



CONSULTANCY OFFICE

Since 2013



Founded by



SUMMARY



01

ABOUT US

02

STRATEGY AND REGULATION

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

03

AVIATION SAFETY

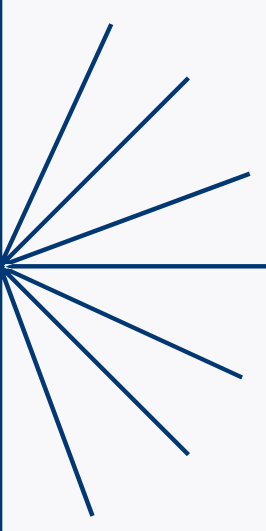
Safety Management System
Capacity building
METEOR - The web application
for supervisory authorities

04

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

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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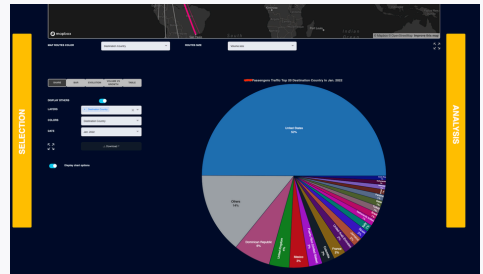


STRATEGY AND REGULATION

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.



- 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**

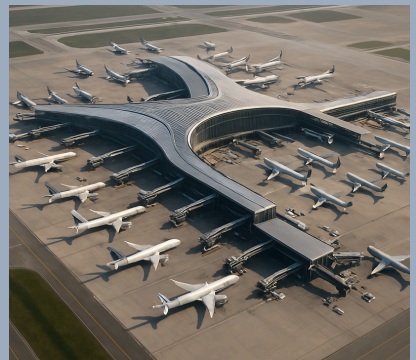
Financial and revenue analysis and strategy

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

Traffic analysis and forecasting

**Sustainable development and environmental
impact**

Human resources



STRATEGY AND REGULATION

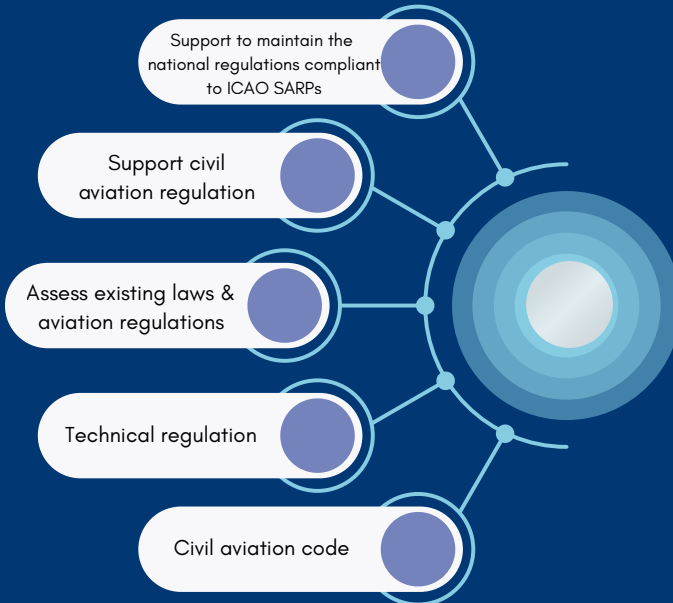
ICAO and/or EASA Compliance support

Maintain regulation in line with ICAO Standards

YOUR NEEDS



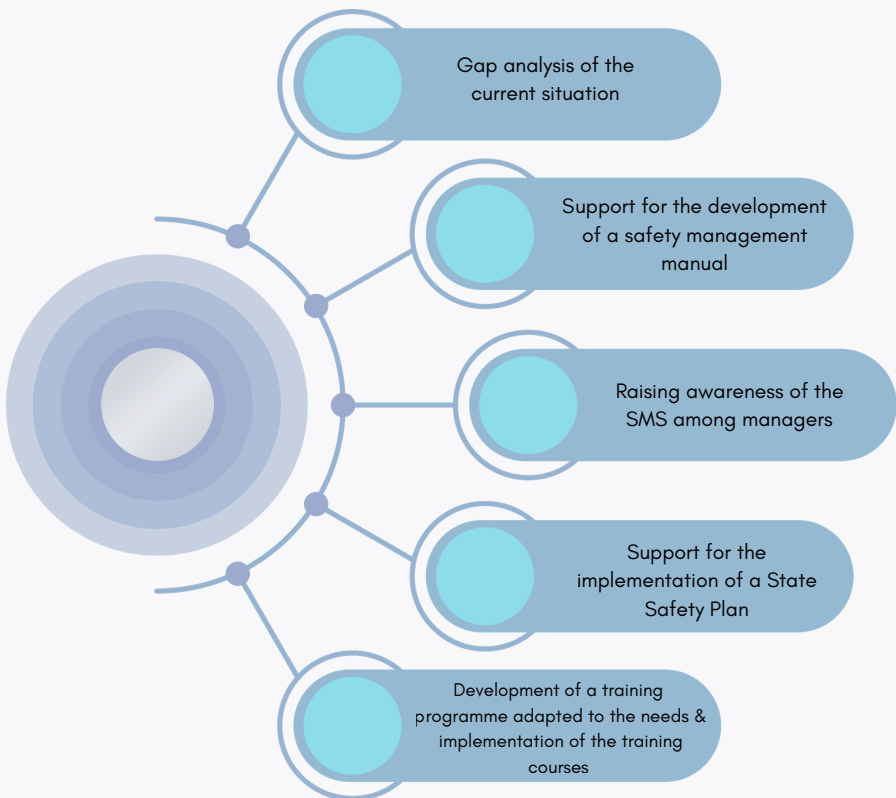
OUR OFFER



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)

SAFETY OVERSIGHT METEOR - The web application for supervisory authorities

The application for Supervisory Authorities

A Web platform developed and used by French DSAC

WHAT IS METEOR?

METEOR is an application created in 2019 by the DSAC which is the French Safety Oversight Organisation

It is a tool that allows you to dematerialise all exchanges related to surveillance activities while guaranteeing access to data regardless of your location.

METEOR is an essential application to ensure the traceability of surveillance acts and the monitoring of regulatory compliance of organisations.

It facilitates the management of compliance with regulatory standards and contributes effectively to the demonstration of the Authority's conformity with ICAO standards.



Dossiers				Consultations			
	PRELIMINAIRE	EN COURS	FERME		PRELIMINAIRE	EN COURS	FERME
AVI	12	120	0	AVI	12	120	0
AVI2	7	166	0	AVI2	0	166	0
AVI3	0	0	0	AVI3	0	0	0
AVI4	0	0	0	AVI4	0	0	0
AVI5	17	101	0	AVI5	0	101	0
AVI6	0	0	0	AVI6	0	0	0
AVI7	0	0	0	AVI7	0	0	0
AVI8	0	0	0	AVI8	0	0	0
AVI9	0	0	0	AVI9	0	0	0
AVI10	0	0	0	AVI10	0	0	0
AVI11	0	0	0	AVI11	0	0	0
AVI12	0	0	0	AVI12	0	0	0

Civil Aviation Authorities

To improve their safety oversight system

Organisations

To facilitate the follow-up of their files with the Authority

Inspectors

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?

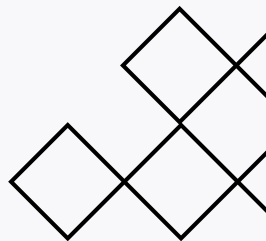
METEOR is an **online platform** accessible via any browser.

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

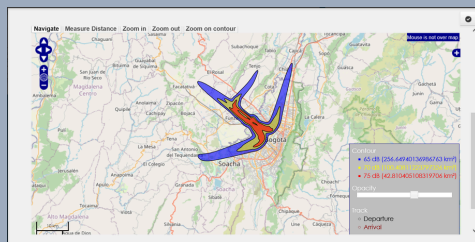
Continuous Climb & Descent Operations (CDO & CCO)

Flexible Use of Airspace

Customised approach

Fully integrated team

Awareness program for all stakeholders



OUR MOST RECENT ACHIEVEMENTS

COLOMBIA

14 viable operational scenarios
Deliver new concept of operations

BOLIVIA

Migration from procedure to radar control
Maximise benefits of new Radar

SUDAN

New Airspace
Safer / Efficient / Cost Effective / with increased environmental performance

VIETNAM

GAP Analysis
New concept of operations
Efficiency and capacity gains

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

1

2
Optimise Environment
Continuous descent operations
Environmental protected volumes
Dispersion envelopes

2

3
Monitor Sensor's Performance
Sensors' validation
A-SMGCS reliability and accuracy in
operating conditions

3

4
Analyse your Performance
Automatic Reports
In-depth Analysis

4

In-depth Analysis

Immediately & Remotely
Accuracy & Reliability
Time & cost saving

ELVIRA® is :

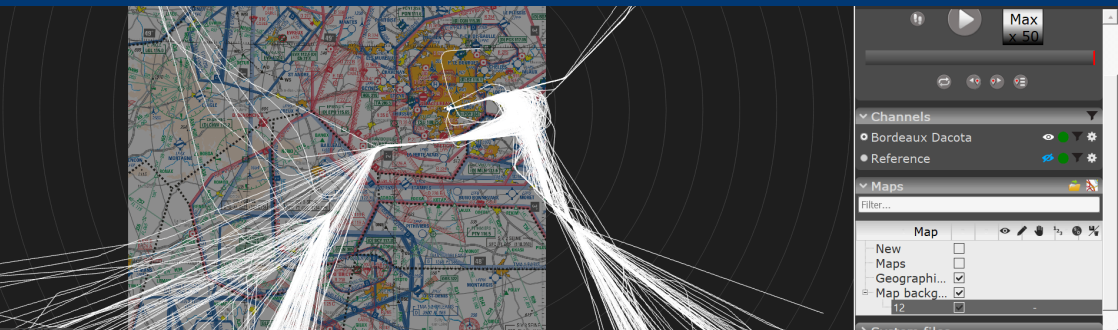
Easy to use & to install on each PC
Available in English and French

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

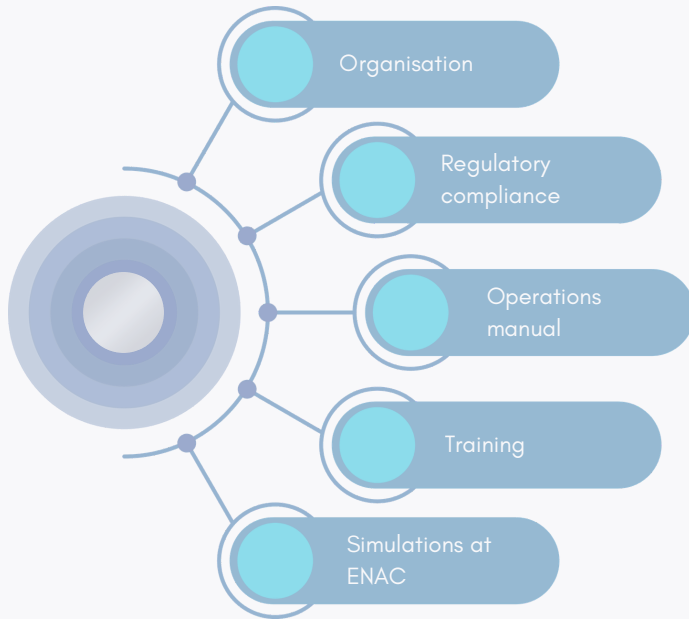
Vannes airport

Candillargues airfield

AIR NAVIGATION AND AIRPORT OPERATIONS

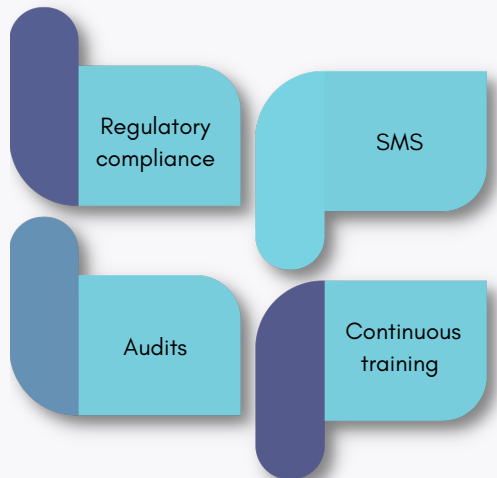
Focus AFIS

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.



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

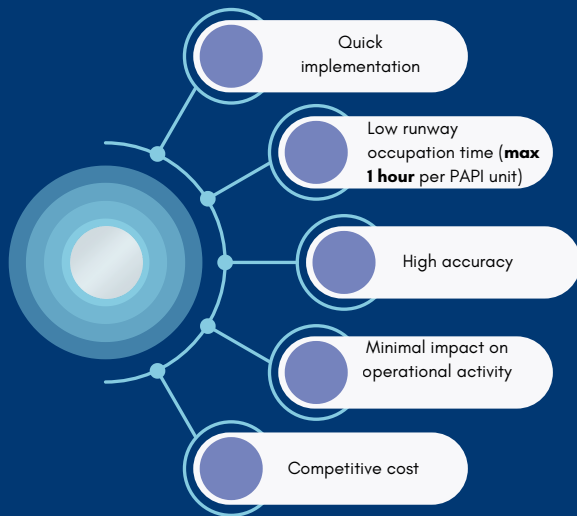
AIR NAVIGATION AND AIRPORT OPERATIONS

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

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.

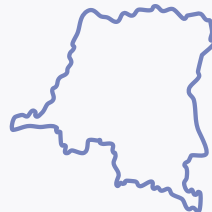
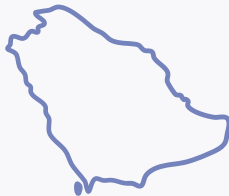


INDONESIA



SUDAN

DEMOCRATIC
REPUBLIC OF THE
CONGO



SAUDI ARABIA



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**



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