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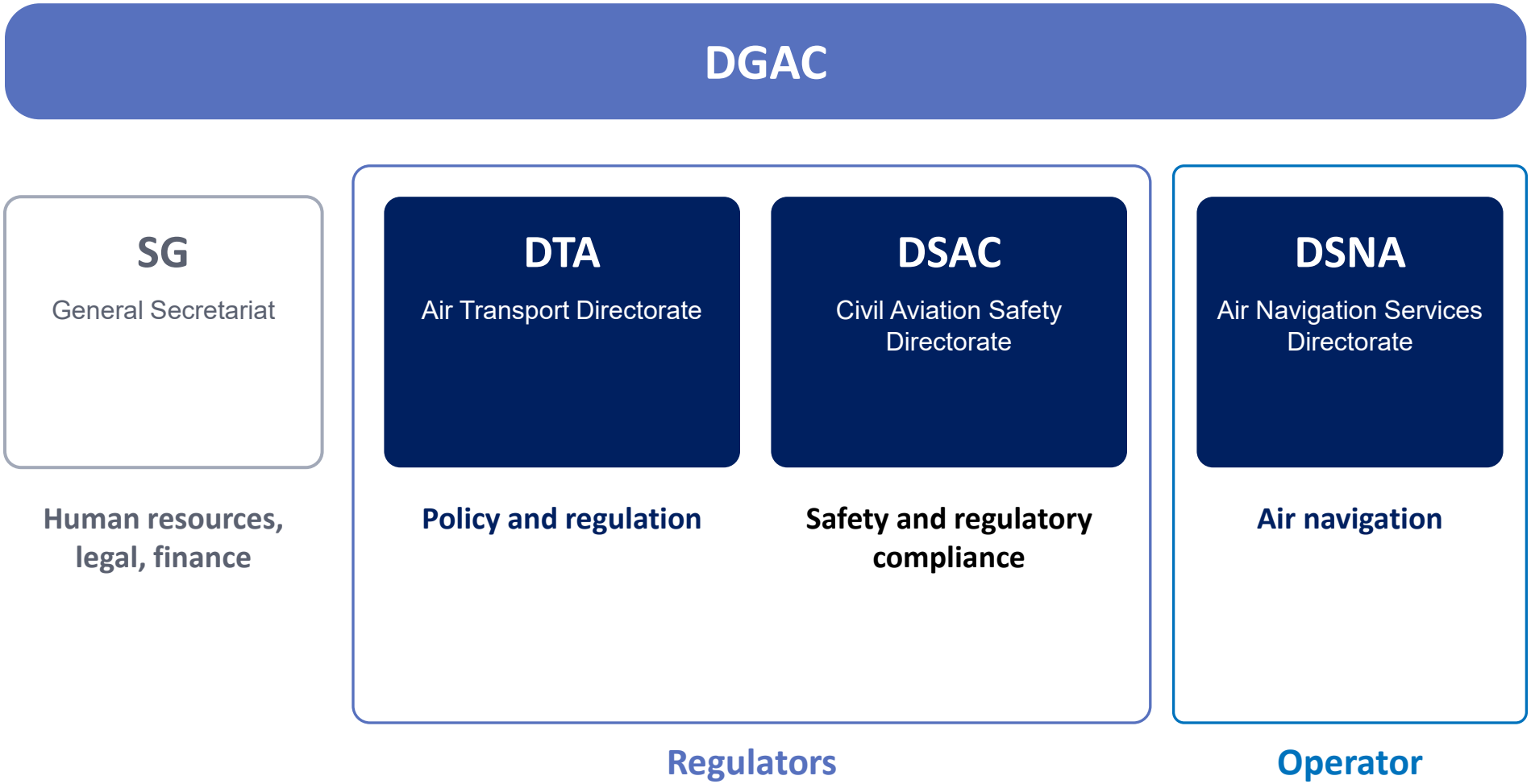
EFFECTIVENESS OF CIVIL AVIATION AUTHORITIES AND INTEGRATION OF UAS/RPAS ACTIVITIES

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ORGANIZATION OF UAS/RPAS ACTIVITIES IN FRANCE

Reminder: how DGAC activities are divided



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The role of the three directorates in drone matters

DTA
Air Transport Directorate

Draft the regulations
- Air navigation regulations
- National rules on drone traffic
- **Co-organize the airspace**
- With the military (DIRCAM)
- Including restrictions applicable to drones

DSAC
Civil Aviation Safety Directorate

Authorize and register
- Issues operating authorizations
- Drone registration and procedures

Process locally
- The interregional DSACs process files in the field

Oversee and certify
- Risk-based oversight, planned audits, inspections
- Certification and oversight of USSPs, s-CISPs and ANSPs (DAR, relevant information)

DSNA
Air Navigation Services Directorate

Flights in controlled airspace and near aerodromes
- Processes flight authorization requests

Information for remote pilots
- Via the Geoportal

Future integration of drones (U-space)
- In controlled airspace: “dynamic airspace reconfiguration” under the responsibility of the control service
- Relevant information (manned air traffic)

Which profiles are needed to manage drones?

DTA

Regulate and coordinate

- Civil aviation engineers, senior civil aviation technicians and administrative managers (legal experts)
- Regulatory watch, rule drafting, interministerial U-space coordination

DSAC

Authorize, oversee, certify

- Inspectors: civil aviation engineers and senior civil aviation technicians, holding the oversight license
- Other experts
  - Drones and general aviation
  - Safety studies, risk analysis (SORA)
  - ATM/ANS
  - Software assurance

DSNA

Integrate into the airspace

- ICNA (ATCO): flights in controlled airspace, dynamic reconfiguration
- IESSA (ATSEP): traffic systems and data

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UAS/RPAS: THE NEW EUROPEAN UTM PROJECT

UAS/RPAS: a new player: U-space



U-space

The European framework for automated drone traffic management (UTM)

April 2021

The European Commission adopts the U-space framework in the form of three regulations

Safe coexistence

Between drones and manned aircraft, in certain portions of the airspace

Not yet full integration

A segregation of airspaces, enabling safer use

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U-space at a glance

U-space: airspace portions designated by the State, where drones fly only with the support of digital and automated services, the U-space services.

4 mandatory services

Network identification

Identify the drone throughout the flight

Geo-awareness

Inform of airspace restrictions and status

Flight authorization

Takeoff authorization and conditions for each flight

Traffic information

Report nearby air traffic

Who provides these services?

USSP: U-space service providers

CISP: common information services

Air traffic control: shares information on manned traffic

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U-space: a shared responsibility par excellence

Europe sets the framework

- Regulation (EU) 2021/664
- Regulation (EU) 2021/665
- Regulation (EU) 2021/666

The State designates and coordinates

- Designates the U-space airspace following a risk assessment
- Organizes the coordination mechanism with local entities
- May designate a single common information services provider (s-CISP)

Certification of USSPs is shared

- State of the main establishment
- Several States: those States or EASA, at their choice
- Third countries: EASA

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HOW TO ASSESS HR NEEDS FOR UAS/RPAS?

Mastering your processes: the DSAC example

ISO 9001 CERTIFIED

Excellent visibility of the organization's processes

CROSS-CUTTING

Supporting documentation

MS-GEN
DSAC management system manual – general

SSP manual

BY AREA

R2	R3	R4	R5	R6	R7	R8
Territorial affairs	Airports	Flight crew	Air operations	Air navigation and U-space	Security (AVSEC)	Airworthiness

Tools to track staff activity

Signal V2

Track the activities of each position/staff member and know which charge to allocate them to: every expense must be justified and paid with the corresponding charge

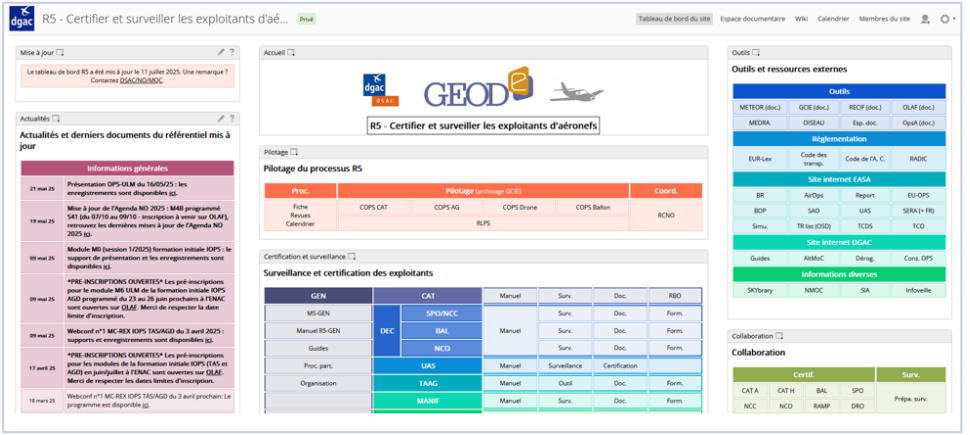
GEODe

Track national and regional activities (documentation and electronic records)

MARDI (en proyecto)

Measure qualitative needs by area, to better identify where to strengthen oversight.

GEODe: dashboard for a mission-critical process



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HOW TO REQUEST NEW STAFF IN GOVERNMENT?

Key points of the legal framework for hiring

Personnel appropriations (Title 2) are binding

Asymmetric fungibility:

✓ **Title 2 → other expenses**

✗ **Other expenses → Title 2**

Hiring cannot be financed with operating appropriations.

An employment authorization ceiling

- Voted by ministry
- It is the employment ceiling
- Expressed in FTEW (full-time equivalents worked)

First: meet the need without creating jobs

In France, the Budget Directorate will require that these avenues have been explored before any creation request

Use vacant positions

- The ceiling is often underused: there is room in FTEW
- Available Title 2 appropriations (salaries) are needed
- And it must remain compatible with the employment scheme

Redeploy

- Eliminate a lower-priority position (automated or outsourced tasks) to create another

Transform jobs

- E.g.: 2 category C positions → 1 specialized category A position
- Equal or fewer FTEs, but a higher unit cost, to be financed from Title 2

Who decides?

The arbitration actors

The HR departments of the program manager/operational budget manager

The sub-directorate for skills and human resources (SDCRH)

The HR committee

Graduates of the school (ENAC)

- Calibrated to the authorized staffing levels per department
- Needs identified with the departments
- Arbitration by the SDCRH (General Secretariat)

Example:

14 ENAC graduates

14 priority positions to identify

Requesting net creations

For jobs in N+1: express the need from the end of N-1 or the start of N, before the spring budget conferences.

1

The department

expresses its need to its program manager or operational budget manager at the HR committee

→

2

The program manager

consolidates the needs and ranks them by priority

→

3

The General Secretariat

arbitrates between programs and submits the ministerial request

→

4

The Budget Directorate

discusses the request at the conference

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REORGANIZE: SIMPLIFY TO MANAGE BETTER

Managing activities without more staff

- **Simplify**
- **Focus on the essentials**
- **Equip with tools**
- **Rely on the team**
- **Simplify working methods**

Objective: optimize activities to better allocate time (e.g., shorter reports) and devote it to new activities. Process-based approach.

Mobility across the territory

Meet a need when the skills exist elsewhere

The social protocol

Implement a new organization in exchange for financial compensation

Social protocol: evolving skills

1 What changes

- A new activity arrives under the European UTM project U-space
- Mandatory certification of U-space providers (USSP and s-CISP) and oversight

2 What the DSAC must do

- Take part in drafting the rules for use and oversight
- Certify and oversee new operators

3 For staff

- **An update of DSAC staff skills**
- **New skills to mobilize**

The protocol includes financial compensation for staff taking on new activities.

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PREPARING STAFF AND DEVELOPING THEIR SKILLS

Training in UAS/RPAS: initial and continuing

DGAC–ENAC agreement: an ongoing dialogue

With the technical directorates, to determine training needs and follow developments in the sector: e.g., oversight license requirements (DSAC), controller ratings (DSNA)

Initial training

ENAC updates its training programs in line with the new players

Continuing training

- Internal DSAC and ENAC training
- Field experience
- Eurocontrol (U-space)

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HOW TO FINANCE THESE NEW ACTIVITIES?

The U-space example

Air navigation charges

Do not cover the oversight or certification of U-space providers (USSP, CISP)

Oversight and certification charges (DSAC)

Finance these activities, under the principle of full cost recovery (including staff costs)

EU obligation to separate accounts

Each activity is allocated to the corresponding charge (e.g.: Signal V2)

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Other U-space costs

Air traffic service

Costs of air navigation providers under Regulation 2017/373 may be included in the cost base of air navigation charges (e.g., traffic information, dynamic reconfiguration).

Common information services provider

The charging system will depend on the model chosen for common information services.

Centralized model

A single CISP, with limited competition or even a monopoly: its designation and costs must be regulated.

- Designation following a tender
- Services subject to a charge, set by decree
- Charge regulated by the national supervisory authority

Distributed model: individual CIS are provided free of charge.

U-space service providers

Costs not regulated at EU level: market principles apply (market price).

States ensure fairness, transparency and non-discrimination, while preserving safety, operational continuity and the public interest.

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ACTIVITY

Activity

ROLE PLAY

The scenario: the DSAC must absorb the arrival of U-space providers and the increase in drone operators. It requests 3 additional inspectors.

Group 1



The DGAC

Defends the staffing request

Group 2



The Budget Directorate

Challenges: vacant positions? redeployment? transformation? financing? timeline?

Procedure

10 min Preparation

10 min Conference

10 min Debrief

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THANK YOU! YOUR QUESTIONS