

Training Programmes

Courses and Services for skills development

enav.it



Training Programmes

Courses and Services for skills development



A Global Leader
in Air Navigation Services



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ICONS

The teaching methods adopted for each individual course are indicated by icons.
Please refer to the guide below:



EXP LEARNING

EXPERIENTIAL LEARNING

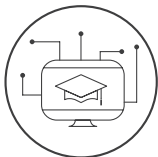
The training involves active experimentation and revision of theories and concepts.



CASE STUDY

CASE STUDY

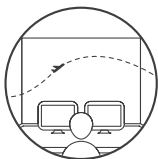
The training provides analysis and discussion of case studies.



E-LEARNING

E-LEARNING

The structure of the course includes the provision of modules for online learning.

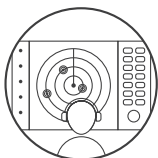


TWR SIM

TOWER SIMULATOR

The training involves the use of a control tower simulator.

< For further information about simulation systems, see [“Technology and Services”](#) section >

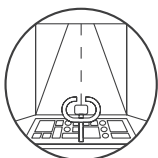


RDR SIM

RADAR SIMULATOR

The training involves the use of a radar simulator.

< For further information about simulation systems, see [“Technology and Services”](#) section >

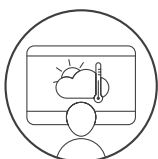


FLIGHT SIM

FLIGHT SIMULATOR

The training involves the use of a CRJ 200 flight simulator.

< For further information about simulation systems, see [“Technology and Services”](#) section >



MET SIM

METEOROLOGICAL SIMULATOR

The training involves the use of a meteorological simulator, to improve meteorological observation skills.

The logo for enav, featuring a stylized circular icon with an upward-pointing arrow and the word "enav" in a lowercase, sans-serif font.

enav

A white rectangular parking sign with a blue 'P' symbol, a blue wheelchair symbol, and the text "4 stalli" below. It also features a red circle with a diagonal line over a blue 'P' symbol, indicating a no-parking zone.

4 stalli

FOREWORD



^ **Alberto Valentini**, Head of Operational and Technical Training

The use of state-of-the-art technology and of the most up to date training contents, together with the adoption of effective didactic methods, are the key factors that support the successful development of all the ENAV's Operational and Technical Training Courses. The outstanding commitment in designing and delivering the learning processes, effectively oversees three relevant domains: the continuous simulators maintenance and development, essential for the training process of operational personnel, but also an effective method for the social skills and abilities development; the ongoing collaboration and mutual exchange among the Training Center and all the 45 Control Towers and the 4 Area Control Centers, allows instructors and teachers to keep their competencies at the top operational levels; experimentations and considerations on the models and innovation of didactic methodologies, occur through participation and contribution to national and international professional networks.

The training courses and services in this catalogue are the result of more of **25 years of experience** in skills development and training of operational and non-operational personnel.

An experience that permits ENAV's Training Center to respond to needs which have become more and more challenging: from basic courses to the development of complex solutions for international clients, from the initial training to the continuous updating of operational personnel's skills in the provision of air traffic control services, from the non-technical skills development to the training of all personnel working in the aviation field.



Facilities

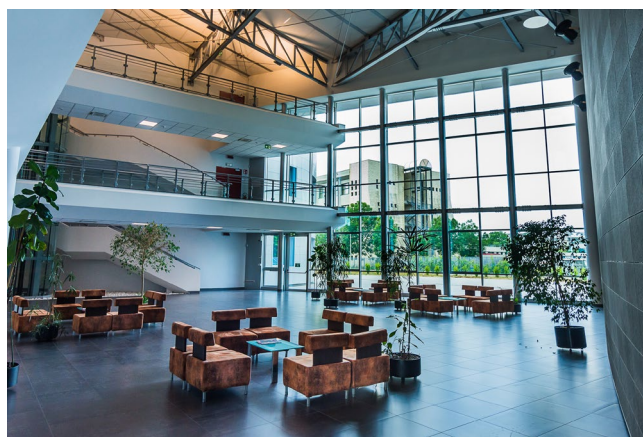
ENAV Training Center is located in Forlì. It is set in the heart of an aeronautical community which involves the University of Bologna (Aerospace and Mechanical Engineering Degree Programmes), the Aviation High School “Francesco Baracca”, a flight school and a school for aviation maintenance technicians. The Training Center offers its participants an environment reserved for learning. It has classrooms which seat between 6 and 30 people, a conference hall for up to 200 people, simulators and a canteen coffee bar.

The following simulators are used at the Training Center for training activities:

- 4 Radar SIM environments (24 working positions in 12 suites)
- 1 Procedural Simulator (8 working positions in 4 suites)
- 5 Tower 3D 270° Simulators
- 1 Multiple Remote Tower Center simulator
- 1 CRJ200 Flight Simulator
- 1 MET Simulator (8 working positions)
- 8 Part Task Trainer working positions

Specialised and committed technical assistance is constantly provided. The different scenarios and operational environments are customisable based on the course objectives.

A few activities are carried out at the Rome Headquarters, while customised courses can be delivered on site, based on specific logistic and organisational needs.



< For further information about simulation systems, see **“Technology and Services”** section >

A Distinctive Approach



The quality of the training that the Training Center offers is based on three critical success factors, constantly reviewed and monitored.

- Expert instructors and teachers with methodological and technical expertise adopt didactic strategies which effectively develop the abilities and skills of the participants. The methodological skills are developed and maintained over time with activities such as train the trainer. These activities ensure that the Training Center Team is constantly kept up-to-date.
- Intensive simulations are part of a training methodology used to develop complex skills. Here at the ENAV Training Center a simulation is not just simply the use of a technological tool, but rather the planning and implementation of a complex process based on a solid organised methodology.
- Teaching based on active methods using different and flexible approaches. Not only class activities but also practical activities, case studies, e-learning, blended courses and, of course, simulation.

Range of Courses

The training and teaching activities that the Training Center plans and implements, first and foremost, are related to our core business: the training of Air Navigation Service personnel.

Over the years, important training courses intended for different fields of aviation have been developed. The training packages are divided into 4 specific areas of interest:

- **ANS Training** specifically for European and Non-European Service Providers who need training courses aimed at achieving new ratings and/or endorsements for their personnel.
- **Training and Licensing Support - international** ready to support Service Providers and Civil Aviation Authorities in all fields of training and licensing with a competence-based approach.
- **Meteorological Training** designed for those who, for interest or profession, wish to further develop their knowledge related to aviation meteorology.
- **Airline, Airport and Aviation Industry** intended as all entities that contribute to air transport management: airlines, airport and maintenance services, handling services and all those who operate within the air transport sector or those who need to develop their knowledge in specific areas in the aviation world.
- **Human Factor Training** designed for those who, for interest or profession, wish to further develop their knowledge of Human factor in specific areas in the aviation world.

A sixth section is dedicated to **technologies and services** offered by ENAV Training Center to support training activities which also have the possibility of a dry lease.



Facts



More than **150.000**

Training hours for internal courses in 2023



1100

Internal participants in 2023



More than **8.500**

Training hours for external courses in 2023



390

Trainees from abroad in 2023



TRAINAIR
PLUS



Commercial Offer

The expertise and competence acquired in all functional areas of air traffic management enable ENAV to be a reference point, nationally as well as internationally, for development projects, which can satisfy the needs of operators working in different areas in the aeronautical field.

ENAV's commercial offer arises from the experience gained from around 300 projects successfully implemented in more than 100 Countries worldwide and from these results, working in synergy with two other fundamental players, Techno Sky, an ENAV Group company responsible for the management, support and maintenance of installations and systems used for Italian air traffic control, and Enav Asia Pacific based in Kuala Lumpur (Malaysia) which provides targeted services to S.E. Asia clients.

Professionalism, experience and technology are the pillars of a global offer of high value added services provided by ENAV in the following sectors:

Aeronautical Consulting and Design

With outstanding expertise in Air Traffic Management operations and services, we are the ideal partner for any Air Navigation Service Provider and Aviation Industry aimed at improving and modernizing airspace and airport systems. In ENAV, we are fully committed to delivering "turnkey" services to our customers by moving from concepts to operations. Every aspect related to Aeronautical Consulting & Design within the air navigation services provision domain is fully covered by us counting on internal capabilities, from conceptual definition to operational implementation.

Aeronautical Charts and Flight Procedures

ENAV organizes and designs airspace, defining the infrastructure of air routes so that all airspace users, whether civilian or military, private or commercial, can fly safely, punctually, economically and in an environmentally friendly way.

Flight Inspection and Validation

With its upgraded aircraft fleet and advanced data processing systems, ENAV provides a wide range of flight inspection services, ensuring standards of excellence, reduced flight times and competitive prices.

Aeronautical Information

ENAV provides Aeronautical Information Services to flight crew by collecting, disseminating, and updating information over the whole of Italy.

Essential aeronautical information is disseminated as per European (EU), national (ENAC) and international (ICAO) regulations via the Integrated Aeronautical Information Package (IAIP).

Engineering and Maintenance

ENAV supports organisations working in "mission critical" sectors by providing services and solutions in:

- Installation, integration and setting-up of CNS systems
- ATM software development
- Meteorology systems development, supply and installation

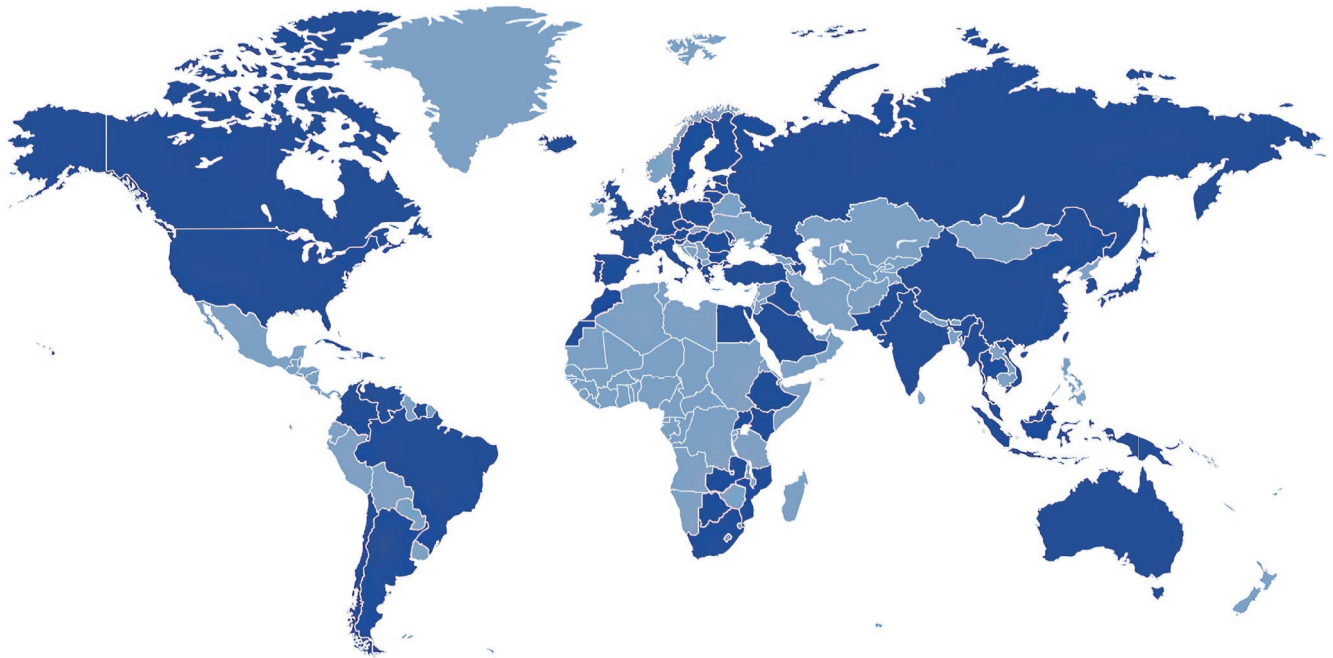
ENAV brings its experience in the management and maintenance of air traffic control systems and technology to all those organisations aiming to improve their logistics and maintenance processes.

Research and Development

ENAV has long been involved in Research and Innovation. It takes part in many projects aimed at defining and checking new operating concepts, technologies, systems, and functions, to effectively manage constantly improving performance, in line with the increasingly stringent requirements of the Single European Sky. The European air traffic control research activity is concentrated in the SESAR (Single European Sky ATM research) initiative.

Weather

ENAV's Air Traffic Control services also include weather reports and forecasts for air navigation, in accordance with national (ENAC) and international (ICAO) norms.



^ **ENAV Worldwide.**

ENAV Group Companies are active worldwide to assist and support our Customers in their needs



ANS TRAINING

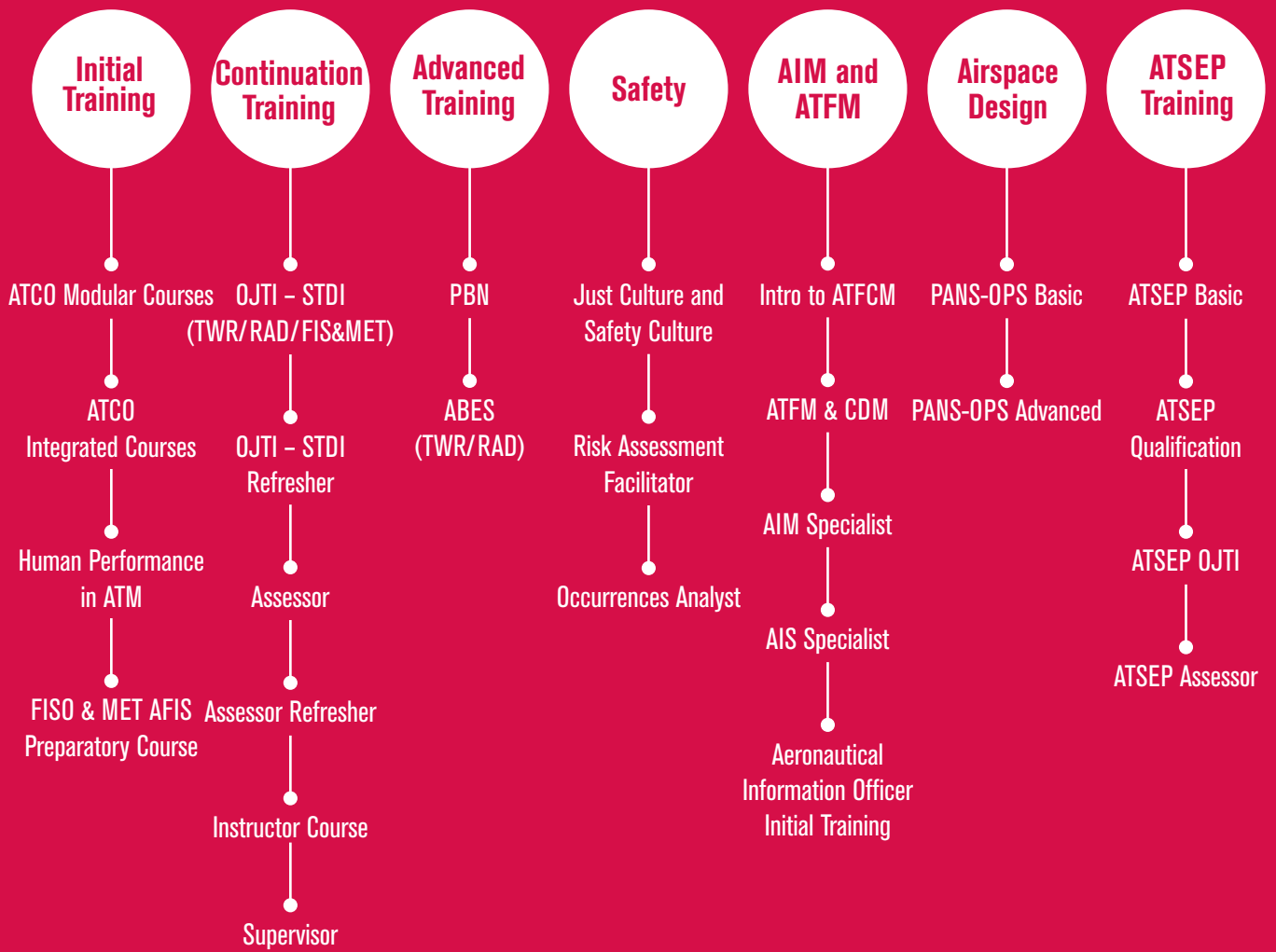
ENAV, as an ANSP for Italy, designs and supplies courses specific for training air traffic controllers and professionals directly involved in Air Navigation Services. The training courses offered by ENAV, outlined below, are the result of both inhouse training experience and international projects which have matured over the years. In 2013, ENAV Asia Pacific, based in Kuala Lumpur (Malaysia), was set up with the aim to improve clients' performance in South East Asia by supplying them with specific services.

Training and ANS services cover:

- **Initial Training:** single modules or integrated courses for the training of Air Traffic Controllers and Flight Information Service Officers. Human Performance Consulting and Training services
- **Continuation Training:** initial and refresher courses for OJT and STD instructors
- **Advanced Training:** specific in-depth analysis of cutting edge issues for ANS professionals
- **Safety:** basic and advanced courses aimed at promoting safety culture at all company levels, from the knowledge of regulations to investigation activities, from risk assessment to safety system management
- **AIM and ATFM:** advanced courses aimed at increasing skills and knowledge to effectively implement ATFM and AIM practices.
- **Airspace Design:** ENAV's experience in designing and re-designing airspace in two practical, up-to-date courses
- **ATSEP:** basic and qualification training for engineering and technical staff to which is added training of instructors and assessors.

Focal point: **Werner Konrad LUZNY**
email: training@enav.it





Initial Training

ENAV Training Center designs and delivers training programmes for both future air traffic controllers and/or air traffic controllers who want to obtain a different rating or endorsement. The training activity is designed on the basis of training plans that have been approved by **ENAC** (the Italian Competent Authority). Both the basic courses and those designed for upgrading ratings also comply with:

- **The Commission Regulation (EU) 2015/340**
- **The Commission Regulation (EU) 2023/893**
- **Eurocontrol Specifications for the ATCO Common Core Content Initial Training.**

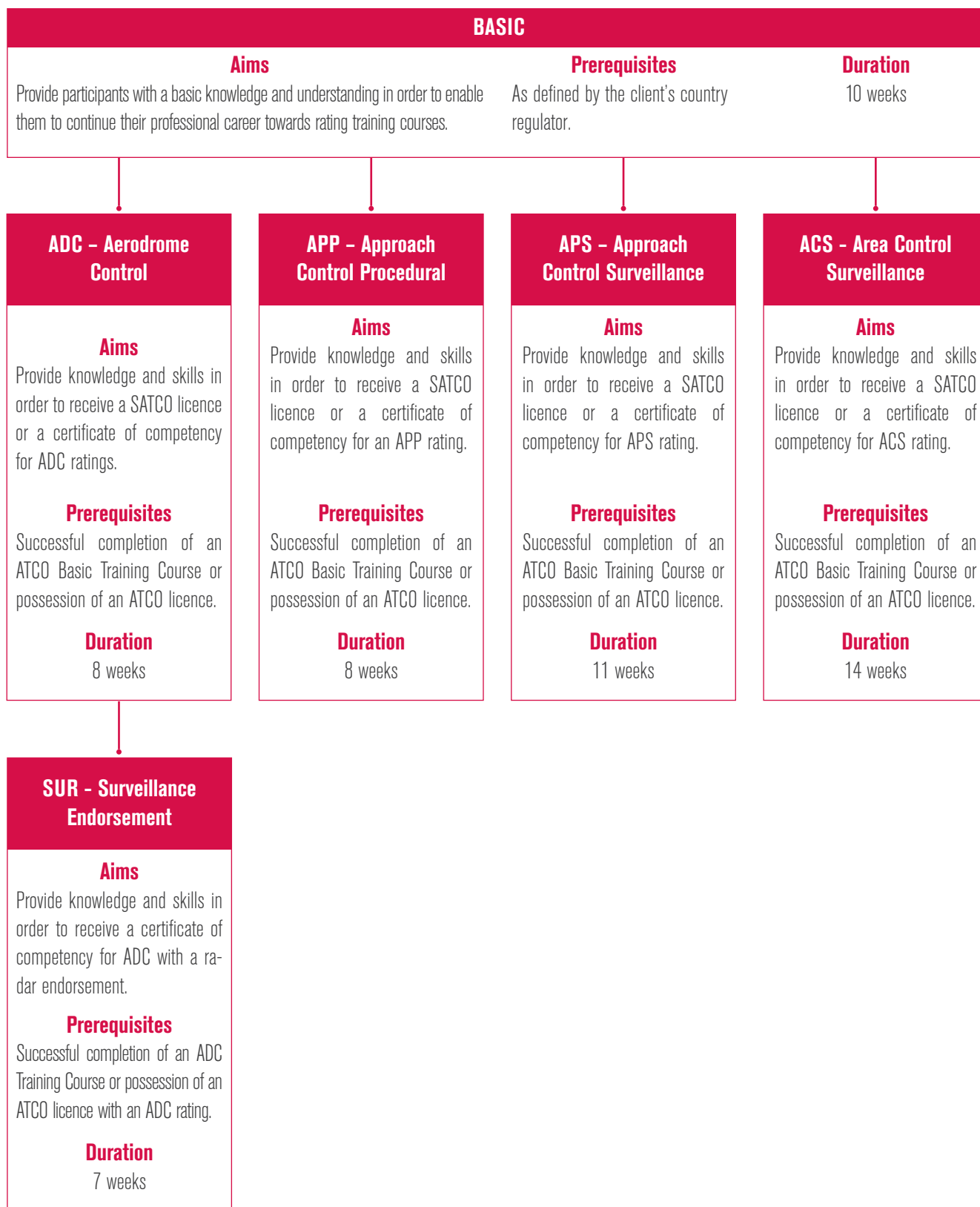
The training activity can be designed specifically according to customer requirements:

- Planning, both single rating/endorsement and fully integrated courses;
- Designing tower, radar and procedural approach simulation scenarios related to clients' operative service areas. This is possible thanks to ENAV Training Center expertise in building specific scenarios;
- Detailed training courses designed to meet clients' specifications in terms of hours for each subject and simulation activities in compliance with certification requirements.

After successfully completing the course a professional competency certificate will be awarded and moreover a SATCO license issued by ENAC (the Italian Competent Authority) will be awarded to initial course participants.

Each individual and integrated course is outlined below. The hours of each course can be reduced.

ATCO Modular Courses



The length of the courses detailed above is pertinent to each single module. For multiple course attendance, the duration may be reduced. For more information please refer to the following table.

ATCO Integrated Courses

For companies whose personnel wish to achieve a specific rating or endorsement, an integrated course is preferable, since both length and costs can be reduced. Look at the table below:

Course Combination	Duration
Basic+ADC	18 weeks (no reduction)
Basic+APP	18 weeks (no reduction)
Basic+APS	21 weeks (no reduction)
Basic+ACS	24 weeks (no reduction)
ACS+APS	21 weeks (instead of 25 weeks)

Further training combinations are available on request.

< For further information about simulation systems, see **“Technology and Services”** section >

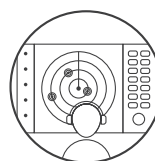
Why choose Training Center

- Customisable tower and radar scenarios
- Intensive simulation activities
- Airplane cockpit familiarisation in FNPT II flight simulator
- One radar SIM environment with multiple sectors (up to 24 controllers)

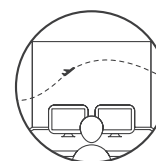
COURSE INFO

Focal point: **Werner Konrad LUZNY**
email: training@enav.it

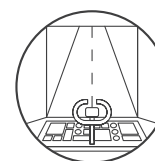
Availability: ○ SCHEDULED ● ON REQUEST
Language: ● ITALIAN ● ENGLISH



RDR SIM



TWR SIM



FLIGHT SIM

Flight Information Service Officer

Duration: 13 week course

The aim of this course is to provide participants with the operational skills required for Flight Information Services.

Target Population	This course is tailored for ANSPs whose countries have implemented or intend to implement AFIOs, National Regulators and/or units (private or public) that issue FISO licences, or private citizens looking for professional courses.
Objectives	<p>After completion of the course, participants will have the operational ability to deal with:</p> <ul style="list-style-type: none"> • Management of VFR/IFR traffic in class G Airspace • Management of unusual situations <p>In addition, participants will gain basic knowledge of ATCS , FIS, AFIS, ALRS, Airspace classification, Rules of the Air, Navigation, Aircraft Performance, Flight planning, ATFCM, Aerodromes, Aeronautical Meteorology, CNS and Human Factors.</p>
Core Contents	<ul style="list-style-type: none"> • Theory includes ATM, NAV, Aircraft Performance, CNS, Met and HF • The simulation phase includes AFIO and FIC simulation environments. This practical phase lasts over 130 hours
Integration course	An integration course, with duration of 15 days, is available for FISO to be employed in FICs.
Notes	Specific simulation service areas can be implemented on request.

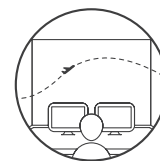
Why choose Training Center

- Training Center approved by the Civil Aviation Authority
- 5 tower 270° simulators, for AFIO simulations
- 1 FIC room
- Top rated instructors
- Long standing experience in providing FISO courses

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



TWR SIM



EXP LEARNING

Continuation Training

The ANSP objective is to provide a service with the highest standards of quality and efficiency, together with the unquestionable condition of safety, ever present throughout the process. In this context, the development of new professionals, their introduction into an operational environment and the guarantee that over time necessary standards of performance are kept up to date represent critical success factors for Service Providers.

A central role is the training of instructors who have the responsibility of managing the on the job training and the assessors, who over time can verify the consistency of the skills required.

Over 900 trained OJT-I, a “refresher campaign” which in the last year alone involved nearly 300 OJT-I, more than 200 assessors specialised in managing the evaluation process of operational skills, solid international experience in delivering both courses and refresher courses. With this background ENAV Training Center is well placed as a partner for training instructors and assessors.



OJTI – STDI

Duration: 10 day course for ATCOs

5 day course for FISO, TM1 and MA

Target Population	Course designed for ATCOs, FISOs, TM1 or MA to obtain OJTI endorsement in order to carry out the role of instructor.
Objectives	<p>After completing the course the participants will be able to:</p> <ul style="list-style-type: none"> • Provide practical training on operational working positions or synthetic training devices • Recognize the principle factors connected to human performance in training and the relationship between learning, competency and motivation typical of a trainee. • Conduct a training session using briefing, monitoring and debriefing, as well as the methodology and the connected techniques such as demonstration and talk through.
Core Contents	<ul style="list-style-type: none"> • Motivation and competency in the training process • The team • Interpersonal communication • Organisational and regulatory context • The training process • Questioning techniques • Preparation and briefing • Methodologies and instruments for monitoring • Debriefing • Performance evaluation <p>The use of practical activities and simulations allow the development of competency through concrete experience.</p>

< For further information about simulation systems, see “**Technology and Services**” section >

🎯 Why choose Training Center

- Focus on training processes
- Practical activities and simulations: “Learning by doing”
- Simulation in a realistic environment
- Customisable training profiles
- Use of role play

COURSE INFO

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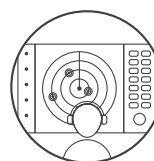
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Language: ITALIAN ENGLISH

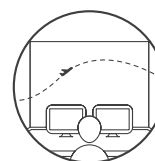
Compliance: Eurocontrol,

EU Commission Reg. 2015/340

EU Commission Reg. 2023/893



RDR SIM



TWR SIM



EXP LEARNING

OJTI – STDI Refresher

Duration: 3 day course

Through practical activities and simulations, the refresher course consolidates participants' knowledge and best practices to enhance briefings, monitoring and debriefings. The course offers the opportunity to share experiences and exchange views among OJTIs on methodology, techniques and tools.

Target Population	The course is for air traffic controllers who already possess an OJTI specialisation and need to refresh their skills.
Objectives	<ul style="list-style-type: none"> • Recognise the factors that influence the training process for OJT, methodological implications and behaviours for a successful OJTI experience. • Compare everyday individual practices with the new methodologies and tools used for training process evaluation with particular emphasis on the evaluation sheets. • Consolidate knowledge and best practices to improve the briefing, monitoring and debriefing activities. • Emphasise the importance of being in line with methodologies and best practices for On-the-Job training.
Core Contents	<ul style="list-style-type: none"> • The training process and roles • Human Factors • Communication • OJT methodology • Assessment techniques

< For further information about simulation systems, see **“Technology and Services”** section >

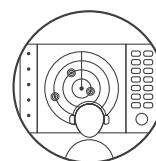
© Why choose Training Center

- Focus on training processes
- Practical activities and simulations: “Learning by doing”
- Teaching/Learning methodologies such as:
 - Role play
 - Case studies
 - Team work
 - Videos

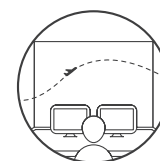
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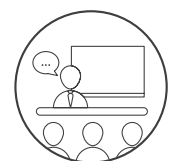
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Language: ● ITALIAN ● ENGLISH
Compliance: Eurocontrol,
EU Commission Reg. 2015/340
EU Commission Reg. 2023/893



RDR SIM



TWR SIM



EXP LEARNING

Assessor

Duration: 5 day course

The aim of the course is to provide competences in order to carry out the role of Assessor: comprehension, evaluation of competences and feedback will be stressed as they are crucial in managing competence assessments of ATCO or SATCO. The course is based on theory and practice.

Target Population	The course is for air traffic controllers, according to European Commission Regulation 2015/340 and 2023/893.
Objectives	At the end of the course participants will: <ul style="list-style-type: none"> • have knowledge of unit competence schemes and European regulation; • know responsibilities and requirements for the role of assessor; • be able to measure and evaluate the operational competence, and take related appropriate actions.
Core Contents	<ul style="list-style-type: none"> • Introduction • Regulations (ICAO, Eurocontrol, EU Commission) • Unit Competence Scheme and Unit Training Plan • Competence • Assessment techniques • Communication • Role of the Assessor and possible issues

🎯 Why choose Training Center

- Advanced Assessment Techniques
- Over 200 Assessors trained in the last 5 years
- Teaching methodologies such as:
 - Role play
 - Case studies
 - Team work
 - Videos

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Assessor Refresher

Duration: 3 day course

The aim of the course is to refresh the necessary knowledge to carry out the role of Assessor, and the ability to effectively assess the competency of ATCO or SATCO.

Target Population The course is for air traffic controllers who have already successfully completed an assessor course.

Objectives At the end of the course participants will have:

- an in-depth and up-to-date understanding of the role and responsibilities of an assessor;
- refreshed knowledge of assessment techniques and regulations.

Core Contents

- Introduction
- ICAO and European Union regulations
- Unit Competence Scheme and Unit Training Plan analysis
- Competence
- Assessment techniques

Why choose Training Center

- Advanced Assessment Techniques
- Teaching methodologies such as:
 - Role play
 - Case studies
 - Team work
 - Videos

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Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: Eurocontrol,
EU Commission Reg. 2015/340
EU Commission Reg. 2023/893



CASE STUDY



EXP LEARNING

Supervisor

Duration: 10 day course

The aim of the course is to provide the competences in order to carry out the role of Supervisor, in terms of coordination and supervision activities inside a complex operational environment.

Target Population	The course is for experienced air traffic controllers with an OJT1 endorsement.
Objectives	At the end of the course participants will have complete knowledge of duties and responsibilities of a Supervisor.
Core Content	<ul style="list-style-type: none"> • ATFCM operations; • Coordination procedures; • ICAO and European Regulations; • ANSPs organization structures; • Human Factor.
Notes	16 hours of simulation training

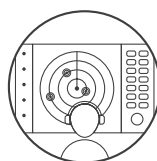
Why choose Training Center

- Advanced teaching Techniques Supervisors
- Over 200 Supervisors trained in the last 10 years
- Teaching methodologies such as:
 - Role play
 - Case studies
 - Team work
 - Videos

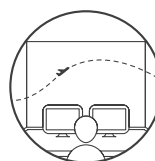
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RDR SIM



TWR SIM



CASE STUDY



EXP LEARNING

Advanced Training

ENAV manages and handles traffic in one of the busiest and most congested air space in the world but constantly guarantees a high quality of service. Adding to the complexity of the operational environment is the diversity of the Italian territory and climate thereby ensuring that ENAV Air Traffic Controllers have gained experience with advanced Air Traffic Control Service procedures. Operations at Roma Fiumicino (Parallel Operations), Milano Malpensa and Linate (all weather operations on single and multi-runways) and the ATMOP project for the complete re-organisation of the air space and ground movement in Kuala Lumpur (3 parallel runways and 2 control towers), with the relative implementation of the new PBN concept are only a few examples of the capabilities and expertise that ENAV is able to offer the wider aviation community.

ENAV, with the experience gained over the years at the Training Center through the planning and delivery of advanced courses for Air Traffic Controllers is able to impart the necessary know how to operate in innovative and highly complex situations in an efficient and effective way.



PBN - Performance Based Navigation

Duration: 5 day course

The introduction of the PBN concept represents a shift from sensor based navigation to performance-based navigation. The aim of this course is to provide the theory of PBN and in-depth simulated approaches where the participants can learn how to implement PBN concepts and increase their skills in future traffic management.

Target Population	This course is for Air Traffic Controllers, preferably with an APS or ACS rating – with or without TCL endorsement – because they can be more involved in the simulation phase, however ANSP's head of training and training-related personnel will also find the course useful.
Objectives	<ul style="list-style-type: none"> • Understand the principle of Performance Based Navigation • RNAV and RNP Applications • Acquire knowledge in aa/cc capabilities and flight operations supporting PBN operations • Understand RNAV1 and RNP APCH Applications • Understand ATC procedures related to PBN performance requirements • Provide ATC services in air space where PBN is implemented
Core Contents	<ul style="list-style-type: none"> • Understand the principles of PBN: What is PBN; PBN benefits; RNAV & RNP; Principles of area navigation; GNSS navigation; PBN applications; • Acquire knowledge in aa/cc capabilities and flight operations supporting PBN: FMC & FMS; PBN operations and on-board architecture; Waypoints: The path terminator concept • Understand RNAV1 applications: Design criteria; RNAV1 applications in TMA & CTR: SIDs & STARs; Best practices ATC; Radar Vectoring and RNAV1 operations; Direct To instruction: Usage and cautions; Contingency Procedures; Phraseology examples • Understand RNP APCH applications: RNP APCH classification and flight techniques; ATM and RNP APCH; Vectoring and stabilization; Backups; • ATC Procedures in a PBN environment simulation phase: Tactical use of PBN applications (Use of Direct To instruction); Radar vectoring: Applications and consequences; mixed equipage environment, transition between different operating environments, ATC contingency procedures • Separation Minima:, ATC monitoring, Enroute/Terminal/Approach control local procedures, local route network • Communications: phraseology, flight plan, indication on strip, radar screen, radar label
Notes	Structure of the course: 2 days of theory on regulations, procedures and the design process followed by 3 days of radar simulation supervised by experienced instructors.

< For further information about simulation systems, see “**Technology and Services**” section >

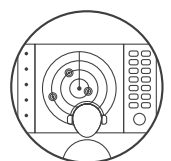
- A 360° overview of future operations
- Training on operational techniques
- How to use techniques and how they are designed
- Enav has already designed procedures in Italy and abroad

🎯 Why choose Training Center

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: ICAO Doc 8168 Vol. II,
PANS-OPS ICAO Doc 9613,
PBN manual

COURSE INFO



RDR SIM

ABES – Abnormal and Emergency Situations (TWR/RAD)

Duration: 3 day course

The course refreshes the skills covered in the initial training stage as specified by international regulations. The very nature of emergencies means they are rare but at the same time require high skills to be managed which makes ABES continuous training essential. The course is offered both in a tower (for ADV/ADI ratings) and radar environment (for APS/ACS ratings).

Target Population	Air traffic controllers with a valid ATCO license for aerodrome, approach or area control.
Objectives	Recognise and know how to deal with the different types of emergencies and abnormal situations that can happen in a tower or radar environment. Know and apply best practices for managing emergency situations in terms of ground/air communications, co-ordination, traffic and stress management. Know and apply appropriate checklists.
Core Contents	<ul style="list-style-type: none">• Overview of ABES• Common abnormal and emergency situations• The ASSIST concept• Checklist• Communication effectiveness• Common ground between Unusual, Priority and Emergency Situations• Air/ground co-operation - Pilot and ATC environment• ATC contingencies• Avoidance of mental overload

< For further information about simulation systems, see “Technology and Services” section >

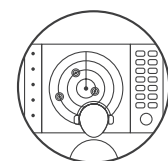
Why choose Training Center

- Video and simulations to enhance the theory and reinforce the concepts

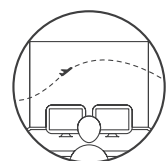
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Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



RDR SIM



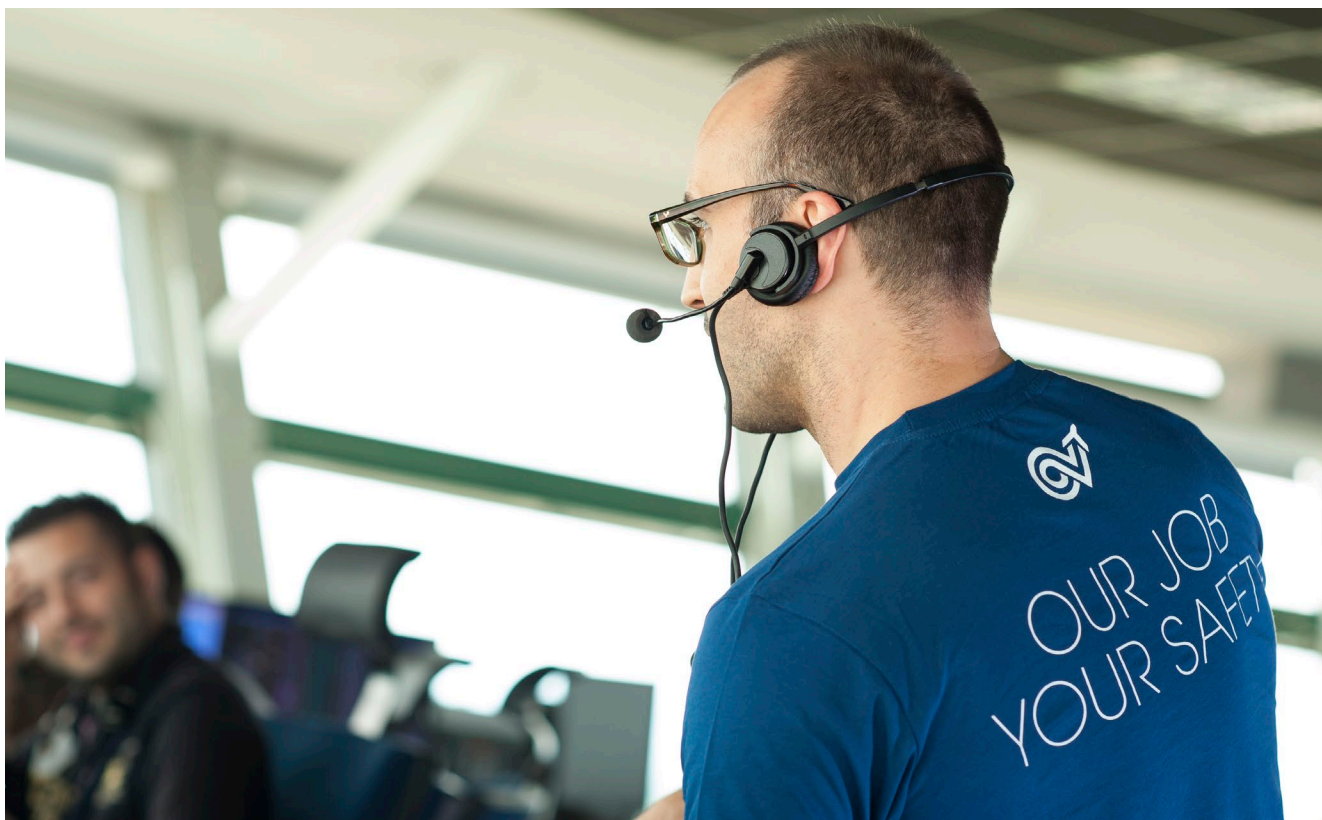
TWR SIM

Safety

Every productive field which concerns efficiency is continuously under internal and external pressure and ATM is no different. The airline companies request direct routes, optimal cruising levels, continuous climb and descent, no trajectory constraints, punctuality, high level of predictability and, at the same time, low air fares. In this industry, pressure on efficiency goes hand in hand with an implicit and equally important request: the safety of the flights.

Air transport is (statistically and effectively) the safest mode of transport because it has based the efficiency of its service provision on redundancy, certified staff and Quality Management Systems to support technical and operational internal activity. In addition, all air transport companies and ATM have implemented Safety Management System to decrease risk and increase safety performance levels.

Both the explicit requests for efficiency and safety are balanced strong point features of the Safety Management System and the effective level of divulgation of the safety culture. The course offered in this catalogue sets out to consolidate the skills of professionals who contribute to Safety.



🎯 Why choose Training Center

- ENAV is one of the leading organization in Safety Air Traffic Management enhancement
- ENAV has a high level of commitment to improve the safety performance
- ENAV is involved in the major R&D initiatives applied to Safety and works in partnership with the main worldwide aviation stakeholders (ICAO, EC, EASA, CANSO, IATA, ACI, etc)
- Consultancy service to design/improve the Safety Management System for national and international aviation organisations and/or industries
- We teach you what we put into practice because it works

Just Culture and Safety Culture

Duration: 2 day course

The aim of the course is to learn about safety culture and understand how important it is for aeronautical entities and, in general, for HROs to develop a safe working environment which is able to improve by learning from its mistakes.

To create a safe and safer working environment implies the necessity to understand the basic concepts of safety, and to intervene at a “company culture” level to acknowledge and support the development of a Just Culture and a Safety Culture specific for organisations.

Target Population

The course is for anyone who needs to improve company performance, by introducing a cultural change connected to the implementation in the every day operations of the most modern concepts of safety. Small and large aeronautical companies which need to launch operative safety procedures, or need new applicable ideas to be able to manage the development of the procedures.

People involved: operational and productive middle management, teaching HR personnel, Safety Manager, Post Holder for movements/operations, people in charge of production units, systems management and those who are responsible for the notification of aeronautical events, etc.

Objectives

To know about Just Culture and Safety Culture and their processes aimed at learning potential improvements based on lesson learned and lesson dissemination. To make use of the regulations and best practices of the aviation field so as to acquire basic methodology and management skills needed to simplify and support the cultural changes in the field of safety and the developing features that characterise the aviation industry.

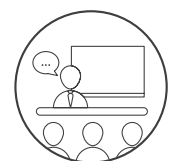
Core Contents

- Origin and development of Just Culture and Safety Culture in national and international companies
- National and International documentation: ICAO, Eurocontrol, EASA, ENAC
- Complex companies and Safety
- Elements of sociology concerning management and organisations
- Lesson learned: “The ENAV experience”
- Classroom laboratory: “A safe organisation”

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



EXP LEARNING

Risk Assessment Facilitator

Duration: 5 day course

The aim of the course is to train personnel to optimise and guide a risk assessment procedure stated in the different EU regulations. An RAF is a safety expert that has mastered the methodologies for "Risk analysis" and "Risk assessment" which are used to assess the phases of the Air Traffic Management functional system cycle, which in turn is essential as a guide for the assessment of the experts and their contribution with their specific subjects, procedures, activities and functions subject to change, and risk assessment.

Safety

Target Population The course is for people who will be called to co-ordinate and/or manage "Risk Assessment Teams" (teams which will assess risk connected to changes and/or to operations concerning the ATM functional system cycle). The participants must be people from different professional backgrounds that characterise the organisation (profiles such as operative-technical staff directly connected to ATM/ANS and ATS/CNS fields).

Objectives The aim of the course is to train specialised experts who will be able to coordinate and/or manage a team of experts expressly created or who have a permanent position, to deal with analysis, management and risk assessment in the company.
The training will include both the techniques, and the procedures, which are applied to the safety management system concerning safety in companies, systems/services/functions assessment and any variations.
The participants will acquire the necessary across the board skills to be able to improve team management.

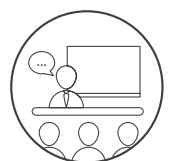
Core Contents

- General concepts on Safety
- Proactive safety
- Classification of changes
- Changes to the system
- Risk assessment activities
- Variations and functional ATM system cycle
- Relations with external entities
- Elements of sociology both general and organisational
- Facilitation
- Practical activities

COURSE INFO

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Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



EXP LEARNING

Occurrence Analyst

Investigation in Complex Environments

Duration: 5 day course

The aim of the course is to train an Occurrence analyst. In different “complex” or “HROs” companies (i.e. chemical, healthcare, energetic/nuclear, aviation companies etc.), to investigate events is the best and most effective way to learn from experience and to understand future risks by preventing them. Participants will be trained to investigate and/or support investigations of events connected to the safety of the typical operations in the relevant fields, reaching conclusions, making considerations and suggestions to improve Company performance and intercept “Weak Signals” .

Target Population

The course is for professional experts, who in their different fields of activity in complex organisations deal with continuous improvement procedures, and implement suitable measures to improve and correct procedures in place, creating new procedures, based on the results of the occurrence investigations to avoid unwanted or dangerous situations in the future.

Objectives

The course will cover concepts pertaining to: essential safety contents and Occurrence Management methodologies, safety reports and their use, learning and proactive investigation techniques, across the board competences to be able to deal with interpersonal dynamics connected to the human aspect of event analysis; reference law. The training syllabus includes a learning phase, which not only defines the concepts, but also teaches the ability to investigate or to support an investigation, by developing the necessary techniques to collect and examine facts/information/data, the ability to recap and to deliver a logical debriefing of events that have occurred.

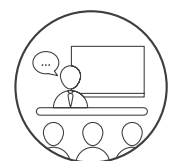
Core Contents

- The concepts of Safety related to the reference law in the complex fields
- Investigation into risk activities
- Error theory
- Human factors
- Practical and theory based interviews
- Guided investigative activities
- Typical event (case studies based on aviation experience)
- Practical investigation phases based on an operational event
- The presentation of the results of an investigation

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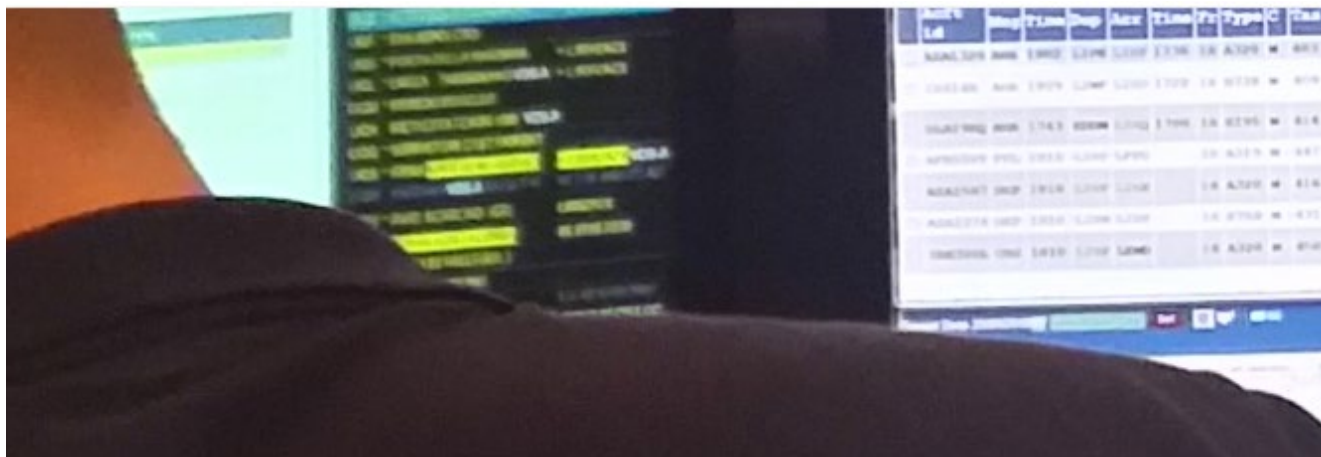


EXP LEARNING

AIM and ATFM

The primary objectives of Air Traffic Flow Management (ATFM) and Aeronautical Information Management (AIM) are to ensure the highest standards of safety, efficiency, and quality in air traffic operations. At the ENAV Training Center, we offer comprehensive courses designed to equip professionals with the necessary skills and knowledge to effectively implement ATFM and AIM practices. Whether it's understanding the fundamentals of ATFM or mastering the intricacies of AIM integration, our courses are delivered by aviation experts with extensive experience. Through basic and advanced courses, develop expertise, skills, and knowledge to cultivate a collaborative environment in AIM and ATFM operations. Learn to align data chain inputs and outputs to ensure the delivery of high-quality aeronautical information products and services. We take pride in our ability to customize training modules according to the unique requirements of each client, ensuring flexibility and relevance, providing them with practical insights and solutions for optimized air traffic management. .

AIM and ATFM



© Why choose Training Center

- Training Center approved by the Civil Aviation Authority
- Training Center working in close collaboration with the European NMOC and SESAR working groups
- Direct relationship with experts related to the provision of service in flow management positions (FMP)
- Direct relationship with experts related to the provision of service in Aeronautical Information (AIM)
- State-of-the-Art Facilities
- Continuous Support and Guidance

Introduction to Air Traffic Flow and Capacity Management

Duration: 5 day course

The aim of the course related to ATFCM (Air Traffic Flow and Capacity Management) in Europe is to provide participants with a comprehensive understanding of the concepts, procedures, and challenges related to the management of air traffic flow and capacity within the European context. Throughout the course participants will gain fundamental knowledge about planning, coordination, and optimization of commercial flights in Europe, considering meteorological variables, air traffic, and operational restrictions

Target Population This course is tailored for employees working in air traffic management, Airline Operations Staff, Aviation Management and Planners, Aviation Industry Professionals, Aviation Students and Trainees and Military for whom a deeper knowledge of traffic flow and capacity management is recommended.

Objectives After the completion of the course, participants will have a deeper knowledge and understanding of the following items:

- Air Traffic Flow and Capacity Management (ATFCM) principles and concepts.
- Skills necessary for effective planning, coordination, and optimization of air traffic in the European airspace.
- Challenges related to air traffic congestion, and operational restrictions in ATFCM.
- Application of ATFCM strategies and techniques.
- Practical insights and case studies relevant to ATFCM in the European context.
- The overall improvement of air traffic management systems and procedures in Europe for increased safety, efficiency, and environmental responsibility.

Core Contents

- Enhance ATFCM capabilities in your organisation
- Apply ATFCM principles and strategies in an operational environment
- Apply best practices relating to ATFCM implementation

Notes The course content and depth of coverage may also be tailored to meet the needs and expertise levels of the participants. Specific courses for participants outside ECAC can be provided.

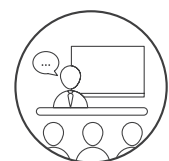
🎯 Why choose Training Center

- Training Center approved by the Civil Aviation Authority
- Training Center working in close collaboration with the European NMOC and SESAR working groups
- Direct relationship with experts related to the provision of service in flow management positions (FMP)
- Use of tools related to flow management

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



EXP LEARNING

Air Traffic Flow Management and Collaborative Decision Making

Duration: 3 day course

The aim of the course is to understand why Air traffic flow and management (ATFM) has become a vital part of air traffic management (ATM) and how it enables the use of the full capacity of the air transport system respecting standard safety levels.

Target Population This course is tailored for employees working in air traffic management, ATC providers outside the ECAC area, and any person engaged in Air Traffic Services (ATS) for whom a deeper knowledge of traffic flow and capacity management is recommended.

Objectives After the completion of the course, participants will have a deeper knowledge and understanding of the following items:

- how an ATFM service operates
- how an ATFM service is structured and organized
- how the capacity of an airspace sector and airport can be determined
- how an ATFM service is implemented
- which and how ATFM measures are applied
- what data is exchanged in the ATFM service

Furthermore, participants will receive information about European methods and systems used for the management of flow and a general perception of ATFM application by other organisations around the world.

Core Contents

- ATFM general concepts: organisation and use
- ATFM and CDM (Collaborative Decision Making): a close co-operation
- ATFM output: messages, web-based conferences, tools and manuals.

Notes Specific courses for ANSPs outside ECAC can be provided.

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- Use of tools related to flow management

Why choose Training Center

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Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: ICAO DOC 9971
Commission regulation (EU) 255/2010



CASE STUDY



EXP LEARNING

Aeronautical Information Management (AIM) Specialist

Duration: 3 day course

The course aims to equip participants with the essential knowledge, skills, and mindset required to facilitate the flow of aeronautical data and information vital for the safety, consistency, cost-effectiveness, and efficiency of the global air traffic management (ATM) system, aligning with the stipulations outlined in ICAO Annex 15.

Target Population This course typically includes professionals and individuals who are directly involved in or responsible for aeronautical data management, air traffic management, and related tasks within the aviation industry.

Objectives After the completion of the course, participants will have acquired the knowledge and skills to:

- provide participants with a comprehensive understanding of aeronautical data and information management principles, as outlined in ICAO Annex 15.
- foster a deep appreciation for the critical role of aeronautical data in ensuring the safety, regularity, economy, and efficiency of the global air traffic management (ATM) system.
- enhance participants' ability to maintain the integrity, consistency, and currency of aeronautical databases and information systems.
- promote a culture of safety and accountability by emphasizing the importance of accurate and up-to-date aeronautical data in ATM operations.

Core Contents

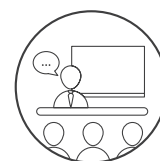
- Introduction to Aeronautical Data Management and its Importance in ATM
- Overview of ICAO Annex 15 and Regulatory Framework
- Aeronautical Data Sources and Collection Methods
- Data Quality Assurance and Validation
- Digital Technologies and Automation in Aeronautical Data Management
- Compliance with Global Standards and Best Practices

🎯 Why choose Training Center

- Training Center approved by the Civil Aviation Authority
- Training Center working in close collaboration with the European NMOC and SESAR working groups
- Direct relationship with experts related to the provision of service in flow management positions (FMP)
- Use of tools related to flow management

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it



EXP LEARNING

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH

Aeronautical Information Services (AIS) Specialist

Duration: 5 day course

The aim of this AIS course is to provide participants with a comprehensive understanding of the principles, practices, and regulations governing Aeronautical Information Services. Participants will gain the knowledge and skills necessary to effectively manage aeronautical information, produce accurate and timely Aeronautical Information Publications (AIPs), and ensure compliance with international standards and regulations set forth by organizations such as ICAO (International Civil Aviation Organization).

Target Population Includes professionals and individuals who are directly involved in or responsible for providing aeronautical information services and maintaining Aeronautical Information Publications (AIPs): AIS Officers, Air Navigation Service Providers (ANSP) Staff, Aviation Students and Trainees, Airport Operations Staff and Aviation Industry Professionals.

Objectives After the completion of the course, participants will have acquired the knowledge and skills to:

- provide participants with a comprehensive understanding of the principles, regulations, and standards governing Aeronautical Information Services, as outlined by organizations like ICAO (International Civil Aviation Organization).
- facilitate proficiency in the creation, maintenance, and update of Aeronautical Information Publications (AIPs) and other aeronautical data products.
- emphasize the critical role of AIS in supporting aviation safety, efficiency, and regularity by providing reliable and up-to-date aeronautical information.
- promote compliance with international aviation standards and best practices related to AIS, including ICAO Annex 15.
- approach the transition towards Aeronautical Information Management (AIM)

Core Contents

- Introduction to AIS and the Regulatory Framework:
- Aeronautical Data Collection and Sources:
- Aeronautical Databases and Information Management:
- AIS Procedures and Practices.

- Training Center approved by the Civil Aviation Authority
- Training Center working in close collaboration with the European NMOC and SESAR working groups
- Direct relationship with experts related to the provision of service in flow management positions (FMP)
- Use of tools related to flow management

🎯 Why choose Training Center

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH

COURSE INFO



EXP LEARNING

Aeronautical Information Officer Initial Training

Duration: 10 day course

The aim of this course is to offer individuals interested in pursuing a career in Aeronautical Information Service/Management with foundational training. This training is designed to equip them with the necessary knowledge, skills, and attitudes to proficiently handle tasks such as collecting, validating, categorizing, preparing, and disseminating aeronautical data and information, as well as providing aeronautical briefing services, all in accordance with the guidelines outlined in ICAO Annex 15 for Aeronautical Information Services.

Target Population typically includes individuals who are aspiring to become Aeronautical Information Officers (AIS Officers) or are new to the role: newly hired AIS Officers, Aviation Graduates and Students and Aviation Personnel seeking career change.

Objectives After the completion of the course, participants will have acquired the knowledge and skills to:

- provide participants with a solid understanding of the principles, regulations, and standards governing aeronautical information services (AIS), including compliance with ICAO Annex 15.
- equip participants with the knowledge and skills required to perform essential AIS tasks, including data collection, verification, processing, and dissemination.
- instill a culture of safety and quality in AIS operations, including the identification and resolution of discrepancies and errors in aeronautical information.
- promote effective communication and coordination with relevant stakeholders, such as air traffic control, airlines, and other AIS providers.
- introduce participants to the use of automation, digital technologies, and software tools in AIS operations.
- provide hands-on training and exercises that allow participants to apply their knowledge and skills in real-world AIS scenarios.

Core Contents

- Introduction to AIS and Regulatory Framework
- Aeronautical Data Collection and Sources
- Aeronautical Information Publications (AIPs)
- AIS Procedures and Practice

Why choose Training Center

- Training Center approved by the Civil Aviation Authority
- Training Center working in close collaboration with the European NMOC and SESAR working groups
- Direct relationship with experts related to the provision of service in flow management positions (FMP)
- Use of tools related to flow management

COURSE INFO

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email: training@enav.it



EXP LEARNING

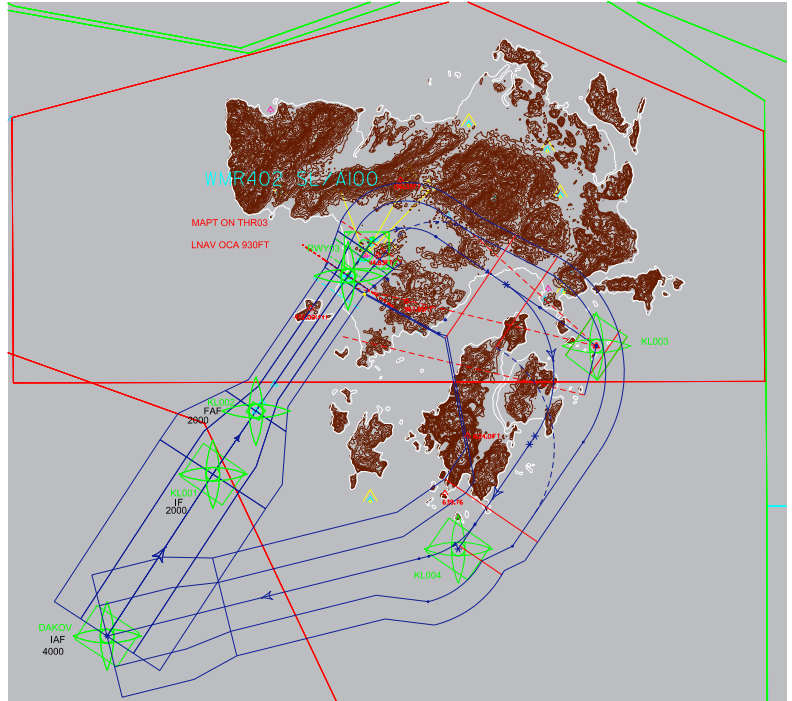
Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH

Airspace Design

Changing needs in terms of capacity, environmental impact and new on-board technology will mean the re-design of existing air space in the near future. One of the most significant boosters for technological development is the constant upgrade of airline fleets, followed by the update of the providers of air navigation services, such as satellite navigation routes.

ENAV has a wide understanding of these new technologies and can offer its vast knowledge, gained through worldwide work experience in some of the most challenging scenarios with regard to technological innovation and operational complexity.

The re-designing of Italian domestic air space (RISA) implemented in 2015, which involved almost the whole air space, and the ATMOP (Malaysia) project, which covered the re-designing of the whole airways system. The introduction of the PBN concept, the complete re-designing of the whole Kuala Lumpur terminal area, the implementation of PMS (Point Merge System) and simultaneous operations on 3 parallel runways at KLIA2 are some examples of experience and knowledge that ENAV can provide to clients who need to project their air traffic control services in the future.



© Why choose Training Center

- Every theory based lesson is followed by a design activity to define the concepts
- Distance follow-up between trainers and designers
- The trainers are designers who are constantly involved with hands-on design activities
- Theory based lectures together with how to implement the knowledge
- Recognised international expertise (i.e. BlueMed GNSS, Medusa GNSS)

PANS-OPS Basic

Conventional Instrument Flight Procedures

Duration: 15 day course

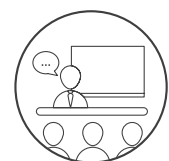
The aim of the course is to provide participants with theory and practice drawn from the ICAO PANS-OPS Doc 8168 Vol. II, necessary for the design of conventional instrument flight procedures

Target Population	The course is for personnel involved in design, validation, revision of instrument flight procedures. In order to be more effective participants should have: <ul style="list-style-type: none">• Good knowledge of English• Knowledge of Air Navigation Services• High school diploma
Objectives	To design conventional instrumental flight procedures or segments.
Core Contents	<ul style="list-style-type: none">• Module 1: ICAO Documentation, basic knowledge and general criteria• Module 2: Conventional instrument approach procedures - Non-Precision Approach: Final approach segment (with FAF and with no FAF); Visual Segment Surface; Straight or turning missed approach segment; Intermediate segment; Initial approach segment – straight or Reversal; Circling Procedure; Minimum sector altitude (MSA)• Module 3: Conventional instrument approach procedures – Precision Approach: ILS Final approach segment; Missed approach segment - straight and turning; Intermediate approach segment; Initial approach segment• Module 4: Conventional departure procedures: Straight or Turning departure; Information to be published• Module 5: Conventional Routes, STAR and Holding: VOR and NDB routes; STAR; Holdings
Notes	Each module will include practical activities The skills acquired during the course (13 days) are verified and evaluated with a final assessment (2 days). The examination consists of a: <ul style="list-style-type: none">• theory based written exam;• design and presentation of an instrument flight procedure project.

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: ICAO Doc 8168 Vol. II, PANS-OPS



EXP LEARNING

PANS-OPS Advanced

RNP APCH Design

Duration: 10 day course

The aim of the course is to provide participants with theory and practice drawn from the ICAO PANS-OPS Doc 8168 Vol. II, necessary for the design of conventional instrument flight procedures.

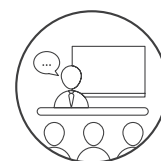
The course will focus exclusively on RNP approach procedures APCH (LNAV, LNAV/VNAV and LPV-LP minima).

Target Population	The course is for designers with experience in the design of instrument flight procedures.
Objectives	<ul style="list-style-type: none">• To design lateral navigation approach procedures• To design APV/BARO vertical navigation procedures• To design APV/SBAS procedures with and without vertical navigation
Core Contents	<ul style="list-style-type: none">• PBN Concept• GNSS instrument flight procedures - General Criteria• Non precision approach procedure construction (LNAV minima)• APV/BARO vertical navigation procedure construction (LNAV/VNAV minima)• APV/SBAS vertical navigation procedures (LPV and LP minima)
Notes	<p>Each topic will include practical activities.</p> <p>The course consists of 9 lessons of 7 hours a day, plus one-day final exam.</p> <p>The exam consists of a theory test with multiple choice questions, design and presentation of an instrument flight procedure project.</p>

COURSE INFO

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Compliance: ICAO Doc 8168 Vol. II, PANS-OPS



EXP LEARNING

ATSEP Training

Air traffic service providers must ensure that the engineering and technical staff, who maintains ATM equipment approved for their operational use, possesses and maintains adequate knowledge that allows them to have an appropriate understanding of the services provided, the real and potential effects of their action on security, as well as one sufficient understanding of the appropriate operating limits.

Among the tasks of the ENAV group in "contributing to the efficiency of the national transport system by ensuring the safety and regularity of traffic in the Italian airspace to all categories of users", there is to ensure the adequate level of knowledge for all technicians operating on flight assistance systems (Air Traffic Safety Electronics Personell - ATSEP). The defined levels of knowledge for the ATSEP figure are schematized in one pyramid which the staff must "scale" over time to reach the highest competence. The process that starts from Qualification Training up to the top, the Developmental training.



ATSEP Basic

Duration: 8 day course

The aim of this course is to provide basic training for air traffic safety electronic personnel on CNS/ATM systems.

Target Population	The course is for Air Traffic Safety Electronic Personnel. High school diploma or university degree in a technical scientific subject is an essential precondition.
Objectives	The theory subject matter covers the fundamental functions and maintenance of CNS with ATM and meteorological services. After the completion of the course, participants will have acquired a basic knowledge and understanding of the subjects according to Regulation EU 2017/373 Annex XIII subpart A - Air Traffic Safety Electronic Personnel and EASA Annex XIII Part-Pers.
Core Contents	<ul style="list-style-type: none">• ATF Air Traffic familiarisation• AIS Aeronautical Information• MET Meteorology• COM Communication• NAV Navigation• SUR Surveillance• DAT Data Processing• SMC System Monitoring and Control• MTN Maintenance Procedures• FAC Facilities <p>The course includes e-learning to provide a working knowledge of ATM environments. In addition, some lessons will take place in a TWR/Radar and FSPT (Flight Simulator Procedures Trainer) simulator.</p>
Notes	Course can be adapted in duration and content according to specific client's needs. The team of instructors are composed of ATCOs and experienced technical personnel in the specific field of expertise requested by the subject.

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: EU 2017/373 Annex XIII subpart A
EASA Annex XIII Part-Pers



EXP LEARNING

ATSEP Qualification

Duration: see the table below

The aim of this course is to provide knowledge and skills to air traffic safety electronic personnel in one or more domain and/or streams for CNS/Met system qualification. These skills are preparatory to be able to access the subsequent Type Rating courses along the ATSEP path of study.

Target Population The course is for Air Traffic Safety Electronic Personnel. Completion of the ATSEP Basic Course is an essential precondition.

Objectives After the completion of the course, participants will have acquired the knowledge and skills in one or more domain and/or streams found in the table below, according to Regulation **EU 2017/373 Annex XIII subpart A** - Air Traffic Safety Electronic Personnel and **EASA Annex XIII Part-Pers**.

Core Contents

DOMAIN	STREAM	DURATION ⁽¹⁾
DP	Data Processing	5 days
COM	COM Shared	2 days
	COM Voice	2 days
	COM Data	4 days
NAV	NAV Shared	6 hours
	VOR	6 hours
	VDF	6 hours
	ILS	2 days
	DME	6 hours
	NDB	4 hours
	MLS	2 days
SUR	SUR Shared	3 days
	SUR PSR	3 days
	SUR SSR	3 days
	SUR-ADS	2 days
SMC	SMC-Shared	4 days
	SMC-COM	1 day
	SMC-NAV	1 day
	SMC-SUR	1 day
	SMC-DAT	1 day
MET	Meteo	2 days

Notes ⁽¹⁾ The courses have varying duration according to domain/stream. The courses are taught by instructors qualified in that domain/stream. In addition to the technical subjects, the following non-technical subjects - Human Factors and Safety Health and Safety - will be included for all domains.

The course can be adapted in duration and content according to specific client's needs.

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: EU 2017/373 Annex XIII subpart A
EASA Annex XIII Part-Pers



EXP LEARNING

ATSEP OJTI

Duration: 3 day course

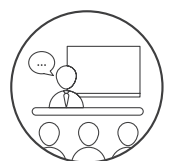
The aim of this course is to provide knowledge and skills to air traffic safety electronic personnel to become an instructor in a technical-operational environment.

Target Population	The course is for Air Traffic Safety Electronic Personnel. Completion of the ATSEP Qualification is an essential precondition.
Objectives	After the completion of the course, participants will have acquired the knowledge and skills to become an instructor in a technical-operational environment with a specific focus in reference to maintaining aircraft safety during the teaching activities, according to Regulation EU 2017/373 Annex XIII subpart A - Air Traffic Safety Electronic Personnel and EASA Annex XIII Part-Pers.
Core Contents	The situations faced deal with the topics that cover aspects of technical training in an operational environment and are carried out through simulations and role-play with aspects relating to human factors.
Notes	The course can be adapted in duration and content according to specific client's needs. The team of instructors are composed of ATCOs and experienced technical personnel in the specific field of expertise requested by the course.

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: EU 2017/373 Annex XIII subpart A
EASA Annex XIII Part-Pers



EXP LEARNING

ATSEP Assessor

Duration: 2 day course

The aim of this course is to provide appropriate competences to air traffic safety electronic personnel to evaluate the knowledge of an ATSEP in an operational environment.

Target Population	The course is for Air Traffic Safety Electronic Personnel. Completion of the ATSEP Qualification is an essential precondition.
Objectives	After the completion of the course, participants will have acquired the methodological verification competences, including the responsibility of the role of an assessor for objectively evaluating the comprehension of air traffic safety electronic personnel according to Regulation EU 2017/373 Annex XIII subpart A - Air Traffic Safety Electronic Personnel and EASA Annex XIII Part-Pers.
Core Contents	The situations faced deal with the topics that cover aspects of evaluation for skill competences of an ATSEP in an operational environment and are carried out through role-play with aspects pertinent to human factors.
Notes	The course can be adapted in duration and content according to specific client's needs. The team of instructors are composed of ATCOs and experienced technical personnel in the specific field of expertise requested by the course.

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: EU 2017/373 Annex XIII subpart A
EASA Annex XIII Part-Pers



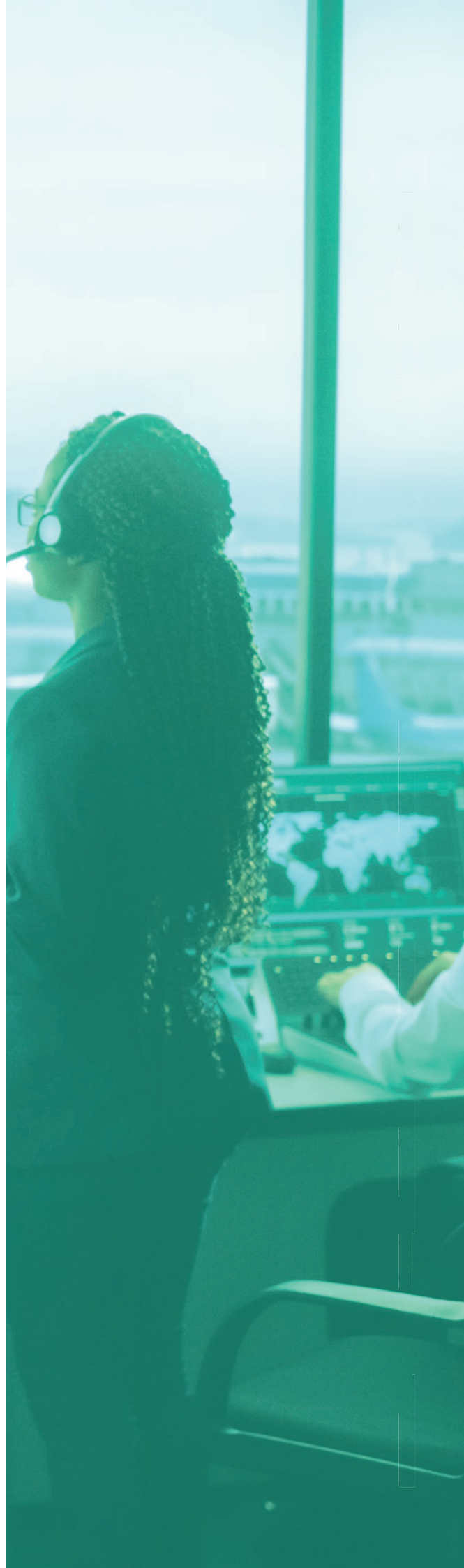
EXP LEARNING



TRAINING AND LICENSING SUPPORT - INTERNATIONAL

Enav supports ATM providers and regulatory authorities worldwide for all training and licensing needs of operational personnel (ATCO, FISO, MET, ATSEP, etc.). The Training Departments of the Italian ACCs and major TWRs deliver around 1.500.000 hours of operational training each year and guarantee refresher and conversion courses with the highest safety and quality standards. The national departments maintain a deep and continuous collaboration with Italian, European and international aviation authorities for the development of licences and to ensure the highest levels of knowledge and competence of operational staff.

A dedicated department of the national organisation utilises this long-standing experience and capability to support external organisations for all needs, with dedicated analysis to obtain specific baselines for improving customer training and licensing capabilities, therefore our offer goes far beyond courses and ATM simulations, because we can apply our extensive experience to provide consultancy in every aspect of ATM training and licensing.





© Scheduling and prices available on www.enav.it

Training & Licensing Need Analysis

Duration: customized

As-is survey and analysis, Training Need Analysis and Licensing Need Analysis provides the opportunity for an in-depth analysis of the training and licensing needs of the customer, which can be adapted to a specific project or applied to the entire training and licensing structure to identify hidden areas of weakness and opportunities for improvement.

Target Population	This activity is addressed to ANS Providers and Civil Aviation Authorities
Objectives	<ul style="list-style-type: none"> To identify the gap between the actual and the desired knowledge and skills and therefore the best option for the design and implementation of specific training activities; To establish the readiness of the external organisation to face relevant changes in the training and licensing structure at all levels; To identify the needs for changes in the field of licensing and find the best solution to apply; To identify what it takes to support organizations facing any changes in the ATM system with ad hoc training activities; Training Priorities - A TNA will help your organization determine which training you need to prioritize considering the time and budget available.
Options	<ul style="list-style-type: none"> Organizational or departmental level TNA Group/job role level TNA Individual level TNA
Notes	

Why choose Enav

- Long standing experience in the field
- Collaboration with more than 30 government bodies and national providers
- Analysis on site and tailor-made

COURSE INFO

Focal Point: **Marco GADDA**
email: marco.gadda@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Training Plans

Duration: customized

Every successful program begins with a solid plan. Training Plans represent the main documents for the organisation and provision of training activities in the field of Air Navigation Services. Enav provides a complete workflow for drafting and issuing training plans based on CBTA methods, along with managing the approval process with service providers and civil aviation authorities. In addition, a second-level documentation such as the Syllabus /T.E.P. (Training Event Plan) is part of the process with all the details needed to deliver training activities on a daily basis.

Target Population	This activity is addressed to ANS Providers
Objectives	<p>After the completion of this activity, participants will have a complete understanding, as well as all the theoretical knowledge and practical skills required to:</p> <ul style="list-style-type: none"> • Obtain Training Plans using Training Needs Analysis results and Safety Assessment outcomes as baseline. • Follow the issuing and approval process with dedicated coordination phases with service providers and civil aviation authorities. • Prepare an ad-hoc Syllabus and Training Event Plan, including all the performance objectives, topics and sub-topics, together with daily timetables and teaching materials for the delivery of training.
Options	<ul style="list-style-type: none"> • Plans for Initial Training in ATM (ATCOs, FISOs, ATSEPs, MET observers and forecasters, etc.). • Plans for Conversion Training linked to new technologies, procedures or re-organisation projects. • Plans for Unit Endorsement Training. • Plans for Refresher and Continuous Training for maintaining competences and skills. • Plans for Development Training (On-The-Job Instructors, Theoretical Instructors, Assessors, Ops Room Supervisors, Human Factor Experts, etc.).
Notes	

Why choose Enav

- Tailor-made and successful training plans already applied worldwide.
- Extensive experience in High-level Plans for challenging reorganisation activities.
- Long-standing experience with multi-cultural environments and related needs.

COURSE INFO

Focal Point: **Marco GADDA**
 email: marco.gadda@enav.it

Availability: SCHEDULED ON REQUEST
 Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Training Courses: Design and Delivery

Duration: customized

Enav has many years of experience in designing all kinds of courses for ATM operational personnel. The design phase is followed by the validation and delivery phase, which can be tailored to the customer's needs. If the customer prefers a complete solution, Enav can also provide instructors, assessors and course supervisors to manage the entire activity on a daily basis, together with the training devices.

Target Population	This activity is addressed to ANS Providers
Objectives	<p>After the completion of this activity, participants will have a complete understanding, as well as all the theoretical knowledge and practical skills required to:</p> <ul style="list-style-type: none"> • Design training activities based on approved training plans and customer's needs. • Validate each part of the training activity, both theoretical in the classroom and practical at synthetic training devices. • Deliver the training activity with different levels of possible involvement, strictly based on customer needs. • Provide instructors, assessors and course supervisors when the customer prefers to have an "all-inclusive" training solution.
Options	<ul style="list-style-type: none"> • A training activity designed by Enav and then delivered to the customer who independently provides the subsequent validation and delivery phases. • A training activity designed and validated by Enav followed by a delivery phase realised by the customer. • A training activity designed and validated by Enav followed by a "Train the Trainer" phase in which customer's instructors are prepared by Enav to carry out the entire training process. • A training activity where Enav provides the entire training process, including the delivery phase using its own instructors, assessors and course supervisors.
Notes	

Why choose Enav

- Successful and custom-built training activities already delivered worldwide.
- Extensive experience in dealing with regulators and service providers in defining training activities and the approval process.
- Long-standing experience with multi-cultural environments and their needs.

COURSE INFO

Focal Point: **Marco GADDA**
email: marco.gadda@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Training Platforms

Duration: customized

Enav can utilise several training platforms based on the main national facilities in Italy. In addition, our experts have growing experience in using training devices worldwide with different platforms and ATM systems.

ATC simulators and part-task trainer are widely used by Enav for all types of activities. Moreover, the creation and maintenance of sim exercises databases can be part of the process along with the provision of digital software for tracking and monitoring training activities.

Target Population	This activity is addressed to ANS Providers
Objectives	After the completion of this activity, participants will have a complete understanding, as well as all the theoretical knowledge and practical skills required to: <ul style="list-style-type: none">• Provision of simulation equipment or part-task trainer ready for the training delivery or preparation and setting-up of ATC simulators provided by the customer.• Development, implementation and maintenance of SIM exercises database.• Provision of Digital platforms for tracking and monitoring of training activities.
Options	<ul style="list-style-type: none">• Use of the Enav training platforms and facilities in Italy for the entire process.• Provision of mobile part-task trainer for on-site activities.• Preparation and setting-up of ATC simulators or part-task trainers based at customer facilities.
Notes	

Why choose Enav

- Extensive experience in the use of simulation platforms at international level.
- Ability to create exercise databases for all kinds of training activities on “full-size replica” simulation equipment.
- Availability of advanced digital systems for tracking and monitoring training activities that can also be used via mobile devices.

COURSE INFO

Focal Point: **Marco GADDA**
email: marco.gadda@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Licensing

Duration: customized

The last two decades have seen Enav fully engaged in following and accompanying the evolution of Licensing in the ATM field. This long experience has been fundamental in the activities for external customers, building strong relationships with regulatory authorities and service providers around the world. At the same time, Enav has developed a broad customer-oriented consulting capacity and is now able to provide support in any licensing process with all types of stakeholders.

Target Population	This activity is addressed to ANS Providers and Civil Aviation Authorities
Objectives	<p>After the completion of this activity, participants will have a complete understanding, as well as all the theoretical knowledge and practical skills required to:</p> <ul style="list-style-type: none"> • Support for change and development management and related implementation activities in the field of licensing for operational staff. • Drafting regulations and manuals for the national and local levels (national organisations and/or local operational units). • Support for the issuing and approval process through 'ad hoc' coordination phases with service providers and civil aviation authorities
Options	<ul style="list-style-type: none"> • National regulations for ATM personnel: change management and implementation support. • Local regulations and manuals for operational units: Unit Competence Schemes, local Licence management processes. • Provision of digital platforms for licensing management.
Notes	

Why choose Enav

- Extensive experience in the field of Licensing at international level
- High level of expertise in drafting and customising Licensing regulations
- Long-standing experience in the management of Licensing systems

COURSE INFO

Focal Point: **Marco GADDA**
 email: marco.gadda@enav.it

Availability: SCHEDULED ON REQUEST
 Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING



METEOROLOGICAL TRAINING

ENAV ensures a 24 hour a day monitoring of the meteorological conditions for the 45 airports under its jurisdiction. The ENAV meteorological service produces about 3,000 observation and 200 forecast messages daily. ENAV Met Observers disseminate METAR and MET Reports each hour or half hour while forecasters from the Meteorological Forecasting Unit in Rome issue forecasts for the major airports valid for 9, 24, and 30 hours. MET forecasts and observations are disseminated through an international telecommunication network and are available for aircraft operations and ATS units.

ENAV Training Center, with its long standing experience in planning and delivering seminars and courses, offers its clients training activities and seminars related to aviation meteorology to facilitate an operational integration between MET services, ATS and aviation industry.



**Aeronautical
Meteorological
Observer**

**Aeronautical
Forecaster**

**Advanced
Meteorology
Seminars**

**Meteorology
for Airline and
Airport Personnel**

© Scheduling and prices available on www.enav.it

Aeronautical Meteorological Observer (AMO)

Duration:

Module 1: 8 day course

Module 2: 12 day course

Module 3: 15 day course

This course will provide the theoretical knowledge and practical skills required to prepare a complete set of meteorological reports for aviation, such as METAR's, SPECI's, and local reports, in compliance with international standards WMO (World Meteorological Organization).

also, provide the basic knowledge to monitor an Automated Weather Observing System (AWOS) and the data originated by the instruments installed at the airport.

Target Population

This course is structured in three modules, each module requires a different level of basic knowledge of general meteorology topics, as well as skills related to that knowledge.

- Module 1: is the basic module, no previous scientific knowledge is required.
- Module 2: this module is an intermediate step. A basic scientific knowledge is required and must be positively tested before the admission. However, no previous meteorological knowledge is required. Whoever has successfully completed the previous module is directly admitted.
- Module 3: is the advanced module. A basic meteorological knowledge is required and must be positively tested before the admission. ATCO's personnel, FISO's personnel and whoever has successfully completed the previous modules is directly admitted.

Objectives

after the completion of this course, participants will have a complete understanding of meteorology for aviation purposes, as well as all the theoretical knowledge and practical skills required to perform observation, code data and transmit it in the following aviation weather reports:

- METAR Reports
- SPECI Reports
- Local Routine and Special Reports

Besides this set of competencies, a certified Aeronautical Meteorological Observer can be seen as a Focal Point for an Airport, supporting Meteorological Forecaster Units, ATS Units and Aerodrome Operators for their purposes.

Core Contents

- Basic scientific and meteorological information (module 1-2);
- Methods of observation of weather parameters (module 3);
- Coding different types of messages (Module 3);
- Use of weather station, instruments and data analysis.

Notes

Module 3 of this course may be tailored for refresher training.

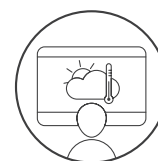
Why choose Training Center

- Long standing experience in aviation meteorology
- More than 150 meteorological technicians trained
- Operational experience in over 40 airports
- Outdoor practical activities and use of a met simulator

COURSE INFO

Focal Point: **Matteo PIETROLUNGO**
email: training@enav.it

Availability: ○ SCHEDULED ● ON REQUEST
Language: ● ITALIAN ● ENGLISH



MET SIM



EXP LEARNING

Aeronautical Forecaster

Duration: **4 week course (initial)** or 5 day course (refresh)

This course provides a Weather Forecaster with the main competencies and skills to operate in the aeronautical environment.

Target population	This course is for Weather Forecasters
Objectives	At the end of the course the participants will be able to fulfill the WMO requirements for an aviation weather forecaster: <ul style="list-style-type: none">• Analyze and monitor continuously the weather situation• Forecast aeronautical meteorological phenomena and parameters• Warn of hazardous phenomena• Ensure the quality of meteorological information and services• Communicate meteorological information to internal and external users
Core Contents	The following subjects will be covered: <ul style="list-style-type: none">• Basics of ATM• Standards and skills required for an aviation forecaster• Organization of the Aviation Meteorology• Aviation weather hazards: turbulence, wind shear, icing, obscuration phenomena, volcanic ash, space weather• Meteorological messages: METAR, TAF, TREND, WO, SIGMET, AIRMET, AIREP• Review of Tephigrams interpretation• Review of Satellite meteorology• Review of Radar meteorology• Review of Numerical Weather Prediction

Why choose Training Center

- Long standing experience in aviation meteorology
- Operational experience in over 40 airports
- Practical activities and use of a met simulator

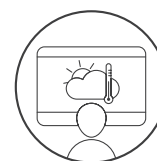
Certified courses available on request

"Aeronautical Meteorological Forecaster" (AMF),
compliant with National and International regulations (ENAC – WMO)

COURSE INFO

Focal Point: **Claudia FACCANI**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



MET SIM



EXP LEARNING

Advanced Meteorology Seminars

Seminar 1	Atmospheric modelling – Numerical Weather Prediction - NWP
Duration	1 day course
Target Population	Meteorological personnel, or technicians operating in the meteorological environment
Objectives	At the end of the course the participants will be able to describe how mathematical models work and how they facilitate the quality of forecasting
Core Contents	<ul style="list-style-type: none">• Why and how modelling the atmosphere• NWP history• Basic equations• Solution methods• Parameter identification• Initialization of an NWP• Verification of the results• Interpretation of the results• Ensemble technique
Seminar 2	Aviation Weather Hazards
Duration	1 day course
Target Population	Meteorological personnel, or technicians operating in the meteorological environment
Objectives	At the end of the course the participants will be able to describe Aviation Weather Hazards
Core Contents	<ul style="list-style-type: none">• Atmosphere and aviation• Icing• Turbulence• Wind shear• Cumulonimbus clouds• Volcanoes• Space weather• Reduced visibility
Seminar 3	Satellite meteorology
Duration	1 day course
Target Population	Meteorological personnel, or technicians operating in the meteorological environment
Objectives	Learn how to read and interpret satellite images

Core Contents	<ul style="list-style-type: none"> • Meteorological satellites • Electromagnetic radiation • Interpretation of visible and infrared channels • Composite images and RGB • RGB interpretation
Seminar 4	Aeronautical messages
Duration	1 day course
Target Population	Meteorological personnel, or technicians operating in the meteorological environment
Objectives	At the end of the course the participants will be able to describe Aeronautical Messages
Core Contents	<ul style="list-style-type: none"> • Aviation meteorology organization • What are and how to read METAR, TAF, TREND, WO, SIGMET, AIRMET, AIREP.
Notes	Each seminar could be tailored on the target population, and some topics could be removed or changed to make the course more suitable for the attendants

🎯 Why choose Training Center

- An in-depth modular course to understand relevant topics of aviation meteorology

E-learning: “climate and synoptic meteorology”

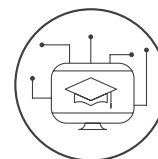
Only for Italian version seminars listed above, an introductory e-learning module is available to learn and/or refresh basics of meteorology. Below there is a list of the core contents:

- Meteorological Organisations
- Atmosphere and electromagnetic radiation
- Atmospheric thermodynamics
- Water in the atmosphere
- Atmospheric stability
- Clouds and precipitation
- Wind
- General Circulation
- Circulation at mid-latitudes

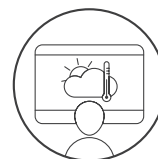
COURSE INFO

Focal Point: **Claudia FACCANI**
 email: training@enav.it

Availability: SCHEDULED ON REQUEST
 Language: ITALIAN ENGLISH



E-LEARNING



MET SIM



EXP LEARNING

Meteorology for Airline and Airport Personnel

Duration: 2 day course

This course covers basic concepts on aviation meteorology needed to interpret and use meteorological information in the working environment.

Target Population	This course is for aviation personnel such as handlers, flight schools and airline company support staff, government authorities, armed forces and anyone who would like to broaden their knowledge of aviation meteorology.
Objectives	At the end of the course the participants will be: <ul style="list-style-type: none">• Able to interpret meteorological messages• Able to recognise and monitor meteorological phenomena that can negatively affect or reduce airport operational capacity• Updated on the latest regulations
Core Contents	<ul style="list-style-type: none">• Brief climatology outline: meteorological phenomena affecting Italian airports• Decoding meteorological bulletins: TAF, METAR/MET-Report, aerodrome warnings• Precipitations and runway contamination• Thunderstorm identification and mapping• Reading met charts

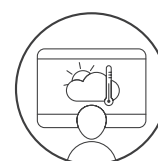
Why choose Training Center

- The complexity of meteorological phenomena in a short and concrete course
- Long standing experience in aviation meteorology
- Operational experience in over 40 airports

COURSE INFO

Focal Point: **Claudia FACCANI**
email: training@enav.it

Availability: ○ SCHEDULED ● ON REQUEST
Language: ● ITALIAN ● ENGLISH



MET SIM



EXP LEARNING



AIRLINE, AIRPORT AND AVIATION INDUSTRY

In the aviation world many players interact and cooperate to provide one of the most complex and efficient services in the world.

The increasing pressure on efficiency and cost saving has characterised the aviation world in the last few years, in particular airline companies, pillars of the sector, can find a solution through more efficient and optimised provision of services.

To reach this objective it is necessary that the players involved in this process interact and collaborate. With this in mind Enav, through its ad hoc Training Center courses and seminars, has decided to share with aviation partners its knowledge and skills with the aim of increasing ATM awareness in each player. This is the key factor for a better operative result.



**AIS, ATFCM
& Meteo**

**ATFM for
Aviation**

**Ground Vehicle
Operations**

AIS, ATFCM & Meteo

Duration: 3 day course

Target Population	The course is for all air transport companies, pilots, handlers and flight schools.
Objectives	Improve participants' knowledge by providing the tools to make the quality of their operations more effective, with particular attention to: <ul style="list-style-type: none">• To become familiar with ATFCM "output" messages;• Reading and decoding Met messages: both area and airport• Reading NOTAMs;• Enhance flight planning.
Core Contents	<ul style="list-style-type: none">• Enav operational manuals• ICAO Doc 8126• OPADD (Eurocontrol)• ATFCM handbook• IFPS User's manual• RAD• MO-MET (ENAV)• ICAO Annex 3• ICAO Doc 8896• ICAO Doc 9377

Why choose Training Center

- Training Center approved by ENAC
- FMP direct management
- Meteorological service provider
- Direct involvement of Flow Management Position ATCOs
- Rated AIS and Met personnel

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



EXP LEARNING

ATFM for Aviation

Duration: 3 day course

The aim of this course is to understand why Air Traffic Flow Management (ATFM) has become a vital part of Air Traffic Management (ATM) and how it enables the full capacity of the air transport system with respect to standard safety levels

Target Population	This course is for employees working in airline operations, security authorities, regulators and any person engaged in aircraft operations for whom a general overview of traffic flow and capacity management is required.
Objectives	After the completion of the course, participants will have a general knowledge and understanding of the following items: <ul style="list-style-type: none">• how an ATFM service operates• how an ATFM service is structured and organised• how the capacity of an airspace sector and airport can be determined• how an ATFM service is implemented• which and how ATFM measures are applied• which data is exchanged in providing ATFM service Furthermore, participants will receive information about the European methods and systems used for flow management and a general perception of the application of ATFM by other worldwide organisations.
Core Contents	<ul style="list-style-type: none">• ATFM general concepts: organisation and use• ATFM and CDM (Collaborative Decision Making): a close cooperation• ATFM outputs: messages, web-based conferences, tools and manuals.
Notes	Specific courses for ANSPs outside ECAC can be provided.

Why choose Training Center

- Training Center approved by the Civil Aviation Authority
- Training Center that works in close collaboration with the European NMOC and SESAR working groups
- Direct relationship with experts related to the provision of services for flow management positions (FMP)
- Use of tools related to flow management

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH
Compliance: ICAO DOC9971
Commission Regulation (EU) 255/2010



EXP LEARNING

Ground Vehicle Operations

Duration: 1 day course

Knowledge of standard phraseology and the principles of air traffic control by airport vehicle operators can only bring an increase in safety. When all operators working on the same frequency communicate in a clear and correct way, situational awareness for everyone involved increases so it is possible to work in better harmony and be more efficient. During the course, incidents involving ground vehicles and best practices to avoid them will be looked at.

Target Population	The course is for airport operators that are involved in operations that require contact with the control tower, such as the handling company, runway inspection vehicles, bird control unit, firefighting services and personnel who work in the manoeuvring area.
Objectives	<ul style="list-style-type: none"> • Know principles of air traffic control in an airport environment. • Know about an airport layout and the different classifications of the areas • Use aeronautical phraseology correctly in accordance with Doc 9432 • Apply the appropriate behaviour to diverse ABES • Learn best practices for working safely every day
Core Contents	<ul style="list-style-type: none"> • ATS and principles of air traffic control • Airport zones (manoeuvring and movement area, maps) • Markings and Lighting • Phraseology (ICAO Doc 9432) • Methods for interacting with ATCOs • ABES and airport emergency plans
Notes	Customisable for specific airports upon request

< For further information about simulation systems, see **“Technology and Services”** section >

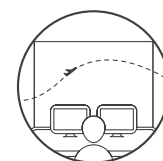
Why choose Training Center

- Long standing training experience in over 40 Italian airports
- A unique opportunity to directly interact with air traffic controllers

COURSE INFO

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



TWR SIM



CASE STUDY

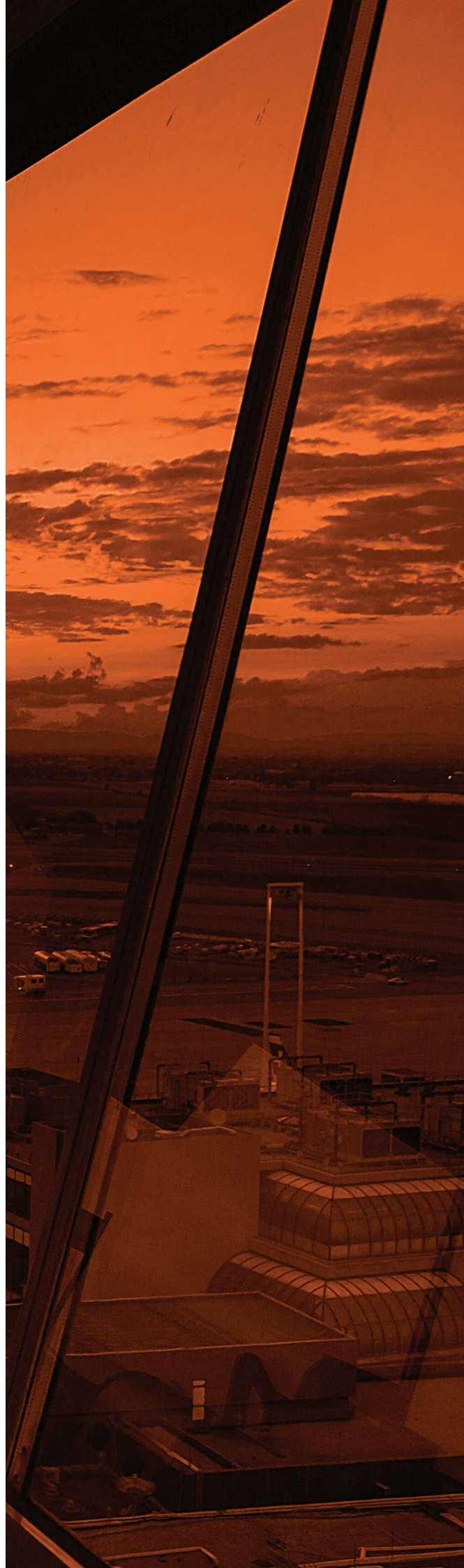


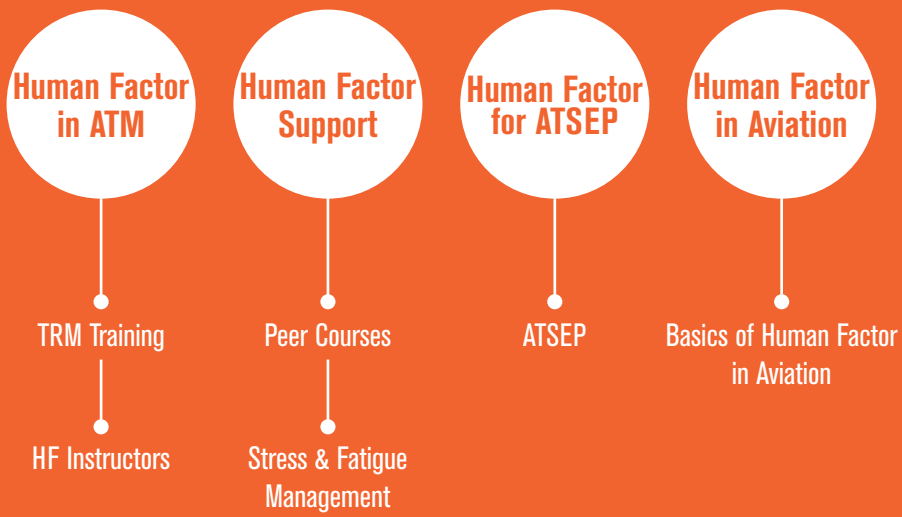
HUMAN FACTOR TRAINING

The HF learning package reflects a network structure where training on multiple dimensions contributes to:

- Satisfaction and maintenance of the highest safety standards;
- Constant dissemination of Human Factor culture at company level;
- Improvement of individual/group human interactions with the other elements of the ATM System (i.e. equipment, procedures, environment, users, corporate culture);
- Development of an adequate human reaction capacity to traffic demand.

The activities through which the training is organized are aimed at creating a platform of broad, mature and shared knowledge on Human Factor contents.





© Scheduling and prices available on www.enav.it

Human Factor in ATM

The aim of **Human Factor in ATM programmes** is to achieve high levels of safety standards in ATM operations. This is mainly carried out by adopting the fundamental disciplines of Human Factors, which guarantee efficiency and well-being together with safety.

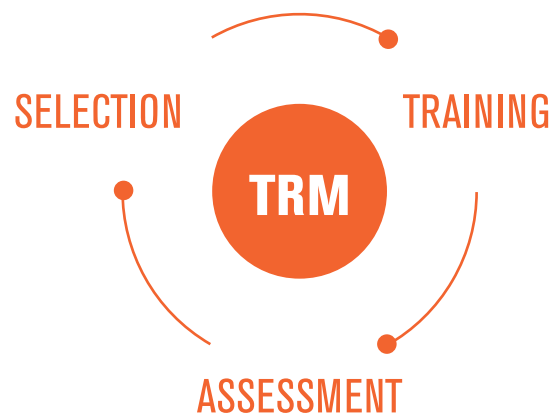
The Human Factor Department boasts a long and consolidated experience in:

- design, develop and deliver training in stress and fatigue management, team co-ordination, communication, cognitive abilities, safety culture, assessment technique
- design and develop competencies framework NTS (non Technical Skills) for aviation personnel (ATC, pilots, instructors, maintenance personnel)
- application of objective assessment methods
- NTS development plan
- consultancy in implementing Human Factor Programmes in complex systems

This allows ENAV to offer suitable solutions for different needs in aviation field and roles (ATCO, management, etc.): air traffic control, ATSEP.

The Human Factors Department is specialized in offering a customised training package for 'non-technical skills' necessary to improve air traffic controllers' ability to interact with one another, with technology, procedures and operational environments, thus improving the ability to cope with traffic loads, yet at the same time maintaining high performance.

The objective of our programmes are to minimise human error and maximise human performance to guarantee safety and efficiency of air traffic operations.



Why choose Training Center

- A complete modular package
- Maximum integration of Human Factors in operations and technical programs
- Specific programs focused on achieving safety objectives, efficiency and well-being in the performance of operative personnel

TRM Training

Duration: 5 day course

Target Population	ANSP Operational Personnel
Objectives	<ul style="list-style-type: none">• Increasing the awareness and understanding of interpersonal behaviour and human factor capabilities as they are likely to affect operational safety• Improve communication skills• Improve the continuity and efficiency of team work• Improve individual awareness of the HF impact on operations (communication, cognitive, teamwork etc)• Provide knowledge and tools to manage stress and fatigue in operations• Minimise human error and maximise human performance to guarantee safety and efficiency of air traffic operations.
Core Contents	<ul style="list-style-type: none">• Team-cooperation and communication• Stress & Fatigue management• Cognitive skills

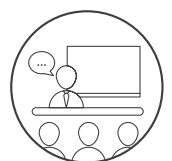
COURSE INFO

Focal Point: **Nicoletta LOMBARDO**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

HF Instructors

Duration: 5 day course

Target Population

Operational Personnel

Objectives

- Acquire knowledge about Human Factor Instructor role and competencies
- Develop knowledge about TRM and effective performance
- Consolidate knowledge of how Non Technical Skills influence individual and team performance
- Apply an objective performance evaluation method
- Acquire an NTS debriefing technique
- Develop skills in design, deliver and evaluate an NTS training session
- Improve effective communication skills
- Improve awareness of one's own facilitator competencies

Core Contents

- Introduction to facilitation
- Addition of HF knowledge to general Instructor role
- Facilitator's competencies framework
- Objective evaluation technique
- NTS topics: team co-operation, communication, stress and fatigue management, situational awareness, problem solving and decision making
- How to evaluate NTS
- NTS briefing and debriefing
- Adult learning
- Learning process
- Group dynamics
- Facilitation technique
- Classroom tools
- How to design and use a case study
- Design a tailored NTS training session (classroom or SIM)
- Improve facilitator competencies
- Psycho-education

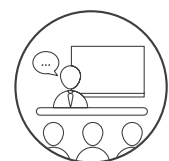
COURSE INFO

Focal Point: **Nicoletta LOMBARDO**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Human Factor Support

Stress, fatigue, personal malaise and inadequate and unhealthy forms of compensation are the exhausting factors of more and more lives around us, to the point of not being able to accept carrying out a merely reactive action in the face of important needs. New resources and energy are needed to build a series of innovative paths and possibilities for growth of responses recognized as effective by air traffic control realities around the world.

The normal balance between RESISTANCE and RESILIENCE - following the COVID-19 emergency - has inevitably suffered an imbalance in effort and a greater boost in terms of RESILIENCE

Human Factor Support, in addition to being a response to the needs following a critical operational event, constitutes a tool available to operational personnel to respond to the complex needs of daily living, training difficulties or the management of chronic and cumulative stress resulting from their personal vicissitudes.



New skills are developed through this course, with a proactive perspective of growing personal resilience and resistance to stress.

The course allows to acquire personal growth tools aimed at strengthening strategies for coping with life events and developing resilience towards psychological stress.

Peer support is a dedicated training course, essential for knowing how to manage stressful situations for operational staff.

- The Course is designed by aviation psychology experts with the direct support of selected ENAV National Team Peer.
- Our approach focuses on 3 different areas:
 - rational, training, proactive path
 - emotional, well-being, proactive path
 - awareness education, peer support, responsive path

🎯 Why choose Training Center

Peer Courses (certified ICISF courses)

Duration: 5 day course

Target Population	Operational Personnel
Objectives	<ul style="list-style-type: none">• Acquire knowledge related to Human Factors principles.• Understand how stress, fatigue influence operational performance.• Acquire knowledge related to well-being.• Acquisition of relational skills necessary to conduct the CISM .• Execution of role plays to acquire practical experience.
Core Contents	<ul style="list-style-type: none">• Introduction to Human Factor principles• Skills for the Individual and Group Interventions• CISM protocol• Stress & Fatigue effects

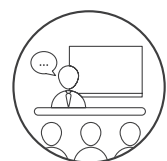
COURSE INFO

Focal Point: **Nicoletta LOMBARDO**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Stress & Fatigue Management

Duration: 1 day course

Target Population	Operational Personnel
Objectives	<ul style="list-style-type: none">• Acquire deeper knowledge about stress and fatigue characteristics• Improve awareness of how stress and fatigue can impact on performance• Improve awareness of different stressors and fatigue sources• Expand one's ability to recognize stress and fatigue symptoms• Develop and improve effective coping strategies in daylife and operational context
Core Contents	<ul style="list-style-type: none">• Introduction to stress• Stress characteristic• Stressor: source of stress• Stress symptoms• Stress in ATC• Stress effects on ATC performance• How to deal with stress: effective coping strategies• Fatigue characteristics• How fatigue impact on ATC performance• Fatigue prevention• Stress and fatigue management practical tips

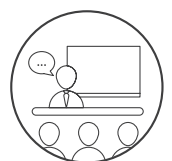
COURSE INFO

Focal Point: **Nicoletta LOMBARDO**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Human Factor for ATSEP

ATSEP personnel plays vital role in the safety chain related to operations and maintenance of Air Traffic Management (ATM) equipment, both in normal and degraded working conditions.

To cope up with implementation and maintenance of technologies and subsequent assurance of suitable safety levels, ANSPs need to match modernization plans with human factor management of their key workforce i.e. ATSEP. To ensure the required level of human performance to assure safety, it is essential to understand the factors adding stress and fatigue in the ATSEP personnel.

The stressful working environment of ATSEP can lead to errors, lapses, latent or error causing conditions that brings the invisible windows of opportunity for unsafe acts. Given the unique nature of the job performance with zero tolerance for error and with the requirements of high levels of technical skills, there is a need for acquiring knowledge on Human Factor elements, too.

The learning package gives participants a thorough understanding of Human Factors core elements. The course is compliant with Commission Regulation (EU) 2017/373.



© Why choose Training Center

- Structured approach on Human Factor contents
- Course customisation according to specific ATSEP working environment
- Experiential training through the analysis of case study

ATSEP

Duration: 12 hours course (or 2 day)

Target Population	ATSEP
Objectives	<ul style="list-style-type: none">• Acquire knowledge related to Human Factors in a high technology context (on their working environment)• Understand how Non-Technical Skills influence operational team performance• Expand knowledge of the limits and capabilities of human performance• Improve awareness of how to optimise teamwork• Improve awareness of the importance of NTS and the impact it has on maintenance operations and consequently on the safety chain• Analyse case studies
Core Contents	<ul style="list-style-type: none">• Introduction to Human Factors• Working knowledge and skills• Psychological factors (Cognitive)• Medical (Fatigue)• Organisational and social factors• Communication• Stress & stress management• Human error

COURSE INFO

Focal Point: **Nicoletta LOMBARDO**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH



CASE STUDY



EXP LEARNING

Human Factor in Aviation

This course aims to provide a view of Human Factor as a discipline concerned with how people interact with other people, the equipment they operate, and their working environment.

Humans are key elements for ensuring the success and safety of Aviation system. They must continue to be knowledgeable, flexible, dedicated, and efficient while exercising good judgment.

Focus of the course is the development of a pro-active attitude and in enacting strategies for the management of tasks in the complex Aviation environment. These peculiarities are achieved also through the development of non-technical skills (Notechs) and a systemic, deep knowledge of Human Factor topics in general.



© Why choose Training Center

- A complete overview on HF elements, in a concrete and dynamic course
- Customisation of learning package according to Aviation domain working area

Basics of Human Factor in Aviation

Duration: 2 day course

Target Population	The course is for those who approach the topic of HF in the aviation field and need to focus on the practical-theoretical area. Those who work in complex companies where human factors are the key factors for safety, efficiency and well-being objectives.
Objectives	To understand how job aspects, related to individuals, groups and organisations can affect a person's capability to successfully accomplish a wide variety of tasks and job requirements, including the management of related changes.
Core Contents	<ul style="list-style-type: none">• Human Factor and Human Performance: methodological approaches• Human errors:<ul style="list-style-type: none">○ Error definition○ Error theories and models○ Violations○ Error management• Notechs• Information processing: situational awareness, problem solving and decision making• Stress, effort and workload• Communication• Teamwork• Ergonomic principles• Organisational culture and safety culture

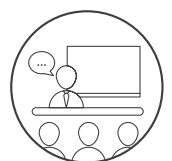
🎯 Why choose Training Center

- A complete overview on HF in a concrete and dynamic course

Focal Point: **Nicoletta LOMBARDO**
email: training@enav.it

Availability: SCHEDULED ON REQUEST
Language: ITALIAN ENGLISH

COURSE INFO



EXP. LEARNING



TECHNOLOGY & SERVICES

To enhance and maintain complex skills, participants need a state-of-the-art and powerful simulator infrastructure for their practical training. ENAV Training Center has a wide variety of modern technologies and tailored services to offer clients looking for innovative, effective and cost-containing solutions.

At our training center in Forlì, we have: 1 Mechtronix jet FFT flight simulator, 5 Tower Simulators and up to 24 Selex-ATRES RADAR CWP available for training or learning purposes. ATC simulator professionals work closely with clients to design and implement unique and realistic simulation scenario layouts, both in terms of the visual environment and exercise data preparation.



**Flight Simulator
(FSTD)**

Tower Simulator

Radar Simulator

**Visual Modelling
Station**

🕒 Scheduling and prices available on www.enav.it

Flight Simulator (FSTD)

Mechtronix Ascent Generic Jet FFT

The flight simulator at the Training Center is manufactured by Mechtronix and is an Ascent Generic Jet FFT. It reproduces realistic characteristics of a regional jet and in particular, a Bombardier CRJ 200. The simulator is certified by ENAC according to EASA regulations for a FNPT II MCC.

Navigation Database

The navigation database, which is all the data used by the system for instrumental navigation (VOR, NDB, ILS, airways and fixes), is constantly updated and covers all the European airspace.



Certification Sheet

The following is a list of the principle technical characteristics.

Aircraft Type	Generic Multi Engine Jet Aeroplane (based on a CRJ-100/200)
Visualization	Three projectors with a field of view of a 150 degrees horizontal and 35 degrees vertical (resolution per channel 1024 x 768 pixels).
Engines	General Electric CF-34 3A1
Instruments	EFIS Collins PRO-LINE 4 (simulated on 6 LCD screens)
ACAS	TCAS I
Additional Capabilities	Single FMS Collins 4200 (simulated)
Restrictions/Limitations	Maximum crosswind component for take-off and landing is 20 knots.
CAT I	RVR: 550m DH: 200ft
Training/Check IFR	Yes/ Yes (limited to the rating of the IRI/IRE)
Proficiency checks	Yes (only single pilot IR proficiency check)
Autocoupled Approach	Yes
GPWS / EGPWS	Yes / N/A
GPS	No

Dry lease for certified aeronautical use

ENAV Training Center offers the flight simulator for dry lease (rent), limited to the facility and technical assistance. Instructors and training is to be provided by the lessee.

Non-aeronautical use

The simulator can be used for non-aeronautical activities for companies and entities in which it can be used as a preparatory environment for the development of non-technical and behaviour skills. The following are examples of non-aeronautical activities, some of which have been experienced in other courses:

- Team building
- TRM Seminars
- Stress management and decision making
- Courses to overcome the fear of flying

[MORE INFO](#)

Focal Point: **Federico MANCINELLI**
email: training@enav.it

Tower Simulator

ENAV Training Center's tower simulators were developed to reproduce the principle systems found in an operational environment (surface movement radar, light panel, aerodrome radar, weather panel, radio panel, strip bay etc.), thereby allowing simulations to be as close to the real environment as possible. The 5 tower simulators, developed by IDS, have a 270° Field of View with LCD screens to maximize involvement and image quality. The simulation scenarios are completely customisable with regards to the exercise environment as well as for the movement of aircraft and vehicles. All customisation is done in-house. Each simulator can have up to 4 positions with communication panels and a supervisor position where an instructor can control all the parameter settings of the simulation: weather conditions, co-ordinations, unusual situations.

A maximum of two highly specialised pseudo-pilots with aviation background can be used during a simulation to have total control of the movements in the "playing field".



[MORE INFO](#)

Focal Point: **Federico MANCINELLI**
email: training@enav.it

Radar Simulator



The Training Center has a RADAR room composed of 24 Controller Working Position set with the highest standard of technology configured EXE-PLN. The platform used for simulation is a Vitrociset ATRES (Air TRaffic Environment Simulator) that can be configured for independent or multi-sector use. The room has an equivalent number of pseudo-pilot positions according to the CWP's (considering EXE positions only).

The RADAR room is equipped with a Flight Data Processing (FDP) system as used in the operational environment.

The simulation room can be completely customisable in terms of:

- ATS geographic area and procedures
- Vertical and horizontal sector layouts
- Flexible DFL
- Dynamic Sector merging
- Aircraft performance
- Meteorological situations
- Sensor (PSR, SSR, Mode S) and type of signal (mono or MRT head)
- DataLink operations (CPDLC)
- STCA, MTCD and Automatic Tactical Detection

[MORE INFO](#)

Focal Point: **Werner Konrad LUZNY**
email: training@enav.it

Visual Modelling Station

Design and development of 3D scenery: a tailor-made solution for operational training

The introduction of technology for creating simulation scenery and the development of internal skills have allowed ENAV Training Center to improve its ability to respond to operational training needs in terms of speed and accuracy of simulation scenarios.

The process for creating a scenario starts with the identification of needs and technical specifications that the simulation environment must satisfy. It is of particular importance to obtain panoramic photographs from the control tower point of view and airport layout plans.

Parallel to the process of creating visuals, the exercises are designed in terms of the air traffic to control and dynamics of the simulation that will be involved in every phase of the training.

The 3D modelling team adds the livery to aircraft to accurately replicate the air traffic that characterises a specific airport.

The scenarios produced by the ENAV Training Center team are extremely accurate. The feedback from trainees once they reach their tower operational units indicates the designed visuals are very realistic.



1.
2D screenshot Brindisi Airport

2.
A faithful reproduction of horizontal and vertical signage according to ICAO standards



3.
Rendering, tower view, from the visual database for Treviso airport

Presagis Creator

The software used to develop the visual database is Presagis Creator. The 3D geometry model file format is OpenFlight, which is a standard format for any type of visual for ground or air side objects which can also be found in most flight simulators. This makes it possible to develop scenarios for every type of use and allowing for possible conversion of scenarios from one system to another.

[MORE INFO](#)

Focal Point: **Alberto LORENZONI**
email: training@enav.it

