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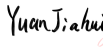
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**Reconstruction of industrial facilities using design tools (using the
example of spatial reconstruction of the Changzhou Dami spinning factory)**

Qualification work for obtaining the HED «Master»
in the specialty 022 Design EPP «Design of the architectural and landscape environment»

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Abstract

Against the backdrop of rapid urbanization and addressing the core issues of insufficient cultural value exploration and homogeneous revitalization approaches in industrial heritage renewal, this thesis adopts the "themed trail" as its methodology. Focusing on a specific building within the Changzhou Daming Yarn Factory as the renovation subject, it aims to explore a new, narrative-oriented model for industrial heritage activation based on interior space. By systematically contextualizing the cultural lineage of Changzhou's "Century of Industry and Commerce" and drawing on experiences from exemplary domestic and international cases, this research proposes specific design strategies and plans for an interior themed trail within this building. By connecting isolated spatial nodes into logical narrative paths, the deep integration of historical, educational and emotional values of industrial heritage can be achieved within a single building with limited area. This model not only provides a feasible solution for the spatial renewal of Changzhou Daming Textile Factory, but also offers theoretical references and practical examples for the renewal of similar industrial building heritage.

Key Words: Industrial Heritage, Themed Trails, Regeneration Design

INTRODUCTION

As a material carrier embodying urban memory, the protection and revitalization of industrial heritage have become important issues in China's urbanization process. However, most of the current renewal practices have fallen into a double predicament: On the one hand, there is uniform commercial development; on the other hand, there is disorderly protection. The former often directly converts industrial Spaces into commercial functions such as dining and shopping, stripping away their original historical identity. Most of the time, the latter merely preserves the buildings in isolation, without delving deeply into and integrating the cultural narratives within them, ignoring the spatial experience that the heritage itself can offer.

As one of the birthplaces of modern national industry in China, Changzhou carries a rich cultural heritage of "century-old industry and commerce". How to tell and disseminate this history to the public in a more innovative way has become an urgent issue to be addressed. Against this backdrop, the "thematic route" concept promoted and implemented by the state has brought new approaches for the overall protection of industrial heritage and the integration of culture and tourism. However, most of the existing research and practices have applied thematic routes to the urban or regional scale. There is still a lack of in-depth exploration on how to innovatively apply this macro planning tool to the micro scale of the internal space of a single heritage building.

CHAPTER 1

RESEARCH BACKGROUND

1.1 Industrial Heritage Conservation and Development Enter a New Stage

As a material witness to industrial development, it bears witness to the era's imprint and evolution path of the city, demonstrating significant value in the fields of history, society, technology, economy and aesthetics. As one of the core elements of the cultural heritage system, the maintenance and development methods of industrial heritage are gradually being restructured. National policies such as the 《14th Five-Year Plan for Revitalization of Special Type Regions (2021-2025)》 and the 《Opinions on Continuously Promoting Urban Renewal Actions (2025)》 issued by the General Office of the CPC Central Committee and the General Office of the State Council emphasize the unique historical and cultural significance of industrial heritage. They advocate for repurposing and renovating industrial heritage to promote industrial culture. Furthermore, the Jiangsu Provincial Department of Industry and Information Technology issued the 《Jiangsu Provincial Industrial Heritage Management Measures (2023)》, initiating the identification, conservation, and utilization of industrial heritage across the province to foster the revitalization of Jiangsu's industrial culture. Since 2008, Changzhou has actively responded to the national call for industrial heritage conservation. To date, leveraging the Grand Canal, Changzhou has systematically organized 39 industrial heritage sites along its course and established 11 provincial-level industrial tourism districts. Governments at all levels are encouraging and promoting the renewal and transformation of industrial heritage, integrating industrial cultural resources into modern urban life to become new cultural industries, economic engines, and fertile ground for innovation. Guided by these policy documents, the focus of industrial heritage transformation is shifting from "low-cost, rapid infill, commerce-first" to "linkage development, multi-stakeholder governance, and sustainable operation." Consequently, industrial heritage is gradually transitioning from a marginal resource to a crucial link connecting historical memory with future industries.

1.2 Continuous Advancement of Urban Industrial Heritage Regeneration

At present, there are three prominent problems with urban industrial heritage in China: a large base of existing stock, scattered distribution and homogenization of characteristics. The implementation of renovation has been upgraded from an unnecessary measure to a rigid demand for the sustainable development of cities.

Firstly, the actual utilization efficiency of industrial heritage is significantly insufficient. At present, only a few well-preserved industrial sites have passed the review of the Ministry of Industry and Information Technology as "National Industrial Heritage" projects. A considerable number of old industrial facilities such as factories, docks and warehouses are facing a lack of supervision, which is prominently manifested in poor land use efficiency, scattered layout and accumulation of historical debts. They urgently need to be transformed and upgraded. In 2023, the Department of Natural Resources of Jiangsu Province launched a provincial-level pilot program for improving the quality and efficiency of industrial land, tapping the potential of approximately 43,400 mu of low-efficiency land. By February 2025, only 16 sites across two batches had received provincial-level industrial heritage designation in Jiangsu, representing a very small fraction of the province's numerous industrial heritage sites.

Secondly, the "singular approach to regeneration" has reached its limits, leading to homogenized competition where "every factory looks the same." Most industrial heritage structures are non-monumental industrial buildings. Due to insufficient foundational value assessment and a lack of innovation and cultural depth, numerous projects are confined to the simplistic model of "converting factories into cultural-creative parks." This approach fails to explore the unique essence of industrial heritage and is unable to develop distinctive formats centered around industrial culture. Fragmented governance and the absence of effective operational models make it difficult for these sites to integrate with urban spaces. Furthermore, renovations focused solely on individual sites lack the capacity to generate synergistic effects for economic and cultural dissemination.

1.3 Themed Trails Activating Cultural and Tourism Experiences of Industrial Heritage

In May 2023, three national departments jointly issued the 《Notice on Launching the Development of China's Cultural Heritage Themed Trails》, initiating the development of China's cultural heritage themed trails. This initiative proposes the development of themed trails to transcend the fragmented nature of cultural heritage conservation and utilization, revitalizing and connecting regional heritage sites by linking points into routes and integrating clusters into corridors. By doing so, it aims to highlight the vastness and profundity of Chinese culture within its historical landscape and promote systematic and holistic preservation of cultural relics.

In November 2024, the Ministry of Industry and Information Technology further emphasized at the Conference on Propaganda, Ideology, and Cultural Work the need to vigorously develop industrial culture, transforming the spirit and relics of the industrialization process into cultural momentum for new industrialization.

These two policies are highly consistent in the concept of "shaping tourism with culture and highlighting culture through tourism". Applying the theme route planning method to the protection of industrial heritage can combine scattered old factory areas, docks and other resources into a continuous theme route for industrial heritage. In the vertical dimension, it connects the industrial development trajectory of over a century, and horizontally integrates urban landscapes, community life and public services, achieving a transformation from "viewing an old factory building" to "understanding a period of industrial history". This not only addresses the problem of fragmented protection, but also strengthens the interactive relationship with the city, enhancing accessibility and appreciation. Ultimately, a virtuous cycle of cultural heritage protection and the integrated development of culture and tourism should be formed in the process of new industrialization.

1.4 Relevant Literature from China and Abroad

(1) Overview of International Industrial Heritage Research

Since the Industrial Revolution was initiated in Britain in the 1760s, the world has entered a stage of rapid economic and urban development, with a large number of industrial buildings emerging one after another. By the early 20th century, modern industrial zones and cities saw further development to meet the needs of post-war recovery and normalcy in production and life. By the 1970s, influenced by globalization, vast tracts of industrial urban land and building spaces in Europe and America were left idle. The US Congress even defined these industrial sites as "brownfields" through the Comprehensive Environmental Response, Compensation, and Liability Act (1980). These lands are affected by both actual and potential pollution from harmful substances, which hinders the expansion and secondary utilization of industrial heritage. With the accelerated advancement of urban development and the increasing shortage of land resources, more and more scholars are beginning to consider how to reuse these abandoned urban industrial sites.

As the birthplace of the Industrial Revolution, the United Kingdom is also one step ahead in the field of spatial research on industrial heritage. In 1955, British scholar Michael Rix

introduced the concept of "Industrial Archaeology" in an article in *The Amateur Historian*, emphasizing

the need to strengthen research on British industrial spaces, machinery, and industrial culture. This opened the door for subsequent research on industrial heritage spaces by scholars in Europe and America. Starting in the 1960s, various countries successively established relevant social organizations and conducted surveys and documentation of their national industrial heritage. In 1973, The Association for Industrial Archaeology was formally established in the UK and held an international conference, replacing the term "Industrial Archaeology" with "Industrial Heritage," officially establishing industrial heritage as an international cultural heritage concept. The 19th Congress of the International Union of Architects (UIA) in Barcelona in 1996 issued a proposal for the protection and reuse of derelict spaces, including industrial sites. In 1998, the publication of *Industrial Archaeology: Principles and Practice* by British scholars Marilyn Palmer and Peter Neaverson systematically proposed, for the first time, that industrial archaeology must integrate the triple dimensions of "technology-society-culture," promoting the discipline from the margins to the mainstream. This book shifted industrial archaeology from "machine worship" to studying the interactive relationships between people, technology, and society; it established a multidisciplinary methodology, providing theoretical tools for global industrial heritage conservation. In 2003, the International Committee for the Conservation of Industrial Heritage (TICCIH) adopted the "value assessment" framework from *Industrial Archaeology: Principles and Practice* and formulated the Charter of Nizhny Tagil, establishing for the first time an academic and practical system for the conservation of industrial heritage. Subsequently, in 2011, the International Council on Monuments and Sites (ICOMOS) adopted the ICOMOS-TICCIH Joint Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes (known as the Dublin Principles), supplementing and expanding upon this charter to further refine the conservation framework. Translated with DeepL.com (free version) While focusing on physical remains like industrial building interiors, it also emphasized intangible aspects of industrial heritage, including spiritual culture. This charter provides systematic guidance for the documentation, protection, adaptive reuse and public participation of industrial heritage based on seven principles. Scholars such as Lopez and Munoz (2023) analyzed the distribution of industrial heritage in European cities with the help of ArcGIS, demonstrating the practical application of geographic information

systems in the informatization construction of industrial heritage. And it delved deeply into the connection between industrial heritage space and GIS technology.

At present, international research on industrial heritage is dominated by Europe and America, among which the industrial heritage of the United Kingdom is particularly regarded as a key research object. The research content takes the concept definition and adaptive reuse of industrial heritage as the core, and has already formed a systematic theoretical framework and practical system. The finalization of international standards such as the Lower Tagil Charter and the Dublin Principles It has greatly promoted the progress of global industrial heritage in protection and restoration, spatial restoration and revitalization and utilization. Although the theoretical research on international industrial heritage started relatively early, it was mostly limited by specific regions or policy systems, lacking overall considerations and economic sustainability, making it difficult to achieve a balanced and coordinated development of demand and regions.

(2) Overview of Industrial Heritage Research in China

China's industrial construction started relatively late. It was not until the "First Five-Year Plan" (1953-1957) that comprehensive planning was implemented. The foundation for the development of China's heavy industry was laid by the 156 industrial projects aided by the Soviet Union. After the reform and opening-up, leveraging "technology introduction" and "foreign investment openness," labor-intensive light industry grew rapidly, establishing China as the "World's Factory." Starting in the 1990s, China began industrial restructuring and upgrading, implementing policies such as "replacing secondary industry with tertiary industry" and "relocation and transformation" of polluting enterprises. The pace of urban industrial relocation accelerated. While some former industrial sites were developed into urban industrial parks, a large proportion of factory spaces were left idle, abandoned, and gradually fell into disrepair. The protection of industrial heritage spaces faced a severe crisis, drawing significant attention from experts and scholars.

China began focusing on the reuse of industrial heritage spaces around the end of the 20th century. After joining the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage in 1985, theories related to industrial heritage spaces gained attention. Entering the 21st century, domestic scholars achieved certain research results regarding the reuse of industrial heritage spaces. In 2002, Chinese scholar Li Leilei published "Counter-industrialization and Industrial Heritage Tourism Development: The Practice Process and

Development Model of the Ruhr Region in Germany, which comprehensively introduced the concept of "industrial heritage", sparked a domestic research craze on the spatial reuse of industrial

heritage. In April 2006, the first China Industrial Heritage Protection Forum was held in Wuxi, and the key outcome, the "Wuxi Proposal", was formed. This initiative clearly defines the connotation of industrial heritage and advocates integrating the formulation of industrial heritage protection plans into the overall urban planning. In the collection of the sixth batch of key national cultural relics protection units announced by the National Cultural Heritage Administration, the number of industrial heritages has significantly increased. Yu Kongjian and Fang Wanli defined the value of industrial heritage space in "A Preliminary Exploration of China's Industrial Heritage (2006)". Moreover, it was pointed out that protection work urgently needed to be carried out. In 2013, The State Council issued a notice on the verification and announcement of the seventh batch of key national cultural relics protection units. The number of newly added industrial heritages increased significantly compared with the previous batches, demonstrating the continuous rise in the importance attached to the protection of industrial heritages. In their paper "Protection of Industrial Building Heritage and Inheritance of Urban Cultural Context (2013)", Sun Junqiao and Sun Chao demonstrated that industrial building heritage exhibits comprehensive value, serving as a witness to the historical and cultural context of a city and possessing crucial cultural context value significance. They also proposed approaches for the spatial reuse of industrial heritage in combination with the urban cultural context. In 2016, Professor Xu Yongjun, Wang Yujue, and Wang Lulu, in "Protection and Development of China's Industrial Cultural Heritage: Problems and Countermeasures," addressed issues such as misconceptions in understanding and deviations in strategic planning regarding the protection and development of China's industrial cultural heritage. They further proposed implementing "regional policy regionalization," adhering to local conditions, and promoting diversified development strategies. In "The Expression of 'Authenticity' and 'Adaptability' in the Reuse of Industrial Architectural Heritage under the Background of the New Era" (2020), Wu Yao and Wang Wenjie discussed "authenticity" and "adaptability" in industrial architectural heritage protection. They summarized the significance of adaptive reuse of China's industrial architectural heritage in the new era and analyzed methods and perspectives for reuse through case studies of three different types of industrial buildings and

three excellent practical examples of urban industrial heritage reuse. Recent research in China is no longer confined to purely theoretical analysis. For instance, Zhou Youhao (2024) used space syntax to conduct a quantitative analysis of the industrial heritage space of the Beijing Wuxing Beer Factory. By examining factors like layout, accessibility, and openness, the study demonstrated how these aspects naturally guide people's movement paths and exploration behaviors, making the transformation of industrial heritage spaces more scientific and human-centered.

China's exploration of industrial heritage spaces did not undergo a prolonged phase of researching the concept and value of industrial remains. Instead, it directly introduces the theories of international industrial heritage spatial protection and reuse, gradually localizes them, and mainly relies on policy guidance to quickly establish a system. The research objective focuses on the survival and rational combination of industrial historical sites. However, this research model has also led to situations such as a single method for assessing the value of industrial heritage, an excessive focus on commercial functions in renovated industrial heritage, and a lack of multi-disciplinary and multi-functional integration and collaborative research.

Chapter 1: Conclusion

Based on the background of the above research and policy guidance, transforming industrial heritage buildings into indoor Spaces that continue the cultural context and have experiential value has become a key approach to promoting their sustainable revitalization. This is in line with the overall development trend of industrial heritage, which shifts from "individual protection" to "regional linkage" and from "commercial dominance" to "cultural guidance". Interior space design needs to break through the limited architectural preservation and functional replacement, and strive to build an interior thematic route that integrates historical narrative, spatial experience and public participation.

During the specific design practice period, by taking advantage of the unique historical and technical features of industrial heritage, the original building structure, mechanical equipment, production flow lines and other contents can be retained and translated to achieve an intrinsic and deep connection of "space - memory - narrative". The path routes can imitate the original production process and the activity trajectories of workers, and through the combination of the means of beginning, development, transition and conclusion, Connect various scattered

heritage nodes (such as workshops, control rooms, warehouses, etc.) into an organized visiting sequence, establish thematic narrative forms such as "raw materials - processing - output" and "labor - rest - communication", and combine interactive exhibitions, immersive media installations and viewing and rest points along the path. It can effectively enhance the audience's understanding

of industrial history and cultural connotations. In line with the spatial organization concept of "stringing beads into a chain" in the "Notice on the Development of Theme Cultural Tourism Routes", the theme routes inside the building can be visually and circularly connected with the surrounding industrial scenes, waterfront areas or neighborhood corridors, weakening the physical barriers of the building and transforming the indoor space into a part of the urban cultural puzzle. Modern digital technology is adopted. It can achieve the rationalization of passenger flow lines and enhance spatial accessibility, improving the experience and operational level of walking routes.

By constructing an indoor theme exploration path, industrial heritage buildings have transcended the category of isolated cultural carriers and transformed into living historical carriers with three-dimensional characteristics that are readable, navigable and perceptible. This approach has firmly inherited the industrial historical memory, thereby forming a spatial system that combines educational enlightenment, cultural edification and leisure relaxation, truly achieving the goal of "industrial heritage independently telling history".

CHAPTER 2

RELEVANT PROJECT PRACTICES

2.1 Industrial Heritage Renovation Projects in China

(1) Name of Project: Renovation of Suzhou Shengze Tangqiu Silk Reeling Factory

The history of silk production and trade in Shengze, Suzhou is long. The history of growing mulberry trees, raising cocoons and dyeing silk into silk can be traced back to the Tang Dynasty. From being used as tribute in the Tang Dynasty to the Ming and Qing Dynasties, the silk produced in Shengze began to gain fame throughout the country. After 1949, the silk industry in Shengze gradually shifted from traditional manual production to industrial manufacturing. The Tangqiu Silk Reeling Factory, which was built in 1969, was a key symbol of the early industrialization of Shengze's silk industry. Along with technological development and social progress, the Tangqiu Silk Reeling Factory gradually withdrew from the historical stage. In recent years, amid the integrated development of the Yangtze River Delta, Shengze has experienced rapid economic growth and a renewal of its silk industry. Guided by local urban renewal policies, the Tangqiu Silk Reeling Factory now also faces transformation.

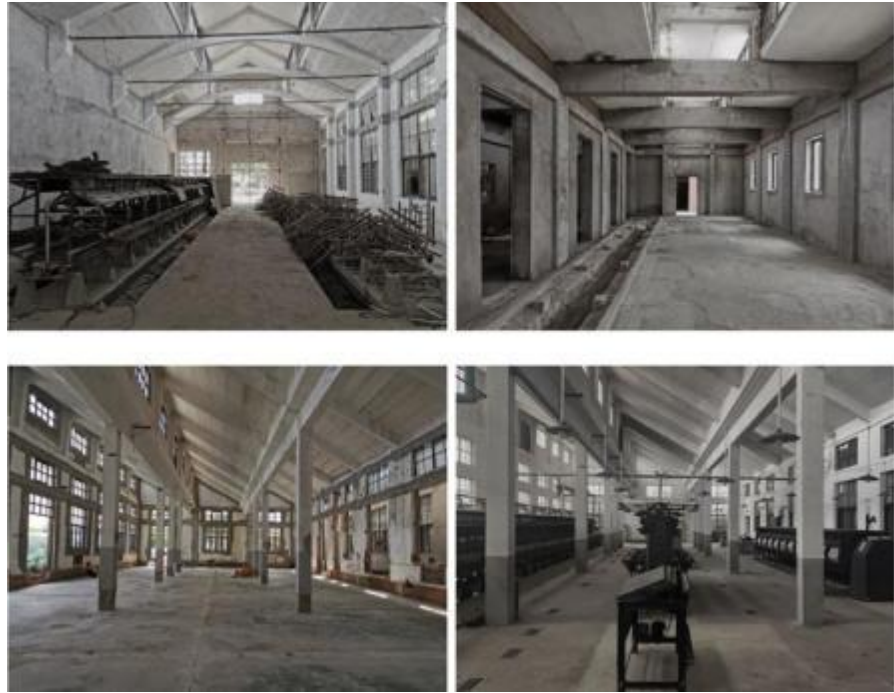


FIG 1 The original state of space

<https://www.gooood.cn/renovation-of-suzhou-shengze-tanqiu-silk-reeling-factory-by-parallect-design.htm>

Site Interpretation: The Tangqiu Silk Reeling Factory is located in the ancient town of Shengze, Suzhou, on the bank of the Grand Canal. It preserves a relatively complete production building and a series of manufacturing machinery. The factory represents the typical architectural style of the textile industry in the Jiangnan region during the period of New China's modernization. It is a typical core and significant industrial heritage that represents the local economic and industrial development. It is not only the "urban name card" and "collective memory" of Shengze but also an important carrier for inheriting and promoting Chinese silk culture.

This update requires that this area be designated as a demonstration zone, providing a fresh concept for the overall development of the factory. The project includes production workshops such as the cocoon collection and laying room, the cocoon steaming room, the cocoon boiling room, the rope arranging room, and the silk reeling workshop, all located in the core area of the factory. The designer aspires to meet the basic needs of contemporary cultural exhibitions and industrial offices during this period. To preserve the potential value of future adaptive reuse for industrial heritage buildings, the original architectural complex is presented as a grand

industrial structure. Its diverse roof variations and unique structural forms highlight the minimalist aesthetics and contemporary imprints characteristic of industrial buildings. The tall side window layout creates a bright and distinctive interior space. Large-scale production machinery, along with the remaining red slogans, seems to be telling a unique historical memory.

Facing this unique industrial heritage, the designer chose to carry out the renovation with a "low-intervention approach" - minimizing damage to the original structure and fully preserving the characteristics of the industrial building. After the west corridor of the building complex was identified as a dangerous building and demolished, only the sequence of production plants was left. To meet the needs of internal operation and management, a public corridor was added on the west side. Make the isolated production flow line layout re-present the initial layout.

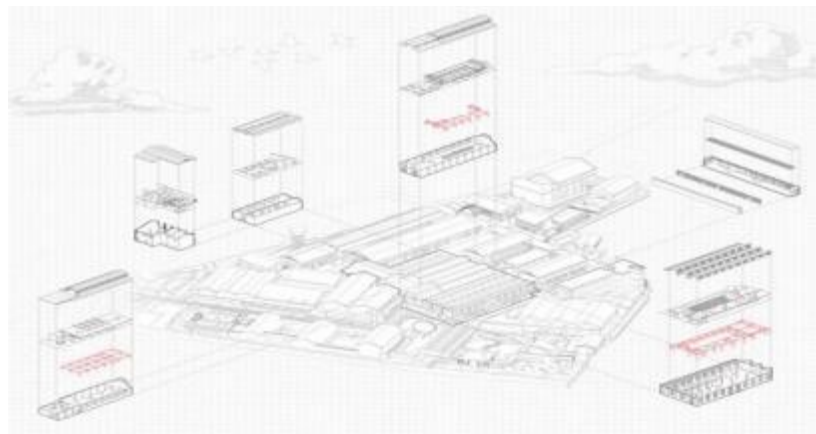


FIG 2 axonometric drawing

<https://www.gooood.cn/renovation-of-suzhou-shengze-tanqiu-silk-reeling-factory-by-parallel-design.htm>

View of the Main Entrance Hall: The original silk production space has been redefined as a multifunctional exhibition area integrated with independent offices. The designer preserved the large-scale production machinery within the site as an "art installation", with the aim of evoking people's memories of the past. The entire spatial layout gradually unfolds around this giant machine, giving rise to three circular circulation lines on the first floor and serving as an exhibition area on the first floor, integrating the U·Talk lecture hall, exhibition area, coffee shop and auxiliary functions. The second floor houses the office area and the partner conference center. A large modular staircase connects the first and second floors, which mainly serves the functions of the U·Talk lecture hall and the public area for exhibition activities.



FIG 3 Indoor exhibition hall

<https://www.gooood.cn/renovation-of-suzhou-shengze-tanqiu-silk-reeling-factory-by-parallellect-design.htm>



FIG 4 Bookstore and Café Bar

<https://www.gooood.cn/renovation-of-suzhou-shengze-tanqiu-silk-reeling-factory-by-parallellect-design.htm>

Beneath the staircase, the cocoon cooking and silk reeling machines are preserved and can be viewed and interacted with from the two-story gallery on the southern side. On the opposite side of the staircase, an 18-meter-long vertical machine is retained as the backdrop for the U·Talk Lecture Hall, serving both as an exhibit and as a defining element for the circular circulation route of the exhibition area. Due to the height limitation caused by the large concrete beams, the two horizontal corridors have become the key points for achieving the circulation of the second floor space. The partner center on the second floor is made into an independent area, and the difference is formed by the row of floor-to-ceiling Windows and the open exhibition space on the lower floor.



FIG 5 Exterior night view of the building

<https://www.gooood.cn/renovation-of-suzhou-shengze-tanqiu-silk-reeling-factory-by-parallel-design.htm>

(2) Name of Project: Xigang Industrial Heritage

Wuxi is located in the core area of the Jiangnan water town, with a crisscrossing network of rivers and water systems. The Beijing-Hangzhou Grand Canal runs through the city from

north to south, and the ancient Jiangnan Canal flows through it. Since the canal was first excavated, the earliest residents of Wuxi have all lived along the river. The city's life and the development of civilization are closely linked to the water veins. The canal has become the lifeblood that nourishes the city, giving rise to a unique Jiangnan Canal culture. As a prominent birthplace of modern Chinese national industry and commerce, Wuxi also enjoys the reputation of a "century-old industrial and commercial city". The years of industrial development over the past century have left behind various industrial building remains, including both old factory sites and workshops with historical heritage. These industrial relics have jointly forged Wuxi's unbroken industrial spirit. In June 1958, the predecessor of Wuxi Iron and Steel Plant (Xigang Group) was born at No. 124, Tanggang Road, outside the south gate. Its main business was the production of special steel. Before moving to Jingjiang, it was always a key enterprise within Wuxi. For local residents, especially those born in the 1970s and 1980s, Xigang around the ancient Canal carries the core memory of the city's development.

In November 2007, Xigang Group signed a comprehensive relocation agreement and settled on the north bank of the Yangtze River in Jingjiang Development Zone, Taizhou. Photos taken in 2019 show that in the wasteland by the ancient Grand Canal, the remaining factory building frames still stand, roughly outlining the scale and charm of this industrial complex in the past.



FIG 6 Industrial Remains of Xigang Steel Factory in 2007

<https://www.gooood.cn/renovation-of-wuxi-canal-hub-no-1-and-no-3-factory-buildings-by-supercloud-studio.htm>

Since 2020, Wuxi OCT has officially implemented the renovation plan for the industrial heritage in Xigang. The project takes the ancient canal section as the core vein and relies on the historic Qingming Bridge Cultural Street. It retains the main structures of the original first and third factories and transforms the previous industrial landmark into a new cultural and tourism

destination - Wuxi Canal Hub. Situated at the convergence of old and new, tradition and modernity, past and future, Wuxi Canal Centre has become the city's "cultural living room", integrating cultural, commercial, retail, dining and leisure functions.

The Super Cloud Design team was responsible for the interior space design of the first and third factories, proposing a multi-disciplinary spatial treatment solution. These design interventions have revitalized the dormant industrial heritage and unlocked more open and diverse utilization potential. Placed in this city-level "cultural valley", they have built a city theater for everyone.



FIG 7 Indoor integrated electronic screen

<https://www.gooood.cn/renovation-of-wuxi-canal-hub-no-1-and-no-3-factory-buildings-by-supercloud-studio.htm>



FIG 8 The integration of digital media and physical space

<https://www.gooood.cn/renovation-of-wuxi-canal-hub-no-1-and-no-3-factory-buildings-by-supercloud-studio.htm>

During the renovation of the first factory building, SUPERCLOUD STUDIO adopted a comprehensive approach that combined interior design, installation art and multimedia technology. Eventually, the construction and definition of the spatial form were achieved. The core of the team's optimization focused on the internal circulation lines: The multi-layered spiral

steel staircase is used to organically connect various areas of the building. Meanwhile, at the end of the old crane track, double-layer 360-degree rotating LED screens are arranged as key nodes, enabling free conversion between static content and dynamic scenes, greatly enhancing the narrative dimension of the spatial expression. To further strengthen internal-external connections, the team established visual links through a series of floor-mounted screens. These synchronised elements—positioned at pedestrian entrances, along the central waterfront axis, and within the staircase's vertical screens—ultimately forged a vibrant and adaptable spatial environment.

(3) Name of Project: Being 3 Art & Life ·Home

This is an art life experience museum located in the Beijing Plastic San Cultural and Creative Park. It was transformed from an old industrial relic factory, and its architectural style has obvious historical characteristics. The development of the Internet and the experience of the epidemic have greatly changed people's shopping methods and lifestyles, and have also proposed new era propositions for brands. Our original intention in designing this project was to create a new business model – let “Business” retreats and softens the relationship between Party A and Party B. Different from the simple display of products in the past, more attention

is paid to the artistic style and brand temperament of the space, so that visiting guests can have some unexpected emotions, thus bringing an immersive brand experience. We draw design inspiration from Louis Kahn's Salk Institute for Biological Studies, focus on the symbiotic relationship between old and new buildings, integrate classical order with modernism, use bold and restrained design techniques to reshape the shape of the space, and give the space unlimited imagination.



FIG 9 Public meeting area

<https://www.gooood.cn/being-3-art-life-home-by-wenwu-spatial-design.htm>

The cross of light guides the direction at the corner of the front hall, breaking the silence Of the space, attracting people to explore the depths of the space ... The willows and flowers emerge, and sure enough, a surprise appears. The first floor is mainly a gathering place, including the main gathering area, bar area, dining and kitchen area, small guest area, etc. The multiple functional areas in the open space are separated by garden landscaping as a medium. Sunlight is projected through the colored glass into the garden landscape area, creating an unparalleled natural atmosphere indoors.

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In the stairwell, we can clearly see that the designer retained the walls of the original factory building. The exposed wall tiles and the modern staircase form a “conflict” between the

new and the old, making the old appear older and the new It looks updated, the two temperaments support each other, exuding a unique light, and the simple artistic temperament is also rejuvenated in the new environment. Looking down through the stairs, you get a different feeling of space. As you walk, your perspective changes constantly, and your mood changes accordingly. The light transmitted through the stained glass appears in every corner of the space. Being baptized by the holy light, everything is quiet and peaceful.



FIG 10 Stairs leading to the second floor

<https://www.gooood.cn/being-3-art-life-home-by-wenwu-spatial-design.htm>

Continue along the stairs that flicker like sculptures to reach the third floor. This is an open multi-functional area that can be used as avenue for lectures, exhibitions of artworks, movies and tents to create a The atmosphere of camping ... In short, the designers gave it multiple lives. The space itself gives the design many extra surprises. The designer tried his best to retain a lot of the texture of the building itself. The exposed walls and mottled steel frames express a casual and natural state. This is the power given by time to the space. From the plastic factory building decades ago, to the art gallery more than ten years ago, to the art life experience hall today, the life of the building has always continued under the attention of generations. Through design, we have designed this historic building The building has once again injected new vitality, hoping that everyone who walks into this space will have their own different feelings.



FIG 11 Open multi-functional area

<https://www.gooood.cn/being-3-art-life-home-by-wenwu-spatial-design.htm>

(4) Name of Project: The O POWER Culture and Art Center

Located in the northern part of Overseas Chinese Town in Nanshan District, Shenzhen, the Huazhong Power Plant once served as the energy heart pumping vitality into the area's development. In 1989, as Shenzhen's Special Economic Zone experienced an economic boom, Overseas Chinese Town faced a severe electricity shortage, with power supply halted for three days out of every four. At this critical juncture, the Huazhong Power Plant, fuelled by heavy oil, illuminated the night sky over Overseas Chinese Town. By 2006, to meet the demands of urban development and environmental protection, it officially retired after fulfilling its historical mission. This industrial heritage site is not only a witness to Shenzhen's pioneering years but also carries the collective memory of the residents in the original OCT area, gathering the tenacious spiritual

symbols of an era.



FIG 12 The original state and industrial heritage of the powerplant

<https://www.gooood.cn/o-power-culture-arts-centre-by-shenzhen-huahui-design-x-studio.htm>

This project is located at the intersection of the city, nature and the community. It is a key northern entrance and exit and connection node in the OCT area. Based on its profound historical accumulation and future development significance, the project is positioned as a cultural leading pioneer of the future OCT art community, striving to transform the original power plant into a vibrant "urban living room" and a creative cultural convergence point. This transformation from a power plant to a community space will enable the site to re-integrate into the urban framework as a symbol of community spirit. The project aims to create a positive public space for the surrounding residents and invigorate the cultural and artistic ecosystem of the entire urban area.

The O POWER Cultural and Art Center (Building 1) was transformed from an old power station.

It is designed with a fully glass-enclosed circular volume embedded in the ground floor, flexibly integrating the surrounding trees and the atmosphere of the street community into the building. This not only brings vitality to the shared space but also removes the boundaries between the inside and outside, creating a transparent visual connection. To address the problem of insufficient lighting in the original building, The south facade was "opened up" - the solid walls were replaced with

transparent glass and steel grilles, which not only brought light into the rooms but also transformed the building into a large display window showcasing the inner spirit. The renovation retained the core concrete structure of the old power plant to the greatest extent, maintaining the original volume proportion of the structure, and ultimately achieving a tribute to the industrial heritage and the continuation of its vitality.



FIG 13 Partial south elevation

<https://www.goood.cn/o-power-culture-arts-centre-by-shenzhen-huahui-design-x-studio.htm>

The design draws inspiration from the form of the existing oil storage tanks on the south side of the site and implants cylindrical structures into the main building. This design creates a spiritual core space that echoes the outdoor oil tanks. Moreover, by adopting ultra-high performance concrete curtain walls, it achieves the dual purposes of reducing the thickness of the walls and alleviating the oppressive feeling inside the newly built structure. This cylinder ingeniously divides the open space of the original factory building into two areas: the multi-functional O space and the POWER performance Hall. Both are planned as places to host immersive performances, art exhibitions and other activities in the future, jointly forming a pioneering theater complex that integrates performance and exhibition functions.



FIG 14 Explosion axonometric diagram

<https://www.gooood.cn/o-power-culture-arts-centre-by-shenzhen-huahui-design-x-studio.htm>



FIG 15 O Space

<https://www.gooood.cn/o-power-culture-arts-centre-by-shenzhen-huahui-design-x-studio.htm>

The name and concept of the POWER Theater are derived from the core element of an old

power plant - electricity, symbolizing the profound evolution from the "physical power" of the industrial age to the "artistic power" of the creative age. The theater adopts a highly innovative "black box" design, completely breaking the constraints of the proof-frame stage and reconstructing the spatial relationship between the actors and the audience. It realizes the possibility of performances being held in any corner. Its flexible spatial arrangement can accommodate approximately 200 seated audience members or nearly 400 standing participants. As the core driving force for avant-garde drama experiments, it achieves a synergy effect with the O space and outdoor areas, continuously spreading artistic energy to the surrounding communities and broader urban Spaces.



FIG 16 Polysemous space

<https://www.gooood.cn/o-power-culture-arts-centre-by-shenzhen-huahui-design-x-studio.htm>

2.2 Industrial Heritage Renovation Projects Abroad

(1) Name of Project: Mladinska knjiga Printing Plant Renovation

Mladinska Publishing House was designed by Savin Seville in the 1960s. As an important representative of post-war modernist architecture in Slovenia, its architectural features are mainly reflected in the modular and constantly repetitive concrete structure. This design uses fair-faced concrete as the medium of expression, conveying the unique aesthetic conception of postmodernism. At that time, the development of architecture in Slovenia was profoundly influenced by Edvard Lavnikar. As a disciple of Jorge Plechenek and a partner of Le Corbusier, Lavnikar established an architectural poetics that integrated traditional roots with modern

techniques, laying a unique direction for the post-war generation of architects. Savin Seville is a typical representative of the Ljubljana School of architecture in this context.

After entering the 21st century, this old printing factory underwent equipment renewal and technological upgrading. However, the rapidly evolving digital technology has completely transformed the survival environment of the printing industry, ultimately making the traditional printing model unsustainable. After the factory was shut down, most of the machinery was disposed of and the buildings remained idle for a long time. It was not until some creative agencies moved in one after another that this historical building found another possibility of existence in new ways of use.



FIG 17 historic photo

<https://www.goood.cn/the-old-printing-house-by-ofis-arhitekti.htm>

The new owner launched the building renovation plan in 2022. The original building structure was strictly protected. More importantly, Seville's unique architectural concept made this building itself irreplaceable, and demolition and reconstruction were not considered at all. As the original structure is designed for heavy mechanical loads, its load-bearing capacity is sufficient to adapt to various modern usage scenarios without the need for additional reinforcement.

The real challenge lies in how to improve the thermal performance of buildings - when a building originally based on heat dissipation needs to be transformed into one with insulation and heat preservation, how can an indoor climate that meets modern standards be created? The thin structural system and a large number of thermal Bridges were originally designed to eliminate the residual heat of printing equipment in the past. However, nowadays, this principle needs to be completely reversed. Under the premise of having to preserve the exposed concrete structure, the

design team successfully constructed a new insulation enclosure structure by adding an insulation layer indoors and combining it with an additional glass curtain wall. This not only maintained the integrity of the original glass prisms on the roof but also ensured their integrity. Those glass prisms embedded between the concrete components originally provided natural lighting for the depth of the building.

The renovation of the exterior facade returned to the original plan of Seville that was not implemented - the concept of cement panels that had to be abandoned due to cost factors back then was realized in this transformation. This decision, which was half a century late, instead provided a key solution for the upgrading of construction technology.

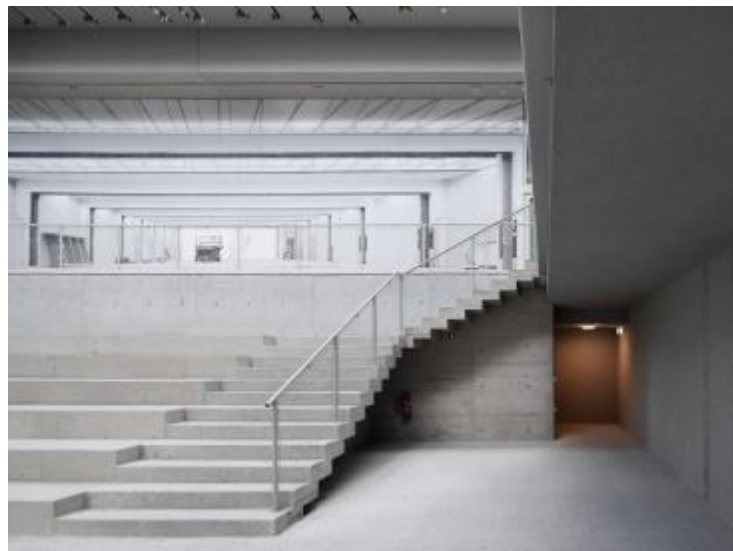


FIG 18 using cement panel

<https://www.gooood.cn/the-old-printing-house-by-ofis-arhitekti.htm>

The only significant change to the original structure of the building was a new entrance. Originally, the workers of the printing house entered the building through the dressing rooms in the office wing. This was not suitable for the purposes of the renovated building. A new monumental entrance was introduced on the south side. The amphitheatrical staircase creates a sort of urban square within the building, welcoming people who enter, and serving as a meeting point. It also provides avenue where events and performances can take place. It contains a segment of the printing machinery from the original building, thus presenting and preserving in memory its former use.



FIG 19 new entrance

<https://www.gooood.cn/the-old-printing-house-by-ofis-arhitekti.htm>



FIG 20 preserved printing machine segments

<https://www.gooood.cn/the-old-printing-house-by-ofis-arhitekti.htm>

(2) Name of Project: Cruzcampo Factory and Tower Renovation Project

The iconic Cruzcampo factory complex in Seville, a significant component of the city's historical industrial heritage, has undergone a transformation and refurbishment. Its three main buildings have been given new functions, while the existing usable space has been expanded. AYESA Engineering & Construction Company undertook the architectural design and construction work of this project, completing the renovation and refurbishment of 5,000 square

meters of space, including the hotel college, restaurant, craft beer processing workshop, training facilities, office areas, and a cultural area with a city observation deck. By removing the boundary wall between the two original factory buildings, The project not only reshaped the characteristics of the block but also strengthened the interactive connection between the building complex and the city, creating a brand-new circulation organization model among the buildings.

This brewery complex was originally designed by German architects Wilhelm Lister and Friedrich Stolzer (1904). It is the first multi-functional industrial relic in Seville constructed in accordance with the industrial building model of Central Europe. The complex is located in the vibrant Nervion district of Seville and consists of three buildings that belong to the historical category: The Maestrensa Building (1939-1940), and the Cruz Campo Tower, which is listed as a protected cultural heritage.

After the brewing business was moved to the suburbs, the owner, Heineegan Group, initiated the functional transformation of these historical buildings, converting the former brewing workshops and fermentation cellars into vibrant Spaces that reflect beer culture and social values and provide catering services. The AYESA design team not only adapted the buildings to their new uses but also made great efforts to restore their heritage value. Adopting a design strategy that emphasizes transparency and accessibility, the building complex presents an open mind to the entire city. This project demonstrates a distinct idea of overall renewal, prioritizing the creation of a unified identity for the building complex rather than highlighting the individuality of individual buildings.

The renovation project was initiated in 2017 and advanced in phases. The Cruz Campo factory building was completed in June 2021, followed by the Maestranza building with its facade renovated. The Cruz Campo Tower was officially put into use on October 15, 2024.



FIG 21 exterior of the building

<https://www.gooood.cn/cruzcampo-factory-tower-by-ayesa.htm>

The sunken plaza adjacent to the building project responds to the newly built transparent facade, introducing natural light to the restaurant originally located on the semi-basement level and providing a direct entrance to the building, thereby highlighting the public nature of the facility.

The new plan must coordinate diverse and interrelated functions in the former wine-making space: Hotels, breweries, craft beer halls and hotel colleges, relying on precise planning of the overall spatial layout and specific functional requirements, have orderly handled the complexity of the operation of hotel college activities. Among many solutions, the most distinctive one is the removal of the closed partition wall in the kitchen - through expansion and adaptation, the kitchen is fully integrated into the dining area. Enable diners to directly observe the cooking operation and the preparation of ingredients.



FIG 22 renovated factory plan

<https://www.gooood.cn/cruzcampo-factory-tower-by-ayesa.htm>

The project design integrates the functions of the craft brewing workshop and the restaurant into the same building structure. To create its unique and iconic image, the design adds brewing equipment on the mezzanine floor and uses the main facade Windows to create a bright feeling in the full-height space. This approach clearly divides the functional areas and unifies the volume of the internal space, making the building highly recognizable from multiple angles both inside and outside.



FIG 23 amicrobrewery

<https://www.gooood.cn/cruzcampo-factory-tower-by-ayesa.htm>

In the overall skyline of Seville, the former fermentation tank "Palomar" (meaning pigeon loft) in the factory area stands out particularly due to its height, unique gable roof and the iconic Cruz Campo logo. During the recent renovation work completed by AYESA, the design team carried out the work in accordance with the concept of "restoring the old as it was". Thoroughly empty the interior of the silo and carefully preserve the original brick-concrete exterior walls. The gas stains produced during the fermentation process are still clearly distinguishable on the walls. These traces of time not only bear witness to history but also forge the unique aesthetic value of the building. The technical "clearing" lays the foundation for structural transformation. In a situation where the old and the new interweave, the raised floor slabs increase the clear height, and the removal of the central pillars opens up an open view. These changes have successfully reshaped the space into a composite entrepreneurial incubation environment with classrooms and training facilities.



FIG 24 inside the tower

<https://www.gooood.cn/cruzcampo-factory-tower-by-ayesa.htm>

By integrating vertical circulation facilities such as twin staircases and lifts into the service core at the rear of the building, space is effectively liberated. The top floor is planned with Spaces for celebrations and events, featuring an open main hall and a terrace connected to the west facade. As an "observation deck" offering a panoramic view of the horizon, this terrace enhances the overall transparency of the building and provides a panoramic view of the historical city of Seville.

(3) Name of Project: Meishan Glass Factory Renovation

The Méseenthal Glassworks, an old factory of the 18th century, initially based in the natural environment of the Mons de Beaufort Natural Park, has been transformed into a free cultural centre. There are three complementary institutions that dwell here: the Glass Museum, where a millennial glassmaking heritage is preserved; the International Glass Art Centre, where the ancient craftsmanship is blended with the modern art; and the Halle de Verre cultural space, where the art installations and musical performances are conducted. Our design intervention beautifully fuses these entities and creates a perennial communication with the industrial legacy.

A surface of wavy concrete, with a look of an aspect of frozen liquid, reminds of the fluid essence of glass, but relates more mildly all structures. It is a roof and also a wall constituting an intact civic space. Under this surface the new functions offices, workshops, cafes are delicately over-weaved and the historic site has been filled with fresh vitality.



FIG 25 aerial view of the project

<https://www.gooood.cn/site-verrier-de-meisenthal-by-so-il.htm>



FIG 26 interior space

https://www.sohu.com/a/551388798_100051959

It has cleverly converted the original factory hall into a new one with a new entrance made on the lower ground floor of the building that was hitherto unused and a blackbox theatre of 500 seats has been made. The space can be easily adapted to a multifunctional mode, to transform into a standing theatre of 700 or a large-sized concert hall of 3,000. This flexibility not only stirs up civic support of the heritage site, but also offers an unusually versatile outdoor theatre stage, concerts and seasonal celebrations.

(4) Name of Project: Sugar Factory Žnin

The Sugar Refinery, overlooked over Žnin, was erected in the late 19 th century and operated until 2004, processing sugar beets. The factory was closed down due to restructuring of industries and its original buildings were to be totally demolished. The complex was later purchased by ARCHE whose intention was to redevelop these run-down buildings without losing the history of the buildings that generations have brought, their artistic features and various forms of craftsmanship.

Even at the onset of the project, the designers focused on historical preservation, since they kept almost every single part of the old factory, even screws and scraps of iron. Although big-scale complexes of the former sugar refinery have new uses, the forms of the old ones can still be seen. The preservation and introjection of smaller components into the interior design was also able to enable the entire project to still have an organic authenticity. In his first step inside the main building, one feels like it is still in a factory; the interplay of roughness and coziness between

these facets is incredibly provocative and immerses the visitors, whose emotional tones are equally contrasting, and levels of spaciousness are simultaneously intense and dense.

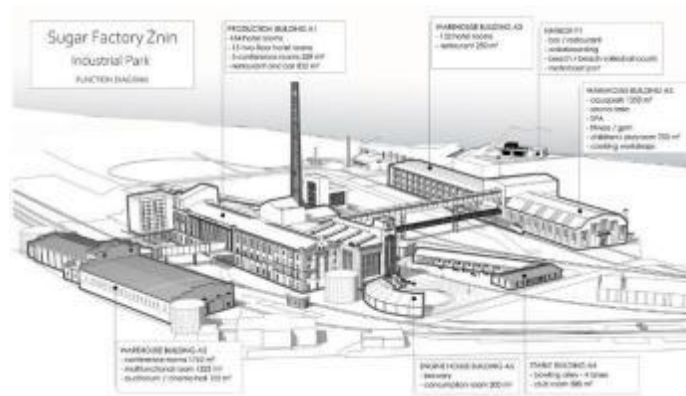


FIG 27 axonometric, functional analysis of the buildings after renovation

<https://www.goood.cn/a-sugar-factory-znin-transformed-into-a-hotel-complex-bulak-projekt.htm>

The complex has 27 buildings in total. No original structures were torn down and they all were reused with new functions in an adaptive manner with some of them still being in construction. The interior design concept is based on forming relationships with the immediate landscape. Old stone tracks were kept together with the industrial objects like trucks pipelines and masts in place. These elements help to bring the whole project together and give the visitor the unique feel of the site as soon as s/he crosses on the entrance gate.

Its central hotel tower is four stars in terms of meeting the standards of guest rooms, dining sectors, and conferences. The second facility is a three-star hotel which is directly linked to water park, spa, club, and a brewery. The third building features an 800-capacity conference hall, complemented by a cinema, a restaurant with event spaces, a marina, a wellness center, and a subsidiary annex designed for future adaptive reuse.



FIG 28 view to the rooms on the upper floors from the lobby

<https://www.gooood.cn/a-sugar-factory-znin-transformed-into-a-hotel-complex-bulak-projekt.htm>



FIG 29 restaurant

<https://www.gooood.cn/a-sugar-factory-znin-transformed-into-a-hotel-complex-bulak-projekt.htm>

Mastering the form of such a complex building proved to be a design challenge, and creating a layout of functions and communication within the vast space was time

consuming. Nevertheless, the architects approached that complexity as a unique asset. Construction required load transfer calculations of the new structures, while reinforcing the old parts. The installation inside the building was incorporated into the interior design, and the firm ensured the conservation of the site's industrial heritage.

Chapter 2 Conclusion

Through analysis of a series of industrial heritage conversion cases both domestically and internationally, the core strategies shared by successful revitalisation projects become evident: profound respect for industrial relics, skilful dialogue between old and new elements, and a transition from single-function to multi-faceted experiences. The transformation of Suzhou Shengze Tanqieu Silk Mill in the category of this so-called low-intervention is a clear indication of how new volumes may be introduced into the original structure, which makes the machinery as well the center of the exhibition. Meanwhile, the concept of digital media as part and parcel of Wuxi Xigang Industrial Park shows how technology plays the role of a medium through which the historical spaces can be not only bridged but also made so as to be exposed to the contemporary audiences. It is the new functional rebirth and the community of Shenzhen O POWER Cultural Arts Centre that is able to create the new spiritual centre, namely the O Space which is the new core of the architecture and ability to reinterpret the original logic of architecture that plays a key role in balancing the past and the future; and examples of projects such as Slovenia Mladinska knjiga Printing House, and Spain Cruzcampo Brewery have shown that a deep comprehension and redefining of the original logic in architecture are the key aspects to ensuring that originality and adaptation go hand in hand. Together, these instances demonstrate that in the case of the single-building renovation of Changzhou Daming Spinning Mill, the thematic trail design must be divided into more than the display panels arrangement. Rather, it should be a danced argument, in which space is medium and narrative in the form of thread. It has to convert the original production processes and architectural features like crane tracks and high windows to the rhythmic of the narration and visual centres of the trail. The blending of the right contemporary art and technological media will produce an all-purpose space within that bears the serious history on the one hand and evokes the contemporary civic response and feelings on the other.

CHAPTER 3

SPATIAL REGENERATION DESIGN OF THE CHANGZHOU DAMING COTTON MILL INDUSTRIAL HERITAGE FROM THE PERSPECTIVE OF THEMED TRAILS

3.1 Project Status

Changzhou is located in the central part of the Yangtze River Delta, with a highly developed transportation system. It is also a member of the cities where the Beijing-Hangzhou Grand Canal runs through the city. This superior geographical location has laid a solid foundation for Changzhou's historical progress, industrial construction and economic prosperity.

Since the 1860s, modern industry and commerce in Changzhou developed along both banks of the Grand Canal, with textile, mechanical manufacturing, energy production and grain processing as the main components. By around the 1910s, Changzhou's industry and commerce entered a stage of rapid expansion, and mechanical manufacturing (especially represented by textile machinery) became the pillar industry of this period. By the 1960s, With the development of the national economy, Changzhou successfully implemented its first five-year plan and advanced the pace of economic construction in an orderly manner, creating a diversified industrial landscape. However, with the implementation of China's "retreat from secondary industry to tertiary industry and from urban areas to industrial parks" strategy and the decline of some industries, a large number of old factories along the canal urban area were shut down or relocated on a large scale, leaving behind a large amount of industrial land. Due to accelerated urban development, many of these industrial sites were demolished to widen roads or repurposed for other uses, leading to the loss of Changzhou's industrial historical and cultural heritage.

In 2008, Changzhou included industrial heritage in the municipal-level cultural protection list for the first time, marking the official beginning of the city's industrial heritage conservation efforts. In the same year, the former Hengyuanchang Factory in Zhonglou District was transformed into the "No. 5 Canal" complex and put into operation. The project included plans for an industrial history archive, a theater, commercial enterprises, dining venues, and youth entrepreneurship spaces. Subsequently, creative parks transformed from industrial sites, such as the Changzhou Guoguang 1937 Science and Technology Cultural Creative Park and the Hei Mudan Science and Technology Park, largely replicated the model of the "No. 5 Canal."

While these parks primarily focused on commercial projects and initially met the travel needs of tourists, the overly homogeneous content eventually led to a decline in visitor numbers for most of these parks.

Changzhou Daming Cotton Mill (hereinafter referred to as "Daming Cotton Mill"), founded in 1921 and formerly known as Limin Cotton Mill, is one of the birthplaces of China's modern cotton textile industry. As the starting point of modern industrial development in the Changwu region, the mill witnessed historical processes such as the relocation of national industries, factory moves during the War of Resistance Against Japan, and the transition to public-private partnerships. It was included in the fourth batch of National Industrial Heritage list in 2020.

The mill covers a vast area and retains core industrial relics such as the spinning workshop, a torch-shaped brick water tower, and cotton cleaning machines, as well as precious archives like Liu Guojun's rosewood furniture and the public-private partnership agreement. The design site of this project is the Tianhong Daming 1921 Pioneer Park (the former site of Daming Yarn Factory) in Wujin District, Changzhou. The 21 historical buildings in the factory, in line with the principle of "repairing the old as the old", retain the old factory red brick and gray tile style of the Republic of China. Building 2 in the factory is idle, covering an area of about 1600 square meters.



FIG 30 Location map and vacant buildings of Daming Yarn Factory in Changzhou (Author's self drawn)

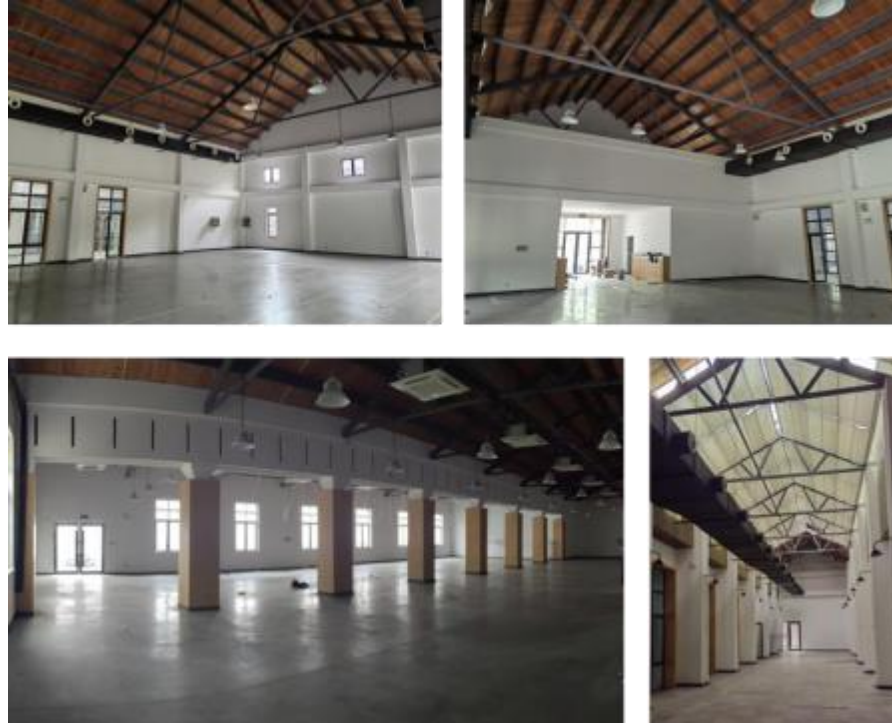


FIG 31 Interior of Building 2 of Daming Yarn Factory in Changzhou (Author's self portrait)

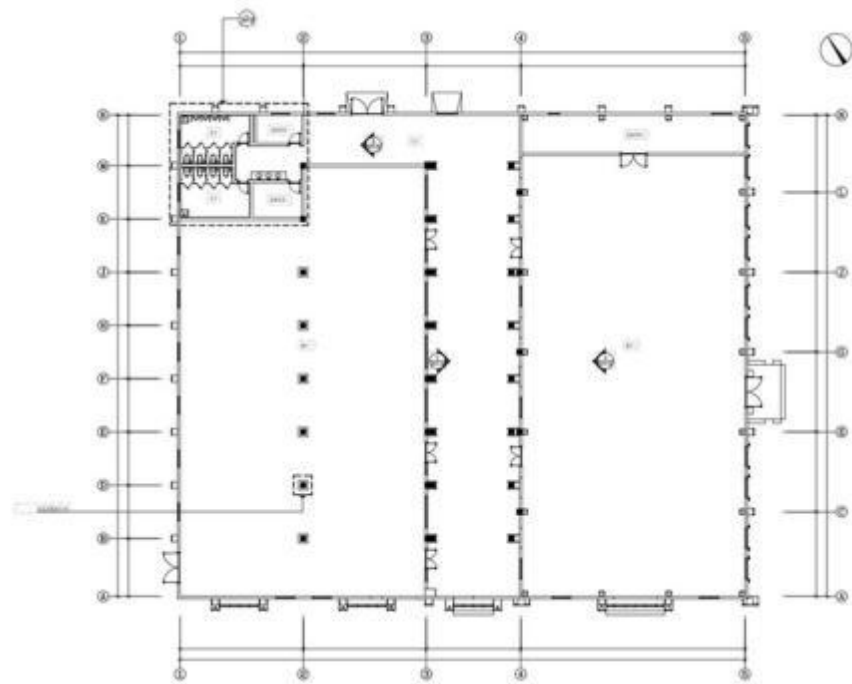


FIG 32 Original structure of Building 2 1 : 100 (Author's self drawn)

3.2 Existing Issues

(1) Homogenized Spatial Adaptation Across Diverse Building Types

The Daming Textile Factory complex features a variety of architectural structures such as workshops, dormitories, and water towers. However, the renovation methods show a similar style, resulting in a significant homogenization of functions. For instance, the earlier workshops were uniformly transformed into standardized office areas. The comprehensive re-paving of the walls and the reconstruction of the layout erased the traces of the original textile production process, leading to a loss of building identity. It makes it impossible for visitors to identify the historical layers. Surveys show that the homogenization rate of similar industrial heritage after renovation and transformation exceeds 60%. This problem weakens the narrative potential of the site, and its economic benefits are mostly reflected in short-term rentals.

(2) Overemphasis on Economic Demands at the Expense of Cultural Value

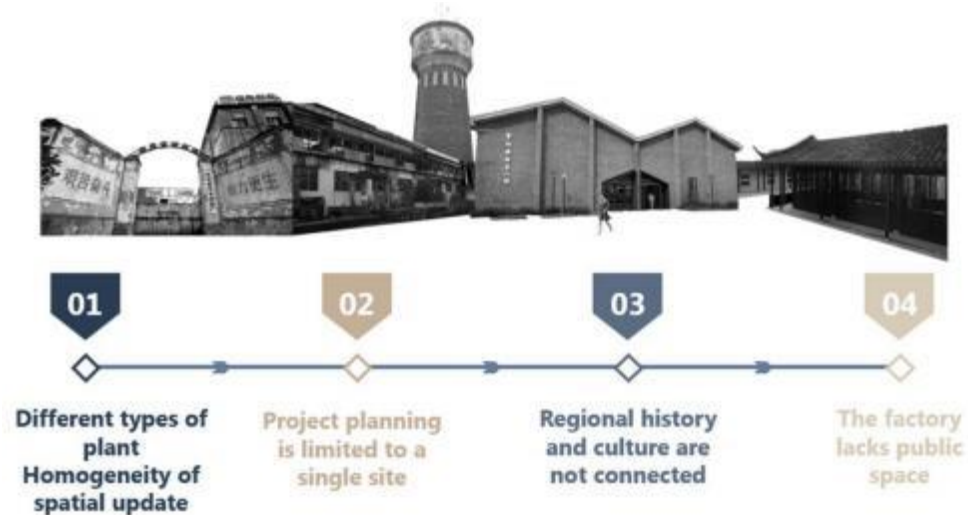
Even though the space has been transformed into shops, the interpretation of culture is not strong enough. It often only relies on scattered information display boards for presentation. In the allocation of funds, economic functions account for about 80%, while the investment in cultural preservation is only about 10%. This is in conflict with the national principle of industrial heritage protection, leading to the continuous loss of cultural value. The visitor satisfaction rate has remained around 75% throughout the year. It truly reflects this unbalanced situation.

(3) Ineffective Integration of Regional History and Culture

The historical buildings in the site are still in an isolated state, making it difficult to piece together a complete industrial history narrative. The presentation path of the century-old story of Changzhou's textile industry lacks continuity and coherence, which has led to a persistently high proportion of lost tourists and a long-term low efficiency in cultural dissemination.

(4) Lack of Public Spaces within Renovated Structures

The interior space of the renovated factory building is spacious and monotonous, lacking seats for rest, interactive areas or dedicated public Spaces. The impact of the absence of such supporting facilities is quite obvious. If no reasonable renovation is carried out, the participation of tourists will still not be high enough - they just browse without engaging in interaction, resulting in a short stay of tourists and an unsatisfactory commercial conversion rate.



3.3 Research Objectives and Significance

(1) Research Objectives

Against the backdrop of rapid urbanization, in response to the common problems of weakened cultural significance and similar renovation methods during the renewal of industrial heritage, this thesis takes the cultural context of "a Century of industry and Commerce" as the core part of the theme, selects representative buildings within Changzhou Daming Textile Factory as the carrier, and attempts to achieve the following research goals through the redesign of their internal Spaces and the creation of thematic paths

a) By using individual buildings as the accommodation carriers, a systematic review and integration of the century-old industrial and commercial cultural elements of Changzhou is carried out. Through the use of indoor space narrative and path guidance, the intrinsic value of industrial heritage is analyzed and displayed in a concentrated and three-dimensional manner within a limited space.

b) Drawing on the successful experiences of revitalizing industrial heritage in the field of architecture both at home and abroad, explore feasible approaches to creating thematic paths within limited Spaces, and formulate effective models for heritage protection, display and utilization at the architectural scale.

c) By renovating the interior environment of the building and planning the visiting routes, enhance its historical education effect and emotional bond role. While increasing residents' sense of identity, convey the unique charm of Changzhou as a historically renowned industrial city to visitors, and contribute to the establishment of the city's cultural brand.

(2) Research Significance

a) Theoretical Significance

Individual industrial heritage buildings are key spatial units that serve as the industrial memory of a city. Currently, most renewal practices focus on the district level but overlook the potential of indoor space in narrative structure. This study mainly focuses on the renovation of the interiors of individual buildings, using thematic approaches to connect spatial scenes and historical content To explore the theoretical approaches for the integrated interpretation of "space-narrative" of industrial heritage at the architectural scale, and to provide theoretical support for the presentation of small-scale, high-concentration and immersive industrial heritage.

b) Practical Significance

As significant physical remains of Changzhou's century-long industrial and commercial culture, the transformation of individual structures within the Daming Cotton Mill holds demonstrative value. Creating an interior themed trail enables the systematic presentation of Changzhou's industrial development within a limited space, fulfilling the dual functions of architectural heritage revitalization and cultural dissemination. The project not only helps enhance residents' sense of belonging and enriches the visitor experience but also provides an actionable practical reference for the partial renewal and content integration of similar industrial building heritage, supporting the realization of Changzhou's goals for cultural-tourism integration and the construction of a famous cultural city.

3.4 Technical roadmap

(1)SWOT

Dimension	Key Points	Specify
Strengths	Profound cultural heritage of Changzhou's century-old industrial and commercial history	The building itself carries the history of Changzhou's industrial development. A thematic route can connect the cultural context of the "century-old industrial and commercial history," creating a narrative space with local characteristics and enhancing differentiated appeal.
	Strong emotional connection among local residents	Local residents have historical memories and emotional attachment to the yarn factory. After renovation, as a cultural exhibition and experience space, it is easier to gain initial user support, facilitating community participation and dissemination.

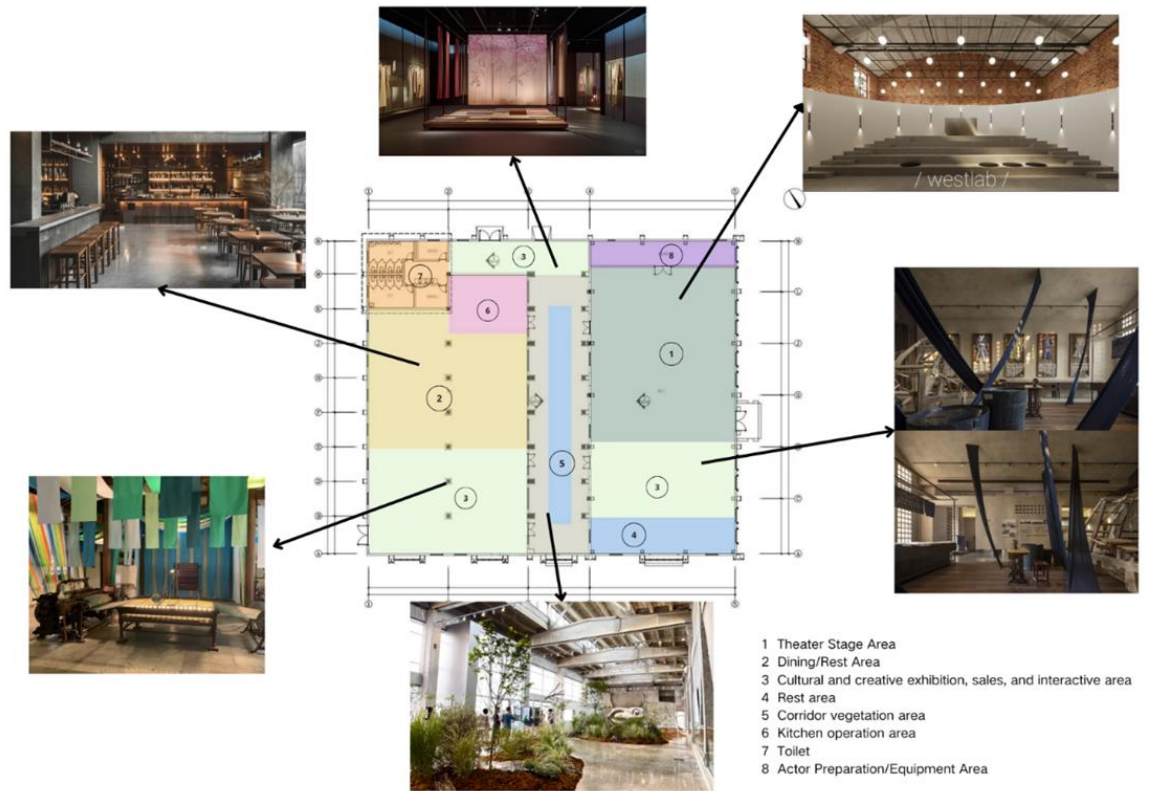
Weaknesses	Aging structure spatial	The original factory structure is outdated, with damaged walls and load-bearing components. The interior layout struggles to meet modern exhibition, visitor flow, and service functional requirements, making renovation challenging.
Opportunities	Growing demand for cultural and leisure activities among residents	Increasing public interest in local history and industrial culture can be met by creating an immersive visiting experience through the indoor thematic route, filling the gap in regional cultural services and enabling functional transformation of the building.
threats	Challenges in integrating cultural expression with contemporary aesthetics	Overemphasis on historical narrative without modern interpretation may fail to resonate. While preserving the industrial aesthetic, integrating modern art and technological methods is essential to enhance interactivity and appeal.

(2) Design Strategy

Design Strategy	Division	Specific design strategy	Core display content/functions	Purpose
Introduce new features	Theater Stage Area	Retain industrial crane tracks and modular seating; incorporate rotating LED screens and projection mapping	Textile-themed performances, cultural lectures, community events	Enable flexible use for both cultural activities and public gatherings
	Main Exhibition Area	Preserve original architectural structures, integrate interactive media walls and archival display systems	Historical textiles, fabric samples, evolution of textile machinery	Balance historical authenticity with modern exhibition needs
	Cultural Creative Zone	Combine reclaimed textile machinery with modular retail displays; use tactile sample walls and digital product catalogs	Local textile-inspired products, craft workshops, DIY fabric printing	Fuse cultural display with creative retail and hands-on experience
	Plant-filled Passageway	“Embedded flower borders” with metal framing; arched glass ceiling and multi-level lighting simulating natural canopy	Seating areas surrounded by plants; subtle textile pattern motifs in finishes	Offer a serene retreat while reflecting local ecological and cultural themes
Integrate into local culture	Dining Area	Suspended gear art installations; wooden and rattan furnishings echoing textile handicraft aesthetics	Themed F&B services, textile pattern-inspired interior decor	Blend industrial heritage with leisure, creating narrative dining experience
	Textile Scene Restoration Area	Reconstruct operational layouts with original looms; incorporate AR demonstrations and soundscapes of historical workshops	Live demonstrations of textile processes, interactive craft stations	Immerse visitors in the historical context and technical practices

3.5 Interior Solutions and Sketches

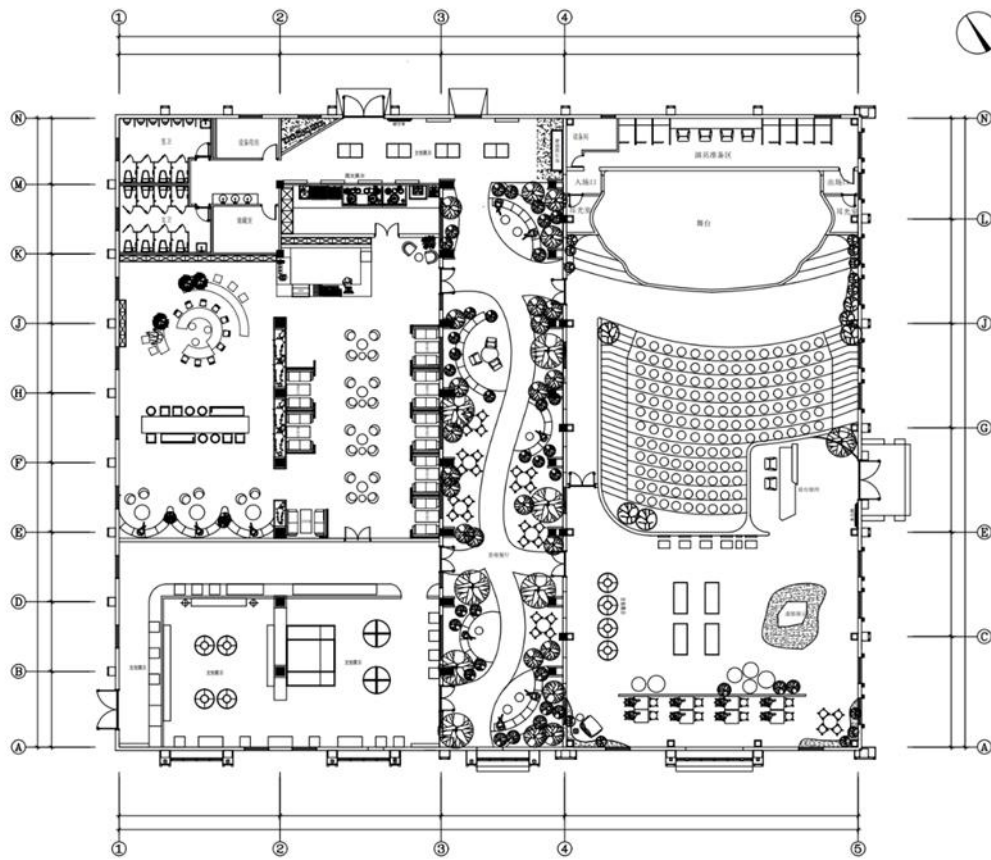
(1) Design Zoning Diagram



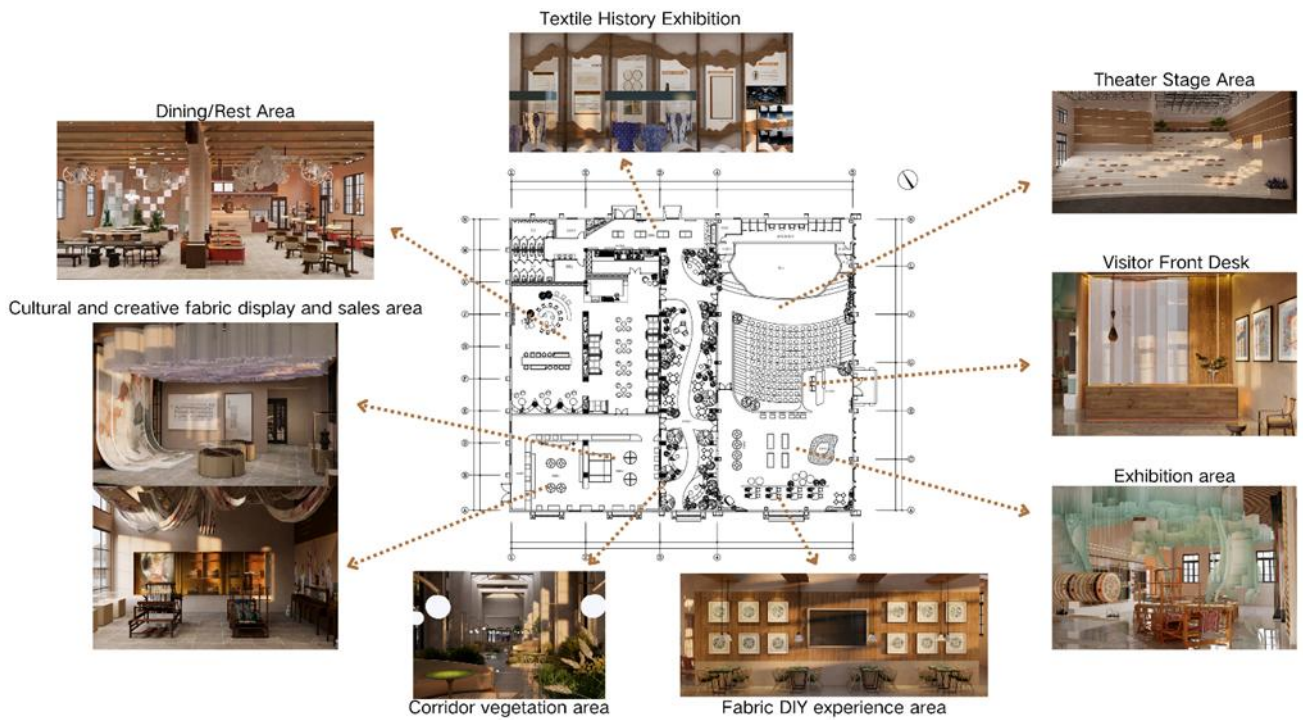
(2) Design Sketches



(3) Floor plan



3.6 Project Design Renderings and Design Philosophy



(1) Multifunctional Theater

The design of this textile exhibition area takes "the narrative nature of textile craftsmanship and the immersive expression of culture" as its core concept. By combining traditional craftsmanship equipment such as looms and dyeing vats with modern exhibition forms like garment frames and display cabinets, it has created a complete functional system of "weaving - dyeing - exhibition", which not only reflects the real operation steps of textile craftsmanship, It has also met the display requirements for a variety of exhibits. The silk fabric hanging from the top, in a pleated shape, echoes the characteristics of textile materials. Combined with the spatial layout that implies the visiting route, it presents traditional textile culture in a modern design language, promoting the integration of craftsmanship inheritance and spatial aesthetics. This allows visitors to directly experience the entire process of textile craftsmanship from production, through dyeing to the final product. It can also immerse oneself in touching the historical heritage and artistic value of textile culture, thereby creating a textile exhibition space environment that is functional, cultural and artistic.





(2) Dining/Rest Area

The dining and relaxation area takes "contemporary translation of textile machinery elements" as the core design point, creating a dining space that integrates the heritage of industrial heritage with a modern leisure atmosphere.

Top installation: A vast array of metal gears and spinning wheel components are suspended from the top in an artistic installation style. This not only echoes the industrial nature of textile machinery but also, through the staggered arrangement and metallic luster, becomes a visual focal point, directly evoking associations with the textile history of the site.

Material resonance: The texture of wooden furniture and the tactile feel of rattan lamps conform to the "handcrafted texture" of textile techniques, achieving a balance between the industrial beauty of mechanical elements and the warm feeling of natural materials.

Layout form and functional zoning: Adopting a "multi-zone composite layout", long tables suitable for group dining, semi-private booths and casual round tables are set up to meet the expectations of diverse social interactions. The addition of green plants soften the boundaries of the space, enhancing the sense of closeness of industrial mechanical elements and improving the relaxation attribute of the rest area.

By transforming the elements of textile machinery from "production tools" to "art installations", while continuing the historical memory of Changzhou's textile industry, an immersive leisure experience is created through humanized planning and a unified color tone, achieving a dual blend of "continuation of historical context" and "modern dining experience", allowing customers to naturally appreciate the historical charm of the textile industry during their meals.



(3) Cultural and creative exhibition, sales, and interactive area

The cultural and creative exhibition and sales area adopts the core design concept of "restoration of textile historical scenes + integration of cultural and creative business tourism", relying on the interweaving of spatial narratives, process demonstrations and commercial activities to create a textile-themed cultural and creative space that integrates cultural experiences with commercial functions.

Immersive restoration of textile history scenes: Traditional textile machinery (such as looms) is displayed in their original scale, recreating the process scenes of textile operations, allowing visitors to directly understand the historical skills of Changzhou's textile industry. The neatly arranged and stacked fabrics on the walls and in the display cabinets reinforce the logic of "from process to finished product", advancing layer by layer.

Symbolic scene creation The large fabric installation suspended from the top imitates the scene of "fabric hanging and drying" in textile production. The wall decoration with classical painting style, combined with traditional furniture (such as carved long tables), recreates the humanistic atmosphere of ancient textile workshops, creating a "touchable and perceptible" historical environment. The material combination mainly consists of warm brown wood and light gray tiles, and is complemented by soft lighting. It not only highlights the simple and elegant style of textile techniques, but also creates a comfortable business environment, ensuring a harmonious and natural transition between the commercial area and the cultural exhibition area.

Seamless integration of cultural and creative business: The display units and circular exhibition stands made of natural wood are not only used to showcase textile cultural relics and craftsmanship details, but also serve as a sales channel for cultural and creative products (such as segmented display fabric samples), achieving the overlap of "cultural display" and "commercial consumption" functions, allowing visitors to directly purchase creative products after mastering the craftsmanship.

Hierarchical spatial narrative: The cloud-patterned lighting installation at the top echoes with the large "cloud-patterned fabric wall", evoking the "pattern design" within textile craftsmanship. At the same time, it enhances the visual hierarchy of the space through artistic means. The cultural relics in the glass display cases (such as bronze vessels) supplement the historical clues of the textile industry and strengthen the rationality of the narrative logic.

Guiding circulation: By relying on the variations in exhibition forms and wall decorations, the layout naturally guides visitors from the "Textile Machinery Exhibition Area" through the "Cultural and Creative Retail Area" to the "Cultural Context Exhibition Area", forming a visiting process of "familiar with craftsmanship - consuming products - appreciating culture", allowing visitors to deeply understand the historical significance of Changzhou's textile industry.

Relying on the model of "historical scene restoration + cultural and creative business tourism integration", this design has achieved the cultural display effect of Changzhou's textile machinery and craftsmanship scenes, and also built a sales platform for creative fabric products, transforming cultural value into consumption experience, and ultimately realizing the dual vision of "inheriting textile history and stimulating the potential of cultural and creative consumption".





(4) Fabric and Textile History Exhibition Area

The Textile History exhibition area takes "inheriting the historical and cultural heritage of Changzhou's textile industry" as its core objective. By comprehensively utilizing spatial layout, exhibition methods and material language, it creates a display context that combines historical narrative effects with artistic appeal. Spatial layout and exhibition logic Adopting a layout arrangement of "linear narrative + contextualized exhibition", the walls use "mountain-shaped wooden display stands" to present the stories of famous people and the changes in craftsmanship in the history of Changzhou's textile industry in stages, just like a "gradually unfolding long scroll of textile history". The glass display cabinets focus on "clothing and craft objects", and use "visual interpretation + tactile perception" to complete the double-layer transmission of information. It prompts visitors to gradually strengthen their understanding from the historical context to the details of the craftsmanship.

Material and symbolic metaphor: The "mountain shape" of the wooden display stand echoes the landform features of Changzhou and subtly conveys the meaning of the "continuous" textile industry. The combination of warm-toned micro-cement walls and marble floors harmonizes the historical weight with the refinement of modern space, ensuring that the exhibition content remains the visual focus at all times.

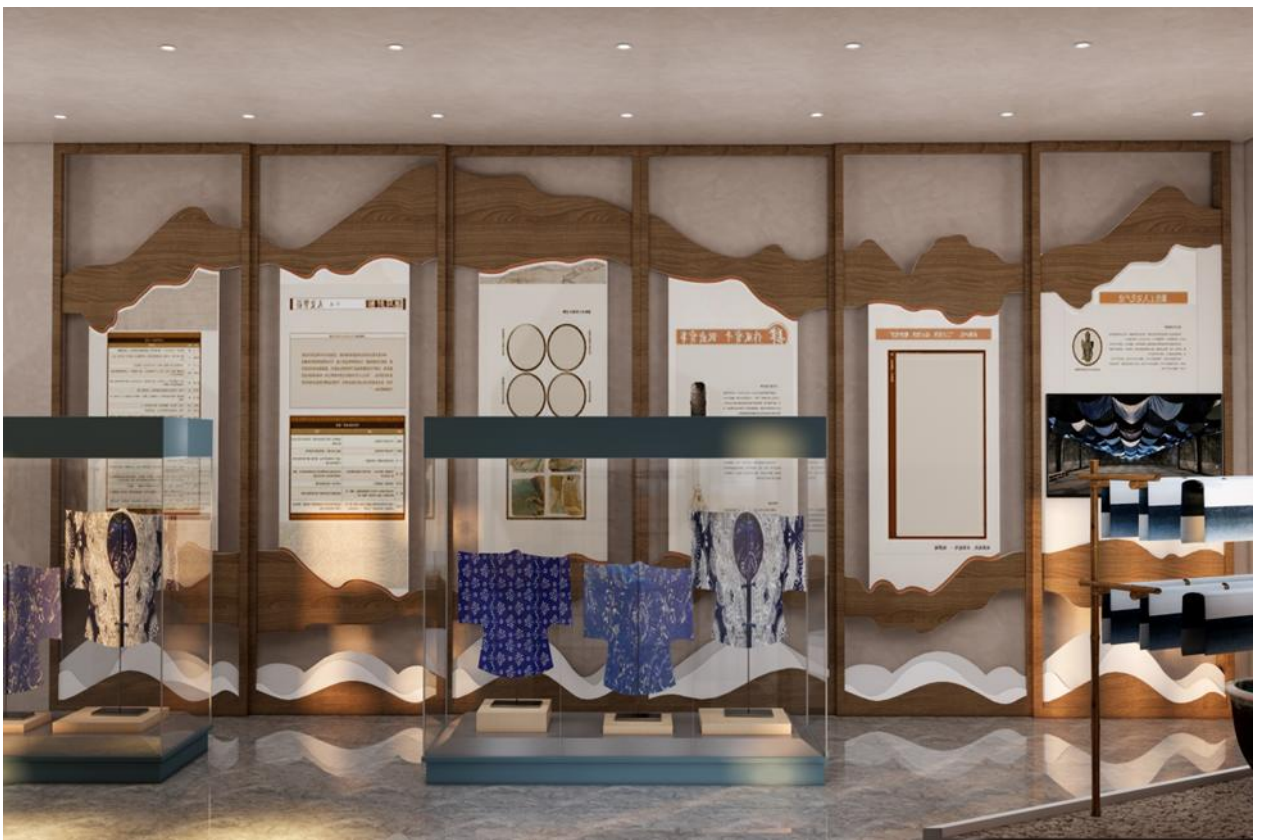
Lighting and atmosphere creation: The top-mounted embedded lighting is combined with the key lighting of the display cabinets, maintaining the overall brightness while highlighting the texture details of the clothing and fabrics, creating a "museum-level" professional display atmosphere and assisting visitors in immersive exploration.

Integration of function and culture: Adopting the design concept of "integrating textile art into life", the classic patterns of Changzhou textiles (such as blue and white printed fabric patterns) are implanted into the dining space in the form of artistic picture frames, extending textile culture from the "exhibition hall" to the actual "life scene", achieving a seamless integration of cultural dissemination and daily life.

Through the strategy of "zonal narrative + contextual infiltration", this design systematically presents the achievements of famous people and their craft clothing in the cultural exhibition area, and adds textile art to life scenes in the experience area, achieving a combination of "professional historical transmission" and "people-friendly cultural dissemination". This enables visitors to deeply understand the textile heritage of Changzhou while Experience the

contemporary charm of textile craftsmanship in a life-like context.





(5) Corridor vegetation area

The green rest corridor presents a high-quality rest space that blends natural charm with understated luxury. The overall structure adopts a longitudinally extending corridor layout. Through staggered height, arched elements and glass canopies, a spacious and grand sense of scale is formed. Green plants are distributed in the form of "embedded flower beds", interwoven and integrated with the winding roads and arc-shaped rest areas, bringing a "changing scenery with every step" viewing experience.

In terms of material and color, the hard decoration features light grey micro-cement walls paired with light beige metal components (curved seats, lamp stands), presenting a refined and high-end texture. The floor is made of high-gloss marble, which enhances the depth of the space through the reflection of light and shadow.

The soft furnishings adopt a color scheme of "natural green + luxurious gold" : the green plants are a combination of ferns, miscanthus and shrubs, creating a vibrant and lively atmosphere like an "indoor botanical garden". The golden metal structure (lamps, seat frames) endows it with a light luxury quality and balances the atmosphere of the space.

The lighting design adopts a "multi-level lighting system" : natural sky light is introduced through a glass ceiling, creating warm and soft basic lighting. The spherical incandescent lamps and glass-covered lamps on the wall serve as point light sources, which not only meet the functional lighting requirements but also become decorative highlights with their metallic luster. The "tree-shaped lights" scattered all over the rest area simulate the appearance of natural tree shade light spots, adding an immersive experience to the scene.

In terms of functionality and atmosphere, the space integrates the functions of "rest, socializing and viewing". The round tables surrounded by green plants and the curved seats provide visitors with comfortable places to stay. The natural atmosphere of the plants contrasts sharply with the exquisite metal details, creating a sense of an "urban secret realm" that can relax both the body and mind, and conveying the design essence of "natural luxury".





(6) Theater Stage Area

The stage area renderings present a composite functional space where cultural narrative and public interaction are integrated, which is highly consistent with the design goals of "inheriting the textile history of Changzhou" and "serving the public community life".

The space adopts a stepped theater layout. The audience area is designed with "gradually ascending arc-shaped steps" to create an unobstructed view of the performance. It not only features flexible and layered seating arrangements but also serves as a multi-functional area for residents' daily socializing, relaxation, and activities. It can host small markets, community sharing sessions, etc. The stage area and the audience area form an "enclosed interactive space". It not only meets the technical requirements for performing textile history-themed plays, but also, with its open layout, serves as a "public living room" for daily community gatherings.

The application of materials mainly consists of natural wood (used for stage floors and wall decorations) and warm-toned micro cement (used for audience steps). The simple charm of wood echoes the "handcrafted texture" of the textile industry and the warmth of traditional Changzhou craftsmanship. The simple micro cement introduces a modern atmosphere, taking into

account both the historical weight and modern aesthetic concepts.

The top matrix point lighting system is reminiscent of the "interwoven warp and weft" shape of a loom. It can create various scenes with dynamic lighting, focusing on the stage for illumination during performances and providing ambient light in normal times.

Large Windows bring in natural light, blending it with artificial lighting. During the day, it creates a bright and open public activity space, and at night, it transforms into an immersive theater, achieving the construction of "multiple scenes in one space". In terms of the textile history exhibition, the professional stage is equipped with large screens, side screens and curtains to support the multimedia narrative, and the stepped seating achieves an immersive experience effect. By using symbolic techniques of wood and linear elements, the space itself serves as an exhibition carrier for "textile culture". As a public space belonging to the residents, the open steps break the existing formal boundaries of traditional theaters, allowing for free seating to carry out small-scale activities. Floral arrangements and natural light add a warm atmosphere, extending the space from a "professional theater" to a "community living room", and truly realizing the public value of cultural venues.

Relying on spatial flexibility, materials that can resonate with culture and functional complexity, this design achieves an expression at the artistic level of textile history and then builds a friendly public life scene for citizens.





Chapter 3 Conclusion

This chapter adopts the theoretical framework and design strategy of the thematic approach and applies it to the interior renovation practice of the No. 2 building of Changzhou Daming Textile Factory. Facing core issues such as aging spatial structure, fragmented historical narrative and lack of publicness, the design proposes to take the "century-old industry and commerce" cultural narrative as the main line and adopt two major strategies: "functional implantation" and "integration of regional cultural context". Transform the previously idle industrial space into a narrative experience area integrating exhibition, theater, cultural and creative industries, and leisure. The design of nodes such as the multi-functional theater, theme exhibition areas, cultural and creative interaction zones, and green corridors is not merely a simple stacking of functions. Instead, it is arranged in a spatial sequence based on the inherent logic of the textile industry, which is "raw materials - production - products - culture", creating an indoor path that is coherent and orderly with ups and downs. The spatial atmosphere depicted in the renderings clearly conveys a philosophical balance between "authenticity" and "adaptability" : retaining the original brick walls, structural components and mechanical imagery to anchor historical memories, while incorporating modern materials, digital media and flexible layouts to

meet contemporary usage requirements. By adopting the meticulously constructed spatial "narrative technique", individual industrial buildings are fully capable of transcending physical boundaries and becoming cultural carriers that can perceive and condense the industrial spirit of the city, ultimately achieving a complete transformation from "idle factories" to "urban cultural living rooms".

GENERAL CONCLUSION

This thesis takes the "thematic approach" as the core methodology and conducts a systematic exploration from theoretical explanation to spatial design on the interior renewal of the single building of Changzhou Daming Textile Factory. The research breaks through the traditional style of simply regarding the transformation of industrial heritage as "spatial function replacement", and presents a new paradigm of "narrative space creation". Under the conditions of this paradigm, Design is not merely about partition walls and style modification, but rather about opening up an immersive indoor cultural path, transforming the grand historical narrative of "a Century of Industry and Commerce" into a perceptible, interactive and long-lasting spatial syntax.

The main conclusions and contributions of this study can be summarized as follows:

From a theoretical perspective, this paper verifies the value of the "thematic path" as a planning tool. It not only connects geographically scattered heritage sites but also has the potential to be internalized within individual buildings and link fragmented historical information with spatial perception. By establishing a logical closed loop of "space - memory - narrative", The design transforms the flat exhibition into a story venue with temporal depth and emotional warmth, providing an architectural scale solution to the predicament of "insufficient exploration of cultural value" in industrial heritage.

From a strategic perspective, this study has compiled a set of "spatial narrative design rules" for ordinary industrial heritage, which are specifically manifested as: using real textile machinery as "anchor points" to solidify collective memory; Using streamlined design as the "skeleton", the original production process is simulated and translated to generate a logically coherent visiting route. With the superimposition of the new and the old as the "language", the interaction between modern materials and historical textures highlights the weight of time. By

using composite functions as "plots", emerging business forms such as theaters and cultural and creative industries become modern footnotes to historical stories. This set of rules makes the building itself the core medium of narrative, transcending the traditional method of explanation that relies on display boards.

In terms of paradigmatic significance, the design concept of "narration-driven space and culture-empowered function" practiced in this project provides a highly instructive demonstration model for a large number of ordinary industrial heritages facing renewal challenges in Chinese cities. It demonstrates that even without large-scale regional collaboration, adopting a refined indoor "narrative method" can be a significant approach. Ordinary old factories are definitely capable of shouldering the profound mission of telling the city's story, consolidating collective memory and fostering cultural identity, and eventually transforming from industrial "fossils" of the past stage into dynamic "sources" for the future.

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