Aeroporto Internacional
**DR. ANTÓNIO AGOSTINHO NETO**
Icolo e Bengo | Luanda

# International Airport
# Dr. António Agostinho Neto

# “From Angola to the World”

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# Contents

# Introduction

During the phases of the struggle for national independence and later as leader of the country, the first President of the Republic of Angola, Dr. António Agostinho Neto dreamed of connecting Angola to the region and to the world, a feat that will materialize with the inauguration of the Dr. António Agostinho Neto (AIAAN), in his honor.

The AIAAN was designed to be a HUB with domestic, regional, and international connections, being Angola's main gateway to the world having been designed for the operation of state-of-the-art aircraft. It offers various support services and commercial exploitation. It observes aspects of environmental protection, taking into account the highest international ecological standards.

# Location

The AIAAN is located 45 km southeast of the center of the capital, in the territory of the commune of Bom Jesus, municipality of Icolo and Bengo, province of Luanda.

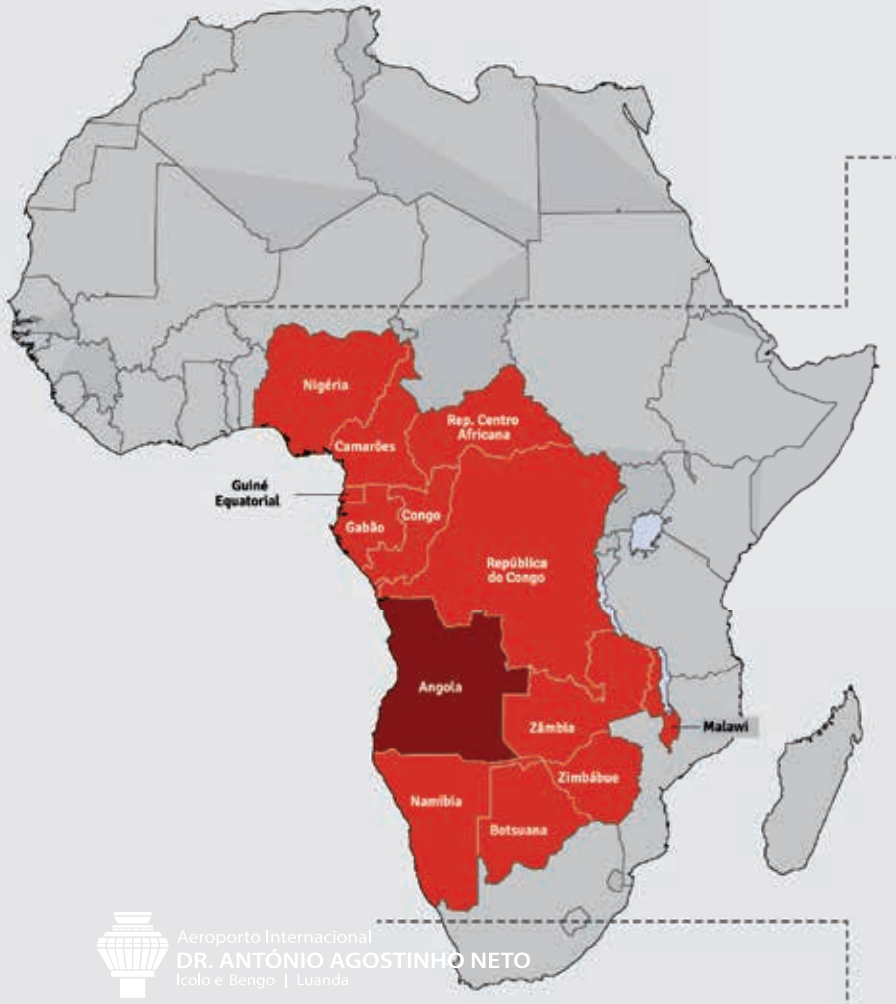
# Occupancy Area

The area of occupation of AIAAN is Approximately 30 km$^2$. The airport infrastructure consists of the following areas:

- Passenger Terminal
- Cargo Terminal
- Parking Lots
- Air Traffic Control Tower
- Air Navigation Management Building and Airport Management
- Inspection, Security, and Control Building
- Building of the Regional Control Center (RAC)
- Building Integrated Control Center (CCI)
- Air Traffic Control Radar Building
- Meteorological Radar Building
- Fuel Storage and Supply Park
- Fire and Rescue Center
- Main Power Substation
- Water Pumping Station
- Waste Water Treatment Plant and Incinerator
- Airport Medical Clinic

# Regional Market

Because of its strategic location, AIAAN will leverage the growth of the national and regional air transport market and will benefit about 415 million inhabitants in this sub-region of Africa.




| País *Country* | População Milhões, 2018 *Population Millions* | CAGR População 2018-24 *CAGR Population* |
|---|---|---|
| Nigéria | 196 | 3% |
| República do Congo | 95 | 3% |
| Angola | 29 | 3% |
| Camarões | 25 | 3% |
| Malawi | 20 | 3% |
| Zâmbia | 18 | 3% |
| Zimbábue | 15 | 2% |
| Rep. Centro Africana | 5 | 2% |
| Congo | 4 | 3% |
| Namíbia | 2 | 2% |
| Botsuana | 2 | 2% |
| Gabão | 2 | 1% |
| Guiné Equatorial | 1 | 3% |
| **Total** | **415** | |

Fonte: FMI; Pesquisa Imprensa

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# Regional Market

| | | | | | Passengers | | Cargo (Ton) | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 2022 | 2018 | 2021 | 2018 |
| | Egypt | Cairo International Airport | CAI | Cairo | **20 009 439** | 15 010 501 | 333 536 | |
| | South Africa | O. R. Tambo International Airport | JNB | Johannesburg | 14 721 965 | **21 231 510** | 304 018 | |
| | Nigeria | Murtala Muhammed International Airport | LOS | Lagos | | 7 290 530 | 204 649 | |
| | South Africa | Cape Town International Airport | CPT | Cape Town | 7 876 183 | 10 752 246 | 32 738 | |
| | Ethiopia | Bole International Airport | ADD | Addis Ababa | | 12 143 938 | 226 417 | |
| | Morocco | Mohammed V International Airport | CMN | Casablanca | 7 637 643 | 9 748 567 | 64 373 | |
| | Egypt | Hurghada International Airport | HRG | Hurghada | 7 165 609 | 6 600 000 | | |
| | Kenya | Jomo Kenyatta International Airport | NBO | Nairobi | | 7 039 175 | **363 204** | |
| | South Africa | King Shaka International Airport | DUR | Durban | | 5 880 390 | | |
| | Tunisia | Tunis Carthage International Airport | TUN | Tunis | | 6 200 000 | | |
| | Nigeria | Nnamdi Azikiwe International Airport | ABV | Abuja | 5 029 843 | 4 879 066 | | |
| | Egypt | Sharm el-Sheikh International Airport | SSH | Sharm el-Sheikh | 4 519 221 | 3 700 000 | | |
| | Angola | Aeroporto Internacional 4 de Fevereiro | LAD | Luanda | 1 576 273 | 2 515 118 | 27 965 (2022) | 38 033 |
| | Angola | Aeroporto Internacional Dr. Antonio Agostinho Neto | **NBJ** | **Luanda** | **P (15 000 000)** | | **P (130 000 até 440 000)** | |

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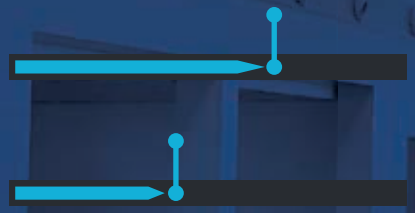
# Capacity

## 15 Million
Passengers per year



**10 Million**
International
Passengers

**5 Million**
International
Passengers

## 130 K
Tons of Load
per year

It was designed for the critical **Airbus A380** aircraft.

## Expansion
+1 Track 45 Million Passengers

+1 Terminal 65 Million Passengers

Expandability
up to **440 K** Ton year

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# INFRA STRUC TURE

# Air Traffic Control Tower

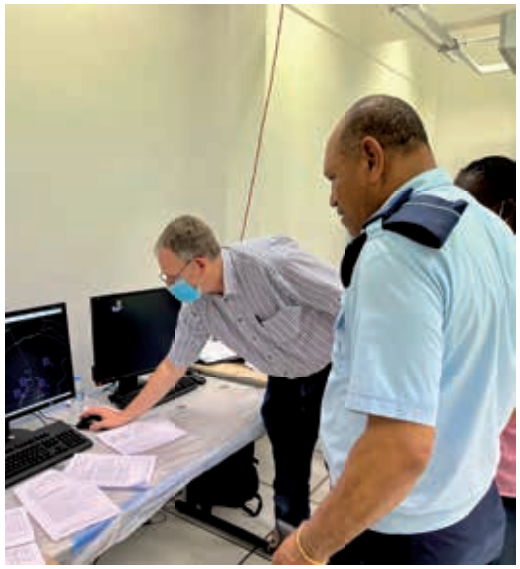
**Air Traffic Control support building, located on a plot of land with an area of approximately 5 200 m², with an underground floor and 25 floors above ground, with a height of approximately 82 m.**

12

# Radar Building

## Air Traffic Control

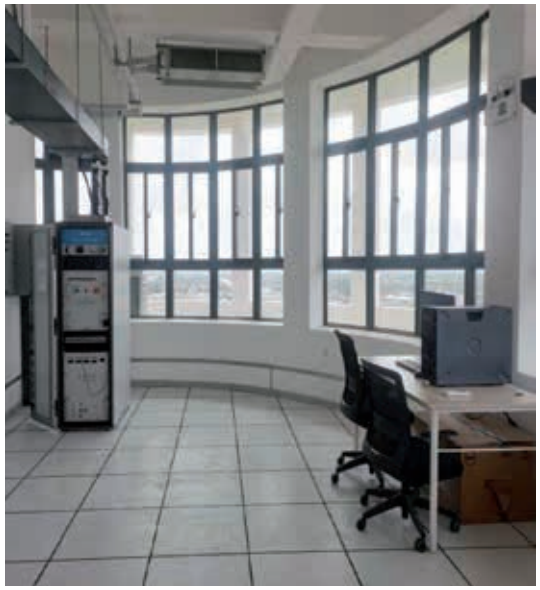
Radar Station is the complex where ATC radars are installed and the monitoring room, which transmits the data to Air Traffic Control services. It has approximately 790 square meters of construction area and supports a first-floor building where the service areas restrooms and rooms of the various equipment are located. The radar tower has eleven floors and the antennae of the primary and secondary radars.

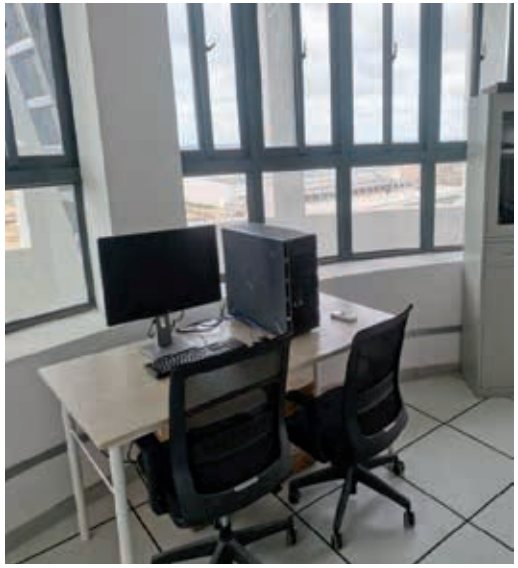


# Meteorological Radar Building

Radar Building is the complex where is installed the radar, the monitoring room, and equipment as well as the meteorology park.

It has a construction area of approximately 1 000 square meters consisting of a two-story building to accommodate workers, systems and equipment, a restroom, and a tower with twelve floors where the radar antenna is installed.



# Fuel Storage and Supply Park

The AIAAN's fuel storage and supply park occupies an area of approximately 7 500 $m^2$ and an area of approximately 12 300 $m^2$ of construction. The planned fuel storage capacity of the airport is 19 200 $m^3$, at this stage with 13 200 $m^3$ of deposit capacity distributed in 4 tanks of aviation kerosene of 3 000 $m^3$, 2 tanks of Avgas of 500 $m^3$, 2 tanks of 100 $m^3$, 2 tanks of waste of 10 $m^3$.

It has a management and support building, an emission control room and fuel reception, and a fire fighting system.

# Inspection, Security, and Control Building

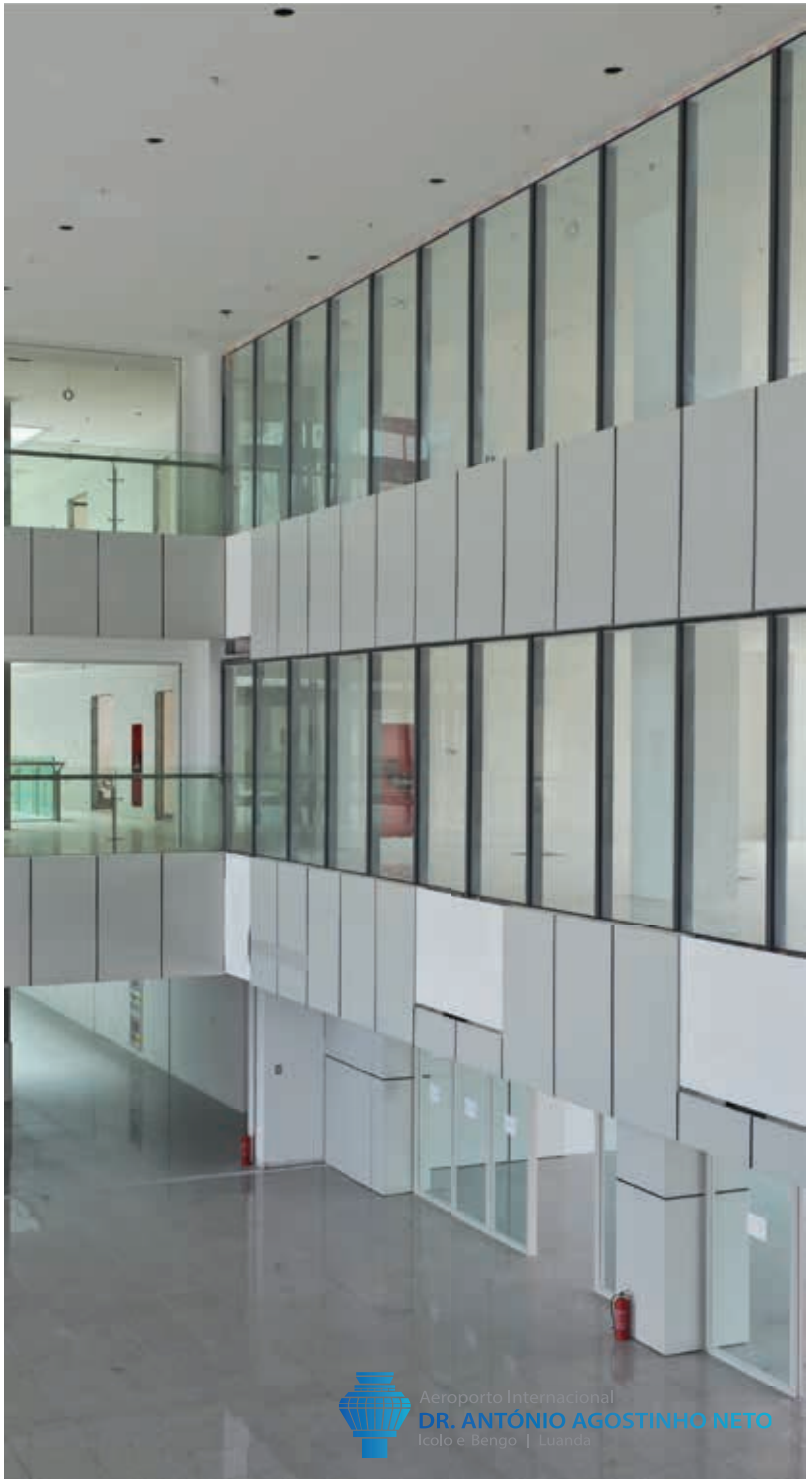
It is the building in which the Inspection, Safety, and Control bodies will operate, occupies an area of approximately 16 000 $m^2$ and a construction area of 13 000 $m^2$, developing on 5 floors.

The car park located on the underground floor has a capacity of 50 cars. The ground floor is intended for public service where they will be willing to The following services:

Immigration and Border Services, AGT, Air Health, Fiscal Police, and National Civil Aviation Authority - ANAC (with independent access). The first floor is for Immigration and Border Services, AGT, and Fiscal Police. The 2nd and 3rd floors are destined for ANAC.

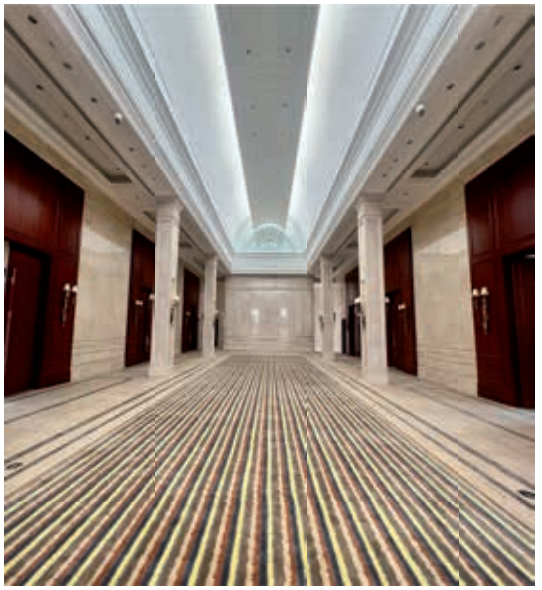
# Air Navigation Management and Airport Management

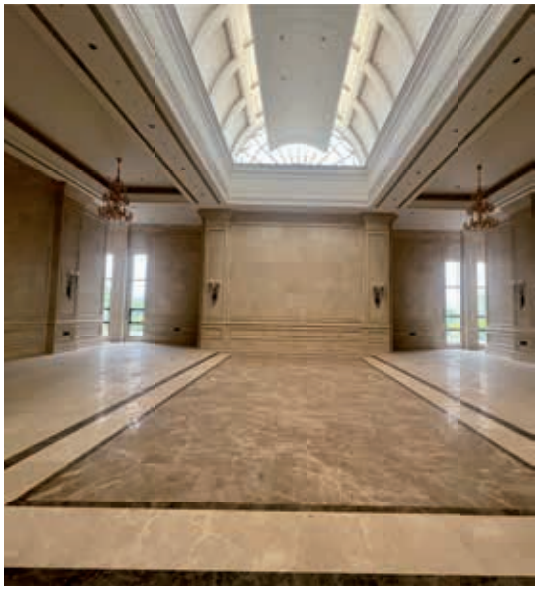
Administrative building for the entities of Air Navigation Management and Airport Management occupies a total land area of approximately, 13000 $m^2$, and a construction area of approximately 17 000 $m^2$.



# Protocol Building

The Protocols Building is divided into two wings, one being the Presidential and the other Protocols, developing in a construction area of approximately 3 700 m².





# Hotels

Two hotel units are planned one with 53 rooms inside the terminal for transit passengers and another outside with a capacity of 500 rooms, with a construction area of approximately, 32000 m².

# Centro Regional Control Center

The CCR Building houses the CNS/ATM-AIM (Engineering and Equipment, Air Traffic Control and Aeronautical Information Management) services, occupies a total land area of approximately 2 500 $m^2$, and a construction area of approximately 5 800 $m^2$, distributed on 4 floors.

# Integrated Control Center (ICC)

The CCI Building is where the information control systems and equipment of the airport complex are located and includes an aeronautical training center, occupies a total area of land of approximately 2 500 $m^2$, and a construction area of approximately 7 000 $m^2$, distributed over 3 floors.

# Parking Lots

Public Parking of the Passenger Terminal has **790** places on the surface and, **1043** places in the basement.

Parking South Side: **330** seats for light vehicles, **63** places for buses, and a waiting area for 90 taxis.

Parking North Side: **102** seats for cars, **13** seats for buses, and **102** seats for CIP passenger cars.

# Passenger Terminal

The passenger terminal building is divided into three terminals, two being international, one for the flag company and one for the other airlines, and a third for domestic and regional flights. The installation of 31 sleeves is planned, with 19 installed in the first phase.

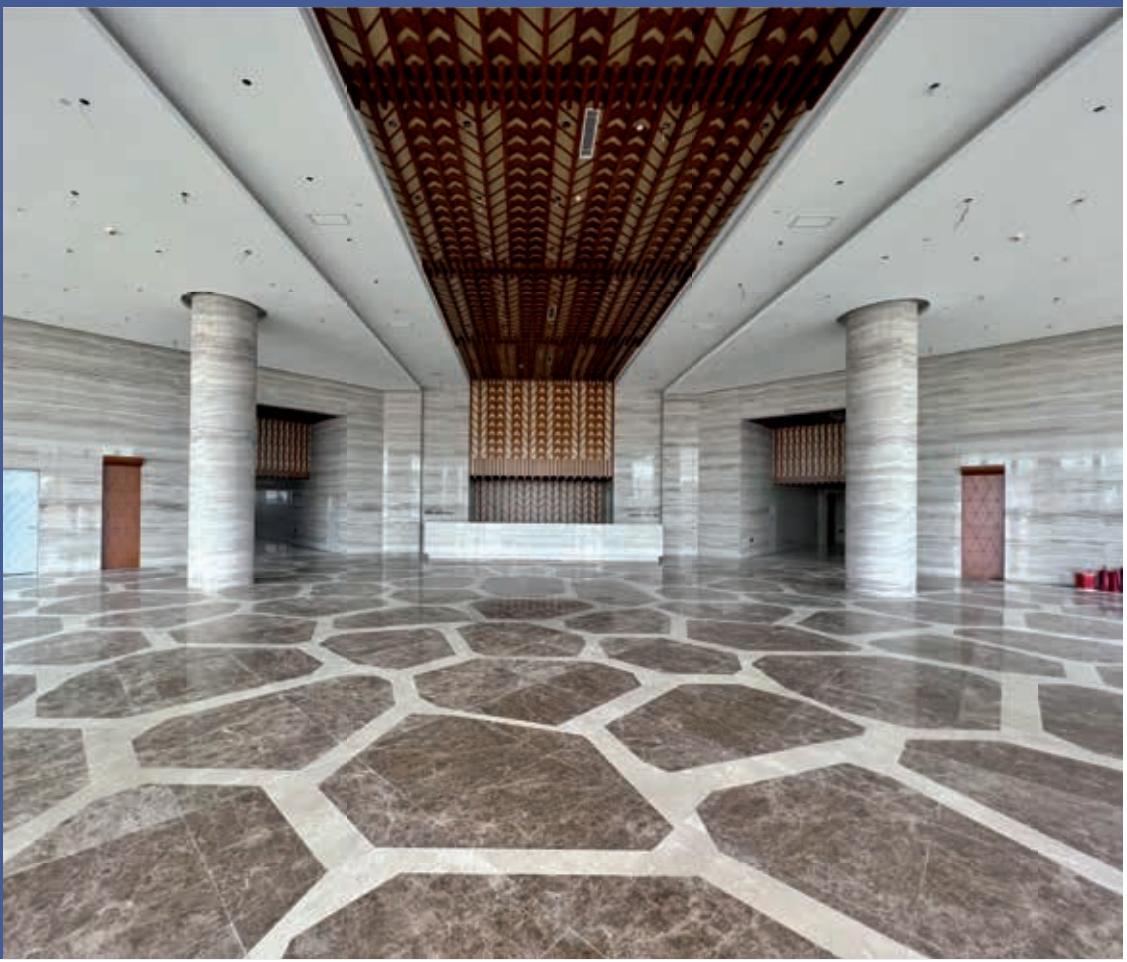
The departures area consists of six islands for 94 check-in counters, 64 counters installed in the first phase, 40 counters for migratory services, and 10 digital reading equipment (easy passage).

It also has a commercial area consisting of 8 lounges, a duty-free area of approximately 1 800 $m^2$, and 10 spaces for trade and catering.

The arrivals area consists of 30 immigration counters, 10 digital reading equipment (easy pass), 9 baggage moving belts (6 in the first phase), and 2 shaped.

# CIP Lounges

The AIAAN has two CIP areas for passengers with differential treatment, one area in the domestic and regional terminal with 2 private lounges and one common lounge and another area in the international terminal with 21 lounges.



# Airport Runways

The airport has two parallel runways, North and South, including taxiways:

North runway, 3800 m long and 45 m wide, capable of operating aircraft up to E code (e.g. Boeing 777);

Southern runway, 4000 m long and 60 m wide, capable of operating aircraft up to code F (e.g. Airbus – A380).

# Aircraft Maintenance Hangar

The AIAAN has two hangars (under construction), with approximately 27 000 $m^2$ of construction.

# Plates

The IAAAN has five aircraft parking signs:

- Passenger terminal board with 31 sleeves (19 in operation in the first phase) and seven remote positions;
- Protocol Board – 27 positions;
- Load plate – 3 positions;
- Insulation board – one position;
- Maintenance plate – 5 positions.

# Cargo Terminal

The Cargo Terminal building has an area for handling cargo and mail and offices of different service providers. The land covers an area of approximately 27,000 $m^2$ and a construction area of approximately 17,000 $m^2$, divided into domestic cargo handling area and international cargo.

# Main Electric Power Substation

The buildings of the AIAAN substation have a construction area of approximately 1 200 m², It is powered by two lines of 60kv, namely S.E de Catete (in service) and S.E Zango do (planned), with an installed power of 40MVA, has two power transformers with a nominal capacity of 20MVA each, connected in parallel to ensure redundancy of the system through two inter-bar circuit breaker (at the input and output of the power transformer), which guarantees the continuous operation of the electrical system to the Airport complex, in case of power cuts or failures in one of the high voltage lines and/or one of the power transformers.


# Visual Lighting, Electric Substation to Support Air Navigation

It is a building with approximately 740 $m^2$ of construction. In are located the equipment that controls the support lights for the operation of the low visibility of the runways, namely approach systems, PAPPI, wind sleeves, runway sides, threshold, and end of the runway, landing touch zone, runway axis lights, waiting for position lights, runway entry lights, runway entry warning lights, circulation paths, stop bars, vertical signage and lighting of the aircraft Parking sign. It is powered by two 15KV lines from the Main Electric Substation.


# Water Pumping Station

The AIAAN Water Pumping Station has an administrative building, pumping center, and two water reservoirs with the capacity to distribute 10,000 $m^3$ of water per day, for consumption by the airport complex and the firefighting services of the airport.

# Fire Center

The AIAAN has a Rescue and Fire Fighting Center, with a construction area of approximately 3 200 $m^2$, with the following functions: fire station, service room, equipment and monitoring room, meeting room, waiting room, dormitories, changing rooms, equipment warehouses, area for the parking of fire extinguishing vehicles, an exercise tower for rescue and firefighting training, 5 floors high. There is a second Fire Building (satellite) on the South Runway with an area of 970 $m^2$.


# Airport Medical Clinic

The building with a construction area of approximately 1500 $m^2$ intended for the provision of first aid services, medical services of various specialties, consultations, examinations, and laboratory analysis.

# Airport Railway Station

The AIAAN is served by a train station. In a connection from the Bungo station, passing through the stations of Musseques, Viana, and Baia. Under the management of the Luanda Railways.

# Treatment Plant Wastewater – WTP

**It has a specialized infrastructure for the treatment of wastewater from the different buildings of the airport complex, intending to reduce the amount of polluting matter in the waters.**

# Solid Waste Incinerator

It is a construction area of approximately 600 m², intended for the treatment of solid waste from the airport complex to ensure a sustainable environmental practice.

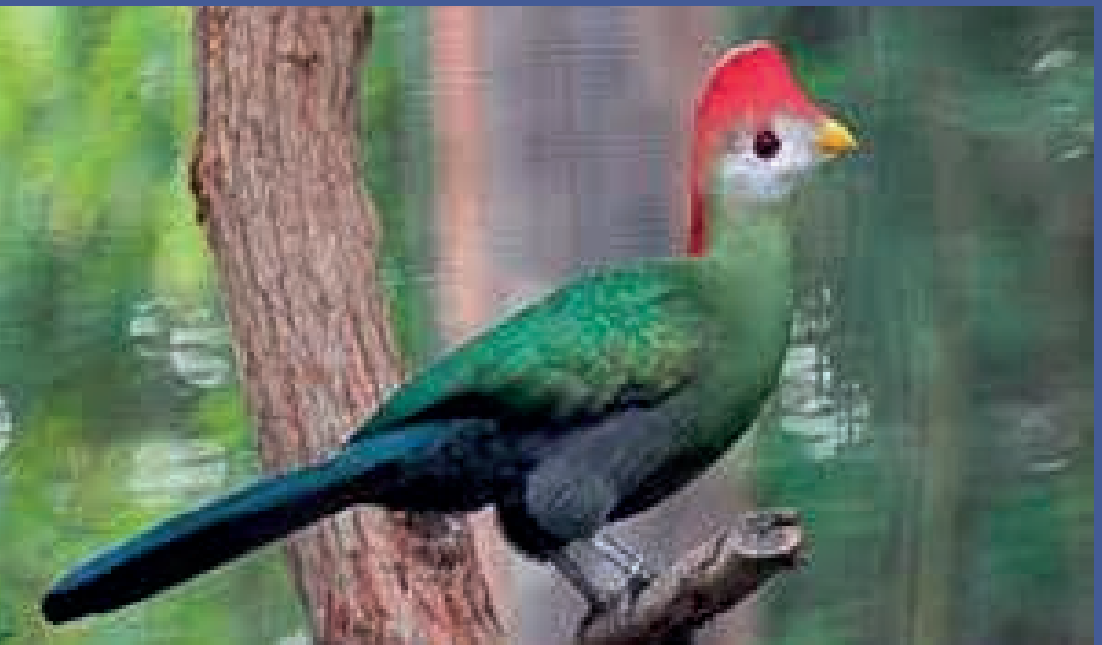
# Sustainability

In fact, in times of climate change, all sectors, and activities must seek greater efficiency in their processes, including in civil aviation and airport activities, with sustainable practices such as "*Green Airports*" or "*Eco-Friendly airports*", pursued by the IAAAN.

In this sense, on September 27, 2022, Agostinho Neto University signed a Cooperation Agreement with the IAAAN with the main objective of achieving the future classification of GREEN AIRPORT, in the green pillars/stars "Climate", "Resources", "Air quality", "Noise" and "Biodiversity", with the following initiatives:

- Study of animal biodiversity in the area affects the IAAAN;
- Study of the vegetation cover of the area assigned to the airport;
- Study of air quality and noise level;
- Study the surrounding populations, for proposals of the best social support for them.

The studies, under the responsibility of the AIAAN board, have the support of the Faculties of Social Sciences and Humanities of the UAN, which are organizing the best approach to that end.



As part of the study of the biodiversity of both the fauna and flora of the areas surrounding the IAAAN, UAN students began fieldwork integrated into their curricular internships in the areas surrounding the IAAAN, intending to start in the short term the studies of noise and the study of air quality.

In the field of its social responsibility, GONAIL has supported two conservation projects, namely the Forest Elephant Project and the African Manathim.

## FLORA

In the biodiversity to which the flora is concerned, 39 species were identified, and within them 4 were selected for experimentation in a nursery, to choose the best species to cover the area around the slopes and other adjacent areas to avoid soil erosion, as well as dust.

## FAUNA

The biologists students found about 26 species of birds and 3 species of reptiles. These surveys will help in the knowledge of the species of fauna existing in the air, identification of species of avifauna that constitute a danger in airport security, and creation of measures to mitigate the problem of birds to ensure the safety of aircraft operations. It should be noted that the surveys were carried out during the day and night periods, staying overnight in the perimeter of the AIAAN.

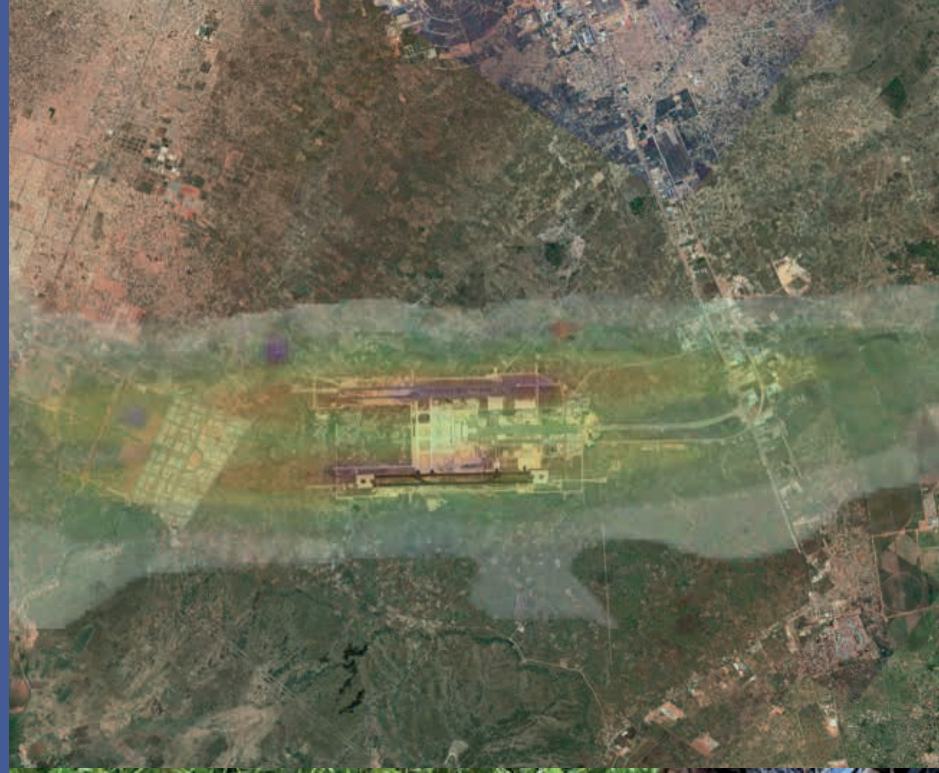
## NOISE AND AIR QUALITY STUDIES

The studies of noise and air quality are paramount to obtaining the certification of "Green Airport", which is a great challenge for the aeronautical industry to minimize the adverse effects on the communities near the IAAAN.

## FOREST ELEPHANT PROJECT

The Forest Elephant Conservation Project – is a project for the protection and conservation of forest elephants in northwestern Angola, which has been implemented since 2018 by the Kissama Foundation in partnership with the Ministry of the Environment and currently with GONAIL.

The primary objective of the project is to contribute to the conservation of forest elephants in Angola by improving existing knowledge about their taxonomic status, growing threats, and the elephant-human conflict. GONAIL within its social responsibility donated two GPS collars for the monitoring of the migratory route of forest elephants, one of the collars was placed in the Capture Campaign held in Cuanza-Norte in the region of Maria Teresa between March 5-13, 2023, and will assist in mitigating the Elephant-Man conflict existing in the region.



# CONSERVATION PROJECT OF AFRICAN MANATEM

**The African Manatee Conservation Project** – is a project for the protection and conservation of African manatees in Angola, it will be implemented in the first phase in Luanda (on the Kwanza River), by researchers in partnership with the Faculty of Natural Sciences of the Agostinho Neto University, GONAIL and the Kissama Foundation. The main objective is to contribute to the knowledge and conservation of African Manatem in Angola, improving existing knowledge about its distribution, current status, threats, manatee-man conflict, and poaching.

GONAIL within its social responsibility contributes to the protection and conservation of the African manatee that is currently listed as vulnerable to extinction according to the IUCN. Since the limits of GONAIL cover the Cuanza River, which is one of the main habitats of the species in Angola, it will be contributing to the protection of this species and involve communities in conservation actions.

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