Eurocontrol IANS
Institute of Air Navigation Services

ians

Training Activities 2008

EUROCONTROL

Meeting customer demand whilst improving efficiency and quality.

The Institute is making every effort to meet the training needs of our customers and to improve the efficiency with which we deliver our products.

Our training catalogue for the year 2008 reflects our ongoing commitment to meet customer demand. This year's programme highlights our commitment to support our customers with training products closely aligned to the latest pan-European developments, Safety Management and Regulation and Common Core Content Requirements.

Highlights are a series of new courses in the Safety Domain and a further extension of our portfolio of e-learning modules for ATC refresher and initial training.

The customer satisfaction report published in 2007 revealed that our training products are very well received. For the first time ever in 2006 we delivered training to more than 3600 students and more than 10.000 e-learning modules were studied. Our partners trained around 400 students using IANS courseware with their own instructor.

All of us at the Institute of Air Navigation Services look forward to welcoming you in Luxembourg in 2008.

Lars Wedback
Director
EUROCONTROL Institute of Air Navigation Services Luxembourg

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▶ Introduction

Mission of IANS

The mission of IANS is to provide education and transfer of knowledge to Air Navigation Service Providers, ATM Regulators, Member States and the EUROCONTROL Agency. By doing so, we contribute to cooperative network design and provide support to regulation leading to enhanced safety and security, increased capacity and efficiency and increased awareness about environmental issues.

IANS provides:

- A comprehensive training programme in the field of Air Traffic Management (ATM)
- State of the art training of air traffic controllers
- Pan-European Training tools and standards
- Advice and consultancy on training tools and techniques
- Training material aligned with Common Core Content (CCC) requirements

IANS: A Centre of Excellence in ATM Training

IANS is recognised by its stakeholders to be a Centre of Excellence in the field of ATM Training. The Institute continuously attempts to improve the quality of its products and the satisfaction of its customers.

IANS achieves excellence by a variety of methods:

- The measurement of the satisfaction with our products
- A pro-active approach to meet requirements and customers needs.
- The establishment of partnerships to share experiences and knowledge.

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▶ About This Catalogue

The catalogue contains a description of the training products that IANS proposes

Classroom courses providing continuation training in the field of Air Traffic Management.

Classroom courses offered by IANS provide continuation training in the field of Air Traffic Management. They contain the necessary additional knowledge about air traffic management (ATM) techniques and methods for operational, technical and administrative personnel.

The courses are regularly updated to reflect the changes taking place in ATM, especially in the context of the European Air Traffic Management Activities (EATM).

To provide more flexibility in meeting specific customer needs, the Institute proposes two types of courses:

- Public courses held at IANS
- Courses on request held within Member States

Other services provided by IANS include:

❯ On-line Training Services

**The training services provided on-line include:**

- An offer to learning managers: organising and composing "e-learning courses"
- A direct offer to learners: direct access to a set of on line courses. These learners are registered either into traditional courses partly provided through the learning server or into self-training purely on-line courses.

> Air traffic controllers' basic and refresher training

IANS delivers "regulation compliant" initial training for student air traffic controllers for the Maastricht Upper Area Control Centre. IANS also provides training for Luxembourg Air Traffic controllers.

> Training standards described in a series of publications (e.g. guidelines)
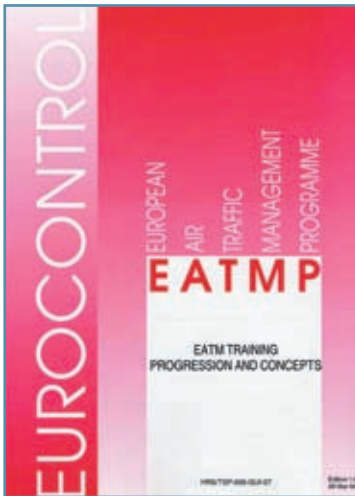
In the domain of training standards, IANS provides Air Navigation Service Providers, with training material, methods and tools to enable them to achieve a common minimum standard of training. The training will also equip ANSPs to meet the future introduction of system changes and to meet regulatory requirements for ATM services personnel licensing.

Partnerships

The Institute encourages Member States and Service Providers to use training material outside its traditional scope. This includes hosting of courses at IANS that are developed and delivered by third parties and the delivery of IANS training courses by the customer's own local instructor.

A set of icons is used throughout this catalogue to indicate the teaching techniques used or the content of the various training products available.

This icon indicates that this course has been designed to meet a number of Common Core Content Objectives.

This icon indicates that this course is held in the classroom.

This icon indicates that this course is e-learning only.

These icons indicate that this course has both classroom and e-learning.

This icon indicates that the course is delivered in partnership with a partner from outside EUROCONTROL

This icon indicates the target audience for the course and the e-learning module.

This icon indicates the duration for the course and the e-learning module.

> **For e-learning courses:**

This icon indicates the interactivity offered between the module and the user. The more stars [★] next to icon, the higher the interactivity.

This icon indicates sound.

This icon indicates video.

▶ GEN > CST

Controller Support Tools

The GEN-CST course focuses on the operational concepts and implementation of Decision Support Tools (MTCD/CORA) and Sequencing and Metering Tools (AMAN/DMAN), in direct support of the EUROCONTROL ATC domain and FASTI project.

This course is specifically aimed at ATM personnel involved in the development/procurement of ATC systems.

This is a 4-day course, starting promptly at 10:00h on the first day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

▶ GEN > CNS-STRAT

The EUROCONTROL CNS Strategies for the ECAC Area

What is the future Communication, Navigation and Surveillance infrastructure likely to be in the next decade? This 5-day strategic course aims to cover both the institutional and technical aspects of current and future CNS. The course will start by discussing the development of the current ECAC CNS Strategies and how they are being implemented today. The course then continues by examining in-depth each of the three strategies which all project out to 2020. However, new questions are arising: What will be the impact of the SES on our current strategies? How will the planned CNS infrastructure evolution support the new operational concepts and the future European ATM Master Plan? The course will consider the Single European Sky ATM Research programme and look at its phases and deliverables. As the SESAR definition phase progresses, the course will discuss CNS alignment towards the ATM Master Plan. The final day is dedicated to a Stakeholder who is invited to give their views on the three domains' plans.

The course is designed for people with a perception of the current Communication, Navigation and Surveillance domains and wanting to take part in an in-depth analysis of the strategies, their sources and implications; or people involved in the planning of national CNS infrastructures.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Historically, the Air Traffic Management (ATM) environment in the European region has developed in a fragmented way, largely as result of differing national needs and capabilities. More recently, many initiatives, often co-ordinated by EUROCONTROL, have been taken across the region to harmonise ATM operations and to enable individual states to focus their activity and resources effectively and efficiently. This approach has generally managed to support the needs of the airspace users. However, it is becoming increasingly evident that the recent approach to meeting user needs will not be able to satisfy the future demands made on the ATM system.

With the development and implementation of a European ATM Master Plan, called for by the Single European Sky (SES) regulations, a pan-European ATM solution this will entail merging a variety of present and current programmes, with new required developments - will enable Europe's ATM system to meet future needs. Inevitably, this will involve changes, sometimes significant changes, to the existing system. At present, whilst the Master Plan continues to evolve, it is not always clear what changes may be needed; this course will provide an overview of the current situation and of some of the possibilities for the future.

Cours Aim:

This course will provide participants with an overview of:

• how the future European Air Traffic Management system may look,

• the elements that will enable the system to work, and

• the strategy for its implementation.

Course Objective:

By the end of this course, participants will be aware of how the future European Air Traffic Management system is likely to develop and the latest plans for its implementation.

The course is designed for staff working in any area of ATM, to whom an overview of current and future development of the ATM system might be beneficial. The course provides a predominantly operational view of the future. The course is held in the Institute's Conference Room and normally accommodates more than 50 participants.

The course lasts 5 days starting at 10:00h on the Monday and finishing at 13:00 on the Friday.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

▶ GEN > MIL

Civil-Military ATM Course

EUROCONTROL is a civil-military organisation, created to efficiently organise and safely manage the airspace for both civil and military users. The EURO-CONTROL Military Unit, as the focal point for current military knowledge and expertise within the EUROCON-TROL Agency, is committed to improve Civil-Military coordination and to enhance interoperability. Thereby the Unit promotes better mutual knowledge and awareness. Since Airspace is a common and finite resource where both the civil and military future requirements need to be fulfilled, a comprehensive understanding of these requirements is paramount. The Civil-Military ATM Course will aim to enhance our stakeholders understanding of civil-military ATM/CNS requirements and of the need for greater military involvement in national and international ATM processes.

The course is aiming at civil and military staff from national civil and military aviation authorities, air navigation service providers and airspace users, working at both national and international level.

This course starts promptly at 13.00h on the first day and finishes at 12.00h on the last day.

▶ GEN > LAW

Aviation Law for Managers

Do you want to acquire a broad view of aviation law and its impact on governing international civil aviation?

This course will explore regulatory issues related to air navigation services, airport administrations, airlines and civil aviation.

The course will help you to understand the legal and regulatory environments in which you work and its impact on your organisation. It discusses the issues affecting airline operations, civil aviation and airport administrations and air navigation services with international legal experts.

Full details are available from http://www.iata.org/training/courses/tcvl01.htm

This course is offered in collaboration with IATA. The course takes place at the EURO-CONTROL IANS in Luxembourg and should be booked through the IATA offices in Montreal. The registration form can be obtained from ians.registration@eurocontrol.int.

The course is available at a reduced registration fee of 2100 USD (instead of the standard 3000 USD).

The course is designed for lawyers and managers from civil aviation administrations and air navigation service providers.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 14:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

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GEN > PROC

Planning and Procurement in ATM
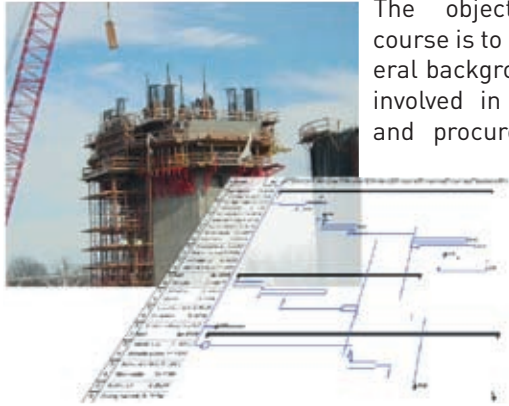
The objective of this course is to provide a general background for those involved in the planning and procurement of air traffic management systems, including funding. It is designed to ensure that projects meet their goals in terms of satisfactory in-service performance, delivery on schedule and value for money. The course is split into two main areas, covering project planning and approval; and project implementation. The course emphasises the complete life-cycle from initial high level plans to system de-commissioning. It is presented from the perspective of the procurement of high-integrity systems for Air Traffic Management.

The course has two main themes:

Project approval: high level planning and system evolution, customer requirement agreement and analysis, market research, evaluation of technology options, cost benefit analysis, project justification, procurement policy, budget assessment, budget approval, specification design and the use of standard specifications;

Project implementation: call for tender, tender evaluation, commercial evaluation, contract negotiation, contract conditions, ongoing project management, acceptance testing, pre-operational evaluation, training, introduction into operational service and system de-commissioning.

The course is aimed at those with responsibilities for planning and procurement in ATM including senior managers, controllers, engineers, project managers and specialist purchasing staff.

This is a 2.5-day course run twice a week.

Course 1 starts Monday at 09:00h and ends Wednesday at 12:00h.

Course 2 starts Wednesday at 14:00h and ends Friday at 16:00h.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians
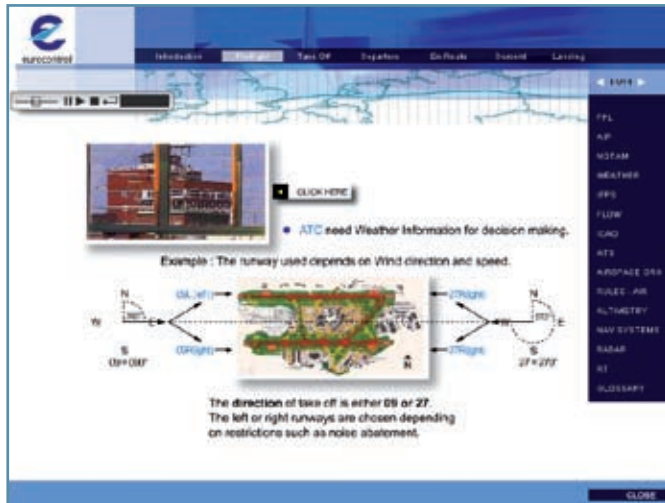
Background:

This module provides the learner with information on how the Air Traffic Management system is organised. It also contains a reference book with descriptions of elements composing the ATM system.

Objectives:

The objective of this module is to introduce Air Traffic Management to those who are new to the system.

• It does this by taking an example of a flight between the United Kingdom and Poland.

• It has a step-by-step description of the different elements and interactions which take place in order to assure a safe and efficient flight in Europe.

All those interested in, or who need to learn, the basics of Air Traffic Management

1 hour

★ ★

One of the main areas highlighted in the ATM 2000+ Strategy concerns the organisation and use of the airspace. Simplified and harmonised organisation and management of the airspace is considered a key enabler for meeting future airspace users' requirements. This will permit the provision of sufficient capacity to meet demand, whilst maintaining high safety levels in a way which is also environmentally sustainable.

The importance of this enabler has been further emphasised within the European Union (EU) driven Single European Sky (SES) initiative, having the aim to improve safety, capacity and efficiency of the European Air Traffic Management system.

Objective:

The Airspace Management Course aims to provide an over-view of the current status of airspace organisation and management within the European Civil Aviation Conference (ECAC) area. It also provides information on how the revised EUROCONTROL Airspace Strategy for the ECAC States and the EU Single European Sky initiative expects to meet those needs over the next two decades.

The course is designed for both civil and military personnel who have responsibilities in any area of airspace management, this being within Airline Operations, Air Navigation Service Provision, National Supervisory Authority, Military Command, etc.

The course is a 5-day course, starting Monday at 10:00h and finishing Friday at 12:00h.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

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Air Traffic Flow Management (ATFM) has become a vital part of Air Traffic Management (ATM) in exploiting the full potential of the air transport system without running the risk of infringing safety caused by overload situations. A currently evolving concept that will be further developed in the future is management of ATM capacity. Capacity management will become equally as important as managing the traffic flows. The Central Flow Management Unit (CFMU), with all its supporting personnel and systems, will continue to be a vital element in the management of these two important functions.

Objective:

The objective of the ATFCM course is to provide a general overview on the provision of Air Traffic Flow and Capacity Management within Europe including information on:
• The CFMU and its current operations;
• How the CFMU plans to cope with the future challenges.

The course is intended for staff working in Air Traffic Management, Airline Operations and the Military to whom a general overview of the CFMU and Air Traffic Flow and Capacity Management is desirable.

Note: This course is not intended for Flow Management Position (FMP) staff who should attend a separate modular course for FMP (ASM-FMP).

This is a 4-day course, starting on Monday at 10:00h and finishing Thursday at 13:00h.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

ASM > FUA
Flexible Use of Airspace

The Flexible Use of Airspace (FUA) concept was developed during the early 1990's and introduced into operation in 1996. The concept aims to produce a more efficient use of the finite ECAC airspace by minimising the segregation of airspace for specific user groups. This enables a more dynamic management capability than is available through the normal NOTAM or AIP Supplement procedure.

Objective:

The Flexible Use of Airspace course describes the FUA concept and its elements, and provides information on how the concept is likely to develop in the future.

The Flexible Use of Airspace course is designed for personnel directly involved in the day-to-day implementation of the FUA concept either in operational positions at Area Control Centres or Air Defence Units, Airspace Management Cells, the ECAC Centralised Airspace Data Function or Flow Management positions.

Note: For staff in need of more comprehensive information on airspace management, airspace organisation, the Single European Sky or the revised EUROCONTROL Airspace Strategy for the ECAC States, attending the IANS Airspace Management course is recommended or may be more suitable.

This is a 3-day course, starting Tuesday at 10:00h and finishing Thursday at 12:00h.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

ASM > CFMU-E
Introduction to the CFMU

This e-learning module is aimed at Operational or other personnel, both in air traffic services or AOs, to whom a general overview of CFMU operations is desirable. Experience in the functions of Air Traffic Services or a close involvement with Air Traffic Flow & Capacity Management would be beneficial but is not essential.

Note: The concept that is developed by the CFMU, Air Traffic Flow & Capacity Management, is a concept which extends the role of ATFM to the optimisation of traffic patterns and capacity management. Through managing the balance of capacity and demand, the aim of the CFMU is to enable flight punctuality and efficiency according to the available resources with the emphasis on optimising the network capacity through collaborative decision-making process.

This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E-Learning zone:
www.eurocontrol.int/ians/public/related_links/elearning.html

The Central Flow Management Unit (CFMU) serves the Aircraft Operators and Air Traffic Services. The vital link at local level in ATFCM operations is the Flow Management Position (FMP). The training of FMP personnel is essential for the success of CFMU operations.

Following its redesign in 2002, the Modular FMP Course consists of two classroom modules (one week each), supported by Internet-based training modules. These are mandatory pre-requisites for attendance to the classroom training. In addition, a refresher module also exists for suitably qualified staff.

This modular course is only for Flow Management Position staff. For other personnel who wish to have a general overview of the subject, a separate course ASM-ATFCM, of 4 days, is available (see details in this Brochure).

FMP1
Introduction to ATFCM Web-Based Training

A pre-requisite on-line training without instructor, which must be finished before attending the next module.

This is not a stand-alone course. It is the first part of the successive modular training package.

FMP2
The CFMU and FMP Operational Concepts

Theoretical course.

This is the second part of the successive modular training package.

FMP3
FMP Practical Aspects

Web-based training and practical course.

Demonstrations, discussions and exercises in order to improve understanding of FMP-CFMU interaction, the applications of CHMI/CIA and available methods for ATFCM problem resolution. It is the third part of the successive modular training package.

FMP4
FMP Refresher

Refresher course for FMP staff with a minimum of 2 years of practical experience. A working knowledge of CHMI is essential before attending this course.

FMP2, 3 and 4 are one-week courses, while FMP1 is a 2-hour pre-requisite course on-line.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

DPS > DPC
The Data Processing Chain

This course provides a basic foundation knowledge and understanding of the principles used in data processing (FDPS, RDPS) and an overview of their use in ATM operations.It presents a description of the functions associated with flight plan processing and the possibilities offered by a state-of-the-art flight data processing system through the presentation of both core and advanced functions. The techniques applied in the automation of radar data processing, the dependent functions and the associated activities within a surveillance data processing system are covered in radar data processing part.

This course is aimed at operational and technical staff with an interest in data processing within ATC systems. Knowledge of conventional ATC techniques is desirable.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 12:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

APT > ACE
Airport/Airside Capacity Efficiency Enhancement

In the past 5 years significant capacity enhancement has been achieved in the en-route environment. Following those developments, it is likely that airports will become the constraining factor of the European ATM System. How can the aviation community address airport capacity? Who is involved, what are the constraining factors and what assistance is available?

This course introduces the principles and concepts of airside capacity assessment and analysis, focusing on data collection and capacity enhancement techniques. It facilitates decision-making for short to medium-term airport planning by promoting the use of a structured Capacity Planning Process and the EUROCONTROL Airside Capacity Enhancement (ACE) method.

The course provides training to operational and technical experts, from ANSPs, airport operators and airlines, enabling them to take a leading role in an airport airside capacity enhancement exercise using the EUROCONTROL ACE method.

This is a 3-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

APT > CDM
Collaborative Decision Making

With the high growth forecast expected in the aviation industry in the coming years and the recent enhancements to the ATC en-route network such as RVSM, European airports may become the restricting bottleneck to the overall ATM system with increasing delays.

This course initially identifies how Airport partners can raise their common operational situational awareness. It also covers the implementing of Airport CDM at their airport and the local benefits, return on investment and gains envisaged to the overall ATM network by its implementation. This course will provide a detailed Airport CDM concept description and instruction on implementation, difficulties you may encounter and how to secure support from your colleagues, with the emphasis being on benefits to all airport partners. The programme will include presentations from airports who have already implemented CDM and demonstrations of specific CDM benefits.

This is your opportunity to take Airport CDM from concept to reality with a clear and harmonised understanding.

The target population is operational staff from ANSPs, airports, airlines and ground handlers.

This is a 3-day course, starting at 10:00h on the first day and finishing at 14:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

APT > ASMGCS
Advanced Surface Movement Guidance and Control Systems

This workshop will look at all aspects of A-SMGCS, with particular emphasis on implementation progress and experience. The presentations will include the A-SMGCS levels I and II procedures and the European Action Plan for the Prevention of Runway Incursions. The guest speakers represent all areas of Airport Operations and many presentations will focus on "Lessons Learned" from airports worldwide. The workshop is supported by an exhibition of industry products and research and development activities.

The target population is ATCOs, Pilots and Airport Operations personnel. Participants should note that this workshop is held in the Institute's conference room and normally can accommodate up to 80 participants.

This is a 4-day workshop, starting at 10:00 on the first day and finishing at 16:00 on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Aerodrome Resource Management is a safety training course for operational airport staff which covers how to prevent runway incursions. It will help each airport to build a strategy to prevent these safety occurrences from happening. The successful introduction of Local Runway Safety Teams is fundamental in the prevention of runway incursions. Local Runway Safety Teams comprise Pilots, Airside Vehicle Drivers and Air Traffic Controllers. The goal of the Team is to work together to identify the local causal factors of runway incursions and identify local solutions to prevent their recurrence. Today, all three members of this multi-professional team are working at the forefront of operational safety as individuals; they need to be a team on the manoeuvring area. The Aerodrome Resource Management course is designed to train trainers to facilitate the members of Local Runway Safety Teams and all operational staff working on the manoeuvring area. The course is applied to raise awareness of the operational hazards faced every day when working on or around a runway.

Runway incursions happen when communication breaks down, errors are not caught in time and situational awareness is lost.

Objectives:

To raise awareness of the daily operational hazards faced when working on or around the runway and to emphasize the importance of communication, error management and situational awareness. The training is delivered using case studies of actual runway incursions.

The participants learn how to:

• Recognise when an agreed procedure is not being followed and what to do about it

• Detect and manage the consequences

• Understand more about how we communicate and why it is difficult to understand and be understood on occasions

• Regain situational awareness

• Create a strategy to prevent runway incursions at your airport

• Facilitate this training at their own airport

The ARM Course is aimed at operational staff working on the manoeuvring area. These staff include aerodrome air traffic controllers working in the tower (RWY, GND), pilots, especially the Airport Liaison Representative, people who drive on the manoeuvring area e.g. the fire section, inspectors, tug drivers, follow me car drivers. All members of the Local Runway Safety Teams are welcome to attend. Participants are required to read "A guide to ARM and facilitation" document before coming to the Institute to follow the course.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians
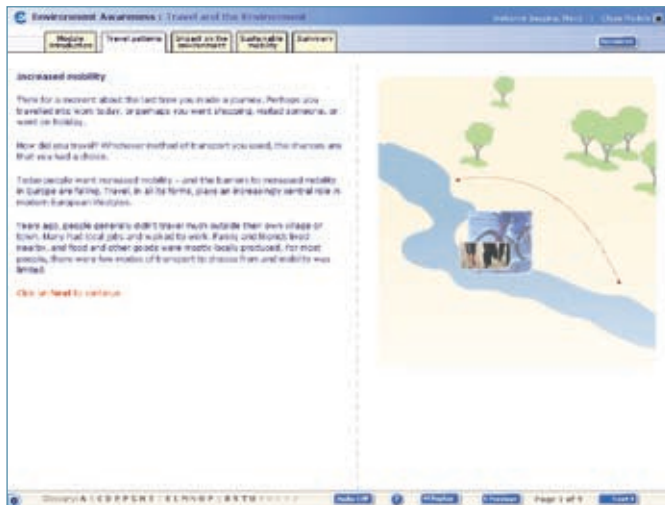
To raise awareness amongst ATM Personnel of Environmental issues in relation to ATM

Package of 6 modules - 5 Hours

★★★

Background:

This web-based Environmental Awareness training package was designed to highlight to ATM personnel and the general public the growing importance of environmental issues within our industry. This can be summed up in the following statement:

"Environmental issues such as noise and emissions are of increasing global concern. Air traffic management is part of our industry's solution to meeting the challenge of mitigating the environmental impacts of aviation".

Objective:

The Environmental Awareness e-Learning Package, which is the first of its kind, aims to give all operational staff a good understanding of general issues associated with environment and aviation, as well as specific indications of what actions they can take in their daily work to help mitigate the impact of aviation on the environment.

The EU has set a target of 20% reduction for Greenhouse Gas emissions by 2020. What impact does this have on aviation? The Single European Sky (SES) initiative, with the Functional Airspace Blocks (FAB) as a major component, and the SES ATM research Programme (SESAR) include efficiency and environmental objectives within their overarching objective of sustainable development. Aviation is expected to contribute to meeting State's overall environmental objectives and is already looking at ATM to improve network efficiency and help contributing to these objectives. Environment issues at airports provide an increasing challenge to aviation growth.

How does this affect my organisation as an ATM Project manager? What are the interdependencies between environment, safety (paramount), capacity, cost and security? How to assess these? Where are the support resources and indicators to assess environmental impact? What can I practically do to help my organisation to stay compliant with the evolving regulatory environment but also reap any business benefits?

Objectives:

The course achieves the following high level objectives:

1. Provide the requisite knowledge and understanding to enable European ATM personnel to engage in fulfilling management responsibilities for environmental issues, as well as strategic responsibilities where the environment should be taken into account.

2. Identify a clear focus on risk management (especially safety, efficiency and capacity) in implementing environmental management activities through an integrated approach.

3. To explain the interdependencies between environmental impacts and general operations, including how to approach their assessment and their inclusion in decision making.

4. Describe the inter-relationships between stakeholders, and demonstrate the importance of effective communication and collaboration.

Specifically, the course will be of practical relevance to delegates who should return to their organisation with a 'Toolbox' of useful processes, ideas and practical resources (e.g. check lists) to help them discharge their environmental management responsibilities

The course is aimed at ATM managers (Policy/Strategy managers, Project/Programme managers, Quality managers, Procedure and airspace designers, Airport managers) from the following organisations: Air Navigation Service Providers (ANSP); National Supervisory Authorities (NSAs) / regulators; Airports; Airlines; The aviation manufacturing industry; International organisations.

As a prerequisite to their acceptance to the course, students will have successfully completed the Environment e-learning course (with an 80% passmark).

This is a 5-day course, starting at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more specific information, please refer to our website: www.eurocontrol.int/ians

▶ AIM › AIM-B

Aeronautical Information Management - The Big Picture

This 2-day course covers at a high level the history of Aeronautical Information Services (AIS) and its products It includes the safety impact of aeronautical information, the technical enablers and recent modelling developments as well as the need to evolve to a fully digital environment within Aeronautical Information Management (AIM) to provide *"the right information, at the right place, at the right time"*. The course programme aims at providing the audience with the broadest and most up-to-date overview of the evolution in the field of AIM and is updated before each AIM-B course.

The course is targeted at aviation professionals external to AIS whose business relates with AIS, e.g. Managers involved with data origination (e.g. Airspace planning, Procedure Design), processing (e.g. Charting Agencies, Data Vendors) use (e.g. Airline Operators) and executives responsible for AIS service provision.

This is a 2-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

▶ AIM › AIM-I

Aeronautical Information Management - The Inside

This 5-day course addresses the need for the promotion and awareness of the AIM Strategy. It also provides a detailed view, for AIS professionals, of the recent products and deliverables produced by the AIM Domain and the AIS AHEAD and European AIS Database (EAD) Programmes. The course includes lectures, exercises and live demonstrations of the EAD sub-systems and electronic AIP. The impact of the evolution towards AIM on AIS working practices is discussed.

This is a refresher course for current AIS Operations specialists.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 14:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Background:

Today's world is increasingly being driven by the need for easy access to accurate information. Aeronautical Information must be available quickly and its accuracy maintained for obvious safety reason.

All along the Aeronautical Data Chain, data is exchanged between various actors categorised as Data Originators, State AIS, Data Vendors and End Users. At each data exchange point, information has to be transmitted between two or more actors.

Objectives:

The objective of this package is to explain the main concepts of the Aeronautical Information Conceptual Model and the Aeronautical Information exchange Model (AICM/AIXM) and how they relate to the Air Traffic Management (ATM) and the Aeronautical Information Publications (AIP).

The package is generic, not linked to a specific version of AICM/AIXM, nonetheless it integrates fully the AICM version 4.0.

- Operators/users of an AIS database, which is based on the AICM model or which imports/exports data in AIXM format,

- AIS operators who produce AIP, charts, NOTAM and other AIS products using data from an AIS database, which is based on the AICM model or which imports/exports data in AIXM format;

- AIS staff who need a basic understanding of how AIS data is modelled and structured in order to be managed electronically;

- IT specialists who are involved in the development of an AIS system based on AICM/AIXM and who need to have a basic understanding of the aeronautical information that will be managed by that system

package of 10 modules -15 Hours

AIM

Objectives:

The purpose of this module is to get the personnel providing the raw aeronautical data (originator/survey) and the personnel publishing the aeronautical data (AIS Publishers) acquainted with the aeronautical data elements which are considered to be essential and critical for the flight performance.

- Personnel providing the raw aeronautical data (originator/survey)
- AIS Publishers

3 hours

Background:

Present and future navigation are data-dependent and many of them require access to aeronautical information of a significantly higher quality than is currently available.

The objective of CHAIN is to improve the accuracy and quality of the originated aeronautical data and its management from the point of origination to the point of publication and, to subsequently enable enhanced processing throughout the entire aeronautical data chain.

AIM

European AIS Database - Introduction

NEW

- General public with an interest in the EAD;
- Registered professional EAD users are invited to follow the EAD Ops training.

30 min

Background

EAD is Europe's largest **Aeronautical Information System (AIS)**, comprising a centralised reference database of quality-assured aeronautical information and, simultaneously, a fully integrated, state-of-the-art AIS solution.

EAD is a centralised reference database of quality-assured aeronautical information for airspace users and an integrated AIS solution for service providers, provided by the EUROCONTROL Member States.

EAD Basic offers free, fast access to a limited set of EAD data for the general public, and provides information on the origin, processing and maintenance of that data.

Objectives

The EAD Introduction (EAD Int) e-learning module is the web-based introduction training to the EAD.

The course covers the general concepts of EAD. Participants will get an understanding of the basic terminologies, and get an overview of the different solutions that EAD is offering.

Background

EAD is Europe's largest **Aeronautical Information System (AIS)**, it comprises a centralised reference database of quality-assured aeronautical information and, simultaneously, a fully integrated, state-of-the-art AIS solution. Following the ASM-EAD-Int course, the ASM-EAD-Basic course offers training on the usage of the EAD Basic internet application

Objectives

Participants will learn

- How to access applications: learn how to get registered, what technical specifications are needed and how to access the application;

- PAMS Light: Published AIP Management System Light - learn how to work with PAMS Light, specify query criteria, load AIP documents and view PDF/HTML files.

- SDO Reporting: Static Data Operations Reporting - understand the purpose of SDO and how to query static data and generate reports;

- PIB: Pre Flight Information bulletins: learn how to generate PIBs and understand the different types of PIB available in EAD Basic.

- General public who want to use the EAD Basic internet application;

- Registered professional EAD users are invited to follow the EAD Ops training.

1hour 20 minutes

⭐⭐

Background

EAD is Europe's largest **Aeronautical Information System (AIS)**, it comprises a centralised reference database of quality-assured aeronautical information and, simultaneously, a fully integrated, state-of-the-art AIS solution. During the EAD Operations (EAD Ops) web-based training, participants will get an overview of the concept of the EAD. The emphasis of this training however is on the operational aspects, including the available functions for EAD Clients like the helpdesk, the knowledge base, the EAD operational time lines and web mail. Furthermore, the different EAD applications for data users, Published AIP Management System, Static Data operations and International NOTAM Operations are featured in detail during this training as well.

Objectives

This course will describe in detail:

• General EAD concepts: introduction to the EAD – it is recommended that this module is understood prior to the following modules listed below;

• PAMS Data User: - learn how to identify, work and search AIP documents in PDF/HTML format;

• SDO Data User: - understand what SDO is and how reports are generated. Learn how to define a report and how to use the graphical tool;

• INO Data User: - introduction to the INO functionality and Pre Flight Information bulletins (PIB), learn how to generate PIBs, how to retrieve single NOTAM and how to work with validation function for profiles and routes.

When completed, participants can start working with the EAD as a data user.

Anyone who has registered as a professional EAD Client and is scheduled to use the operational modules within the EAD;

Note: The general public and those who are not registered as a professional EAD client are invited to follow the ASM-EAD-Int and the ASM-EAD-Basic training.
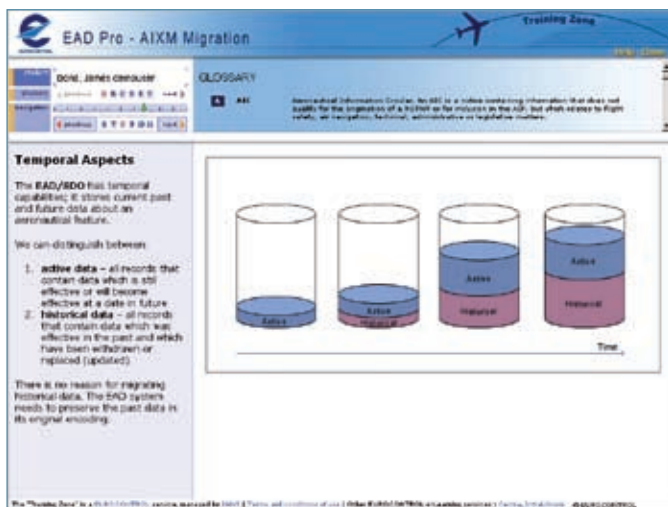
4 hours

⭐⭐⭐

Background

EAD is Europe's largest **Aeronautical Information System (AIS)**, comprising a centralised reference database of quality-assured aeronautical information and, simultaneously, a fully integrated, state-of-the-art AIS solution.

The purpose of the EAD Operations R4 Delta (EAD DELTA) web based training, is to give participants an overview of the new features that came with the introduction of the new release of the EAD, EAD R4. The emphasis of this training is on the changes made to the operational aspects, including the AIXM Migration, and common services. Furthermore, the changes in the different EAD applications for data users and data providers, PAMS, SDO and INO are also featured.

Objectives

Participants will learn

• AIXM Migration: with EAD R4, AIXM 4.5 is introduced. Aspects of the process of migrating to Version 4.5 and look further into the reasons is covered.

• Common Services & Basic Software: all different elements that have changed with R4 are shown, including, webmail, IFS access rights, single data user applet etc.

• Data User changes including: PAMS shopping cart and search, INO application and PIB generation as well as SDO Graphical Tools

• Data Provider changes including all SDO, INO, AIP and Chart Production aspects of EAD R4

When completed, participants will understand all the new features introduced with EAD Release 4.

• Everyone who is a registered professional EAD Client and has worked with the previous release, EAD R3, and who would like to learn more about the new features introduced in EAD R4.

• The general public and those who are not registered as a professional EAD client are invited to follow the EAD Int* or EAD Basic training*.

2 hours

⭐⭐

> SM1-E

Introduction to Safety Management
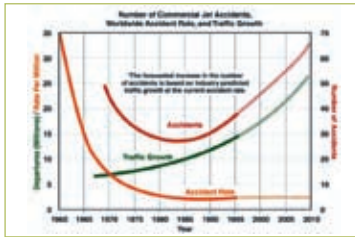
This interactive E-learning module describes the principles of Safety Management

Background:

The continuous growth in air traffic presents us with one of our greatest challenges: how to handle future demand and at the same time set even better standards for safety and services. Safety excellence must be a core element of all air navigation service providers. for every activity undertaken by an air navigation service provider, the implications of that activity must be assessed to ensure that:

• Safety is given the highest priority
• The risk of an aircraft accident are minimised as far as reasonably practicable

Objectives:

This module fulfils the following objectives:
• Describe the need for a formal Safety Management Systems
• Describe the principles on which good safety management is founded
• Describe the EATMP Safety Policy
• Describe the EATMP Safety Management Principles

Persons undertaking a safety management role in their organisation. All those persons interested in Safety Management in ATM.

90 minutes

⭐⭐

▶ SAF > ACAS

Airborne Collision Avoidance System

The ACAS acronym refers to the ICAO standards for the Airborne Collision Avoidance System performance, these were established in 1981 and are now mandated for aircraft operations within ECAC airspace. TCAS (Traffic alert and Collision Avoidance System) refers to the aircraft equipment, which is currently mandated at TCAS II version 7. Since the aircraft's response to a TCAS alert directly affects air traffic controllers, they need to understand how TCAS alerts and advisories are generated. The Centre d'Etudes de la Navigation Aérienne (CENA), in collaboration with EUROCONTROL, has developed RITA 2 (Replay Interface for TCAS II Alerts) to enable air traffic controllers to review actual TCAS II Version 7 events and provide a training platform for controller training in TCAS.

This 2-day course will provide training on ACAS/TCAS and the RITA 2 tool for instructors responsible for the training of air traffic controllers so that they can then develop local ACAS/TCAS training programmes.

This course is available to training officers responsible for the development and provision of ACAS/TCAS training to air traffic controllers.

This is a 2-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

All safety critical industries have adopted an Safety Management System as "best practice". ATM has adopted a safety management system as a requirement for the effective management of its business. The real challenge facing most ATM providers is to covert the SMS theory into the practical application. This course aims to present the practical implementation of an SMS within an ATM provider. In doing so, the course will provide practical examples and case studies to introduce participants to all elements of the SMS to improve the safety awareness within their organisation and understand their safety roles and responsibilities.

The objectives of the course are to:

• Explain the Concepts, Principles and Best Practices of the ATM Safety Management System and

• Describe the individual's safety roles and responsibilities.

This course is aimed at Air Traffic Controllers Technicians
Project Leaders and their teams and other staff with safety responsibilities.

Pre-requisite:

Before attending this course, participants must complete the e-learning module "Introduction to Safety Management". This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html. The module will take approximately 90 minutes to complete. This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 12:00h on the last day.

For dates and more details of IANS Training programme consult our website: www.eurocontrol.int/ians

Investigation of ATM occurrences is essential to prevent further accidents, improve safety levels, and promote learning. Investigating all safety-related incidents and drawing out accurate and pragmatic recommendations is paramount to the management of safety.

ATM occurrence investigation is not only a crucial part of the ATM Safety Management System but it is also regulated by ESARR 2 and ESARR 3 and other international safety regulations.

The ATM Occurrence Investigation Course provides the theoretical knowledge and practical skills to enable newly appointed ATM Unit investigators to conduct an internal ATM occurrence investigation. The course deals with information gathering, interview skills, reconstruction, analysis, findings, conclusions and recommendations. It introduces the participants to different tools developed under EURO-CONTROL to assist the investigation process.

The course is based on theoretical modules, demonstrations and practical applications of all phases of an investigation.

The course is aimed at ATM Service Provider personnel, with sound operational knowledge, who will be appointed as ATM Occurrence Investigators. No prior investigative experience is assumed. As the course is highly interactive, a sound level of active English language is required to profit fully from the course and support the colleagues in the practical exercises.

Pre-requisite:

Before attending this course, participants shall complete the e-learning module "Introduction to Safety Management". This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E-Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html. The module will take approximately 90 minutes to complete. This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme consult our website: www.eurocontrol.int/ians

> SAM1-FHA

Introduction to EATMP System Safety Assessment
Methodology and Functional Hazard Assessment

This course aims to place Safety Assessment of ANS systems in the overall context of the EATM Safety Policy. In doing so, the course will address the central concepts underlying the EATM Safety Assessment Methodology, explain the risk classification scheme for Air Navigation Systems and describe the Functional Hazard Assessment process which is the first step of the EATM Safety Assessment Methodology.

The Functional Hazard Assessment (FHA) is a process initiated at the beginning of the development or modification of an Air Navigation System. The objective of the FHA process is to determine how safe the system needs to be.

The course includes practical exercises in conducting a Functional Hazard Assessment.

Operational and technical personnel who require an introduction to Safety Assessment of ANS systems.

Pre-requisite:

Before attending this course, participants shall complete the e-learning module "Introduction to Safety Management". This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html. The module will take approximately 90 minutes to complete.

Course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 12:30h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

This course aims to provide guidance for the safe design of Air Traffic Management (ATM) Systems in the overall context of the EATMP Safety Policy. The Preliminary System Safety Assessment (PSSA) is an iterative process, initiated at the beginning of the design or design modification of an Air Navigation System. PSSA intends to validate the system architecture by showing that the proposed system architecture can reasonably be expected to be tolerably safe.

The course includes practical exercises in conducting a Preliminary System Safety Assessment.

Operational and technical personnel who are involved in the design of Air Traffic Management Systems (People, Procedures and Equipment).

Pre-requisite:

It is assumed that participants attending this course have a clear knowledge and understanding of the EATM Functional Hazard Assessment process described in the SAM 1 course.

Before attending this course, participants shall complete the e-learning module "Introduction to Safety Management". This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html. The module will take approximately 90 minutes to complete.

Course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting promptly at 09:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

This course aims to outline a process to demonstrate that the ATM system achieves an acceptable (or at least a tolerable) risk. Consequently specifically, it conforms to the ATM system standards its Safety Objectives specified in the FHA, and it confirms that the system elements meet their Safety Requirements specified in the PSSA.

The System Safety Assessment (SSA) process is an iterative process, which should be reviewed, revised and refined as the process of collecting safety assurance & evidences evolves. The course includes practical exercises in conducting a System Safety Assessment.

Project Managers, Safety specialists and Air Navigation Service Provider staff involved in day-to-day safety monitoring of ATM systems
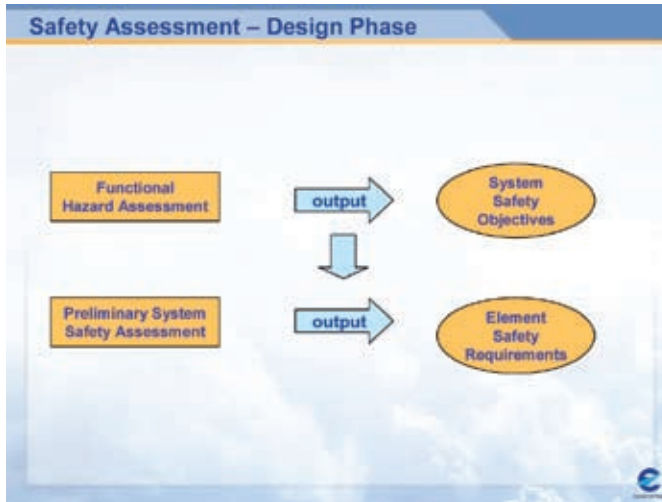
Pre-requisite:

Before attending this course, participants shall complete the e-learning module "Introduction to Safety Management". This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html. The module will take approximately 90 minutes to complete. This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Course Structure

This course aims to provide guidance to enable personnel to manage the Software Safety Assurance activities for the ATM system. The course addresses the concepts of Safety Assessment within the context of EUROCONTROL Safety Assessment Methodology (SAM), ESARR 4 and ESARR 6 is based on the EUROCONTROL Recommendations for ANS Software and the ANS Software Lifecycle guidelines which are part of SAM. The complete Software lifecycle is addressed within the course:

• Planning

• Software Requirements

• Allocation of Software Assurance Levels (SWAL)

• Satisfaction of SWAL

• Audits and Reviews.

Aspects related to safety assessment (FHA-PSSA-SSA) activities, procurement and contracting are presented along with practical exercises to reinforce understanding.

Objectives:

By the end of the course, students will be able to:

• Describe the ANS Software Safety Assurance process and its relationship with the overall Risk Assessment Activity

• Describe the relationship of the ANS Software Safety Assurance process with existing Industry software standards.

• Assist in the conduct of a Software Safety Assessment.

ATM staff involved in Software Development and/or Maintenance, NSA staff involved in ESARR 4 or ESARR 6 oversight.

NSA staff involved in ESARR4 or ESARR6 oversight.

Pre-requisite:
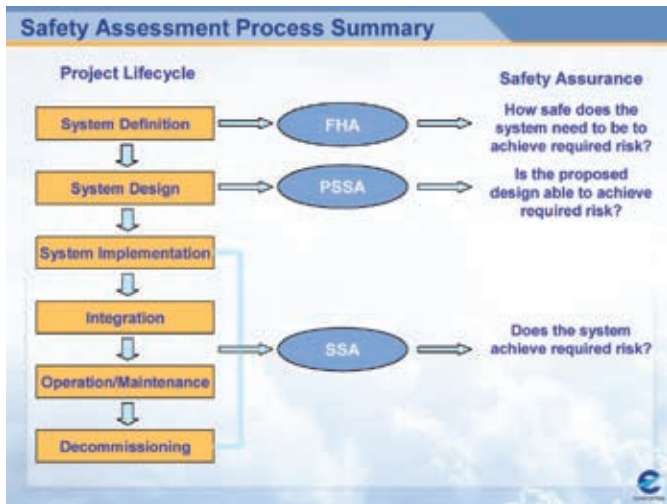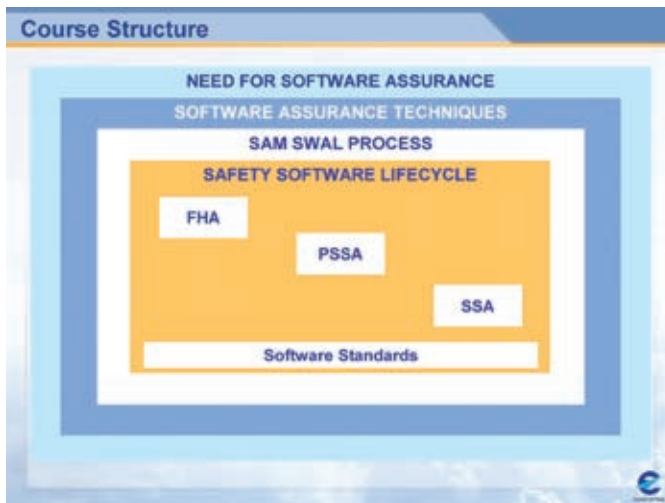
Before attending this course, participants shall complete the e-learning module "Introduction to Safety Management". This module is accessible through the IANS Learning Management System (LMS). Course participants receive, together with the course confirmation the instructions on how to access the module and the required login and password several weeks prior to starting the course.

Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html

The module will take approximately 90 minutes to complete.

This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians.

NEW

The SAF-SAAP Course - Safety Assessment of ATM Procedures is designed to provide Project Managers and staff responsible for the safety assessment of significant changes to ATM procedures with the tools and techniques necessary to conduct a safety assessment and allocate a Procedure Assurance Level (PAL) in accordance with the SAAP Guidelines of the EUROCONTROL Safety Assessment Methodology. The course does not aim to provide guidance or assistance with the assessment of "small" or "routine" changes to procedures.

Objectives:

By the end of the course, participants will be able to assist with the conduct of a safety assessment of an ATM Procedure in accordance with the EUROCONTROL Safety Assessment Methodology.

Project Managers and operational staff responsible for the safety assessment of significant changes to ATM Procedures.

Pre-requisites:

Before attending the course it is strongly recommended that participants attend the SAF SAM1-FHA and SAF SAM2-PSSA courses. Additionally, practical experience in the design and validation of ATM Procedures is anticipated.

Participants shall also complete the e-learning module "Introduction to Safety Management". This module is accessible through the IANS Learning Management System (LMS). Course participants receive, together with the course confirmation the instructions on how to access the module and the required login and password several weeks prior to starting the course.

Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html

The module will take approximately 90 minutes to complete.

This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting at 09:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Course Structure

This course aims to provide guidance regarding the planning, creation and maintenance of an ATM Safety Case. The course is based on the EUROCONTROL Safety Case Development manual and Safety Assessment Methodology (SAM) as a means of compliance with ESARR 4. The participants will be guided through the development of the safety argument and presentation of the evidence to satisfy oneself and the NSA with respect to the safety of the system under assessment. The emphasis is on the building of the ATM Safety case based on Safety Evidence and using Goal Structuring Notation as a means of presentation.

Aspects related to safety assessment (FHA-PSSA-SSA) activities, procurement and contracting are presented along with practical exercises to reinforce understanding.

Objectives:

By the end of the course, students will be able to:

• Describe the construction of the ATM Safety Case and its relationship with the overall Risk Assessment Activity

• Assist in the production of an ATM Safety Case

ATM staff involved in ATM Safety Case Development and/or Maintenance;

NSA staff involved in ESARR4 rulemaking and oversight.

Pre-requisite:

Before attending this course, participants shall complete the e-learning module "Introduction to Safety Management". This module is accessible through the IANS Learning Management System (LMS). Course participants receive, together with the course confirmation the instructions on how to access the module and the required login and password several weeks prior to starting the course.

Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html
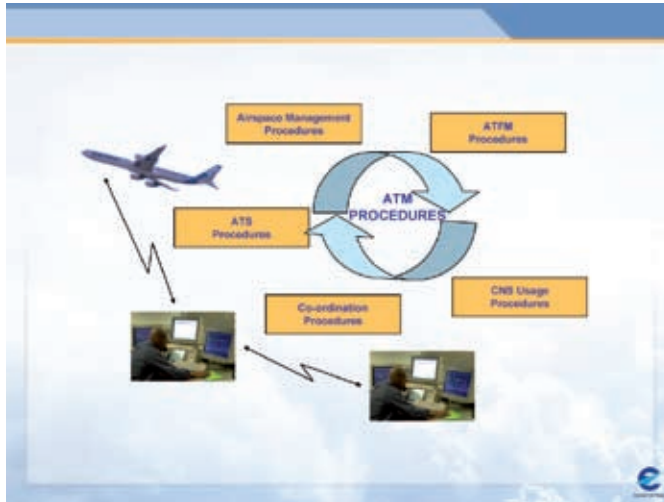
The module will take approximately 90 minutes to complete.

This module has been developed to be used both as standalone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

The Basic Requirement

A means for promoting best practices, to determine the effectiveness and suitability of an implemented SMS.

This 3-stage course aims to provide participants with the practical skills and knowledge required to:

• Understand the Concepts, Principles and Practice of Safety Survey in the context of EATM Safety Policy and the overall Safety Assurance process within the SMS.

• Assist in the planning, design, conduct and follow-up of ATM Safety Surveys.

Staff involved in performing Safety Surveys within the Safety Management System

STAGE 1
Initial 5-day training course at IANS. "How to conduct a safety survey".

STAGE 2
Practical Survey to be self-arranged within own organisation or in another organisation or even in another State. "Conduct a safety survey".

STAGE 3
A three-day follow-up course. "Present the process and evidence of your survey".

All three stages are mandatory to complete the course. The stage 3 date will be provided when the participant has been registered for stage 1.

Audit Management
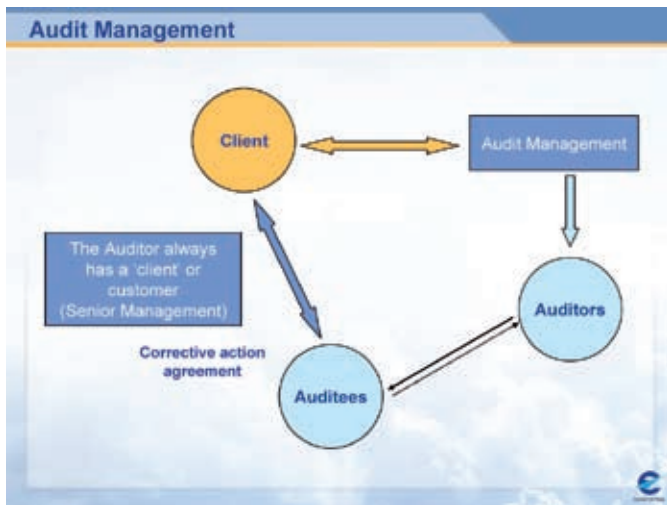
The core function of ATM safety regulation comprises rule making and safety oversight of organisations, systems and operations. The EUROCONTROL Safety Regulation Commission (SRC) places strong emphasis on the need for effective safety oversight. Safety oversight relies on safety regulatory audits as well as safety performance measurement and other complementary techniques. This course aims at providing delegates with sufficient understanding of the basic principles of auditing to enable them to conduct in depth and searching safety audits of ATM services according to the international standards ISO 19011 and ISO 9001: 2000. The overall course consists of three successive stages leading to an exam. All three stages MUST be followed and the exam must be successfully completed.

Staff working in Civil and Military ATM safety regulation (priority). Staff working in Civil and Military ATM Service Provider organisations.

Pre-requisite:

Before attending this course, participants shall complete the e-learning module "Introduction to Safety Regulation". This module is only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E- Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html. The module will take approximately 4 to 5 hours to complete.
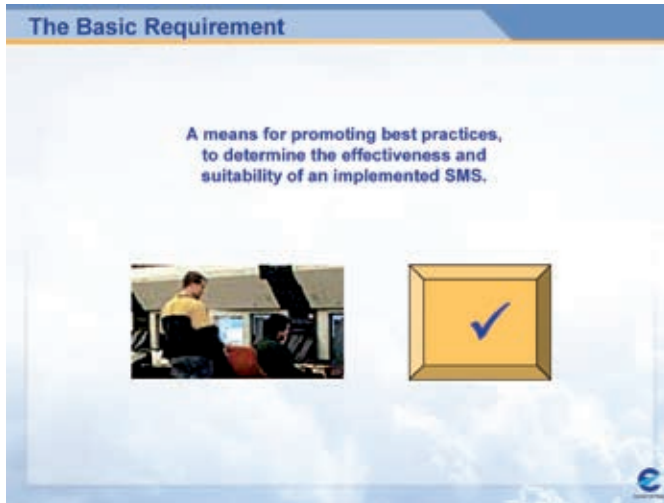
This module has been developed to be used both as standalone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

STAGE 1
Initial 5-day training course at IANS. "How to conduct a safety audit."

STAGE 2
Practical Audit to be self-arranged within own organisation or in another organisation or even in another State. "Conduct an audit".

STAGE 3
A three-day follow-up course with exam. "Present the process and evidence of your audit".

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Safety Regulation

State Organisation

Regulatory Authority → Service Provision

Clear separation will enable requirements of Chicago Convention to be met and will better serve public interests (Doc 9734 2.4.9)

Background:

Safety Regulation is the process applied by States, within national legal duties and frameworks, for establishing, overseeing and enforcing minimum safety levels in the public interest. It includes rulemaking, usually in the form of safety regulatory requirements, together with a means of ensuring compliance by those subject to safety regulation.

Objectives:

This package aims to:

• Provide an appreciation into the international context in which national safety regulation is being conducted

• Describe the roles and competency in ATM safety of:

– the standards organisations, EUROCAE, RTCA, IEC, ETSI, CEN and CENELEC

– the regulatory bodies, ICAO, EUROCONTROL, ECAC, JAA, the European Commission, EASA, and GASR

• Describe the most significant international regulatory material of relevance to ATM safety regulation, including regulations, directives, rules and standards

• Allow the student to appreciate the developments taking place as we move towards the Single European Sky.

Those who are involved in or will undertake a safety regulatory role in their organisation. All those interested in Safety Management in ATM

The course is a pre-requisite for other SeRT courses held at IANS, as identified by the European Strategic Safety Action Plan (SSAP) and the Safety Regulation Commission (SRC).

The course is aimed at staff involved with the Safety Regulation of Air Navigation Service Providers.

The course also provides a comprehensive source of information and knowledge for managers, trainers and other staff in an Air Navigation Service Providers' organisation who may be involved with Safety Regulation.

More specifically, the course is recommended for accident investigators and other staff involved in ESARR 2 implementation or any person who needs a general familiarisation of safety regulation.

This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

package of 5 modules – 4-5 Hours

Critical Elements of a Safety Oversight System

A priority identified by EU-ROCONTROL SRC is the need for exposure of senior and middle managers of National Supervisory Authorities to a level of training that will assist them in:

• the determination and development of effective regulatory processes acting in support of SES and ESARR 1

• and assist them in the meeting of international obligations relating to the effective regulation of ATM service providers.

This course aims to provide training that will help to initiate action across the ECAC states, and in particular EU states. This course will enable participants to achieve fully effective and standardised processes of ATM safety regulatory oversight within their respective organisations.

Objectives:

The High Level training objectives for the training course are as follows:

1. To facilitate delegate understanding of why a safety regulatory role is needed.

2. To identify the various roles of a safety regulator.

3. To introduce delegates to key regulatory concepts.

   3a. To provide delegates with an understanding and appreciation of problems that may detract from the effectiveness of a regulatory function within a state.

4. To enable delegates to make decisions and select the best options on the way forward to the implementation of ATM safety regulation at European and national level, according to internationally agreed principles.

5. To enable delegates to design, manage and correct (improve) a national safety regulatory function.

6. To enable delegates to organise and justify for the implementation of ESARRs into the national safety regulatory framework (i.e. to define an implementation plan customised to the national environment).

The target population is senior and middle managers of National Supervisory Authorities.

Pre-requisites:

Participants shall complete the following E-learning module before attending the course: "Introduction to Safety Regulation" focussing on the "International, European legal and institutional context" and giving an "Introduction to ESARRs". It will take approximately 7 hours to complete this module.

The course duration is 5 days.

The module is accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E-Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html

This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.
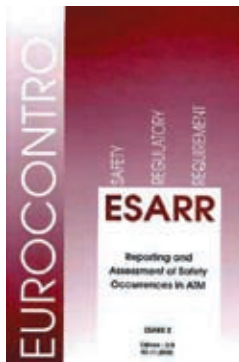
Background:

ESARR 2 is mandatory safety regulatory requirement that promotes consistent systemic reporting and assessment of safety occurrences within the ATM system. The "SAF-E2I - Detailed ESARR 2 Training" course has been developed to support the harmonised implementation of ESARR 2 within the ECAC region. The course focuses on regulatory aspects, national data collection, Annual Summary Template, safety oversight and legal issues. The course presents the practical implementation of the ESARR 2 mandatory requirements at the national level. It also offers a number of theoretical modules, demonstrations and practical exercises.

Objectives:

The objectives of the course are to:

• Identify a structured approach to ESARR 2 national implementation,

• Describe how ESARR 2 national safety oversight can be performed.

• Safety regulatory staff involved in the ESARR 2 transposition and oversight,

• Annual Summary Template focal points,

• Accident Investigation Board (AIB) experts,

• Air Navigation Service Provider, Safety regulatory and AIB staff involved in day-to-day ESARR 2 implementation and application.

Pre-requisites:

Before attending this course, participants shall complete the E-learning module "Introduction to ESARR 2". Completion of this module is compulsory for course attendance. The module is expected to be completed before the course start. The module will take approximately 90 minutes to complete.

It is also recommended that participants complete the "Introduction to Safety Regulation" E-learning module before attending the course. It will take approximately 4-5 hours to complete this module.

Both modules are only accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E-Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html

These modules have been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 12:00h on the last day.

For dates and more details of IANS Training programme consult our website: www.eurocontrol.int/ians

Background:

The aim of ESARR 2 is to improve levels of safety reporting.

It achieves this by standardising safety occurrence reporting and assessment. It specifies the minimum levels for the quantity and quality of reported data. It also aims to establish a Just culture that will encourage individuals to regard reporting safety occurrences as a positive aspect of their work.

This module has been developed to be used both as standalone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

Objectives:

This module aims to describe and explain the contents and role of ESARR 2.

It is a pre-requisite for "Detailed ESARR 2 Training" course (SAF-E2I), held at IANS. Many of the points presented in this module will be covered in more detail during the classroom-based course.

Annual Summary Template focal points, safety regulators and Air Navigation Service Provider staff dealing with safety data reporting and analysis. Civil, military and ATM professionals including, air traffic controllers, incident investigators, engineering staff and accident investigation board experts.

90 Minutes
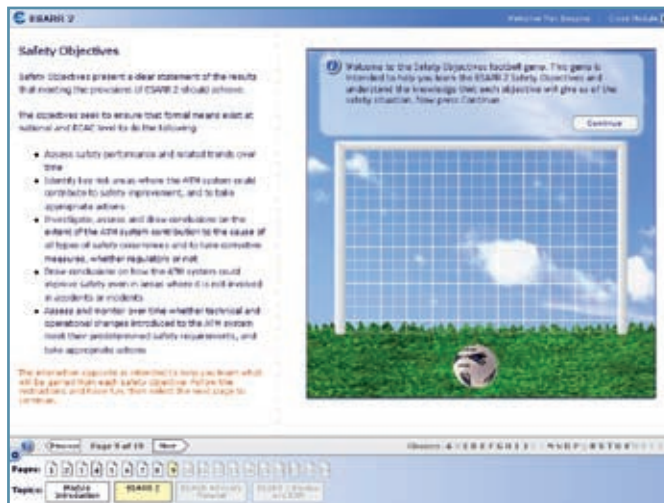
This course, primarily designed for those involved in safety regulatory functions, it provides assistance in implementing the requirements of ESARR 3 *Use of Safety Management Systems by Air Traffic Management service providers*. The course focuses on the way in which a National Supervisory Authority (NSA) can establish effective and efficient safety regulatory oversight of service providers through the use of formal Safety Management Systems (SMS).

The objectives of the course are:
• To provide an understanding of necessary elements of an SMS
• To provide an understanding of methods of implementing an appropriate regulatory oversight framework at national level
• To provide an appreciation of the relationship between ESARR 3 and other regulatory requirements
• To enable participation in the integration of ESARR 3 oversight into other existing regulatory frameworks
• To allow participants to share experience of safety oversight techniques and of current best practice in both ANSP and NSA environments

The course complements other training provided by the Institute which provides assistance to managers of National Supervisory Authorities (NSAs), for example the SAF-NSA course.

Participants will gain an appreciation of a management structure that is necessary to support the implementation of safety oversight of ESARR 3 and, therefore, should be able to recognise the interaction between routine safety oversight activities and NSA management functions.

- Those involved with the integration of ESARR 3 regulatory requirements into a national regulatory framework
- Safety regulatory staff involved in day-to-day implementation and application of ESARR 3 requirements
- Safety Regulatory staff involved in the setting up of an NSA

The course may also be of interest to staff of ATM service provider organisations that are seeking to implement or improve an SMS that is subject to regulatory oversight by the NSA. Participants will gain an understanding of the likely expectations of the NSA and of the oversight methods that may be used.

Pre-requisites:
In order to ensure that participants can fully participate and benefit from the course, each should have a basic understanding of the current concepts and European safety regulatory framework before attending the course. The 'Introduction to Safety Regulation' e-learning module, and particularly the sections dealing with SRC regulatory material and ATM regulatory bodies, will provide this common level of understanding. It will take about 7 hours to complete the e-learning module. Participants may also find the 'Introduction to Safety Management' e-learning module of interest.

e-learning modules are accessible through the IANS Learning Management System (LMS). Several weeks prior to starting the course participants will receive, together with the course confirmation, instructions on how to access the 'Introduction to Safety Regulation' e-learning module and the required login and password.

Once registered on the IANS LMS, access is available to a wide range of e-learning modules. You can register on the IANS LMS at www.eurocontrol.int/ians/public/related_links/elearning.html

This is a 5-day course, starting at 10:00h on the first day and finishing at about16:00h on the last day.
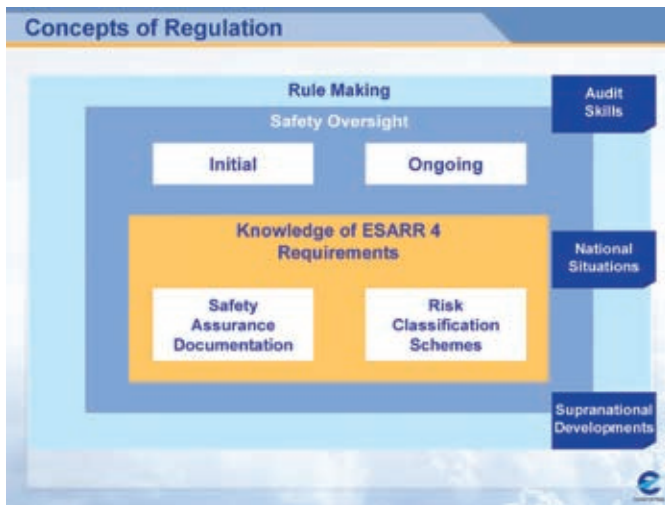
This course aims to support the harmonised implementation of the ESARR 4 Safety Regulatory Requirement on Risk Assessment and Mitigation in ATM. The course focuses on the roles that a National Supervisory Authority (NSA) must undertake to provide Safety Regulation for Air Navigation Service Providers.

The objectives of the course are:

- To allow participants to understand how ESARR 4 national safety oversight should be performed.

- To allow participants to identify the essential features required of an NSA to provide Safety Regulatory Oversight.

- To allow participants to understand the intentions of ESARR 4 requirements.

- To allow participants to exercise auditing techniques.

- To allow participants to see best practice in what to expect at the ANSP

- To provide participants information on the latest developments in SES.

- Safety Regulatory staff involved in the setting up of an NSA

- Safety regulatory staff involved in ESARR 4 transposition into local legislation

- Safety regulatory staff involved in ESARR 4 Safety Oversight,

- Air Navigation Service Provider staff involved in day-to-day ESARR 4 implementation and application.

Pre-requisites:

Participants shall complete the following E-learning module before attending the course: "Introduction to Safety Regulation" focussing on the "International, European legal and institutional context" and giving an "Introduction to ESARRs". It will take approximately 7 hours to complete this module.

The module is accessible through the IANS Learning Management System (LMS) and therefore a login and password are required. Registration can be done through the IANS E-Learning zone: www.eurocontrol.int/ians/public/related_links/elearning.html

This module has been developed to be used both as stand-alone and as a pre-requisite for several classroom courses. In the latter case, course participants receive together with the course confirmation a login and password several weeks prior to the course start.

This is a 5-day course, starting at 09:00h on the first day and finishing at 16:00h on the last day.

Operational Supervisors Management

The Operational Supervisor Management course is designed to facilitate the transition for ATS staff into supervisory roles. It aims to equip operational supervisors with the knowledge, skills and confidence to enhance their performance in their current/future supervisory management roles. The course aims to enable supervisors to follow a systematic process that gives appropriate weight to all aspects of their role, and also links their performance in their role to the internal and external environments in which their work is being done.

The course uses facilitation and teaching techniques to foster the participants' knowledge on subjects such as communication, motivation, leadership, conflict management and stress. It uses role plays, exercises and videos to allow the participants to reflect on their own behaviour and attitudes in the operational environment. The course familiarises the participants with the EUROCONTROL initiative of Critical Incident Stress Management. Sessions are dedicated to the issue managing an operational crisis and to management of the consequences of operational change.

The operational supervisor management course is a mix of theory and practice and enables the participants to share experiences and learn from each other. Its objectives are aligned with the document "Guidelines for Management Training for Operational ATM Supervisors" (HRS/TSP-004-GUI-07).

Newly appointed ATS supervisors and team leaders

This is a 5-day course, starting promptly at 09:30h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Classroom Lesson Techniques

This course is aimed at providing participants with the appropriate skills competencies to develop and deliver classroom lessons in a standard and professional manner. The course contains the theory of the elements for training objectives, principles of learning and EATM Taxonomy, lesson structure, questioning and use of standard classroom written tests.

Participants are encouraged to bring with them appropriate material, which they consider helpful for the lessons they will prepare. Individual PC working position and Internet access for each participant is made available. Personal laptop computers may be plugged into the Institute projection system.

Instructors involved in ATM classroom training who teach lessons to students that practice the acquired knowledge in daily operations.

This is a 2-week course, starting promptly at 10:00h on the first day and finishing at 14:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

The course aims at providing future ATC on – the – job instructors (OJTI) with the skills necessary to help student controllers and trainees to progress toward a successful conclusion of their operational training. The course is based on the EUROCONTROL document HUM.ET1.ST05.4000-GUI-01 defining the course and subject objectives, available on www.eurocontrol. int/humanfactors. The course is conducted entirely in English and uses various methods such as role plays, videos, document study and discussions. The main tool is a simulator for practical exercises in on-the-job training techniques, coupled with extensive feedback by course participants and course instructors.

Due to the generic nature of the simulation tool and environment used during the course and the heterogeneous composition of the course participation audience, an OJTI competency assessment as required by ESARR5 for the OJTI endorsement is not provided by IANS.

Air Traffic Controllers selected as future On-the-job Instructors. As the course is highly interactive, the participants require a reasonable level of active and passive English language skills beyond ATC phraseology to profit from the course theory and the feedback on practical exercises.

This is a 2-week course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

This is a variant of the Institute's original Training Programme for the OJTI. consequently, the course may be considered as an alternative to the current 10-day HUM OJTI course.

The final objectives for this course exceed those of the original course and will similarly meet any revisions made by EATM. The course remains fully compliant with the requirements of ESARR 5 and is a suitable foundation for the issue of an OJTI licence endorsement. Participants will complete a package covering the knowledge-based subject areas by electronic distance learning (Internet). This will be followed by a 5-day module at the Institute or on site, during which the practical elements will be completed. The practical module should normally follow the distance learning package within 4 weeks. During the Internet phase of the course several on-line meetings may be arranged to discuss the subject material and to resolve any technical problems encountered by the participants. By enrolling on the 5-day practical module the participant _commits_ to the prior completion of the distance learning part. (This will require approximately 25 hours of work.) There will be several module exit tests to confirm satisfactory completion of the distance learning package and participants will be able to view their progress.

The sponsoring administration must recognise that the on-site part of the course is incomplete without the required distance learning and that the service provider must provide the required facilities (time and access) for their participant(s) to undertake the distance learning part of the programme.

For training establishments wishing to carry out the training at their own location and independent of the Institute, full instructor and administrator rights will be given on request. This facility will permit the training school to "track" its own participants and supply the learning modules through the Institute's learning management system (LMS)

Blended Learning Delivery Method & Pre-Requisites:

This course will be delivered via blended learning and the on-site course duration will be reduced to one week.

Participants are required to study the associated distance learning modules before attending the on-site part of the course and there will be an exit check to confirm satisfactory completion.

This is a 5-day course, starting at 09:00h on the first day and finishing at 15:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

HUM > OJTI-E-MODULE

E-Module

Background:

The IANS course to become an on-the-job instructor has been divided into two parts. The first part is a package of 9 modules and the second part a one-week course at the institute. This reduces the time the students are required to be out of their place of work, and also increases the through put of the course.

Objectives: The package includes modules on:

• The Training Organisation
• The OJT Process
• ATC Team Interactions
• Person to Person Communication
• How People Learn
• Personal Interactions
• Assessment Methods in OJT
• Stress and
• Coaching Techniques in OJTI

Note: This package should not be considered as a full OJTI course

ATCOs training towards OJTI endorsement

17 Hours

HUM > OJTIREF

Refresher Training for the "OJTI"
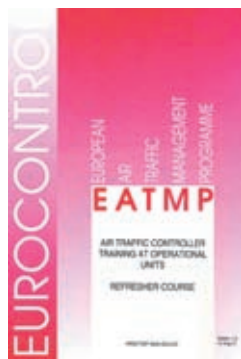
The aim of this course is to provide qualified OJTIs with refresher training that supports and reinforces the knowledge and techniques of on-the-job training.

The course was developed to reinforce the EATMP report "Air Traffic Controller Training at Operational Units" HUM. ET1.ST05.4000-GUI-01 - Edition 2.0 June 29, 1999 and to support the OJTI competency requirements of ESARR 5.

Air traffic controllers who are experienced OJTIs and who have completed an OJTI training course which satisfies or is equivalent to the objectives detailed in the guideline document reference HUM. ET1.ST05.4000-GUI-01 - Edition 2.0 June 29, 1999. It is recommended that this course should be taken by suitably qualified OJTIs at least every five years.

This is a 4-day course, starting promptly at 13:00h on the first day and finishing at 12:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

HUM > SIM

Design of Training Simulation _ Exercises and Courses
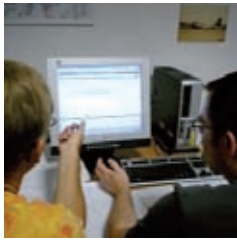
Complex ATM operations need to be broken down into manageable practical training objectives. This course contains all the principles and rules for designing a single simulation exercise as well as all the exercises in a course. It also provides guidance on how to establish exercise objectives and how to sequence exercises, deciding objectives and exercises sequencing. Using specialised software the participants will design 4 significant simulation exercises in a course, one of them with unusual occurrences. Each exercise is assessed either by the instructor or the participants of another group following/using a standard assessment form. On the last day, as a fifth exercise, they will have to develop the full objectives in a given elementary course of 20 exercises. Experience with handling basic PC inputs is strongly recommended.

This is a course for designers of simulation exercises for APP and ACC.

This is a 2-week course, starting promptly at 10:00h on the first day and finishing at 12:30h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

HUM > A - TRM

Awareness of TRM

NEW

This three-day course will provide participants with a general awareness of TRM. It will cover the benefits of TRM for the operational safety culture and the methods ideally employed in TRM courses, as well as the reasons for them. The A-TRM course will deal with implementation questions and how to set up the organisational TRM courses, including logistics and the training of the facilitators.

ANSP decision makers and other interested persons with a good operational understanding.

This is a 3-day course, starting promptly at 13.00h on the first day and finishing at 13.00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Assessment at Operational Units

The EUROCONTROL Safety Regulatory Requirement (ESARR 5) provides general safety requirements for all ATM personnel with responsibility for safety-related tasks. ESARR 5 outlines largely high-level statements, thereby giving States the freedom to comply in a way consistent with their operational and cultural environment.

ESARR 5 states that, before granting an air traffic controller licence or certificate the applicant must have been assessed as competent and, once licensed, the controller shall be subject to an assessment of their continuing competence. In response to the complexity of these issues the Institute has 2 specific courses:

▶ HUM > ULA
Unit Licensing Assessor

This course focuses on procedures for evaluating the _first_ operational competency of student air traffic controllers for the _issue of a licence with ratings and endorsements or_ for trainees, _the issue of new or additional endorsements_ at the unit. This particular course supports the use of both practical and oral assessment as a process to determine the _initial operational competency_ of a controller and it aims to provide participants with the rationale, knowledge and techniques for the role of _Unit Licensing Assessor_ (ULA). ESARR 5 implies that the ongoing instructional competencies of on-the-job training instructors (OJTIs) should be assessed. The course also examines methods by which the _ongoing instructional competence of the OJTI_ may be verified. The course is one of the Institute's initiatives supporting Air Navigation Service Providers (ANSPs) in meeting regulatory requirements.

Experienced air traffic controllers and controller OJTIs who will, subject to national procedures and approval, become an operational competency assessor for the issue of a licence with ratings and endorsements.

This is a 4-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Local Competence Assessor

The second course continues the theme of assessment. ESARR 5 requires that Air Navigation Service Providers (ANSPs) have approved procedures to ensure the *ongoing competence of their air traffic controllers.* This course spotlights several processes, assessment by dedicated check, confirmation of competence through continuous assessment or a combination of both methods.

The course also examines the possibility of the declining performance of a controller. Although the controller may, at this stage, be competent the observations of the *Local Competence Assessor* (LCA) may discover a trend that is disturbing and needs arresting. These issues are formally investigated in the programme. The course is an essential foundation for controllers who have responsibility for verifying the maintenance of competence of their peer controllers

Experienced air traffic controllers and controller OJTIs who will, subject to national procedures and approval, be required to act as a unit competency assessor for the verification of their unit controllers' ongoing competence.

This is a 4-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

HUM > TRM-F and HUM>TRM-P
Foundation Skills course and TRM Practical Facilitation Skills course

EATM has also developed prototype Team Resource Management Training material for ECAC. Participants to both these courses will use the material extensively in their practical sessions. This material is very extensive and surpasses the material used for the final suggested operational TRM course. Therefore, participants to these courses will also learn to customise the material based on operational objectives and priorities. The TRM material assimilated during the course is by no means exhaustive and cannot replace an in-depth Human Factors training some administrations may want their facilitators to have.

The participants to both courses will learn the difference between facilitation and instruction, learn objective-based customisation methods useful to tailor the prototype material to their organisation's needs, and will spend large parts of the course practising facilitation actively, with instructor feedback and video support. This will require EATM sound English (e.g. ICAO Level 5) to fully profit from the course constructively.

▶ HUM > TRM - F
TRM Foundation Skills

NEW

Participants of the course HUM TRM-F will develop an understanding of TRM, be aware of the benefits of TRM to the safety culture and the methods suggested for TRM. After self study of the prototype Team Resource Management Training material the participants will receive an intensive course of facilitation techniques, using this material. The participants will prepare and facilitate TRM sessions during the course, learning and practising the skills of a facilitator for TRM. The course uses tools such as brainstorming, case study discussions, video analysis, and the participants will be given instructor feedback and video support.

Operational controllers who are selected as TRM facilitators, who have no personal experience of attending TRM training previously. The Facilitator Training course participants will be asked to at least facilitate a group discussion and co-facilitate a half-day TRM session in English during the course as a member of a small team. This requires a sound level of active English language knowledge (e.g. ICAO Level 5).

This is a 8-day course, starting promptly at 13.00h on the first day and finishing at 15.30h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

HUM > TRM - P

TRM Practical Facilitation Skills

HUM TRM-P participants will receive an intensive course of facilitation techniques, using the prototype Team Resource Management Training material. The participants will prepare and facilitate TRM sessions during the course, learning and practising the skills of a facilitator for TRM. The course uses tools such as brainstorming, case study discussions, video analysis, and the participants will be given instructor feedback and video support.

Operational controllers who are selected as TRM facilitators.

The participants to the HUM TRM-P course will be recruited from member organisations having introduced TRM. The participants will have to bring evidence of an attended TRM course. This pre-requisite is achieved either by having followed a TRM course in the local organisation or by having attended previously the IANS HUM-A-TRM course. The Facilitator Training course participants will be asked to at least facilitate a group discussion individually and co-facilitate a half-day TRM session in English during the course as a member of a small team. This requires a sound level of active English language knowledge (e.g. ICAO Level 5). The selection of the participants to the TRM-P course will be done in close co-operation with the EUROCONTROL TRM User Group.

Prerequisite:

The participants to the HUM TRM-P course will be recruited from member organisations having introduced TRM. The participants will have to bring evidence of an attended TRM course. This pre-requisite is achieved either by having followed a TRM course in the local organisation or by having attended previously the IANS HUM-A-TRM course.

This is a 5-day course, starting promptly at 09.00h on the first day and finishing at 15.30h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

COM > AMHS
Aeronautical Message Handling System

The ATS Message Handling System (AMHS) has been specified by ICAO as the future message handling standard to replace the current AFTN/CIDIN (Aeronautical Fixed Telecommunication Network/ Common ICAO Data Interchange Network), which is becoming obsolete. Initial deployment and operational use of AMHS has already begun. This course provides an overview of the AMHS, its planned implementation in Europe and world-wide, and the coexistence with the AFTN/CIDIN. A comprehensive coverage of issues is provided, from X.400 standards to gateways, from user tools to network planning and monitoring, addressing etc...Practical experience from real AMHS operations is also covered.

The course also features a number of group exercises where participants are invited to apply the concepts explained in the course to real life situations.

The course is designed for those who are or will be involved in the planning, procurement, installation, operation and/or use of the current and future aeronautical messaging systems.

This is a 4-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

COM > DATA
Ground Data Networks in Aviation
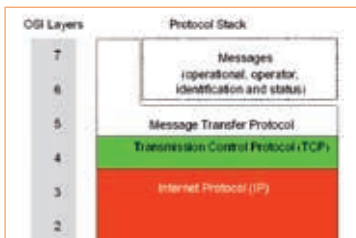
What is ASTERIX and what technology is used to distribute Surveillance Data? What is the AFTN/CIDIN, how is it used to disseminate Flight Data, and how will it evolve to AMHS, the ATS Message Handling System? These questions are answered in this course, it also provides an overview of the data communication applications, technology and infrastructure used in aviation. After a data communication technology reminder, the following topics are covered in detail: Surveillance Data Formats and Distribution, Flight Data Formats and Distribution, On-line Data Interchange (OLDI), the new Flight Message Transport Protocol (FMTP), AMHS, and the deployment of Internet Protocol (IP) based networks in aviation. The EUROCONTROL Communication Strategy is also presented, along with further applications making use of the ground networks, among others the European AIS Database (EAD), the future Voice over IP technology, etc...

The course is designed for those who want to obtain an overview of the current and future data communication technologies and applications used in aviation.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

COM > DLA

Datalink Applications in Europe

What does Controller Pilot Datalink Communication (CPDLC) mean to an Air Traffic Controller or to a Pilot? What, when and where will datalink applications be implemented in Europe? This course presents the current datalink applications based on ACARS (Airline Communication, Addressing and Reporting System) and ATN (Aeronautical Telecommunication Network) both from the controller and from the pilot point of view. The course covers CPDLC, Automatic Dependent Surveillance-Contract (ADS-C), Digital Flight Information Services (D-FIS), Oceanic Clearance (OCL), Departure Clearance (DCL). The course also provides an overview of the use of datalink in the Maastricht UAC and EUROCONTROL's datalink implementation programme (Link 2000+). It also gives a short introduction to some future datalink applications. Datalink applications require both ground and airborne infrastructures. The avionic module gives a view of the on board equipment essential to the functioning of datalink. The objectives of this course are to provide an in-depth analysis of the different datalink applications as seen by the Controllers and by the Pilots and only a brief overview of the underlying networking technology.

The course is targeted at operational staff that needs to be aware of the different datalink applications and of their operational impact and technical staff who needs to understand the applications to be supported by the data communication infrastructure.

This is a 4-day course, starting at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

COM > VOICE

Ground Voice Networks in Aviation

What is the technology that is used to support controller to controller voice communication? Where does ATS-QSIG fit into future voice communication systems?

This course aims to provide a detailed overview of the principles of telephony networks. It includes an overview of analogue and digital signalling techniques and an in depth analysis of the telephony systems used in aviation (MFC-R2 and ATS-QSIG). The course also looks at the principles of voice over IP (VoIP) and its future potential uses in aviation. Air-Ground Voice communication functions such as Squelch and Push to Talk are also covered. The course features some equipment demonstrations such as the ATS-QSIG tester and Voice over IP.

The course is designed for those who want to obtain an overview of the current and future voice communication technology used in Aviation.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

COM > DLT

Datalink Technology in Europe

What is the technology that is and will be used to implement Controller Pilot Data Link Communications (CP-DLC) and Datalink Flight Information Service (DFIS) applications? Will the ACARS network continue to be used? This course - a companion to the COM-DLA course where applications are covered in detail - focuses on technical implementation of the Aeronautical Telecommunication Network (ATN) facing the main actors: the Air Navigation Service Providers (ANSPs), the airlines, the communication service providers, in the framework of the Link2000+ and CASCADE programmes.The course covers ground networking issues and aeronautical voice and data mobile communication technologies (VHF voice, 8.33 kHz, Climax, ACARS, VHF Digital Links modes 2, 3, 4, ACARS over AVLC, satellite communications and HF data links, radio spectrum, military datalinks), as well as avionics.

The course is designed for those who want to obtain an overview of datalink technology used in Aviation.

This is a 4-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

NAV > RNAV

Area Navigation Applications in Europe

The successful introduction of Basic Area Navigation (B-RNAV) in 1998 has provided enhanced capacity and flexibility in the ECAC en-route environment. It is the European first step towards the ICAO global plan of Required Navigational Performance Area Navigation (RNP RNAV). What are RNAV and RNP? How do they affect operators and Service Providers? This course clarifies these terms and their specific requirements. It highlights the limitations of conventional navigation and considers the medium and long-term future of terrestrial navigation aids.

This course is aimed at ATM staff who wish to obtain a view of the current and future navigation environment in the ECAC area.
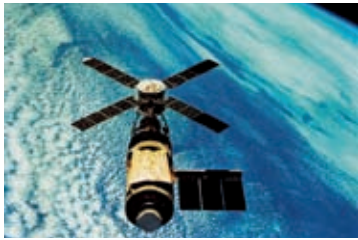
This is a 4-day course, starting promptly at 10:00h on the first day and finishing at 14:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

NAV > GNSS

Global Navigation Satellite Systems

Will GNSS ever become the 'sole means' navigation service? What does this mean? Can the current satellite systems be improved and what are the enhancements required to make the system accepta-ble for civil aviation use? This 5-day GNSS course is designed to give a clear explanation of satellite constellations used for navigation, signal structures, system errors and a full expla-nation of the different types of augmentation that can be ap-plied. The course will look at the current limitations of satellite systems and reviews the GNSS vulnerabilities. The course will also discuss future planned improvements to GPS and GLONASS and will review the progress of GALILEO. This course aims to provide participants with an in-depth view of GNSS, its principles and benefits for civil aviation.

This course is aimed at ATM staff who wish to ob-tain a good understanding of GNSS, its principles and limitations.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

SUR > RAD

Radar Sensor Technology

This course provides a basic foundation and understanding of the principles used in primary and secondary radar and in other surveillance systems, and an overview of their use in ATM opera-tions. All radar sensor concepts which lead to the implementation of an opti-mum detection system are introduced in this course. The course is intended to provide ATM engineers and technicians with the necessary understanding of the vari-ous steps of radar signal processing, highlighting more the physical significance of processes rather than the mathemati-cal theory. This course also introduces further modern surveil-lance concepts such as ADS-B, ASMGCS and multi-lateration.

ATM engineers and technicians involved in the specifications, tender evaluations, implementation and maintenance of radar and other surveillance systems.

This is a 2-week course, starting promptly at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

This training is designed in line with the Common Core Content "Guidelines for a Common Basic Level of Technical Training for Air Traffic Safety Electronics Personnel" (HRS/TSP-002-GUI-03).

▶ SUR > ADS - B/MLAT

Automatic Dependent Surveillance Broadcast/Multilateration

ADS-B: Automatic Dependent Surveillance - Broadcast is a **co-operative dependent** surveillance technique. The position of the aircraft as well as other aircraft derived data are provided by the aircraft.

MLAT: Multilateration (LAM Local Area Multilateration as well as WAM Wide Area Multilateration) is a **co-operative independent** surveillance technique. In this case the position of the aircraft is calculated on the ground.

This course focuses on those two different surveillance techniques.

The first part of the course is dedicated to ADS-B:

It gives a technical and operational overview of the concepts behind ADS-B and the Package 1 applications. It describes the potential impact of ADS-B on ground systems (ADS-B out) and on airborne systems (ADS-B out and ADS-B in). It also gives an overview of the essential navigation (positioning) aspects and the necessary avionics required on board the aircraft to perform co-operative dependent surveillance. The CASCADE, FAA and worldwide activities aimed at implementation from 2008 are also explained.

The objectives of this first part are to achieve a balanced operational and technical understanding of ADS-B and the progress towards operational implementation, through work by EUROCONTROL, FAA, ANSPs, airlines and aviation industry.

The second part of the course is dedicated to Multilateration (LAM and WAM):

It focuses on the technical principles of multilateration, the current issues related to multilateration implementation within an existing surveillance system and the current and foreseen multilateration deployment.

The course is targeted at operational, technical and managerial ATM staff interested in the developments in the field of Automatic Dependent Surveillance - Broadcast and Multilateration, especially with a view towards implementation in their own environment.
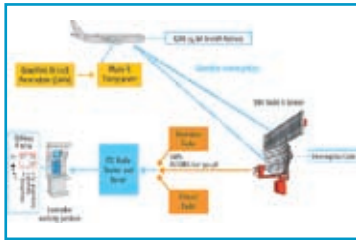
This is a 5-day course, starting at 10:00h on the first day and finishing at 13:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Mode S: Now Evolution then Revolution

Mode S is the most-recent technology for secondary surveillance radar. A large number of Mode S ground stations are currently being installed in Europe this will result in changes for both the ATM (surveillance) system and the users of surveillance data.

This technology offers a potential improvement for flight plan correlation under the name of Elementary Surveillance (ELS). Enhanced Surveillance (EHS) characterised by the downlink from the aircraft to the ground of high value navigation information like air and ground speed vectors, vertical rate and intend will allow reduction of R/T Traffic and increase of safety thanks to the well in advance known intention of the aircraft.

The objectives of this course are to explain the technical principles of Mode S radars, to give an overview of the on-board avionics allowing Mode S operation and to go through the Mode S implementation. Furthermore, it focuses on the operational aspects of a mixed environment between Mode S equipped area and non Mode S equipped with Mode S/non Mode S equipped aircraft. This course also includes a short introduction to multilateration.

ATC Controllers and ATM engineers and technicians interested in Mode S, its technical details, its operational aspects and its implementation status.

This is a 4-day course, starting at 10:00h on the first day and finishing at 16:30h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

ARTAS: From Concept to Reality

ARTAS (ATM Surveillance Tracker and Server) is the European state-of-the-art surveillance data processing and distribution system. ARTAS is already operational in many states and is being implemented in a large number of other states for pre-operation evaluation. The present operational version of ARTAS processes classical radar and Mode S Elementary Surveillance data. The production version of ARTAS processes Mode S Enhanced Surveillance and ADS data. This course gives an overview of the concept of ARTAS and its implementation.

ATM engineers and technicians interested in the ARTAS concept and implementation.

This is a 3-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

Surveillance Analysis Support System For ATC Centre (SASS-C)

SASS-C is a dedicated software developed to measure the performance of the various elements of the surveillance chain. SASS-C is designed to tackle plot and track analysis.

Plot Analysis and Track Analysis are run as separate courses

SUR > SASS-C

SASS-C Plot Analysis
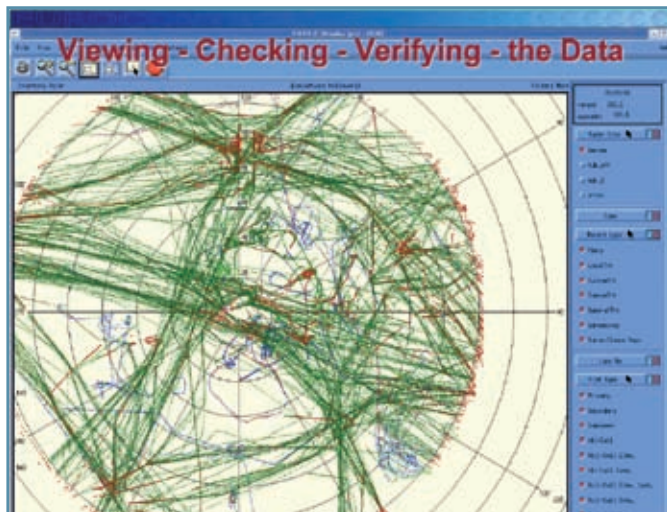
This course provides the potential users with the necessary familiarisation on the Radar Analysis functionality of the SASS-C system and the guidelines for the interpretation of measurement results.

Engineers and technicians involved in radar evaluation. Some knowledge of radar systems (including plot extractors) is required.

This is a 5-day course, starting promptly at 10:00h on the first day and finishing at 12:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

► SUR > SASS-C-T

SASS-C Track Analysis

SASS-C also includes a simulator called Simulator for Multi-radar Analysis for Realistic Traffic (SMART). This simulates a surveillance infrastructure based on radar, Mode S and ADS. The course provides the potential users with the necessary familiarisation on the track analysis functionality of SASS-C and the simulation functionality of SMART.

Engineers and technicians involved in radar and radar data processing system evaluation. Some knowledge of radar systems (including plot extractors and tracking systems) and participation in course SASS-C Plot Analysis (or experience in the use of SASS-C) are required.

This is a 3-day course, starting promptly at 10:00h on the first day and finishing at 16:00h on the last day.

For dates and more details of IANS Training programme, consult our website: www.eurocontrol.int/ians

▶ On-line training services

IANS has the vision of becoming a focal point of e-learning activities in European ATM Training. With this vision in mind a number of services have been created to provide EUROCONTROL member states with a series of products revolving around e-learning.

Namely these products are:
- A learning management server [LMS] which can be used by Air Navigation Services Training Institutions to administer and manage their e-learning training.
- A number of open e-learning courses on which students can register.
- A portfolio of e-learning modules.

> LMS Services Usage EUROCONTROL member states training providers

EUROCONTROL offers the use of its LMS to its member states Air Navigation Services Training Providers. With this service, training providers can create, manage, and administer e-learning courses using the EUROCONTROL e-learning platform.

> How does it work?

The LMS offers a wide variety of e-learning modules from which you can build custom-made courses for your students.

Students are registered on the EUROCONTROL LMS and your training manager can create courses. These courses can be either based on modules owned by IANS or modules that your institution decides to develop and host on the LMS, or a combination of these two possibilities.

The students registration and administration and the creation of bespoke courses can be done either by the training provider or by IANS, this will be subject to an agreement between the two parties based on the amount and frequency of transactions. (Usage)

Instructors can monitor the students by tracking the time spent, and by following their progress through the modules

[1] http://elearning.eurocontrol.int

> If I ask for this service as a training provider what would my responsibilities be?

The training provider is responsible for:
- Defining the course content
- Assigning an instructor to the course
- Monitoring the student's progress

> What will the IANS responsibilities be?

IANS will be responsible for:

- Maintenance and upgrades to the LMS
- Maintenance and revision of the modules owned by IANS
- Technical helpdesk to all LMS users [i.e. students, instructors and training managers]
- Assistance and guidance to the training managers.

This service is subject to a signature of a service level agreement between the training provider and IANS.

For more information about this service contact: elearning.services@eurocontrol.int

> Individual registered access to e-learning courses

EUROCONTROL has created a number of courses opened to individuals who are nationals of the EUROCONTROL member states or nationals of the States of the ECAC area. On a case by case base, access can be given to individuals of other states.

The courses range from basic and general training to more specific ATCO refresher training. The courses are neither monitored nor tutored by an IANS' instructor.

Individuals can contact ians.reservation@eurocontrol.int and make a request to be registered on the e-learning course or will request the registration through the IANS Training Zone: http://elearning.eurocontrol.int

The individual accepts the terms and conditions of access posted on the Training Zone.

> Open e-learning courses

EUROCONTROL has created a number of open e-learning courses which are available directly to the public without registration. These courses intend to inform quickly in detail a great or a world wide scattered audience on ATM subjects of public interest (such as safety, standards or environment)

They are access through the EUROCONTROL web site through the index "training" or even more directly through an internet address http://elearning.eurocontrol.int/opencourses.htm

If you require more information on your eligibility to any of these services, please contact: elearning.services@eurocontrol.int

> Other initiatives taken by EUROCONTROL in relation to e-learning

Coordination role for e-learning development in the ATM environment.

IANS has taken the initiative to coordinate the activities of e-learning developers in the European ATM environment.

The aims of this initiative are to:

- Bring the developers in various ANSPs closer together.
- Creating an environment where they can learn from each other.
- The development of a best practices document for e-learning developers in the ATM environment.
- Create an environment where they can share digital learning components with each other through a common repository.
- Reduce individual development costs [by sharing components] and using resources effectively by improving the quality of already existent components instead of spending time developing ones own.

For more information on this initiative contact elearning.development@eurocontrol.int

Advice on how to set up e-learning training.

The aim of this service is to advice its stakeholders on how to set up e-learning training in a sustainable manner, meaning:

- By considering the benefits that will be taken from the activity [As well as the constraints, costs, risks, etc.]
- By considering e-learning's integration into the overall training strategy.
- By considering ways how to get the buy in of those involved.

EUROCONTROL is doing this by:

- Organising a set of workshops to enable those involved to share experience and learn from each other. (on organisational issues, on pedagogical issues and on technological issues)
- Producing a best practices documentation on how to use e-learning
- Providing individualised advice based on the needs and on the context of the organisation requesting the services**

*** This individualised advice is given subject to the context and to availability of staff at EUROCONTROL.*

Training Catalogue

TrainingZone provides you with a catalogue of courses available to EUROCONTROL Stakeholders.

View the IANS Catalogue

Need a Login to follow an e-learning course provided by IANS? Fill out the registration form

View the CFMU Catalogue

Need a login to follow an e-learning course provided by CFMU: Follow the instructions you find within the CFMU catalogue.

Need help? Contact the helpdesk

Personalised Access

To access e-learning courses, and information on class-room courses you are scheduled to attend, please log in:

Username:

Password:

Log in

To view a number of courses and games that do not require LMS registration click here.

The courses need Java & Flash to run
Download the latest version of :

Java

Get ADOBE FLASH PLAYER

Popup-check: Checked !
Browser-check: see below
Flash version:
Screen-size: Checked !
Java installed: Checked !

► E-Learning Modules

The following E-Learning Modules were developed to meet CCC requirements regarding IANS ATC AB-INITO training. They are available to all member states. In addition there are a number of refresher training e-learning modules aimed at ATCO's. The details of these various E-Learning Modules are as follows:

ATC E-Learning Modules ◄

ATC-Initial Training	Meteorology	72
	Navigation	73
	MEMPAC	74
	SAFER	75
	Teamwork	76
	ATC Equipment and Systems	77
	Heading Games	78
	Aircraft *NEW*	79
Refresher Training	Factors dealing with Handovers / Takeovers	80
	Level Bust	81
	ACAS	82
	Transfer of Communications	83
	ICAO DOC 7030	84
	Runway Incursions	85
	Mach Number Technique	86
	Mode S	87
	Aircraft Performance	88
	ARTAS	89
	ESARR 5	90
	Europe Tunes 8.33 above FL 195	91
Initial Training or Refresher Training	Area Navigation in European Terminal Control	92
	Phraseology	93
	Aircraft Performance Database *NEW*	94
	Unusual and Emergency Situations	95

Background:

From the earliest days of aviation it has been essential to understand the role of meteorology. Even with current high technology aircraft, it is impossible to ignore the enormous power and potential hazards of weather systems.

Objectives:

Meteorology is one of the Basic Training subjects in ATC Common Core Content training. The aim of this package is to provide the essential meteorological knowledge required by an operational air traffic controller. It can be delivered during ATCO Initial Training as part of the Basic Training course.

The subjects explored in this package are:

• Aviation and Meteorology

• The Atmosphere and Air Pressure

• Heat, Temperature and Water

• Obscuration and Visibility

• Clouds

• Present and Significant Weather

• Wind and Turbulence

• Air Masses and Frontal Systems

ATC AB-Initio
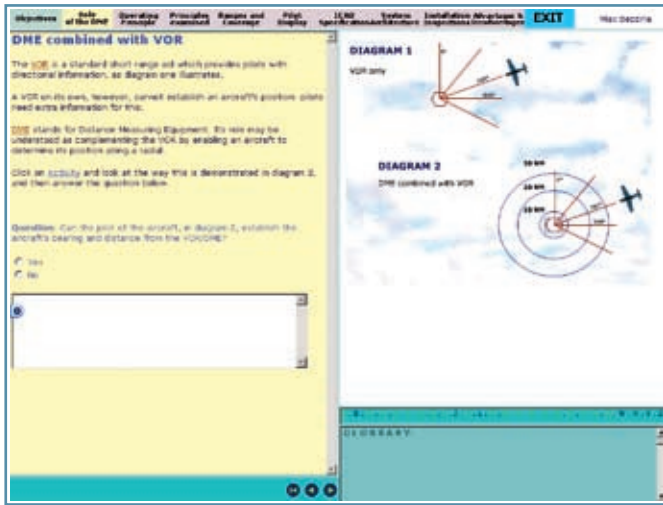
Package of 9 modules 9 hours

⭐⭐

The package explores the following high level topics

• Purpose and Use of Navigation

• Non-Directional Beacons (NDB)

• Distance Measuring Equipment (DME)

• VHF Ommi Range Beacon (VOR)

• Instrument Landing System (ILS)

• Global Navigation Satellite System (GNSS)

• Automatic Dependent Surveillance (ADS)

• Inertial Navigation System (INS)

• Flight Management System (FMS)

ATC AB-Initio

Package of 9 Modules - 7 hours

Background:

Navigation is an essential element in aviation. The available range of navigation aids when used either separately or in conjunction with each other serves to give guidance to aircraft both en-route and at airfields.

Objectives:

This package is designed to explain the operation of Navigation Aids when used in the Air Traffic Control environment.
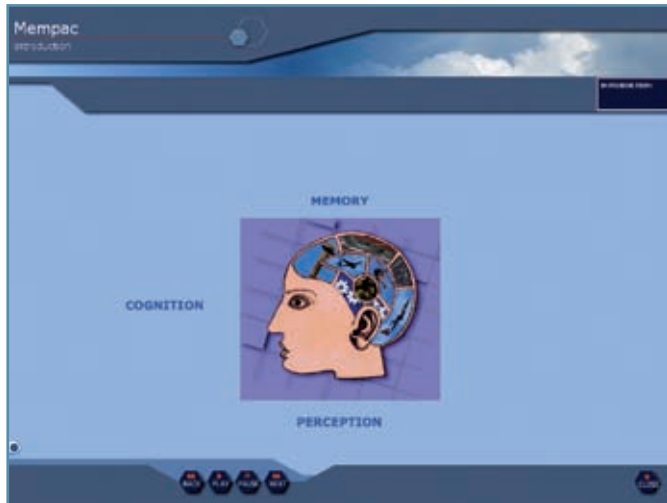
ATC AB-Initio

Package of 5 Modules -1 hour 30 mins

Background:

The main element in the air traffic control system is the human. Knowing the basic elements of the way humans operate is essential to assure that the system remains safe.

Objectives:

The package addresses Perception, Cognition, Attention and Memory as covered in the human factors subject in common core content during Basic Training.

You will know more about errors and how to protect yourself against them

Background :

Human Factors subject is included into the initial ATCO training because it is assumed that a better understanding of the human performance and of its limits (such as making errors) contributes to the improvement of this performance. The subject includes measures of prevention and protection and proposes a proactive and systematic approach to safety.

SAFER uses incident or accident reports to describe errors in the context of Air Traffic. It introduces various theoretical approaches, classifies error types and uses both everyday and ATC examples.

The module includes a manual for further reading or instructor use and the material for a case study

Objectives :

Understanding human errors and safety means, that the students, after having

performed the module, have sufficient comprehension of both topics to explain the

relationship between error and safety, state the different types of error and differentiate between errors and violation, and describe error-prone conditions.

In the module, the students will be asked to explain the main ideas, demonstrate, state, characterise,interpret, differentiate, describe/put in their own words the materials on errors and safety that are the contents of the module.

ATCO initial training and any audience interested in safety and errors.

5 modules 3 hours + manual and case study

ATC AB-Initio

Package of 5 Modules - 1 hour 30 mins

Background:

No man is an island...This expression is also very true in air traffic control, where team interactions happen at different levels to ensure the safe and efficient control of air traffic.

Objectives:

This package addresses teamwork issues in Human Performance, Communications and the Work Environment as covered in the human factors subject in Common Core Content during Basic Training.
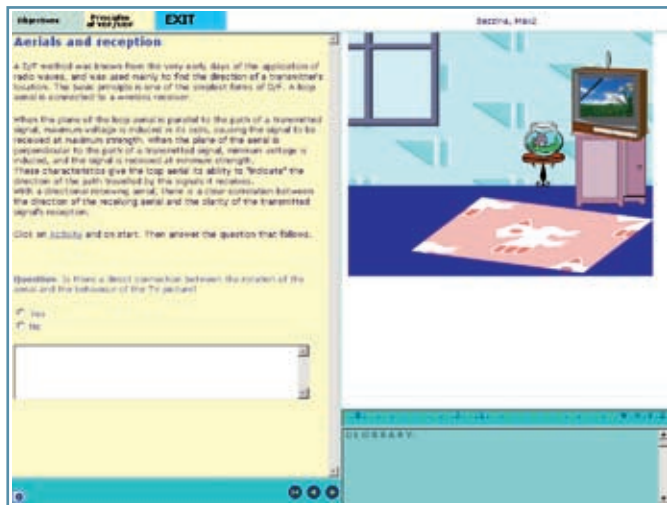
ATC AB-Initio

Package of 4 Modules - 3 hours

Background:

Equipment and Systems are subjects in ATCO Common Core Content Basic and Rating Training. These 3 modules cover a number of objectives which figure in this subject.

Objectives:

The objectives of this package is to provide students with information on:

• Radio Theory

• Voice Communication and

• Principles of Direction Finding

• Radar Theory

ATC AB-Initio and Student ACTO's

Depends on how many times the games are played!

★★★★

Background:

For a radar controller, judging the heading to give to an aircraft is one of the basic skills. The two games proposed here aim at assisting ab-initios and student ATCOs learning these skills while having fun trying to achieve the highest score!

Objectives:

The objective of these games is to assist the student in judging radar headings.

Background

This module covers the subject of AIRCRAFT from the CCC Basic Course.

Basic training course is defined as training designed to impart fundamental knowledge and skills to enable an ab initio student to progress to specialised ATC training. It is defined as a prerequisite to any Rating training. The composition and topics were chosen based on the ICAO Annex 1 requirements for Controller licensing.

Objective

This package is aligned to meet the CCC/Basic/Subject 6 – AIRCRAFT objective:

Students shall describe the basic principles of the theory of flight and aircraft characteristics and how these influence ATS operations.

This e-learning package is structured in 8 topics each covered by a separate e-learning module:

- Overview
- Introduction
- Principles of Flight
- Aircraft Engines
- Aircraft Instruments
- Aircraft Categories
- Factors Affecting Aircraft Performance
- Aircraft Data

Ab-initio students.

Package of 8 modules – 26 hours

★★★★

Note: This package can be used as a stand alone course or as a supplement to a classroom course.

When used as a supplement, the modules or just their individual parts can be used:

- as illustration or examples in form of a classroom training tool / aid;
- as guided CWBT;
- to supplement different group exercises;
- for knowledge consolidation after a lesson has been delivered (homework);
- for revision and individual study by the students;
- for student progress monitoring during the course.
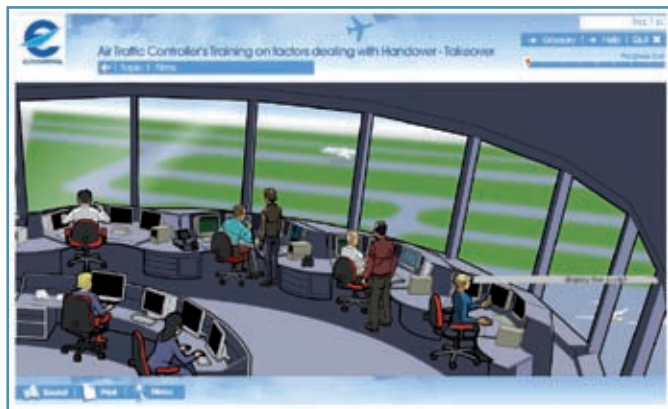
Qualified ATCOS (also suitable for student ATCOs in Unit Training phase)

30 minutes

⭐⭐⭐

Background:

Hand Over / Take Over situations are critical moments and are often associated with various failures (in terms of errors, communication....) that may further lead to incidents.

Objectives:

Provides awareness on the importance of good handovers/takeovers and decrease the incidents and accidents which happen due to poor handovers/takeovers.

Note: A DVD containing the animated movies shown in the module is also available upon request. For more information please contact elearning.services@eurocontrol.int
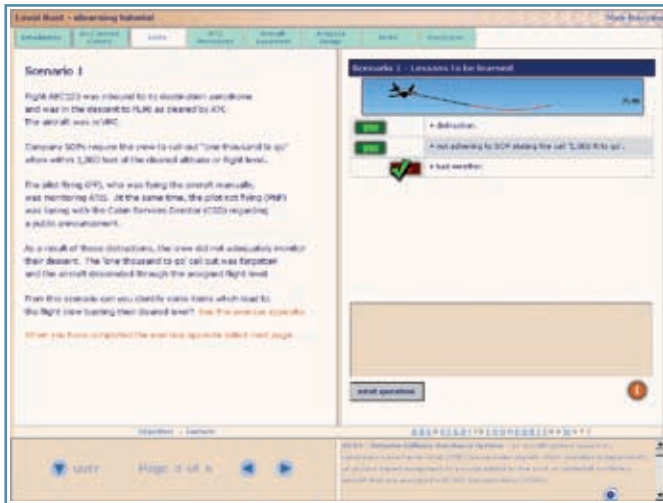
This training module was developed in conjunction with EUROCONTROL's Level Bust toolkit

Qualified ATCOS and Pilots

50 mins

★★★

Background:

In 2004, once every 30 minutes, somewhere in the world an aircraft busted its cleared level. At least once a day these level busts resulted in a loss of separation.

Objectives:

The aim of this module is to increase the awareness of pilots and ATCOs of the fundamental causes of level busts and to suggest means by which they can be prevented.

It highlights a number of different issues which have been identified as prime sources of level busts or are relevant for regaining a safe situation.

The module includes the following topics:

• Air/Ground Communications

• SOPs

• ATC Procedures

• Aircraft Equipment

• Airspace Design

• ACAS

Qualified ATCOS

Average Duration: 1hour 15mins

⭐ ⭐

Background:

This module provides ATCOs with essential theoretical knowledge related to the TCAS equipment, including some examples of its impact on operational procedures.

Objectives:

The objectives of this module are to provide:

• an overview of the ACAS concept,

• a description of the provision of ATC,

• a description of the responsibilities of both pilots and air traffic controllers during a TCAS RA encounter, and an understanding of the TCAS II logic and its operation.
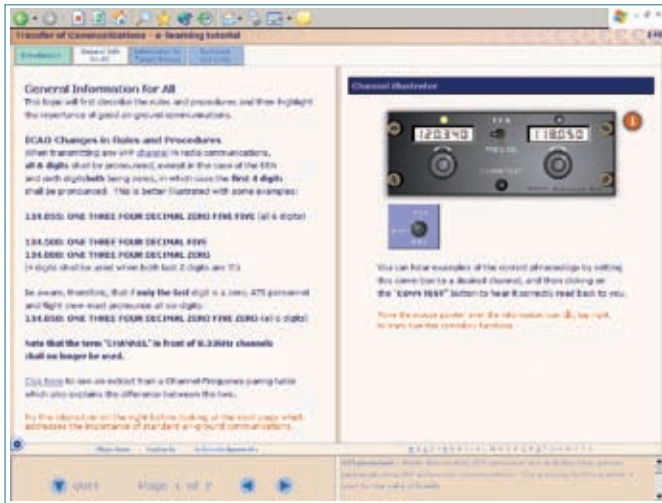
Qualified ATCOs & Student ATCOs

1hour 15 minutes

★★★

Background:

This module aims at informing flight crews and ATS personnel about the changes approved by ICAO to the global rules and procedures for the transmission of VHF voice communication channels in radiotelephony communications and raising awareness about the importance of consistent use of standard communication procedures between ATS personnel and flight crews, as the incorrect tuning of channels has caused a number of safety related incidents.

Objectives:

The objectives of this module are:

• To provide awareness about the provisions laid down by ICAO

• To raise awareness on the importance of using standard procedures in this respect
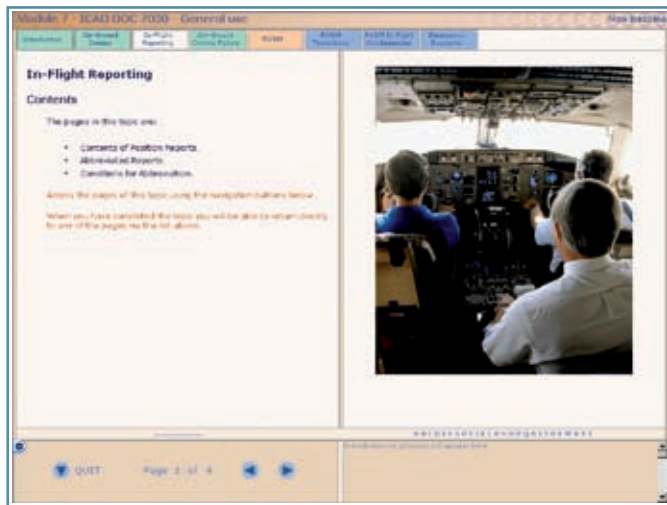
Qualified ATCOs

2 hours

★ ★

Background:

ICAO Doc 7030 contains regional supplementary procedures [SUPPs]. SUPPs have a status similar to ICAO's procedures for air navigation services [PANS] but only applicable in respective ICAO regions. They form the procedural part of the Air Navigation Plan developed by Regional Air Navigation Meetings to meet the needs of specific areas that are not covered in the worldwide provisions.

Objectives:

The aim of this module is to provide refresher training to ATCOs on some of the procedures contained in ICAO DOC 7030.

The module includes the following topics:

• Air-Ground Communications,

• In flight reporting,

• Air-Ground communications failure,

• RVSM,

• RVSM Transition,

• RVSM In-Flight Contingences,

• Emergency Descents.

Runway Incursion introduction

Air Traffic Controllers working in an aerodrome environment

40 minutes

⭐ ⭐

Background:

Statistics collected by EUROCONTROL in 2001 showed that ATC is a significant contributor [20% of all incidents] to Runway Incursion incidents.

Objectives:

The main objective of this module is to raise awareness to Air Traffic Controllers on the factors leading to runway incursions and to suggest ways to reduce the probability of these to occur.
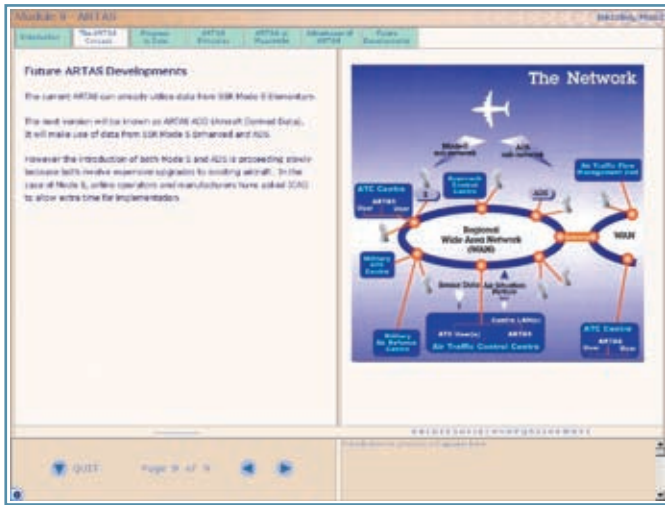
Qualified ATCOs especially those working in Area Control

1 hour 30 mins

⭐⭐⭐

Background:

Speed control and sequencing are two tools which assist ATCOs in providing safe and expeditious ATC.

Objectives:

The objectives of this module are to:

• Refresh understanding of the use of speed control in the upper airspace.

• Show how imposing speed restrictions can have implications on aircraft performance.

• Help understand some of the limitations imposed on flight crews

• Provide a number of practical suggestions that will give an idea of what can be safely achieved when using speed control.
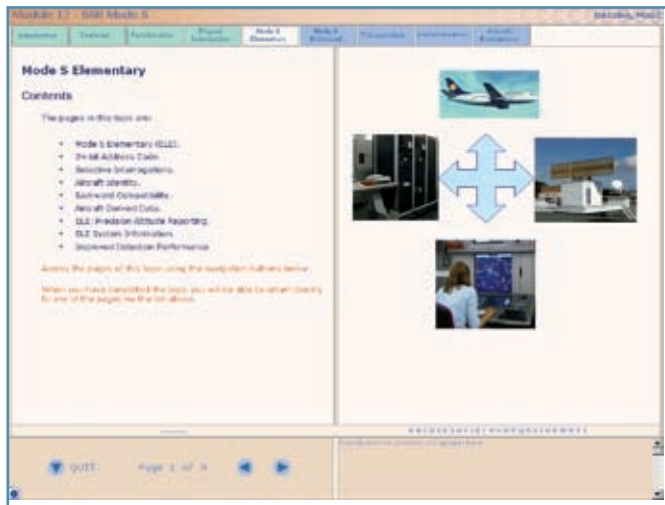
Qualified ATCOs and those who wish to know more on Mode S from an operational view point

1 hour

Background:

Ever-increasing air traffic levels have made it essential to improve the SSR system currently in use throughout the whole ECAC area.

In April 2002, the Member States of EUROCONTROL agreed to implement Mode S in the core area of Europe subject to high air traffic density.

Objectives:

The objectives of this module are to

• Give an overview of Mode S

• Describe its functionality

• Describe Mode S Elementary

• Describe Mode S Enhanced

• Describe Transponder requirements
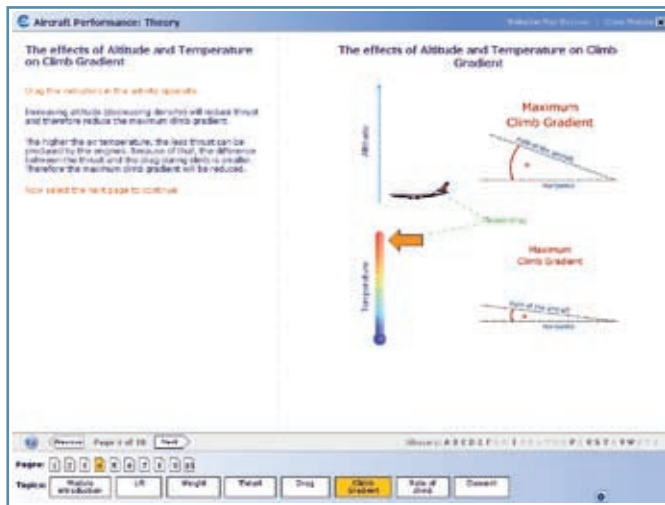
Qualified ATCOs and also Student ATCOs during the final phases of training

Refresher Package of 2 modules - 4 hours

Background:

Aircraft performance is an important element of Air Traffic Control decision making. Controllers base their decisions on how aircraft are expected to perform given the flight conditions.

There are many situations where controllers are using aircraft performance knowledge

Objectives:

This package aims to give you a basic understanding of some aerodynamic forces that can affect aircraft performance.

The first module is a foundation module and the second module concentrates on Area control.
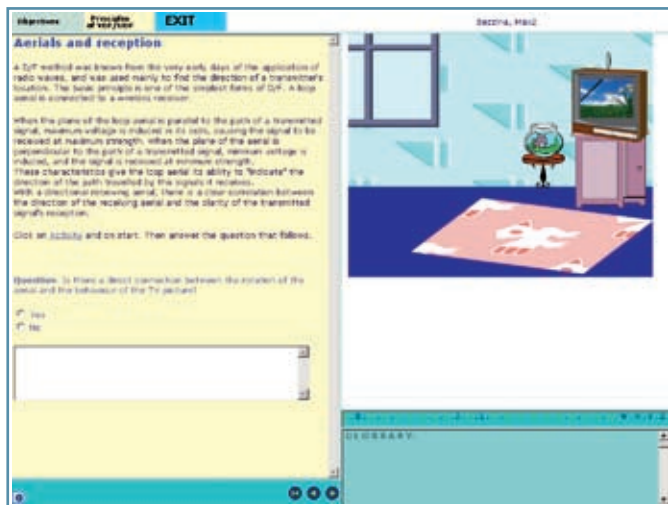
Qualified ATCOs and those who are interested in knowing more about ARTAS from an operational application point of view

45 minutes

⭐⭐

Background:

The letters stand for. ARTAS (ATM Surveillance Tracker and Server) is designed to: process surveillance data from a variety of sources, and distribute the resulting air situation picture to a community of users over a wide geographical area.

Objectives:

The objectives of this module are to describe the

• ARTAS Concept

• Progress to Date

• ARTAS Principles

• ARTAS at Maastricht - showing an example of use at one location

• Advantages of ARTAS

• Future Developments
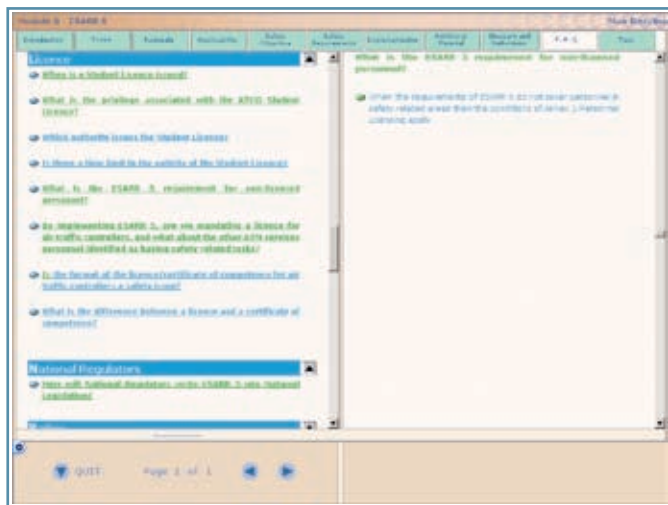
Qualified ATCOs & Student ATCOs

1hour 15 minutes

Background:

The document ESARR 5 (EUROCONTROL Safety Regulatory Requirements) sets out the general safety regulatory requirements for personnel within the ECAC region.

Objectives:

This module aims to describe and explain the contents and role of ESARR5 specific to the interest of an ATCO or student ATCO.
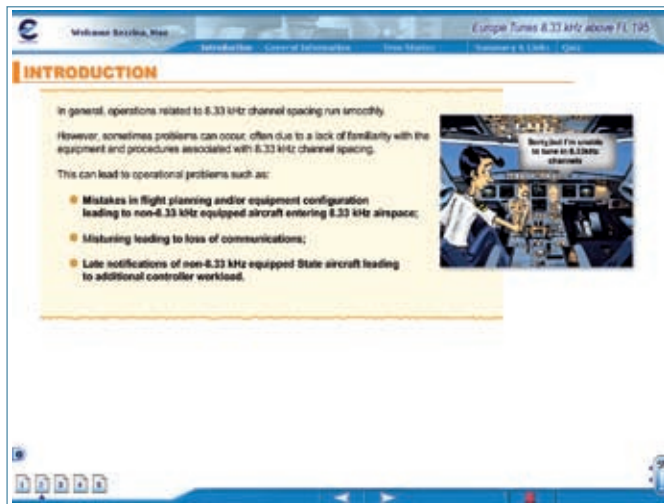
Flight Crew, Flight Plan Originators & Air Traffic Controllers

25 minutes

★★★

Background:

The ICAO EUR region operates 8.33 kHz frequency separation for air ground communication above FL 195.

Objective

The objective of this training package is to provide awareness on procedures and practices related to 8.33 kHz channel spacing.
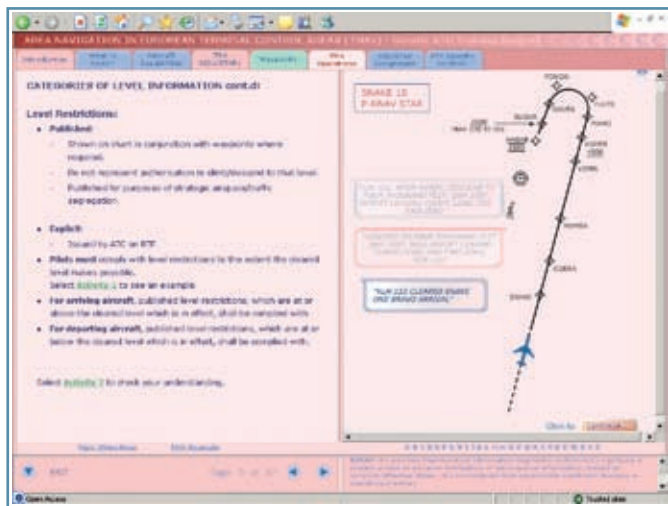
- To outline some ATC best practice with regard to specific instructions, i.e. 'DIRECT TO'
- To describe how ATC uses aircraft capability indicators to assign appropriate SIDs/STARs.
- To state any RTF phraseology specific to RNAV operations

Qualified and student air traffic controllers

30 minutes

Background:

Area Navigation (RNAV) is a method of navigation which permits aircraft operation on any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

Objectives:

The objectives of this training module are as follows:

- To describe RNAV and outline its current and future use in TMAs.
- To define the aircraft capabilities required for RNAV operations in TMAs.
- To describe the different types of RNAV SID/STAR and outline their advantages.
- To describe the different types of Waypoint, describing how they affect aircraft turns.
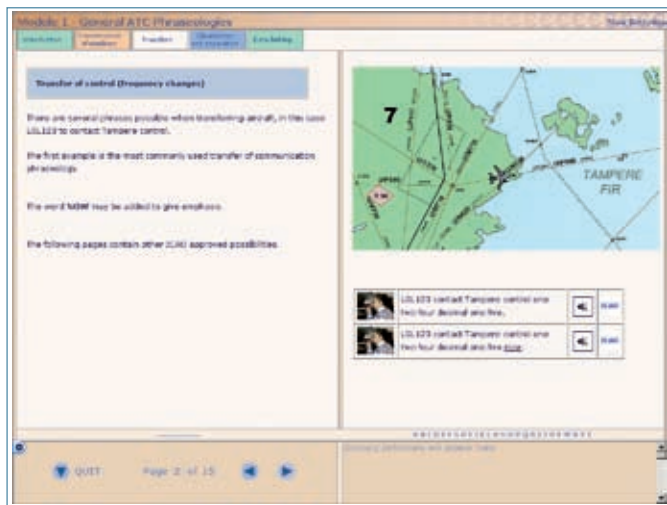
Qualified ATCOs and Student ATCOs

Package of 9 Modules - 5 hours 30 minutes*

*normally ATCOs do not need to follow the whole package

Background:

Phraseology is the main communication tool between controllers and pilots. It is important that air traffic controllers maintain a high degree of competency in the phraseology used throughout their careers.

Objectives:

This package covers all areas of ATC and provides a way for an ATCO to revise any of these phraseologies at any time.

The areas covered are:

• General Phraseology

• Meteorology related phraseology

• Traffic Information Phraseology

• Phraseology in Emergency Situations

• Specific Area Phraseology

• Specific Approach Phraseology

• Specific Aerodrome Phraseology
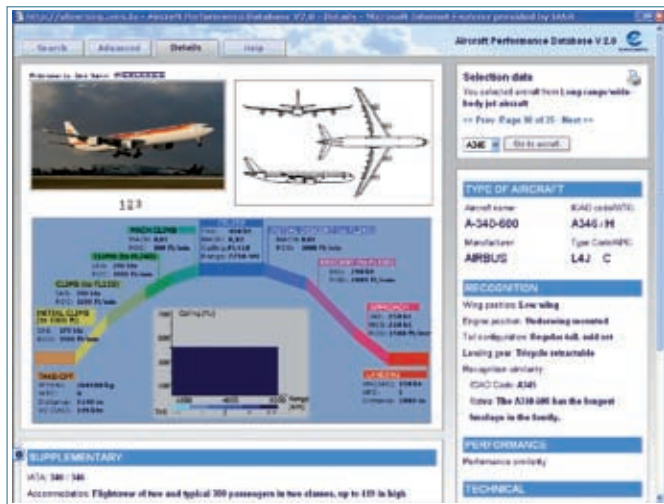
Qualified ATCOs and Student ATCOs

This is a database so the duration depends on the degree of usage

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Background:

Knowing the performance of aircraft in the different phases of flight is an important item of the toolset an air traffic controller needs to build and to maintain in order to competently perform his responsibilities.

Objectives:

To enhance controllers' and student controllers' knowledge of the various performance aspects of the most common aircraft types.

Qualified ATCOS

4 hours

★★★

Background:

Emergencies are complex in nature. When one emergency occurs it may trigger other emergencies. The current emergency may in turn have been triggered by another.

This module explores a number of unusual or emergency situations and shows the link between them.

Objectives:

To aid understanding of the nature of each occurrence [unusual or emergency] by providing background information about how the occurrence arises and it's effect on aircraft and crew.

To build on the 15 proposed checklists for emergencies and unusual incidents which form part of the EATMP deliverable «controller training in the handling of unusual incidents».

This Module is developed around the 'ASSIST' Process.

ATC AB-INITIO Courses – Initial Training

The EUROCONTROL Upper Area Control Centre in Maastricht is responsible for the control of air traffic above 24,500 feet in the airspace above Belgium, Luxembourg, Netherlands and Northern Germany.

ATC Initial Training for Maastricht UAC Ab-Initios takes place at IANS. It is divided into two phases, namely Basic and Rating Training.

> Basic Training

During Basic Training which lasts 13 weeks, students acquire fundamental knowledge and skills which enables them to progress to specialised ATC training. The Basic course includes Introduction, Aviation law, Air Traffic Management, Meteorology, Navigation, Aircraft, Human Factors Equipment and systems and Professional Environment. The course also includes a practical element which utilises the Part Task Trainer and is delivered in a special-ised classroom.

> Rating Training – ACS with Radar endorsement

The ACS Rating Training lasts 19 weeks and is designed to impart to the learners the required knowledge, understanding and skills which will enable them to progress to the "pre-on-the-job" and "on-the-job" training at unit. The majority of the training takes place in the simulator where students apply what they learn in the classroom.

> Maastricht Upper Area Control Centre

Following Initial Training at IANS in Luxembourg, students continue their unit training at Maastricht UAC. During this period, students consolidate their previously acquired knowledge and skills during advanced simulation and finally in a live traffic situation under supervision of an instructor before obtaining their licence. The whole training cycle lasts about 30 months.

Following this professional training, you have access to a job which offers an attractive salary and a multicultural atmosphere. You also have a unique opportunity to experience new and very advanced technologies in the field of Air Traffic Control.

For more information and conditions of application please contact:

EUROCONTROL Maastricht UAC
Horsterweg 11
6199AC Maastricht Airport
The Netherlands

Public Courses And Courses On Request

> Public Courses

IANS delivers public classroom courses in the ATM domain.

The content of these courses is independent of any national ATM system and the teaching methods used are important factors in the harmonisation of knowledge for a multinational audience.

> Courses On Request

Most of the IANS courses take place in Luxembourg. We also propose customised courses and courses taking place at the customer's premises. On-site courses allow us to address the customer's special needs.

Customers can define their specific training needs with the support of the Institute.

The content of courses on request can be:

- Identical to public courses
- A grouping of several modules of public courses
- Subjects which are not offered in public courses but for which the Institute has the required knowledge and experience.

For further details, please contact:

Course Reservation Office – E-mail: ians.reservation@eurocontrol.int

Courses delivered by partners/license agreements

The Institute encourages Member States and Service Providers to use training material outside its traditional scope. This includes hosting of courses at IANS that are developed and delivered by third parties and the delivery of IANS training courses by the customer's own local instructor.

> Hosting Third Party Courses at IANS

The EUROCONTROL Institute of Air Navigation Services can include in its training portfolio courses developed and delivered by partners. The criteria for including partner courses are that the ATM courses should take place at IANS, they should be of pan-European interest, and they should be a mature product and delivered in English. Last but not least, they should be delivered to the satisfaction of the students. If you have a course that meets these criteria and could be delivered at IANS please contact ians.partnership@eurocontrol.int

> License Agreements

The Institute enables other training institutes to deliver training utilising training material owned by EUROCONTROL. In practice this means that IANS training courses are delivered by the customer's own local instructor.

These partnerships are governed by licence agreements which guarantee fair use of this training material amongst the stakeholders. Please contact us if you are interested in delivering EUROCONTROL courses using your own instructor ians.partnership@eurocontrol.int

The Institute also makes available courseware that it has developed for ab-initio ATC Training. Specific training modules, which have been approved by the Agency regulator, are released under a license agreement. Please contact us for more information. ians.partnership@eurocontrol.int

> English Language Proficiency for Aeronautical Communication *ELPAC*

The *ELPAC* test was developed in 2007 by the Institute as part of the SENSE Programme.

- *ELPAC* meets ICAO and European Commission language proficiency requirements in English for operational air traffic controllers.
- The *ELPAC* test assesses controllers' language proficiency at ICAO level 4 (operational) and level 5 (extended).
- Although *ELPAC* is firmly positioned in the operational environment the focus of the test is on language proficiency – not on operational procedures.
- The *ELPAC* test comprises two Test Papers:

  Paper 1 - Listening Comprehension: an internet-based test, and

  Paper 2 - Oral interaction: an interactive test utilising visual and non-visual communication
- The *ELPAC* test is available to EUROCONTROL and ECAC States.

In 2008 Institute will continue development of the *ELPAC* test and update the *PELA* test to meet the European Commission's language proficiency requirements for student air traffic controllers (May 17th, 2010). The Institute will run a series of one week workshops to train ELPAC test administrators, markers and examiners.

More information about the *ELPAC* test papers is available at www.elpac.info

A sample version of both Test Papers is available at www.elpacsample.info

Contact e-mail: elpac@eurocontrol.int

❯ Courses In Partnership With IATA

What is IATA?

IATA, the Air Transport Association, brings together approximately 270 Airlines. Its mission is to "represent, lead and serve the airline industry." Therefore, IATA gathers airlines' individual networks into a world-wide system to allow them to operate more efficiently.

The partnership

EUROCONTROL and IATA decided to work together for three main reasons: improving the safety and their common understanding, and reducing costs. They use the complementarities between their training programmes to answer to their common purpose to provide education and transfer of knowledge in the field of Air Traffic Management.

For EUROCONTROL Stakeholders, that means:

- One IATA course taking place at IANS (GEN-LAW: see description in this catalogue)
- IATA courses at reduced prices

IATA Courses at reduced price

As a result of EUROCONTROL's partnership with IATA, we are able to propose a wider portfolio of courses. EUROCONTROL IANS Stakeholders can now register for IATA courses at a special price. These will take place at IATA locations. The courses available are part of the five following programmes:

- Airport Management
- ANS Management
- Aviation Security
- Civil Aviation Management
- Safety Management

To apply for these courses, please fill in the form available on our Website and send it back to IATA.

www.eurocontrol.int/ians (in the section Training products – classroom courses).

Task Forces and User Groups

A very important activity of the Institute is its involvement in the development of training standards, methodologies and tools. This work is performed in partnership with the Member States and the EATM SENSE Programme.

Most of the work at IANS is performed under the umbrella of the Training Focus Group (TFG). This group consists of participants of stakeholders in Member States having expert knowledge of training development in Air Traffic Management.

A large part of the work is performed in task forces and user groups that report back to the TFG.

> Task Forces:

ATM Technical Staff Task Force: This Task Force identifies, coordinates, initiates development and validates cost-effective basic training material for ATM technical staff.

E-Learning Developers Task Force: This Task Force identifies, defines and agrees on the optimisation of the integration of E-learning development, with the aim of enhancing e-learning effectiveness and efficiency providing a collaborative e-learning framework in European ATM.

Common Core Content Task Force: This Task Force revises the Guidelines for ATCO Common Core Content Initial Training and aligns it with ESARRs and the EU ATCO Licensing Directive with the aim of supporting regulation and service provision.

English Language Proficiency For Aeronautical Communication Task Force: This Task Force develops an English language proficiency test for air traffic controllers that will meet the ICAO language proficiency requirements as well as the English language requirements specified in the Directive on a Community Air Traffic Controller Licence.

> User Groups:

Radar Skills User Group: This User Group specifies additional functionalities and enhancements that should be considered for the future development of the Radar Skills Trainer.

OJTI User Group: This User Group examines the existing On-the-Job-Training-Instructor package, reviews its benefits and lists the shortcomings. The proposed amendments and improvements are implemented by IANS and made available for general use.

Initial Training User Group: This User Group identifies minor revisions of the CCC and the Training Plans in 3 areas: Basic Training, Aerodrome Training, Surveillance Training.

Air Question Group: This User Group creates and validates questions that are part of a common repository of potential exam questions for ab-initio ATC Training.

PELA User Group: This User Group implements, maintains and evaluates the PELA Language Test.

Radar Skills Trainer

> Definition and benefits

IANS identified, developed and now makes available an intelligent PC based radar skills trainer. This tool enables users to perform pre-simulation.

Pre-simulation allows restricted or real-time practice of a part of the skills that are necessary for the operational task in a realistic environment. The main benefit is the early introduction of practical elements in the training process, thus saving simulator time and improving success rate.

> Principles

The Radar Skills Trainer works on the basis of objective measurement. For any exercise, a combination of predetermined objectives and airspace design provides a scenario to teach specific skills. The Radar Skills Trainer V2.1 simulates the Controller Working Position (CWP) and the Pilot Working Position (PWP). Additionally, the software is supplied with a set of exercise scenarios. However, instructors can utilise the Exercise Preparation Tool (EPT) should they wish to create additional exercises. A replay function is provided, to both instructors and students, so that attempted exercises may be analysed at a later stage. In practice the student completes the exercises and receives a debriefing from the programme. The instructor will then review the exercise using the replay function and debriefs the student on techniques and other items which the tool currently does not assess.

The networked CMS version, in addition to the core simulation components, provides a Course Management System (CMS) so that students can log into the CMS to obtain and launch new exercise scenarios, replay exercises and view their score. In return instructors may assign exercises to students and monitor the results.

> Features

The following is an overview of the general features that are currently incorporated into the Radar Skills Trainer software V 2.1:

- Configurable as integrated pilot/controller or separated pilot/controller workstations.
- Pilot and controller positions can be remotely located with interconnection by LAN.
- Airspace configurable for approach or area.
- Whole earth capability. Points defined by latitude and longitude.
- ILS approach configurable for any airport and runway direction.
- Exercise Editor.
- Full course management system (CMS) available to manage students and record their data.
- May be operated without a student data base if required (stand-alone).
- Full simulation capability. Unlimited aircraft, routes, etc.
- Exercises may be up to 99 minutes in length.
- Aircraft performance closely matched to the standard simulator platforms (e.g. ESCAPE)

- Replay and fast forward/back facility to review exercise objectives.
- Objective-based assessment measuring a number of parameters giving an assessment of both efficiency and safety.
- Integrated voice RT system.
- Label builder tool.

> Radar Skills Trainer exercises

The Institute makes available a set of exercises specifically developed for ab-initio ATC Training. These training modules, which have been approved by the Agency regulator, are released under a license agreement.

For further details please contact: EUROCONTROL
Institute of Air Navigation Services
Luxembourg
Tel. +352 43 6061924
ians.rst@eurocontrol.int

IANS Public Web-Site

This brochure describes the various IANS training activities. It includes a description of our classroom courses and some e-learning modules. It also gives an explanation of our on-line training services and the Air Traffic controllers training.

Further details can be found on our website:
- Course dates: The website always contains the latest information. Dates are available in the on-line catalogue and a course dates overview is available in the training products - classroom courses section.
- Pre-course information: If you are registered for a course and you will join us soon, this page provides you with detailed course information. If you are not yet registered, this brochure or our on-line catalogue located in the training products section will provide you information to make your choice.
- Registration form
- Links to websites of hotels: this page contains all the hotels with which IANS has special arrangements for IANS course participants.
- How to find us: you will find all the information to reach us by train, by bus, by car, from the airport, from the town and from the motorway

www.eurocontrol.int/ians

Course Registration Procedure

❯ IANS Classroom courses reservation procedure

Most of the IANS training courses are aimed at a specific target audiences. In order to provide a better service to our customers, priority will be given to those applicants whose profile best matches the course target audience.

Each request for a course place accompanied by the applicant's Course Reservation Form will receive priority. With this procedure, it is very important to fill in the Course Reservation Form with precise information on Employer, Division/Department, Job Title, etc. This information will be used to select the course participants. Finally, IANS expects the selected course participant to attend the course.

For courses in the **first semester of 2008**, reservations should be made before **15th September 2007**.

For courses in the **second semester of 2008**, reservations should be made before **1st March 2008.**

Course reservations should be addressed to the IANS Course Reservation Office by e-mail or fax.

For the ANSP's (Air Navigation Service Providers), Safety Regulators and Military Organisations of the EUROCONTROL Member States including the EUROCONTROL Agency itself, these reservations are to be sent through the national Focal Point. For all other customers (Airlines, Industry, Airport Authorities, etc), the registrations can be sent directly to the IANS Course Reservation Office.

The list of the National Focal points and the electronic version of the registration form are available on our website www.eurocontrol.int/ians/ in the section "Course Registration".

> Course Reservation Office
> E-mail: ians.reservation@eurocontrol.int
> Phone: +352 436061 EXT 205 or 307
> Fax: +352 422071

❯ GEN-LAW: reservation procedure (IATA course at IANS)

The "Aviation Law for Managers" course which takes place at IANS has to be booked through IATA.

The IATA reservation form and conditions are available on our website www.eurocontrol.int/ians in the section "course registration".

(**Comment:** our training programme is continuously updated to be in line with stakeholders needs, therefore courses available and course dates can change. An updated version of the programme for the second semester of 2008 will be available on our website from December 2007)

PLANNING 2008

January to July

	JANUARY					FEBRUARY				MARCH				APRIL					MAY				JUNE				JULY			
	31 04	07 11	14 18	21 25	28 01	04 08	11 15	18 22	25 29	03 07	10 14	17 21	24 28	31 04	07 11	14 18	21 25	28 02	05 09	12 16	19 23	26 30	02 06	09 13	16 20	23 27	30 04	07 11	14 18	21 25	28 01

GEN: CNS-STRAT; CST; CST; CST; FUT; FUT; MIL; MIL; PROC; PROC

ASM: ATFCM; ATFCM; ATFCM; FMP-2; FMP-2; FMP-2; FMP-3; FMP-3; FMP-3; FMP-3; FMP-4; FMP-4; FMP-4; FUA; FUA; ASM; ASM

DPS: DPC; DPC

APT: ARM; ARM; ACE; CDM

AIM: AIM-I; AIM-I; AIM-B; AIM-I

SAF: ACAS; ACAS; AOI; AOI; AUDIT; AUDIT; AUDIT-3; AUDIT-3; E3I; E3I; E4I; E4I; E4I; E2I; E2I; NSA; NSA; SAAP; SAAP; SAM2-PSSA; SAM2-PSSA; SAM3-SSA; SAM3-SSA; SC; SC; SMS; SMS; SURVEY1; SURVEY1; SURVEY1; SW; SW

HUM: A-TRM; A-TRM; CLASS; CLASS; CLASS; CLASS; CLASS; LCA; LCA; LCA; OJTI; OJTI; OJTI-E; OJTI-E; OJTIREF; OJTIREF; SIM; SIM; SUP; SUP; SUP; TRM-F; TRM-F; TRM-P; TRM-P; ULA; ULA

COM: AMHS; DATA; DLA; DLT; VOICE

NAV: GNSS; GNSS; RNAV; RNAV

SUR: ADS-B-MLAT; ARTAS; MODE-S; MODE-S; SASS-C; SASS-C; RAD; SASS-C-T

| Weeks | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| No courses on | 01 | | | | | | | | | | | 21 | 24 | | | | 01 | | 12 | | | | 23 | | | | | | | | |

The dates shown only refer to the week in which the course takes place. Exact dates are given on www.eurocontrol.int/ians. This planning sheet only includes the IANS public courses as they are known at the date of printing.

HOTEL Booking

EUROCONTROL IANS has special arrangements with some hotels. Their special rates can only be booked via our Course Reservation office, and are only available to enrolled course participants. Please send an email or a fax indicating the event (course, workshop or meeting) you are participating in.

A selection of Hotels with special EUROCONTROL rates

As EUROCONTROL has special arrangements with the hotels, we inform you that the special EUROCONTROL rates will only be applicable if the hotel booking is done, by our Course Reservation Office. Fax: ++ (352) 42 20 71 or e-mail IANS.reservation@eurocontrol.int

Hotel + Address	Telephone, Fax + email	Observations
ALVISSE PARC 120, route d'Echternach LU - 1453 LUXEMBOURG	++ 352 43 56 43 ++ 352 43 69 03 info@parc-hotel.lu www.parc-hotel.lu	10 min. by car from the Institute. Parking available (free of charge)
CAMPANILE 22, route de Trèves LU - 2633 SENNINGERBERG	++ 352 34 95 95 ++ 352 34 94 95 luxembourg@campanile.lu	Hotel located close to the Airport.
CARLTON 7-9, rue de Strasbourg LU - 2561 LUXEMBOURG	++ 352 29 96 60 ++ 352 29 96 64 carlton@pt.lu www.carlton.lu	Close to the railway and bus station.
CASANOVA 10, place Guillaume LU - 1648 LUXEMBOURG	++ 352 22 04 93 ++ 352 22 04 96 info@hotelcasanova.lu www.hotelcasanova.lu	In the heart of the city, next to the shops and old part of the city. WiFi internet facilities (free of charge)

CITY 1, rue de Strasbourg LU - 1021 LUXEMBOURG	++ 352 29 11 22 ++ 352 29 11 33 mail@cityhotel.lu www.cityhotel.lu	Close to the railway and bus station.
DES VIGNES 29, route de Mondorf LU - 5552 Remich	++ 352 23 69 9149 ++ 352 23 69 84 63 www.hotel-vignes.lu	Located outside the city at +/- 25 km from the Institute. Magnificient view over the Moselle river and vallee
ETAP route de Trèves LU - 2632 Luxembourg-Airport	++ 352 42 26 13 10 ++ 352 42 26 13 20 H3579@accor.com	In front of the Airport which is located 9 km from the Institute. Bus n° 16 direct from Airport to Institute. Parking available (free of charge)
HILTON 12, rue Jean Engling LU - 1013 LUXEMBOURG	++ 352 43 78 80 48 ++ 352 43 78 80 73 HiltonReservation.luxembourg@hilton.com www.hilton.com	10 min. by car from the Institute. Parking available (free of charge) Shuttle available (free of charge) from/to Hotel/Institute. Upon arrival please book the shuttle for following day(s) at the hotels reception desk.
IBIS route de Trèves LU - 2632 LUXEMBOURG	++ 352 43 88 01 ++ 352 43 88 02 H0974@accor.com www.ibishotel.com	In front of the Airport, which is located 9 km from the Institute. Bus n° 16 direct from Airport to the Institute. Parking available (free of charge)
KEY INN APPART 42, rue Albert 1er LU - 1117 Luxembourg	+ 352 27 61 61 1 + 352 26 38 95 43 info@key-inn.com www.key-inn.com	+/- 5 minutes walking distance to the city centre. Bus facilities to the Institute.
MERCURE-ALFA avenue de la Gare LU - 1930 LUXEMBOURG	++ 352 49 00 11 4020 ++ 352 49 00 09 H2058@accor.com	In front of the railway station.
MERCURE-LUXEMBOURG 30, rue Joseph Junck LU - 1839 LUXEMBOURG	++ 352 49 24 96 ++ 352 49 21 09 H1458@accor.com www.mercure.com	Close to the train and bus station. Parking (11,-EUR per day)
NH LUXEMBOURG route de Trèves LU - 1019 LUXEMBOURG	++ 352 340 571 ++ 352 340 217 nhluxembourg@nh-hotels.com www.nh-hotels.com	Located in the Airport Area. Bus n° 16 available from Hotel to the Institute (8 minutes).
NOBILIS 47, avenue de la Gare LU - 1611 LUXEMBOURG	++ 352 49 49 71 ++ 352 40 31 01 info@hotel-nobilis.com www.hotel-nobilis.com	Close to the railway and bus station.

NOVOTEL 6, rue Fort Niedergrünewald LU - 2015 LUXEMBOURG	++ 352 4298 - 481 ++ 352 43 91 95 H1930@accor.com	Within walking distance from the Institute. Parking (free of charge)
NOVOTEL LUXEMBOURG CENTRE 35, rue du Laboratoire LU - 1911 LUXEMBOURG	++ 352 24 87 81 ++ 352 26 48 02 24 H5556@accor.com www.novotel.com	Located in the City Center. 15 min. from Airport. 3 min. from Luxembourg train station. Shuttle from Hotel to Kirchberg. Parking available (free of charge)
PARC BELLE-VUE 5, avenue Marie-Thérèse LU - 2132 LUXEMBOURG	++ 352 45 61 41 1 ++ 352 45 61 41 222 bellevue@hpb.lu www.hpb.lu	Located in the heart of the city and sur- rounded by greenery and calm. Situated next to the shops and old part of the city. Parking availability: 15,-€ per day.
PARC PLAZA HOTEL 5, avenue Marie-Thérèse LU - 2132 LUXEMBOURG	++ 352 45 61 41 220 ++ 352 45 61 41 222 parcbel@hpb.lu www.hpb.lu	Located within 10 minutes walking distance from the city centre. Parking availability: 15,-€ per day.
PRESIDENT 32, place de la Gare LU - 1024 LUXEMBOURG	++ 352 48 61 61 ++ 352 48 61 80 president@pt.lu www.president.lu	In front of the railway station. Parking available at 12,-EUR per day.
SOFITEL 6, rue Fort Niedergrünewald LU - 2015 LUXEMBOURG	++ 352 43 77 61 ++ 352 43 91 95 H1314@accor.com	Within walking distance from the Institute. Parking (free of charge)
YASHA 27, rue Joseph Junck LU - 1839 Luxembourg	++ 352 49 30 70 ++ 352 49 30 70 333	Hotel located close to the railway and bus station.