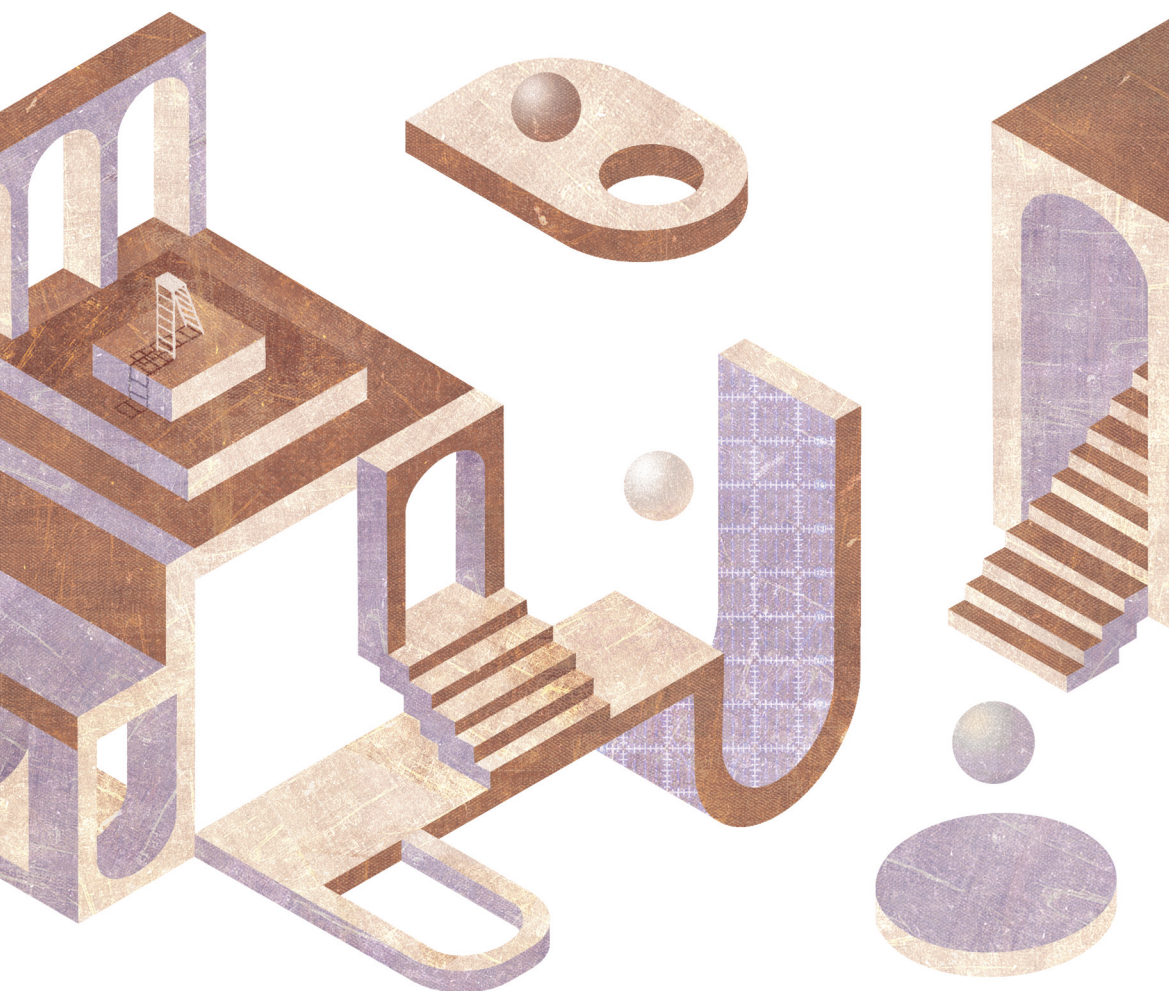


# MULTIPLE-SCALARITIES

Environmental systems as a combination of interior design,  
services, communication and technologies



edited by Giulia Gerosa, Andrea Manciaracina



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D.I. **FrancoAngeli**   
DESIGN INTERNATIONAL

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### **3. M: Urban Regeneration project of a Former Military Park in Lentate sul Seveso**

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#### **Abstract**

The increasing number of abandoned buildings and disused spaces in our cities represents an opportunity to counter the waste of resources. The former military park requalification project described in this chapter shows a model of sustainable urban transformation based on building recovery and community involvement. The project proposes the realisation of student residences integrated with multifunctional spaces for local communities aimed at enhancing the territory's resources and history, as well as enabling educational and economic development. It follows the principles of the National Recovery and Resilience Plan, starting with moving innovative processes out of big cities and into smaller places.

The project was conceived by a team of researchers from the Design Department of Politecnico di Milano, in collaboration with the municipality of Lentate sul Seveso, owner of the properties subjected to requalification, engaging the participation of the local administration, the major stakeholder, namely Polo Formativo Legno Arredo school, and actors from the corporate sector. The partnership between Municipality and University represents a significant connection in the development of the territory. Service and Spatial Design has a key role in responding to the need to rethink public space according to new forms of social engagement and interaction.



## Introduction and methodology

The design of the former military park afforded the chance to combine research and experimentation on topics such as regenerative and sustainable design, participatory actions with local actors, and in dialogue with local administration, and public policy defined in Italy's National Recovery and Resilience Plan (PNRR)<sup>1</sup>. All of these different scales, within which the project is situated, come together to form a Medium Design Scale, which investigates the role of design in the process of city-making and the revitalization of disused public property spaces.

In Italy, abandoned private and public properties are becoming a challenging issue due to their increasing diffusion. The phenomenon could be looked at from both an urban and a public policy point of view, since most of these situations have a strong effect on the environment and policies are needed to stop and control them. When we talk about unused or empty public property, even if it is in a good state of maintenance, we have to consider it a wasted resource. Even more so if the property in question is unused, in a poor state of maintenance, or abandoned altogether. It becomes an element that negatively affects the common interest; it becomes a collective problem (Bellè, 2020). According to the most recent report from the MEF (*Ministero dell'economia e delle finanze*, in Italian), reporting data from 2018, the public administration's property holdings consist of over one million buildings. Seven percent in terms of quantity and four percent in terms of surface area of this heritage is unused. This quantity is not negligible, especially when considering the 19 million square metres of land occupied by these buildings, valued at 12.1 million euros (Carapella, 2018; MEF, 2021). This unused heritage has a lot of potential for sustainable developments, and urban regeneration is a viable response to the waste of resources. Cities are drivers of a regenerative design that promotes active collaboration among diverse stakeholders, integrating different perspectives of knowledge and expertise (McCormick *et al.*, 2013), and encouraging experimentation with

1. Piano Nazionale di Ripresa e Resilienza (Italy's Recovery and Resilience Plan): [www.governo.it/sites/governo.it/files/PNRR.pdf](http://www.governo.it/sites/governo.it/files/PNRR.pdf).

sustainable solutions and approaches. In the case of the former military park project, the distinctive cultural legacy of the structures and the growing demand for the repopulation of these vacant spaces are what are driving the research.

The regeneration of the former military park is a research project conceived by a group of researchers from the Design Department of Politecnico di Milano, in partnership with the municipality of Lentate sul Seveso, the owner of the properties that are being submitted for requalification. Different institutions, such as the municipality and university, worked together to address the need for local transformations, replacing the traditional “researcher” and “researched” relationship with a more collaborative interaction (Murray *et al.*, 2010). The result of this coordination laid the groundwork for “macro-transformations” through “micro-transformations and local systemic discontinuities” (Manzini, 2006).

The primary issue that needed to be addressed is the integration of temporary living spaces and territorial development, recognizing the student housing research as an inclusion of “housing issue” and “urban regeneration” (Bellini, 2015). The expected results of the project were to contribute to the definition of new solutions, in terms of service and spatial design, for unused places of public property, enabling the educational and economic development of the territory. For this reason, together with the engagement of local authorities, the design strategy included participatory actions promoting an exchange of actually enforceable solutions.

The research began by assessing the current state of the abandoned building and the context of intervention. A field research conducted in collaboration with the local administration and stakeholders resulted in a project proposal based on the definition of the potential users’ profile. After its validation, the proposal was developed at the level of the feasibility study. The latter phase was concerned with the services provided and the spatial layout. The feasibility study was based on a strategy that reflects the fundamental principles introduced by the PNRR, focused on achieving the goals of ecological and digital transition in future development. The directives of the PNRR have also stimulated construction and production activity by allocating substantial funds to improve the quality and quantity of education and training services.

## **Student dorm scenario and urban regeneration opportunities according to public policies**

The initiatives of recent years by subjects of national and international relevance highlight the important role of student housing in the qualification of the dwelling offer, in the typological and technological renewal and in the transformation of the social and urban fabric (Faroldi, 2020 cited in Bologna, 2022, p. 199).

Almost two years after the outbreak of a global pandemic, we know that the pandemic has irrevocably altered some aspects of our daily lives, whether we are talking about a domestic environment or a public space. As COVID-19 grew, the city became less appealing, and during quarantine, apartments got stuffy and couldn't be lived in. A portion of the population abandoned cities and relocated to suburban homes and more rural environments, also thanks to the diffused opportunity of smart-working (Borin, 2022). The meaning of "private spaces" changed, with everyone virtually entering our space and also due to the use we make of it. So did the meaning of "public space", because the pandemic affected relational behaviour, resulting in significant changes in public space use and design. Temporary housing, in which the line separating the public and private spheres is frequently difficult to delineate, requires the exploration of new design possibilities on the social and spatial dimensions.

Gainsforth and Peverini (2022) gave an accurate picture of the situation of student residences in Italy, a nation that ranks last in Europe for the number of graduates. The lack of affordable housing threatens social mobility and the right to education. On the other hand, it encourages certain speculative dynamics in the private market.

In Italy's university dorms in 2020, there were 42,732 beds. This is less than a third of the beds available in France and Germany. Sixty-eight percent of university students in Italy live with their parents, compared to the European average of 33%. Only 5% of students have housing in a university residence, against a European average of 17%. Only 40,000 of the approximately 400,000 students living away from home are housed in public or semi-public university housing. Only one-third of scholarship-eligible and out-of-town students benefit from housing (Gwosc *et al.*, 2021).

Italy's National Recovery and Resilience Plan (PNRR, in Italian) wants to close the gap with other European countries by providing both regulatory measures and substantial investments. The plan, strengthening the supply of education services (Component 1 of Mission 4), aims to raise the number of beds from around 40,000 to 105,500 by 2026. Housing policy, even if it is not explicitly or referenced to a single mission, is one of the two major themes, along with urban regeneration, that the country has decided to develop through the investment of PNRR resources (Baratta, 2022).

Since public space allows for the practical application of new urban and social models, it serves as a major source for the improvement of the city as a whole. Therefore, it is crucial to restore a connection between public space and the people who reside there by creating a system of proximity that emphasises both human and non-human elements and thereby links services, relationships, and opportunities (Galluzzo, 2022). Promoting projects for the regeneration, enhancement, and management of the great heritage of history, art, culture, and traditions in small Italian towns, integrating cultural heritage protection objectives with the needs of social, economic, and employment revitalization is another goal provided by the PNRR (Borin, 2022) on which the project of the former military park is based.

## **Designing new ways of temporary living**

One of the main characteristics of con-temporary homes is their temporary nature, whether it be a temporary use or a temporary and ephemeral structure. [...] The reasons we experiment with temporary housing today are varied, and obviously the phenomenon of new-nomadism is central in this (Galluzzo, 2022, pp. 71-72).

Residence halls are typically permanent structures used for temporary periods, making them effectively temporary houses. The type of resident of these structures can be defined as a non-resident who lives for longer or shorter periods outside its home town. These non-residents can be students, workers, or people in temporary need for any reason. In some cases, the service is intended for just one type of user; in other cases, it can involve a variety of users. Some existing examples of hybrid offers are the 21 House of Stories hotel

that has high-tech rooms and a co-living and coworking space for brief or long stays for temporary periods, designed for the needs of those who are away from home for work or study reasons. It is similar to Camplus, which offers a place for students, young professionals, and travellers, founded to help people “feel at home away from home”. The Student Hotel recently became The Social Hub to underline its efforts to improve society by establishing itself as a community. It’s a hybrid space with hotel rooms for tourists, co-living for travellers, coworking for digital nomads, and a creative playground for entrepreneurs and locals.

Bologna (2022) explains this idea of “community”, bringing attention to the fact that public spaces outside the residence can “create landmarks and an identity in the urban fabric”. He also gives two examples: La Presentazione residence, where the large inner courtyard becomes a space of strong aggregation, it relates to the city fabric as the outdoor area becomes a real urban park that the community can access. The Ex-Ospedale Militare residence in Trieste provides many places for students to study and relax, as well as community services like a convention hall and co-working and start-up spaces.

In this scenario, the project proposal for the former military park is presented as a renovation of the area with the aim of combining student hospitality with services and spaces for interaction and social cohesion – environments capable of building local community relationships. Student residences can serve as urban hubs for synergistic links between the space-service and the neighbouring urban areas. They are community hubs that can hold daily life services and activities. They can be flexible in scheduling and access, open, active, and a living reference point in the area (Collina *et al.*, 2018). Designing new ways of temporary living must mean designing an integrated synergy between spatial design and design for service favouring a sustainable and inclusive space/service. Postell *et al.* (2022) claim that today the design of collective (small) living spaces must include essential concepts such as multifunctionality, nature, and ethics, embodying “a wide spectrum of opportunities for shared activities and a hybridization of purpose and use”.

## ***Context and assessment analysis***

The project of the Former Military Park takes place in a small context that is decentralised from a major urban centre but well connected to northern Italy's main cities. This connection makes it a strategic place with a high territorial value on both a local and supra-municipal scale. The area of intervention is strongly and historically defined by the wood furniture industry, where methods developed and applied by old master carvers helped shape the furniture sector. In this scenario, the Polo Formativo Legno Arredo, a high school that trains young people to work in the sector, was born. We could define it as "rurban" (rural+urban) referring to a geographic territory/landscape that has the economic characteristics and lifestyles of an urban area while maintaining the fundamental rural area characteristics (OECD, 2020 cited in Borin, 2022).

The former military park is located near this school, attracting people from all over the country, and also near the train station, connecting it to the city of Milan. After serving as a military accommodation, the site has been left in an abandoned state. The buildings are partially damaged and uninhabitable, surrounded by shrubs and brambles (Figs. 1-2). Their historical and architectural significance serves as a strategy for the expression of cultural identity characteristics and the economic and practical enhancement of heritage. Moreover, the value of the site lies not only in its architectural qualities but also in its naturalistic potentialities. Indeed, the 3,500 square metres of greenery bordered by the presence of the river Seveso should not be understated.

The need for student residences arises from the vision of growth of the Polo Formativo Legno Arredo, not only at a national level but also at an international level, with the primary goal of enhancing the area's cultural, historical, and industrial value. The field investigation phase also showed a high level of association activity in the area, with a huge number of cultural, sports, and voluntary associations identified in a population of almost 15,000 people. As a result, the need for a community and meeting place was also identified.



*Fig. 1 – Pictures of the state of the art of Lot A's buildings of the former military park in Lentate sul Seveso*



*Fig. 2 – Pictures of the state of the art of Lot B's buildings of the former military park in Lentate sul Seveso*



## **Target profiles**

The context analysis allowed for the creation of a profile of potential temporary residents, from which the hospitality offer was created. The profiles that emerged were primarily related to the presence of the Polo formativo Legno Arredo school. This included national and international students (aged 19-29), who would use the residence for short or medium-to-long periods, attending entire courses or single seminars at the school. Lecturers or experts in the field who could remain in Lentate to attend or lead a workshop, a conference, a course of study at the Polo formativo school, or other types of events related to the school. Furthermore, the property's proximity to the Camnago/Lentate railway station does not rule out the possibility that these same types of users (students, lecturers, and professionals) are not only connected to the Polo Formativo in Lentate, but also to other nearby sectors' realities. The accommodations served as the hub of a hospitality system for educational institutions in neighbouring municipalities and Milan.

The primary focus of the design is the places' adaptability to the diverse requirements of their inhabitants; creating transformative places also contributes to the sustainability of those spaces, making them suitable for longer (Collina *et al.*, 2022). Even if existing conditions change in the future, the flexibility of the space will ensure that it is never rendered obsolete. The feasibility study has already considered the hypothesis of accommodating other types of users, including those in a difficult situation that require temporary housing, such as individuals undergoing divorce, as well as older people who may have specific needs and requirements for housing.

The flexibility of the space is intended "in terms of usability and the different degrees of appropriation (individuality and sociability) of the residence's interior and exterior public spaces by users other than students" (Bologna, 2022, p. 205).

## **Promoting sustainable and inclusive spaces through accessibility**

The correlation between accessibility to a space and its sustainability is increasingly recognized as a critical factor in designing and operating spaces that promote sustainable outcomes. Accessible spaces can promote social sustainability by promoting inclusivity and reducing disparities in access to resources and opportunities (Kadir & Jamaludin, 2013). In the case of the former military park, the intervention gives special emphasis to the theme of accessibility, ensuring that all spaces are accessible to a wide range of users, including those with disabilities, and that such spaces can promote sustainability and inclusivity. The implementation of circulation, layout, and dimensions that meet accessibility standards is not only important for social sustainability but also for economic and environmental sustainability. Spaces that are flexible and accessible tend to be more sustainable because they enable a wide range of users to access and utilise them in ways that meet their specific needs. The accessibility of the renovated former military park is designed not only for the current residents, who are primarily students, but also for the future integration of services for the elderly. Moreover, flexible and adaptable building designs can reduce the need for costly and wasteful renovations over time. The goal is to create a new educational environment that promotes ecological terms and sustainability as life choices, incorporating it into teaching, research, design, construction, and operation of university facilities and infrastructure (Bellini *et al.*, 2015).

### **Spatial and service transformation**

According to these premises, the design of the former military park led to a radical reconfiguration of the spatial and services characteristics. Applying an S+S approach to design, we consider spaces as supporters of social practices that operate through flows and enablers of the service network (De Rosa, 2022).

The site of intervention is divided into two parts: “Lot A” and “Lot B”, plus a third part complementary to Lot B (Fig. 3).

The purpose of the project is to designate Lot B for residential services (for students, professors, and visitors of the adjacent school) and to designate Lot A for local community-related functions, including a playroom for children, the house of associations, and a cafe/social club. The complementary area to Lot B is needed to extend the existing parking lot.

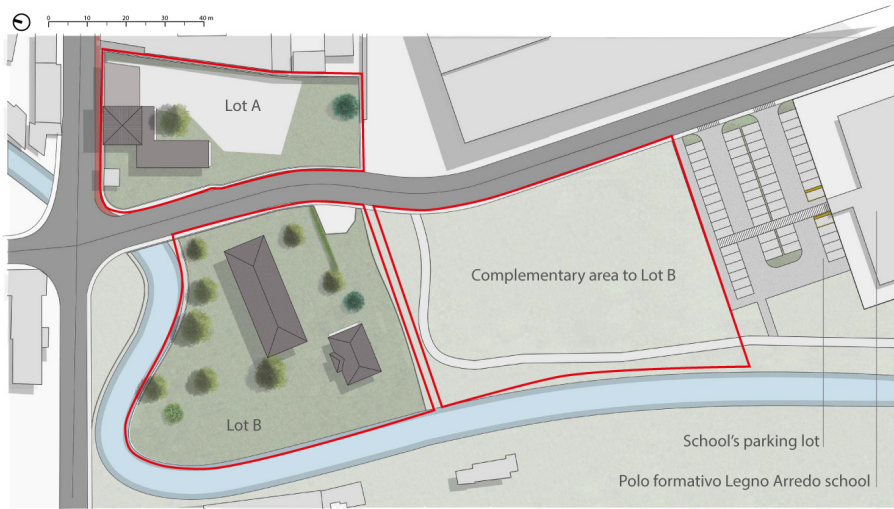


Fig. 3 – Planimetry of the former military park's state of the art

### **Three level of hospitality**

Student housing consists of a coordinated collection of individual units and common areas, each with its own set of amenities and design considerations (Rizzo & Ajroldi, 2004). Particularly, for the former military park project, three levels of hospitality have been defined (Fig. 4), each accommodating different needs and adaptability to future needs depending on the type of user and length of stay:

- The first option is the one that provides the highest level of comfort. It's a "Two-room" accommodation, consisting of a single room with a private bathroom and kitchen. This option is designed for a single guest, who can be a teacher, a professional or a person in need, regardless of the duration of the stay (Fig. 5).



Fig. 4 – Hospitality Offers’ Schemes



Fig. 5 – Planimetry of an example of the “Two-room” accommodation typology

- The second option, “Small Size” accommodation, provides a good level of privacy while also offering spaces/opportunities for socialising, all while maintaining a medium-high level of comfort. This type of accommodation consists of two types of rooms, single room and twin room, each with its own private bathroom. They share a kitchen in groups of no more than three or four. This solution is a compromise between the private dwelling and the hostel model and it is designed for two different types of users depending on which building it is located – for students who stay for a medium-long period and for faculty, professionals or people in need who use it for short periods (Fig. 6).
- The third option, “Maxi Size” accommodation, with its eleven rooms and one common area, is the solution that most closely resembles the traditional student residence model. However, thanks to the reduced number of rooms and the presence of private bathrooms in each one of them, the level of comfort remains high. This option is intended for students who would stay for a medium/short period (Fig. 7).



*Fig. 6 – Planimetry of an example of the “Small Size” accommodation typology*



*Fig. 7 – Planimetry of the “Maxi Size” accommodation typology*

The common kitchens (Fig. 8) are places where people get to know each other and sometimes have small fights. It is the place where differences in cultures and habits most often cause discomfort. For this reason, both the kitchens of the small and the maxi accommodations are equipped with refrigerators for individual use and personal compartments.

The spatial configuration of the buildings also guided for the distribution of these three different services. The number of beds obtained by this internal reconfiguration and regeneration of the buildings is 23. All rooms in the distinct types of accommodation are designed with basic, linear furniture that doesn't dominate the space so that residents can customise it (Figs. 9-10). The room proportions are variable and widely



*Fig. 8 – Project Visualisation: Common kitchen of the “Maxi Size” accomodation*



*Fig. 9 – Project Visualisation: single bedroom of the “Small Size” accommodation*



*Fig. 10 – Project Visualisation: twin bedroom of the “Maxi Size” accommodation*

available compared to the square meters mandated by law n.338 of 14 November 2000, taking into consideration the PNRR-promoted student accommodation adjustment standards, with the goal of reducing the current legal requirements for student common spaces in favour of a better-equipped (single) room.

### ***Creating Connections through Residential and Community Services of Lot B***

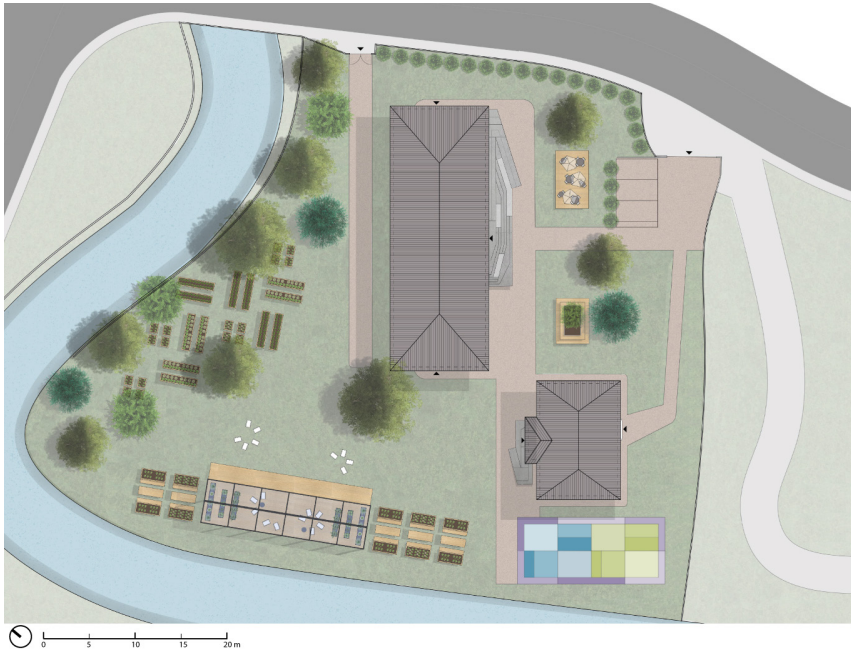
The definition of services within the context of this project holds significant importance. The classification of services comprises two broad macro-categories, namely, residential services and community services. Residential services cater to temporary inhabitants, while community services are open to everyone, with an emphasis on integration and inclusivity with the local community. Although the two categories possess distinct features, they often overlap to facilitate

the establishment of connections between transitory residents and the territory.

The study identified several residential facilities, including the Library of Objects, where temporary residents can borrow a wide range of items and equipment for various occasions, reducing the waste of resources and promoting the circular economy. Laundry facilities for autonomous use, and Car-Sharing and Bike-Sharing services that enable visitors to travel independently. Additionally, a Bike Room is available for storage, maintenance, and service assistance. The Bike Room is open also to the local community as a place to foster social inclusiveness by providing a meeting place for people of different ages and skills to share their knowledge and repair bikes.

Moreover, the research identifies several community amenities that are accessible to both temporary residents and local community. These amenities include an Event Room with a fully-equipped kitchen located in the central core of building B2, which serves as an ideal location for congregating, celebrating, coordinating training courses, meetings, and other activities. The garden area (Fig. 11) is thought of as a gathering place for residents of the dormitory and the surrounding neighbourhood, promoting social interaction and community building. It also helps to establish a connection with nature and host events thanks to the community vegetable garden (Fig. 12). Lastly, a multi-sport field is available for outdoor physical activity. It provides a space for individuals to engage in various physical activities, such as soccer, basketball, and volleyball, promoting an active lifestyle, improving health and well-being. It is also a way to facilitate social interaction and team-building, promoting positive relationships and a sense of community among participants.





*Fig. 11 – Planimetry of the project proposal for the former military park's Lot B*



*Fig. 12 – Project Visualisation: the community vegetable garden*

## ***A hub for social engagement: the proposed Multifunctional Space of Lot A***

The study presents the proposal for the multifunctional space of Lotto A, which encompasses three primary services: the children's area, the bar/circle, and the house of associations. Additionally, the outdoor area can also serve as an event space, suitable for activities such as outdoor cinema, concerts, theatrical performances, and more (Fig. 13). The proposal was developed based on the analysis of the context, which revealed the presence of a dense associative network in the area that lacks adequate spaces to conduct activities, the expressed need by parents for a dedicated space for their children's activities outside of school hours, and the local community's desire for an aggregative centre. Each of the three services has independent entrances and management and is designed with specific spatial characteristics.

The children's area consists of both an interior space, on the ground floor, and an external area. The interior environment is characterised by the large hall that can be divided according to different needs, thanks to blown textile doors (Fig. 14). The space can be configured to host, for example, parties or recreational activities.

The bar/circle is designed as an informal meeting place, on the two floors of the building. The lower floor features a multifunctional and flexible space suitable for circle activities, while the upper floor includes the bar with a large terrace (Fig. 15) equipped with tables and sofas as the main spatial element.

The House of Associations occupies a separate building portion. The interior space is versatile and can easily adapt to different functions. Perimeter stairs make it an excellent arena for meetings and associative events. The space can be divided, thanks to blowing textile doors, in case of multiple activities.

The project aims to establish connections with the territory and create shared social well-being by requalifying the former military park.

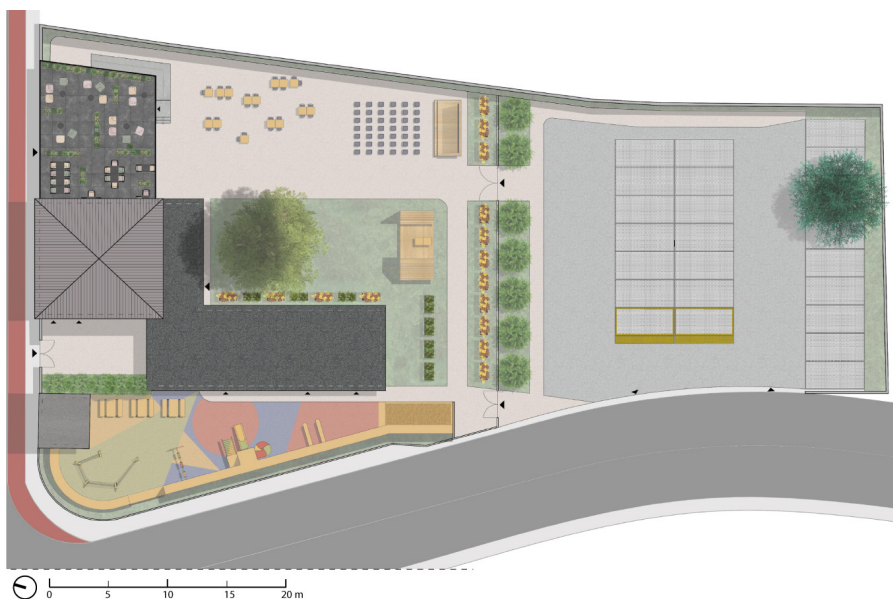


Fig. 13 – Planimetry of the project proposal for the former military park's Lot A



Fig. 14 – Project Visualisation: the children's area



*Fig. 15 – Project Visualisation: the Bar Terrace*

## **Conclusions**

In Italy, there is an emerging focus on utilising existing buildings to reduce the need for new construction and limit the impact on the environment thanks to specific public policies starting from the PNRR investment. The former military park requalification project described in this chapter plays a crucial role in shaping the urban and social fabric. Its strength lies in its potential to foster new forms of social and entrepreneurial collaboration, moving innovative processes from large urban centres to smaller contexts. This decentralisation of innovation has the potential to stimulate economic growth in small areas and promote more equitable distribution of resources and opportunities across different areas, aligning with an additional objective of the PNRR. Restoring a connection between public space and the people who reside there is crucial for improving the city as a whole and creating a system of proximity that links services, relationships, and opportunities. The collaboration between the academic institution and community stakeholders in formulating a project that is in line with

the objectives of the PNRR has contributed to the project's contextual significance.

In the wider context of territorial development, universities can serve as significant contributors to the investment of PNRR funds through the provision of research, expertise, capacity building, and partnership opportunities. One potential avenue for investigation is the examination of sustainable, inclusive, and resilient communities, which are fundamental goals of the PNRR, through research. Universities can act as facilitators for the participation of local stakeholders in the design and implementation of PNRR-funded projects, and also as evaluators to assess their effectiveness. According to Fassi *et al.* (2020) Universities can be regarded as drivers for social innovation, particularly in relation to the urban context, public spaces, and the commons. They have a responsibility to promote social and cultural awareness, in addition to education and scientific research, using their physical space to create an integrated system of services and activities between the campus and the city. By leveraging their physical space and resources, universities can offer a platform for designers to experiment with innovative approaches to urban development. In this regard, Manzini *et al.* (2022) argue that design has a critical role to play in city-making, as it can facilitate a shift from a traditional top-down, deterministic approach to a more flexible and adaptive one. Designers can introduce subsystems or “plug-ins” that generate transformations in the urban ecosystem and enable sustainable ways of life in cities. The relationship between designers' actions and the interdependencies that characterise urban habitats is key to navigating complexity and arriving at effective and sustainable solutions.

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Interior design is less and less reduced to the mere physical component of space and is instead increasingly projected towards an 'environmental system' made up of space, services, communication, and technology, capable of illustrating a multi-scalarity and trans-disciplinarity typical of a project devoted to innovation. This change of focus, from the prevalence of the interior physical component to the dominance of a polyvalent system, has generated a series of changes, including those affecting the project's area, which shows a progressive rise of the informational-cognitive component where the control of the net of human interactions involved becomes extremely important.

The volume collects various design experiences carried out within heterogeneous research groups and talks about experiments in the design of spaces and services on a different dimensional scale and that have impacted different types of users.

Through the recounting of these experiments, the book highlights the close interconnections between the design of spaces, the creation of services, the application of communication systems, and the exploitation of technologies, allowing us to reveal the tensions and interactions that are unleashed depending on the prevalence of one or another design discipline and the scale (from XS to XL) at which they take place.

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