





## ARMS Aeronautical Revenue Management System

- » A-RMS is an aviation billing management system which has been developed in conjunction with industry players to assist providers of Air Navigation Services in managing their ANS revenue collection operations.

It collects flight data by interfacing with Radar Data Processing Systems (RDPS), Flight Data Processing Systems (FDPS) and AMHS / AFTN systems to ensure accurate billing of airspace usage and ground services.

By using technology and automation to replace arduous and costly paper-based, manual processes which are often prone to errors and omissions, ANSP can:

- Reduce delays in invoicing;
- Increase accuracy in invoicing, decreasing lost revenue and reducing contested charges;
- Provide operators with documentation to support charges;
- Decrease the number of outstanding accounts;
- Improve the speed of payment receipt.

A-RMS's versatile architecture allows it to be used by all providers of Air Navigation Services from general aviation services and private airfields up to commercial aviation and national ANSPs.

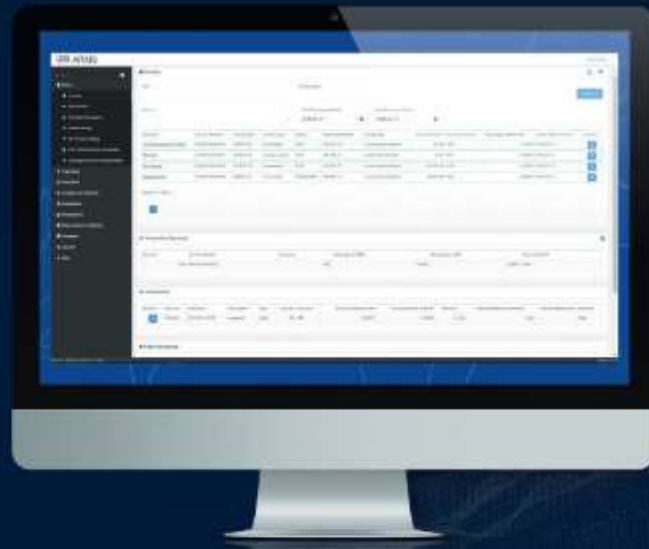


A-RMS provides billing services for both aviation and non-aviation related charges.

### FUNCTIONS

- **Account Management:** Account management allows the ANSP to create a database of individuals and organizations who should be invoiced for their use of Air Navigation Services. As well as account attributes, all information related to the account including aircraft details, flight schedules, flight movements, invoices, credit and debit notes and financial transactions is accessible.
- **Aircraft Management:** Aircraft management allows the ANSP to create a database of all known aircraft, identified by their registration number, their association to an account and their characteristics including ICAO Doc 8643 and manufacturer information.
- **Enroute Air Navigation Charges:** Separate formulas for enroute air navigation may be defined for domestic flights as well as regional and international departures, arrivals and overflights. Formulas may be based on either the actual aircraft weight or the average MTOW factor for the aircraft weight category and the distance travelled.
- **Aerodrome, Approach, Late Arrival, Late Departure and Parking Charges:** Separate fee rates may be established by aerodrome category, aircraft weight category and time of day.
- **Exemptions:** Exemptions from any flight related charge (enroute, approach, aerodrome, parking, late arrival, late departure) may be specified based on account, aircraft type, item 8 flight type, item 18 STS/, item 18 RMK/ and route departure/destination pair.
- **Flight Database:** The flight database is the center of the aviation billing engine. Flight information is combined from various sources: scheduled flights (via FDPS, AFTN, AMHS); ATC logs; tower logs; RADAR; and passenger manifests. Duplicate flights are identified and merged into single records based on geographic and temporal similarities in departures. A warning system for missing or duplicated flights based on departures and arrival of each registration number notifies the user where manual correction is required. Flight attributes from the database maybe viewed or modified. The flight and its route defined by each source of information may be displayed in a GIS web interface.





- **Invoicing:** Invoices may be generated for cash accounts at point-of-sale or for credit accounts on a weekly, monthly or on demand basis. Invoicing provides both IATA format and ANSP aviation invoices as well as non-aviation invoices. A record of the invoice is kept in PDF format.
- **Reports:** The system comes preconfigured with sixteen reports for various account, invoice and transaction related details. Additional user defined reports may also be configured.
- **Statistics:** Statistics may be generated and displayed as reports or graphical pie, bar or line charts. Statistics may be generated based on number of flights and/or passengers or by economic value. Statistics may be categorized by any combination of time interval, billing center, account, flight type, flight scope, flight schedule, flight rule, flight level, aerodrome, route, aircraft type, and payment mode (cash,credit).



- **Interest Charges:** Interest charges are automatically calculated and added to invoices once an invoice is overdue.
- **Billing Ledger:** The billing record records all transactions including invoices, payments, credit notes and debit notes. It also keeps track of unpaid and overdue invoices.





- **Non-Aviation Charges:** Non-aviation charges are specified in a user defined service charge catalogue. These charges may be selected at point-of-sale and added to an invoice. Pricing on service charge catalogue items may be fixed, per-unit or user-entered. For accounts with repeated monthly invoices (leases etc) – a standing invoice may be created which is used to generate an invoice each month.
- **Customer Self-Care Portal:** An online portal which allows general aviation operators to register accounts, aircraft and flight schedules and provides access to account related information: invoices, credit and debit notes and transactions. It also provides for automatic notification of invoices and outstanding balances and allows the operator online payments.
- **Whitelisting Accounts:** Implemented with the customer self-care portal, this feature allows the ANSP to restrict access to their airspace to credit accounts and cash accounts which have a balance to cover the cost of scheduled flights. Non-credit accounts must register via the self-care portal and pay for flights in advance via credit card. Scheduled flight plans received which are not prepaid will result in an AFTN warning message being sent to originator and to the AIS operator that the flight has been declined.
- **Third Party System Integration:** Custom plugins may be developed to provide clean and robust interfaces to other ANSP systems, providing tightly integrated operation with accounting, aircraft registration or other systems. As well, all A-RMS data sets are accessible to third party system via authenticated web services.
- **AIREON READY SOLUTION:** ARMS support the ADS-B data of Aireon giving an advantage on the calculation of the fee along all the route for cross country operation, this allow a quick verification of entry and exit point subject of charging along designated airways or in free route condition.