AIRPORT MANAGEMENT SYSTEM

Airport software system outline:
1. Landside Operations
2. Airside Operations
3. Information Management
4. Invoicing and billing

Landside operations:
This module performs terminal operations and airline departure control.

Terminal management:
1. Resource management
2. Staff management
3. Maintenance and monitoring

Passenger facilitation:
1. Border Control
2. Common use services (self-service check-in systems)
3. Baggage handling

Airside operations:
Airside operations comprise control and facilitation of aircraft handling and parking.

1. Aeronautical Fixed Telecommunication Network (AFTN) Systems.
-Communication handling between airports and aircraft
-Data exchange (traffic, safety, weather, geographic material, disruptions)
-Info of flights used for 1) planning and 2) statistical purposes:

AFTN systems hold the following information:

- Aircraft registration
- Runway used
- Actual time of landing and departure
- Number of circuits
- Number and type of approaches
- New estimates of arrival and departure
- New flight information

2. ATC TOWER.

The Air Traffic Control Tower is a structure that delivers air and ground control of the aircraft. The tower's main focus is to ensure that all aircraft have been assigned to the right place. The ATC serves as a channel between landside and airside operations.

3. Apron Handling.

Apron handling deals with aircraft servicing including passenger boarding and guidance, cargo and mail loading, aircraft guiding, cleaning, drainage, catering, and fueling. At this stage, the software facilitates dealing with information about the weight of the baggage and cargo load, the number of passengers, and the ground services that must be supplied to the aircraft.

By entering this information into the system, their costs can be calculated and invoiced through the billing system.

Invoicing and billing:

Each flight an airport handles generates a defined revenue for the airport paid by the airline operating the aircraft. The system can calculate the aeronautical fee and issue an invoice with a bill using the following data:

- Aircraft registration
- Parking time at the airport
- Airport point of departure and/or landing
- Times at the different points of entry or departure
- The data is entered for ATC.

Revenue management. Revenue management systems are comprised of accounting systems, business intelligence, payrolls, and revenue from ground-handling services in airports.

Information management – Airport information systems (AIS):

This part includes all software that collects, distributes, and updates information from around the airport. They receive data from airlines and terminals, data on time and gates of arrival that must be sent to the passengers (however they can also display non-flight-related types like weather or news broadcasts).
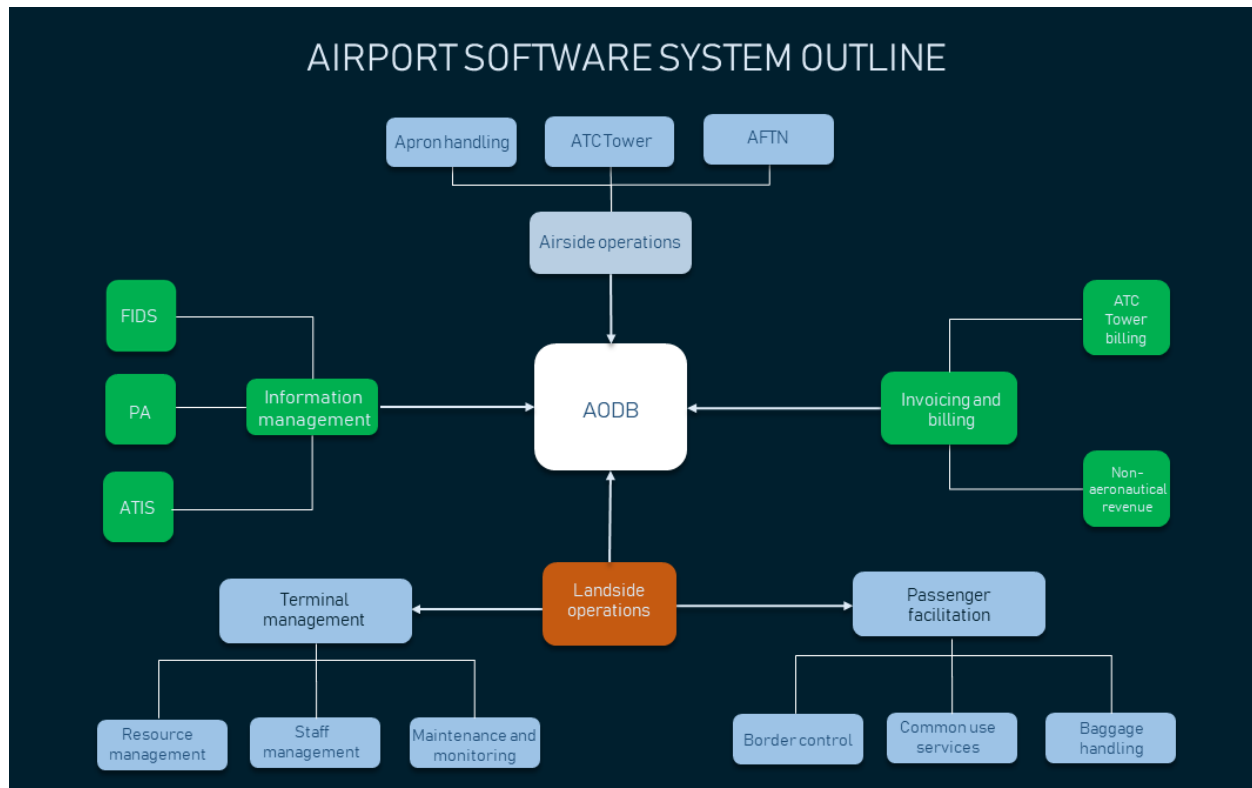
1. Flight Information Display Systems (FIDS)

Displays the status of boarding, gates, aircraft, flight number, and other details. Airports can choose whether it be manually or loaded from a central database.

2. Airport announcement systems

Informs passengers and airport staff about any changes and processes of importance for example, gates, times of arrival, calls, and alerts. They usually include voice messages transmitted through speakers.

3. Automatic Terminal Information Service (ATIS)
Informs the pilots and the crews regarding weather, condition of the runway, or other information.

Airport Cargo Department

The Airport Cargo Department is responsible for all the air freight of goods that fly in and out of the airport. Operations such as Airside operations and Invoice and billing are also applied from the cargo department. The aircraft landing in the airport or departing from the airport also communicates with ATC Tower and the data of the shipping aircraft data enters the AFTN system and undergoes Apron Handling. Not only does the system calculate the invoice for the aircraft but also charges the fees for every single product that enters the cargo center charging it by whether by *weight* or *volume.* After passing a security check for illegal items or contraband goods, the system saves:

1-the details of the product
2-the freight company
3- the order
4- the fee from the airport for the product