AIM TRAINING
CATALOGUE 2024

www.groupead.com

The first Training Academy exclusively focused on AIM

The GroupEAD team consists of experts from all key areas of air traffic business including AIS/AIM Officers, Air Traffic Control, Airports and Airlines. Our unique background of multinational and multilingual staff members allows us to provide our experience to our clients in an engaged and flexible way. Refreshing the know-how is a key to continuous improvement.

1600+ Training Courses conducted

171 Organizations and Customers participated at GroupEAD Training Academy

5 Training Languages

GroupEAD's AIM Training Academy is pleased to provide varied trainings to support different types of learners and subject areas in our full service portfolio. We provide standard and customized training solutions to enrich your experts to benefit your aeronautical data organization. Our learning strategy promotes long retention levels by mixing methods including lecture, reading, audio-visual, demonstration practice and real environment simulation, discussion and scenario based trainings. Our AIM Training Academy capabilities for your success:

- **Training courses are designed specifically for AIM staff**
- **Trainers experienced and operational experts**
- **Flexibility to address needs through Modules and Training Locations**
- **Content is customisable to fit to your requirements**

You will enjoy our training through active participation and involvement.

Handling, management and operation of data are our core competences. Transferring these competences through training is the way GroupEAD supports the AIM Community to move forward.

Certificate

GroupEAD has developed a sophisticated Quality Management System (QMS), and is ISO 9001:2015 certified with continuously successful re-certifications over the past years.

→ **read more: www.groupead.com**

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General Information
On GroupEAD Training Programm

Eschborn, Madrid or at your Place!

We are pleased to offer training in either of our 2 classroom locations or to travel to your location. In addition, we are newly offering our AIM Training virtually. Within the programme, you will see our pre-planned trainings occur in either our Madrid, Spain or Eschborn, Germany training and operations centres. In addition to our pre-planned training listed in this catalogue, we can also provide on request trainings at our place or happy to travel to yours. We only need a classroom set-up (with or without computers, depending on the courses) to travel to you!

The standard language of training is English, but based on our talented training staff, we are pleased to offer some of our training courses in a variety of languages such as:

Our training material is provided in English, but contact us if you are interested in the possibilities above.

Course Enrolment

1. Enrolment on our website – please join us at **www.groupead.com** and click on "AIM Training Academy" button in the top row. This link will take you to our training portal where you can explore and sign up for courses with your own login.

2. Electronically – you can download our enrolment form in pdf from our website or request in an email to **training@groupead.com**. Just print, fill it in and email it back to us and we will enroll you in the classes of your choice.

3. If you cannot get to a computer, we can still receive your enrolment form by regular mail to the address at the top of the enrolment form on page 39 of this brochure.

Please plan your enrolments that it reaches us at minimum 35 days in advance to the course start date. Once we receive it, you will receive a confirmation email. If you do not receive a confirmation from us, send us an email or contact us via phone to get confirmation.

If you would like to book within 35 days of the course start date, contact us to see if we still have seats available. If we do, we would be happy to include you in the training.

Enrolment
through the link:

Training Fees

Prices in this brochure cover the costs of the training including all documentation and are quoted in Euro (excluding VAT) based on a per person price.

Course Start, Details and Classroom

Once your enrolment is processed, the online training portal will show your course status as "Scheduled". This will let you know that you have a seat in the course reserved. About 35 days in advance of the course, once the course has been confirmed, the status will change to "Confirmed" and you will receive an official invitation via email with all details needed to join the class. In general, on the first day all courses will start at 0900 hrs local time. Please plan to arrive 15 min before the start time so that the class can also begin on time. Your training

material will be provided by the Trainer on your first day. After completion of the course(s), you will receive an individual Certificate of Attendance for each course you attended.

Both of our training locations have a break area where you can refresh yourself with a drink and a cookie before the class and during breaks. There are close-by eating facilities where lunch can be purchased or alternatively, you can pack your lunch and eat in our comfortable lounge areas.

Virtual Training

GroupEAD is also offering all courses as virtual training which will be provided via video conferencing platform. The scope and content will be the same as classroom training. If you are interested, please contact us. We will gladly provide you an offer.

Choosing your Courses

We have developed a Training Programme addressed to those people who want to become AIM Staff including simulation experience in a real AIM environment. Whether you have aviation background or not, our Training Programme will allow you to understand and participate in present and future AIM developments.

AIM Basic Training
If you do not have aviation background, these Training courses will allow you to acquire the necessary know-how to join Organizations managing aeronautical data.

AIM Advanced Training
If you have aviation background and you want to improve your skills in AIM, these Training Courses will provide you with the necessary knowledge to be part of daily AIM operations.

Procedure Design
In depth training courses by module to acquire the knowledge needed to design procedures based on ICAO standard.

Availability of Trainer
GroupEAD shall assure the availability of instructors during the agreed dates. From the date the firm signed order or any other mutually signed agreement is received by GroupEAD, a minimum lead time of 35 calendar days shall apply to provide the training service.

Material and Ownership

All copyrights and other intellectual property rights of the course material, including all documentation, data, technical information and know-how provided as part of the training, remains in possession of GroupEAD, unless otherwise specified in the material. All such information shall be held in confidence and may not be disclosed to third parties without the express permission of GroupEAD.

Substitution

Booked participants may be substituted up until the training course will commence if the replacement trainee fulfills the necessary conditions for the training course in

question. Substitution of trainees is for free. No refunds will be made for non-attendance of trainees.

Postponement

If the postponement is requested before 35 days in advance of the training, all GroupEAD out of pocket costs will be covered by Customer.

If the postponement is requested 35 days or less in advance of the training, in addition to all out of pocket costs, a fee will be issued to cover the additional management and scheduling costs associated to postponement in accordance with our Postponement Policy.

Cancellation

Up to 35 days prior to the training, a cancellation will not be charged. Upon cancellation within 15 to 35 days prior to the training, 50 % of the contract value will be charged. Cancellation less than 15 days prior to the training will be charged in full. In case cancellation cost for travel arrangements for trainer occur, those cancellation cost plus a 10 % handling fee will apply in addition.

GroupEAD is committed to ensuring the safety and health of our employees and visitors and are following Health and Safety measures applicable in our Training Centers in Frankfurt and Madrid.

For further information please contact us:

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GroupEAD Europe S.L. is committed to protecting and respecting your privacy and we are in compliance with the EU General Data Protection Regulation (GDPR). Further details can be found on our website under Privacy Note.

All further Terms and Conditions are incorporated in our Training Service T&C which can be found https://www.groupead.com/aim-training-academy/aim-training-catalogue/

AIM Basic Training

Basic know-how

AIM-AIS

Aeronautical Information Services*

Course Details:	Duration:	10 days, classroom or virtual training
	Participants:	Current and future AIS/AIM Officers with no or limited aviation knowledge
	Min. number:	4

Course Objective: This course addresses the main concepts of AIS and the evolution to AIM. It also explains the AIM Products and their ICAO reference documents. Participants will be familiar with AIS Data Process and they will have a good overview of the Digital Data Sets and Aeronautical Data Catalogue. The course explains as well the importance of the Data Quality in the context of AIM.

Course Content:
- Principles of AIS. Main concepts in AIM. Evolution from AIS to AIM
- Documentation in AIS. ICAO Annexes and Documents
- Responsibilities and functions of AIS
- AIM Products Overview. Static and Dynamic Data
- AIP structure and parts
- Aeronautical Information Updates: AIP Amdts and SUP
- Other AIM Products: AIC, NOTAM, Aeronautical Charts
- Digital Data Sets
- Integrated Briefing
- Equipment and software used in AIS and AIM
- Encode / decode Aeronautical Information. AICM and AIXM
- Process raw data. Aeronautical Data Process. Static Data Process
- Coordination with originators, ATS units, customers etc.
- Compiling and storing static data
- Data exchange standards and GIS
- Aeronautical Data Catalogue
- Quality Management Systems in AIM
- Quality Assurance in AIM
- Aeronautical Data Quality
- AIM strategy

* On request we are also offering Ab Initio Basic AIS courses. Please contact us.

NOTAM Specialist

Course Details:	**Duration:**	**2 days, classroom or virtual training**
	Participants:	**Current and future AIS/AIM Officers**
	Min. number:	**5**

Course Objective: With this course, the participant will be able to describe the main concepts of Dynamic Data, list the different types of TAM messages, recognize the codes used in the Q Line to process the information contained in a NOTAM

Course Content: The student will be able to read and understand the information contained in a NOTAM. As well, the participant will be able to create new NOTAM and a complete and coherent database. He/she will handle the other type of TAMs, like SNOWTAM, state the concept of the Pre-Flight Information Bulletin (PIB), describe the scope, content, types and structure of PIB. At the end of the course, the participant will be able to describe the evolution of today's dynamic data to a new format as the Digital NOTAM.

AIM
Advanced Training
Prerequisite basic know-how

AIXM-5.1B

AICM/AIXM 5.1 Basic
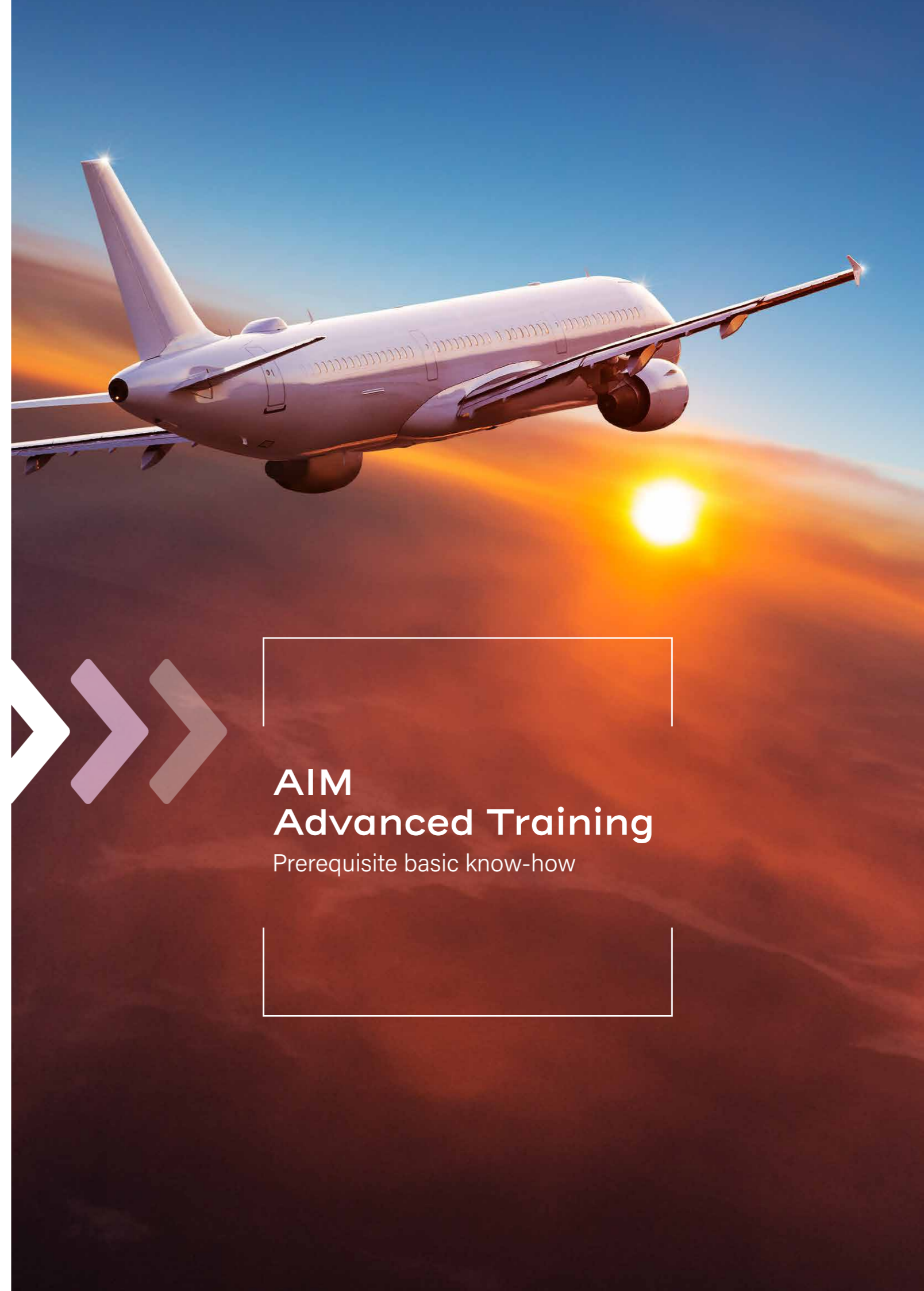
Course Details:
Duration: **5 days, classroom or virtual training**
Participants: **Current and future AIS/AIM Officers**
Min. number: **4**

Course Objective: With the completion of this course, participants will be familiar with today's data models for Aeronautical Information storage and exchange as well as created their own model. Also, participants will be introduced to the basics of UML, forcing on Class Diagrams, as well as to AIXM 5.1 and analyse its requirements. They will study the AIXM 5.1 UML Model and create their own xml code based on their own model to the basics of GML. Additionally, participants will receive an introduction to the basics of XML and GML and will create their own GML code based on their own model. The AIXM 5.1 XML Model/Schema will also be studied.

Course Content: **Data models for aeronautical information storage and exchange**
- AICM and AIXM Overview
- Airport Mapping Exchange Model (AMXM)
- Weather Information Exchange Model (WXXM)
- Airport Network Information Exchange Model (ANXM)
- Flight Information Exchange Model (FIXM)
- Terrain Information Exchange Specification (TIXS)
- System Wide Information Management (SWIM)
- ATM Information Reference Model (AIRM)
- The Future of the data exchange models

Introduction to AIXM
- Current and future AIM information flows
- Version update to AIXM 5.1.1
- Future AIXM versions

AIXM 5.1 Requirements and approach
- Approach
- Architecture
- Requirements Analysis and Design
- AIXM 5.1 and GML

UML Basic Concepts
- The class model
- Database modelling

AIXM 5.1 UML Model
- UML Modelling conventions
- Other aspects of the model

XML Basic Concepts
- Getting to know XML
- Well-formed XML File
- Valid XML file

Geography Markup Language
- Geometries in GML
- GML Core and application schemas
- Dictionaries
- XML and GML

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-5.1A

AICM/AIXM 5.1 Advanced

Course Details:
Duration: **5 days, classroom or virtual training**
Participants: **Current and future AIS/AIM Officers**
Min. number: **4**
Prerequisite: **AICM/AIXM 5.1 Basic Course**

Course Objective: Participants will study AIXM 5.1 Temporality Model. Additionally, the course will provide participants with introduction to AIXM 5.1 Feature Identification and references, AIXM 5.1 Metadata profile, GML recommendations for aviation data as well as AIXM 5.1 Business Rules and the basics of data edition and processing using Excel. Participants will be able to map raw data to AIXM 5.1 using Altova MapForce, and edit and validate AIXM 5.1 using Altova XML Spy.

Course Content: **Temporality model**
- Building the temporality model
- Properties with schedule
- Application aspects
- Usage examples

AIXM 5.1 Feature Identification and Reference
- UUID definition
- Namespace
- Uniform Resource Identifier (URI)
- AIXM 5.1 Feature Identification using UUID
- Feature Reference

Use of GML for aviation data
- Geographical data in Aeronautical Information
- WGS-84
- Positions
- Lines and Surfaces
- Airspace aggregation
- Point references and annotations
- Geographical border references
- AIXM GML Profile

AIXM 5.1 Metadata Profile
- Aviation Profi le of ISO 19115
- Metadata requirements

AIXM 5.1 Business Rules
- Semantic of business vocabulary and business rules (SBVR)
- Schematron
- XML Schema vs. Schematron
- AIXM business rules

Data Edition and Processing
- Compilation of the data received
- Edition of Raw Aeronautical Data

Mapping data to XML using Altova MapForce
- Overview
- Common mappings for aeronautical data
- Saving results AIXM/XML file

Edition and validation of AIXM/XML files using Altova XMLSpy
- Overview
- Edition of AIXM/XML message files
- Schema view
- Check well-formedness of AIXM files
- Validate AIXM messages

AICM/AIXM 4.5 Basic

Course Details:	**Duration:**	**5 days, classroom or virtual training**
	Participants:	**Current and future AIS/AIM Officers**
	Min. number:	**4**

Course Objective: By attending this course, the participant will be familiar with the current computer models intended for aeronautical data storage and exchange. Aeronautical Information Conceptual Model (AICM) main concepts (Entity-Relation diagram notation, Technical and business rules, Geometrical aspects, Time schedules, Main entities) will be studied in the AIXM 4.5 Basic course.

Course Content: **Data models for aeronautical information storage and exchange**
- AICM and AIXM Overview
- Airport Mapping Exchange Model (AMXM)
- Weather Information Exchange Model (WXXM)
- Airport Network Information Exchange Model (ANXM)
- Flight Information Exchange Model (FIXM)
- Terrain Information Exchange Specification (TIXS)
- System Wide Information Management (SWIM)
- ATM Information Reference Model (AIRM)
- The Future of the data exchange models

Aeronautical Information Conceptual Model (AICM)
- Geometrical Aspects of AICM
- Time Schedules
- Main entities (Aerodrome and Runway, Airspace, Significant Points, Navaids, Routes, and SID/STAR/IAP)

XML Basic Concepts
- Getting to know XML
- Well-formed XML File
- Valid XML file

Aeronautical Information Exchange Model (AIXM)
- AIXM and AICM
- Basic concepts
- AIXM Schema fi les
- AIXM Message Types
- Data integrity

AICM/AIXM 4.5 Advanced

Course Details:	**Duration:**	**5 days, classroom or virtual training**
	Participants:	**Current and future AIS/AIM Officers**
	Min. number:	**4**
	Prerequisite:	**AICM/AIXM 4.5 Basic Course**

Course Objective: The participant will:
1. Create, edit and export to CSV a basic dabase using Excel
2. Map data from CSV fi les, Databases and Snapshot to XML (AIXM-Update) using MapForce
3. Edit, validate and correct AIXM-Update files using Altova Spy
4. Check, explain and repair level A errors from SDO Upload Status Report

Course Content: **Editing raw data**
- SDO Reports as a source of data
- Microsoft Excel - most common formulas and functions for aeronautical information purposes

Related entities in a database
- Database principles
- Databases with Microsoft Access
- Relation among tables
- Uploading valid AIXM fi les to Static database

AIXM Message (Altova MapForce)
- Altova Mapforce: Basics
- Mapping
- Libraries, filters and conditions
- Saving resulting XML file

Editing AIXM messages (Altova Spy)
- Altova Spy: Basics
- Edition of AIXM messages
- Check and validation against the AIXM 4.5 schema

Evolution from AIS to AIM towards SWIM

Course Details:	Duration:	3 days, classroom or virtual training
	Participants:	Current and future AIS/AIM Officers
	Min. number:	4

Course Objective: The course will bring the participant a global overview of the evolution from AIS to AIM, and provide with the main concepts and considerations needed for the transition to AIM and SWIM.

Course Content:
- Need for AIS development. Requirements and challenges
- The global ATM Operational concept, ICAO GANP
- Quality Management Systems
  - ISO 9000 Series and QMS within EAD
- Focus on Quality (Phase 1, step 17)
  - ADQ – Aeronautical Data Quality Implementation
  - Data Quality Monitoring
  - Data Integrity Monitoring
- Use of automation – Data standardization and digital data exchange
- Concept of electronic AIP, electronic terrain and obstacle data
- Reference to AIS Data Process (ADP) and Static Data Process (SDP)
- AICM and AIXM. Overview and concept
- Digital NOTAM concept
- Phases for transitioning to AIM
  - Consolidation
  - Going Digital
  - Information Management
- Steps for transitioning to AIM. Overview and analysis of the 21 steps
- AIS to AIM Roadmap Timeline
- AICM (Aeronautical Information Conceptual Model)
- AIXM (Aeronautical Information Exchange Model)
- Electronic Terrain and Obstacle Data
- Airport Mapping Database. Applications
- Integrated Briefing
- Digital NOTAM
- SWIM – System Wide Information Management
- SWIM Objectives, principles and benefits

ICAO-AIM

ICAO AIM Documents: PANS–AIM, Digital Data Sets and Data Catalogue

Course Details:	Duration:	2 days, classroom or virtual training
	Participants:	Current and future AIS /AIM Officers
	Min. number:	4

Course Objective: The participant will be able to explain the content of Annex 15, ICAO Document 10066 PANS-AIM Document and AIM Manual ICAO doc 8126. As well, the participant will describe the content of the Digital Data Sets and Data Catalogue.

Course Content:
- Aeronautical Data and Aeronautical Information. Other important concepts and definitions
- Content of Annex 15 focusing on the restructuration of Amdt 40
- Annex 15 chapters
- Changes in Annex 15 with the implementation of Amdt 40 and subsequents
- ICAO Quality requirements for aeronautical data: accuracy, integrity, resolution, completeness, timeliness, traceability and format
- ICAO Document 10066, PANS-AIM. Content of chapters and Appendices
- AIM Products
- Aeronautical Information Updates
- Digital Data Sets:
  - AIP
  - Terrain Data
  - Obstacle Data
  - Instrument Flight Procedures
  - Airport Mapping Database
- PANS-AIM Appendix 1: Aeronautical Data Catalogue
- PANS-AIM other Appendices
- ICAO Doc 8126. AIM Manual – Volumes and Content

Data Quality Assurance

Course Details:	**Duration:**	**2 days, classroom or virtual training**
	Participants:	**AIM Managers, AIM officers**
	Min. number:	**4**

Course Objective: The participant will be able to differentiate, explain and apply Data Quality Assurance Principles and Procedures related to Aeronautical Data. The participant will be able to establish a complete Data Quality Assurance system, create and schedule data reviews, implement the necessary actions in order to assure the quality of the Data.

Course Content:
- Concept and development of Data Quality Assurance (QA)
- Data QA Regulation
- Quality Assurance Methodology
- Scope of Quality Assurance Procedures
- Objective of Quality Assurance Procedures
- Guidelines for Implementing Quality Assurance Procedures
- Definition of a Sampling Plan
- Definition, creation and establishment of the Data Quality Reviews
- Quality Assurance: Review and Recording
- Quality Assurance: Verification and Reporting
- Quality Assurance: Actions
- Error reporting, error classification, error correction
- Basis and overall guidelines to establish a QMS
- Main elements of a Quality Management System

Data Management for AIM (QMS)

Course Details:	**Duration:**	**2 days, classroom or virtual training**
	Participants:	**AIM Managers, AIM officers**
	Min. number:	**4**

Course Objective: The participant will be able to explain the specifics of the implementation of a Quality Management System, list the requirements of ISO 9000 and 9001. Establish a Quality Policy, determine Quality Objectives and create a Quality Manual.

Course Content:
- QMS principles
- Basis and overall guidelines to establish a QMS
- Main elements of a Quality Management System
- Procedure to define the Quality Assurance Process and to ensure Data Quality and Integrity Monitoring
- The AIM Process, Aeronautical Data Chain
- The role of the Data Originators
- The Role of the AIM Unit
- Agreements with Data Originators
- ISO 9000 and 9001 Series
- ISO 9001:2015. Content and analysis of the clauses
- Internal Audits
- Role of the AIM Management in the implementation of the QMS
- Overview of the QMS implemented in the EAD Service

SPC-DIG

AIM Digital Products and Services Specialist

Course Details:		
Duration:	**5 days, classroom or virtual training**	
Participants:	**Current and future AIS/AIM Officers**	
Min. number:	**4**	

Course Objective: In these two weeks training programme, the participant will get a full insight knowledge in order to develop the necessary skills for the production and quality assured delivery of the current AIM Digital Products and related digital data Services as defined in the current ICAO and European standards.

Course Content:
- Data & Databases introduction
- AIXM Overview
  - Modeling Principles
  - Geometry
  - Temporality
- Aeronautical Data Management
  - Regulatory aspects
  - Data Collection, Processing and Distribution
  - Formal arrangements
- Aeronautical Data Quality
  - Data Quality Requirements
  - Data Quality Assurance and Control
- Digital Data Sets
  - AIP and Aerodrome Mapping
  - Terrain and obstacle
  - Instrument Flight procedures
- Digital NOTAM
- Digital AIM in SWIM
  - GANP and ASBU
- AIM Digital Products applications

AIM-GNSS

Global Navigation Satellite System (GNSS) Advanced

Course Details:		
Duration:	**2 days, classroom or virtual training**	
Participants:	**Technical, operational and management staff with a need to acquire advanced knowledge on Global Navigation Satellite Systems (GNSS)**	
Min. number:	**5**	

Course Objective: Provide technical, operational and management staff with advanced knowledge on Global Navigation Satellite Systems (GNSS). At the end of the course, participants will be able to apply the acquired knowledge in their professional activities, in areas such as systems design or performances assessment and monitoring. Additionally, they will be conversant about GNSS systems (names and types) its principles (signals, errors and mitigations) and its evolutions.

Course Content:
- Historical and technical aspects of GNSS: basic theory and understanding of the fundamentals of how these systems work
- Overview of the different GNSS systems deployed worldwide and currently in operation
- Close look into the US GPS system and the augmentation systems used in aviation
- First approach to EGNOS: its components, architecture and services Practical exercise on how to interact with COTS SW tools and compute GNSS positions
- Foreseen evolution on how all these systems will evolve in the coming years
- Comprehensive study on the user level: requirements, equipment types and applications of GNSS

AIM-PBN

Performance–Based Navigation (PBN) Advanced

Course Details:		
Duration:	**2 days, classroom or virtual training**	
Participants:	**ATM experts, ATCOs, flight procedure designers and in general ANSP staff, as well as authorities, airport operations staff and any other professional with a need to acquire advanced knowledge on Performance Based Navigation (PBN)**	
Min. number:	**4**	

Course Objective: Provide ATM experts, ATCOs, flight procedure designers and in general ANSP staff, as well as authorities, airport operations staff and any other professional, with advanced knowledge on Performance Based Navigation (PBN). At the end of the course, participants will be able to apply the acquired knowledge in their professional activities, in areas such ATM planning, flight procedures design or airport operations. Additionally, they will understand the benefits and principles of PBN and what its enablers are, with some focus on GNSS systems and the augmentation systems used in aviation.

Course Content:
- Technical aspects of GNSS: understanding of the fundamentals of how these systems work
- Familiarisation with the main GNSS systems in operations today, and the techniques used in aviation to improve (i. e. augment) their performances
- Regulatory framework around the implementation of Performance Based Navigation (PBN)
- Introduction to modern cockpits and presentation of the on-board requirements of PBN

AIM-ADQ

Introduction to Aeronautical Data Quality

Course Details:		
Duration:	**1 day, classroom or virtual training**	
Participants:	**Current and future AIS/AIM Officers**	
Min. number:	**4**	
Prerequisite:	**AIS knowledge**	

Course Objective: This course will provide the participant with an introduction to the Aeronautical Data Quality regulation.

Course Content: The course will provide the participant with a global overview of the ADQ Regulations, the different actors and affected organizations. As well, it will make aware the participant of the need of the implementation of the regulation and take further actions related to this goal.

AIM-REG

Aeronautical Data Quality Regulations

Course Details:	Duration:	3 days, classroom or virtual training
	Participants:	Current and future AIS/AIM Officers
	Min. number:	4

Course Objective: At the end of the course, the participant will be able to:
- Explain the origin of the ADQ and the first regulation in Europe.
- Describe the content of first ADQ Regulation
- List the changes included in Regulation 373/2017
- Explain the main topics of Regulation 469/2020
- Compare current and previous regulations of Aeronautical Data Quality.

Course Content:
- The need for a Quality Assurance in Aeronautical Data and Information.
- History of Data Quality regulation. First steps in ADQ Regulation 73/2010.
- Parties affected by the regulation. Relationship between different actors of the Aeronautical Data Chain.
- The role of the surveyors, data originators, AIS in the Data Quality Assurance.
- Formal arrangements between different actors of the Data Chain.
- Current regulations 373/2017 and 469/2020.
- The future of Data Quality.

AIM-eTOD

electronic Terrain and Obstacle Data (eTOD)

Course Details:	Duration:	1 day, classroom or virtual training
	Participants:	ATM personnel, general ANSP staff, data houses' experts, authorities involved in eTOD and any other professional involved in the aeronautical data and information chain
	Min. number:	5

Course Objective: Provide guidance to ATM personnel, general ANSP staff, data houses' experts, authorities involved in eTOD and any other professional involved in the aeronautical data and information chain. The participant will understand the basic underlying principles that are supported by eTOD, and apply the acquired knowledge in areas such AIS, flight procedures design, airport operations or flight charting.

Course Content:
- The eTOD's justification, need and regulatory and institutional framework
- Digital terrain models, obstacles, data modelling, digital terrain models, metadata, reference systems, spatial data quality, data product specification (DPS), geographic information systems data and provision using Web services
- The main stakeholders and their eTOD needs in the AIM data chain
- The applications in which the obstacle and terrain data sets can be used as these in accordance with the data quality requirements, providing a high level review of those applications.
- The main requirements specified by the relevant institutions, as ICAO and supporting material from other sources as Eurocontrol and EASA
- The generic approach to planning and implementing eTOD in the national scope of a European State

Electronic AIP

Course Details:		
	Duration:	**2 days, classroom or virtual training**
	Participants:	**Current and future AIS/AIM Officers**
	Min. number:	**4**

Course Objective: Upon completion of this training, participants will gain a comprehensive understanding of the e-AIP concept, its associated enabling technologies, and the pertinent European regulations governing its implementation. By the end of the training, participants will possess the skills to effectively assess whether an e-AIP aligns with its defined conceptual framework, thus facilitating informed decision-making in this domain.

Course Content:
- Defining the conceptual model of an e-AIP.
- Basic technical concepts
  - AICM/AIXM
  - Mark-up language
  - Database introduction
- European Regulations
- e-AIP specifications
- Safety and security consideration when deploying an eAIP system.
- Guidance and best practices for publishing the eAIP online.

AIM-AIR

AIS for Airports

Course Details:		
	Duration:	**5 days, classroom or virtual training**
	Participants:	**Current and future AIS/AIM Officers**
	Min. number:	**4**

Course Objective: At the end of this training, the participant will be able to:
- Explain the most important concepts of AIS (Aeronautical Information Service),
- List the AIIM Products.
- Expose the main characteristics of different AIM Products
- Explain the concepts of static and dynamic data,
- Create a NOTAM and SNOWTAM proposals,
- Explain the role of the Aerodrome in the Aeronautical Data Chain.
- Describe the evolution of AIS towards AIM (Aeronautical Information Management),
- List the main ICAO documents regarding Aerodromes and AIS.

Course Content:
- AIS Basic concepts. The role and responsibilities of the State and the AIS.
- ICAO Annex 14 and Annex 15. Other AIS related ICAO Documents.
- The role of the Aerodrome in the AIS context. Aeronautical Data Chain,
- The Aerodrome as Data Originator. Formal Arrangements with other actors of the Aeronautical Data Chain.
- Aerodrome information to be inserted in AIM products.
- Static Data. Aeronautical Data Catalogue.
- Dynamic Data. NOTAM proposals creation.
- SNOWTAM creation.
- ARO and Briefing at the Aerodrome.
- Importance of the Quality of the Data. The role of the Aerodrome.
- Data Quality Assurance.
- The Evolution from AIS to AIM and the Aerodrome in this context.
- Future developments of AIS Services.

AIM-ARINC

Path & Terminator Coding for AIM

Course Details:	**Duration:**	**4 days, classroom or virtual training**
	Participants:	**Current and future AIS/AIM Officers**
	Min. number:	**4**

Course Objective: The ARINC 424 Path & Terminator coding course has been designed as an introduction to aeronautical database coding of Instrument Flight procedures. The training course combines both theory and practical exercises requiring students to complete hands-on coding exercises in order to provide the instructor feedback on the attained skill level of the students. The course is based on a presentation of the subject theory, illustrated with 'realistic' data, tables and aeronautical charts from actual AIP's that closely reflect the operating environment of the students. The theory as well as the exercises are illustrated with static database examples using the smartGlobe aeronautical charting system.

Course Content:
- Procedure coding methodology based on the ARINC 424 Path & Terminator concept
- History and background of the Path & Terminator concept
- Overview of Documentation and Discussion of individual Path Terminators
- Allowed Leg Combinations, Waypoint Description codes and mandatory attributes
- Application of PT concept to SID procedures, examples and commonly used PT combinations in SID procedure, Special SID coding consideration
- Application of PT concept to STAR procedures, examples and commonly used PT combinations in STAR procedure(s), Special STAR coding consideration
- Application of PT concept to IAP procedures, examples and commonly used PT combinations in IAP procedure, Special IAP coding consideration

Procedure Design
ICAO recognized PBN & conventional procedures

PANS–OPS: Introduction to Flight Procedures Design

Course Details:		
Duration:	**5 days, classroom**	
Participants:	**ATM managers and experts, ATCOs, navigation data specialists, aerodrome operations staff, aviation authorities staff, pilots and, in general, all sorts of professionals involved in air navigation related areas, with a need to learn the basics of Flight Procedure Design (FPD)**	
Min. number:	**5**	

Course Objective: Provide ATM experts, ATCOs, navigation data specialists, aerodrome operations staff, aviation authorities staff, or even pilots, with initial knowledge on the principles of Flight Procedure Design (FPD). At the end of the course, participants will understand the principles of instrument flight procedures, and be able to apply the acquired knowledge in their professional activities, in areas such ATM planning, flight procedures design or airport operations.

Course Content:
- The instrument flight procedures design process: from its early data acquisition, validation and verification processes, through their intermediate conceptual definition and until its final implementation and publication in the AIP
- The general principles on which construction of flight procedures are based
- Construction of both conventional and PBN flight procedures
- The basics of charting: how to prepare and interpret instrument departure, arrival and approach charts

PANS–OPS Advanced: Performance–Based Navigation

Course Details:		
Duration:	**10 days, classroom**	
Participants:	**Flight procedure designers who have already received initial training in PANS-OPS (i. e. Conventional navigation)**	
Min. number:	**5**	
Prerequisite:	**Initial training in PANS-OPS (i. e. Conventional navigation)**	

Course Objective: Provide training on instrument flight procedure design, applying Performance-Based Navigation (PBN) criteria, as defined in ICAO PANS OPS Volume 2 Part III. The participant will understand the benefits provided by PBN in terms of efficiency and flexibility for flight operations, and be able to apply the acquired knowledge in their daily flight procedures design activities.

Course Content:
- Quality Assurance in Airspace Design
- Global Navigation Satellite Systems (GNSS)
- The PBN concept (RNAV vs RNP)
- Airspace Design Methodology
- General concepts of PBN procedure construction
- Path Terminators
- RNAV/RNP departures and arrivals
- RNP approaches, incl. SBAS and Baro-VNAV
- GBAS approaches
- Charting
- Flight Simulations

PANS–OPS Oversight

Course Details:		
Duration:	**5 days, classroom**	
Participants:	**Staff working at Civil Aviation Authorities (CAA) and National Supervisory Authorities (NSA) competent in Airspace Design Oversight; airspace design entities looking for an improvement in their production process**	
Min. number:	**5**	
Prerequisite:	**Initial training in PANS-OPS (i. e. Conventional navigation)**	

Course Objective: Provide guidance to authorities competent in Airspace Design Oversight. In addition, the course would be interesting for airspace design entities looking for an improvement in their production process. The participant will understand how a flight procedure is conceived, from its early data acquisition, validation and verification processes, through their intermediate conceptual definition and until its final implementation and publication in the AIP, and be able to apply the acquired knowledge in their airspace and flight procedures oversight activities.

Course Content:
- Describe the complete FPD lifetime, focusing on the issues directly related with flight procedure design quality and the way to achieve and maintain the highest levels of quality
- FPD provider audit simulation
- Real-case audit

Helicopter PinS procedures

Course Details:		
Duration:	**3 days, classroom**	
Participants:	**Flight procedure designers with completed trainings in initial and advanced PANS-OPS; existing or future helicopter flight validation pilots**	
Min. number:	**4**	
Prerequisites:	**Training in PANS-OPS (conventional and PBN)**	

Course Objective: Provide training on instrument flight procedure design and helicopter procedures in particular, applying design criteria as defined in ICAO PANS OPS Volume 2 Part IV. The participant will understand the benefits derived from the combination of PBN and the helicopter flight dynamics and manoeuvrability, and be able to apply the acquired knowledge in their daily flight procedures design activities.
The course can also be of interest for existing or future helicopter flight validation pilots.

Course Content:
- Supported by CAD tools, apply design criteria as defined in ICAO PANS OPS Volume II, for the construction of Category H and Point-in-Space (PinS) departures and approach procedures (LNAV and LPV minima)
- Proceed VFR and Proceed Visually concepts
- Direct and Manoeuvring Visual Segments
- Charting of helicopter procedures
- Considerations for the validation of helicopter Instrumental Flight Procedures

General Criteria & Conventional Procedures

Course Details:	**Duration:**	**20 days, classroom**
	Min. number:	**4**
	Prerequisites:	**Geodesy for procedure designers; if you are not sure we have a free self-assessment test.**

Course Objective: The course is based on PANS-OPS ICAO Doc 8168 Volume II Construction of Visual and Instrument Flight Procedures; it describes the essential areas and obstacle clearance requirements for the achievement of safe, regular instrument flight operations.

Course Content:
- Introduction & General Design Criteria
- ICAO Overview
- Ground Based Navaids
- Approach Classifications
- Turn Area Construction & Fixes
- NPA Introduction, Final Segment, Intermediate & Initial Segments
- NPA Reversal & Racetrack Procedures
- Missed Approach Segment
- Conventional Holding Procedures
- Circling Approach

- Minimum Sector Altitude
- Instrument Approach Charts
- PA Introduction and ILS Principles
- PA Basic ILS and Obstacle Assessment Surfaces (OAS) & PA Exercise
- Collision Risk Model
- Visual Segment Surface
- Departures & Omnidirectional Departures
- Straight and Turning Departures
- En-route Procedures & Standard Arrival Procedures

RNP Navigation (Doc 9905) & BARO-VNAV

Course Details:	**Duration:**	**5 days, classroom**
	Min. number:	**8**
	Prerequisites:	**Knowledge of General Criteria, Conventional Procedures and Performance Based Navigation.**

Course Objective: This course covers approaches with vertical guidance (APV) including the RNP-AR and a revisit of the Baro-VNAV procedure design criteria.
Required Navigation Performance Authorisation Required (RNP-AR) APCH operations are classified as approach procedures with vertical guidance (APVs). This type of operation requires a positive vertical navigation (VNAV) guidance system for the Final Approach Segment (FAS).

Course Content:
- RNP AR General Criteria
- RNP AR — Arrivals
- RNP AR — RNP Final Segment
- RNP AR — Intermediate and Initial Segment

- RNP AR — Missed Approach
- RNP refers to both advanced and and authorisation required procedures
- Practical application

PANS-OPS Recurrent Course

Course Details:	**Duration:**	**5 days, classroom**
	Min. number:	**8**
	Prerequisites:	**Procedure design experience**

Course Objective: This course will cover new amendments to PANS-OPS and future developments, and assess the impacts and associated risks on existing flight procedures or the implementation of new ones.

Course Content:
- PANS-OPS changes in the last 24 months
- Future developments
- Customer-specific requirements
- PANS-OPS proposed changes
- Forum discussion

Obstacle Assessment & Management

Course Details:	**Duration:**	**5 days, classroom**
	Min. number:	**8**
	Prerequisites:	**Background in Annex 14 / PANS-OPS**

Course Objective: This course provides airport operators or obstacle control personnel the necessary skills to evaluate aerodrome obstacles from a practical perspective.
It describes different methods to efficiently evaluate obstacles within the vicinity of the airport, including the straight segments of published flight procedures.

Course Content:
- Fundamentals
- Frame of Reference
- Phases of Flight
- Aircraft Performance
- Aerodrome Infrastructure
- ICAO Annex 14 OLS for Aerodromes
- Obstacle Restriction and Removal
- Obstacle Free Zone
- State-Modified OLS

- Understanding PANS-OPS Procedures
- Communication, Navigation and Surveillance (CNS) facilities
- Application of Shielding Principles
- Protection of Visual Slope Indicator Systems
- Marking and Lighting of Obstacles
- Aeronautical Studies Overview

Trainings 2024
Schedule and price list

Course	Lenght	Date	Location*	Price/Person
AIM Basic				
Aeronautical Information Service	10 days	Jan 29-Feb 09 Jun 01-12	Madrid Frankfurt	4.400 EUR
NOTAM Specialist	2 days	Feb 12-13 Apr 22-23	Frankfurt Frankfurt	1.400 EUR
AIM Advanced				
AICM/AIXM 5.1 Basic	5 days	May 20-24 July 24-28 Sep 23-27 Nov 18-22	Madrid Madrid Madrid Madrid	2.400 EUR
AICM/AIXM 5.1 Advanced	5 days	May 27-31 Sep 30-Oct 04 Nov 25-29	Madrid Madrid Madrid	2.400 EUR
AICM/AIXM 4.5 Basic	5 days	on request	on request	2.400 EUR
AICM/AIXM 4.5 Advanced	5 days	on request	on request	2.400 EUR
Evolution from AIS to AIM towards SWIM	3 days	Mar 11-13 May 06-08 Oct 28-30	Madrid Frankfurt Madrid	1.800 EUR
ICAO AIM Documents: PANS-AIM, Digital Data Sets and Data Catalogue	2 days	Jan 15-16 Jun 15-16	Madrid Madrid	1.400 EUR
Data Quality Assurance	2 days	Mar 21-22	Madrid	1.400 EUR
Data Management for AIM (QMS)	2 days	Mar 18-19	Frankfurt	1.400 EUR
AIM Digital Products & Services Specialist	5 days	Jun 17-21 Oct 21-25	Frankfurt Madrid	2.400 EUR
Global Navigation Satellite System (GNSS)	2 days	Jan 17-18 Jun 12-13	Madrid Madrid	1.105 EUR
PBN Advanced (AIM-PBN)	2 days	Mar 13-14 Sep 20-21	Madrid Madrid	1.298 EUR
Introduction to Aeronautical Data Quality	1 day	Feb 26 Sep 23	Madrid Frankfurt	850 EUR
Aeronautical Data Quality - Regulations	3 days	Feb 28-Mar 01 Sep 25-27	Madrid Frankfurt	1.800 EUR
eTOD (Electronic Terrain Obstacle Database)	1 day	Feb 15	Madrid	812 EUR
Electronic AIP	2 days	Feb 15-16 Sep 09-10	Madrid Frankfurt	1.400 EUR
AIS for Airports	5 days	Feb 19-23 Sep 16-20	Madrid Frankfurt	2.400 EUR
Path & Terminator Coding	4 days	Jun 03-06 Oct 28-31	Frankfurt Frankfurt	1.920 EUR
Procedure Design				
Introduction to Flight Procedures Design	5 days	Jun 03-07	Madrid	2.163 EUR
PANS-OPS Advanced: Performanced Based Navigation	10 days	Jun 17-28	Madrid	3.245 EUR
PANS-OPS Oversight	5 days	Oct 14-18	Madrid	2.163 EUR
Helicopter (Point in Space) Procedures	3 days	Feb 20-22	Madrid	1.630 EUR
General Criteria and Conventional Practice	20 days	on request	on request	on request
NP Navigation (Doc 9905) & BARO-VNAV	5 days	on request	on request	on request
PANS OPS Recurrent Course	5 days	on request	on request	on request
Obstacle Assessment and Management	5 days	on request	on request	on request

* or virtual

Enrolment for AIM Course

Your course registration

Please send:

Postal address:
GroupEAD Europe S.L., Mergenthalerallee 73-75
65760 Eschborn, Germany

E-Mail:
training@groupead.com
Enrolment through the **link:**

Applicant (Please print all information clearly):

Surname:

Position:

First name:

Phone:

Company:

e-mail

Applicant (Please print all information clearly):

Surname:

First name:

Superior e-mail:

Enrollment in the following course(s):

No:	Course:	Date Request:	Alternative Date Request:

Enrollment in the following course(s):

Invoice address for Company:

VAT number of the Company:

Signatures:

Date: Applicant: Superior:

Directions to GroupEAD Europe S.L.

Madrid

Address

GroupEAD Europe S.L.
Business Premises Madrid
Parque Empresarial San Fernando
Avenida de Castilla 2,
Edificio Francia, Escalera A - Piso 2
28830 San Fernando de Henares, Madrid
SPAIN

Arriving by train and bus

Trains from Madrid-Atocha Cercanías Railway station:

Take line C7 (red) direction Alcalá de Henares or line C2 (green) direction Guadalajara till Torrejón de Ardoz Station. (30-35 mins)

From there, you walk till the Plaza outside the railway station and go to the bus stop where you will take Bus number 224 (direction Madrid). (Green Buses) till the stop Parque Empresarial San Fernando. Normally you will need to cross the motorway by using the pedestrian bridge. Then you will be at the North Entrance. You may walk through the Parque to find Building F, close to the South Entrance of the Parque.

From Madrid (Avenida de América)

Take the bus 224 to Torrejón de Ardoz. After 20 mins, you will arrive at the Stop Parque Emp. San Fernando. The bus stops at the North Entrance. You may walk through the Parque to find Building F, close to the South Entrance of the Parque.

Arriving by car

From Adolfo Suarez Madrid Barajas Airport – Terminal 1 (via Vía de Servicio)

From Terminal 1, head South to M-14, then follow All Directions till A2 (Zaragoza-Barcelona). In A-2, continue till Exit 17A and take it and follow directions to Parque Empresarial. You will arrive directly in Av. de Castilla, and you will see on your right the North Entrance of the Parque Empresarial. You can round the Parque till the South entrance. .

From Avenida de Amèrica

Head east directions Zaragoza-Barcelona on A-2. Continue till Exit 17A and take it and follow directions to Parque Empresarial.

Hotel recommendation

Hotel Axor Fería
Calle Campezo, 4,
28022 Madrid
Telephone +34 913 12 23 79
en.axorhoteles.com/feria/

Hotel Axor Barajas
Calle Campezo, 4,
28022 Madrid
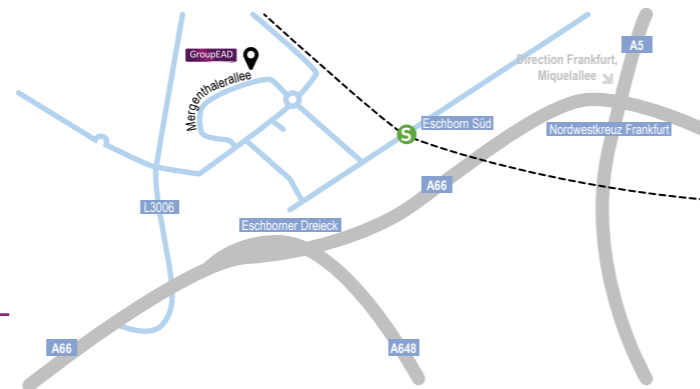Telephone +34 913 12 19 60
en.axorhoteles.com/suites-barajas/

Directions to GroupEAD Europe S.L.

Eschborn

Address

GroupEAD Europe S.L.
Business Premises Germany
Mergenthalerallee 73-75,
65760 Eschborn
GERMANY

Arriving by car

A 5 from the north

At Westkreuz stay on the right lane and follow A66 in the direction Wiesbaden/F-Höchst. After approx. 1.4 km take exit Eschborn direction Kronberg/Schwalbach and drive towards Eschborn – Gewerbegebiet Süd. At the first junction turn to the right into the Frankfurter Straße and after approx. 250 metres turn left into Mergenthalerallee.

A5 from the south

Take motorway A5 until you reach Westkreuz Frankfurt, from there follow A648 in direction Wiesbaden/Köln. After approx. 3.8 km, stay left at motorway Eschborner

interchange and follow A66 in direction Wiesbaden/Mainz/Köln/Frankfurt-Höchst. After approx. 800 m stay on the right following direction Eschborn/Kronberg/Schwalbach to Sossenheimer Straße. Drive towards Eschborn – Gewerbegebiet Süd. At the first junction turn to the right into the Frankfurter Straße and after approx. 250 metres turn left into Mergenthalerallee.

A66 from the west

Take the motorway exit Eschborn, keep left and turn into the Sossenheimer Straße. Drive towards Eschborn – Gewerbegebiet Süd. At the first junction turn to the right into the Frankfurter Straße and after approx. 250 metres turn left into Mergenthalerallee.

Arriving by public transport

From Frankfurt Airport

Take the commuter train S8 Offenbach or S9 Hanau to Frankfurt central station.
Travel time: appr. 15 min.

From Frankfurt central station

Take S3 (in the direction of Bad Soden) or
S4 (in the direction of Kronberg) to Eschborn Süd.
Travel time: appr. 13 min.

From Eschborn Süd, walk approx. 13 min. (800 metres) via Stuttgarter Street and Alfred-Herrhausen-Allee to arrive at Mergenthalerallee 73-75, where Taunus Tower is located.
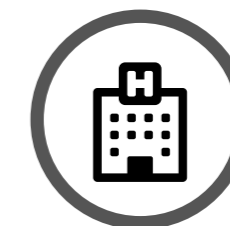
Hotel recommendation

Hyatt House Frankfurt Eschborn
Frankfurter Straße 77
65760 Eschborn
Telephone: +49 619658241234
https://www.hyatt.com/de-DE/hotel/germany/hyatt-house-frankfurt-eschborn/fraxf

Hotel Rödelheimer Hof am Wasserturm
Eschborner Landstraße 146
60489 Frankfurt am Main
Telephone +49 69 153947100
www.roedelheimer-hof.de

Best Western Plus iO Hotel
Graf-Zeppelin-Straße 2
65824 Schwalbach am Taunus
Telephone: +49 6196 999590
www.bestwestern.de/hotels/Schwalbach/BEST-WESTERN-PLUS-iO-Hotel

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