AIRPORT PASSENGER BOARDING BRIDGES

Improving turnaround operations and ensuring total safety and comfort for both passengers and operators
YOUR BOARDING PARTNER

ADELTE is a leading international engineering company providing state-of-the-art equipment and services to airports and airlines worldwide.

Our complete line of highly effective and tailor-made solutions ranges from advanced Passenger Boarding Bridges (PBBs) and Ground Support Equipment (GSE) to smart Passenger Terminal Solutions and innovative Global Services.

We are convinced that continuous innovation and highly skilled personnel, combined with superior quality materials and cutting-edge technology, are essential for meeting the expectations of any leading international airport.

In order to deliver successful turn-key projects, ADELTE controls every aspect, including design, manufacture, installation, training, operation, maintenance, refurbishment and spare-parts distribution for its complete range of solutions.

This unique fully integrated approach makes ADELTE a global partner which not only has the know-how, the experience and the resources to supply on-time high quality, efficient and reliable PBBs and GSE, but also enables airports and airlines to increase operational efficiency, reduce operational costs and extend the lifespan of apron equipment.
Building on six decades of experience, ADELTE delivers innovative, made-to-measure and high quality Passenger Boarding Bridges with two or three sections, a hydraulic or electromechanical elevation system, glass or steel tunnels and an increasing or decreasing telescope extension. Our complete line ranges from Apron Drives and Nose Loaders to T-Bridges and Commuter Bridges. They can service all commercial aircrafts, from the largest A380 to smaller jets, and cater for all terminals and apron-specific configuration needs.

Tailor-made to Clients’ needs
Our engineers will design and deliver a PBB manufactured to your specific needs, choosing the right size configuration, the drive system, the elevation type, the most efficient air conditioning system and other design features.

Superior product quality and reliability
Our PBBs offer a stronger and more lightweight structure made of high quality steel undergone a category C5-M paint process specifically for the marine environment which ensures the best protection against corrosion. All materials are tested and the manufacturing process is certified in order to guarantee excellent durability.

Low operating costs
Elevation and travel systems are designed and engineered to offer maximum energy efficiency. The PBB structure is able to receive GSE such as PCAs and GPUs which deliver pre-conditioned air and electricity to the stationed aircraft, dramatically reducing energy consumption.

Direct-access maintenance design
Maintenance is a key factor for keeping boarding bridges in optimum operating condition and improving their lifespan. Thanks to our unique direct-access design, all major components can be reached easily to allow maintenance tasks to be carried out quickly.

Fast & secure docking maneuvers
ADELTE’s PBBs are equipped with the latest Cabin and PLC technologies and offer a complete and reliable safety system. Multiple sensors, point-and-go technology and our fully automated docking system make docking operations simple and successful, preventing any risk for the aircraft or operator on the apron.

Outstanding safety and comfort
Design and a successful technical conception are vital, incorporating aspects such as innovative use of natural lighting, significant thermal and acoustic insulation, non-slip flooring, efficient air-conditioning solutions and comfortable gradient, all of which make a qualitative difference to a passenger’s perception of the service provided by an airport or airline.
1. ROOFTOP
Designed to perfectly meet the thermal needs inside the PBB in all climate conditions. It is equipped with internal air ducting system to distribute the conditioned air throughout the PBB.

2. TELESCOPIC TUNNELS
The structure, made from high quality steel, has undergone a category CS-M paint process specifically for the marine environment, the same as that used on oil rigs.

3. ELEVATION SYSTEM
Electromechanical or hydraulic systems are available as standard. Both are equipped with a redundant safety system that ensures the alignment of the lifting columns at all times without the need for electrical detectors.

4. TRACTION SYSTEM
This consists of a solid double wheel that is highly resistant to wear, independently controlled by a few variators through the PLC. The advanced design of the bogie allows instant access to any part of the traction system that requires maintenance.
5. CABIN
The inside of the cabin is spacious and bright to improve the experience of the passengers and to facilitate the driving of the boarding bridge.

6. ROTUNDA
The roomy and bright inner space improves passenger comfort and flow. The specific design of the blinds, with prestressed springs and without the need for a roller shutter chain eliminates noise during rotation and avoids the need for maintenance.

7. SERVICE STAIRS
Stairs with a robust design made from high-quality steel with slip-resistant, self-levelling steps to avoid any risk of the handling operators falling.

8. CONTROL DESK
The PBBs are controlled by a state-of-the-art PLC designed for industrial use. Possibility of remote access via Web Access to monitor the current state of the PBB, to carry out software upgrades, and to provide a technical or support service to maintenance staff.
STANDARD TECHNICAL SPECIFICATIONS

ADELTE’s custom-built PBBs are able to cover all required airport apron configurations. The PBBs allow safe, secure and easy docking operations and deliver easy and comfortable access for all passengers.

Two and three tunnels models

<table>
<thead>
<tr>
<th>PBB - 145 / 210 - 2C</th>
<th>OPmax</th>
<th>OPmin</th>
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Rotatives & Slopes

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<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
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<td>90°</td>
<td>35°</td>
<td>95°</td>
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Useful loads & design loads

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<tr>
<td>Live load</td>
<td>320 kg/m²</td>
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<tr>
<td>Wind load</td>
<td></td>
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<tr>
<td>Operational</td>
<td>100 km/h</td>
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<tr>
<td>Parking position</td>
<td>150 km/h</td>
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PBB dimensional characteristics

Rotunda
- Internal diameter: 2,50 m
- Free width at neck of the Rotunda: 1,50 m
- Free height at neck of the Rotunda: 2,148 m

Internal tunnel (Tunnel A)
- Free width / Free height: 1,510 m / 2,119 m

Internal tunnel (Tunnel B)
- Free width / Free height: 1,830 m / 2,403 m

Internal tunnel (Tunnel C – only 3C)
- Free width / Free height: 2,150 m / 2,687 m

Cabin ring
- Internal diameter: 3,00 m

Service door
- Free width / Free height: 0,70 m / 2,02 m

Front door of cabin
- Free width / Free height: 1,250 m / 2,235 m

Canopy
- Free width / Free height: 3,098 m / 2,876 m

Service stairs
- Width between handrails: 0,865 m
- Step width: 0,757 m

Specifications are subject to change without prior notice and are not contractual.
DISCOVER OUR PCA AND OTHER GSE PRODUCTS

ADELTE provides airports and airlines with advanced Ground Support Equipment (GSE) such as Pre-Conditioned Air (PCA), Potable Water Supply System, Auxiliary Hose Retriever Trolley, Integrated Aircraft Stand System (IASS), PBB Remote Control Operating System (RCOS), Visual Docking Guidance System (VDGS) and 400Hz Ground Power Unit (GPU) can all be provided and integrated into a Global Solution by ADELTE.

NEED SUPPORT FOR YOUR AIRPORT?

ADELTE’s Global Services employs highly experienced and qualified staff and uses the latest technologies for an array of services like Maintenance of PBB’s, PCA’s, GPU & VDGS, Operations, Training, Spare Parts, Upgrades & Refurbishment, Dismantling & Disposal and Commissioning.

- Adapted to your specific requirements
- 24/7 Technical Support
- Qualified & experienced personnel
- Spare Parts in Stock
Standards & Regulations

ADELTE’s engineering solutions comply with the following Standards and Regulations, where applicable:

- EN Standards
- NFP 415 - 2016
- EN 12312-4 - Passenger Boarding Bridges
- EN 12312-12 - Potable Water Service
- EN 12312-17 - Air conditioning equipment
- EN 12312-20 - Electrical ground Power Units
- Electromagnetic Compatibility (EMC) – (89/23/CEE)
- UNE-EN 1915-1-2013 - Aircraft ground support equipment.
  General requirements. Basic safety requirements
- AHM 650 (IATA) - Potable Water Servicing
- AHM 902 (IATA) - Environmental impact on the use of GSE
- AHM 910 (IATA) - Basic requirements for aircraft GSE
- AHM 913 (IATA) - Basic safety requirements for aircraft GSE
- AHM 922 (IATA) - Basic requirements for PBB Aircraft Interface
- AHM 973 (IATA) - Functional specification for a towed aircraft ground heater
- AHM 974 (IATA) - Functional specification for aircraft air conditioning unit
- AHM 1002 (IATA) - Environmental impact on the use of GSE

About ADELTE

ADELTE provides engineering know-how and result-driven solutions for the world’s leading international airports. From advanced boarding bridges and terminal solutions that deliver a better experience for passengers, to innovative ground support equipment and airport global services to improve performance on the apron, ADELTE is focused on working closely with its partners to enhance airport operations worldwide.

ADELTE takes your airport to the next level.