

中国民航大学
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设计保证体系

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Design Organization Approval




设计组织批准



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“Only General Guidelines”	
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DOA	
General Principle of Part 21 DOA: → Part 21 DOA is approval of	
	NOT delegation to individuals
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Why DOA?

Why/What is a:

- Certification Authorities aim at making sure that applicants have the necessary knowledge and means to develop certification demonstration, in order to be confident in their statements of compliance.



- For that purpose Authorities have developed the « Design Organization Approval » concept based upon a qualified framework.



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Why DOA?



- To establish a "**qualified framework**" for the various activities related to the compliance demonstration with applicable requirements
- To set the basis to enable the Agency to **accept statements** from DOA organisations, that the regulations have been complied with.



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Why DOA?

Qualified framework means:

1) an organisation

- with the necessary management,
- allocation of responsibilities,
- procedures,
- and resources,

necessary for the accomplishment of the activities defined in the scope of DOA

2) A system that monitors the performance of the organisation and ensures that the need for effective corrective action is identified and carried out.



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Why DOA?

DOA “sets the scene” for product certification related activities, including:

- Type and Supplemental Type certification
- Design approval of changes and repairs
- Continued Airworthiness activities



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Why DOA?

For the organisation, **Privileges in detail?**

- Compliance documents may be accepted by the authority without further verification
- Classify changes / repairs
- Approve minor changes / minor repairs
- Approve major repairs (if DOA is also TC/STC holder)
- Issue information or instructions for continued airworthiness
- Approve documentary changes to AFM
- Approval of Flight Conditions for a PtF
- Delivery of PtF



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DOA advantages

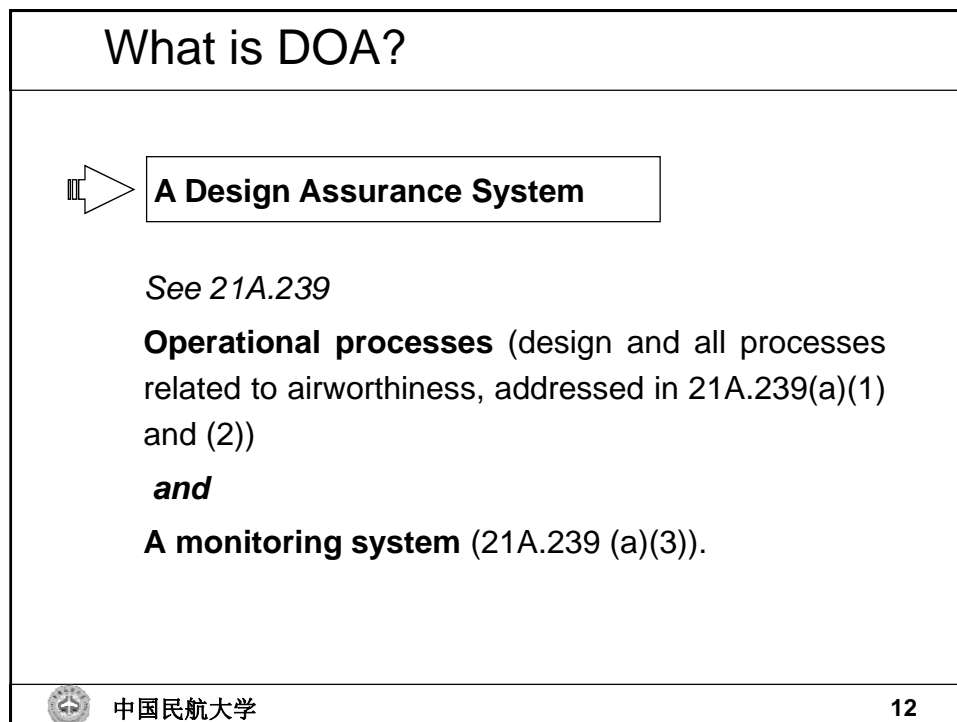
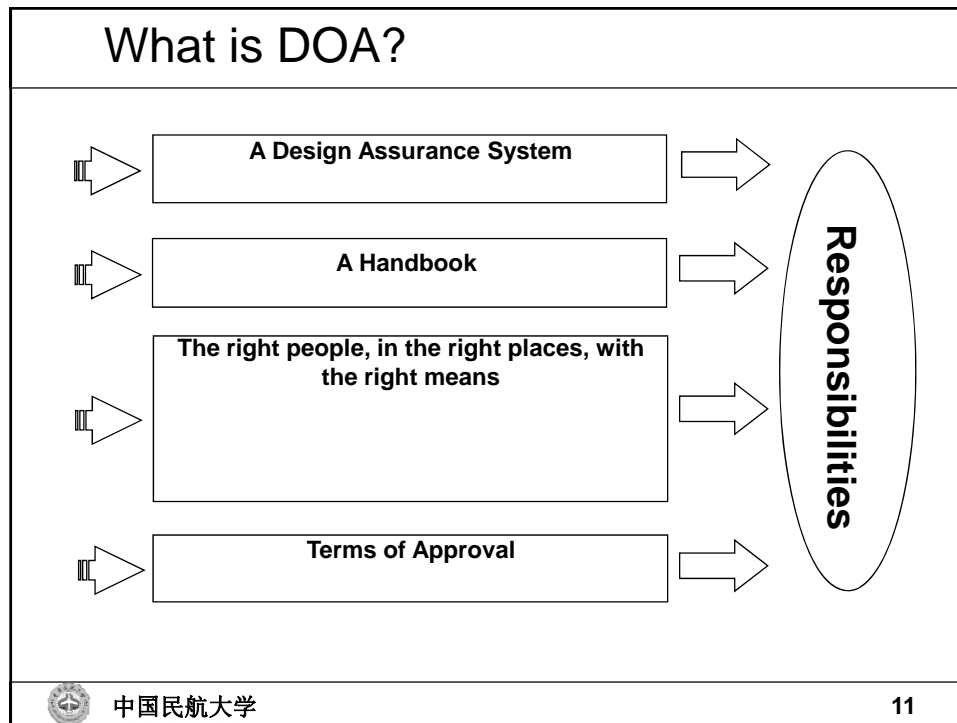
➤ For the Agency

- Allow the Agency to determine its involvement in certification projects based on an organization with known competences, structure and resources
- Focus the resources of the Agency on **safety critical matters**



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What is DOA?



A Design Assurance System

It also includes:

an **independent checking function** of the **showings of compliance**

(21A.239(b))

control of work performed by **Partners** or **Subcontractors** (21A.239(c))



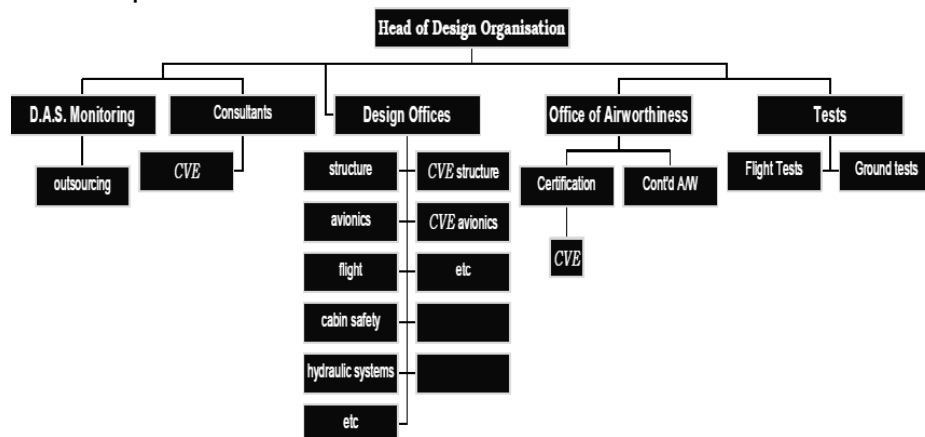
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What is DOA?

DOA J Design Organisation Chart:

→ Example



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What is DOA?



A Handbook

See 21A.243

Describing the **organisation** and **procedures** for **scope of work** covered by DOA

Known by the staff

Used as a **basic working document** within the organisation



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What is DOA?



**The RIGHT PEOPLE,
in the RIGHT PLACES,
with the RIGHT MEANS**

See 21A.243 + 21A.245

Appropriate **qualification**

Appropriate **authority**

Nominated **personnel**



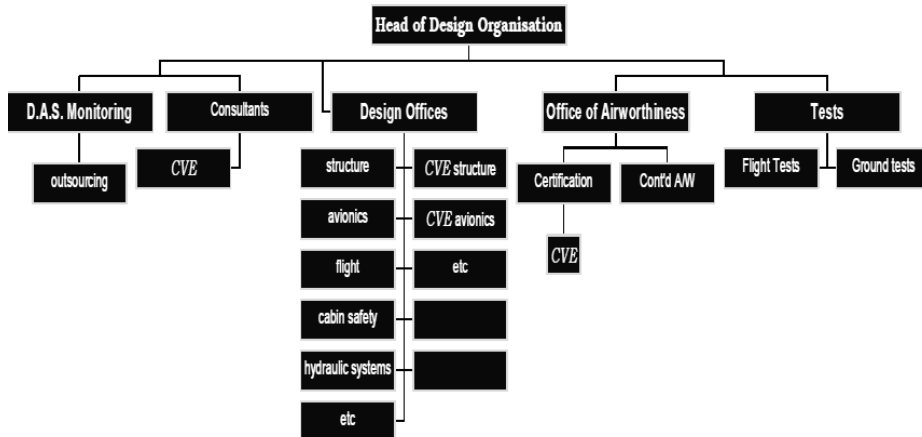
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What is DOA?

DOA J Design Organisation Chart:

→ Example



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What is DOA?



Terms of Approval

See 21A.251 + 21A.263 (*Privileges*)

Defining:

Design work

List of products

Privileges

covered under the DOA



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What is DOA?

Responsibilities

See 21A.265

To **maintain the handbook**

To **use it** as a basic **working document**

To determine that **design complies** with **applicable requirements**

To submit **statements of compliance**

To **fulfil responsibilities**



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Statistics

➤ DOAs in Europe

There are currently 320 DOA holders in Europe including those in Iceland, Switzerland and Norway.



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Statistics

► DOA Outside Europe

<i>Country</i>	<i>DOA</i>
Australia	1
China	2
Indonesia	1
Japan	1
New Zealand	1
Russian Federation	2
Singapore	3
Turkey	2
United Arab Emirates	2
United States of America	1



EASA internal Procedures

OVERVIEW

- EASA activities are described in internal procedures, as part of EASA Integrated Management System (IMS)
- Process starts with an application and payment of an approval fee
- DOA investigation is performed to establish compliance with Part 21 applicable requirements



EASA internal Procedures

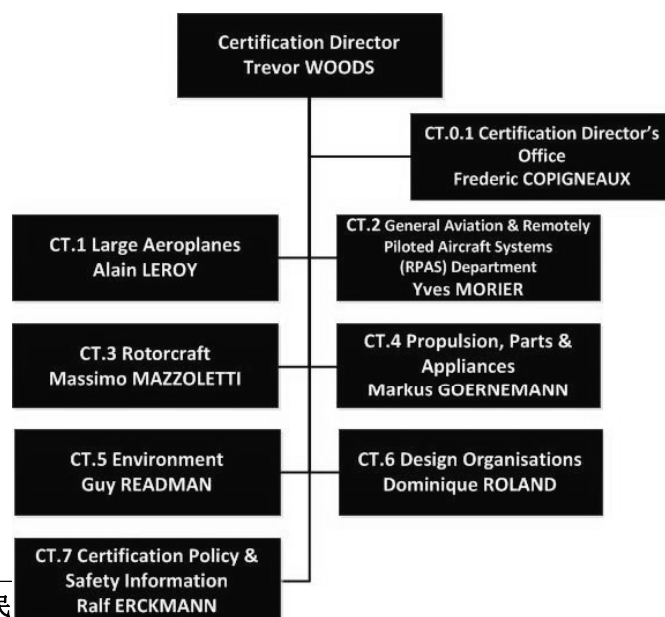
- If successful, a DOA certificate is issued, with Terms of Approval
- Following approval, DOA surveillance is organised
- Activities are performed by the EASA Design Organisation Approvals Department, with the technical support of other Departments within the Certification Directorate



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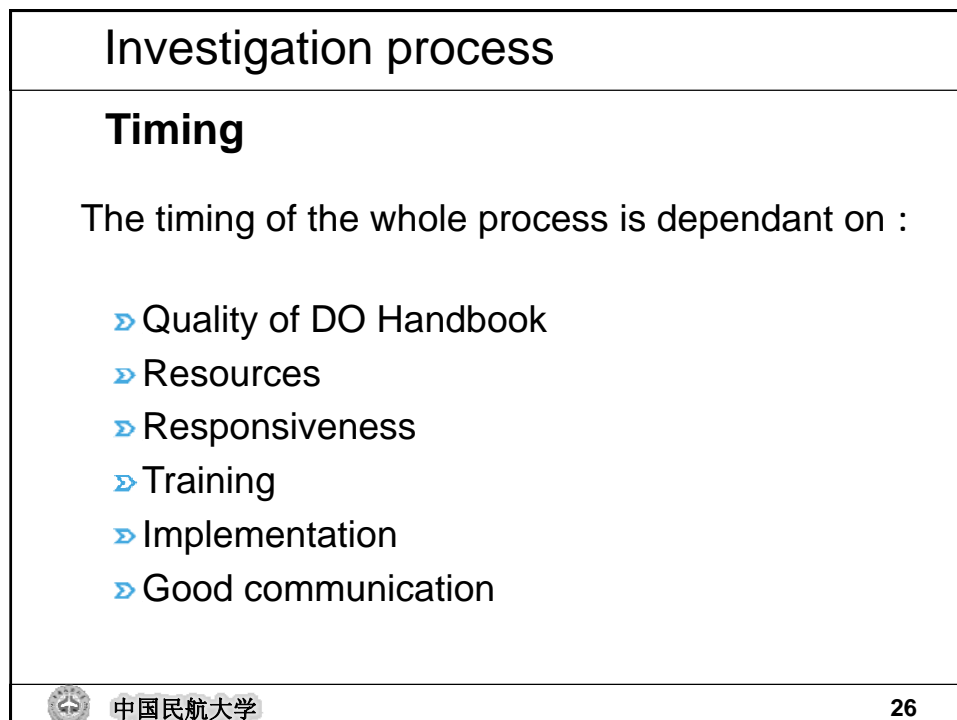
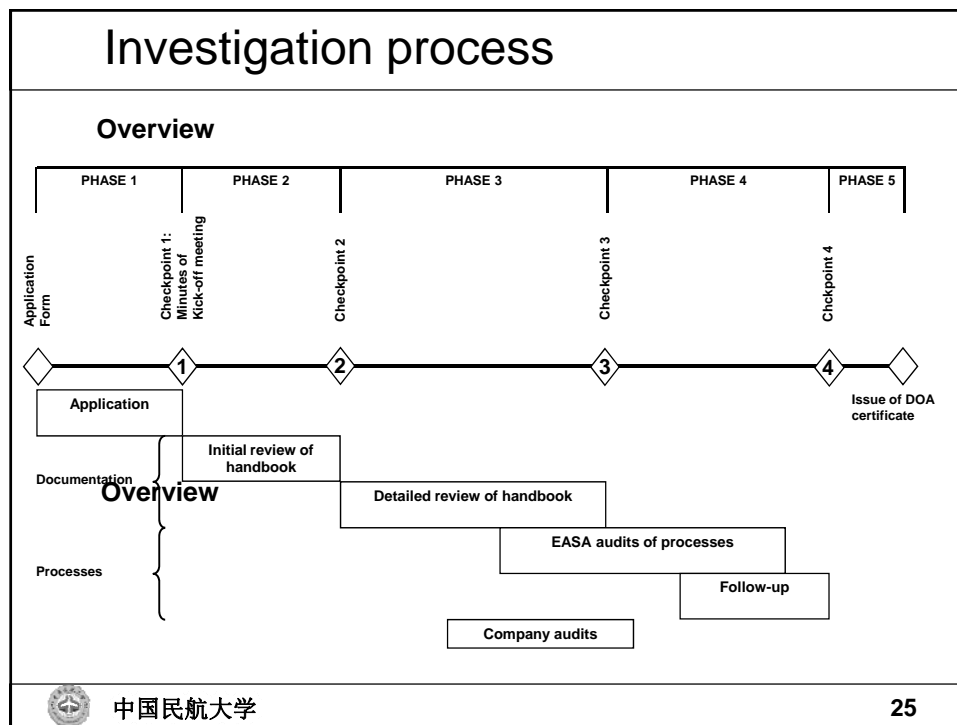
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EASA internal Procedures



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Surveillance

DOA Surveillance program (1)

After initial approval of the DO, a surveillance program is started.

Based on many factors, such as DOA level of activities, experience, scope and performance, the DOA Team Leader will:

- Produce a program defining the surveillance activities for of the coming cycle of 3 years
- Produce an annual surveillance report, with activities performed and update of cycle programme as needed
 - The annual surveillance report is submitted to Section manager and Head of Department for approval



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Surveillance

DOA Surveillance program (2)

The program shall be established to verify over three years that the organisation continuously complies with applicable requirements of Part 21 and the Design Assurance system remains effective, using:

- Process audits (TC/STC processes, approval of changes or repairs, occurrence reporting...)
- Product audits
- Review of procedure updates



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Changes to the organisation

DOA Significant Changes (1)

Significant changes are defined in 21A.247.

- They require EASA approval
- The application (EASA Form 82) shall be sent to the DOA
e-mail address: doa@easa.europa.eu
- Additional investigations are performed:
 - Short and simple (e.g. change of a manager); or
 - Complex, nearly complete re-evaluation (e.g. new product with new design and certification work-sharing)



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Changes to the organisation

DOA Significant Changes (2)

Significant changes are defined in 21A.247.

- Final report at the end (approved by SM / HoD)
- Updated Terms of Approval or Certificate, when impacted by significant change
- EASA approval letter, in other cases



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Changes to the organisation

Other changes

For changes that are not significant:

- Report to DOA Team Leader through appropriate update of handbook and procedures (ref. 21A.243(c))
- Review by DOA Team Leader
- Notification of acceptance (letter or meeting notes)



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Question?



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