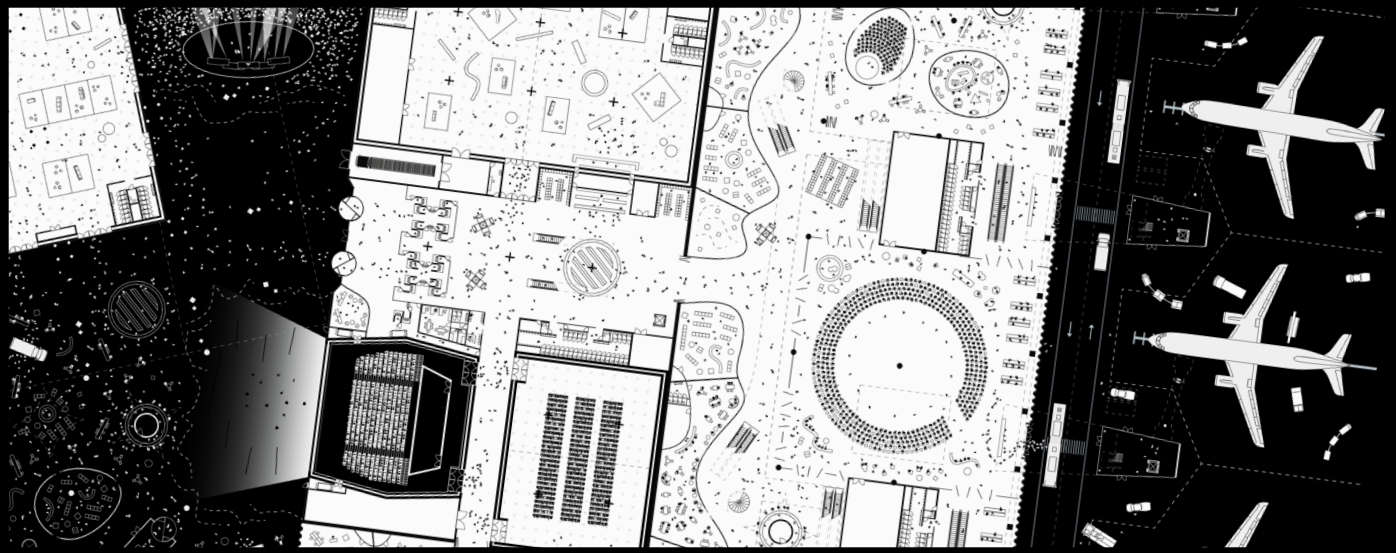
AEROPORTO FIERA MILANO LINATE



AIRPORT EXPERIENCE MACHINE

RESEARCH PLAN PAPER

complex CP projects

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Complex Projects
Bodies and Building Milan
Graduation Studio
AR3CP100

Delft University of Technology
Department of Architecture

Geert Reinders Muñoz
5326931

chair
Kees Kaan

lab coordinator
Hrvoje Smidihen

tutors
Benjamin Groothuijse
Masha Finagina
Joost Woertman

Bodies & Building Milan

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TU Delft

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Introduction

Change is constant: customers change, the industry changes, and regulations change (Boudreau et al., 2016). As global government priorities shift towards sustainability and modernization, airports face growing challenges negatively shaping the industry. Rising security demands, air traffic congestion, and labour shortages are straining service quality and diminishing the passenger experience (AIR, 2024). Passengers find airports to be high-stress environments marked by uncertainty, long queues, obtrusive security measures, unhelpful staff, dingy restrooms, crowded gate areas, and little to smile about (AIR, 2024; Boudreau et al., 2016).

Brunini (2024) highlights the need to "bring back the magic of flying." Today, most airports primarily address utilitarian needs, focusing on efficiently processing large volumes of travellers, with less emphasis on enhancing passenger services (Boudreau et al., 2016). Airport programs reflect this trend, with airports like Milan Linate displaying a monotonous approach with lack of engaging activities. Aviation research highlights how global airport passenger satisfaction has reduced overall. Milan Linate is a notably an exception and scores above average across Europe, achieving positive ratings not through expanded passenger activities, but by optimizing efficiency and reducing wait times. This is made possible due its integration of advanced smart security infrastructure (ASQ, 2024).

This functional approach reflects a broader trend: airports are increasingly seen as spaces to endure rather than enjoy, with passengers hurrying through to escape the stress. But is this the experience we want for airports? Could we instead reimagine them as 'destinations', engaging places to experience, instead of places to endure? This issue has been observed globally, with certain benchmark airports demonstrating an effective shift in focus toward improving passenger experience.

'We need to bring back the magic of flying.'

Fig. 1:
Interview with CEO of SEA Milan Airports. (ACI, 2024).

Given Milan's rich culture of temporary events, there is untapped potential to transform airports into destinations. Airports could serve as event-driven multifunctional venues, hosting concerts, festivals, art exhibitions, or culinary events that engage both locals and travellers.

In making such an event-driven destinations, airports are also unique, especially when considering the potential of their efficient infrastructure. Its security infrastructure could be harnessed to create safe and stress-free environments, fostering a sense of safety to positively improve social behaviour and experience. Spaces could become places for education, entertainment, and relaxation, allowing airports to play an integral role as social enhancers.

By leveraging the airport's efficient foundational services, such as restrooms and corridor spaces, it would be possible to support such a totally new ecosystem, creating a seamless integration of functions. Hosting large-scale, temporary events within the airport's secure zone could also reduce stress on nearby urban centres and minimize travel demands for artists, offering a new approach to event organization and space utilization within airports. Airports could transition from being stress-filled environments to destinations that enhance passenger satisfaction, attracting both locals and tourists with unique experiences.

Fig. 2:
Passenger experience as architectural element. (DAB, 2020).

Essentially, this research aims to answer the main research question:

'How can airports be reimagined as destinations beyond travel to create engaging event-based experiences?'

This will be done by answering several different sub-questions:

'How can airports be designed to transition from occasional visit buildings to daily visit buildings',

'How can Milan Linate Airport be designed as a destination by leveraging Milan's event calendar and cultural identity?' and

'How can an airport's security infrastructure be leveraged to foster a sense of safety to positively improve social behaviour and experience'.

Research Framework

The research framework draws from a variety of theories and sources to explore the concept of an airport as a destination. Additionally, a summary on airport evolution will describe the shifts into contemporary times.

Place-making

Marc Augé's 'Non-Places' theory (1995) can help guide the transition of airports from 'occasional visit' spaces into 'daily visit' buildings by redefining their purpose and spatial design to foster deeper human connections and a 'sense of place'. Augé created the term 'non-places' to describe transit spaces, like airports, highways, and shopping malls, where individuals experience an absence of identity, history, and social connection. In such non-places, people are present only temporarily, usually with no meaningful engagement with the space itself or with others in that space.

To make airports appealing as daily destinations, we could reimagine them beyond 'non-places' by introducing elements that build identity and community. This could include local cultural displays, community events and multifunctional spaces. The key lies in creating environments that cultivate a sense of place, where visitors can feel a connection to the space and the local culture. This sense of place would encourage repeat visits, inviting locals to use the airport as an engaging integral part of the city.

'**Passenger experience**

Its definition being a multi-faceted concept, shaped by emotion, social context, and functional interaction throughout the travel journey. An 'experience' as the direct observation of or participation in events as a basis of knowledge; something personally encountered, undergone, or lived through. The overall journey and feeling users have as they move through various stages of space and travel'(Merriam-Webster, 2024; Wattanacharoensil et al., 2017).

The 'Experience Economy' theory of Pine & Gilmore (1998) posits that customers seek memorable experiences rather than just products or services. For airports, the theory encourages the creation of engaging experiences that cater to the emotional and sensory aspects of the passenger journey, integrating elements such as local culture, art, and entertainment. It means designing environments and experiences that go beyond functional needs is essential.

The guidebook by Boudreau et al. (2016) offers insights into improving customer service and increasing satisfaction at airports. It highlights key drivers of passenger satisfaction and explores strategies that engage staff and stakeholders in enhancing the airport experience. The source emphasizes the role of innovation and rapidly advancing technologies in meeting travelers' evolving needs, supporting the idea of adopting bold, unique strategies to stay competitive in a dynamic environment.

Moon et al. (2017) further explores how airport environments, particularly perceptions of safety, influence passenger satisfaction and behaviour. They highlight that a secure, well-maintained environment positively affects behaviours such as revisiting or recommending the airport. Together, these insights suggest that blending innovation with safety and comfort is essential for transforming airports into dynamic, appealing destinations.

Temporality

Bianchini's theory of 'event space' (1999) refers to how certain urban spaces, can shift in their function based on time. These spaces could host various events at different times of day or year, allowing for the same space to serve different purposes. The underlining of this theory could essentially be adapted towards buildings that include large public areas such as airports. Through this theory we could understand airports as a 'urban' venue that could host multiple types of events in a flexible, time-bound manner.

Smart airports

The 'Space syntax' theory of Hillier & Hanson (1984) examines how the spatial layout of environments can influence human behaviour and interaction. In the context of airports, Space Syntax theory suggests that the design and arrangement of spaces can significantly impact passenger flow, social interaction, and overall satisfaction. Space Syntax also suggests that integrating public and secure areas without physical partitions can enhance both functionality and the perception of safety, which are crucial in creating a welcoming and efficient space. By using emerging technologies to support this seamless integration, airports can be designed as multifunctional hubs that foster positive passenger experiences, as passengers are encouraged to dwell longer, interact more, and ultimately engage with the airport as a destination rather than just a transit point.

The article by Sharma (2024) provides guiding insights on the transition towards such Smart Airports. The research specifically examines how passengers perceive and respond to this technology in airports and its effect on the sector's competitiveness. It emphasizes the need for modernization to support safe, efficient, and seamless passenger experiences.

Emerging technologies, like seamless biometric processing, may further facilitate access, creating spaces where visitors move freely without restrictive partitions between public and secure areas, enabling more fluid, multi-use interactions. Such an efficient environment offers the opportunity to create a sense of user safety and comfort leading to enhanced user satisfaction, dwell time and increased revenue (Hassan et al., 2023). Essentially, creating the base need for the ideal 'destination'.

Towards destinations

In the 1920s and 1930s, the excitement around flight fuelled the demand for the first aerodromes, which were simple fields with minimal facilities. Some of these expanded to meet the demands of commercial and military aviation, leading to the first purpose-built airports (Sennott, 2004). Terminal buildings were utilitarian, influenced by 19th-century train station designs prioritizing efficiency and logistics (Sennott, 2004). Notable examples include Schiphol International Terminal (1928) and Berlin Tempelhof Airport (1923-1936) and the early Rheims Aerodrome (1909).

The post-WWII era saw the 'Jet-Age', a surge in commercial air travel, making air travel more accessible, faster, and efficient, although still very much utilitarian. However, a few airports began enhancing passenger experience, with the TWA Flight Center at JFK Airport (1962), being one of the first to engage travellers emotionally (Sennott, 2004).

The first stringent safety regulations were due in the 70s to global terrorism established clear divisions between secure and open areas (Sennott, 2004). Slowly terminals evolved into complex megastructures, adapting to changing aircraft sizes and passenger needs. Notable examples Terminal 1 of Charles de Gaulle International Airport, Roisy-en-France (1974).

The 1978 airline deregulation increased competition among airports, prompting them to diversify revenue through non-aviation activities. This led to the rise of passenger services and activities. In recent decades, mass air travel has transformed terminal design. Following the September 11 attacks, security measures were overhauled, implementing advanced screening technologies.

Airports have started shifting from purely functional to multifunctional destinations, also investing in high-tech innovations like self-service kiosks and biometric identification (Electrosonic, 2023). Some modern airports, like Singapore's Jewel Changi Airport (2014), have started to resemble city-like environments, attracting locals and travellers, serving as significant economic hubs and drivers of regional growth (Kasarda, 2014). Will such city-like airports define the next "Jet Age" of airports? If so, designing for this next age could mean considering adaptability, innovation, technological integration, and environmental responsibility to meet the future's unknown challenges and opportunities.

Fig. 3:
Airport evolution.
(Airporthistory, 2024).

Methodology

The research will follow a structured approach, focusing on the specific themes of site, client, and program. The research will include a broad qualitative approach to data collection and analysis. Drawing will help visualize initial ideas, abstract concepts, and refine details. Modelling, whether physical or digital, will provide a tactile and visual understanding of scale, form, and materiality, allowing for iterative experimentation with spatial configurations. Scenario planning by creating hypothetical use cases will allow for an exploration of how spaces perform under varying conditions. Literature review and online resource analysis have been effective in helping to understand key context, such as information about the client, relevant design theories, statistical data, trends, and historical background. This approach will continue to provide valuable insights, supporting the anticipation of design challenges and informing strategic decisions related to program, sustainability, circulation, accessibility, and user experience.

Lens

Guided by complex studio's Bodies and Building framework, the main approach to research the multifaceted cityscape of Milan, is the forming of a thematic lens. In this case a cultural lens, defined and developed as a group into the research strategy and vision 'the city of temporality', reflecting into Milan's cultural identity and year-round temporality of events. Whitin the lens each individual assignment, includes a different building case within the three types: flows, area and space. For airports, the topic aligns with flows, as airports configurate to design for the movement of people and circulation through space. Three distinct lenses will offer unique approaches to building types, resulting in varied design outcomes influenced by each perspective. Within this context, the various outcomes will be compared to assess their contrasts or synergies.

Case studies

Case studies, including the design site case, will play a critical role in supporting the research through a comparative strategy. By analysing various examples of airports, their sites, client, specifications and program requirements, a more comprehensive understanding of how airports function can be developed. Through the methods of re-drawing, re-modelling and abstracting, this approach will help identify common trends, successful design elements, and potential challenges faced by similar projects. The analysis of these case studies will allow for informed decisions on what to include or avoid, such as for program, user experience, client ambitions. This will be particularly important as the design task involves starting from scratch, treating the design site as if it were a completely empty with little prior structures or considerations.

Site visit

A site visit will include the broaden and holistic understanding of the site's environment, encompassing not only the immediate location but also its broader cultural, economic, and operational context within the surrounding area. Observing the people, activities, and the feel of spaces under real-world conditions, will be useful to reveal unique characteristics that might be overlooked in secondary resources. Additionally, being in the physical space often leads to innovative ideas and deeper engagement.

Fig. 4:
Milan Linate airport 1973.
(Directorty, 2024).

Conclusion

Airports are unique systems of intersection of many architectural topics. Its design involves themes such as the layering of functions, zoning, efficiency, technology, sustainability, and user experience. Its complexity makes them the ideal case to learn and experiment with, while exploring evolving design practices and innovative solutions.

Milan Linate Airport, the context site of research, is one of Milan's primary airports, located approximately 8 km from the city centre, making it highly accessible compared to the larger, more distant Malpensa Airport. Originally built in the 1930s, Linate Airport has historically served as Milan's primary business and short-haul airport, catering largely to domestic and European flights due to its convenient location and more compact size. Linate Airport's 2018 renovations turned it into a functional yet stylish space, featuring open, bright areas, modern shopping, and lounges with sleek Italian design. The airport is focussing on reducing its carbon footprint and efficiency. The latter is enhanced through the integration of smart technology: automated check-in kiosks, biometric boarding systems, and improved passenger flow management, reducing wait times and streamlining operations.

These advancements align Linate with broader worldwide shifts towards the 'city-like airport age': integration of sustainability, smart technology, multifunctionality and enhanced user experiences. As airports rethink their strategies, they face the challenge of balancing operational efficiency with improving user experience.

This research seeks to explore this challenge by applying a bold strategy, demonstrating the potential of the new age with innovative solutions. Essentially, to create airports as dynamic, multifunctional spaces that blend efficiency with cultural and social significance, enhancing the sense of place and overall user experience.

This bold strategy will include presenting the airport as a cultural event-based venue and as 'destination', to attract locals and travellers, merging efficient airport functionality with new program. This will be done as Milan presents an opportunity as cultural city, hosting numerous events all year-round. Additionally, also to respond to mega-concerts of icons like Beyoncé or Taylor Swift, that can be seen as cultural phenomena. These events that attract large audiences globally in such way that they ignite 'Swiftflation', by injecting enormous amounts of consumer spending (Agrawal, 2023). As result, it is interesting to research the dynamics of such events, to host and accommodate such artists and their audiences to profit from its economic and cultural value.

Merging the functionality of travel with the new program will present a key challenge. While the specific new program will be found out through research, it is anticipated that the airport must reflect Milan's cultural identity. It should include flexible spaces, that serve multiple functions such as museums, education centres, business hubs, and most importantly venues for temporal events like concerts, festivals or fashion shows. The airport will adapt a flexible strategy of temporality were program and functions change, throughout time, to social needs and events. Areas around the site like parks will also be included in this. The airport will literarily serve as a 'billboard' for Milan's identity, also including screen areas.

To support this new 'destination' leveraging efficient airport infrastructure will be key. Efficiency, such as of airport restrooms, halls, and security will be leveraged to support the venue program that will be placed within the secure international zone. Research will focus how emerging security systems, such as biometric processing, could enhance safety, user experience, optimize flows and provide for seamless connectivity between the public and secure zone's.

Fig. 5:
Milan Linate airport now.
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