

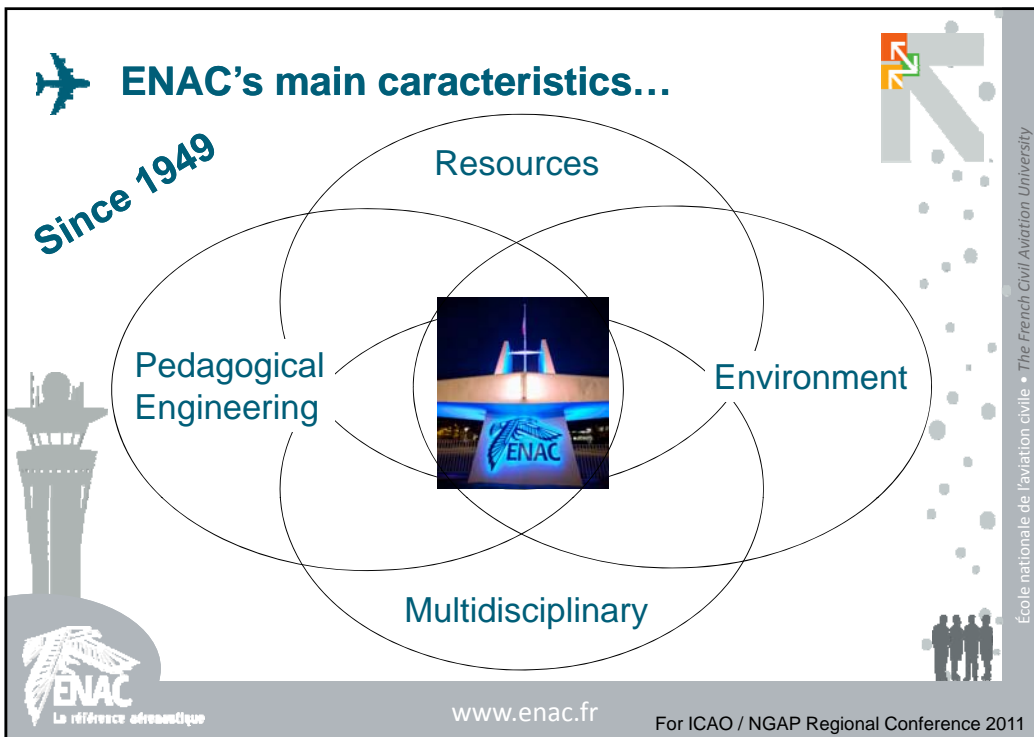
**How to meet the future Aviation training needs  
in the best way ?**

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ENAC  
La référence aéronautique



**ENAC's main characteristics...**

Since 1949

Resources

Environment

Multidisciplinary


Pedagogical Engineering

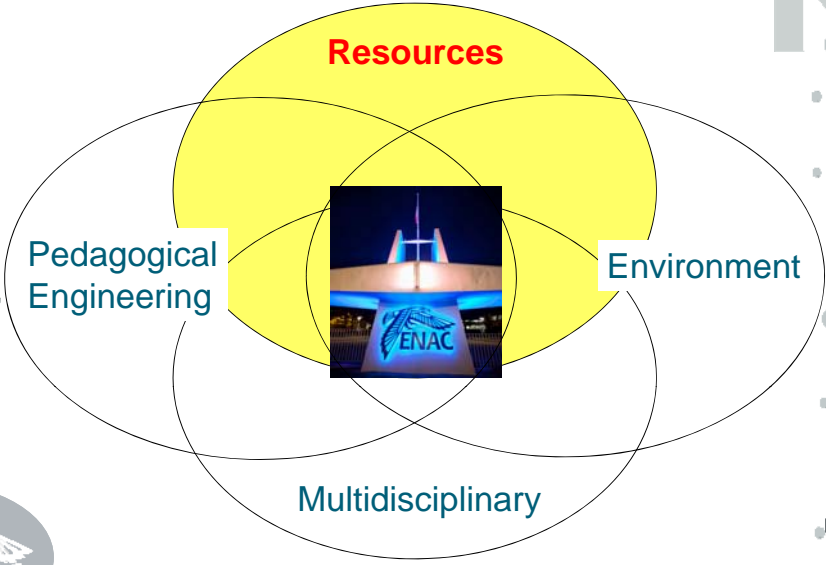
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ENAC  
La référence aéronautique

 **ENAC's main characteristics...**




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Pedagogical Engineering

Environment


Multidisciplinary


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 **ENAC's main characteristics...**



**New**

**ENAC** = **ENAC** + **SEFA**


**Since 01 / 01 / 2011**


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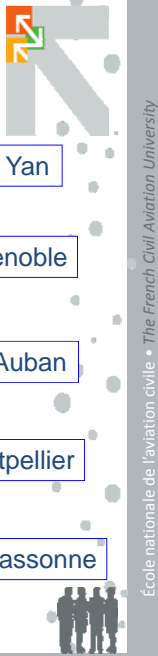

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 ENAC is... **10 sites** throughout France



Melun  
Biscarosse  
Toulouse  
Muret  
Castelnaudary  
St Yan  
Grenoble  
St Auban  
Montpellier  
Carcassonne



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 ENAC is... « **various simulators** »

Flight simulators



ATC simulators



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 ENAC is... « various aircraft »




- 1 x **BE20**
- 12 x **BE58**
- 5 x **DA42**
- 9 x **DA40**
- 80 x **TB10/20**
- 6 x **CAP10**

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 ENAC is... « Human Resources »




4 Specialized Departments  
Single vs Multi Discipline  
Instructors & Teachers

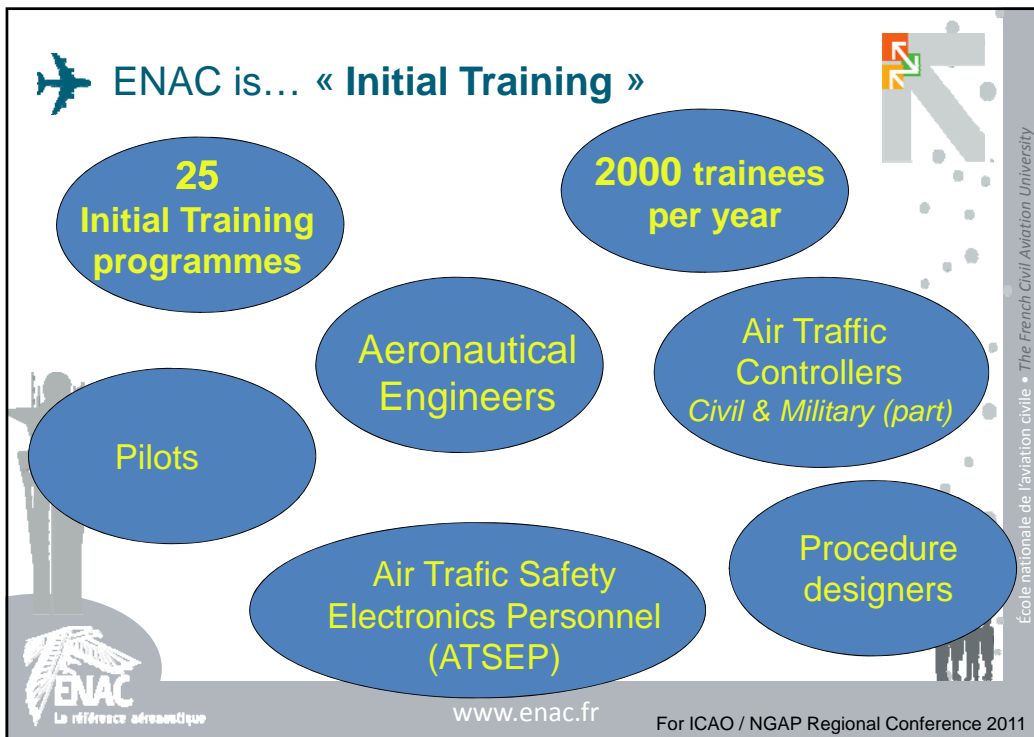
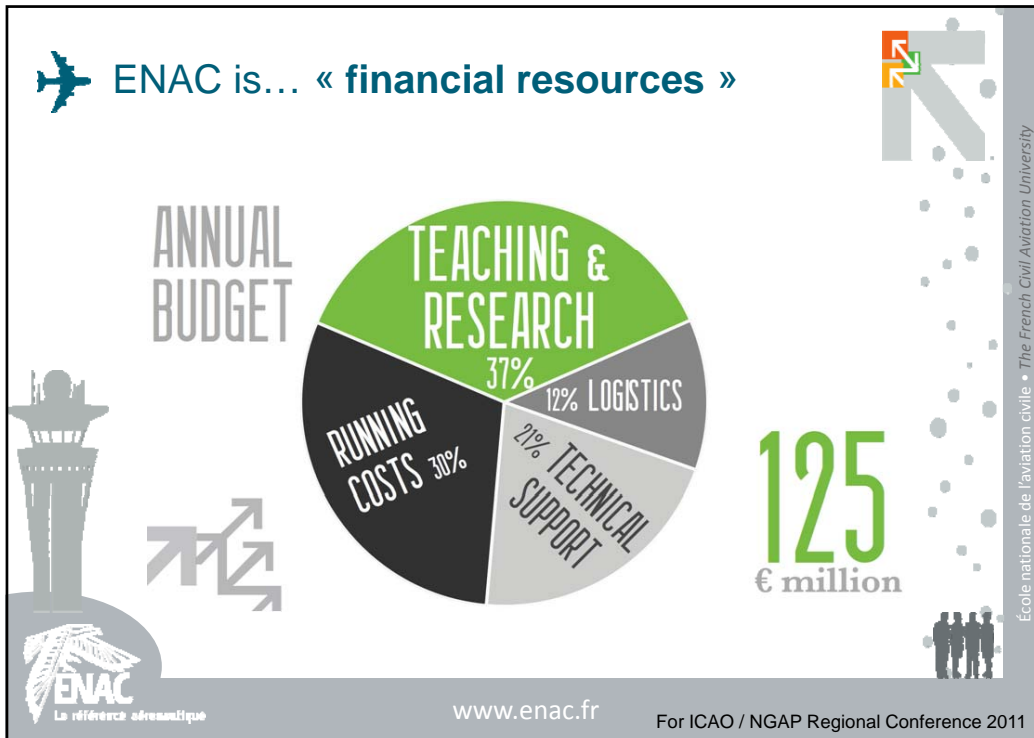
**930**  
full-time  
members  
of staff


**Identified challenge:** Today's trainers = yesterday's experts !

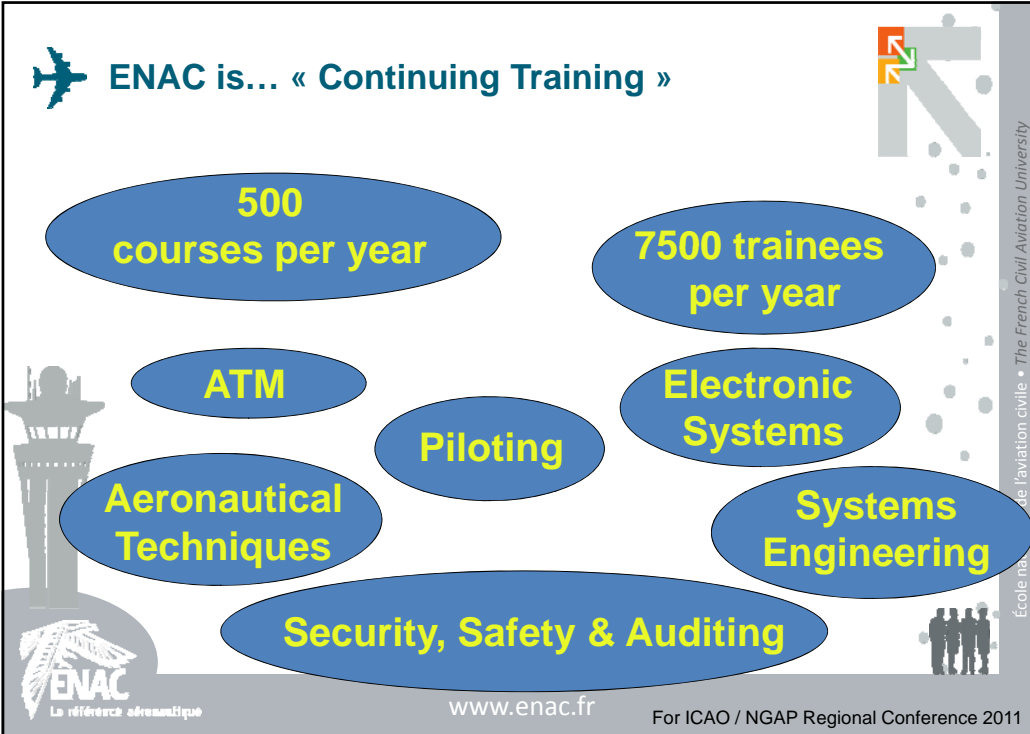
**→ ENAC ATC Training instructors maintain a valid ATC Licence**

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 ENAC is... « Continuing Training »



**500 courses per year**

**7500 trainees per year**

**ATM**


**Piloting**

**Electronic Systems**

**Aeronautical Techniques**

**Systems Engineering**

**Security, Safety & Auditing**

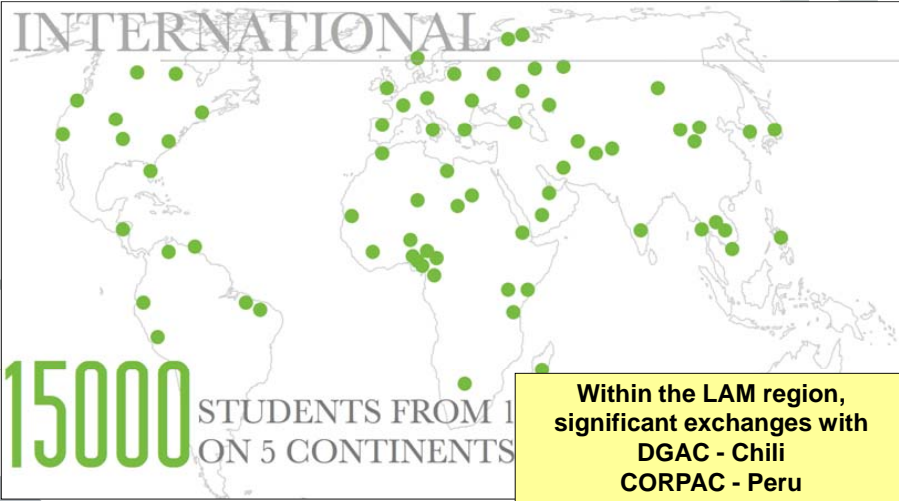
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 ENAC is... « International activities »



**INTERNATIONAL**


**15000** STUDENTS FROM 100 COUNTRIES ON 5 CONTINENTS

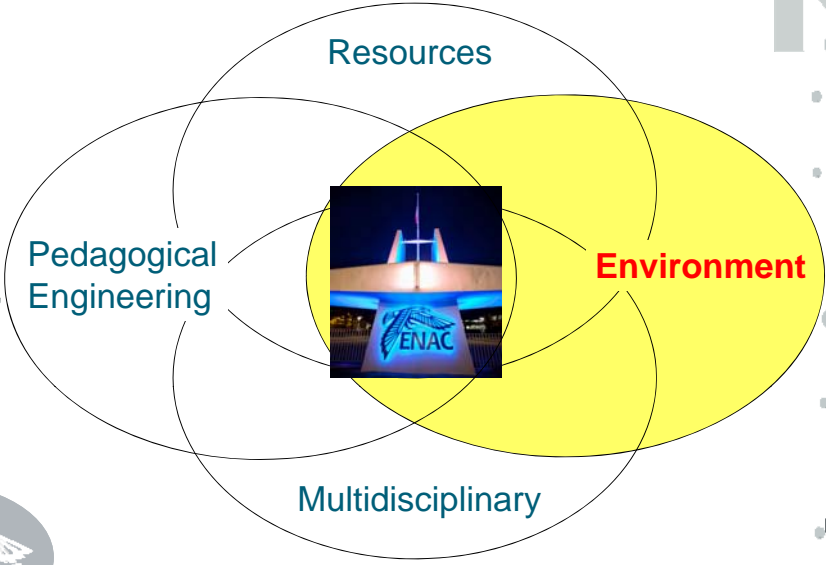
**Within the LAM region, significant exchanges with**  
DGAC - Chili  
CORPAC - Peru  
UAEAC - Colombia  
Participants from Mexico  
... amongst others

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 **ENAC's main characteristics...**




Resources

Pedagogical Engineering

Environment

Multidisciplinary



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 **An appropriate environment**  
Toulouse / High density Aeronautical industry...



amongst others...



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**An appropriate environment**  
*Motivation generators...*

French Ministry in charge of **Transport** (1)

French Ministry in charge of **Education** (2)

Fédération Française Aéronautique (3)

**BIA**

**B.I.A.: « Brevet d'Initiation Aéronautique »**  
 (1): <http://www.developpement-durable.gouv.fr-Secteur-Aerien,1633-.html>  
 (2): <http://www.education.gouv.fr/>  
 (3): <http://www.ff-aero.fr/>

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**An appropriate environment**  
*Motivation generators... how does it work ?*

A programme to the attention of **all youngsters / candidates** between 13 and 75 years old  
*(special attention for those < 21 years old)*

The partnership is **driven by the « teacher »** involved on both sides  
*(usually a PPL, Flight Instructor and/or school teacher)*

A formal **partnership** between schools and local flying clubs


The programme is delivered by a « **teacher** » who holds a specific University degree  
 (CAEA: « **C**ertificat d'**A**ptitude à l'**E**nseignement **A**éronautique »)

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## An appropriate environment

*Motivation generators... what does it involve ?*



**Every year**  
October -> May

**Classroom lessons**  
within the school  
(2h per week on average)

- General knowledge about aircraft
- Aerodynamics
- Meteorology
- Rules & Regulations
- Navigation
- Flight safety
- Aero history and Space
- Optional: Ultralight, gliders,...


Activities « out of the school »  
**Visits** (Control TWR, Airports, Met stations, Aero manufacturers...)  
(according to the local environment and...  
... to the instructor's motivation !)

**Allocated flying time** on light aircraft  
(1h / student in the front seat)

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## An appropriate environment




*Motivation generators... what is the outcome ?*

**A National Exam**  
(in May - every year)  
3317 candidates in 2010

**A National Diploma**  
2862 succesfull candidates in 2010  
(approx 80% from one year to the next)

Access to **FFA scholarships**  
for those who follow-up  
by undertaking  
a PPL practical training  
(2500€ max / candidate)

... or a « **hand shake** »  
for those who prefer  
to choose something else.

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**An appropriate environment**  
*Motivation generators... to sum it up...*

A « take-it or leave it »  
**initiation opportunity**  
 in addition to the  
 « normal » school programme

**Free of charge**  
*(except a possible individual contribution to the flying expense)  
 approx 50 to 70€ / candidate*

The ultimate objective:  
**Did you like it ?**

**Yes ?**  
 This is the way to go...

**No ?**  
 It was nice to meet you...

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**ENAC's main characteristics...**

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ATC Training

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## The "ATCo training programme"

*An on-going process...*

- Need to **synchronize** training with today & tomorrow's technology & procedures
- Need to **adapt** to all specific / regulatory requirements
- Need for training **certification**
- The need for « **modularity** »
- Gives an opportunity to « **mutualize** »
- Towards "**generic**" training programmes


**Identified challenge:**  
Technology moves faster than training programmes !

→ **An on-going training renovation process**




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## Building-in the various requirements for ATCo initial training



**FAB-EC**  
*Harmonized training ambition*

**Eurocontrol**  
*Common ATCo License*

**ANSp**  
*Specific requirements*

**Bologna Process (LMD)**


**ICAO**  
*Rules & Regulations*

**List of Pedagogical Objectives**

**Competency Based Approach**

**MCTA**  
**« Management & Contrôle du Trafic Aérien »**  
Training programme

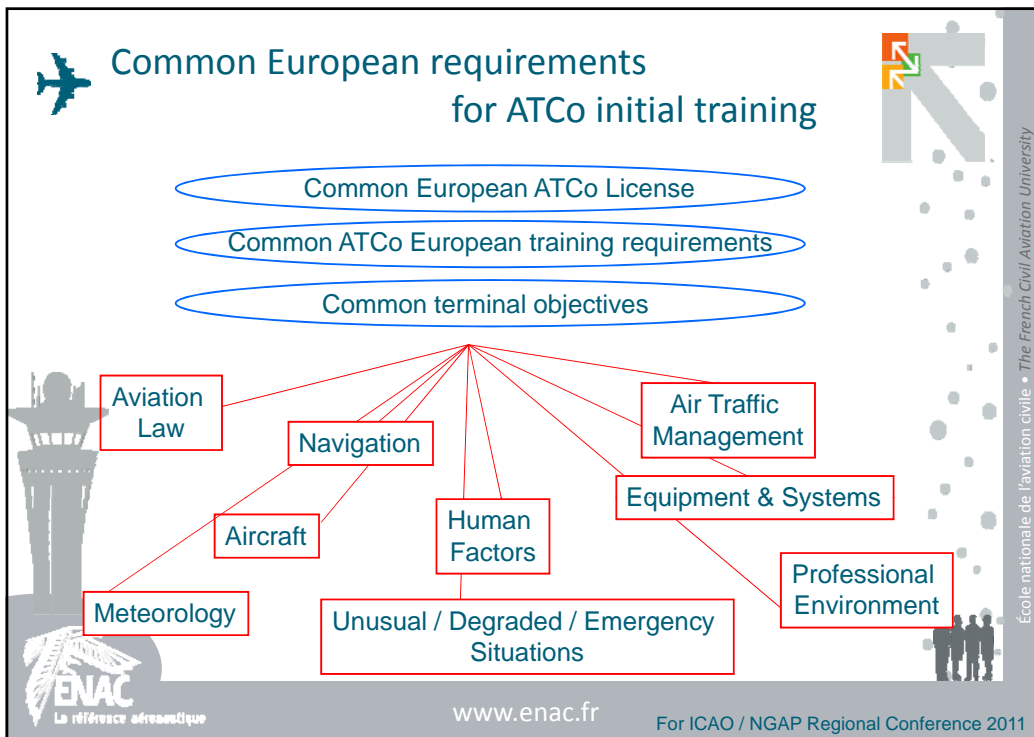
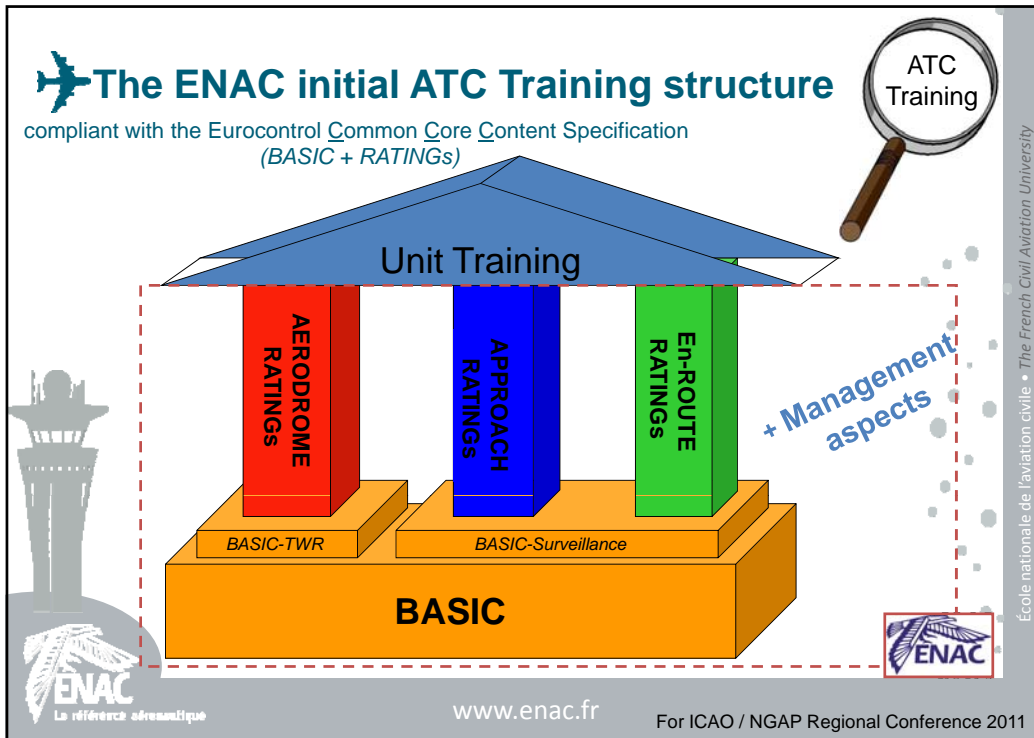
**Master degree**

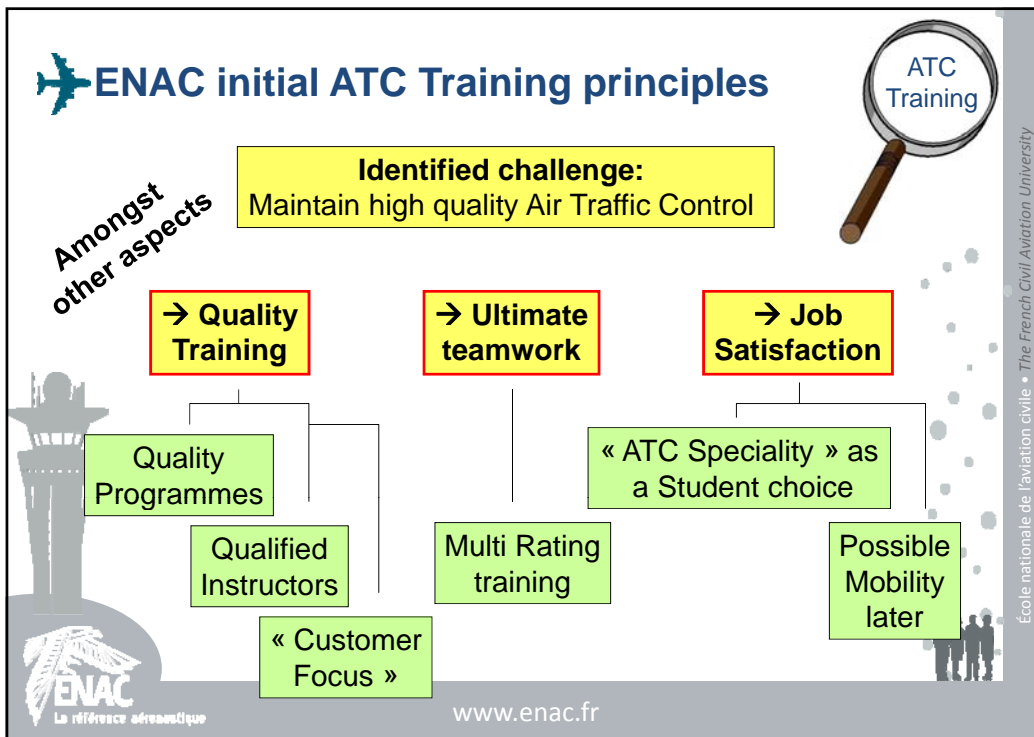
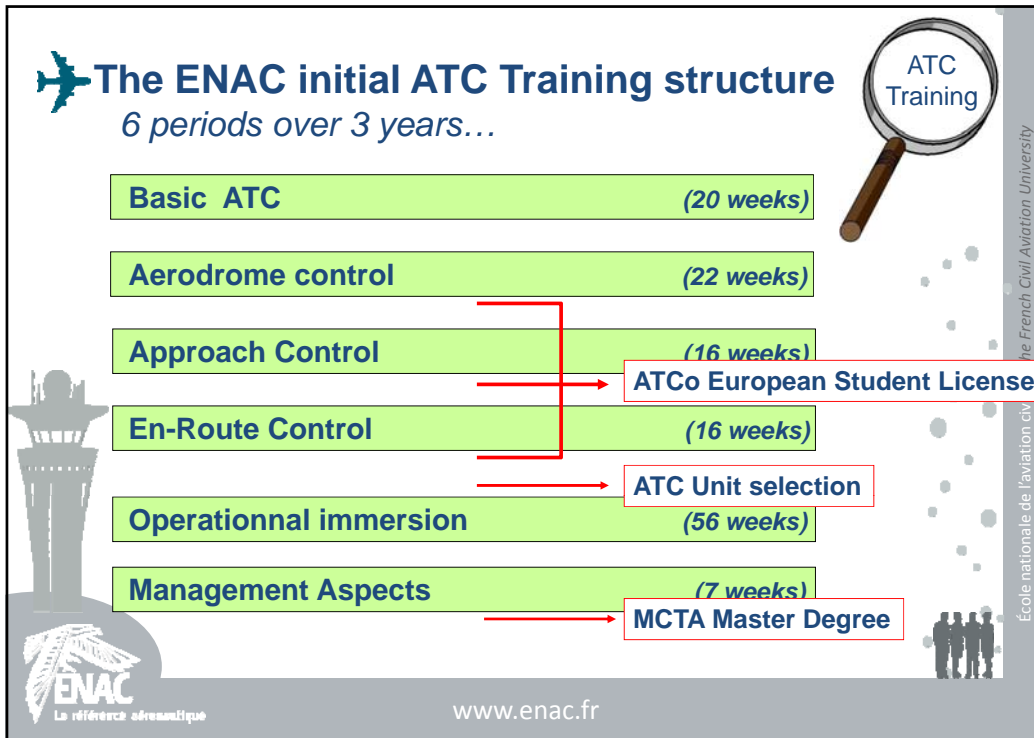



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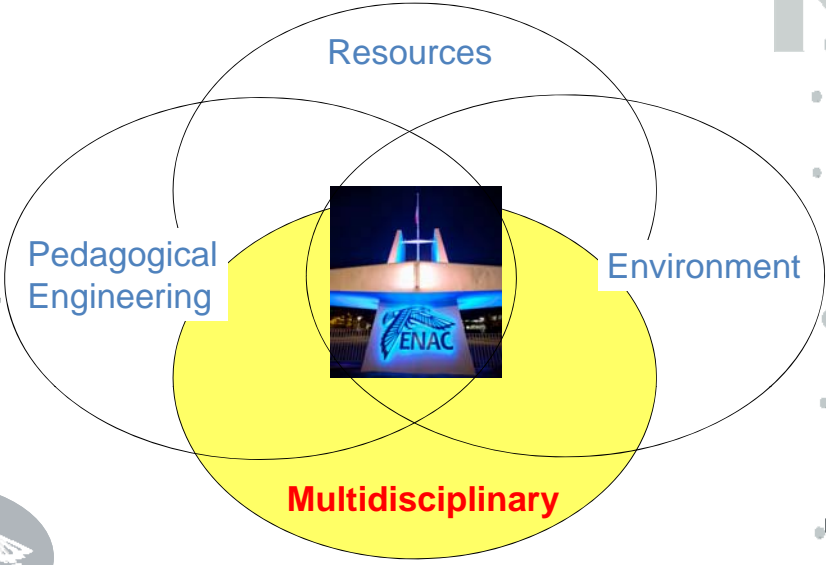
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 **ENAC's main characteristics...**




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 **Safety management by better mutual understanding**

Multidisciplinary training as “an opportunity to share”...




**Student Pilots**

**Student Aeronautical Engineers**

**Student Air Traffic Controllers**

**Student Technicians**

**... all on the same campus...**



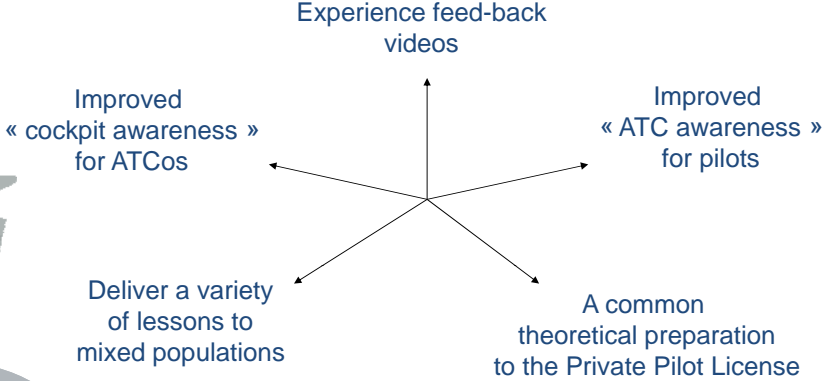
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## Safety management by better mutual understanding

Multidisciplinary training as “an opportunity to share”...







Experience feed-back videos

Improved « cockpit awareness » for ATCos

Improved « ATC awareness » for pilots

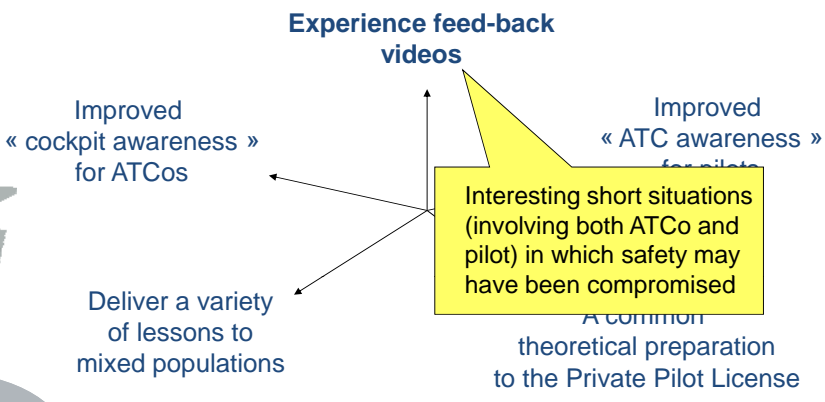
Deliver a variety of lessons to mixed populations

A common theoretical preparation to the Private Pilot License



## Safety management by better mutual understanding

Multidisciplinary training as “an opportunity to share”...



Experience feed-back videos





Improved « cockpit awareness » for ATCos

Improved « ATC awareness » for pilots

Deliver a variety of lessons to mixed populations

Interesting short situations (involving both ATCo and pilot) in which safety may have been compromised

A common theoretical preparation to the Private Pilot License



**Safety management by better mutual understanding**  
 Multidisciplinary training as "an opportunity to share"...

Experience feed-back videos

Improved « cockpit awareness » for ATCos

Improved « ATC awareness » for pilots

Deliver a variety of lessons to mixed populations

- ✓ Private Pilot License,
- ✓ Pilot conference,
- ✓ Airline visits,
- ✓ Human Factors,
- ✓ ...

on preparation Pilot License

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**Safety management by better mutual understanding**  
 Multidisciplinary training as "an opportunity to share"...

Experience feed-back videos

Improved « cockpit awareness » for ATCos

Improved « ATC awareness » for pilots

Deliver a variety of lessons to mixed populations

- ✓ Customized Aviation Law training
- ✓ ATC Simulations,
- ✓ ATC unit visits,
- ✓ Human Factors programme,
- ✓ ...




Common preparation Pilot License

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## Safety management by better mutual understanding

Multidisciplinary training as “an opportunity to share”...

Experience feed-back videos

Improved « cockpit awareness » for ATCos

Improved « ATC awareness » for pilots

Open (simultaneously) to all ENAC students involved in the PPL practical training




Deliver a variety of lessons to mixed populations

A common theoretical preparation to the Private Pilot License

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## Safety management by better mutual understanding

Multidisciplinary training as “an opportunity to share”...

Experience feed-back videos

Improved « cockpit awareness » for ATCos

Improved « ATC awareness » for pilots

Deliver a variety of lessons to mixed populations

- ✓ Aviation Law (BASIC course)
- ✓ English,
- ✓ Human Factors,
- ✓ Safety Management,
- ...

A common theoretical preparation to the Private Pilot License

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## How to meet the future Aviation training needs in the best way ?

- by contributing to the “**industry attractivity**”
- by **keeping training up to date** (regularly) regarding rules & regulations, technological and procedure developments,
- by up-to date **training accreditation**
- by generating better « **mutual understanding & cooperation** » amongst the aviation community, leading to **enhanced Aviation safety**

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## *Thanks for your attention*

## *All questions welcome !*

**Greg HINDSON**  
 ATC Training Development  
 ENAC – ATM Dpt.  
[greg.hindson@enac.fr](mailto:greg.hindson@enac.fr)  
 Tel: +33 (0)5 62 17 46 20

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