We are focusing on the development of unique software and service solutions according to the new ICAO and EASA requirements for aviation stakeholders (airports, air navigation service provider, airlines) with the aim to ensure and improve safety in aviation.
DIGITAL AERONAUTICAL DATA – FROM PAPER TO DIGITAL DATA

Digitalize your paper with AIME

Paper NOTAMs → Digital NOTAMs

Paper AIP → AIXM 5.1 Data

Static Information → Real Time Data
The transition from paper products to digital data is a **critical pre-requisite** for the implementation of any current or future ATM or air navigation concept that relies on the accuracy, integrity and timeliness of data.
AIME software application for creation, validation and distribution of aeronautical digital data

System will effectively link the full range of services from airport to flight planning, airport operations planning, air traffic control and flight separation assurance while continuing to maintain the safety and security of the travelling public and lessening the environmental impact on the planet and its population.

- **Creation** of digital data
- **Validation and verification** of data
- **Support** for temporal and permanent changes
- **Distribution** of data to local / European database
Viewer of 3D digital AIXM 5.1 data of the airport able to integrate the position of GNSS monitoring system. Actually, navigation solution of monitoring the actors at the aerodrome surface is provided by fusion of positioning data with static maps.

Next Generation platform
Real-time airport
Digital NOTAM messages implementation in real time digital AIXM 5.1 of maps airport.

Ground Movements Monitoring possibility
A-SMGCS
Monitoring of movements of aircraft and other mobile vehicles at the airport using GNSS and integration into the digital map.
AIS TO AIM Phases

Phase 1 — Consolidation
Phase 2 — Going digital
Phase 3 — Information management

2016–2036 Global Air Navigation Roadmap

Global Air Navigation Plan (ICAO Doc 9750) for aeronautical information services (AIS) to aeronautical information management (AIM)
Relevant ICAO Annexes and Docs

The following ICAO annexes are essential for the AIS to AIM transition:

- Annex 4 – Aeronautical charts
- Annex 14 – Aerodromes
- Annex 15 – Aeronautical Information Services

Relevant ICAO documents are amongst others:

- Doc 7383 - Aeronautical Information Services Provided by States
- Doc 8126 - Aeronautical Information Services Manual
- Doc 8697 - Aeronautical Chart Manual
- Doc 9674 - WGS 84 Manual
- Doc 9750 - Global Air Navigation Plan
Phase 1 — Consolidation

Steps will be taken to strengthen a solid base by enhancing the quality of the existing products

- P.04 - Monitoring of Annex differences
- P.03 - AIRAC adherence monitoring
- P.17 - Quality
- P.05 - WGS-84 implementation
Phase 2 — Going digital

The main focus will be on the establishment of data-driven processes for the production of the current products in all States. States that have not yet done so will be encouraged “to go digital” by using computer technology or digital communications and introducing structured digital data from databases into their production processes.
During Phase 3, steps will be taken to enable future AIM functions in States to address the new requirements that will be needed to implement the Global Air Traffic Management Operational Concept in a netcentric information environment.

- **P.09 - Aeronautical data exchange**
- **P.21 - Digital NOTAM**
- **P.10 - Communication networks**
- **P.12 - Aeronautical information briefing**
- **P.16 - Training**
- **P.19 - Interoperability with meteorological products**
- **P.20 - Electronic aeronautical charts**
- **P.18 - Agreements with data originators**
According to the ICAO Roadmap AIME follows all phases that means Consolidation, Going Digital and Information Management. In the following table find explanation how AIME concrete solves each step from ICAO Roadmap:

**AIME Supports transition from AIS TO AIM**

<table>
<thead>
<tr>
<th>Steps ICAO AIM Roadmap</th>
<th>AIME</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-01 — Data quality monitoring</td>
<td>AIME fully follows data quality process according to the ICAO Annex 15 and RTCA DO 200 B and RTCA DO 201 A. For identification of data quality process AIME was design under the ADQ EUROCONTROL Guidance.</td>
<td>AIME automatizes data quality processes in the terms of verification and validation process. Data quality monitoring in AIME software is based on DQR and HL (Data Quality Monitoring and Harmonised List) of ICAO Annex 15 which AIME fully ensure data quality check.</td>
</tr>
<tr>
<td>P-02 — Data integrity monitoring</td>
<td>AIME is automatically checking data integrity according to the AIXM 5.1 XML Schema.</td>
<td>In the case of data integrity failure AIME has Error Detection function.</td>
</tr>
<tr>
<td>P-03 — AIRAC adherence monitoring</td>
<td>AIME stores AIXM data in state centralised database and each feature element has unique UUID according to the ICAO Annex 15.</td>
<td>AIME uses request management solution for requesting change of the data in the terms of permanent or temporal changes which ensure that whole data chain is adherence.</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>P-05 — WGS-84 implementation</td>
<td>NG Aviation provides service for conversion from various reference systems by measurement and computational techniques.</td>
<td>AIME primarily works with WGS 84 which is required for AIXM 5.1 usage.</td>
</tr>
<tr>
<td>P-06 — Integrated aeronautical information database</td>
<td>AIME is able to submit request of data change to state database (if available) or in the case if database is not established already NG Aviation provides this type of service.</td>
<td></td>
</tr>
<tr>
<td>P-07 — Unique identifiers</td>
<td>Based on the fact that AIME uses AIXM 5.1 UUID is atomically ensure that all UUID is part of the AIXM schema and generation of UUID is part of the AIME software.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aeronautical information conceptual model</td>
<td>Aeronautical data exchange</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>P-08</td>
<td>AIME fully support AICM especially AIXM in the case of the rest models (FIXM and WXXM) NG Aviation is preparing environment for these models.</td>
<td>AIME software platform is principally designed for the data exchange purpose. For this reason, AIME users are able to create data in the aeronautical exchange model (AIXM 5.1) which is only one exchanging format which full fill requirements in ICAO Annex 15.</td>
</tr>
<tr>
<td>P-12 — Aeronautical information briefing</td>
<td>According to fact that AIME Data creator creates also Digital NOTAM messages graphically the data in the database are updated near real time which dramatically improve pre-flight briefing.</td>
<td>AIXM 5.1 is structured format which ensure filtering of information for better effectiveness.</td>
</tr>
<tr>
<td>P-13 — Terrain</td>
<td>Provided by partner</td>
<td></td>
</tr>
<tr>
<td>P-14 — Obstacles</td>
<td>AIME is providing obstacle data in AIXM 5.1 which is beneficial according to the temporality model of AIXM 5.1</td>
<td>Key component in the management of the data is not only creation but also the maintenance in case of the new obstacles or replacement of the obstacles (e.g. cranes). The AIME Data Creator is creating easily the obstacles and incorporates into the data</td>
</tr>
</tbody>
</table>

**ICAO FROM AIS TO AIM ROADMAP**

Provided by partner
<table>
<thead>
<tr>
<th>P-15 — Aerodrome mapping</th>
<th>AIME provides AMDB in AIXM format which has the great benefit of digital NOTAM, advanced optimization, conversion to the another formats ARINC 816</th>
<th>AIME Data Creator is able to add the new features to AIXM 5.1 data, check the quality and verify the data structure automatically</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-16 — Training</td>
<td>NG Aviation team is certified by various organisation in Aviation and software development field (Eurocontrol, RTCA Washington, etc.)</td>
<td>NG Aviation provides training for AIME users in the terms of application usage and AIM.</td>
</tr>
<tr>
<td>P-17 — Quality</td>
<td>AIME Data Creator is validating the data based on the Data Quality Requirements from the end/user of the data. As the reference value the AIME Data Creator can use the ICAO Annex 15 or EUROCONTROL Harmonized list</td>
<td>AIME implements industry standard RTCA 200 B and 201 A which is strongly based on data quality monitoring</td>
</tr>
<tr>
<td>P-17 — Quality</td>
<td>AIME Data Creator is validating the data based on the Data Quality Requirements from the end/user of the data. As the reference value the AIME Data Creator can use the ICAO Annex 15 or EUROCONTROL Harmonized list</td>
<td>AIME implements industry standard RTCA 200 B and 201 A which is strongly based on data quality monitoring</td>
</tr>
</tbody>
</table>
| P-19 — Interoperability with meteorological products  
P-20 — Electronic aeronautical charts | AIME Data Creator output - AIXM 5.1 data are interoperable with multiple 3rd party products which are able to convert data to other various formats suitable for end-user. AIME Data Creator is able to output ARINC – 816 – 2 which can be directly used in cockpits. | |
| P-21 — Digital NOTAM | The major benefit of AIME Data Creator is easy/to/use software application for creation of the Digital NOTAM based on the AIXM 5.1 data. AIME Data Creator is able to create NOTAM graphically and convert it to format suitable for user and submission to local or national database. AIME Viewer is the Viewer of 3D AIXM 5.1 data including NOTAM messages which is key enabler of the new A-SMGCS Level 2 systems. | |
Achieve aviation data of excellent quality to be easily created and delivered for aviation players.

Thank you 🎈