

NG Academy

Course & Training Catalogue

NG AVIATION





General Information

BY PROVIDING HIGHLY SPECIALIZED TRAINING COURSES, NG AVIATION SUPPORTS THE AVIATION COMMUNITY IN UNDERSTANDING AND IMPLEMENTING THE DIGITIZATION PROCESS.

The NG Aviation team consists of experts from all key areas of the air traffic business.

Our professional background and extensive experience in the digitization of the aviation industry allow us to share our knowledge with our clients in an engaged and flexible way.

NG Academy provides various training courses to support different participant's backgrounds and subject areas of the aviation industry. We provide standard and customized training solutions to enrich your experts to benefit your organization.

Our learning strategy builds on the balanced

amount of theoretical information and practical training, which enriches the participant on the theoretical level and improves practical skills.

Our course curriculum includes:

- The flexibility of means and locations of courses
- Experienced trainers and operational experts
- Well designed structures of courses to reflect your needs
- Content customized to fit your requirements

TRANSFERRING DIGITIZATION EXPERTISE ON BOTH THEORETICAL AND PRACTICAL LEVEL OPENS NEW WAYS OF UNDERSTANDING DIGITAL DATA POTENTIAL.

Experiences

NG Aviation Academy successfully performed multiple training courses around the world. The NG Aviation team consists of experts in every aviation industry area, including the AIXM 5.1 and digital data management, Aerodrome operations, ATM/U-SPACE, Airline operations, and many more.

Confirming its expertise in digitization of aeronautical information,, NG Aviation has been awarded the contract for creatingf Aerodrome Mapping Guidelines for the EUROCONTROL. The company was tasked with developing guidance material for data management and mapping between the AMXM and AIXM 5.1 data exchange models.

EUROCONTROL'S AERODROME MAPPING GUIDELINES, PREPARED AND DESIGNED BY NG AVIATION, CONFIRMS COMPANY'S UNDENIABLE EXPERTISE IN THE FIELD OF DIGITIZATION OF AERONAUTICAL INFORMATION AND FURTHER DATA USE.

Dubai Air Navigation Services (dans)

NG Aviation delivered NG-AIME system training that consisted of digital dataset creation and validation. During the training, detailed Aerodrome mapping database for OMDW and OMDB airport was created. NG Aviation provided training and software updates for the AIM.

The training material included AMDB, Flight Procedures, Airspace, Routes, Waypoints, etc. All features regarding digital AIP dataset.

AirNAV Indonesia

NG Aviation provided strategic AIM training for the practical implementation of digitization of aeronautical data and consultation for digital environment set-up. The project delivered not only training but also the creation of digital aeronautical data in AIXM 5.1 for Denpasar International Airport (Bali).

MoldATSA

NG Aviation delivered AIS to AIM training based on the NG-AIME system for MOLDATSA employees. Training included advanced SW and AIXM training.



Course overview

Course	Length
Theoretical courses	
AIXM 5.1 Basic	5 days
AIXM 5.1 Advanced	5 days
AIXM 5.1 Expert	5 days
ICAO documents for AIM, Annex 15, PANS-AIM and Doc 8126	2 days
Practical Courses	
AIP digital data set	5 days
AMDB digital data set	10 days
IFP digital data set	5 days


NG Academy provides multiple theoretical and practical courses divided by level and complexity. Theoretical courses give participants essential information from the legislative point of view required to understand and successfully implement the organisation's digitization process.


Practical courses guide participants through digital aeronautical data creation in the AIXM 5.1. Training is performed using the NG-AIME application provided to the participants. Classes are divided by the type of digital data set or can be customized based on customer's needs. The prerequisite for practical training is an adequate level of attendee's knowledge.

Besides the defined courses, NG Academy offers customizable training, combining both the theoretical and practical parts. The course content can be set up specifically for the organization to cover all topics required, e.g., AIXM 5.1 Expert together with AMDB digital data set course, where even the theoretical training will be more focused on AMDB AIXM 5.1 Features and how to create and manage the digital data.

AIXM 5.1 Basic

Course details

 **Duration:**
5 days

 **Prerequisite:**
None

Course Objective

With this course's completion, participants will be familiar with today's data models for Aeronautical Information storage and exchange. Also, the participants will be introduced to the basics of the AIXM 5.1 UML Model and Geography Markup Language and its usage within an AIXM 5.1 data exchange model. The AIXM 5.1 XML Model/Schema will be studied, and the structure will be explained.

Course Content

The following topics will be covered during the course:

Data models for aeronautical information storage and exchange

- AICM and AIXM Overview
- Airport Mapping Exchange Model (AMXM)

- Weather Information Exchange Model (WXXM)
- Flight Information Exchange Model (FIXM)
- System Wide Information Management (SWIM)
- ATM Information Reference Model (AIRM)
- The Future of the data exchange models

Introduction to AIXM

- AIM information flows
- Versions of AIXM data exchange model

AIXM 5.1 UML Model

- UML Modelling conventions
- Specific aspects of UML Model

Geography Markup Language

- Geometries in GML
- XML and GML
- Usage of GML in AIXM 5.1

AIXM 5.1 XML Model/Schema

- AIXM – core XSD
- Mapping inheritance
- Mapping Name of Classes
- Mapping Features
- Mapping Objects
- Mapping Choices
- Mapping relationship to Objects
- Mapping relationship to Features
- Mapping Data Types

AIXM 5.1 Advanced

Course details



Duration:
5 days



Prerequisite:
AIXM 5.1 Basic Course

Course Objective

With the completion of this course, the participants will understand the backstage of AIXM 5.1 and will be familiar with digital data edition and processing. During this course, the participants will be introduced to the Temporality Model associated with AIXM 5.1 data exchange model and the AIXM 5.1 Feature Identification and Reference. In this course, the requirements for Metadata will be presented and explained, together with the introduction into the AIXM 5.1 Business rules published by the EUROCONTROL.

Course Content

The following topics will be covered during the course:

Temporality Model - Basic

- Building the temporality model
- Basic Time-Slices
- Usage examples



AIXM 5.1 Feature Identification and Reference - Basic

- UUID definition
- Namespace
- Usage in AIXM 5.1
- Feature reference - basic

Use of GML for aviation data - Basic

- Geographical data in Aeronautical Information
- WGS-84
- Types of geometry
- Usage in AIXM 5.1

AIXM 5.1 Metadata Profile - Basic

- Aviation Profile of ISO 19115
- Metadata requirements based on PANS-AIM

AIXM 5.1 Business Rules

- Semantic of business vocabulary and business rules (SBVR)
- AIXM Business rules

Data Edition and Processing - Basic

- Editing of digital information
- Processing and data flows of digital data

AIXM 5.1 Expert

Course details



Duration:
5 days



Prerequisite:
AIXM 5.1 Advanced Course

Course Objective

With the completion of this course, the participants will fully understand the digitization of aeronautical information in the AIXM 5.1 data exchange model and will fully understand all requirements and data processes. During this course, the details of the Temporality model will be explained and demonstrated, as well as the advanced usage of Feature Identification and Reference. The participants will be guided through the processes and requirements for the creation of complete metadata information.



Course Content

The following topics will be covered during the course:

Temporality Model - Advanced

- Time Slices specifications
- Temporality rules - advanced
- Analysis of problematic situations

AIXM 5.1 Feature Identification and Reference - Advanced

- Advanced usage of Feature references in AIXM
- Airspace aggregations

AIXM 5.1 Metadata Profile - Advanced


- Full metadata requirements
- Specifications for each digital data set


Data Edition and Processing - Advanced

- Application of Temporality model to data editing and data processes
- Creation of geometry information (NG-AIME)
- Advanced data editing (NG-AIME)
- Detailed data processing, including the Metadata

ICAO documents for AIM. Annex 15, PANS-AIM and Doc 8126

Course details

 **Duration:**
2 days

 **Prerequisite:**
None

Course Objective

With the completion of this course, the participants will be familiar with international legislation containing requirements for creating and providing digital aeronautical data. Specific parts of ICAO Annex 15 (16th edition) will be deeply described and explained during the course. The participant will understand the requirements put by ICAO Doc 10066 PANS-AIM, together with supported Data Catalogue. The content of ICAO Doc 8126 will be explained.

Course Content

During the course, the participants will be presented with relevant requirements.


The following topics will be covered during the course:

- **ICAO Annex 15 (16th Edition)**
- **ICAO Doc 10066 PANS-AIM**
- **ICAO Doc 10066 PANS-AIM - Data Catalogue**
- **ICAO Doc 8126**

AIP digital data set

Course details

 **Duration:**
5 days

 **Prerequisite:**
AIXM 5.1 Advanced course

Course Objective

With the completion of this course, the participants will understand the legislation requirements for the creation and provision of the AIP digital data set in AIXM 5.1. The legislation overview will be provided with a focus on the AIP data set. The participant will be provided with detailed mapping for the minimum AIP digital data set and additional mapping based on ICAO Doc 10066 PANS-AIM. The participant will be able to create all required features and their properties.

Course Content

The following topics will be covered during the course:

Legislation

- ICAO Annex 15 (16th edition)
- ICAO Doc 10066 PANS AIM
- AXIM 5.1 Schema
- EUROCONTROL business rules
- Temporality model

Practical training (minimum AIP data set)

- ATS airspace
- Special activity airspace
- Route
- Route segment
- Waypoint - en-route
- Aerodrome/Heliport
- Runway
- Runway Direction
- FATO (Final Approach and Take-Off)
- TLOF (Tough-down Lift Off)
- Radio navigation aid

Optional: Obstacle digital data set

- Creation and guidance for Obstacle digital data set in AIXM 5.1

AMDB digital data set

Course details

 **Duration:**
10 days

 **Prerequisite:**
AIXM 5.1 Advanced course

Course Objective

With the completion of this course, the participants will understand the backstage of AIXM 5.1 and will be familiar with digital data edition and processing. During this course, the participants will be introduced to the Temporality Model associated with AIXM 5.1 data exchange model and the AIXM 5.1 Feature Identification and Reference. In this course, the requirements for Metadata will be presented and explained, together with the introduction into the AIXM 5.1 Business rules published by the EUROCONTROL.

Course Content

The following topics will be covered during the course:

Legislation

- ICAO Annex 15 (16th edition)
- ICAO Doc 10066 PANS AIM
- AIXM 5.1 Schema
- EUROCONTROL business rules
- Temporality model
- EUROCAE ED-99/RTCA DO-292
- Geography Markup Language (Use of Geography Markup Language (GML) for Aviation Data)

Practical training (minimum AIP data set)


- All aerodrome features as defined by EUROCAE ED-99/RTCA DO-292
- Complete guidance for data creation in AIXM 5.1


Optional: Obstacle digital data set

- Creation and guidance for Obstacle digital data set in AIXM 5.1

IFP digital data set

Course details

 **Duration:**
5 days

 **Prerequisite:**
AIXM 5.1 Advanced course

Course Objective

With the completion of this course, the participants will understand the legislation requirements for the creation and provision of the IFP digital data set in AIXM 5.1. The legislation overview will be provided with a focus on the IFP data set. The participants will be guided through the process of data creation, including the features, properties, associations, and required metadata.

Course Content

The following topics will be covered during the course:

Legislation

- ICAO Annex 15 (16th edition)
- ICAO Doc 10066 PANS AIM
- AIXM 5.1 Schema
- EUROCONTROL business rules
- Temporality model
- ICAO Doc 8168 PANS-OPS

Practical training

- ATS and Other Routes
- Holding Patterns
- Standard Instrument Arrival (STAR)
- Standard Instrument Departure (SID)
- Instrument Approach Procedure (IAP)
- Radio navigation aids

Optional: Obstacle digital data set

- Creation and guidance for Obstacle digital data set in AIXM 5.1

NG AVIATION

NG AVIATION SPECIALIZES IN THE DIGITAL
TRANSITION OF THE CIVIL & MILITARY AVIATION
INDUSTRY.

“ Cooperating with key international partners,
NG Aviation offers a spectrum of services
and solutions that provide comprehensive
digital solutions, transforming the industry’s
information management and data
exchange while fulfilling international
regulatory compliance. ”



For more information, please visit our website

www.ngaviation.eu