

Member of:



AIRPORTS COUNCIL  
INTERNATIONAL

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**PASSENGER BOARDING BRIDGE**

**EMPOWERING  
AIRPORTS**

## ABOUT US

**NAFFCO Aviation** is a division of NAFFCO Group worldwide specialized in providing total solution for the Airports.

With the most talented and dedicated employees from around the world, NAFFCO has over 18,000 team members including 2,000 passionate engineers and over 10 million square feet of manufacturing and services facilities, we are currently exporting globally to over 100 countries.

In recognition of our outstanding growth and commitment to quality, we have been certified with **ISO 9001**, **ISO 14001** & **ISO 45001** and awarded with the prestigious MRM Business Excellence Award for four consecutive years in areas including manufacturing and exports.

With your continued support and trust, NAFFCO is now poised to further grow its international network. To that end, we appreciate your business and your commitment to safety in the workplace and look forward to serving you for decades to come.



... certified with **AS 9100 quality management system for aerospace industry** and awarded with the prestigious **MRM business Excellence Award**

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## ENGINEERING

NAFFCO's extensive experience in solutions and services for Airports acquired over the last 30 years has been instrumental in the establishment and rapid development of the Aviation division.

The division is supported by our state-of-the-art technology and software allowing for extensive research and development into optimum configurations for maximum space utilization, longer life span of the solutions, reducing carbon footprints and safety/security features.

NAFFCO has a qualified R&D team to incorporate latest technologies and trends in the field.

These powerful in-house resources have enabled our engineers to simulate designs in both static and dynamic views while paying particular attention to the efficiency, safety and effective passenger flow.

## State-Of-The-Art Machines

## MANUFACTURING

NAFFCO and its boarding bridge partner **PT Bukaka's** manufacturing facility has the latest technology, **state-of-the-art machines** and a complete machine shop that makes us meet the needs of any production requirement.

NAFFCO has ability to introduce the latest technological systems and equipment in the field, as our engineers and technicians are well qualified and experienced to produce quality products.

The department is equipped with full-fledged testing facilities to test the equipment as per NFPA, EN, ICAO and other international standards, and to meet the customers specifications.

Considering the above facilities and excellence in engineering capabilities, NAFFCO can meet any challenges to produce bulk quantities.

**30 YEARS** on mobility solutions

## AFTER-SALES DEPARTMENT

NAFFCO not only offers a product, but also back-up what we sell with full service, maintenance, and training options.

We have a separate department totally dedicated for maintenance of the products and solutions we offer.

We offer the service of our Engineers and Technicians round the clock (24 hours) for emergency requirements.

Further, we also undertake annual and half-yearly maintenance contracts, which will ensure smooth functioning of the products throughout the year.

## In Accordance With ISO-9000 Procedures

## QUALITY CONTROL

NAFFCO is committed to working towards continuous improvement with aim of meeting customer requirements and expectations.

NAFFCO is committed to comply with requirements and continually improve the effectiveness of the quality management system.

A dedicated team of quality control department to coordinate material incoming/ in process and final inspection in accordance with ISO-9000 procedures is also a remarkable asset of NAFFCO.

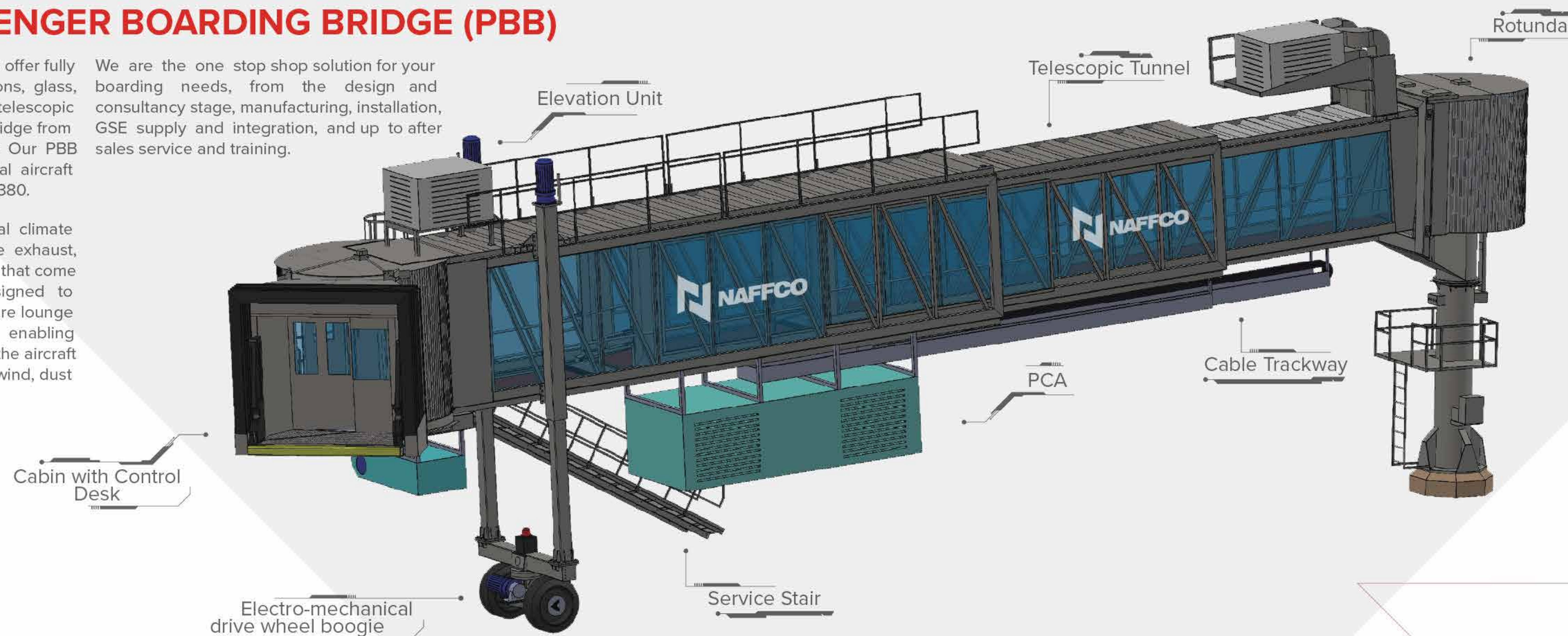
24/7 For Emergency  
Requirements

## AIRPORT PASSENGER BOARDING BRIDGE (PBB)

In collaboration with **Bukaka** we offer fully customized, two and three sections, glass, or steel fire rated tunnel with telescopic extension passenger boarding bridge from the world's leading manufacturer. Our PBB range is able to serve all commercial aircraft including Upper Deck of Airbus A380.

PBB is durable from the tropical climate corrosion and chemical of engine exhaust, fuel exhaust, and other weather that come from the Apron. They are designed to extend from an elevated departure lounge to the aircraft boarding door, enabling passengers to walk to and from the aircraft completely protected from rain, wind, dust and aircraft engine blast.

We are the one stop shop solution for your boarding needs, from the design and consultancy stage, manufacturing, installation, GSE supply and integration, and up to after sales service and training.



The PBB is designed in the form of two or three tunnels extending from the rotunda connected to terminal, raised by means of fixed bridge to the door of boarding aircraft, and serve the thresholds of high gates of aircrafts ranging from Code (C) to code (E) aircraft but also to special design for Code (F) aircraft (upper deck), such as A380.

# PASSENGER BOARDING BRIDGE OPTION

TWO TUNNELS



THREE TUNNELS



## APRON DRIVE PBB

Apron Drive PBBs ensures a wide range of movement, telescopic elevation and rotation, safety of fuselage, customized designs to offer suitability to various apron layouts.



## NOSE DRIVE PBB

... Designed for parking places with limited space for maneuvering.



## A-380 PBB

With our **A-380 PBB**, passenger may board or de-board through U1 door of A-380 within the shortest possible time.

# TUNNEL OPTION

## TELESCOPIC TUNNEL

GLASS WALL PANEL



**High Quality Laminated Glass** as per NFPA Standard is used. Glass comes with thermal and acoustic properties enhancing passenger comfort. We offer wide variety of colors and finish for the glass as per your need.

STEEL WALL PANEL



Made with **high grade steel, fire proof coating** as per NFPA Standard, further treated against corrosion to ensure longer life span. We offer wide variety of interior and exterior finish options as per your need.

### Telescopic Tunnel Technical Specification

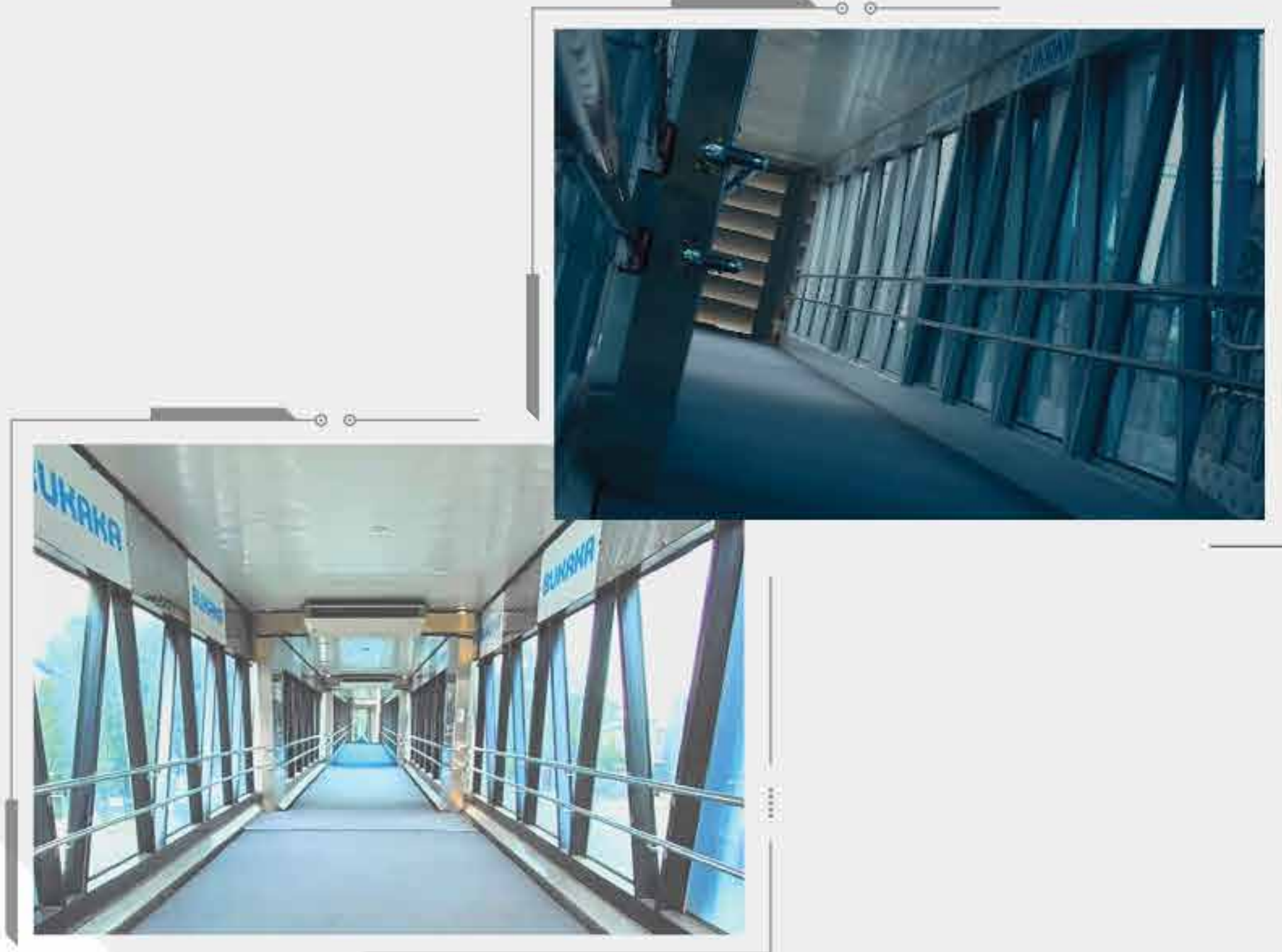
| DESCRIPTION             | PARAMETER                                                            |
|-------------------------|----------------------------------------------------------------------|
| DIMENSION               |                                                                      |
| TUNNEL INNER NET WIDTH  | 1400 MM (MIN)                                                        |
| TUNNEL INNER NET HEIGHT | 2100 MM (MIN)                                                        |
| STEEL WALL PANEL        |                                                                      |
| CORRUGATED STEEL        | 1.8 MM                                                               |
| GLASS WALL PANEL        |                                                                      |
| DOUBLE GLASS SYSTEM     | 4 MM + 4 MM (LAMINATED)<br>6 MM (TEMPERED GLASS)<br>10 MM (AIRSPACE) |

# SLOPELESS TUNNEL

Slopeless Tunnel ensures seamless transit of passengers with reduced mobility and on wheel chairs.

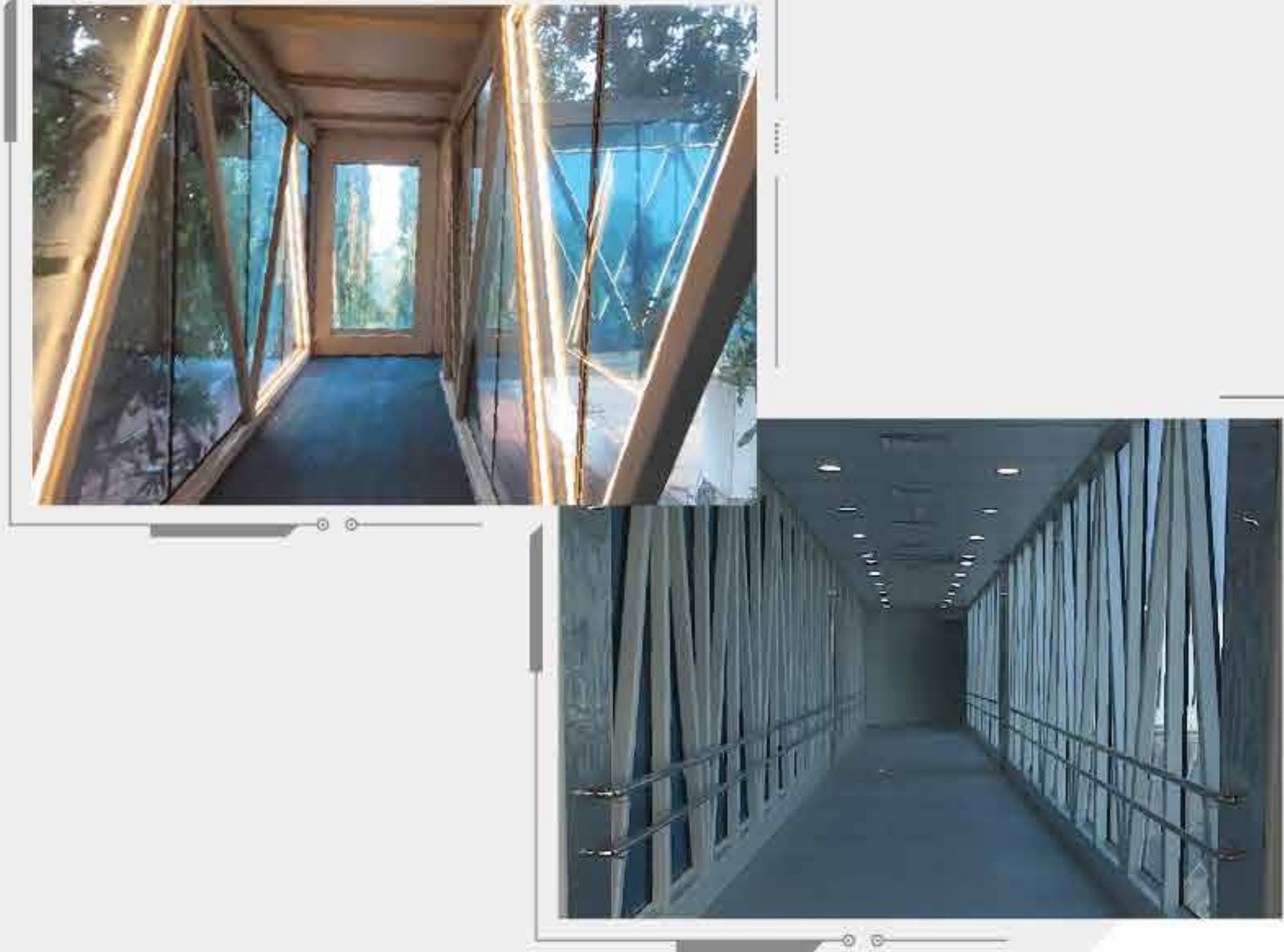
## Slopeless Tunnel Technical Specifications

| DESCRIPTION             | PARAMETER                                                             |
|-------------------------|-----------------------------------------------------------------------|
| DIMENSION               |                                                                       |
| TUNNEL INNER NET WIDTH  | 2400 MM (MIN)                                                         |
| TUNNEL INNER NET HEIGHT | 2455 MM (MIN)                                                         |
| STEEL WALL PANEL        |                                                                       |
| CORRUGATED STEEL        | 1.8 MM                                                                |
| GLASS WALL PANEL        |                                                                       |
| LAMINATED               | 4 MM + 4 MM (LAMINATED)<br>6 MM (TEMPERED GLASS)<br>10 MM (AIR SPACE) |



# FIXED BRIDGE

We offer fully **CUSTOMIZED** fixed bridge as per airport layout.



## Fixed Bridge Technical Specifications

| DESCRIPTION             | PARAMETER            |
|-------------------------|----------------------|
| DIMENSION               |                      |
| TUNNEL INNER NET WIDTH  | 1940 MM (MIN)        |
| TUNNEL INNER NET HEIGHT | 2470 MM (MIN)        |
| GLASS WALL PANEL        |                      |
| SINGLE GLASS SYSTEM     | 6MM (TAMPERED GLASS) |

## DRIVE COLUMN

### ELECTRO MECHANICAL TYPE

#### ADVANTAGES:

- Higher Performance
- Accurate and Smooth delivery of force
- Electro-Mechanical Solutions are more resistant to temperature variations.
- Reduce Costs
- Environmentally Friendly
- Increased Safety
- Hydraulic Drive column available upon request

#### DRIVE COLUMN



#### WHEEL BOOGIE



#### BALL SCREW



#### MOTOR



## SERVICE ACCESS



| SPECIFICATION           | VALUE                            |
|-------------------------|----------------------------------|
| PLATFORM MATERIAL       | CHECKED PLATE + GALVANIZED       |
| HANDRAIL                | HOT DIP GALVANIZED               |
| CASTOR WHEEL            | POLYURETHANE                     |
| LADDER MATERIAL         | CHECKERED PLATE + GALVANIZED     |
| DOOR DIMENSION          | MIN. 700MM WIDE X 2000 MM HEIGHT |
| LANDING STAIR MECHANISM | SELF ADJUST STAIR                |

#### SERVICE STAIR:

Hot dip Galvanized service stairs.

\* Option of spiral baggage chute is available upon request.

# PBB CONTROL CONSOLE



| SPECIFICATION                   | VALUE                                            |
|---------------------------------|--------------------------------------------------|
| HORIZONTAL MOVEMENT             | JOYSTICK                                         |
| VERTICAL MOVEMENT               | PUSH BUTTON / TOUCH SCREEN                       |
| CABIN ROTATION MOVEMENT         | PUSH BUTTON / TOUCH SCREEN                       |
| CANOPY CLOSURE MOVEMENT         | PUSH BUTTON / TOUCH SCREEN                       |
| ADJUSTABLE CABIN FLOOR MOVEMENT | PUSH BUTTON / TOUCH SCREEN                       |
| ON/OFF PBB                      | PUSH BUTTON / TOUCH SCREEN                       |
| SWITCH MODE                     | KEYSWITCH WITH 3 POSITION (OFF, MANUAL AND AUTO) |
| GRAPHICAL USER INTERFACE        | HMI TOUCH SCREEN 12 INCH                         |
| CAMERA MONITORING SYSTEM        | INCLUDE IN HMI (TO MONITOR BOOGIE AREA)          |

# ELECTRICAL POWER

| SPECIFICATION                                   | VALUE                           |
|-------------------------------------------------|---------------------------------|
| INPUT VOLTAGE                                   | 220 - 460 VAC 3 Phase 50 - 60Hz |
| POWER CONSUMPTION                               | MAX. 45 KVA                     |
| DRIVE POWER (MOTOR AND AIR CONDITIONING SYSTEM) | 415 VAC 3 PHASE 50/60HZ         |
| LIGHTNING AND UTILITIES POWER                   | 230 VAC 1 PHASE 50/60 HZ        |
| CONTROL POWER                                   | 24 VDC                          |



## CERTIFICATION & STANDARD

Our design and installation works meet all applicable regulations and standards according to the latest versions of the following publications, for example but not limited to:

- US National Institute of Standards
- ASTM International
- National Electrical Manufacturers Association (NEMA)
- National Fire Protection Association (NFPA)
- International Electrotechnical Commission
- American Welding Society
- British Standards Institution
- Japan Industrial Standard
- European Standard Society
- Canada Standard Society
- American National Standard Institute (ANSI)
- German Institute for Standardization (DIN)
- National Coil Coating Association

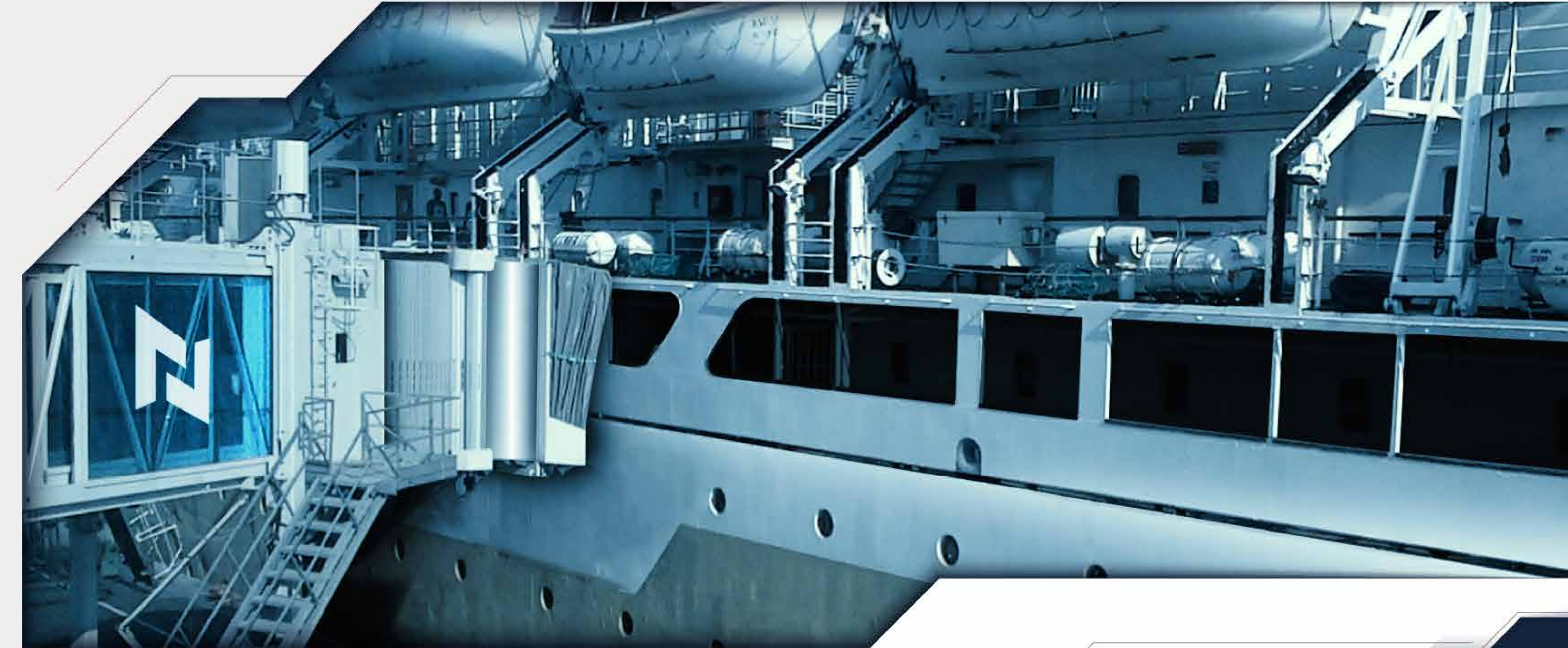
## OUR SCOPE OF SERVICE:

- We offer total turnkey solution including but not limited to:

- |                 |                                                                   |
|-----------------|-------------------------------------------------------------------|
| 1. Feed Study   | 5. Testing & Commissioning                                        |
| 2. Design       | 6. Annual maintenance contract with spare part & manpower supply. |
| 3. Supply       |                                                                   |
| 4. Installation |                                                                   |



## SEAPORT PASSENGER BOARDING BRIDGE



- We offer a fully customized range of **Sea Boarding Bridge**

## GROUND SUPPORT EQUIPMENT

### 1. Ground Power Unit (GPU)

400Hz, 90kVA power supply and a cable coil in one enclosure is provided as an integrated model with PBB.

#### Features:

- Easy to install.
- Space Saving
- IP 55
- Display Screen of various parameters.
- Operator friendly.

### 2. Pre-Condition Air (PCA)

Powered by electricity from the grid, PCA can be mounted under the PBB or on the apron.

#### Features:

- Easy to install.
- Space Saving
- Smart PLC Control
- East to maintain.
- Cooling Capacity up to 300kW
- Air flow up to 200kg/min.
- Heating and Cooling with the same unit.

### 3. Advanced Visual Docking Guidance System (AVDGS)

We can supply you the world's leading brand of aVDGS together with our PBBs as a package.



## OUR POPULATION

Over **900** Units Installed in Airports and Seaports Worldwide With More Than **30 Years** Experience.



Serving over **100** **countries** worldwide