (Crupi 2022). For a long time, scholars, owners, managers, and public administrators have questioned suitable methods and virtuous processes for the redevelopment of disused industrial heritage often linked to conceptions and policies that have acquired different meanings in recent times. This is why, especially when dealing with public assets, such heritage is no longer regarded as an individual artifact to be protected, but as a node to be reactivated and enhanced in relation to the social, territorial, and economic context (Boldon and Zanetti 2016; Boniotti and Cerisola 2022), thus constituting an effective network of places and services for the community based on the excellence of these sites. At the architectural scale, the need for technological and functional adaptation of these nodes intersects, at the urban scale, with a demand for environmental and social regeneration (Currà 2022) and in the absence of strategies responding to climate change, the reactivation of such assets actively contributes to reducing the impact of the built environment (Croce 2020). The reactivation of these systems and the fight against the obsolescence of assets are therefore urgent for contemporary social, environmental, and urban regeneration, with the enhancement of sustainability standards for citizens' lives playing a central role. In response to these processes, it is necessary to adopt an approach that interprets changes over time, embedding them within a more complex and contextual vision of reality (Vannelli 2022). Private, collective, and third-sector actors appear increasingly effective in processes of re-appropriation and regeneration of historical-architectural and landscape heritage, as well as public administrations and citizens' associations that encourage innovative methods for rethinking and reactivate abandoned industrial contexts. Involving cultural operators, volunteers, and citizens in these participatory activities opens to a wide understanding and use of the urban disused architectures (Marin 2022, 19). These processes for the regeneration of abandoned industrial buildings or complexes must progress through several stages – political, cognitive, evaluative, and programmatic—even before reaching the purely design phases. It is also essential to consider aspects of economic and management sustainability over the long term, because the economic valuation of an asset involves estimating its value and identifying its functional vocations, through the development of criteria for economic appraisal, assessment of market demand compatibility, and forecasting of management sustainability (Maspoli 2016, 161).



Fig. 1. Falck Industries with Bestetti Hangar during the fifties. Arcore, Monza-Brianza, Italy

The Bestetti Hangar in Arcore towards a New Future

The Bestetti Hangar, the last surviving architectural testimony of the former Falck steelworks in Arcore, stands as the only element of historical memory in the area. (Fig. 1) Designed by Mario Moretti and abandoned since the 1970s—after serving for several years as a storage facility for Falck industries from the 1950s onward—the Hangar today represents both a challenge and an opportunity for urban regeneration (Dodi 1996). The research project, initiated to support the Municipality in imagining new functions and vocations for the Hangar (also considering regional funding for economic, social, and territorial revitalization), is the result of collaboration between the local public administration and the Politecnico di Milano. The aim was to develop a methodological and scientific framework capable of guiding the complex process of reusing the decommissioned industrial building, transforming it into a catalyst for social capital, integration, cultural promotion and education. The reuse of the Hangar was deemed admissible by the Offices for Historic Preservation in 2022, in relation to functions of an ancillary nature of an exhibition, association, educational, catering and commercial nature, which do not alter or damage the integrity of the historic building, and which guarantee public use of the property. The proposed project for the Hangar's redevelopment is based on the desire to return one of Arcore's economic, social, and cultural heritage assets to the community by creating a new hub for the city and its residents, preserving its historical and memorial value and renewing its functional role and social significance. The proposal's objective is to implement a series of interventions that can revitalize the neighborhood and provide a multi-scale response to the city. The building's proximity to the rail system and its connection to the public park currently under construction make it a strategic location, offering high visibility and opportunities for use. The research process worked on the following topics and objectives: the consolidation and restoration of the building for public use; the maintenance and enhancement of the building's spatiality and key architectural and morphological features, for the purpose of preserving and enhancing its historical and memorial identity, including through minor interventions where necessary; the satisfaction of the necessary functional requirements within the existing volume, with a view to optimizing and ensuring the durability of its functions and spaces, as well as creating a unified and attractive hub for the area; the establishment of new relationships with the surrounding area through the redevelopment of the relevant external spaces and new connections to the renovated neighborhood. In particular, the design proposal, both programmatic and architectural had to face the primary elements of the identity of the former Hangar. The building's identity is shaped by its open interior, defined by the two vaults, the central arch, and abundant zenithal light from skylights and gable frames. The patina of the damaged internal plaster is a key feature of its industrial character. The southeast façade, once fully open with large portals for aircraft, was later infilled for warehouse use, with only two doors remaining as traces of its original form. Additional distinctive elements include the modular window frames and the rhythm of the structural grid, visible in the projecting pillars and gable hangers.

A Methodological Approach to the Reuse of a Disused Industrial Landmark between Culture and Innovation

The research on the Bestetti Hangar followed three main phases, each with specific technical and methodological actions. The first phase, called analytical-programmatic, focused on recognizing and interpreting the building's historical, morphological, and strategic features. The Hangar's distinctive features—such as the central arch, vaulted roof structures, and reinforcement chains—were analyzed in depth. A constraints analysis was developed as a critical tool to guide the design proposal, combining a broader analytical framework with a site-specific investigation. The Hangar was thus established as both a symbolic and spatial anchor within the evolving urban fabric, located at the heart of the future public park and in direct relation to new residential towers. The historical reconstruction identified the Hangar as the last surviving architectural testimony of the former Falck steelworks, which once defined the industrial identity of the entire area. The strategic dialogue phase initiated a process of participatory engagement, expanding the design discourse beyond disciplinary boundaries to include institutional actors, stakeholders, and the local community. The process began with structured consultations with the public administration and its technical departments, and evolved through dialogue with citizens, heritage authorities, the masterplan implementation entity, and future site managers. In the case of the Bestetti Hangar, this collaborative approach led to the formulation of multiple functional hypotheses, which were subsequently translated into initial design scenarios. These proposals underwent iterative refinement through targeted discussions, culminating in a shared project vision that balances conservation imperatives with contemporary urban needs. The phase exemplifies how strategic dialogue can mediate between regulatory frameworks and collective aspirations, producing design outcomes that are both feasible and culturally resonant. The transition from conceptual exploration to architectural definition was marked by the meta-design phase, which focused on spatial organization, functional distribution, and design priorities. (Fig. 2)

For the Bestetti Hangar, this phase entailed the introduction of two lateral volumes, conceived to host functions of a more individual or commercial nature—such as a restaurant and a training facility—while ensuring public accessibility. The central space of the Hangar, redefined by these additions, is dedicated to exhibition activities, reinforcing its cultural vocation. Concurrently, the phase addressed the integration of

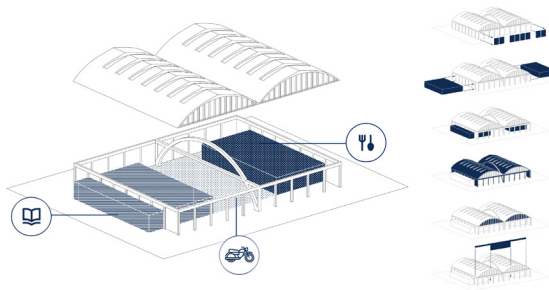


Fig. 2. Meta-design actions on Bestetti Hangar. Arcore, Monza-Brianza, Italy

new architectural and technological components, establishing guidelines that ensure formal distinction between the historic envelope and contemporary interventions. This approach respects the integrity of the original structure while complying with current standards of accessibility, usability, maintenance, and construction. The meta-design process thus synthesizes strategic intent and technical feasibility, preparing the ground for the detailed and executive phases of the project (Fig. 3).

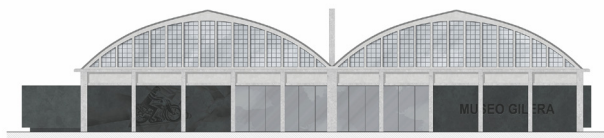


Fig. 3. Main façade of Bestetti Hangar's meta-project. Arcore, Monza-Brianza, Italy

The functional program of the renewed Hangar is divided into three functional nuclei that are independent from each other but with the possibility of connection and synergy: the exhibition space (which includes some spaces for sector associations), the space for professional training and the bar/restaurant. The activities, organized and managed by various local stakeholders, focus on vintage motorcycles, which are connected to both the museum and association spaces, as well as the workshops and courses held in the training area. The bar and restaurant provide primary service to the cultural and educational functions, and the Hangar remains open late into the evening. The project comprises two main blocks housing the training, association, and restaurant functions, while leaving the museum in the “free” central area on the ground floor. The internal volumes take the compositional and rhythmic aspects of the existing building as a reference for their design, aligning themselves with the structural grid and the string courses that characterise the external facades, maintaining a adequate height for easy internal spatiality even for the most complex functions, such as the restaurant and the workshop, and ensuring suitable management spaces for the structural building systems and lighting elements. The new educational vocation—well suited to the reuse of a building of this size and morphology, and enhanced by its inclusion in the park system—represents an opportunity not only to fill an urban void that becomes a “neighbourhood hinge,” but also to trigger mechanisms, actions, and strategies capable of developing social capital. The final phases of the research produced guidelines for the physical redevelopment of the building, focusing on enhancing its spatial character—strongly defined by the concrete vaults—and the addition of new, visibly contemporary elements to accommodate the necessary functions. The development of these three phases led to a guidance document that will support public ownership in the subsequent stages of project development—from securing funding to the construction of the intervention—by establishing guidelines to ensure that the objectives set and the results obtained are aligned within a virtuous multidisciplinary and scientific framework. The project's vision is based on the interpretation of architecture as the primary means of communicating and narrating the value of space and its suggestions. The relationship between the functional program and the new architectural elements and the historic building and its identity is pursued through solutions that do not alter, but rather enhance, the



Fig. 4. Render of the Bestetti Hangar's project. Arcore, Monza-Brianza, Italy

building's morphological aspects. When necessary for functional reasons, architectural and plant elements are inserted to ensure the spaces are adequately and consistently functionally suited to their new and specialized uses.

The project proposes contemporary forms and materials, allowing for their epochal recognition while remaining fully in harmony with the historic elements. The project's development, from the overall scale to the details, is ultimately linked to the Hangar's strong geometry, working with modular elements in harmony with the spatiality and rigor of the industrial building: a declaration of intent, values, and symbols specific to an architecture rediscovered and returned to the community (Fig. 4).

Conclusions

The regeneration of twentieth-century public heritage in Italy constitutes a complex yet essential process for enhancing the urban and social fabric. These buildings, as tangible witnesses to the nation's economic and cultural history, represent strategic resources for the revitalization of consolidated cities. Their transformation demands integrated and multidisciplinary approaches, capable of actively engaging local communities, public institutions, and private stakeholders. The case of the Bestetti Hangar in Arcore demonstrates how the rehabilitation of industrial assets can serve as a catalyst for social and urban innovation, fostering the development of more resilient, inclusive, and sustainable communities. The experience gained highlights the fundamental role of collaboration among diverse entities—with universities and research centers at the forefront—in envisioning new uses for large, abandoned structures, thus combining historical memory with sustainable development. The chosen methodology, based on historical analysis, strategic dialogue, and meta-design, made it possible to define operational guidelines. These guidelines will support the next phases, from obtaining funding to implementing the project. In this context, understanding both the material and immaterial values of these buildings proves essential to ensuring the continuity of their significance within contemporary society and to promoting a culture of responsible, future-oriented transformation. The path undertaken with the Bestetti Hangar is but one example of a widespread national challenge, which calls for further research, experimentation, and long-term policy initiatives. Only through a collaborative and forward-looking approach can these sites be transformed into engines of urban regeneration, ensuring that industrial heritage remains a living resource for future generations.

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