

Serres Agricultural Research Station: New Schemes for Industrial Sites of the Past

Eleni Vlachonasiou¹, Maria N. Daniil¹, Mara Spentza², Konstantinos Papagoutis² and Despoina Zavraka³

1. Department of Civil Engineering, Serres Campus, International Hellenic University, Greece

2. School of Design, International Hellenic University, Greece

3. School of Architecture, Aristotle University of Thessaloniki, Greece

Abstract: This paper aims at discussing new schemes potential for industrial heritage re-use. The Agricultural Research Station in the city of Serres will be the main focus and it will be further argued as part of the former National Agricultural Research Institute. Looking onto the Agricultural Station a significant aspect of the city's industrial past will be revealed, resting upon the industrial architecture history of the first half of 20th century in Greece. The paper discusses different architectural scenarios for the reuse of Serres Agricultural Research Station. It attempts to investigate new schemes of re-integration and new views for integrating the abandoned industrial building into the city's life. The design schemes presented focus on re-use and re-alignment of key and secondary elements (access, direction, axial accumulation, clustering, pathways, connectivity, adjacency, land use). They also address the re-articulation of volumes (uniting, expanding, delegating, growing, restricting) and the re-configuration of interior, exterior and semi-open spaces and territories. This presentation aims at highlighting the importance in re-engaging with historical buildings, sites, complexes and territories. It argues for re-imagining architecture on the city's edge, as well as redefining interface between old and new, future and existing, private and public, real and virtual, formal and informal, certain and ambiguous. All scenarios promote regeneration urgencies on pressing urban matters in medium sized cities of northern Greece.

Key words: architectural design, industrial heritage, re-use

1. Introduction

An in-depth study of industrial heritage constitutes an integral part for the preservation of the cultural heritage of a place, laying the foundations for understanding the values and ways of living of a community, contributing to the progress and evolution of the social whole with a clear vision towards the future. Scientific knowledge, economic support, energy and time are essential for the study and enhancement of industrial heritage monuments. Within the academic environment, research proposals and thesis projects provide the preliminary stage for the initial systematic recording and highlighting of a subject, laying the groundwork for further steps of assessment, study and

implementation of significant projects, such as the renovation of industrial heritage monuments.

Within the context of the industrialization of agricultural production in Greece during the 20th century, a network of prototype Agricultural Research Stations was developed, addressing the needs for advancement in the fields of livestock and agricultural production, supported by education and research. Cities in Northern Greece such as Serres, hosted Agricultural Research Station building complexes that were developed according to the characteristics of agricultural production in each region. These complexes are now considered industrial heritage landmarks. The Agricultural Research Station of Serres, established in the early 20th century, consists of an

Corresponding author: Mara Spentza, Adjunct Professor; research areas: architecture, light and lighting. E-mail:

spentzamar@gmail.com.

extended complex of buildings, structural elements and semi-outdoor structures created over the span of 80 years, within a large farm site, next to the current campus of the International Hellenic University [1].

The complex of the former Agricultural Research Station of Serres (ARSS) lies derelict and abandoned, with buildings and open spaces exposed to outdoor weather conditions. This prolonged abandonment has made access difficult, and critical issues of documenting and rescuing the former Station are emerging as urgent and pressing. At the same time, there is a sense of awkwardness, a lack of interest, or even ignorance of the prospects from the re-use of the complex from the part of city institutions that could contribute to its evaluation and management. Its location on the city's southern edge and its nodal position amidst road networks, has been and still is of importance. Its size, architectural features and spatial relation to the city fabric, presents great re-use potential for the former Station, both for the city's contemporary primary sector and future economic context. So far, the particular Station has received limited attention, compared to other units within the same network. In spite of this tendency, a group of students and faculty members of the Department of Civil Engineering and the Department of Interior Architecture at the International Hellenic University, aims to research and study the former ARSS, in steps, aiming at raising awareness of the importance of its rescue and subsequently its re-use.

In this light, this study presents dissertations by students of the Department of Interior Architecture of the School of Design Sciences, at the International Hellenic University, on the subject of "reuse and rehabilitation proposals" for buildings of the former ARSS. Considering the imposing scale and identity of the facilities, as well as the scope and requirements of a comprehensive study of similar complexes, along with other particularities, the design approach of the reutilization proposals presented, proceeds "from partial to holistic" and from "inside to outside". In other

words, the proposals develop by initially addressing individual buildings, with the architectural concept and narrative unfolding within the interior space, before moving outward. The industrial complex serves as a backdrop and, as such, it becomes the "stage" for the re-use proposals focusing on user experience and the lived space as a product of sensations, through new scenarios (new architectural programs). Through the study of the complex, its industrial past emerges, having up to now received minimal attention. The re-use proposals of selected buildings overcome issues of scale and process, managing to directly emphasize the potential for re-use of the abandoned Station.

2. Industrial Past: Agricultural Research Institution and Production Facilities Network, 20th Century, Greece, Serres Agricultural Research Station

The need for a systematic agricultural education was the result of industrial revolution and changes in agriculture from the 18th century onwards. Western European countries were the first to support and promote agricultural education through a wide range of institutions of varying degrees [2]. The creation of Agricultural Schools in Greece was part of a series of development policies aimed at strengthening the rural economy of the Greek state from the late 19th century to the 1940s [3]. An outstanding example of such an Agricultural School is Averofeios School (founded in 1911) in Larissa, a centre for young agronomists and a model research centre aiming to improve local farming [3]. The inauguration of Agricultural Stations in Greece, which were legislated in 1897 as a continuation of the outdated agricultural school institutions, were created to support and provide basic knowledge to unskilled farmers. Specifications and standards for the Stations were sought from Western European countries. The architectural facilities of the Stations were primarily focused on model agricultural cultivations, animal breeding, product storage, with the provision of standard equipment supporting vertical production [1].

Gradually, during the first half of the 20th century, a nationwide network of institutions in Greece for agricultural education and research was established, resulting in the construction of architectural complexes, whose design was dictated by functional requirements of industrializing production. While information on the buildings themselves is limited, their architecture, particularly that of the production buildings within the complexes, indicates their industrial use. Many of these facilities now lie derelict without being documented, yet some have been archived as evidence of industrial heritage [4]. Agricultural Research Stations in the Northern Greek region include the former Agricultural Research Stations of Xanthi, Drama, and Serres.

“The industrial heritage consists of sites, structures, complexes, areas and landscapes as well as the related machinery, objects or documents that provide evidence of past or ongoing industrial processes of production, the extraction of raw materials, their transformation into goods, and the related energy and transport infrastructures. Industrial heritage reflects the profound connection between the cultural and natural environment, as industrial processes, whether ancient or modern, depending on natural sources of raw materials, energy and transportation networks to produce and distribute products to broader markets. It includes both material assets, permanent and mobile and intangible dimensions such as technical know-how, the organization of work and workers, and the intricate social and cultural legacy that shaped the life of communities and brought major organizational changes to entire societies and the world in general.” [5].

During the first half and mid-20th century, the region of Serres witnessed industrialization processes in the production of its agricultural products, primarily focusing on cotton, rice, sugar-beets, tobacco cultivation, cattle farming, and dairy production. Industrial buildings and complexes from this period are documented within the city and its surrounding settlements. However, most of these structures are now abandoned or under protective status, of which only a few are still operational. Examples include the Giannoudis Cylinder Mills in Skoutari, the East

Macedonia Rice Mills of the Hatzianthanasidis Brothers in Skotousa, the Sugar Factory in Lefkonas, two tobacco warehouses within the city, food processing factories like Strimon S. A. and Argo S. A. in Mitrousi and Provata and the Seraian Skoulidis S. A. Weaving Mill in Lefkonas. Moreover, other industrial sectors such as the production of construction materials and hydroelectric energy were also prevalent in the region, operating within respective industrial complexes [4]. The economic and entrepreneurial activities in Serres experienced both hardships and periods of prosperity during tumultuous periods like the Balkan Wars, World War I, the Asia Minor Catastrophe that brought large refugee waves, the Great Depression of 1929, and the subsequent years leading to World War II. These activities were closely linked to industrialization and modernization in various sectors, including agriculture and livestock farming [6].

The ARSS is a testament to the city’s industrial heritage, intertwined with its social and economic history. The Station operated for over 100 years until the 2020s when it was abandoned. It was established in 1914, following the Liberation of the city (1913), as a continuation — and on the same premise — of the Agricultural School founded in 1908-09 by the Ottoman State, modelled after German agricultural schools, aiming at practical and theoretical training of young farmers. The Serres Station operated on approximately 1000 acres of cultivated land, south of the city, with its buildings gradually constructed in different phases. Today, at least 36 buildings with distinct functions comprise of the Station’s facilities as they were recorded operating in its last period. Among them are buildings that had changed functions by 1930, while their form and surviving equipment document the initial character of the complex as an “Agricultural School”. Chronologically, there is evidence of at least 17 buildings (47.2%) before 1960, while 19 (52.8%) were established after 1960. Among the first 17 buildings, at least 10 were constructed by 1930 and are estimated to form the original School facilities. There

are roughly three construction periods of the complex's buildings: (A) 1908-1930, (B) 1930-1960, and (C) 1960-mid-1980s [1].



Fig. 1 Aerial views of the former Agricultural Research Station at Serres, north of the city's edge and buildings.

The station's buildings, resembling an early version of what is now termed an "industrial park", feature a grid layout, spatial organization, and relationships with the city akin to contemporary industrial parks. Their spatial arrangement follows the lines of a grid layout serving functional interconnectivity. Buildings for production purposes carry structural and functional characteristics typical of industrial buildings [7]. We observe a grid layout of the buildings along the imaginary lines of a grid with N-S and E-W orientations, serving their functional correlation. This relationship indicates that the criteria for the complex's development were dictated by the needs of production. Categorizing the buildings based on their last recorded function on the ground floor, we can discern three categories of spaces: (a) personnel buildings (19.4%), (b) closed and semi-open spaces for animals (41.7%), and (c) closed storage spaces (38.9%). In terms of form and geometry, the buildings are mainly single-story (29 buildings) with a few two-story (5 buildings) and 2 tall structures. Most have a rectangular plan (30 buildings) and some a square plan (4 buildings). The majority are freely arranged on the site, with four free and simple facades. There is one U-shaped building and a cylindrical water tower. The buildings are monolithic,

following the industrial building model, with no facade decoration. Their floor plans differ significantly, as the internal layout is dictated by each building's specific use. Each building has marks or parts of specialized equipment for its specific use; however, the surviving equipment is minimal. The general dimensions of the floor plans in special buildings (production buildings) vary, providing interior space areas from 40 m² to 800 m². The free height on the ground floor of residential buildings was measured at 3.00 m to 3.50 m, while in special buildings between 3.00 m and 4.00 m. Most of the buildings (86.1%) have roofs, 2 of them have flat roofs (5.6%), while other structures (8.3%) involve different types of roofing [1]. In the production buildings of the complex, the arrangement of the openings on the facades, their sizes, and positions, the placement of skylights, relate to the requirements for natural lighting and ventilation for each specific use. Similarly, regarding to the floor plan organization, symmetry often exists. The type and size, geometry, and position of the openings vary in each building, emphasizing their industrial and purely functional character. A characteristic example is the frequent use of skylights, a defining feature of industrial buildings [7].



Fig. 2 The ARSS, photographic documentation of existing buildings and structures.

In summary, the Agricultural Research Station of Serres represents today a significant industrial heritage site closely linked to the city's economic and social history. The surviving buildings, with their distinct uses and architectural characteristics, provide insight into the region's industrial past and its evolution over time. Through careful documentation and preservation efforts, these structures stand as reminders of Serres' industrial legacy and its contributions to the broader narrative of industrialization in Greece. Efforts are being made to evaluate and utilize the site, with a group of students and faculty from the School of Engineering, Department of Civil Engineering and the School of Design Sciences, Department of Interior Architecture of the International Hellenic University conducting research and having sought funding and research tools for the evaluation and exploitation of the former Station by submitting a research project proposal. The same team from 2019-2024, has proceeded with researching, documentation and archival material (old plans and maps), documentation studies of the Station buildings (photographic, architectural), interviews with relatives of former employees. The architectural features, layout, and historical significance of the station are being studied for potential reuse and rehabilitation, bringing

forth its architectural value and potential benefits for the city and its residents [1].

3. New Scheme Proposals for the Rehabilitation and Reuse of the Former Agricultural Station in Serres, Greece

The curriculum at the School of Interior Architecture at the I.H.U. focuses on the design of interior spaces, where students are trained at enhancing of interior environments through the study of architectural elements and furnishings. As part of the undergraduate course "EA701 Architecture VII", taught by Dr. Despoina Zavraka, students proceeded with designing proposals for the reuse of a building within the complex of the former Station, under the theme "From Farm to Table". The following diploma theses which are presented, emerged as an extension of this work. The Diploma Theses began with a theoretical background based on previous work from the IHU, a conference paper documenting and presenting the complex of the ARSS [1]. This paper analyses its historical evolution and operational framework as part of a nationwide network of model farms, its relationship with the city of Serres, the spatial layout of the buildings within the complex, its architectural program, typology, morphology, construction system, and specific

construction details of the Station's buildings. The students who undertook the diploma thesis presented below had at their disposal architectural drawings depicting specific buildings (elevations, plans, sections) at scales of 1/100 and 1/50, as well as numerous photographs. They also conducted additional building surveys and collected supplementary archival material (photographs, interviews).

Diploma Thesis A, titled "Third Place" [8] selects a group of buildings and open spaces in the northern part of the farm as the intervention area. It proposes the creation of a network of activities for socializing and the establishment of a new identity for the existing complex. Key elements of the proposal include contact with nature and gastronomy. The design is guided by the concept of the "Third Place" [9], while gastronomic activities operate under the logic of "Farm to Table". Existing buildings selectively form a backdrop for the development of new activities, proposing additions, new constructions, and demolitions to ensure sufficient space for the creation of a new park. Proposed uses for the selected buildings include dining areas, lounges, entertainment spaces, gastronomic establishments, hospitality, and events, while uses for all buildings depicted in the original masterplan are also proposed. Emphasis is placed on the close relationship between interior and exterior spaces, with unified material management, design delineations, and the creation of additional sunlit areas. The goal is to create contemporary, pleasant and comfortable spaces that bring a fresh vision to the eyes of the city's residents.

Diploma Thesis B, titled "Business Hub" [10], also selects a portion of the northern part of the complex as the intervention area. The proposal suggests the creation of technology company offices as a business hub promoting innovation, collaboration, and productivity. It is based on a preliminary and thorough research on the historical evolution of office spaces and collaboration models, supported by an interview with a relative of a deceased researcher at the ARSS, providing insight into the research and work culture at

the former Station. Drawing a parallel between the industrial revolution and the 21st-century information revolution, the thesis aims to highlight the buildings' unique identity while envisioning a place for innovation. Sustainable technology integration is attempted through sun shading devices, rainwater collection, and photovoltaic panels. Exterior spaces facilitate pedestrian circulation and serve as a stage for artificial lighting to highlight the buildings' industrial past. Installations, equipment, and furnishings are arranged to remind visitors of the scale and atmosphere of the interior spaces.

Diploma Thesis C, titled "Cross House" [11], selects the unique residential building of the complex for restoration and reuse, focusing solely on this specific building due to its exceptional neo-classical architecture placed outside the city's historic center. The thesis aims for the complete restoration and reuse of the building while fully maintaining its architectural elements and program possible. The proposal retains the building's original functions: residence on the upper floor and office space on the ground floor, adjusting to the existing typology based on a cruciform plan, as well as the old architectural program. The proposal also integrates energy efficient design elements that do not alter the building's architectural identity but allow it to operate according to current energy performance requirements. Detailed reference is made to the materials and construction elements that will highlight the atmosphere and grandeur of the building's original function.

The criteria for selecting the buildings included in all three proposals relate to the architectural identity of the buildings and the extent to which they are deemed suitable for hosting the proposed interior spaces. Regarding the overall selection of the intervention area in the complex, that is the building unit and open spaces, proximity to the entrance to the plot is one of the main criteria in Theses A and B. Also, there may have been other objective factors at play, such as the accessibility

of the buildings themselves, both inside and around them.

Regarding the design concept, all three theses are inspired by the context of the buildings within the industrial complex, each through a different lens. While Thesis A draws elements from the broader context of the complex (agricultural production, industrial identity of the buildings) it introduces a new concept originating from the field of sociology, focusing on the visitor's spatial experience. For Thesis B, the office spaces, the industrial identity of the complex, and the complementary characteristics of its former function (hub of a nationwide network of model farms, education, research) serve as the impetus for the proposal of an office space hub, envisioning innovation and modern entrepreneurship as a hub within a contemporary global network of similar spaces. Thesis C is exclusively inspired by the history and identity of the selected building, aiming to revive its old atmosphere. It is therefore observed that the context of the complex, whether in its broader or narrower sense, consistently serves as a stable source of inspiration for the concept of the proposals.

Open spaces of the complex are part of the proposal only for Thesis A and B. The treatment of these spaces is always in relation to the function of the new internal spaces: in Thesis A, continuity between interior and exterior space is sought (with a variety of design gestures, creation of intermediate spaces, and unified material management) to the extent that the building envelope is not always prominent. In Thesis B, the building envelope serves as a hard boundary between interior and exterior space; however, the exterior space is a more "neutral" realm (with plantings, pathways, small-scale constructions) for emphasizing this boundary (building facades) and simultaneously serving as an "expanded room" with interior space equipment as a functional extension. At this point, two interesting observations emerge. The first concerns the fact that the open spaces that are being designed, as approached from the interior of the buildings, are

presented in detail as independent entities but not as part of an overall master plan. They are more referenced to the adjacent buildings they are functionally connected to. The second observation concerns the fact that as the design starts from the internal spaces and progresses to the design of the adjacent open spaces, gradually it begins to address issues of larger scale of the complex.

The proposals for the new building programs are of particular interest. It is observed that all three theses attempt to combine contemporary activities while simultaneously maintaining a perspective on the former functions of the complex. Theses A and B, which choose larger portions of the complex for intervention, offer a more liberal interpretation of the former uses they choose to reference. Thesis C aims for a balance between respecting the building's previous function and its evolution into the contemporary era.

The design gestures range from complete reverence (Thesis C) to more daring and liberal approaches (Thesis A). However, there are no radical changes in the openings of the buildings; only selective additions of opening types (such as roof skylights) are observed, which are already found in existing envelopes. The guiding principle behind these choices is the preservation of the architectural identity of the buildings, alluding to their industrial past. Through these openings, natural light becomes not only a functional element supporting their former industrial function but also a lever of sensations for the new internal spaces. Additionally, artificial lighting supports the design of both internal and external spaces.

Material management is thoroughly analyzed in all three theses. New materials are presented in detail, providing information on colors and textures, justifying the choices based on the final sensation desired for the users and the atmosphere that the designed internal and external spaces will evoke. Mostly, the materials and equipment in the interior spaces support their new identity and function, rarely referring to the previous materials and equipment of the complex. Selectively,

only in Thesis A, as a reminder of a building's past use, the preservation and integration of existing fences used as animal enclosures are chosen, giving them a new and different purpose. Materials, textures, colors, lighting, and equipment are primarily new additions to the envelope serving the design intentions and creating the new identity of the selected buildings.

The performance of all these proposals prompts for the transcending of established representations of building geometry through two-dimensional architectural drawings to scale. Initial design gestures, movement and circulation diagrams, and building programs, sections, and lighting cuts (using specialized lighting photometric software), colored elevations, and aerial views of the proposed spaces with photorealism are enlisted. Additionally, three-dimensional representations of existing buildings and proposed external and internal spaces are created. Special mood boards presenting new materials with textures and colors are developed to convey the proposed sensation of the final surfaces. In the proposed external spaces, material representations are accompanied by corresponding plantings suggested. All the above are combined as spatial information for creating three-dimensional photorealistic representations and videos, with the ultimate goal of realistically depicting the final appearance and atmosphere of the proposed spaces.

4. Conclusion

The comparative analysis of the three architectural thesis projects offers intriguing insights into the potential utilization of a large-scale complex, with particularly functional characteristics and architectural identity. The thesis projects highlight the sources of inspiration for young architects, their perspectives on the intricate interplay between structures, open spaces, and the city's industrial legacy, the avenues of communication opening between diverse investors within urban settings. The approach adopted by the schemes presented, not only acknowledges the

historical layers of the complex but also integrates innovative concepts from diverse disciplines.

The complex serves as a backdrop for narrating a new condition at the city's edges, not only of historical evolution but also of social activity in a former industrial complex. The synthesis of new activities with references to former uses creates a mosaic with many interpretations, perspectives, and significant implications for the lives of the city's inhabitants. The design approach in the proposals oscillates between an acceptance boundary of the overall history of the complex and an axis defined by an incoming concept from another scientific field, which is applied to the existing shell of one or more buildings of the complex. The richness of the representations exceeds the strict information of geometric description and eloquently renders the final configuration of the proposed spaces (both interior and exterior), the spatial experience, and the atmosphere in them for the visitor, in a direct and comprehensible manner. This immediacy in communicating the possibilities of utilizing the complex is particularly crucial for the current stage, where efforts are made to rescue it. In this way, the projects manage to arouse interest, making the benefits from the potentials of the re-use of the former ARSS palpable to every citizen. Such a design approach and architectural methodology advocates for a nuanced approach, from internal spatial considerations to external adaptations, suggesting adaptability and phased strategies to accentuate the significance of the structures across various scales. This is a highly complex and costly endeavor due to its large scale and current state of abandonment, but it holds a significant vision for the future of the city. It is a project that requires comprehensive communication with all stakeholders in the city of Serres and effective visualization of the possibilities arising from the reuse of the complex. The schemes presented by the Department of Interior Architecture at the International Hellenic University, can thus serve as a tool for addressing large scale to the extent of building

complexes also involving the intricate tasks of their documentation, preservation, rehabilitation and re-use.

References

- [1] Vlachonasiou, E., Daniil, M., and Papagoutis, K. (2022). Σταθμός Γεωργικής Έρευνας Σερρών. Ιχνηλατώντας την αρχιτεκτονική και βιομηχανική ταυτότητα ενός δικτύου πρότυπων εγκαταστάσεων αγροτικής παραγωγής. Νικηφορίδης, Π., Συναμίδης, Ι. (επιμ.), Τα Κάστρα της Βιομηχανίας, ΤΕΕ-ΤΚΜ, Θεσσαλονίκη: Ιανός.
- [2] Kandila, I. (2001). Η Αβερώφειος Γεωργική Σχολή Λάρισας: συμβολή στην ιστορία της γεωργικής εκπαίδευσης στην Ελλάδα, Ph.D. Thesis, National Archive of PhD Theses.
- [3] Tzardis, M. (2010). ΓΕΩΡΓΙΚΗ ΕΠΑΓΓΕΛΜΑΤΙΚΗ ΕΚΠΑΙΔΕΥΣΗ: Η περίπτωση του Πρακτικού Γεωργικού Σχολείου Γόρτυνας Μεσσαράς Κρήτης, Postgraduate Diploma Thesis, accessed March 21, 2024, available online at: https://www.academia.edu/ΓΕΩΡΓΙΚΗ_ΕΠΑΓΓΕΛΜΑΤΙΚΗ_ΕΚΠΑΙΔΕΥΣΗ_Η_περίπτωση_του_Πρακτικού_Γεωργικού_Σχολείου_Γόρτυνας_Μεσσαράς_Κρήτης.
- [4] Vakalopoulou M., Daniil, M., Lambropoulos, C., and Fasourakis H. (επιμ.) (2017). Βιομηχανικά Δελτία Απογραφής, accessed April 19, 2024, available online at: <http://www.vidarchives.gr>.
- [5] TICCIH-ICOMOS, Οι Αρχές του Δουβλίνου, Παρίσι 2011, Vakalopoulou M., Daniil, M., Lambropoulos, C., Fasourakis, H. (επιμ.), 2017, accessed April 19, 2024, Βιομηχανικά Δελτία Απογραφής, available online at: <http://www.vidarchives.gr>.
- [6] Apsilidis, G. (2008). Οικονομικές συνθήκες και επιχειρήσεις στην πόλη των Σερρών (1913-1940), Karadimou - Gerolymou, A., Theodoridou-Sotiriou, L. (επιμ.) (2008), *Σέρρες 1900-1940: Χώρος και Ιστορία, Τμήμα Εκδόσεων και Βιβλιοθήκης ΤΕΙ Σερρών*, σελ. pp. 141-174.
- [7] Kokkinaki-Daniil, A. (2003). Τεύχος - Αφιέρωμα με θέμα: “Βιομηχανικά κτήρια. Το Βιομηχανικό κτήριο ως ένα ειδικό κτήριο”, ΚΤΙΠΙΟ, 155, pp. 81-112.
- [8] Zimvragou, I., Tzavara, D. (2023). Third Place, Thesis, School of Design Sciences, Department of Interior Architecture, Thesis, Supervisor, Dr. D. Zavraka, Serres.
- [9] Oldenburg, R. (1999). *The Great Good Place*, Hachette Books.
- [10] Paraschaki, E. (2023). Business Hub, Thesis, School of Design Sciences, Department of Interior Architecture, Thesis, Supervisors, Papagoutis P., Spentza M., Serres.
- [11] Grigoriadou, M. (2023). Cross House, Thesis, School of Design Sciences, Department of Interior Architecture, Thesis, Supervisors, Papagoites P., Spentza M., Serres.