EASA Part 21G Third Country Approval From 0 to 36 Months

Securing an EASA Part 21 Subpart G Production Organisation Approval (POA) from a "zero position" as a third-country (non-EU) facility is a meticulous structural and industrial challenge. While a Part 21J (Design) approval regulates the creation of conceptual engineering data, Part 21G regulates the replication of physical products**.**

Your ultimate objective is to prove to EASA that your facility can repeatedly manufacture parts so that they match the approved design data precisely ("as-built" matches "as-designed").

A third-country Part 21G project generally spans 24 to 36 months and requires transforming a standard commercial manufacturing shop into a highly controlled, tightly monitored aviation production environment.

The Ground Rules for Third-Country POA Applicants

EASA applies strict operational criteria before validating an initial application from a non-EU entity:

The DO-PO Arrangement (21.A.133): A manufacturing facility cannot exist in a vacuum. You cannot apply for a POA unless you have an active, formally signed Design Organisation to Production Organisation (DO-PO) Agreement with an EASA-approved design holder (the Type Certificate, STC, or ETSO holder). You must have a legal, regulated pipeline of approved design data.

The Direct Export / Operational Need: EASA will not audit a foreign facility simply for prestige. You must demonstrate a clear commercial path showing that the components produced will be exported directly into the EU or installed on an EU-registered aircraft.

Bilateral Agreements (BASA): If your manufacturing facility is situated in a country with a comprehensive production bilateral agreement with the EU (e.g., the US under the FAA, Canada under TCCA), EASA will direct you to apply to your local National Aviation Authority instead. Direct EASA third-country applications are reserved for non-BASA states or exceptional jurisdictional carve-outs.

The Macro Project Timeline

Taking a facility from a standard industrial baseline up to a fully certified aviation production plant requires a clear phase-by-phase evolution.

Phase 1: DO-PO Alignment & Gap Analysis - Months 1–6

Secure the formal DO-PO interface agreement with your design partner. Perform a deep-dive gap analysis comparing your current factory floor operations and quality metrics against EASA Part 21G and EN9100 aerospace production standards.

Phase 2: EASA Application Submission- Months 7–9

Submit your initial registration and application package via the online EASA Service Portal. Provide clear proof of your commercial export case and design links. EASA assigns a specialized POA Team Leader (POATL) and determines investigation fees.

Phase 3: Building the Production Management System (PMS) - Months 10–18

Draft your complete Production Organisation Exposition (POE). Establish strict internal tracking mechanisms for material traceability, incoming raw goods inspections, production tool calibrations, and safety hazard identification systems.

Phase 4: Manual Reviews & Staff Qualification - Months 19–24

EASA executes its initial desktop review of your POE. Concurrently, you must run formal training courses on aviation human factors, Part 21G rules, and internal procedures to qualify your specialty manufacturing and Certifying Staff.

Phase 5: Trial Runs & First Article Inspection (FAI) - Months 25–30

Run pilot manufacturing batches using your newly drafted POE processes. Execute full First Article Inspections (FAI) to ensure machinery is calibrated. Your internal quality auditors must perform comprehensive spot-checks across the entire shop floor.

Phase 6: On-Site Audits & Certificate Issuance - Months 31–36

EASA inspectors perform extensive physical audits of your manufacturing plant, warehouses, and testing laboratories. Upon the successful clearance and closure of all regulatory findings, EASA issues your formal Part 21G POA Certificate (EASA Form 3G).

The Core Production Architecture (Four Pillars)

To transform a zero-position facility into an approved aviation production source, your operational infrastructure must rest securely on four pillars:

1. **The Production Management System (PMS):** Governed by **21.A.139**, this system unifies traditional aerospace quality control with a proactive Safety Management System (SMS). It ensures that every step of the manufacturing loop is traceable, documented, and continually assessed for industrial safety hazards or systemic defects.

2. **Key Nominations (Form 4 Leadership):** You must designate accountable operational managers who are vetted and interviewed by EASA via the official Form FO.POA.00174 process:
    - **Accountable Manager:** The executive who holds ultimate corporate and budgetary control over production quality.
    - **Head of Production:** Directs daily shop-floor manufacturing activities, ensuring scheduling pressures never override safety protocols.
    - **Production Management Manager:** Functions as the independent quality and safety assurance lead, maintaining a direct reporting line to the Accountable Manager.
3. **The Certifying Staff Framework (21.A.145):** These are your authorized gatekeepers. Certifying Staff are highly specialized personnel trained to assess completed parts, review manufacturing build records, and issue the critical EASA Form 1 (Authorized Release Certificate). Your system must guarantee their independence from day-to-day manufacturing output quotas.
4. **The Production Organisation Exposition (POE):** Your primary regulatory playbook. The POE must explicitly map out your facility layouts, inventory separation methods, supplier vetting steps, non-conforming material quarantine rules, and your interface guidelines with the partner Design Organisation.

The EASA Certification Sequence

The formal approval sequence with EASA moves step-by-step through a structured technical validation process:

Application Review - Submit your formal application alongside your DO-PO agreement. EASA assesses the validity of your business intent, verifies that no bilateral regulatory roadblocks exist, and sets the initial allocation of technical resources.

The Kick-Off Meeting - Technical Presentation

Your executive management team meets with the assigned EASA POATL. You present your manufacturing capabilities, facility schematics, machinery types, and the specific list of components or appliances you intend to build.

POE & Checklist Assessment - Desktop Investigation

EASA performs a line-by-line critique of your drafted Production Organisation Exposition (POE) and associated working checklists. You will cycle through iterative correction loops to resolve text discrepancies or ambiguous quality control definitions.

Trial Production & FAI Phase Industrial Implementation

Activate your factory floor under the provisions of the pending POE. Manufacture trial batches, validate your specialized tooling, and complete detailed First Article Inspections. Your internal quality team must audit these initial lines to confirm compliance.

The Main EASA Site Inspection - Physical Facility Audit

EASA inspectors walk your physical facility. They evaluate your raw material intake zones, climate-controlled storage rooms, production machinery, and testing bays. They will directly interview your Form 4 managers and watch your Certifying Staff execute final inspection protocols.

Closeout & Certificate Delivery - Finding Remediation

EASA issues its final audit report, categorizing items into Level 1 or Level 2 findings. Your team must implement immediate root-cause corrections and provide documented evidence of resolution. Once cleared, EASA awards your official EASA Form 3G certificate.

Crucial Advice for a "Zero Position" Start

- **Control Your Supply Chain Tightly (21.A.139):** Your third-country POA is fully responsible for all incoming raw materials, fasteners, and sub-assemblies. EASA will audit your supplier vetting processes intensely. If you buy materials from unapproved suppliers or lack clear mill test reports (MTRs) for your metals or composites, your entire production line will be grounded.
- **Isolate and Quarantine Non-Conforming Products:** You must install physical, lockable, and highly restricted quarantine cages on your factory floor. Any part that fails a dimensional check or mid-stage inspection must be immediately routed to quarantine to prevent it from accidentally re-entering the active production stream.
- **The "As-Designed" Link is Absolute:** Your production engineers cannot change a single dimension, tolerance, or material specification on their own initiative. If a part cannot be built exactly as specified in the drawing, you must route a formal deviation request back to the partner Design Organisation (Part 21J) for engineering approval before proceeding.

To help build out your manufacturing framework:

Production Organisation Exposition

An EASA Part 21 Subpart G Production Organisation Exposition (POE) is the definitive legal document that demonstrates how your facility complies with manufacturing regulations. It is reviewed line-by-line by EASA during your initial investigation and serves as your station's daily operational handbook.

Per **AMC 21.A.143**, a compliant POE must follow a strict hierarchical structure. In line with recent EASA updates, it must also feature a fully integrated **Safety Management System (SMS)** embedded directly into the production workflow rather than acting as a standalone quality manual.

The standard structural breakdown and master Table of Contents for an EASA Part 21G POE are detailed below.

Part 0: Introduction and Control Architecture

This section handles the administrative validity of the exposition, ensuring that the manual remains a living, legally binding document synchronized with EASA regulatory changes.

0.1 Accountable Manager's Corporate Commitment Statement

- A signed, dated declaration binding the company to operate strictly in accordance with EASA Part 21 Subpart G, the procedures within this POE, and relevant safety performance indicators.

0.2 Management and Amendment of the POE

- Procedures for updating the text, controlling version history, and managing page effectivity.
- Distinction between significant amendments (requiring prior EASA approval) and non-significant amendments (managed via internal privileges).

0.3 Distribution List and Document Control

- Physical and digital access control lists (ensuring the assigned EASA POATL automatically receives all approved updates).

0.4 Glossary, Abbreviations, and Definitions

Part 1: General Organisation and Scope

This section outlines the physical footprint of your factory, your operational boundaries, and the human infrastructure holding regulatory accountability.

1.1 Scope of Production Privileges

- Detailed list of products, parts, or appliances authorized for manufacture.
- Mapping of specific aircraft types, material types (e.g., sheet metal, composites, electronics), and manufacturing technologies utilized.

1.2 Physical Facilities and Shop Floor Layout

- Detailed schematics of the manufacturing plant, including specialized zones: material storage, cleanrooms, machine shops, assembly lines, final inspection bays, and restricted quarantine areas.

1.3 Management Structure and Lines of Accountability

- Corporate and operational organization charts showing a clear separation of quality assurance from production output targets.

1.4 Key Personnel (EASA Form 4 Holders)

- Detailed roles, duties, and replacement chains for the nominated executives:
    - Accountable Manager
    - Head of Production
    - Production Management Manager (Safety & Quality Assurance Lead)

1.5 Human Resources and Competency Management

- Policies for initial and recurrent staff training (including Human Factors, Part 21G updates, SMS principles, and technical production certifications).
- System for maintaining personnel training logs and qualification files.

Part 2: The Production Management System & Quality Procedures

This is the operational core of the POE. It outlines the specific quality gates used to ensure every manufactured item matches the approved design data.

2.1 Document Control and Data Flow

- Procedures for receiving, verifying, and distributing approved design data from the Design Organisation (DOA).
- Ensuring only the latest revision of drawings and work instructions reaches the shop floor.

2.2 Supplier Vetting and Subcontractor Control

- Procedures for evaluating, auditing, and approving external suppliers.
- Maintaining the Active Approved Supplier List (ASL).

2.3 Incoming Inspection and Material Traceability

- Inspection protocols for raw materials, standard parts, and components entering the facility.
- Managing batch numbers, raw mill certificates, and shelf-life limitations (e.g., pre-pregs, sealants).

2.4 Manufacturing Process Control

- Work instruction management, routing cards, and operational milestones.
- Control of special processes (e.g., NDT, heat treating, specialized welding, composite curing) and validation of associated equipment.

2.5 Tooling, Machinery, and Inspection Equipment Calibration

- Tracking, maintenance, and regular calibration of production tools, gauges, and software-driven measurement tools (e.g., CMM).

2.6 Identification and Traceability of Parts During Manufacture

- Methods for tagging, etching, or labeling components at every stage of production to prevent part mixing.

2.7 Non-Conforming Material Control & Quarantine Management

- Procedures for identifying, documenting, and isolating parts that fail inspection.
- The Quarantine System: Mandatory rules for secure, lockable cages.
- Material Review Board (MRB) workflows: Scrap, Rework, or Deviation routing.

Part 3: Integrated Safety Management System (SMS)

This section maps the specific processes that move your production engine from passive quality control to proactive safety risk mitigation.

3.1 Safety Policy and Objectives

- Corporate safety principles, just-culture declarations, and corporate accountability frameworks.

3.2 Safety Risk Management

- Hazard identification processes specific to factory environments (e.g., tooling wear, chemical mixing errors, fatigue on complex assembly steps).
- Risk assessment matrices, mitigation planning, and safety case creation.

3.3 Safety Assurance and Performance Monitoring

- Tracking of Safety Performance Indicators (SPIs).
- Management of internal change: evaluating how a new machine tool, shop floor rearrangement, or software update impacts production safety.

3.4 Safety Promotion and Communication

- Mechanisms for distributing internal safety bulletins, hosting tool-box talks, and driving the occurrence reporting culture.

Part 4: Certifying Staff & Release of Products (EASA Form 1)

This section controls the final release gate of the production line. It dictates who can sign an EASA Form 1 and how that authority is validated.

4.1 Qualification and Authorization of Certifying Staff

- Prerequisites for selection: experience, technical expertise, and regulatory knowledge.
- The internal scope of authorization issuance and signature control.

4.2 Final Inspection and Verification Protocols

- Conduction of First Article Inspections (FAI) per EN9102.
- Final dimensional, functional, and cosmetic inspections before release.

4.3 Issuance of EASA Form 1 (Authorized Release Certificate)

- Procedural flow for executing and validating an EASA Form 1 for parts and appliances.
- Procedures for issuing a Statement of Conformity (EASA Form 52) for complete aircraft (if applicable).

4.4 Record Keeping and Data Archiving

- Storage and retrieval systems for production records, test summaries, and Form 1 copies.
- Retention rule: Minimum retention of 3 years beyond the operational life of the product model.

Part 5: The Design-Production Interface (DO-PO Arrangement)

This section outlines how your third-country manufacturing plant interfaces directly with the EASA Part 21J Design Organisation holding the type certificate or STC.

5.1 The DO-PO Interface Agreement

- Formal reference numbers and governance rules of the signed bilateral contract between the two organizations.

5.2 Handling of Design Changes, Deviations, and Concessions

- The procedure followed when a production error occurs and engineering input is required.
- Routing shop-floor concessions back to the DOA for formal structural validation and sign-off.

5.3 Occurrence Reporting and Continued Airworthiness (21.A.165)

- Procedure for flagging manufacturing defects that slip into service to the DOA and EASA.
- Mandatory reporting channels within the regulatory 72-hour notification window.

Part 6: Independent Quality Assurance / Independent System Monitoring

This functions as the internal audit protocol, providing the Accountable Manager and EASA with verification that the POE is being actively followed.

6.1 Independence of the Quality Assurance Function

- Ensuring the quality management team reports directly to the Accountable Manager and holds the authority to halt the production line if non-compliances are found.

6.2 Audit Scheduling, Planning, and Execution

- The annual master audit plan covering every process listed in Parts 1 through 5.

6.3 Corrective Actions and Finding Closeout Loops

- The procedure for issuing internal findings, conducting root-cause analysis, implementing systemic corrections, and escalating overdue findings to executive leadership.

Part 7: Appendices and Technical Exhibits

- **Appendix A:** Roster of Authorized Certifying Staff (Names, stamp IDs, signatures, and narrow scopes of approval).
- **Appendix B:** Master Register of Approved Special Processes and Validated Tooling.
- **Appendix C:** Facsimiles of Standard Documents (Routing cards, Quarantine tags, MRB logs, and internal audit templates).

- **Appendix D:** Part 21 Subpart G Cross-Reference Matrix (Directly mapping every EASA regulatory point to the corresponding section of this POE).

Next Steps

Sofema Aviation (SA) www.sofemaaviation.com offers a comprehensive suite of EASA Part 21 regulatory online training courses. Designed for design and production organization professionals, these courses provide flexible, expert-written training many with dedicated voice-overs. Email team@sassofia.com