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Training Programmes

Courses and Services for skills development

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Training Programmes

Courses and Services for skills development

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A Global Leader
in Air Navigation Services

INDEX

ICONS

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

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

EXP LEARNING

CASE STUDY
The training provides analysis and discussion of case studies.

CASE STUDY
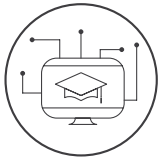
E-LEARNING
The structure of the course includes the provision of modules for online learning.

E-LEARNING
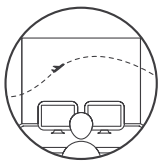
TOWER SIMULATOR
The training involves the use of a control tower simulator.
< For further information about simulation systems, see **"Technology and Services"** section >
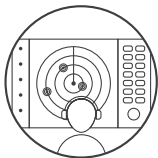
TWR SIM

RADAR SIMULATOR
The training involves the use of a radar simulator.
< For further information about simulation systems, see **"Technology and Services"** section >
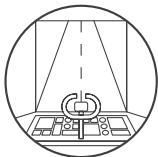
RDR SIM

FLIGHT SIMULATOR
The training involves the use of a CRJ 200 flight simulator.
< For further information about simulation systems, see **"Technology and Services"** section >
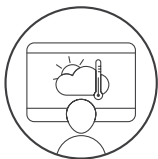
FLIGHT SIM

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

MET SIM

FOREWORD

∧ **Gaetano Longo**, Head of Training Centre

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 Centre and all the 45 Control Towers and the 4 Area Control Centres, 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 Centre 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.

O

Facilities

ENAV Training Centre 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 Centre 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 Centre for training activities:

- 2 Radar Simulators (24 working positions in 12 suites)
- 1 Procedural Simulator (8 working positions in 4 suites)
- 5 Tower 3D 270° Simulators
- 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 Centre 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 Centre 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 Centre 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 Centre 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:

• **Training for ANSP** specifically for European and Non-European Service Providers who need training courses aimed at achieving new ratings and/or endorsements for their personnel.
• **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 fifth section is dedicated to **technologies and services** offered by ENAV Training Centre to support training activities which also have the possibility of a dry lease.

Business Community

ANSP

Aviation

Aviation Culture

Facts

More than **2.000.000**

Training hours from 2005

1050

Participants in 2019

138

Initial training courses in the past 10 years

983

OJTI trained

CERTIFICAZIONE SISTEMA DI GESTIONE

DNV·GL

ISO 9001 ≡ ISO/IEC 27001

ICAO ◦ OACI ◦ ИКАО 国际民航组织 ۔ الايکاو ◦

TRAINAIR *PLUS*

ENAC
ENTE NAZIONALE PER L'AVIAZIONE CIVILE

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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 this experience 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
Whether rationalising operations in a single airport or modernising a country's entire ATC infrastructure, ENAV has the ability to develop cutting-edge solutions across the world.

Flight Inspection
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.

Engineering
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

Maintenance
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.

ENAV WORLDWIDE

The Group operates in 29 different countries
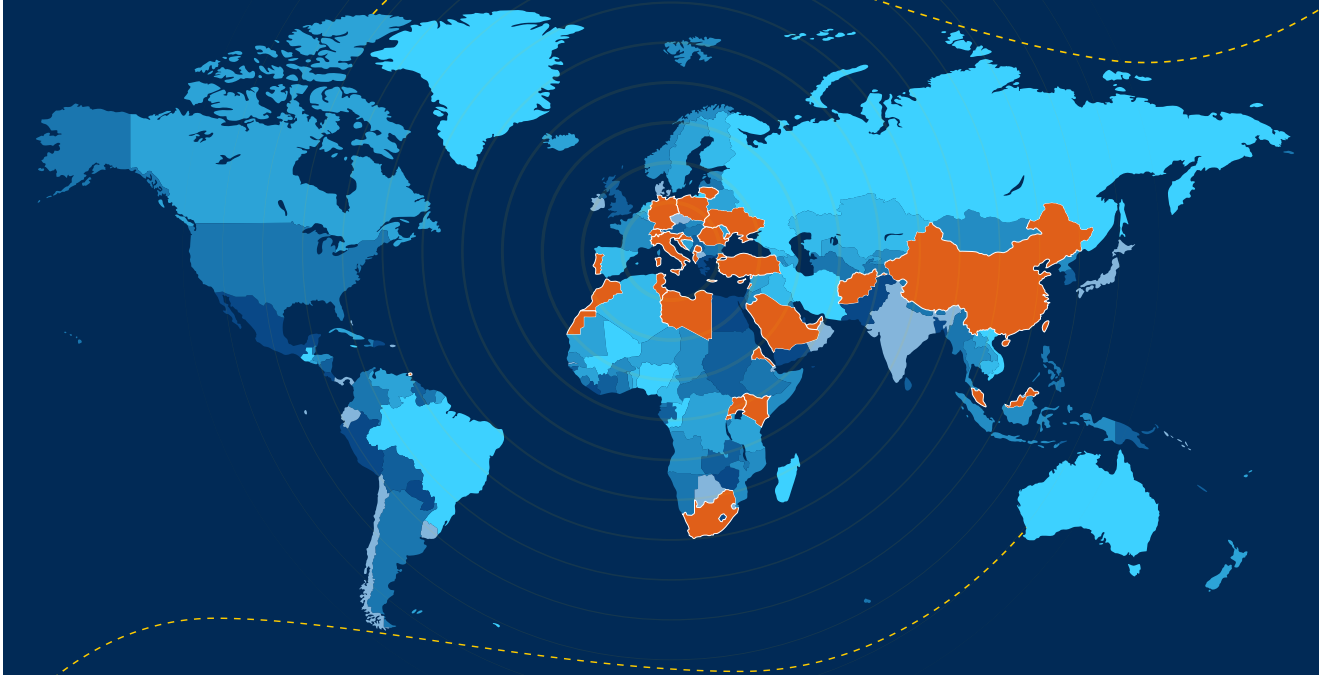
Afghanistan	Eritrea	Lebanon	Morocco	Saudi Arabia	Turkey
Albania	Germany	Libya	Poland	South Africa	UAE
China	Italy	Lithuania	Portugal	Switzerland	Uganda
Cyprus	Kenya	Malaysia	Romania	Trinidad and Tobago	Ukraine
Croazia	Kosovo	Malta	Rwanda	Tunisia	

^ **ENAV Worldwide.**
The Group operates in 29 different countries

TRAINING FOR ANSP

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:
- **ANS Training:** single modules or integrated courses for the training of Air Traffic Controllers and Flight Information Service Officers. Human Performance Consulting and Training services
- **Training of Instructors and Assessors:** 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
- **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.

ANS Training

ATCO Modular Courses

ATCO
Integrated Courses

Human Performance
in ATM

FISO & MET AFIS
Preparatory Course

Training of Instructors and Assessors

OJTI – STDI
(TWR/RAD/FIS&MET)

OJTI – STDI Refresher

Assessor

Assessor Refresher

Instructor Course

Advanced Training

PBN
Performance Based
Navigation

ATFM Course

ABES (TWR/RAD)

Safety

Just Culture and
Safety Culture

Risk Assessment
Facilitator

Occurrences Analyst

Airspace Design

PANS-OPS Basic

PANS-OPS Advanced

ATSEP Training

ATSEP Basic

ATSEP
Qualification

ATSEP OJTI

ATSEP Assessor

Scheduling and prices available on **www.enav.it**

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ANS Training

ENAV Training Centre 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**
- **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 Centre 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

RAD - Radar Endorsement

Aims

Provide knowledge and skills in order to receive a certificate of competency for ADI with a radar endorsement.

Prerequisites

Successful completion of an ADI Training Course or possession of an ATCO licence with an ADI rating.

Duration
7 weeks

TCL - Terminal Control Endorsement

Aims

Provide knowledge and skills in order to receive a certificate of competency for APS or ACS with a Terminal Control endorsement.

Prerequisites

Successful completion of an APS or ACS Training Course or possession of an ATCO licence with an APS or ACS rating.

Duration
7 weeks

ADI – Aerodrome Control Instrument

Aims

Provide knowledge and skills in order to receive a SATCO licence or a certificate of competency for ADV, ADI/TWR, ADI/AIR, ADI/GMC/GMS ratings.

Prerequisites

Successful completion of an ATCO Basic Training Course or possession of an ATCO licence.

Duration
8 weeks

APP – Approach Control Procedural

Aims

Provide knowledge and skills in order to receive a SATCO licence or a certificate of competency for an APP rating.

Prerequisites

Successful completion of an ATCO Basic Training Course or possession of an ATCO licence.

Duration
8 weeks

APS – Approach Control Surveillance

Aims

Provide knowledge and skills in order to receive a SATCO licence or a certificate of competency for APS rating.

Prerequisites

Successful completion of an ATCO Basic Training Course or possession of an ATCO licence.

Duration
11 weeks

ACS - Area Control Surveillance

Aims

Provide knowledge and skills in order to receive a SATCO licence or a certificate of competency for ACS rating.

Prerequisites

Successful completion of an ATCO Basic Training Course or possession of an ATCO licence.

Duration
14 weeks

BASIC

Aims
Provide participants with a basic knowledge and understanding in order to enable them to continue their professional career towards rating training courses.

Prerequisites
As defined by the client's country regulator.

Duration
10 weeks

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+ADI	18 weeks (no reduction)
Basic+APP	18 weeks (no reduction)
Basic+APS	21 weeks (no reduction)
Basic+ACS	24 weeks (no reduction)
APS+TCL	15 weeks (instead of 19 weeks)
ACS+TCL	19 weeks (instead of 22 weeks)

Further training combinations are available on request.

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

◎ **Why** choose Training Centre

- Customisable tower and radar scenarios
- Intensive simulation activities
- Airplane cockpit familiarisation in FNPT II flight simulator
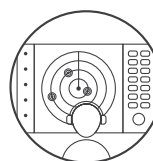- Two radar rooms with multiple sectors (up to 16 controllers)

COURSE INFO

Focal point tower environment: **Fiorenza MAZZOTTI**
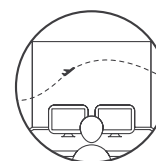email: training@enav.it

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

Focal point radar environment: **Fabio OLIVETTI**
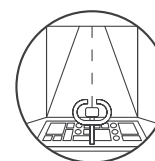email: training@enav.it

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

RDR SIM   TWR SIM   FLIGHT SIM

FISO & TM1/MET AFIS endorsement

Duration: 16 week course

The aim of this course is to provide participants with the operational skills required for Flight Information Services. A MET/AFIS endorsement is obtained on successful completion of the course.

Target Population	This course is tailored for ANSPs whose countries have implemented or intend to implement AFIUs and/or FICs, National Regulators and/or entities (private or public) that issue FISO licences, or private citizens looking for professional courses.
Objectives	After completion of the course, participants will have the operational ability to deal with: • Management of VFR/IFR traffic in class G Airspace • Management of unusual situations • Management and dissemination of Met information 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.
Core Contents	• Theory includes ATM, NAV, Aircraft Performance, CNS, Met and HF • The simulation phase includes AFIU and FIC simulation environments. This practical phase lasts over 150 hours • Met Lab for meteorological scenario simulations
Notes	Specific simulation service areas can be implemented on request.

◉ **Why** choose Training Centre

• Training centre approved by the Civil Aviation Authority
• 5 tower 270° simulators, for AFIU simulations
• 1 FIC room
• Top rated instructors
• Long standing experience in providing FISO courses
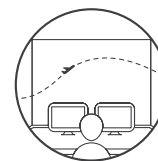• Met Lab simulator

COURSE INFO

Focal Point: **Fiorenza MAZZOTTI**
email: training@enav.it

MET SIM   TWR SIM   EXP LEARNING

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

Training of Instructors and Assessors

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 Centre is well placed as a partner for training instructors and assessors.

OJTI – STDI (TWR/RAD/FISO&MA)

Duration: 10 day course for TWR and RAD environment
5 day course for FISO&MA

Target Population	Course designed for operational personnel who want to become OJT Instructors. To improve focus, 3 training courses are offered: a) ATC in a TWR environment b) ATC in a RAD environment c) Operational personnel such as FISO or MA.
Objectives	After completing the course the participants will be able to: • 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	• 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 The use of practical activities and simulations allow the development of competency through concrete experience.

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

◎ **Why** choose Training Centre

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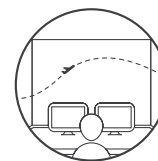• Customisable training profiles
• Use of role play

COURSE INFO

Focal Point: **Fabio OLIVETTI**
email: training@enav.it

Availability: ◉ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH
Compliancy: Eurocontrol,
          EU Commission Reg. 2015/340
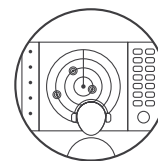
RDR SIM   TWR SIM   EXP LEARNING

OJTI – STDI Refresher

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. To improve focus on training, there are 2 training courses: TWR and RDR.
Objectives	• 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	• 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 Centre

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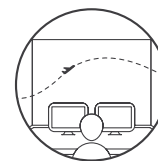   o Team work   o Videos

COURSE INFO

Focal Point: **Fabio OLIVETTI**
email: training@enav.it

Availability: ◉ SCHEDULED   ◉ ON REQUEST
Language: ○ ITALIAN   ◉ ENGLISH
Compliancy: Eurocontrol,
        EU Commission Reg. 2015/340
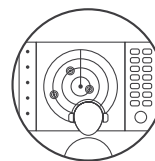
RDR SIM   TWR SIM   EXP LEARNING

Assessor

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.
Objectives	At the end of the course participants will: • 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	• 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 Centre

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

COURSE INFO

Focal Point: **Fabio OLIVETTI**
email: training@enav.it

Availability: ◉ SCHEDULED   ◉ ON REQUEST
Language: ○ ITALIAN   ◉ ENGLISH
Compliancy: Eurocontrol,
           EU Commission Reg. 2015/340

CASE STUDY   EXP LEARNING

Assessor Refresher

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 Centre

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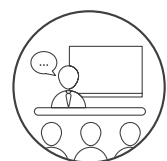 o Team work   o Videos

COURSE INFO

Focal Point: **Fabio OLIVETTI**
email: training@enav.it

Availability: ◉ SCHEDULED   ◉ ON REQUEST
Language: ○ ITALIAN   ◉ ENGLISH
Compliancy: Eurocontrol,
        EU Commission Reg. 2015/340

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 Centre 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	• 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	• 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 >

◎ **Why** choose Training Centre

• 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

COURSE INFO

Focal Point: **Fabrizio SCOMPARIN**
email: training@enav.it

Availability: ○ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH
Compliancy: ICAO Doc 8168 Vol. II,
             PANS-OPS ICAO Doc 9613,
             PBN manual
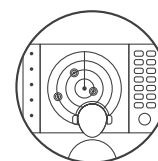
RDR SIM

ATFM Course

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.

◉ **Why** choose Training Centre

• Training centre approved by the Civil Aviation Authority
• Training centre 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: **Elisabetta COPPI**
email: training@enav.it

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

CASE STUDY   EXP LEARNING

ABES – Abnormal and Emergency Situations (TWR/RAD)

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	• 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

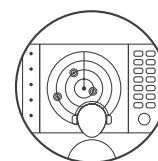< For further information about simulation systems, see **"Technology and Services"** section >

◉ **Why** choose Training Centre

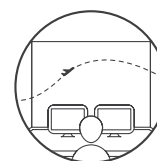• Video and simulations to enhance the theory and reinforce the concepts

COURSE INFO

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

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.
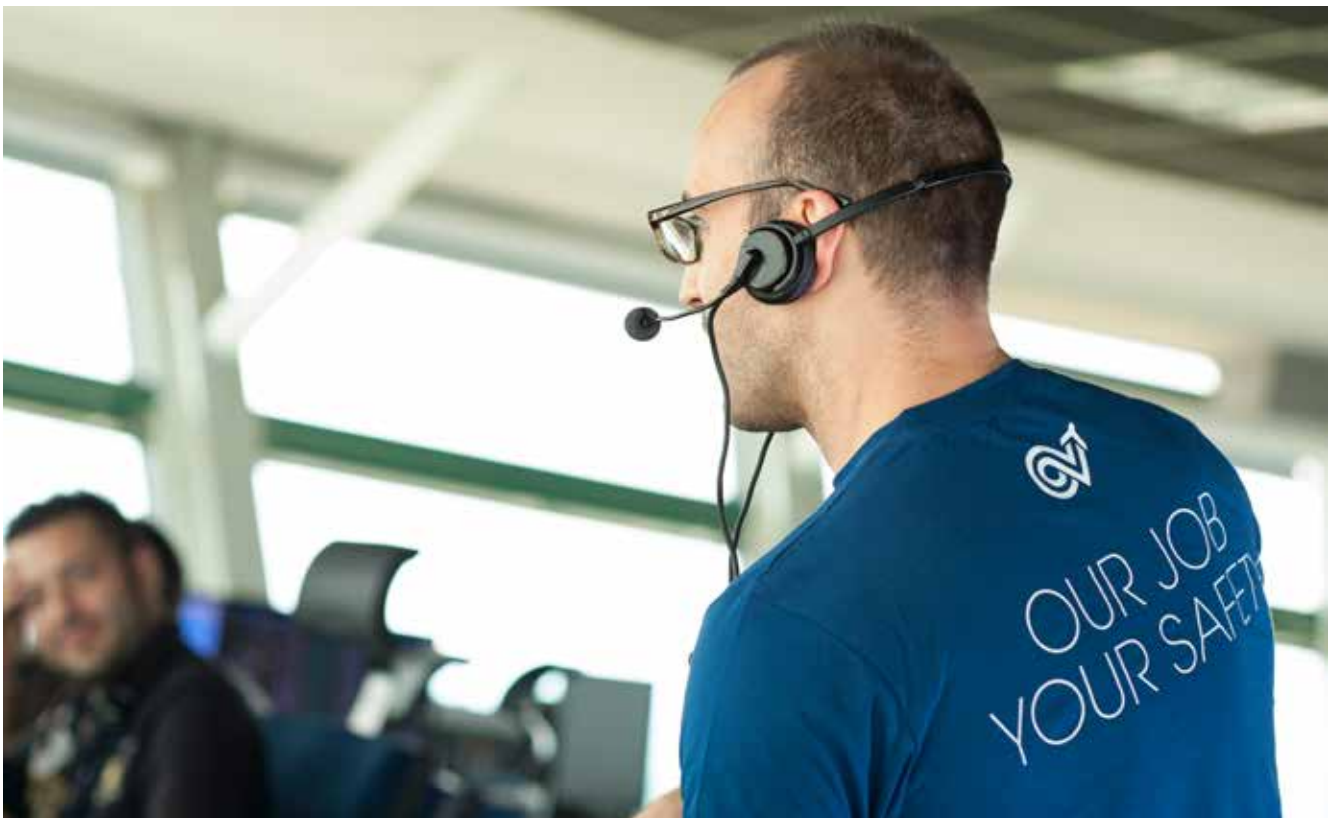
◎ **Why** choose Training Centre

- 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: **Mauro BONINI**
email: training@enav.it

Availability: ◉ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH

EXP LEARNING

Risk Assessment Facilitator

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.

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 variations • Variations 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

Safety

COURSE INFO

Focal Point: **Mauro BONINI**
email: training@enav.it

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

EXP LEARNING

Occurence Analyst
Investigation in Complex Environments

Duration: 5 day course

The aim of the course is to train an Occurence 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 occurence investigations to avoid unwanted or dangerous situations in the future.
Objectives	The course will cover concepts pertaining to: essential safety contents and Occurence 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

COURSE INFO

Focal Point: **Mauro BONINI**
email: training@enav.it

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

EXP LEARNING

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.
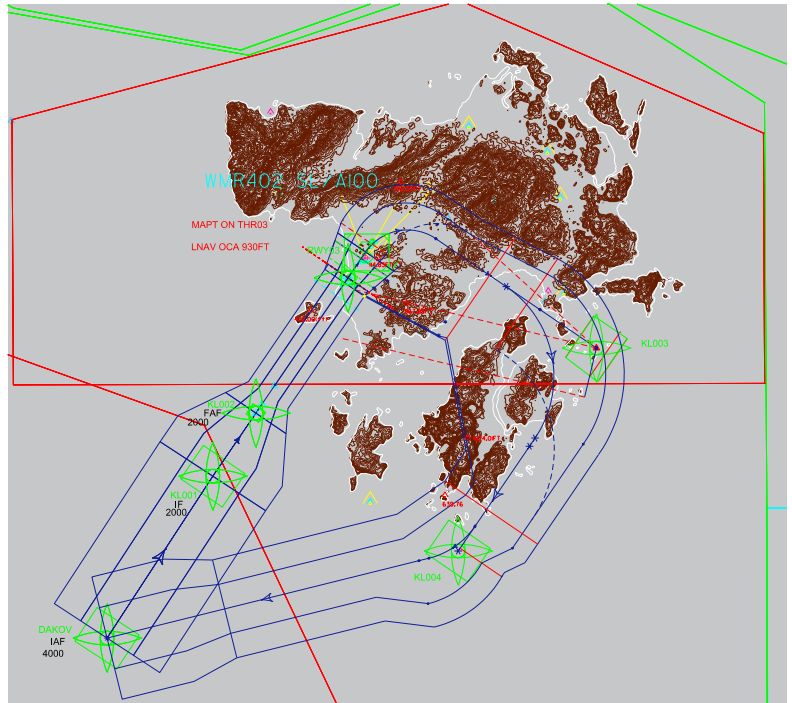
◉ **Why** choose Training Centre

- 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: • Good knowledge of English • Knowledge of Air Navigation Services • High school diploma
Objectives	To design conventional instrumental flight procedures or segments.
Core Contents	• 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: • theory based written exam; • design and presentation of an instrument flight procedure project.

COURSE INFO

Focal Point: **Eleonora CECILI**
email: training@enav.it

Availability: ◉ SCHEDULED ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH
Compliancy: 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	• 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	• 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	Each topic will include practical activities. The course consists of 9 lessons of 7 hours a day, plus one-day final exam. The exam consists of a theory test with multiple choice questions, design and presentation of an instrument flight procedure project.

COURSE INFO

Focal Point: **Eleonora CECILI**
email: training@enav.it

Availability: ○ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH
Compliancy: 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

ATSEP Basic

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	• **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 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.
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: **Roberto CIPOLATO**
email: training@enav.it

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

EXP LEARNING

ATSEP

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	4 hours
	VOR	6 hours
	VDF	4 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	2 days
	SMC-DAT	3 days
MET	Meteo	3 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: **Roberto CIPOLATO**
email: training@enav.it

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

EXP LEARNING

ATSEP OJTI

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.

ATSEP

COURSE INFO

Focal Point: **Roberto CIPOLATO**
email: training@enav.it

Availability: ◯ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH
Compliancy: EU 2017/373 Annex XIII subpart A
            EASA Annex XIII Part-Pers
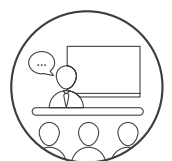
EXP LEARNING

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: **Roberto CIPOLATO**
email: training@enav.it

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

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 Centre, 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 Technician Refresher

Aeronautical Forecasting Refresher

Advanced Meteorology Seminars

Meteorology for Airline and Airport Personnel

Scheduling and prices available on **www.enav.it**

enav

Aeronautical Meteorological Technician Refresher

This course offers an update of general meteorology and aviation meteorology together with a review of the main coding and observation techniques.

|	
Target Population	This course is for aeronautical meteorological technicians who need to reinforce, update or rebuild their own skills.
Objectives	On completion of the course participants will have improved their skills and competencies and also reviewed: • general meteorology • main aeronautical reports • coding of METAR/SPECI and MET-Reports/SPECIAL • basic observation techniques • co-ordination procedures
Core Contents	• Synoptic meteorology and climatology (summary) • Meteorological instruments and methods of observation • Aviation weather hazards • Coding and dissemination of weather information • Air Traffic Services.

◉ **Why** choose Training Centre

- 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

Certified courses available on request
"Aeronautical Meteorological Technician" (TM),
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
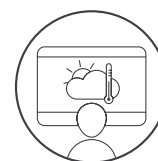
Meteorological training

Aeronautical Forecasting Refresher

<u>Duration:</u> 5 day course

This course provides an overview of the main competencies, duties, and skills of an aeronautical weather forecaster.

Objectives	At the end of the course the participants will be able to:

- Make a weather forecast
- Identify aviation weather hazards
- Code and issue the main aeronautical messages
- Interpret tephigrams
- Interpret satellite and radar images
- Analyze NWP and Ensemble Prediction Systems maps

Core Contents — The following subjects will be covered:

- Summary of ATCS and aviation world
- Standards and skills required for a forecaster
- Aviation weather hazards: turbulence, wind shear, icing, severe convection, obscuration phenomena, volcanic ash, tropical cyclones
- Meteorological messages: METAR, TAF, WO, WS, SIGMET, AIRMET, AIREP
- Tephigrams
- Satellite image interpretation
- Radar image interpretation
- Atmospheric models
- "Ensemble forecast"

◉ **Why** choose Training Centre

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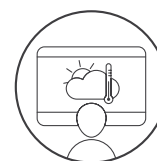- Practical activities and use of a met simulator

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 – NWP
Duration	1 day course
Target Population	Secondary school education or higher
Objectives	Learn how mathematical models work and how they facilitate the quality of forecasting
Core Contents	• Why modelling the atmosphere • Basic equations • How to solve equations • Parameter identification • Initialization of a mathematical model • Verification of the results • Interpretation of the results

Seminar 2	Ensemble Prediction System – EPS
Duration	1 day course
Target Population	Previous knowledge on atmospheric modeling
Objectives	Learn the potential of the "ensemble model" compared to a deterministic forecast
Core Contents	• Why the "ensemble model" • Chaos • How to determine an "ensemble" • Verification of the results • Interpretation of the results

Seminar 3	Aviation weather hazards
Duration	1 day course
Target Population	High school diploma or higher
Objectives	Learn about aviation weather hazards
Core Contents	• Atmosphere and aviation • Icing • Turbulence • Wind shear • Cumulonimbus • Reduced visibility • Volcanoes

Seminar 4	Satellite meteorology
Duration	1 day course
Target Population	High school diploma or higher
Objectives	Learn how to read and interpret satellite images
Core Contents	• Meteorological satellites • Electromagnetic radiation • Interpretation of visible and infrared satellite images • Composite images and RGB • Interpretation of RGB images

◉ **Why** choose Training Centre

• 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
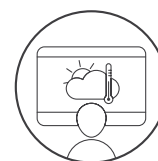• General Circulation
• Circulation at mid-latitudes

COURSE INFO

Focal Point: **Claudia FACCANI**
email: training@enav.it
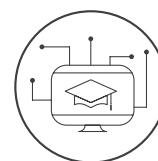
E-LEARNING   MET SIM   EXP LEARNING

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

Meteorological training

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: • 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	• 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 Centre

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

Meteorological training

COURSE INFO

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

Availability: ◉ SCHEDULED ◉ ON REQUEST
Language: ◉ ITALIAN ◉ ENGLISH
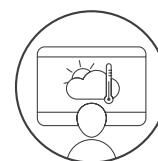
MET SIM   EXP LEARNING

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 Centre 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.

3

**AIS,
ATFCM & Meteo**

ATFM for Aviation

**Ground
Vehicle
Operations**

enav

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: • To become familiar with ATFCM "output" messages; • Reading and decoding Met messages: both area and airport • Reading NOTAMs; • Enhance flight planning.
Core Contents	• 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 Centre

• Training centre 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: **Fabrizio SCOMPARIN**
email: training@enav.it

Availability: ◉ SCHEDULED ◎ ON REQUEST
Language: ◉ ITALIAN ◎ ENGLISH
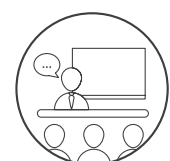
EXP LEARNING

ATFM for Aviation

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: • 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	• 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 Centre

• Training centre approved by the Civil Aviation Authority
• Training centre 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: **Elisabetta COPPI**
email: training@enav.it

Availability: ○ SCHEDULED ◉ ON REQUEST
Language: ◉ ITALIAN ◉ ENGLISH
Compliancy: 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	• 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	• 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

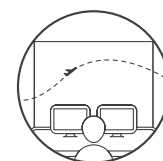< For further information about simulation systems, see **"Technology and Services"** section >

◉ **Why** choose Training Centre

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

COURSE INFO

Focal Point: **Fabrizio SCOMPARIN**
email: training@enav.it

Availability: ◉ SCHEDULED   ◉ ON REQUEST
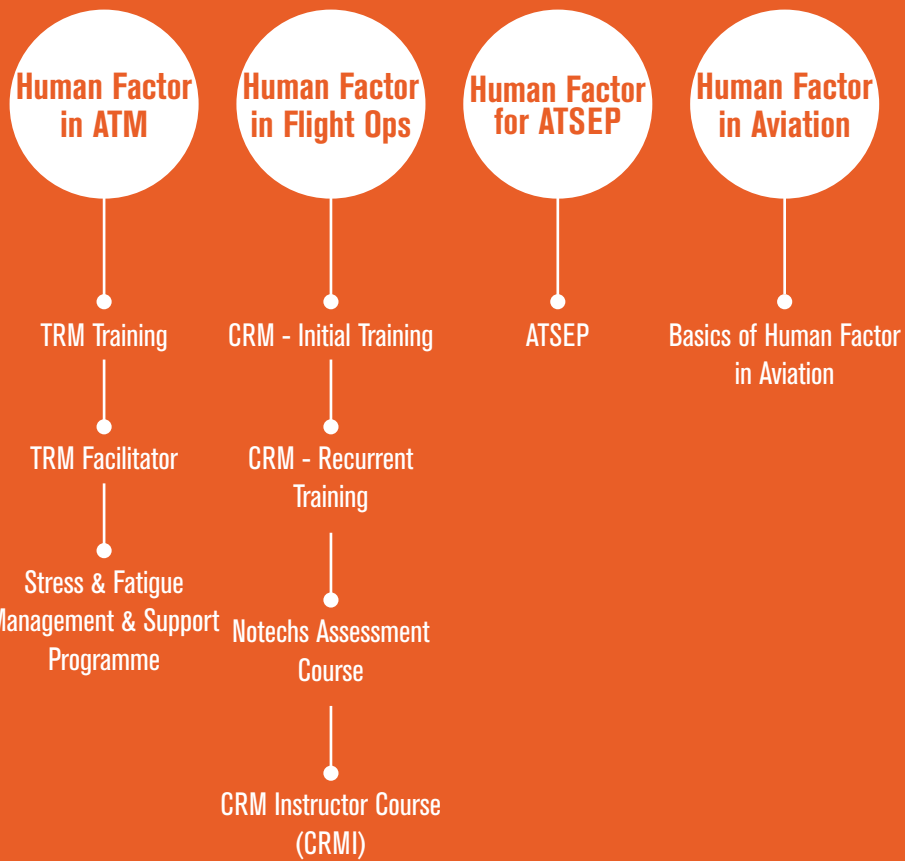Language: ◉ ITALIAN   ◉ ENGLISH

TWR SIM   CASE STUDY

HUMAN FACTOR TRAINING

4

Human Factor in ATM

Human Factor in Flight Ops

Human Factor for ATSEP

Human Factor in Aviation

TRM Training

CRM - Initial Training

ATSEP

Basics of Human Factor in Aviation

TRM Facilitator

CRM - Recurrent Training

Stress & Fatigue Management & Support Programme

Notechs Assessment Course

CRM Instructor Course (CRMI)

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 main disciplines of Human Factors, which guarantee efficiency and well-being together with safety.

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

- design, develop and deliver training in stress and fatigue management, team and crew 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 need in aviation field: air traffic control, flight inspection, maintenance, 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.

SELECTION — TRAINING

TRM

ASSESSMENT
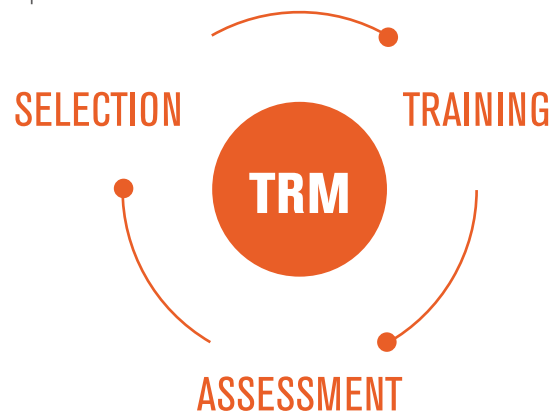
◉ **Why** choose Training Centre

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

TRM Training

Target Population	ANSP Operational Personnel
Objectives	• 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	• Team-cooperation and communication
	• Stress & Fatigue management
	• Human Performance Limitation (Cognitive)

Human Factor in ATM

COURSE INFO

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

Availability: ⊙ SCHEDULED ⊙ ON REQUEST
Language: ⊙ ITALIAN ⊙ ENGLISH

CASE STUDY   EXP LEARNING

TRM Facilitator

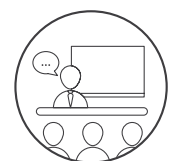| Target Population	Operational Personnel
Objectives	• Acquire knowledge about facilitator's role and competencies • Develop knowledge about TRM and effective performance • Consolidate knowledge of how Non technical Skills influence individual and team performance • Apply an objective performance evaluation 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 • Facilitator's 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

COURSE INFO

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

Availability: ◉ SCHEDULED ◉ ON REQUEST
Language: ◉ ITALIAN ◉ ENGLISH

CASE STUDY   EXP LEARNING

Stress & Fatigue Management & Support Programme

<u>Duration:</u> 1 day course

Target Population	Operational Personnel
Objectives	• 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 contest
Core Contents	• 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 in Flight Ops

Over the years the concept of Team Integration has become the cornerstone of every complex operation that characterises Flight Ops. When working in a highly technological context with a low tolerance error policy, it is important to manage all the available resources in the best possible way to minimise risks. This means not only the reliability of technology and the effectiveness of the procedures, but it also means the quality of crew performance, which is the result of technical training and CRM-Crew Resource Management.

CRM, intended as the effective management of the crew aimed at maintaining high safety levels, is a flexible and systematic method to optimise human performance and above all safety.

It is a structured training course with the aim of developing non- technical skills, known as NOTECHS, learning techniques for threat and error management, and developing safety culture (Just Culture).

The main aim of the courses is to establish a high level of safety in flight operations for airlines, through structured training, checking and continuous improvement of the crews' NOTECHS according to EU-OPS1, the transition into EC law of JAR-OPS1.

The aim of the courses is:
- To support the creation of an internal Crew Resource Management structure (CRM)
- Ensure the training and updating of human factor and just culture contents for middle management
- To make organisations aware of safety culture through CRM courses aimed at the integration of different professional figures.

◎ **Why** choose Training Centre

- All HP Flight OPS courses are designed by aviation psychology experts with the direct support of operational staff involved.
- Our approach towards CRM focuses on 4 different areas:
  - o safety: CRM is the appropriate tool to work with
  - o flexibility and economics: specific courses which allow airlines to save money in the long run
  - o operations: performance improvement regarding efficiency and effectiveness
  - o company climate: improvement of personal relationships and the development of a positive company climate.

Crew Resource Management - Initial Training

<u>Duration:</u> 2 day course

Target Population	Flight Crews
Objectives	• Acquire knowledge related to Human Factors in a flight operation context. • Understand how Non-Technical Skills influence operational crew performance. • Expand knowledge of the limits and capabilities of human performance. • Improve awareness of how to optimise teamwork. • Improve awareness of one's own NTS and the impact it has on operations. • Analyse case studies
Core Contents	• Human factors in aviation • General instructions on CRM principles and objectives • Human factors and reliability, error chain, error prevention and detection. • Information acquisition and processing • Situational Awareness • Decision making • TEM- Threats and Error Management • Operational Risk Management • Stress & stress management • Fatigue & Vigilance • Workload management • NOTECHS- Non-Technical Skills • Communication and co-ordination inside and outside the cockpit • Team behaviour Synergy • Leadership and Followership • Company safety culture, SOPs, Organisational Factors

COURSE INFO

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

CASE STUDY

EXP LEARNING

Availability: ◉ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH

Crew Resource Management - Recurrent Training

Duration: 1 day course

Target Population	Flight Crews
Objectives	Maintain a high level of safety through continuous learning drawn from Safety Reports.
Core Contents	• Human error and reliability, error chain, error prevention and detection
	• Safety culture, SOPs, organisational factors
	• Stress, stress management, fatigue and vigilance
	• Information acquisition and processing, situational awareness, workload management
	• Decision making
	• Communication and co-ordination inside and outside the cockpit
	• Leadership and team behaviour, synergy
	• Automation and philosophy of the use of automation (if relevant)
	• Specific type-related differences
	• Case studies.

Human Factor in Flight Ops

Notechs Assessment Course

Target Population	Type Rating Examiners involved in the assessment of Pilots
Objectives	The aim of the course is to make examiners familiar with an operator's behavioural marker system in order to enable them to properly evaluate non-technical skills, deliver a constructive debriefing and give guidance to crews on how to improve future performance. To be able to train instructors to evaluate organisational non-technical skills and standardising the evaluation process.
Core Contents	• Introduction to Behaviour Evaluation • Notechs • Notechs Evaluation Drill: Case studies • NoTechs Evaluation: Guidelines • Evaluation Standardisation: Case studies • Notechs Briefing and Debriefing

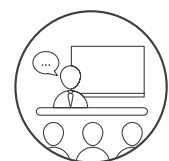Human Factor in Flight Ops

COURSE INFO

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

Availability: ◉ SCHEDULED ◉ ON REQUEST
Language: ◉ ITALIAN ◉ ENGLISH

CASE STUDY   EXP LEARNING

Crew Resource Management Instructor Course (CRMI)

Duration: 3 day course

Target Population	Flight crews
Objectives	The aim of the course is to acquire knowledge and skills to enable participants to develop and deliver a focused and interactive CRM training which focuses on the nature of flight inspection operations, objectives, requirements and SOPs.
Core Contents	• CRM and Human Factors • Human Factor/CRM Issues: Human Error, Decision Making, Situational Awareness, Stress and Fatigue, Workload e Task Management, Communication, Team and Leadership • Facilitation and Teaching • Adult learning • Learning styles • Teaching group dynamics and trainee management • Classroom management • Feedback • CRM Course Planning • Case Studies - Creation and Use • Drill creation and use • Presentation drill

Human Factor in Flight Ops

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

◉ **Why** choose Training Centre

Human Factor for ATSEP

Human Factor - ATSEP

| Target Population	ATSEP
Objectives	• 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 operations and consequently on the safety chain • Analyse case studies
Core Contents	• 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

CASE STUDY   EXP LEARNING

Availability: ○ SCHEDULED   ◉ ON REQUEST
Language: ◉ ITALIAN   ◉ ENGLISH
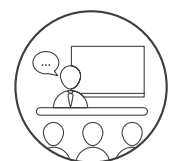
Human Factor in Aviation

◉ **Why** choose Training Centre

Basics of Human Factor in Aviation

<u>Duration:</u> 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	• Human Factor and Human Performance: methodological approaches
	• Human errors:
	   o Error definition
	   o Error theories and models
	   o Violations
	   o 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 Centre

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

COURSE INFO

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

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

EXP LEARNING

Human Factor in Aviation
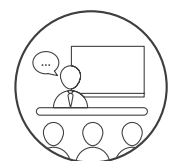
TECHNOLOGY & SERVICES

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

At our training centre in Forlì, we have: 1 Mechtronix jet FFT flight simulator, 8 Adacel 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**

enav

Flight Simulator (FSTD)

Mechtronix Ascent Generic Jet FFT

The flight simulator at the Training Centre 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 Centre 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: **Greta PAGANELLI**
email: training@enav.it

Tower Simulator

ENAV Training Centre'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 Adacel, have a 270° view with rear projection 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, malfunctions.

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 Centre has a radar room composed of 24 CWP (Console Selex CDS2000 and Monitor Barco ISIS 2Kx2K) 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 CWPs (considering EXE positions only).

The radar room is equipped with a Flight Data Processing (FDP) system actually 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
- Sector merging
- Aircraft performance
- Meteorological situations
- Simulation exercises
- Type of sensor (PSR, SSR, Mode S) and type of signal (mono or MRT head)

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

Recently, thanks to the collaboration with the SICTA consortium, a second radar room has been set up,
which includes 10 CWPs + 3 spare, using EIZO 2Kx2K 26,5 inch monitors.

The innovative platform GEARS- Ground Enroute Approach Realtime Simulator, guarantees rapid prototyping and scenario evaluation for ATM simulations thanks to tools able to design and plan a process, as well as the tuning of traffic samples.

The platform guarantees a wide flexibility usage, which allows "standalone" simulations on PCs for preparatory/ familiarisation phases, or in "Distributed Interactive" mode for the whole radar room for real time simulations.

The wide choice of tools (such as Label LINK IT with DAP, ERATO, AMAN, FDP, Trajectory Prediction, Airspace Server, STCA – MTCD) and the possibility of ad Hoc development, offers an extremely competitive and effective solution.

This platform has been used for Real Time Simulations for the redesign of the United Arab Emirates airspace.

MORE INFO

Focal Point: **Federico MANCINELLI**
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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 Centre to improve its ability to respond to operational training needs in terms of speed and accuracy of simulation scenerios.

The process for creating a scenerio 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 Centre 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