



# CONSULTANCY OFFICE

*Since 2013*



Founded by



# SUMMARY



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ABOUT US

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STRATEGY AND REGULATION

Aviation data  
Air Transport and Aviation Consulting  
ICAO and/or EASA Compliance support

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AVIATION SAFETY

Safety Management System  
Capacity building  
METEOR - The web application  
for supervisory authorities

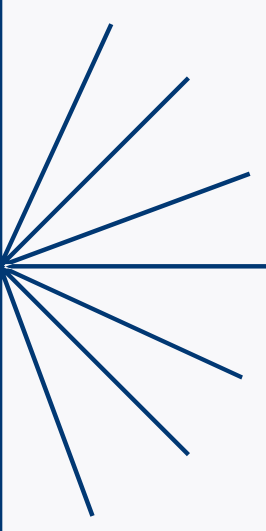
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AIR NAVIGATION AND AIRPORTS OPERATIONS

Sustainable Airspace Design with DIADEME  
ELVIRA® the air traffic replay and analysis tool  
AFIS and General Aviation Airfields  
Flight Inspection  
Calibration using a Drone  
ATC Supervisor Training

# ABOUT US



To serve the balanced development of a sustainable and resilient Air Transport.

Founded by the Direction Générale de l'Aviation Civile (DGAC) and the Ecole Nationale de l'Aviation Civile (ENAC), FRACS is the expertise and consultancy office of the French civil aviation.

FRACS provides worldwide consultancy services, and operational solutions to aviation clients : civil aviation authorities, airlines, air navigation services providers, airport authorities.

FRACS' domains of expertise are: regulation and safety oversight, Air Transport Data Analysis, ATM operations optimisation, innovative solutions and operational training to meet ICAO and EASA standards, reach capacity building strategic goals and reinforce operational performance.

The company relies on 11,500 experts operating on the five continents mostly in the fields of air traffic control, certification, supervision and regulation.

Our experts are in-house professionals and provide on-demand consultancy. They have an extensive experience in international affairs through their participation in projects and high-level committees (ICAO, CANSO, EUROCONTROL).

For more information, please consult our website on [www.fracs.aero](http://www.fracs.aero)

# STRATEGY AND REGULATION

## Aviation data

Check the Past - Predict the Future



### OUR DATA



#### Passenger

#### Passenger Data

- By Worldwide Traffic Flows ; By Worldwide Airports ; RPK



#### Cargo

#### Cargo

- Tons of cargo by airports ; by traffic flows ; FKT



#### Flight

#### Flights

- Flight status ; Departure and Arrival Times



#### Fleet

#### Fleets

- Age ; orders ; deliveries ; seat configurations ; tracked utilisations ; MTOW ; engines ; ownership



#### Financial

#### Financial Airlines Data

- Revenues and expenses by airline



#### Socio Economic

#### Socio Economic

- GDP per capita ; GNI per capita ; Population ; Average annual wages ; LG interest rates ; Inflation ; HDI ; Revenue ; Real interest rate



**3,000** AIRPORTS

**200** COUNTRIES

**600** AIRLINES

**40 - 50** YEARS FOR THE OLDEST

Collected from different sources, including our own surveys

“

*Quick access to reliable data is paramount to VINCI Airports' trafficanalysts. This is why we regularly rely on the databases provided by France Aviation Civile Services. We are very satisfied with the responsiveness of their team and the quality of the data provided.*

VINCI Airports

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# STRATEGY AND REGULATION

## Aviation data

Check the Past - Predict the Future

We developed ATD Analytics e-platform to support analysis of the current traffic, based on ATD "traffic flows" database.



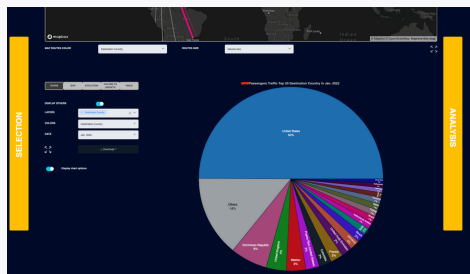
Passenger



Cargo



Flight



Historical data since **2010**

Available **24/7**

New type of **graphs**

Monthly data since 2019

Yearly passengers worldwide from 2019

“

The Route Development Department at Montpellier Méditerranée Airport has been using ATD Analytics since late 2022. The tool easily provides insights into traffic flows for most air routes from French airports, with a historical data range spanning several years for most markets. Comparing volumes is made possible through simple queries. We are fully satisfied with the tool and wholeheartedly recommend it.

**Montpellier Méditerranée Airports**

”



# STRATEGY AND REGULATION

## Air Transport and Aviation Consulting

FRACS supports Airports, Authorities, Airlines and aviation stakeholders in their strategic developments. Capitalising on our expertise in air transport, we have build a strong pool of consultants and competences that enable us to provide high value consulting services

### OUR GLOBAL APPROACH

Airports, Authorities and airlines face strategic challenges: anticipating traffic growth, optimising connectivity, and ensuring sustainable development while maintaining high performance. Our role is to support these stakeholders in their key decisions by providing in-depth analysis and tailored recommendations :

**Development of a tailored long-term vision and support for implementation**

**Combining the expertise and skills of civil aviation and air transport businesses**

**Ongoing collaboration with customers and experts to ensure needs are met at every stage**

**Operational optimisation and sustainable growth**



**Client-Centric Approach**  
**Innovative Solutions**  
**Experts from Airports ; Airlines ; DGAC & ENAC**  
**Aviation & Air Transport expertise**

### OUR OFFER

**Strategic support and development**

**Transformation project and strategy -  
Process and organisation**

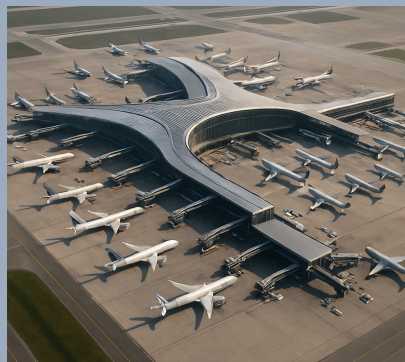
**Financial and revenue analysis and strategy**

**Business plan ; Commercial development ;  
Commercial strategies**

**Traffic analysis and forecasting**

**Sustainable development and environmental  
impact**

**Human resources**



# STRATEGY AND REGULATION

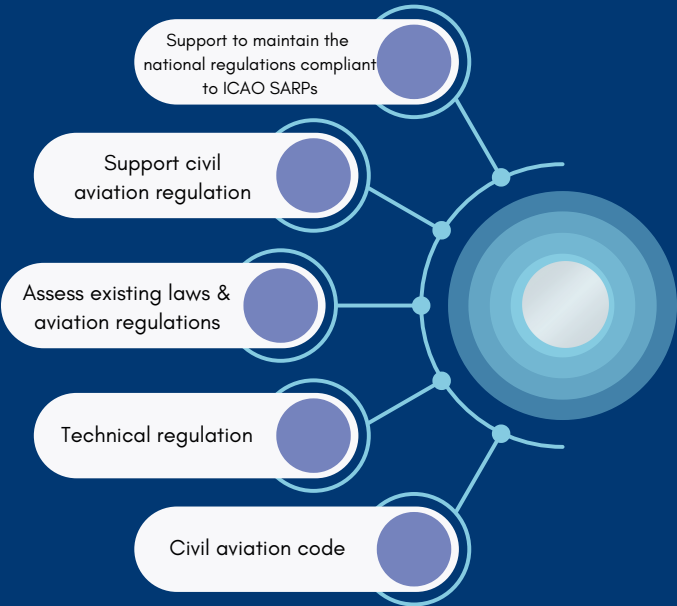
## ICAO and/or EASA Compliance support

Maintain regulation in line with ICAO Standards

### YOUR NEEDS



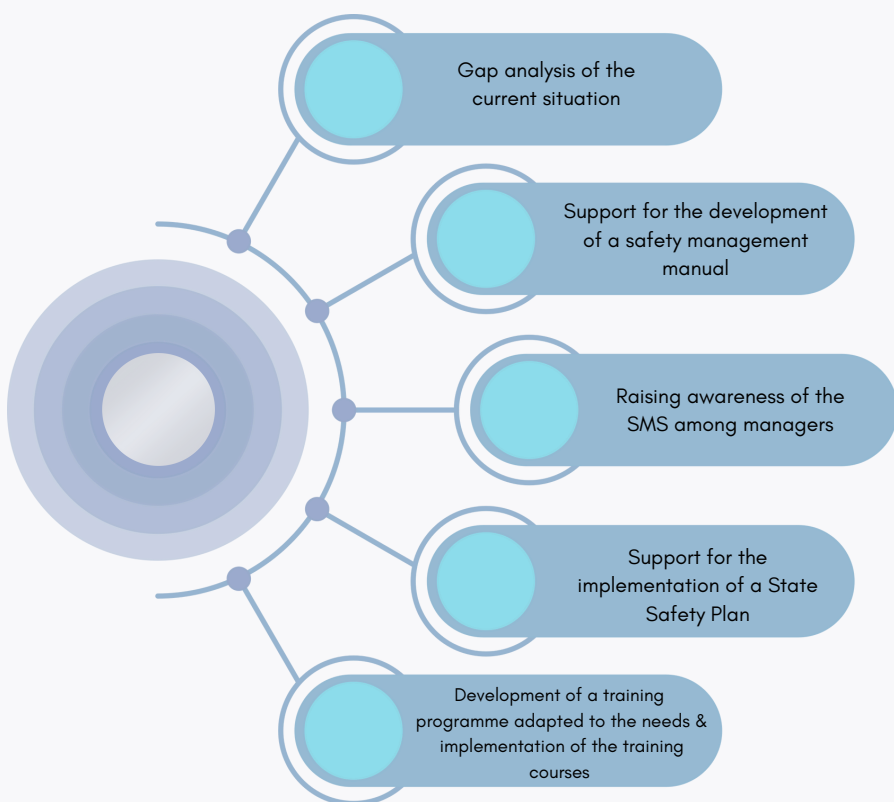
### OUR OFFER



# SAFETY OVERSIGHT

## Safety Management System

Design, improve and implement an ICAO compliant SMS  
A tailor-made support at each stage



# SAFETY OVERSIGHT

## Capacity Building

Support implementation of an effective,  
high performing safety system



### INSTITUTIONAL FRAMEWORK

Support for a better organisation of the Civil Aviation Authority to fulfil its safety oversight obligations

Support to help to set up an operators safety oversight plan and associated procedures

### INSPECTOR'S ACTIVITIES

Development of adapted material needed to conduct surveillance audits: surveillance manuals, checklists...

Tailor-made training for the inspectors(Theoretical and OJT)

To follow their files, coordinate action and planning and ensure traceability

# SAFETY OVERSIGHT

## METEOR - The web application for supervisory authorities

### Main functionalities

Managing document exchanges

Certificate requests, derogations, approvals...

Discussions on surveillance acts

Audit preparation, planning of dates, reports

Discussions on surveillance acts

Submission of corrective action plan...

Communication

General information to the organisation, dashboards, FAQ

### METEOR in short



### How does it work?

METEOR is an **online platform** accessible via any browser.

**No** software or hardware **installation**.

No technical administration.

The application is **adaptable** to your organization.

Data is stored on a **secure server**.



# AIR NAVIGATION AND AIRPORT OPERATION

## Sustainable Airspace Design with DIADEME

### What is DIADEME ?

An innovative and forward-looking tool developed by FRACS to meet customer expectations. DIADEME is a fully collaborative and online platform. DIADEME is a tool used to optimise monitoring of airspace performance: Safety, Capacity, Noise, Gas emissions



Support for Sustainable  
Airspace Design and Optimisation

Performance Analysis  
Safety, Capacity, Environment

Remotely accessible  
Interfacable with external tools  
Adaptable

Usable for experimentations,  
demonstration or training purpose

CONOPS definition

Safety Studies

Operational  
documentation  
update

Fast-time & Real\_time  
Simulation (FTS & RTS)

Simulator Training  
& OJT

A COMPREHENSIVE APPROACH  
FROM GAP ANALYSIS TO  
IMPLEMENTATION



# AIR NAVIGATION AND AIRPORT OPERATIONS

## Sustainable Airspace Design with DIADEME

NEW CONCEPTS

REAL CHANGE MANAGEMENT AND  
KNOWLEDGE TRANSFER

PBN, RNAV &  
unidirectional  
routes

Free  
Routes

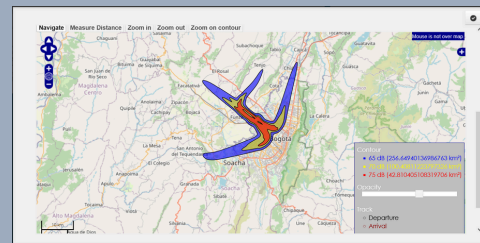
Continuous  
Climb &  
Descent  
Operations  
(CDO & CCO)

Flexible Use  
of Airspace

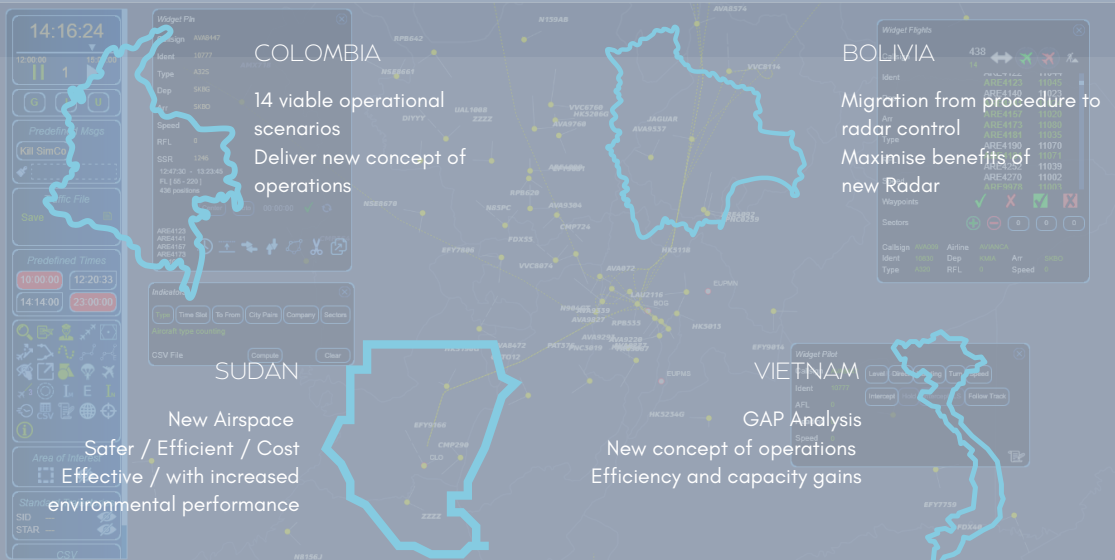
Customised approach

Fully integrated team

Awareness program for all stakeholders



## OUR MOST RECENT ACHIEVEMENTS



#Performance #Safety #Environment #Capacity

# AIR NAVIGATION AND AIRPORT OPERATIONS

## ELVIRA® the air traffic replay and analysis tool

ELVIRA® is an automated Tool to :  
Record, Replay and Analyse  
Air Traffic  
with Communication records



**1**  
Detect & Analyse  
Loss of separation / safety nets  
Runway incursion  
Non-compliant approach  
Aircraft counting

**2**

Optimise Environment  
Continuous descent operations  
Environmental protected volumes  
Dispersion envelopes

**3**

Monitor Sensor's Performance  
Sensors' validation  
A-SMGCS reliability and accuracy in  
operating conditions

**4**

Analyse your Performance  
Automatic Reports  
In-depth Analysis

### In-depth Analysis

Immediately & Remotely  
Accuracy & Reliability  
Time & cost saving

### ELVIRA® is :

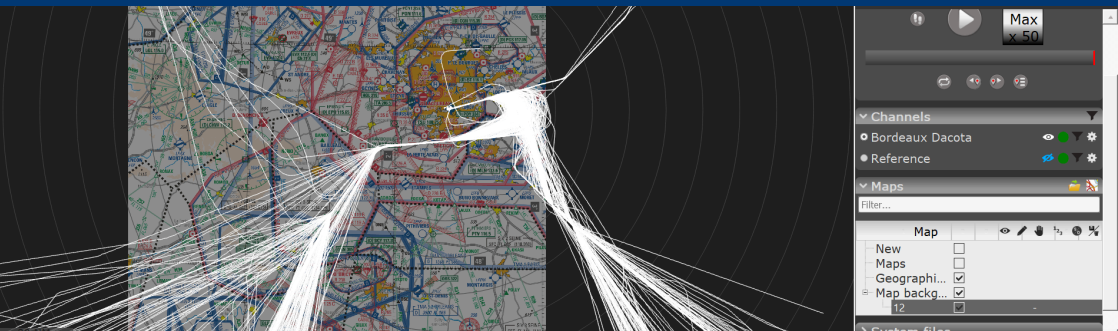
Easy to use & to install on each PC  
Available in English and French

### A user community

Continuous  
improvement

# AIR NAVIGATION AND AIRPORT OPERATIONS

ELVIRA® the air traffic replay and  
analysis tool



“

*My team is enthusiastic to use ELVIRA® for A-SMGCS analysis.*

*ELVIRA® is very useful to calculate the performance of new A-SMGCS systems, independent from the radar manufacturer, both during commissioning and in operation.*

**Skeyes, Radar Surveillance Supervisor,  
Belgium**



*ELVIRA® is the centerpiece of Safety Management System in France and of Environmental Analysis and Studies.*  
**DSNA, CDG Airport, Safety Manager,  
France**

”



# AIR NAVIGATION AND AIRPORT OPERATIONS

## General aviation Airfields

### OUR OFFER

We offer to take on the role of your **SMS manager** and be responsible for the tracking of **regulatory conformity**. We provide **training to maintain your skills**, either face-to-face or remotely with highly experienced experts. We carry out **audits SMS, ANSP**, etc... and accompany you in the search for the right corrective solutions and conforming with regulations.



### OUR REFERENCES

Wallis & Futuna airfield

Amiens airport

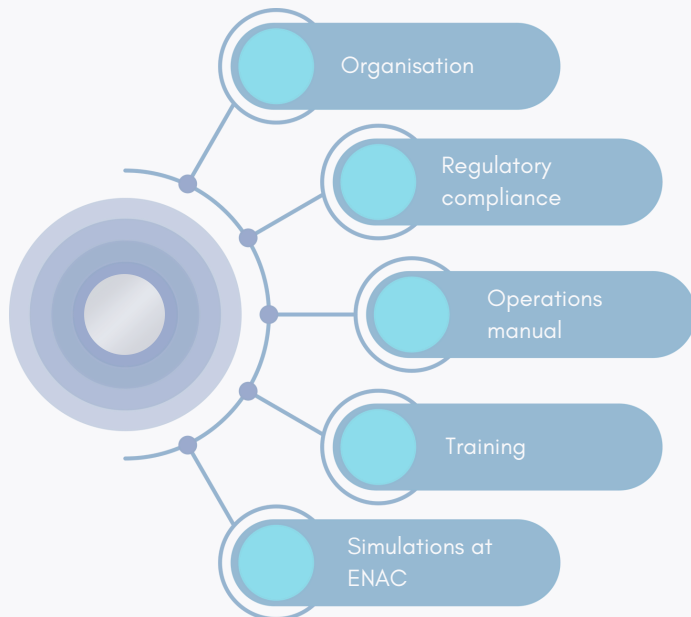
Vannes airport

Candillargues airfield

# AIR NAVIGATION AND AIRPORT OPERATIONS

## Focus AFIS

IMPLEMENTATION OF A FULL  
AFIS PROVISION STRUCTURE



Tailor-made Solutions

**FRACS & ENAC** are committed to providing you with efficient and flexible on-site solutions to meet **your needs** and to comply with **ICAO** and **National** or **Regional** regulations.



#Regulation #Certification #Operations #Support

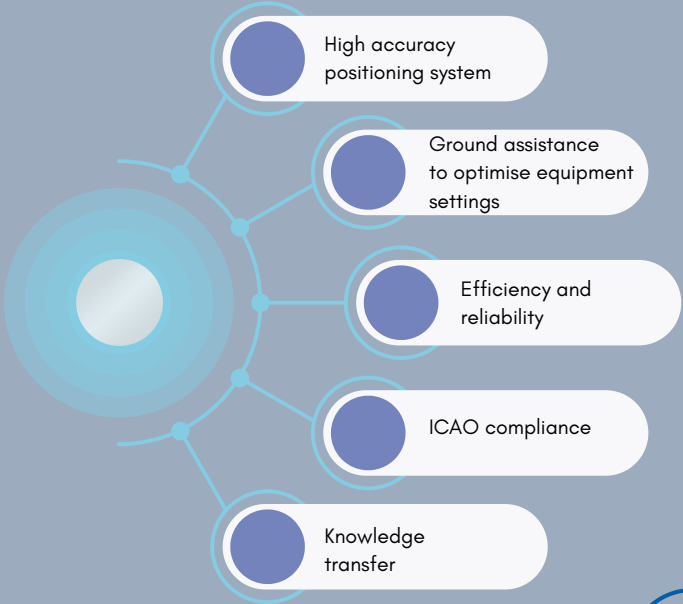
# AIR NAVIGATION AND AIRPORT OPERATIONS

## Flight Inspection

### OUR OFFER

With DSNA, the French ANSP, we propose flight inspection services of ILS, VOR, DME, TACAN and GNSS, VHF, UHF, radar, PAPI and RF jamming search, with 2 Beechcraft 200.

The team gathers more than 1 900 hours flight inspection / year.



High accuracy  
positioning system

Ground assistance  
to optimise equipment  
settings

Efficiency and  
reliability

ICAO compliance

Knowledge  
transfer



**Benefit** from our Flight inspection services  
Embark your engineer in the Beechcraft 200  
during the flight inspection



# AIR NAVIGATION AND AIRPORT OPERATIONS Flight Inspection

## OUR OFFER AND REFERENCES



Flight inspections



Training Activities



“

*OACA praises the professionalism of the crew members.*

*OACA appreciated the systematic presence of an inspector on the ground, facilitating exchanges between OACA maintenance teams and the crew in order to optimise equipment settings.*

**OACA, Director of Air Navigation Equipment, Tunisia**

”



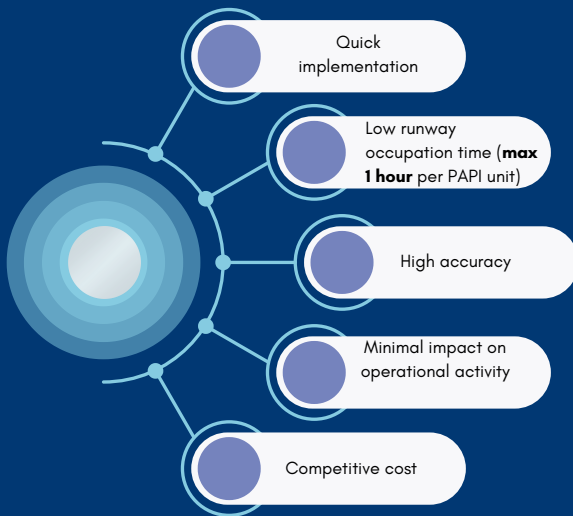
#Safety #Environment #Playback #Accuracy

# AIR NAVIGATION AND AIRPORT OPERATIONS Calibration using a Drone

A SIMPLE, EFFICIENT AND  
COMPETITIVE SOLUTION

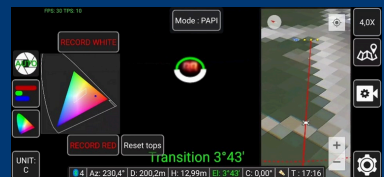
FRACS offers you an innovative  
method THE DRONE, approved  
by STAC for PAPI Calibration

Automatic detection of the color  
transition in real time, by image  
processing algorithms **Advantage:**  
**Allows real-time adjustment of the**  
**PAPI**



A tailor-made offer that adapts to your  
structure and needs:  
either through the provision of services,  
or through the implementation of a  
turnkey solution.

our approach: we design your  
customized project together.



## REFERENCES



Drone equipped with **ADS-B**  
**RTH auto**

Visual flight within the S1 scenario  
Drone evolution **area adjustable**  
Drone and **frangible** material

#Calibration #Drone #PAPI

# AIR NAVIGATION AND AIRPORT OPERATIONS

## ATC Supervisor training

Leading edged theoretical and  
operational training  
thanks to an ENAC + FRACS  
cooperation

Management of psychological  
and relational aspects

Current technical knowledge  
standards for supervisor systems in  
use

The latest updates to aviation law,  
search and rescue procedures, air  
traffic flow and capacity management  
ATFCM, Collaborative decision-making  
(CDM), dynamic airspace management

Cross-cultural awareness training (ATCo -  
ATSEP) to enhance operational room /  
technical supervision coordination

Management of emergency procedures  
and unusual situations

In partnership with



# AIR NAVIGATION AND AIRPORT OPERATIONS ATC Supervisor training

## OUR OFFER

3 customised training courses : Initial, Refresher and Advanced designed to meet ongoing as well as future demands

The courses can be delivered on-site or at ENAC headquarters in Toulouse, France with a visit from a French Area Control Centre.



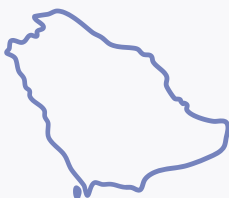
INDONESIA

SUDAN



SAUDI ARABIA

DEMOCRATIC  
REPUBLIC OF THE  
CONGO



Organisational **diagnosis** & **Creation** of an organisational blueprint for **customised** training.

Specific exercises like the **Supervisor Manual Customisation Workshop**

This level of design detail has paid off immensely for trainees.

“

*The training is a success thanks to the complementarity between the excellence of ENAC pedagogy and high-level expertise of FRACS.*

**Deputy Director of Kinshasa-Ndili International Airport,  
Democratic Republic of Congo**

”

# OUR PERMANENT TEAM



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