



UNIVERSIDADE DA BEIRA INTERIOR  
Covilhã | Portugal

# 02-Manutenção

Fabricação e Manutenção de Aeronaves (10384)

2013

Daniel Gondar

Departamento de Ciências Aeroespaciais

# Objetivos

- Support the students with the knowlage of Aeronautic Maintenance in the following areas:
  - Quality Systems;
  - Maintenance Process;
  - Maintenance Programs;
  - Reliability;

# Acronyms and Abbreviations

- AD Airworthiness Directive
- AMO Aircraft Maintenance Organization
- AMP Aircraft Maintenance Programme
- AOC Air Operator Certificate
- ARC Airworthiness review certificate
- ARS Airworthiness review staff
- ATPL(A) Airline Transport Pilot Licence (Aeroplane)
- AWC Aerial Work Certificate
- CAME Continuing Airworthiness Management Exposition
- CAMO Continuous Airworthiness Management Organization
- CDL Control Deviation List
- CPL(A) Commercial Pilot Licence (Aeroplane)
- CTI Circular Técnica de Informação
- DDS Deferred Deffect Sheet (Section 4 of Tech Log)
- DOA Disign Organization Approval

# Acronyms and Abbreviations

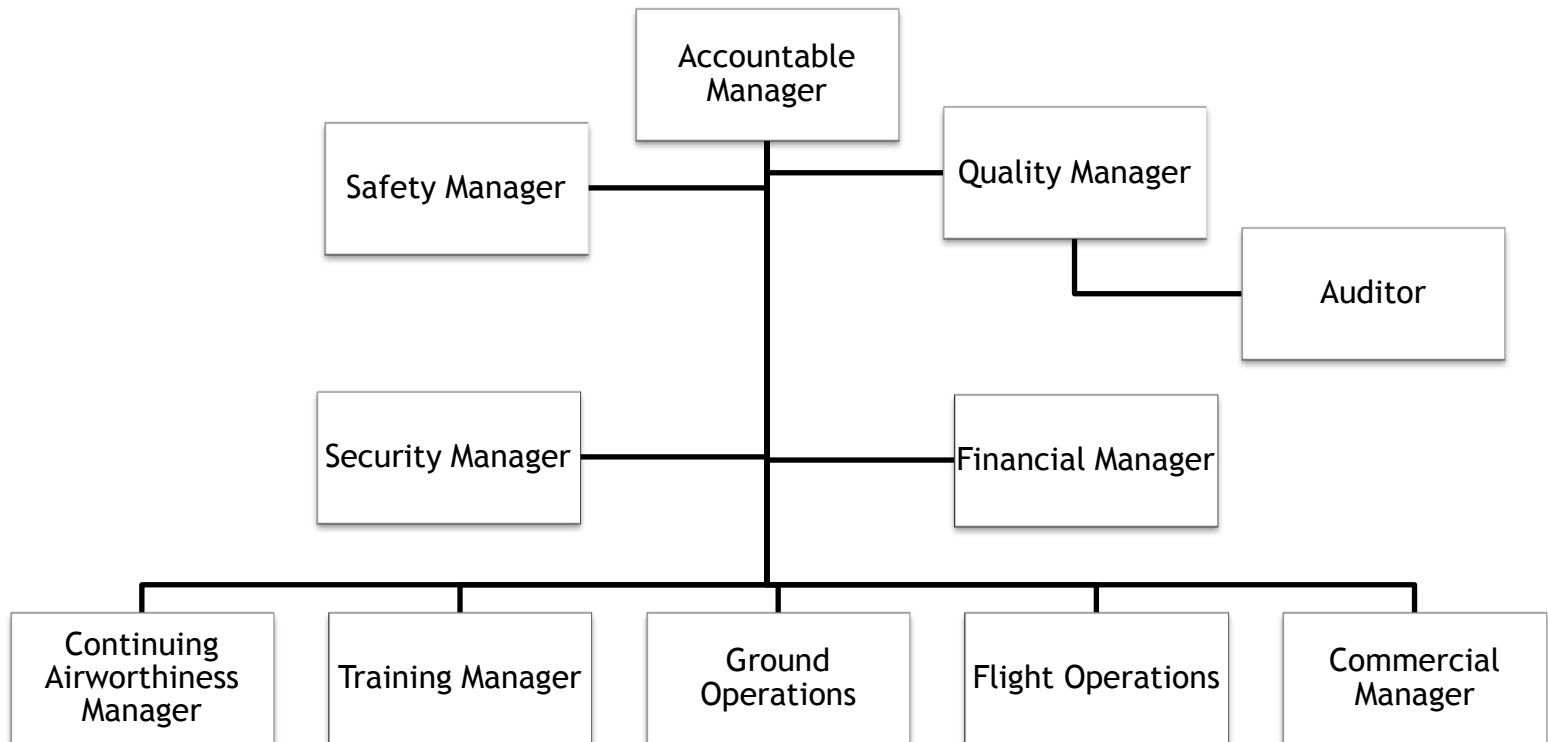
- EPA European Parts Approval
- FTO Flyght Training Organization
- HIL Hold Item List
- MEL Minimum Equipment List
- NAA National Aviation Authority
- OC On Condition
- OH Overhaul
- PPL(A) Private Pilot Licence (Aeroplane)
- RET Removal
- SB Service Bulletin
- STC Supplement Type Certificate
- TBO Time Between Overhaul
- TCDS Type Certificate Data Sheet
- TLB Technical Log Book

# Sistema de Qualidade

- Quality System:
  - Organization or entity;
  - Definition of goals;
  - Check the the applicable regulation;
  - Define the necessary ressources :
    - Local, areas and infrastructures;
    - Equipments e materials;
    - Human ressources, initial and continuing training, specific qualification;
  - Document record system;
  - Procedures and regulations of the organization;
  - Monitoring system: audit, inspection, measurement and verification.

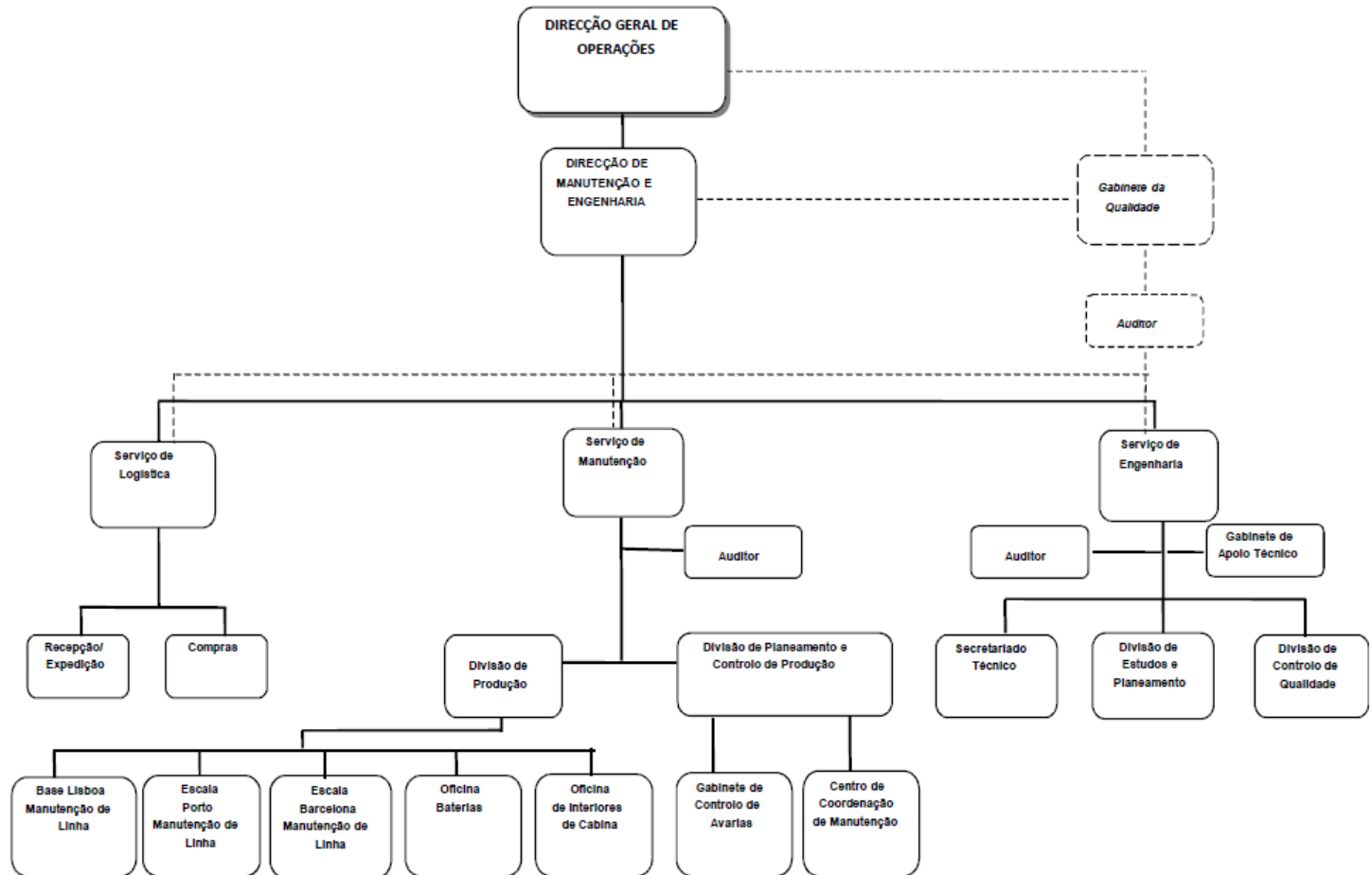
# Sistema de Qualidade

- Aerial Operator organizational template for public transport:





# Sistema de Qualidade



# Sistema de Qualidade

- Sistemas de Qualidade da Aviação Civil:
  - À medida que se foi desenvolvendo a complexidade da aviação civil, foi sendo necessário setorizar cada função associada ao transporte público, de modo a poder ser mais facilmente controlada e monitorizada;
- Os principais Sistemas de Qualidade da Aviação Civil são:
  - Part 21: Organização de produção, reparação e design;
  - EU OPS (Part ORO): Organização de operação de transporte público;
  - Part M: Organização de gestão de aeronavegabilidade;
  - Part 145: Organização de manutenção e incorporação de instruções reparação e modificação;
  - Part 147: Organização de formação de técnicos Part 66;
  - Part FCL: Organização de formação de tripulantes;





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# Sistema de Qualidade

Manutenção

## PART 21

### Production

Aircraft  
Engine  
Systems  
Components

### Repair

Design

### Modification

Design  
SB  
AD  
STC

## EU OPS (PART-CAT, PART-ORO, PART-SPA, etc)

**Operação**  
Commercial  
Non commercial

## PART M

Airworthiness Management

## PART 145

### Maintenance & Repair

Aircraft  
Engine  
Systems  
Components

### Modification

Instalation  
SB  
AD  
STC

## PART 66

## PART 147

# Sistema de Qualidade

- Part 21: Organization of production, repair and design;
  - Has a certificate of approval Part 21, to the scope of approval;
  - Develops manual and procedures;
  - Prepare the necessary human resources;
  - Outputs the initial airworthiness certificate the aircraft;
  - Issues certificate Form 1 systems new or repaired;
  - Issuing certificates of conformity for components;
  - Implemented system monitoring, audits, inspections.
- EU OPS (Part ORO): Organization of public transport operation;
  - Air Operator Certificate (AOC) to the scope of approval, always associated with a certificate CAMO;
  - Develops manuals: OM, AFM, MEL, SMS, GO, Security

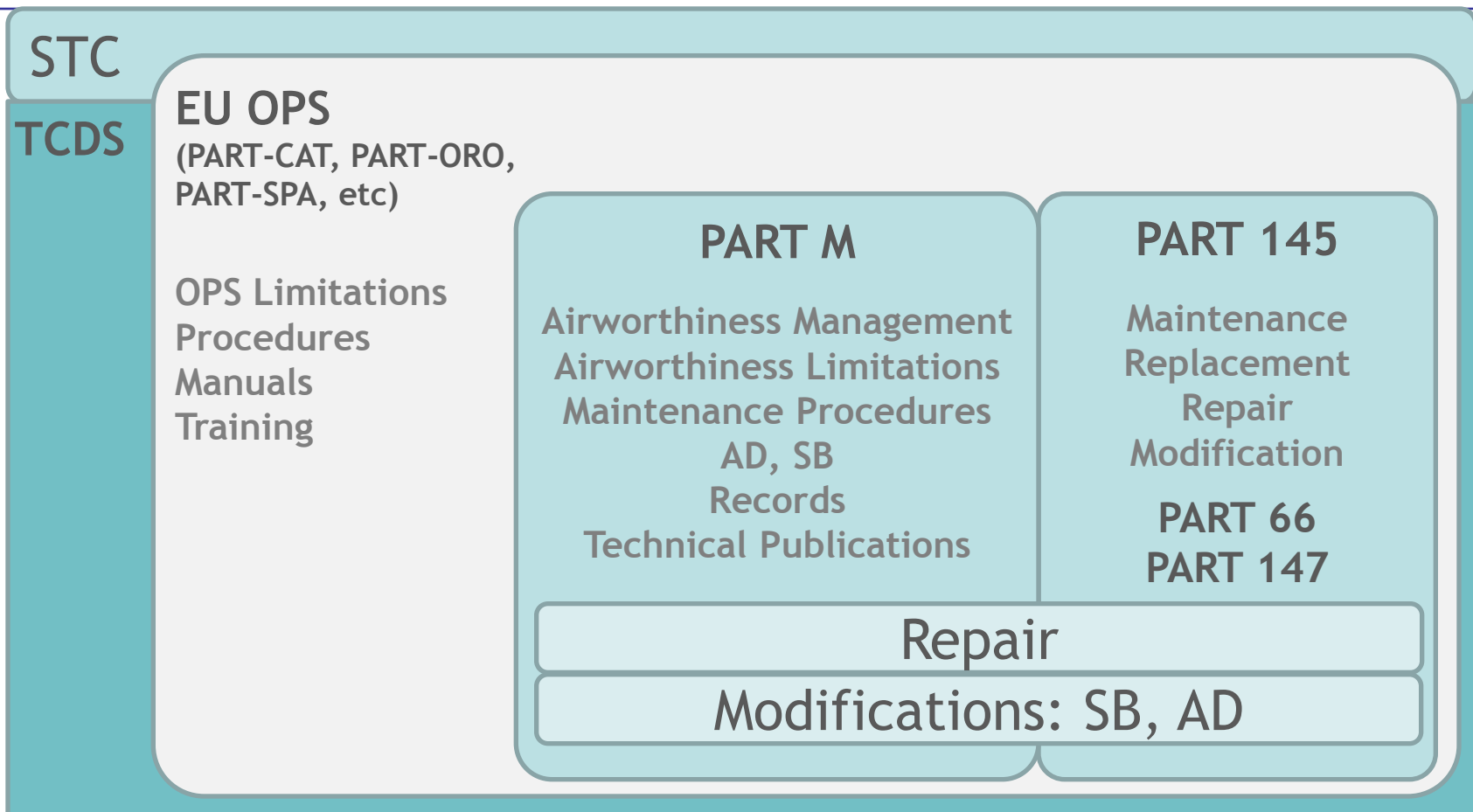
# Sistema de Qualidade

- EU OPS (Part ORO) (continued):
  - Maintains skills of their crews;
  - Ensures compliance of their equipment (aircraft and associated system);
  - Develop a system for monitoring the operation registries;
  - Implement system monitoring, audits, inspections.
- Part M: airworthiness management organization;
  - Certificate of Approval under the CAMO approval;
  - Develops manual CAME to their procedures and maintenance plans;
  - Ensures the continued airworthiness of the fleet;
  - Ensures revalidation of certificates of airworthiness review (ARC);
  - Ensures the fleet maintenance planning ;
  - Maintain updated a technical library and records maintenance.

# Sistema de Qualidade

- Part 145: Organization of maintenance, repair and modification installation;
  - Certificate of Approval under Part 145 with approval;
  - Develops MOM with the procedures;
  - Maintains technical records and technical library updated;
  - Ensures the infrastructure, warehouses, equipment, tools, in order to perform maintenance actions from the scope of approval;
  - Ensures adequate training to qualified service technicians.

# Sistema de Qualidade



# Certification

- What will be needed for an aircraft phase-in, in a Portuguese AOC Portugal?
  - Aircraft certification:  
<http://www.inac.pt/vPT/Generico/Aeronaves/Paginas/Aeronaves.aspx>
  - AOC certification:  
<http://www.inac.pt/vPT/OrganizacoeseEmpresas/Paginas/OrganizacoeseEmpresasHomePage.aspx>