



Opinion Placemaking in the Post-Pandemic Context: Innovation Hubs and New Urban Factories

Luca Tricarico 回

CNR IRCrES, Via dei Taurini 19, 00185 Rome, Italy; luca.tricarico@cnr.ircres.it

Abstract: This debate article explores the potential of urban manufacturing to rejuvenate Italian cities through the productive reuse of disused industrial heritage. It emphasizes the need for transformative placemaking approaches that integrate diverse activities, fostering economic and functional diversity within ecosystems. The paper addresses key policy considerations and the impact of dedicated spaces or hubs in engaging specialized communities of workers. It acknowledges the emergence of new professional demands due to Industry 4.0 and highlights potential polarization toward highly skilled profiles. The ongoing pandemic crisis and the rise of gig and platform economies also pose challenges to traditional services and lower-skilled professionals. The paper raises questions regarding attracting makers and their contribution to urban employment growth. It underscores the importance of inclusive learning and shared prosperity by promoting the hybridization of technical, cultural, and social functions within productive-cultural sectors. The governance of hubs and innovation ecosystems necessitates a shared vision and responsibility, fostering partnerships with stakeholders at national and international levels. The examples of BASE and the Technopole of Bologna demonstrate placemaking practices that prioritize the construction of proximate relationships, extending beyond physical improvements. These practices are applied in industrial settings, research, cultural production, and education, with low barriers to entry and targeted approaches to diverse user groups.

Keywords: urban manufacturing; transformative placemaking; inclusive learning; makers; governance

1. Introduction

Considering the contextual changes resulting from the pandemic crisis, strategies for repurposing former industrial spaces now hold a different significance. While we have previously focused on regenerating these assets for knowledge-based economies, advanced research, cultural production, and business acceleration, we can now consider these established functions as part of a productive vision of the urban economy, which can be defined as "proximity oriented" [1–5] Former industrial spaces represent potential assets in unveiling a new role for cities in an economic context where the typical international supply chains of economic globalization face significant challenges. Given the contemporary energy crisis, it is necessary to rethink economic-urban systems as strongly linked to proximity dynamics. In the past century, proximity-oriented economies were met with the constant growth of their antithesis, namely a "mobility-oriented economy" heavily reliant on the development of road and rail transportation systems, as well as large cargo ships, based on the relocation of production and commercial activities primarily to low-cost peripheral areas. Initiatives in real estate development aimed at exploiting rent for advanced tertiary functions have supported a territorial development model based on the economy of mobility, with a role for the public sector in negotiating infrastructure interventions and public services, while anticipating positive economic outcomes related to the residential construction sector and overall concentrated consumption in urban cores (growth machine, cf. [6]). The concept of proximity, entwined with the structuring of economic activities and urban development, boasts a rich historical lineage. Traditionally, the clustering of individuals has profoundly



Citation: Tricarico, L. Placemaking in the Post-Pandemic Context: Innovation Hubs and New Urban Factories. *Sustainability* **2024**, *16*, 1030. https://doi.org/10.3390/ su16031030

Academic Editor: Mirco Peron

Received: 21 November 2023 Revised: 22 January 2024 Accepted: 22 January 2024 Published: 25 January 2024



Copyright: © 2024 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). influenced urban development, facilitating the mutual sharing of resources and the effective provision of public goods. Giuliano et al. [7] explore this paradigm through the perspective of the agglomeration economy, which encapsulates the external advantages firms reap from co-locating. These advantages historically encompassed labor pooling, shared suppliers, and specialization. However, recent advancements in information and communication technology (ICT) infrastructure, as noted by the authors, have raised questions about the sustained relevance of the agglomeration economy. There emerged a belief that the progress in ICT infrastructure diminished the necessity for physical proximity and, consequently, the associated benefits of agglomeration. Despite the prominence of online proximity and the reduced requirement for physical closeness in productive terms, the current discourse pivots toward relational and social proximity. In contemporary discussions, the focus has shifted from conventional agglomeration economies toward prioritizing efficiency and the decentralization of production processes. This transformative shift mirrors broader transformations in economic and urban development paradigms. It underscores the emergence of innovative hubs that harness technological progress to redefine the dynamics of proximity in economic activities. Importantly, the contemporary discourse emphasizes the significance of relational and social proximity for fostering grassroots innovation. In this context, the role of innovation hubs and the imperative to establish collaborative proximity ecosystems become even more crucial, recognizing that innovation is increasingly driven by relational networks and the shared fabric of social connections.

The COVID-19 pandemic as well as with the current energy crisis resulting from the Russo–Ukrainian conflict have intensified the need to rethink urban economics in a renewed perspective regarding their impact at the local level. It has become evident that the organization of the industrial sector must be reconsidered to make it resilient to shocks in global supply chains, which have proven to be overly reliant on fragile international balances.

The necessity to reevaluate strategies for regenerating abandoned industrial areas seems particularly linked to the need to provide cities with a more dynamic economic and social diversification, moving away from activities solely driven by rent seeking [8] and taking advantage of technological innovations that can decentralize and "localize" the manufacturing sector. The introduction of new production technologies (Industry 4.0) has demonstrated the ability to overcome the technological limitations of the 20th-century industry, enabling the remote replication of many stages of production processes through the use of flexible machinery compatible with small-scale operations and low environmental impact. Moreover, and to emphasize a theme closely related to our discussion, these technologies can foster a perspective of reshoring certain manufacturing sectors to serve urban and regional areas, based on greater geographic proximity [9]. Simultaneously, a scenario of reshoring urban manufacturing can have a significant impact on the various economic and social components of cities, challenging the traditional obstacles associated with locating old models of manufacturing production in urban areas, often linked to extensive space usage, challenges in managing externalities, and limited attractiveness to skilled workers. These aspects are overcome by the potential of this new technological paradigm to generate positive effects on territories:

- The ability to enhance human capital connected to both "advanced tertiary" skills and those developed within cultural and creative domains [10].
- The demand for less space and the capacity for shared means of production, enabling the establishment of collaborative innovation ecosystems within these new manufacturing settings [11,12].
- The downward shifting of production stages in the value chain, reducing the required investment volume to achieve economies of scale through product customization. Proximity to sophisticated consumers becomes a potential source of competitive advantage [13].

In the landscape of new urban enterprises, a proximity logic connecting consumers, suppliers, and producers of advanced services has become a competitive edge. These enterprises recognize dedicated innovation hubs as essential catalysts for fostering interactions

with various agents and stakeholders in urban areas. The significance of such proximity dynamics gains additional relevance when viewed against the backdrop of the COVID-19 pandemic. Additive manufacturing (AM) emerged as a crucial element in bolstering supply chain resilience during this period. The rapid and versatile capabilities of AM, particularly in producing critical components within the medical sector, not only played a pivotal role in addressing disruptions but also demonstrated its potential applicability beyond the confines of healthcare [14,15].

In my view, to support this new understanding of urban economics, it is interesting to adopt an organizational perspective that necessarily combines these phenomena with the management strategies of regenerating abandoned industrial spaces [16]. The industrial heritage of the past century, which many of our cities possess abundantly, thus becomes an ideal place for the hybridization of various research and production innovations in the manufacturing field. Urban manufacturing is characterized by its adaptability to the specific needs of the local populace, fostering a direct and immediate connection between production processes and the urban environment. The definition aligns with the concept of "mini-factories", emphasizing the importance of small-scale dimensions that redefine traditional manufacturing dynamics. At the same time, urban manufacturing embodies the principle of proximity across various dimensions, encompassing physical locations, offered features, delivery times, and material sourcing. According to this background, the aim of this opinion article is to present a comprehensive understanding of this evolving paradigm, setting the stage for a nuanced exploration of transformative placemaking strategies and innovation hubs within the urban manufacturing landscape. I believe that this phenomenon promotes disintermediation systems in the relationship between service and good users/consumers, through the establishment of proximity links often accompanied by new forms of mutualism aimed at defining broader processes of social innovation [17,18]. The potential replicability of these experiences stems from the inherent flexibility of micro-enterprises and SMEs in disseminating technological and social innovations in a widespread manner, as supported by the analysis of the benefits of policies that support open and inclusive innovative ecosystems [19]. The article contributes to reimagining urban economic development in the post-pandemic era, emphasizing the need for transformative placemaking strategies that integrate diverse activities within ecosystems. Considering the current global challenges, including the COVID-19 pandemic and energy crisis, I advocate for a "proximity-oriented" urban economy. This approach stands in contrast to the historical trend of a "mobility-oriented economy", offering a new vision for cities that moves away from traditional rent-seeking activities. Furthermore, the article delves into the impact of Industry 4.0 and the ongoing pandemic crisis on urban manufacturing. I highlight the challenges posed by the rise of gig and platform economies, especially for traditional services and lower-skilled professionals. My examination raises pertinent questions regarding the attraction of makers and their role in urban employment growth. By addressing these issues, my paper navigates the intersection of technology, cultural shifts, and economic considerations in the context of urban regeneration.

2. Methodological Approach

To comprehensively address the outlined dual objectives, a meticulous research methodology was implemented, seamlessly integrating a thorough literature review with targeted desk research.

The foundational comprehension of the urban manufacturing sector was meticulously crafted through an extensive exploration of scholarly articles, reports, and policy documents. This phase entailed a systematic analysis of materials related to urban manufacturing, providing a nuanced understanding of the sector's characteristics, including trends, challenges, and opportunities. The synthesis of information from diverse sources enabled a comprehensive and well-informed discussion on the potential impact of urban manufacturing on Italian urban economies. The second facet of the analysis delved into the practical manifestation of urban manufacturing's potential—specifically, the transformation of abandoned industrial areas into innovation hubs. This was accomplished through a focused desk research approach, examining specific projects observed in real-world contexts. A comprehensive analysis of project documentation, case studies, and relevant reports was conducted to discern the qualitative nature of these initiatives. The emphasis here was on identifying governance processes that have played a crucial role in supporting place-based innovation sectors. By triangulating information from various project sources, the desk research provided valuable insights into successful practices and strategies.

The combination of these methodological approaches ensures a robust and multifaceted exploration of urban manufacturing's role in revitalizing Italian cities. The literature review establishes a theoretical foundation, while the desk research adds a practical dimension, collectively contributing to a strategic perspective on urban economic policies as a catalyst for innovative urban regeneration within the context of abandoned industrial heritage.

3. Characteristics of the New Manufacturing and Its Potential Impact on Future Urban Economies

New urban manufacturing encompasses both businesses operating in traditional sectors and those operating in technologically advanced sectors [20]. These businesses target both local markets, leveraging geographic proximity to customize their products and tap into the presence of sophisticated consumers, as well as international markets, using production methods based on new digital technologies that enable the interconnection of physical assets with management-software-(re-)distributed manufacturing. Undoubtedly, an innovative and decentralized production system like that of new urban manufacturing can be defined as a system situated in a context that actively uses the characteristics of places for value co-creation between producers and citizen-consumers [21]. It is a production system realized through what are referred to as "mini-factories" of new urban manufacturing [22] (Figure 1), where the small-scale dimension is crucial for locating the factory in close proximity to consumers, revolutionizing the way production and sales are designed. The urban mini-factory aims to embody the concept of proximity in terms of offered features, manufacturing location, delivery times, and material sourcing.

The key aspects that define the framework of the proposed production paradigm are as follows:

- 1. Customization and digitalization of production: Customers are actively engaged in value co-creation by defining and configuring individualized solutions that address their specific needs and desires, thereby guiding the production process. The digitalization of products and customization processes plays a pivotal role for two primary reasons: first, the concept of customization, in conjunction with spatial constraints, significantly restricts the ability to physically experiment with tangible goods [22]; second, digitalization facilitates seamless interaction between customers and the manufacturing process.
- 2. Sustainability of production processes: By exerting greater control over the production supply chain, models based on new urban manufacturing can readily facilitate effective evaluation mechanisms for sustainable production that are consumer oriented, encompassing environmental, economic, and social dimensions. The use of tangible metrics and quantifiable assessments, which are readily comprehensible to consumers, further enhances the appeal of the urban manufacturing paradigm [23].
- 3. Short and flexible supply chains: Situated in close proximity to the workforce, potential customers, and suppliers, mini-factories within the new urban manufacturing context can leverage local innovation ecosystems and urban infrastructures. Although logistical challenges are commonly perceived as one of the most formidable barriers to the urban manufacturing model, particularly when considering the characteristics of demand and the last-mile supply chain, local distribution channels can serve as pivotal driving forces toward customer value creation. Consequently, fostering in-

novative and collaborative value chains assumes critical significance in enabling the proposed business model [24].



Figure 1. Overview diagram of a production system based on mini-factories (source: [23]).

- 4. Symbiosis with the industrial sector: The socio-economic-technical constraints inherent in the urban manufacturing paradigm necessitate a comprehensive and cohesive perspective that orchestrates diverse supply chains and collaborative behaviors among different enterprises. This holistic approach aims to optimize the use of energy and other resources essential to production processes, such as water, raw materials (both primary and recycled), and residuals. The adoption of such resource reuse strategies translates into enhanced efficiency and reduced environmental footprints, which assume paramount importance, given the urban context within which mini-factories operate [25].
- 5. Catalyst for open innovation processes: Ecosystems within the new manufacturing paradigm actively harness the urban society, capitalizing on the knowledge and expertise of citizens. This transformative potential disrupts traditional approaches to product design and realization, fostering an increasingly customer-centric and value-chain-oriented approach. Collaborative development and the production of personalized products and services, integrating digital-driven innovative functionalities, rely on dynamic and dispersed production ecosystems [26,27].
- 6. Driver of urban transformation processes and active policies for high cultural content jobs: The development potential of projects associated with Manufacturing 4.0 and digital craftsmanship inherently contributes to urban regeneration, facilitating the emergence of new urban functions tied to innovation in professional, cultural, and educational domains [28,29].

The radical transformation of production systems through the convergence of technologies and new possibilities for customization can enhance the intangible content of production and the significance of producer/consumer communities, thereby serving as a catalyst for the resurgence of manufacturing in urban centers. The experience of Fablabs teaches us that the establishment of hybrid artistic-manufacturing experimentation spaces also has the capacity to foster positive externalities, such as the development of circular economy circuits and sharing among proximate and virtual communities [30] Our country, which is consistently lagging behind in terms of innovation, ranks first in the world in terms of the number of Fablabs. According to a census promoted by the Make in Italy Foundation [31], this data should be juxtaposed with the fact that more than half of the Fablabs often rely on voluntary work. On this issue, it is imperative for policies to focus on ensuring low-threshold access to "open innovation spaces", with the aim of involving the widest-possible range of individuals and entities interested in exploring projects and competencies. Whether it is the allocation of physical assets or financial resources (whether public or philanthropic), it is necessary to provide ample room for "positive discretion" in the managerial evaluation of proposals, placing bets on the most open hypotheses in terms of community engagement (even if they are loosely structured). Among the evaluation parameters, the exchange of knowledge and experiences in open and collaborative spaces could undoubtedly represent a primary objective, ensuring that the most seasoned talents can assume a guiding and inspiring role for other participants as well as a broader audience, including potential recipients, practitioners, institutions, and businesses. In the analysis conducted on the "proximity economies" created in the "new workplaces" (such as coworking spaces and Fablabs), we can already observe the advantages of these conditions of openness and concentration of experimental projects [32].

4. Two Examples of Regeneration of Abandoned Industrial Areas into Innovation Hubs Supporting the New Urban Factories

4.1. Tecnopolo Bologna and ex Manifattura Tabacchi

The real estate complex of the former Manifattura Tabacchi (approximately 136,000 m²) in Bologna was built in the 1950s–1960s between Via Ferrarese and Via Stalingrado, based on the design by engineer Pier Luigi Nervi [33]. The complex is owned by the Emilia-Romagna region and was conceived as a strategically integrated Technopole within the Navile District, closely connected to the Bolognina area to the south and projected northwards beyond the ring road. It serves as a center for innovation and experimentation, aligning with the regional strategy for industrial research and technology transfer as part of the Metropolitan Strategic Plan of Bologna. The Technopole project, resulting from an international design competition (won by the Studio Von Gerkan Marg und Partner-Gmp), involved the demolition of deteriorated buildings and structures, while revealing the richness of the existing architecture and integrating it with the new ones.

The project's development is led by the financial consortium headed by the Finanziaria Bologna Metropolitana, with a total investment of 198 million euros (source: http://www.fondazioneinnovazioneurbana.it, accessed on 21 January 2024). The overall project includes the establishment of the Technopole by various institutions (regional agencies, ENEA, the Rizzoli Orthopedic Institute) and research laboratories operating across different technological platforms, such as mechanical engineering, materials, construction, life sciences, energy-environment, ICT and data centers, and design. With the BI-REX project, the location will be prepared for the regional competence center for Industry 4.0, focusing on emerging technological trends and integrating with the regional ecosystem for technological innovation support (Regional High Technology Network, Figure 2). It will become one of the eight national competence centers established by the Ministry of Economic Development within the framework of the government's Industry 4.0 plan, with a specialized focus on the big data theme.



Figure 2. Innovation ecosystem of Bologna's Technopole as the hub of the Regional High Technology Network [34].

The Technopole will also host the data center of the European Centre for Medium-Range Weather Forecasts (ECMWF), covering a total area of 9000 square meters, including the space for high-performance computerized equipment on the ground floor and offices. The new Italian National Agency for Meteorology and Climatology (ItalyMeteo) will also be based at the former Manifattura Tabacchi, consolidating various regional research facilities and positioning the Bologna Technopole as a European hub for climate change research. Among the various facilities present in the former Manifattura Tabacchi in Bologna, it is poised to become a reference hub for the Regional Technopole Network (https://www.tecnopoli.emilia-romagna.it/, accessed on 21 January 2024), one of the key projects for the innovation ecosystem of Emilia-Romagna, made possible through European Por Fesr funds. The Technopole will also accommodate two other internationally scaled data centers, operated by Cineca and the National Institute of Nuclear Physics (INFN), in addition to the Leonardo supercomputer, dedicated to high-performance scientific computing and owned by the European Commission. The region has further committed, in collaboration with the government, to submit the candidacy of the Technopole for the European Copernicus Project (https://www.copernicus.eu/it, accessed on 21 January 2024), which could potentially bring these research activities to Emilia-Romagna as well.

4.2. Ex Ansaldo di Milano and BASE

The former Ansaldo plant in Milan was established in 1904 and served as a facility for the production of locomotives, railway carriages, and trams. Throughout the 20th century, the plant played a significant role in the industrial and manufacturing acceleration of the Lombard capital, attracting workers from all over Italy. Considered one of the most important former industrial areas in Milan, the ex-Ansaldo site is located between Bergognone, Tortona, Stendhal, and Savona Streets, covering a total land area of over 44,000 square meters and a total spatial area of 70,700 square meters [35]. Today, the same area is part of the renowned Tortona District (https://www.tortonadesignweek.com/it/, accessed on 21 January 2024), a creative neighborhood characterized by the conversion of former industrial areas and artisan spaces dedicated to fashion, design, and high-value artistic exhibitions and cultural activities. Similar to many other large industrial areas in Milan, the site was developed in successive phases, with intensive use of space driven by production needs rather than rational and planned development. It presents itself as a cluster of buildings that intertwine within the land area, featuring structures of varying sizes and hosting different functions, including manual workspaces, offices, and management facilities. The architectural highlight of the site is the street facade along the Via Tortona, which has been the subject of intervention by BASE Milano. The building is subject to direct

constraint by the Superintendency of Fine Arts and Landscape. The project aimed to restore and enhance the industrial and productive heritage, envisioning a new modern factory that supports the city's emerging manufacturing sector: a creative and cultural industry driven by a virtuous cycle of incubation, production, and appreciation of creativity. In addition to the more traditionally multifunctional spaces for events, exhibitions, and performances, BASE Milano has created a large co-working laboratory space, a residency program, a café, a restaurant-laboratory, and a terrace. With its 12,000 square meters spread over four floors, over 200 resident creative entities, more than 400 events, and 500,000 annual visitors, BASE has become an internationally recognized creative hub and a center for research, experimentation, production, and co-production of culturally significant initiatives with high social value (Figure 3). BASE Milano is open seven days a week and, thanks to collaborations with prominent cultural actors, offers a year-round program focused on experimenting with the most innovative cultural expressions and engaging new audiences.

In relation to the Bologna Technopole project, it is noteworthy to observe the "pedagogical" approach that the project management team (In the 1990s, the area was acquired by the Municipality of Milan with the aim of promoting and disseminating cultural initiatives. However, it was only in 2014 that a portion of the area was leased to Oxa Srl—a non-profit organization founded by Arci Milano, Avanzi, Esterni, H⁺, Make a Cube³—which is the social enterprise that manages BASE [36].) has incorporated into the activities of BASE. The themes of learning and inclusion in the initiatives promoted by BASE converge toward the definition of the learning machine, which, according to the description provided on the organization's website, is described as follows:

In a context of great uncertainty and rapid change, with technical skills becoming obsolete at an increasingly fast pace, the importance of educational moments as sources of connection, inspiration, and the creation of new visions for the future is growing. The COVID-19 emergency has highlighted the vulnerabilities of our system and placed at the core the need to radically rethink our perspectives on the world, starting with how we learn. Creativity serves as a driving force for learning and can provide tools to construct future imaginaries that are useful for those experiencing a condition of disorientation and questioning of their life plans. BASE Milano, by its very nature as a hybrid space, offers room for experimentation, connects communities, and becomes a field for experiential learning. It fosters a multidisciplinary, non-formal learning that values the collective dimension and encourages the exchange of diverse forms of knowledge. These experiences of experimental learning enable the acquisition of key competencies to navigate complexity and connect with one's true vocation. The Learning Machine represents a set of practices for learning and self-expression, where individuals develop skills in listening, creating new visions, and forging relationships. The Learning Machine explores topics of collective relevance through the languages of culture and creativity, *merging knowledge and humanity.* (translation based on [36])

A key strength of BASE lies in its numerous collaborations and partnerships established not only with various departments of the municipality but also with the following entities: Fondazione Cariplo, through a collaboration agreement that also extends to the redevelopment of the third floor of the complex; various organizations to host events and formats on a permanent basis (e.g., Piano City, Book City, Abitare for the Salone del Mobile, Odei for Book Pride, Fondazione Fitzcarraldo for ArtLab, Sharitaly, Fondazione Triennale Milano, Rena for the Festival delle Comunità del Cambiamento); operators of the Zona Tortona; neighborhood associations and citizen committees in the area; and other organizations within the ex-Ansaldo area.



Figure 3. The Capsule is an equipped box for 360° filming and streaming, featuring a 60 sqm auditorium and state-of-the-art immersive 3D sound for showcases, auditions, listening and recording sessions, invitation-only events, and workshops, all available for streaming (The structure was designed in collaboration with B-BEng, which designed and produced La Capsula using the modular construction system Boxy, while the 3D audio technology is by Intorno Labs, which conceived and implemented the immersive system. The development of the technological model is managed by Cariplo Factory.) (source: [37]).

5. Conclusions

The conclusions drawn from my exploration of urban manufacturing underscore the pivotal role that well-designed placemaking strategies play in creating favorable conditions for sustained growth and development in this sector. While the potential for revitalizing Italian cities through the productive reuse of industrial heritage is evident, the observed examples and rapid survey bring forth important policy considerations.

Engaging Specialized Communities of Workers: A primary reflection concerns the impact that spaces (or hubs) dedicated to supporting this sector have in terms of engaging specific "communities of workers" with specialized skills that are not necessarily widespread and easily available. Industry 4.0 can have a profound effect on the local production system, leading to the emergence of new professional needs capable of generating polarization toward particularly skilled profiles (Iadevaia et al., 2018) [38]. This aspect needs to be contextualized with the effects that the pandemic crisis has had on certain entrepreneurial/professional categories (such as retailers, artisans, and generalist tertiary professionals) [5] and in a perspective of a market where the increasingly ruthless competition of services offered by gig and platform economies weakens the competitiveness of traditional services and medium-low professional skills, offering low-cost performance based on disruptive and effective use of the digital marketplace.

Addressing the Makers' Perspective: The perspective of attracting makers raises some issues that can be attributed to the broader debate on the competitive and employment performance of start-ups in terms of sustainability and effectiveness [15]. In practice, the contribution of new micro-enterprises to urban employment growth may be lower than expected. To address these dynamics effectively, we advocate for placemaking strategies deeply entwined with innovation hubs. The localization of new makers is justified when integrated with other productive and non-productive activities, fostering economic and functional diversity within ecosystems.

Transformative Placemaking for Inclusive Learning and Shared Prosperity: The ability to address these dynamics is guided by placemaking strategies linked to innovation hubs and the dialogue they have with the territories in which they are located. The localization of new makers will be justified to the extent that these enterprises are integrated with other

10 of 12

productive and non-productive activities, stimulating the economic and functional variety of reference ecosystems [15]. Once again, a significant point of reflection concerns skills: the emergence of transformative placemaking approaches in productive-cultural sectors, with a focus on the hybridization of technical, cultural, and social functions in supporting creative ecosystems for social innovation and urban regeneration, aimed at supporting the sector of new manufacturing that interacts with craftsmanship and business services. The persistence and increasing complexity of socioeconomic inequalities in different "marginal" urban areas have contributed to placing "places" at the forefront of the debate on innovation projects in both community-based entrepreneurship and public policies [37,39]. We can define transformative placemaking as a set of approaches aimed at shaping and bringing to life economically and socially sustainable places as inclusive learning contexts and generators of shared prosperity for communities-fields of experimentation for a range of interventions that go beyond the physical regeneration and strategic design of spaces, but rather the embedding of practices of active participation by territorial stakeholders [40].

Governance and Shared Responsibility: The construction of a shared vision and, above all, shared responsibility in the governance of hubs and innovation ecosystems becomes crucial to significantly impact diverse target groups within communities through inclusive formulas for accessing innovation spaces that become easily accessible thanks to a variety of activities (as in the case of BASE) or containers for diversified partnerships with national and international stakeholders (as in the case of the Technopole in Bologna).

In the case of the Bologna Technopole, the transformation of the former Manifattura Tabacchi demonstrates a strategic integration of a technopole within the urban fabric. The international design competition and subsequent development led by a financial consortium highlight the collaborative effort involving regional agencies, research laboratories, and various technological platforms. The comprehensive project, supported by substantial investment, encapsulates the establishment of a regional competence center for Industry 4.0, reinforcing the region's technological innovation ecosystem. This case underlines the tangible outcomes of placemaking strategies in creating dedicated spaces for specialized communities of workers and fostering economic diversity within ecosystems [41].

Similarly, the redevelopment of the ex-Ansaldo plant in Milan, now known as BASE Milano, showcases the adaptive reuse of a historic industrial site. This transformation involves a nuanced approach to urban regeneration, emphasizing the coexistence of cultural and creative activities. BASE Milano's multidisciplinary spaces, collaborations with diverse entities, and emphasis on experiential learning align with the paper's discussion on the hybridization of technical, cultural, and social functions in transformative placemaking. The "learning machine" concept, promoting non-formal learning and experiential knowledge exchange, exemplifies the commitment to inclusive learning and shared prosperity within the community.

In any case, both examples and the proposed framework for the regeneration of abandoned industrial areas look to the experimentation of placemaking practices that go beyond the physical improvement of the place to focus on the construction of proximity relations, applied both in the industrial field and in the realization of functions of research, cultural production, and education with low entry barriers and targeted at diverse users.

Funding: This research received no external funding.

Conflicts of Interest: The author declares no conflict of interest.

References

- 1. Boschma, R.; Minondo, A.; Navarro, M. The emergence of new industries at the regional level in s pain: A proximity approach based on product relatedness. Econ. Geogr. 2013, 89, 29-51. [CrossRef]
- 2. Moreno, C. The 15 Minutes-City: For a New Chrono-Urbanism! 2021. Available online: http://www.moreno-web.net/the-15 -minutes-city-for-a-new-chrono-urbanism-pr-carlos-moreno (accessed on 21 January 2024).
- 3. Tricarico, L.; Jones, Z.M.; Daldanise, G. Platform Spaces: When culture and the arts intersect territorial development and social innovation, a view from the Italian context. J. Urban Aff. 2020, 44, 545–566. [CrossRef]

- 4. Tricarico, L.; De Vidovich, L.; Billi, A. Entrepreneurship, inclusion or co-production? An attempt to assess territorial elements in social innovation literature. *Cities* **2022**, *130*, 103986. [CrossRef]
- Tricarico, L.; Leone, M.I. Can Social Innovation and Proximity Save Our Cities?—Reflections on the "Accelerator for the Local Economy" Case in Milan; Luiss University Press: Rome, Italy, 2022. Available online: https://luissuniversitypress.it/wp-content/uploads/ 2022/03/Tricarico_Leone_case.pdf (accessed on 21 January 2024).
- 6. Molotch, H. The city as a growth machine: Toward a political economy of place. Am. J. Sociol. 1976, 82, 309–332. [CrossRef]
- 7. Giuliano, G.; Kang, S.; Yuan, Q. Agglomeration economies and evolving urban form. Ann. Reg. Sci. 2019, 63, 377–398. [CrossRef]
- Sassen, S. The Global city: Strategic Site, new Frontier. In Moving Cities—Contested Views on Urban Life; Ferro, L., Smagacz-Poziemska, M., Gómez, M., Kurtenbach, S., Pereira, P., Villalón, J., Eds.; Springer VS: Wiesbaden, Germany, 2018.
- 9. Capdevila, I. Knowing communities and the innovative capacity of cities. City Cult. Soc. 2018, 13, 8–12. [CrossRef]
- Theyel, G.; Hofmann, K.; Gregory, M. Understanding manufacturing location decision making: Rationales for retaining, offshoring, reshoring, and hybrid approaches. *Econ. Dev. Q.* 2018, 32, 300–312. [CrossRef]
- Di Maria, E.; Micelli, S.; Menesello, L.; Brocca, S. GVC-Oriented Policies and Urban Manufacturing: The Role of Cities in Global Value Chains. *Sustainability* 2022, 14, 478. [CrossRef]
- 12. Curran, W. In defense of old industrial spaces: Manufacturing, creativity and innovation in Williamsburg, Brooklyn. *Int. J. Urban Reg. Res.* 2010, *34*, 871–885. [CrossRef]
- 13. Gambarotto, F.; Leoncini, R.; Pedrini, G. Nuove prospettive per la manifattura urbana. *G. Line Dell'aisre Assoc. Ital. Sci. Reg.* **2018**, 2239, 3110.
- 14. Bouchenine, A.; Abdel-Aal, M.A. Towards supply chain resilience with additive manufacturing: A bibliometric survey. *Supply Chain Anal.* 2023, 2, 100014. [CrossRef]
- 15. Peron, M.; Sgarbossa, F.; Ivanov, D.; Dolgui, A. Impact of Additive Manufacturing on Supply Chain Resilience During COVID-19 Pandemic. In *Supply Network Dynamics and Control*; Springer International Publishing: Cham, Switzerland, 2022; pp. 121–146.
- D'Elia, A. Municipality as a platform: The case of Manifattura Milano. In ServDes2018. Service Design Proof of Concept, Proceedings of the ServDes. 2018 Conference, Milano, Italy, 18–20 June 2018; Linköping University Electronic Press: Linköping, Sweden, 2018; pp. 713–716.
- 17. Bottero, M.; D'Alpaos, C.; Oppio, A. Ranking of adaptive reuse strategies for abandoned industrial heritage in vulnerable contexts: A multiple criteria decision aiding approach. *Sustainability* **2019**, *11*, 785. [CrossRef]
- 18. Zandonai, F.; Venturi, P. Dove: La Dimensione di Luogo che Ricompone Impresa e Società; EGEA spa: Alba, Italy, 2019.
- Tricarico, L.; De Vidovich, L. Proximity and post-COVID-19 urban development: Reflections from Milan, Italy. J. Urban Manag. 2021, 10, 302–310. [CrossRef]
- 20. Unger, R.M.; Stanley, I.; Gabriel, M.; Mulgan, G. Imagination Unleashed: Democratising the Knowledge Economy; Nesta: London, UK, 2019.
- 21. Ellen Mc Arthur Foundation. Cities in the Circular Economy: An Initial Exploration. 2017. Available online: www. ellenmacarthurfoundation.org (accessed on 22 May 2018).
- 22. Juraschek, M.; Vossen, B.; Hoffschröer, H.; Reicher, C.; Herrmann, C. Urban factories: Ecotones as analogy for sustainable value creation in cities. *Wulfsberg Redl. Moritz* **2016**, *135*, 135–145.
- 23. Barni, A.; Carpanzano, E.; Landolfi, G.; Pedrazzoli, P. Urban Manufacturing of Sustainable Customer-Oriented Products. In *International Conference on the Industry 4.0 Model for Advanced Manufacturing*; Springer: Cham, Switzerland, 2019; pp. 128–141.
- Fontana, A.; Sorlini, M.; Alge, M.; Matarrese, P.; Diviani, L.; Canetta, L.; Pedrazzoli, P. Sustainability in practice: An assessment and advisory platform for everyday use: Experience in the mould & die industry. In Proceedings of the 2015 IEEE International Conference on Engineering, Technology and Innovation/International Technology Management Conference (ICE/ITMC), Belfast, UK, 22–24 June 2015; pp. 1–9.
- 25. Correia, D.; Teixeira, L.; Marques, J.L. Last-mile-as-a-service (LMaaS): An innovative concept for the disruption of the supply chain. *Sustain. Cities Soc.* 2021, 75, 103310. [CrossRef] [PubMed]
- Fornasiero, R.; Carpanzano, E. Advances in customer-oriented manufacturing and value chain management. Int. J. Comput. Integr. Manuf. 2017, 30, 677–679. [CrossRef]
- Rocha, C.F.; Mamédio, D.F.; Quandt, C.O. Startups and the innovation ecosystem in Industry 4.0. *Technol. Anal. Strateg. Manag.* 2019, 31, 1474–1487. [CrossRef]
- Billi, A.; Tricarico, L. Regional development policies in Italy: How to combine cultural approaches with social innovation. In International Symposium on New Metropolitan Perspectives; Springer: Cham, Switzerland, 2018; pp. 277–287.
- 29. Bragaglia, F. Social innovation as a 'magic concept'for policy-makers and its implications for urban governance. *Plan. Theory* **2021**, 20, 102–120. [CrossRef]
- Menichinelli, M. Business Models for Fab Labs. 2011. Available online: http://www.openp2pdesign.org/2011/fabbing/businessmodels-for-fab-labs/ (accessed on 21 January 2024).
- Menichinelli, M.; Ranellucci, A. Censimento dei Laboratori di Fabbricazione Digitale in Italia. Rapporto di Fondazione Making in Italy CDB. 2014. Available online: http://issuu.com/openp2pdesign/docs/censimento_make_in_italy/1?e=0/11624416 (accessed on 21 January 2024).
- 32. Mariotti, I.; Pacchi, C.; Di Vita, S. Co-working Spaces in Milan: Location Patterns and Urban Effects. *J. Urban Technol.* 2017, 24, 47–66. [CrossRef]

- 34. Available online: https://fesr.regione.emilia-romagna.it (accessed on 21 January 2024).
- 35. Available online: https://old.base.milano.it/base-2018_learning-machine/ (accessed on 21 January 2024).
- 36. Available online: https://zero.eu/it/luoghi/194380-la-capsula,milano/ (accessed on 21 January 2024).
- Tricarico, L.; Pacchi, C. Community entrepreneurship and co-production in urban development. *Territorio* 2018, 87, 69–77. [CrossRef]
- Iadevaia, V.; Resce, M.; Tagliaferro, C. Tendenze evolutive del mercato del lavoro ed ecosistemi 4.0. Professionalità e Studi 2018, 5, 5–38.
- 39. Calvaresi, C. Agenda Urbana e Community Hub. Territorio 2018, 84, 105-110. [CrossRef]
- 40. Baraldi, S.B.; Salone, C. Building on decay: Urban regeneration and social entrepreneurship in Italy through culture and the arts. *Eur. Plan. Stud.* **2022**, *30*, 2102–2121. [CrossRef]
- 41. Gerli, F.; Chiodo, V.; Bengo, I. Technology transfer for social entrepreneurship: Designing problem-oriented innovation ecosystems. *Sustainability* **2020**, *13*, 20. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.