



Immigración Chilenos y Residentes
Chilean and Resident Immigration
Immigración Extranjeros
Foreigners Immigration

luis vidal + architects

ARTURO MERINO BENÍTEZ

Santiago de Chile International Airport



ARTURO MERINO BENÍTEZ: A NEW AIRPORT

A new stage has begun for the Arturo Merino Benítez International Airport in Santiago de Chile, the biggest airport investment in the country. Designed to accommodate 30 million passengers a year (up from 16 million prior to this project), it is at the forefront of the continent's transport infrastructure.

The new international terminal building accommodates international passenger traffic, while the original refurbished terminal now operates only domestic flights. Both terminals are interconnected, providing a holistic image of the complex, that is complemented by the parking buildings and their public rooftops, configuring a large airport complex. This project has no equal in the entire southern cone of the continent, and emerges as a reference in air transport with not only a global impact, but also an international one.



LEADING THE DEVELOPMENT OF THE PROJECT

The architecture and engineering firm ADPi, in partnership with the international office luis vidal + architects, has been in charge of the development of the Final Project and Architectural Detail Engineering. The Referential preliminary project was developed by Stantec/Amunategui-Barreau.





↑  Puertas Gates C, E

←  Puertas Gates D01

↑  Baños Toilets

← Puertas Gates 009

↑ Puertas Gates D02 to D06

↑ Puertas Gates D01, D05

← Puertas Gates D07, D08

← Puertas Gates D01-D05



AN ACCESS GATE TO CHILE

The new international terminal is much more than a meeting point: it is a destination in itself, the first and last image of Chile that the traveler perceives. As it welcomes international passengers, the design of the new T2 shall not only try to solve more than efficiently all the processes accompanying travelers, but also become a showcase for the country, in reference to all the experiences that a visitor can live when in Chile, regardless of the reason for their arrival. This new building is the main entrance and exit door, and its imprint on the passenger endures, indelible and memorable. Therefore, its design is wide and open, with large uniform planes made up of sober, neutral materials, and slight hints of color that refer to the Pacific and Andes sides, alluding to the two great elements that frame the entire country throughout its geography. Likewise, a variety of sources inspires the design, always at the service of the user: the landscapes, geography, flora and fauna of Chile, as well as the rich craftsmanship of its native people. The large undulating roof accompanies the passenger, creating a special architectural space that is broken only by strategically located lucarnas opening to the sky and allowing the entry of natural light into the large spaces for the passenger experience.

In addition to the new Terminal 2, which is conceived as the new passenger processor where all the departures and arrivals processes take place, the project is complemented by four breakwaters, the docks where the large boarding gates are located. They act as a boundary between land side and air side. Retail, food and beverage, as well as other areas to accompany and enhance the passenger experience, are evenly distributed throughout these breakwaters. Likewise, in the pre-existing terminal, a new breakwater is built symmetrically to the initial one for departures, completing the main scheme and expanding the number of boarding gates for domestic flights.



Meeting the requirements of Nuevo Pudahuel “the works have been carried out with the aim of delivering a high-quality, greater comfort service, and considerably reduce the times in airport processes. All of that, aiming for the passenger to live an integral experience and for the terminal to become a reference in the region”.



SANTIAGO





DUTY FREE



The design does not only improve the visibility of all shops by making the flow of travelers fly by them, but also doubles up the retail area, reaching 18,000 m².

Two covered parking lots will be located between the new processor and the existing Terminal 1, with a capacity for more than 3,000 parking spaces. The rooftop of both parking lots will be used as a large elevated welcome and transition plaza, where landscaping is the protagonist. Among the uses allocated for these rooftops, there are resting areas, gardens and shopping areas, an exhibition hall, and even an outdoor amphitheater, open to a program of cultural events, emphasizing once again the idea that an airport is not only a place of passage, but can become a commercial, cultural and social development spot in itself.



The most significant actions carried out by ADPi and luis vidal + architects during the development of the Final Project are:

DISTRIBUTION

Improving the distribution and design of the commercial areas of the Terminal, accompanying and participating in the flow of passengers, qualitatively improving their experience, aligning with the most contemporary design lines of international airports of similar category. Likewise, in the Breakwaters, a readaptation and improvement of the distribution of the spaces has been carried out, so that there is an adequate location and direction of the passenger flow towards the boarding gates, also compensating the commercial areas along the Breakwater, as opposed to the concentration scheme in the Referential Preliminary Project. This offers the passenger a better experience during their journey and waiting time prior to the trip, with shopping areas close to the boarding gates.

FLOW RESTRUCTURING

Redesigning the area destined for International / International transfers to allow for a better adaptation of the spaces and to naturally reintegrate passengers into the general flow of departures of the Terminal, so that they can directly access the central area of the departures level and from reach the new boarding gate from there, enjoying an equal experience to the rest of passengers.

Adjusting the flow of arrivals, both with architectural changes (such as the elimination of the large ramps associated to the south façade, which forced passengers to a



longer route and removed functional space to locate the queues for luggage control) and functional modifications, such as changing the order of certain processes (for instance, the order of the immigration control and the commercial area of arrivals, in order to enable passengers to enjoy the commercial area once they have completed this procedure, prior to luggage pick-up).

LUGGAGE

An RFID system has been integrated into the project for the final process of arrivals, which will allow to considerably lighten passengers departure after baggage claim, since the SAG / Customs control takes place directly in the baggage handling system, only needing to check those that are found suspicious.

VIP LOUNGES

Concentrating the planned area for the airlines' VIP lounges in the terminal building, rather than locating them in breakwaters C, D, E and F, as planned in the Referential Preliminary Project. This provides an immediate relationship with the central departures space, making this area the heart of the airport, also located under the main roof with the lucarnas that are integrated in it, creating a unique experience for the passenger. This central space, in addition to hosting commercial proposals, can be used to place a piece of art or even host cultural, commercial or social events. In short, a dynamic space with a maximum height of 8 meters, which focuses the attention of the passenger and supports the brand image of the new airport of Santiago de Chile.

PROCESSES OPTIMIZATION

While developing of the Final Project, there were a series of meeting with the airport services, PDI, SAG, Customs, etc., seeking to integrate functional improvements in terms of distribution and passenger flows, thus optimizing the procedures.

SECURITY

A great deal of work has also been done to adapt the Preliminary Draft Reference to the regulations in force, mainly in aspects of both Accessibility and Protection against fire, making this airport a benchmark for safety and the inclusion of any passengers with special needs.

SIGNAGE

In addition to the general signage of the building, it has been created a concept for the identification of each of the breakwaters with a typical landscape of the Chilean geography, through the integration of colors characteristic of these areas (Atacama Desert, Easter Island, Lakes Region and Patagonia). This integration takes place in a subtle way in the coatings of the commercial areas and support volumes, in the upholstery and in the color of the carpets, or the seats in the departure lounges. It offers a discreet, modern and integrated solution, yet with enough character to differentiate each of the areas and give them their own personality.







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DRIVE EVOLUTION



AN ENVIRONMENTALLY FRIENDLY AIRPORT

From the beginning, the sustainability objectives of the Final Project have been very clear. They can be summarized in the following points:

- Reduction of energy consumption, according to the definition of the of the buildings' façade.
- Reduction of passenger transport impact inside and outside the airport, with the proposals for a future light rail and preferential parking for electric vehicles in the project.
- Prioritization of the use of certain materials and products that are considered less harmful to the environment, which do not affect indoor air quality, in addition to promoting an optimal use of recycled and recyclable materials.
- Significant decrease in water consumption inside and outside the building.

Regarding the architecture, the actions have focused on carrying out a detailed analysis of the climatic conditions. Mainly, in relation to the prevailing winds, the outside temperature, and the level of solar incidence on roofs and façades, with the aim of designing a more efficient building and integrating passive architecture concepts.

As for the wind, for instance, the main direction is South-West with winds of more than 10 m/s. In fact, the open façade of the building, with the viaduct and the entrance doors, is located to the north on the side that is protected from the wind. The developed design shelters the users against wind and high temperatures in order to improve the experience and help reduce energy consumption.

It is important to take indirect light entering the building into consideration to reduce the needs of artificial lighting indoors. For this reason, the skylights of the central processor are facing south. That is, receiving indirect light that, in addition, shines over the most representative spaces in the route of passengers, thus avoiding the negative effect of direct radiation in summer while allowing a significant contribution of light.



Likewise, the design criteria of the façade seeks to protect the glass from direct solar radiation that occurs mostly during the summer months, while opening to the maximum to winter light, a diffused and very pleasant light. To do this, an exhaustive analysis was carried out on the orientations which receive strong radiations, mainly east and west with a low inclination of the sun. This helped in the definition of protection mechanisms for the connectors and the east and west façades of the buildings, made of lattices of perforated metal panels, arranged in a way that is perpendicular to the façade, protecting these orientations most of the day, and allowing the entry of sunlight only in the early hours of the morning or late afternoon, when it no longer has a major impact.

Meanwhile, for the orientations of the North and South façades, another different strategy was chosen: the exploitation of vertical solar angles to protect against summer sunlight through the use of eaves and horizontal slats, integrated into the curtain wall; In the winter months, however, the entry of the sun's rays is allowed in a controlled way. This contributes to a certain extent to the conditioning of the environment inside.

When it comes to the composition of the facades, it is common when designing airports to wrap all the main public spaces with elements such as glazed curtain walls. However, given the energy awareness nowadays, the excessive use of this type of enclosure is being increasingly questioned, from a responsible approach. This is mainly due to the reduced insulating value of this material and its tendency to favour undesired solar gains. Therefore, the amount of glass in the exterior facades of the project have been reduced by 50% in total. That means that the amount of glass is higher in some orientations than others, depending on the exposure. The overall approach was to try to reduce the amount of shine and glare, except for fundamental



reasons when looking for greater transparency, as it happens on the south façade and the main entrances to the Central Processor. Therefore, the exterior walls of the building are mainly mixed curtain walls, with glass and sandwich panels combined, configuring a compositional checkerboard of a random but controlled design that results in a very characteristic and recognizable image of the building. Mainly, in the large North and South façades, which are the most representative and the ones receiving or saying farewell to the passengers as they enter or leave the airport.

The glasses are high-efficiency and, in addition to including a thermo-panel system in each and every one of the solutions to improve the thermal and acoustic behavior of the building, they have acoustic PVB and a low-emissive and selective layer, depending on the orientation. Thus, of the glazed façade achieves a high performance, allowing for a notorious entry of natural light into most parts of the building, and allowing significant energy savings.

In addition to the intervention on the façade, all the insulation of walls and roofs has been reinforced to obtain the greatest thermal stability of the interior space. Regarding the material of the large undulating ceiling of the processor and the breakwaters, the chosen option has been the incorporation of a TPO cover system. A material



that ensures great insulation in spite of the low slopes in this case. It also has great durability, resistance to UV rays, and is 100% recyclable, as it is chlorine and plastic free. So it is a material that results in the sustainability of the building.

Finally, some other elements have been incorporated into the project, as they seek to reduce the environmental impact and the consumption of energy and other raw materials. For instance:

- Widespread use of LED lighting systems throughout all buildings.
- Solar panels on roofs.
- Efficient taps and toilets in order to reduce water consumption.
- Green roofs and walls in parking buildings to reduce the heat island effect.
- Recovery of green surfaces (previously taken up by asphalt, mainly).
- Landscaping design incorporating native species and low water consumption, among many others.





ARTURO MERINO BENÍTEZ
AEROPUERTO INTERNACIONAL

DATA SHEET

Year Built	2021
Client	SLC-CJV
Architects	luis vidal + architects
Built Surface	250.000 m ²
Capacity	25 M Pax / year
Contributors	Arcadis, Ferrer y asociados, Idom
Stage	Built

BUILDING FEATURES

The intervention in Santiago de Chile Arturo Merino Benítez International Airport has consisted of the modernization of the existing terminal building, adapting it for a national use; as well as the design and construction of a new terminal meant for international communications. The flow of passengers has been reorganized, allowing to double up the space for retail uses, and abundant parking space has been created.

Existing Terminal	25.000 m ²
New Terminal	XXX,XXX m ²
Retail	18.000 m ²
Boarding Gates	45 gates
Parking	3.000 spaces

OTHER INTERESTING DATA

- Both the national and international terminals are equipped with state-of-the-art technology in all places, with the use of BIG Data and Artificial Intelligence helping to achieve a much more pleasant and memorable travel experience.
- Waiting times before each flight have been reduced thanks to the new passport control counters, from the initial 36 up to 56 now, and from 34 to 64 for international arrivals.
- The duration of the security check for each passenger and their hand luggage has also been reduced by including 32 new control systems, increasing the working capacity by almost three times.
- Check modules have increased by 30%, from 133 to 176.
- 50% more parking space has been generated, including two three-story buildings.





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