



PART-21J

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— DESIGN ORGANISATION APPROVAL

Part-21J Certification: A Key to aeronautical design

Part-21J certification is essential for organisations specialising in **aeronautical design**, including aircraft modification and repair. At **R&R Consulting**, experts in aeronautical certification for 20 years, we support our customers in **implementing the most stringent safety rules so that they meet European aviation safety requirements** and take advantage of them to stand out on the international market.

What is Part-21J?

Part-21J is a European regulation that applies to the entire European aviation industry, and is overseen by the European Aviation Safety Agency (EASA). Part 21 defines the rules, rights and requirements for obtaining certification of an aircraft, equipment, in-service modification or repair. In particular, it defines **DOAs and POAs**, the only organisations that can certify and produce aircraft and airworthy parts.

What is a DOA under EASA Part-21J?

DOA stands for Design Organisation Approval. It is the approval granted to a design organisation that complies with the requirements set out in Part 21, Subpart J, of Regulation (EU) No 748/2012. It is made up of a team of Design Managers declared to the authority, as well as experts whose role is to check that the design justifications comply with the airworthiness requirements (the EASA Certification Specification).

The DOA must develop a procedures manual and submit it to the authorities for approval. This manual becomes a contract, compliance with which is audited at least once a year by the authority and by an internal auditor registered with EASA, known as the Head of Independent Monitoring. The manual must describe how the design organisation controls its subcontractors, empowers and maintains the skills of its personnel and meets certification requirements. The DOA is obtained for a defined scope, which can be extended over the course of projects, subject to demonstration of its capacity to the European authority.

The DOA is compulsory for organisations wishing to certify aircraft, including drones, above a certain mass, aircraft modifications on behalf of operators, spare parts and equipment and repairs.



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Why is it crucial?

Innovation and safety: certification enables organisations to demonstrate their ability to design in compliance with high safety requirements.

Market access: it opens the door to EU and international markets, as approved products can be sold and used by operators in registered aircraft throughout the European Union. As the very high standards set by the European authority are recognised throughout the world, a DOA also opens the door to export markets.

Credibility: being Part-21J certified enhances an organisation's reputation with aircraft manufacturers and major OEMs, demonstrating a commitment to quality and safety.

Autonomy: being Part-21J certified enables an organisation to carry out regulated design activities autonomously, without going through the Authority

Part-21J Certification Process

Establishment of requirements: Organisations must establish a quality assurance and design management system to monitor and control all design activities, ensuring that products are safe and comply with technical airworthiness requirements.

Documentation and compliance: the preparation of design documentation, including operation and maintenance manuals, is essential to ensure that parts are installed without damaging them or the airworthiness of their environment.

Assessment and approval: prior to initial approval and during surveillance audits, EASA assesses whether the organisation complies with the approval requirements by verifying the systems, procedures and competence of personnel, including subcontracted personnel.

Maintenance of certification: Organisations must continually ensure that their procedures and personnel remain compliant with Part-21J requirements. Common deviations during audits relate to poorly defined procedures or unfamiliarity of internal teams and/or inadequate authorisation for certain employees.

Benefits of Part-21J Certification

Certification allows organisations to:

Legally design and modify aircraft and components to be produced by a POA (approved production organisation) for direct assembly on an aircraft in service. The **DOA can also be used to apply for aircraft type certification**, including innovative aircraft with, for example, electric or hybrid hydrogen-electric engines.

EASA-approved compliance documents for minor modifications, with no additional checks required, enabling us to offer cabin refurbishment or repair solutions within the timescales required by airlines and maintenance organisations.

Carry out design activities independently of the Agency, within the scope of their approval.



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In conclusion, these organisations play a crucial role in the aeronautical industry by ensuring that all products designed meet high safety and performance requirements. Their ability to carry out design activities independently accelerates innovation and the marketing of new products, while strictly complying with regulations and achieving international recognition.

Our approach at R&R Consulting

Needs assessment: the first phase consists of diagnosing the specific needs and strategy of the organisation and assessing the current gaps with the requirements of Part-21J (Diagnostic and Definition of the roadmap).

Preparation for certification: in the second phase, we prepare and supervise the drafting of the manuals, with our experts intervening throughout the project within the organisation and ensuring that all the design processes comply with the regulations.

Training and support: we offer detailed training courses to ensure that teams master the requirements, from the regulatory environment through to the certification process for DOAs and the release of the product under the airworthiness form (EASA Form-1) for POAs. We add to this our knowledge of industry best practice.

Audit and follow-up: our support continues after certification, with scheduled audits (internal and subcontractor), as well as advice and regulatory monitoring to secure ongoing compliance and design process improvement.

Conclusion

Part-21J certification is essential for organisations involved in aeronautical design. At R&R Consulting, we use our expertise to guide you through this complex process, helping you to achieve and maintain this valuable certification, and to do so in much less time and at much lower internal costs than if you did it yourself. For more information on Part-21J certification or other services, please contact us at: contact@rr-consulting.aero