# REFLECTION

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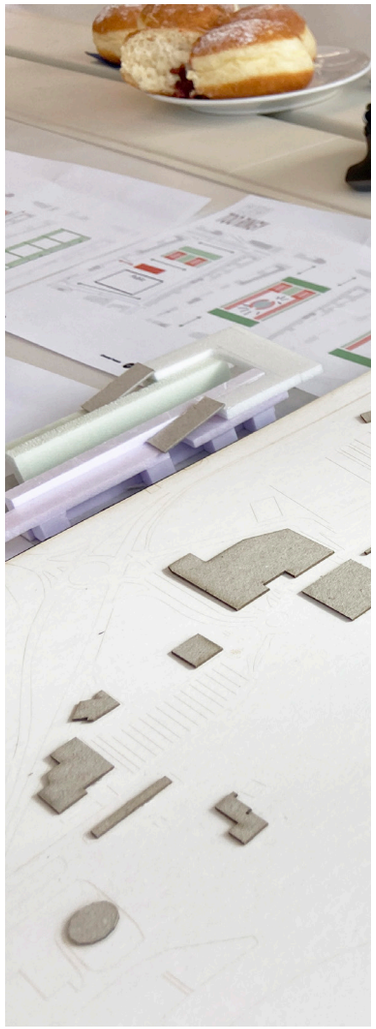
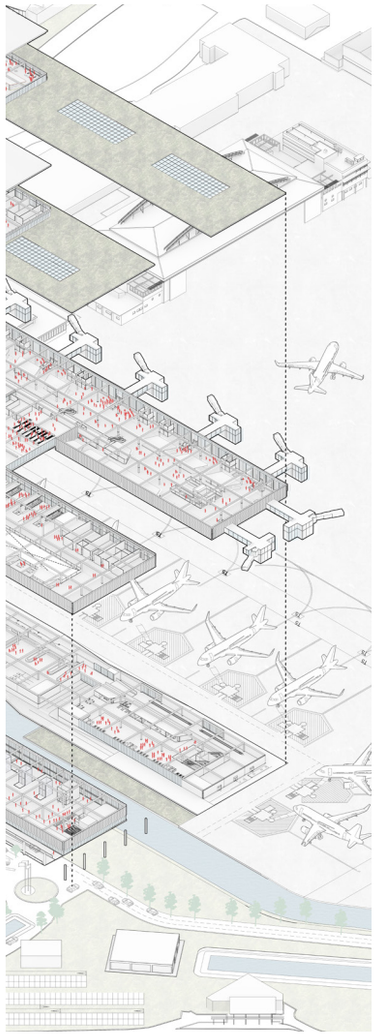
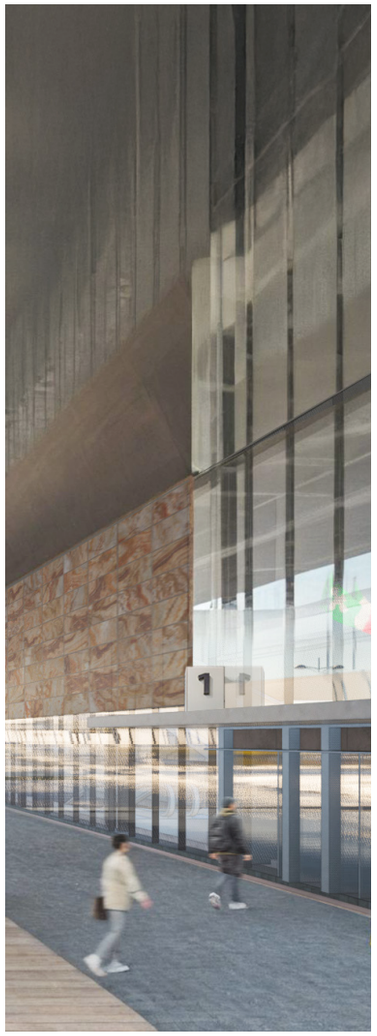
Complex Projects: Bodies and Building Milan








**Project description:**

From Site to Flight: Idroscalo City Airport, Milan, is a research and design project of a medium-scale airport in Milan, Italy. Using the real-world airport of Milan-Linate as a starting point, it studies the qualities of existing airport architecture and proposes how newly built airports could be designed to be more site-specific, user-oriented, and connected to their respective context. The title refers to the goal of physically and conceptually reconnecting the airport with Idroscalo Park, a historic basin for water planes that today serves as a recreation area.

**Aspect 1:**
**The relationship between research and design.**

The research phase revealed that airports tend to be sterile and confusing buildings for users. Economic, technical, and cultural forces over the 20th century have shaped many airports into sprawling, illegible clusters of facilities that prioritize efficiency. As a result, airports are often so generic they disorient users and offer little connection to place or time, negatively affecting both travelers and non-flying visitors.

In the research phase of studying the existing real-world airports, identifying qualities that created genericity came relatively easily, but then proposing actionable design requirements proved more challenging. This can be attributed to the intangible nature of a design project of this type. In more empirical fields of science, prototypes and data can be collected. This is more difficult in architecture as one's perception of sense and time is ultimately subjective.

However, even if there are no objective tools to measure the success of the project's placemaking ambitions, there is still value in the research. Placemaking is based on theories of environmental psychology, as well as hard science that has proven humans experience less stress around nature, and benefit from social interactions for example. Taking these concepts into real spatial solutions can be considered an extension of this scientific knowledge, even if it is less empirical.

**Aspect 2:**
**Research method and approach chosen by the student in relation to the studio.**

The project is a product of the following research process:

*1) Literature review & research question:*

The research question was developed through a literature review exploring airports from theoretical, cultural, and architectural history perspectives. Digital archives from the municipality of Milan uncovered the unique role of Linate's site in establishing the Italian aviation industry and outdoor recreation in an increasingly intensifying city. During this phase, I faced a critical fork in the road: whether to pursue a more grounded airport based on Linate and existing airports, or whether to go for a more speculative, sci-fi exploration about the future of aviation. In other words, would the airport be for traditional planes, hydrogen planes, or air taxis? Ultimately, I opted for the first option as I felt it would provide more useful design constraints to challenge myself, and I could also reference my personal experience traveling through various airports to a productive effect. My efforts could be spent on the design of the building, instead of researching aerospace engineering topics.

*2) Precedent study:*

As per the structure of the studio, the existing real-world airport of Linate served as the main precedent for understanding the functional requirements of an airport. As I have never designed an airport or an infrastructural project of comparable scale during my studies, this helped me establish a baseline understanding of dimensioning spaces.

*3) Conceptual design:*

This phase involved an extensive massing study with foam to explore alternatives, with special emphasis on how to situate the building mass on the site and how to organize the land and airside volumes. This phase proved my intuition that physically locating the airport near the water would provide the strongest opportunity for relating users to the site.

*4) Design development:*

In this stage, I emphasized the floor plan. I felt successful in achieving a practical and efficient airport layout in a few weeks, but struggled with introducing architectural character. Navigating the design with 3D views forced me to think and perceive the building from the user's perspective, helping me identify major blind spots that I've sought to address, particularly in the spatial quality of the meet and greet hall on the ground level.

**Aspect 3:**
**The relationship between graduation topic and studio topic.**

Airport design is directly linked to the Complex Project's overarching topic of "Bodies and Building" and its subtopic of "Places of Flows." Airports epitomize these categories because they act like a processor that uploads and offloads passengers from planes as efficiently as possible. It is a large-scale, infrastructure-oriented building through which multiple moving bodies (passengers, staff, baggage) circulate. In addition to physical people and goods that flow through this larger building, so do more intangible aspects like memories, ideas, and social interactions. The airport must accommodate all these elements, making it a complex building type. This project prioritises the latter, more human-centered needs that have historically been lacking.

The general studio topic is to distill complex building types with many operations and functional requirements into an efficient and outwardly simple design. Site to Flight pushes back on the efficiency aspect. It is not the quickest airport to pass through as a passenger, nor is it the most spatially flexible to accommodate as many planes as possible. However, it does emphasize the legibility of the building and the experience for passengers with views to the surroundings and operations, and high-quality materialization, for example.

Ultimately, architecture must negotiate efficiency and spatial experience for users, which is exactly what this project seeks to do. If too much emphasis is placed on the former, cities may be dominated by value-engineered boxes.

A sub-topic within the studio has been the group lens of "materials." As a team of seven students, we have analyzed Milan, revealing a "narrative of extraction." This resulted in design challenges to incorporate 1) reclaimed material, 2) demountable structures, and 3) an entrance with traditional materials. As a team, it was challenging to take our knowledge from Milan's material story into relevant architectural requirements for all 7 building types. However, since this project is about creating a sense of place, being more literal with material references makes sense. The image, smell, and texture of an airport's construction materials can immediately foster a sense of association with its city.

**Aspect 4:**
**Relationship between the graduation project and the wider social, professional, and scientific relevance.**

In a social sense, the project seeks to challenge the expectation of airports as a generic utilitarian infrastructure, instead offering a vision for a user-centric and hyper site-specific experience. In a professional sense, it offers an alternative airport model driven by local needs rather than strictly financial interests. In a scientific sense, it explores how our building inventory can be leveraged to its full potential by accommodating multiple purposes, thus mitigating the impact of the construction industry on the land.

On a more personal level, connecting to my experience with the profession, the project continues to be an exciting challenge. Over my studies and internships, I have experience with mostly residential architecture, not with such large-scale and program-specific building types. It has been difficult to overcome my biases about real-world airports and to resist the urge to replicate existing airport typologies. The project attempts to stand out from existing airports by being highly accessible to the public, incorporating the Idroscalo directly in the building volume, and including project-specific materialisation. Nevertheless, it still reflects some conventional aspects, such as a linear terminal layout, demonstrating the challenge of balancing practicality and innovation in a design project like this.

**Aspect 5:**
**Ethical issues and dilemmas you may have encountered during graduation.**

Over these two years, I have discovered how TU Delft encourages students to design from a systems-wide perspective down to the detailing in a way that is sustainable, limiting the impact of the building profession, and rightly so. But what to do when the building type is inherently negative for the environment? The aviation industry continues to have a harmful impact with direct emissions into the atmosphere, but also indirectly by creating noise pollution and disturbing ecosystems with its ground operations. In a way, this design project encourages more flying by making it a more pleasurable experience. While climate design and materialisation strategies attempt to mitigate these impacts, the inherent cost of designing for aviation cannot be ignored.

Architects like Norman Foster have faced criticism for their complicity in the climate crisis by working on airport projects in the Middle East. I feel the appropriate response of an architect is to lean in, and not to walk away from these commissions. The market will continue to demand airports since physical human connection cannot be replaced by digital communication methods. In our globalized world, people will continue to travel. Therefore, it is better to involve a thoughtful, committed architect who embraces the environmental stakes of their work, instead of allowing the commission to fall to an amorphous developer that prioritises profit above all.

While I am proud of my progress and lessons learned through the graduation studio so far, if I were to restart the course, I could see myself taking a more futuristic and speculative route to explore alternative transport methods. As I've started the search process for post-grad opportunities, I've been reminded of the differences between architecture in academia and practice. There are countless real-world constraints shaping airports into the efficient machines they are, so working at an office, I would not necessarily have the same opportunities to explore and challenge conventions.

*(Opposite) Image of studio exhibition.*
*Credit: Maruli Heijman*

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