THALES

Production Organisation Approval Training EASA-145

14 April, 2018

Contents

1

Objectives of the training

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- **To meets needs for the regulatory aspects of:**
  - training candidates for the signing of authorised release certificates,
  - maintaining the knowledge of people authorised to sign those certificates,
  - raising the awareness of managers responsible for signing an EASA Form 4, and any person involved in the range of activities covered by FR.21G.0012 approval,
  - more generally, nurturing a "civil aerospace culture".
- **Teaching = generating a good understanding of:**
  - the mindset of the regulations,
  - the reasoning behind the Thales Avionics SA response to the regulatory requirements.
  - Use concrete examples during the training sessions
  - Promote the "target" procedures associated with the Production Organisation Manual.

2

Air safety & Airworthiness

Air safety and airworthiness

- **THE CIVIL AVIATION REGULATIONS** are one of the means used to guarantee the **SAFETY** of air transport:
  - People carried,
  - Crews,
  - Countries and people overflown,
  - Aircraft.

- In order to minimise the **HUMAN and ECONOMIC COSTS** resulting from accidents

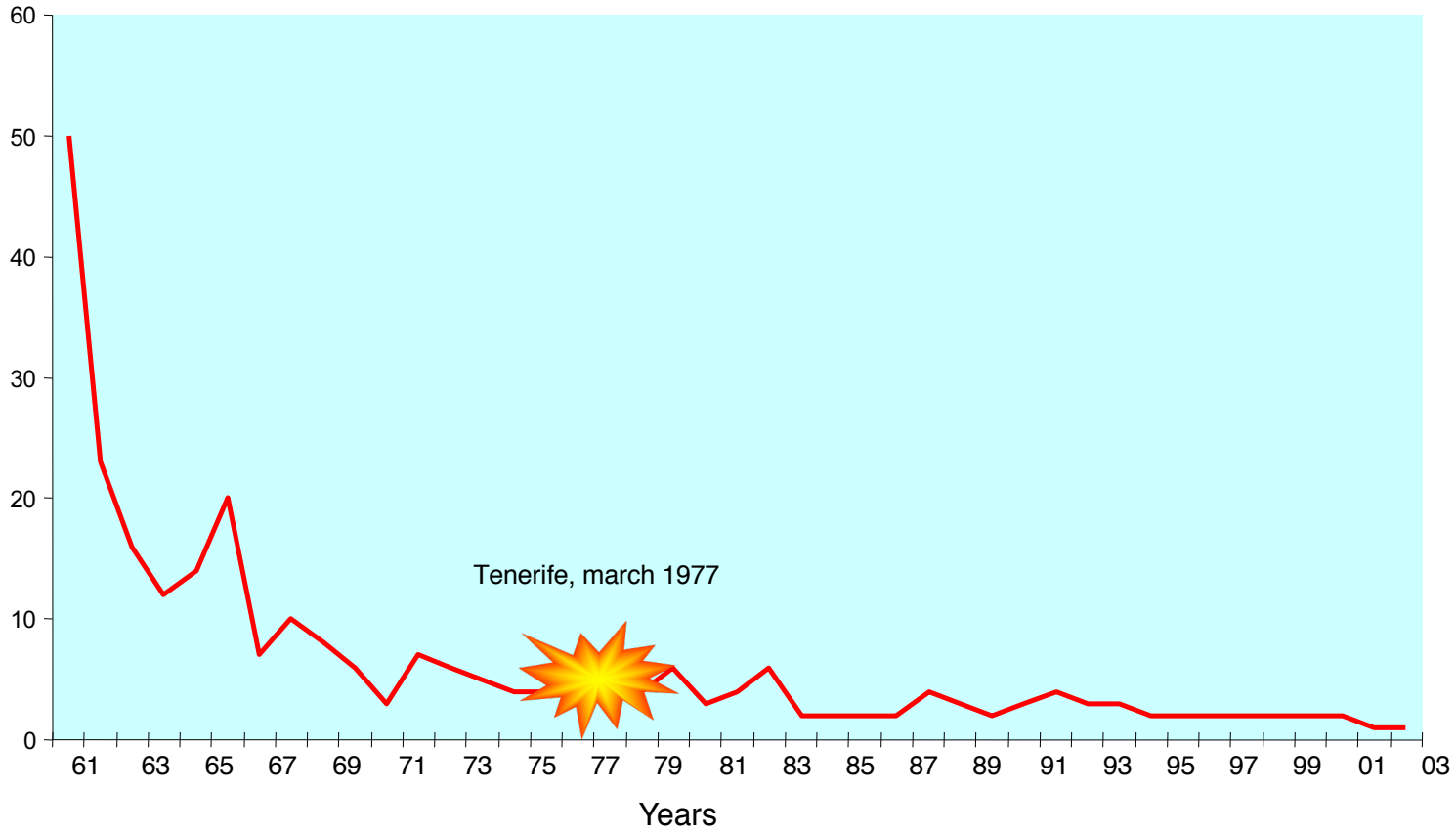
An accident is an event that leads to the total or partial destruction of an aircraft and/or the death of passengers.

Air safety and airworthiness

- **Airworthiness: the ability of an aircraft**, according to the regulations in force, to fly under **recognised acceptable safety conditions for its occupants and the third parties overflown**.
- The **recognised acceptable safety conditions** result from a compromise between:
  - the cost of creating Safety (development of new equipment and/or new functions dedicated to making flights safe, including the man/machine interface, aimed at reducing the risk factors),
  - the level of risk of fatal accidents recognised as "acceptable" in the light of the command of techniques that could be implemented (feasibility).

Changes in the number of accidents between 1960 and 2000

Accidents per million departures



Acceptable risk

- An objective < 1 fatal accident per million take-offs re-evaluated at **< 1 for 10 million take-off for the new programmes**.
- Objective attained in the last decade with one fatal accident for 5 million take-offs observed at worldwide level
- BUT: a factor 15 difference between minimum and maximum values depending on:
  - the country of registration of the aircraft,
  - the period of observation of the accidents.

Air safety and airworthiness

- Air safety is the result of many contributing acts and activities in different fields.
  - Technology: design of aircraft, improved airframes, improved engines, automation, …
  - Human performances: qualification of crew, taking "human factors" into account (Tenerife)
  - Improved maintenance
  - Strengthened air traffic control
  - Regulations

- The safety requirement is closely linked to the Civil Aviation Organisations, the Aircraft Builders and Thales Avionics SA.

Air safety and airworthiness

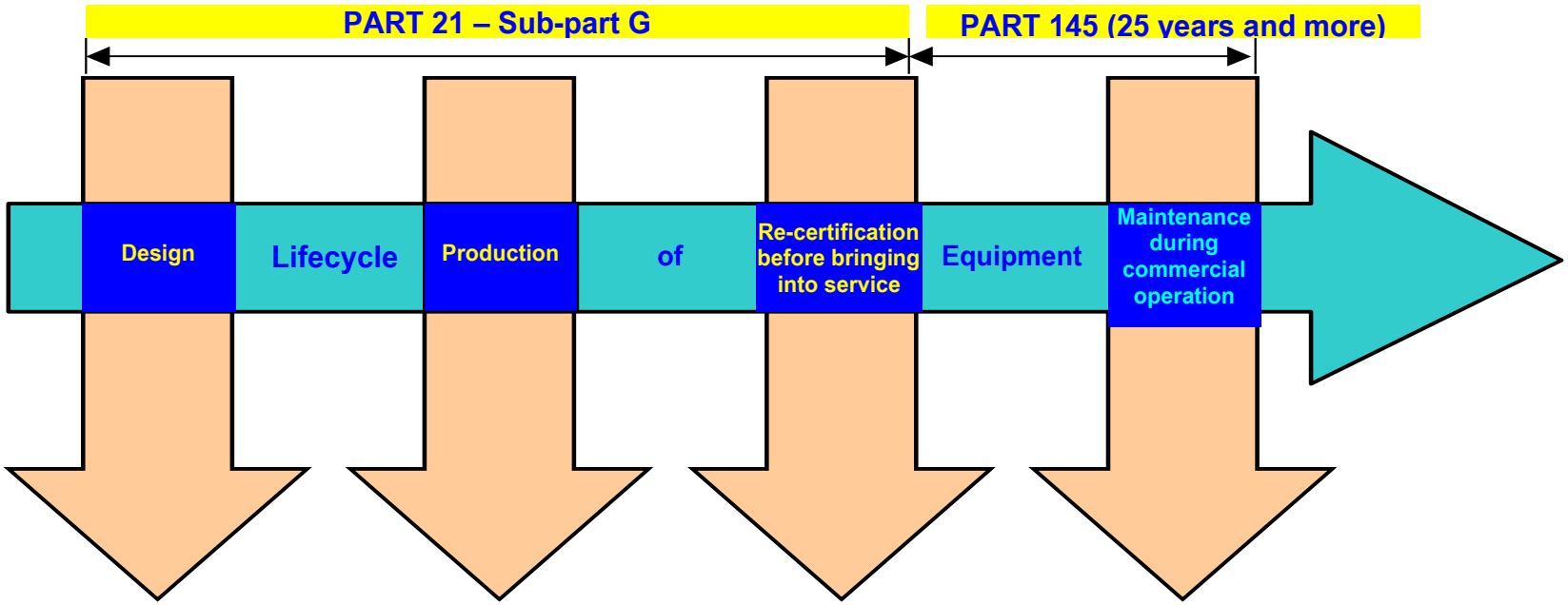
- **REGULATIONS** set the conditions to which the different players in the aerospace business must conform in order to guarantee the airworthiness of aircraft and consequently the safety of flights.

- The states entrust the task of establishing the regulations and ensuring they are applied to **AUTHORITIES** (EASA, DGAC, …).

Air safety and airworthiness

- PART 21 of the regulations concerns:
  - The design, certification and manufacture of aircraft, equipment and parts,
  - The certification of design and production organisations.
- PART 145 of the regulations concerns:
  - Maintaining the airworthiness (maintenance) of aircraft, equipment and parts,
  - The certification of Organisations and Personnel that contribute to it.
- The changeover from the domain of PART 21 of the regulations to the domain of PART 145 of the regulations occurs when the aircraft is accepted by its operator (airline, individual, …)

The area of application of PART 21



Design / Development (PART 21)	Creation (PART 21)	Embodiment (PART 21)	Commercial operation (PART 21 / 145)
- Prototypes (on request from the aircraft builder)	- 1st fittings (LRU) during # 5 years - New equipment spares (LRU/SRU) during # 25 years and more	- Installed on aircraft - Kept in commercial stocks on collection and distribution sites	Pre-positioning under PART 21 - (re-certification after getting airworthiness) - Removed from aircraft and - BUY/BACK under PART 145

3

Acquiring, maintaining and withdrawing the airworthiness of equipment (accredited signatories)

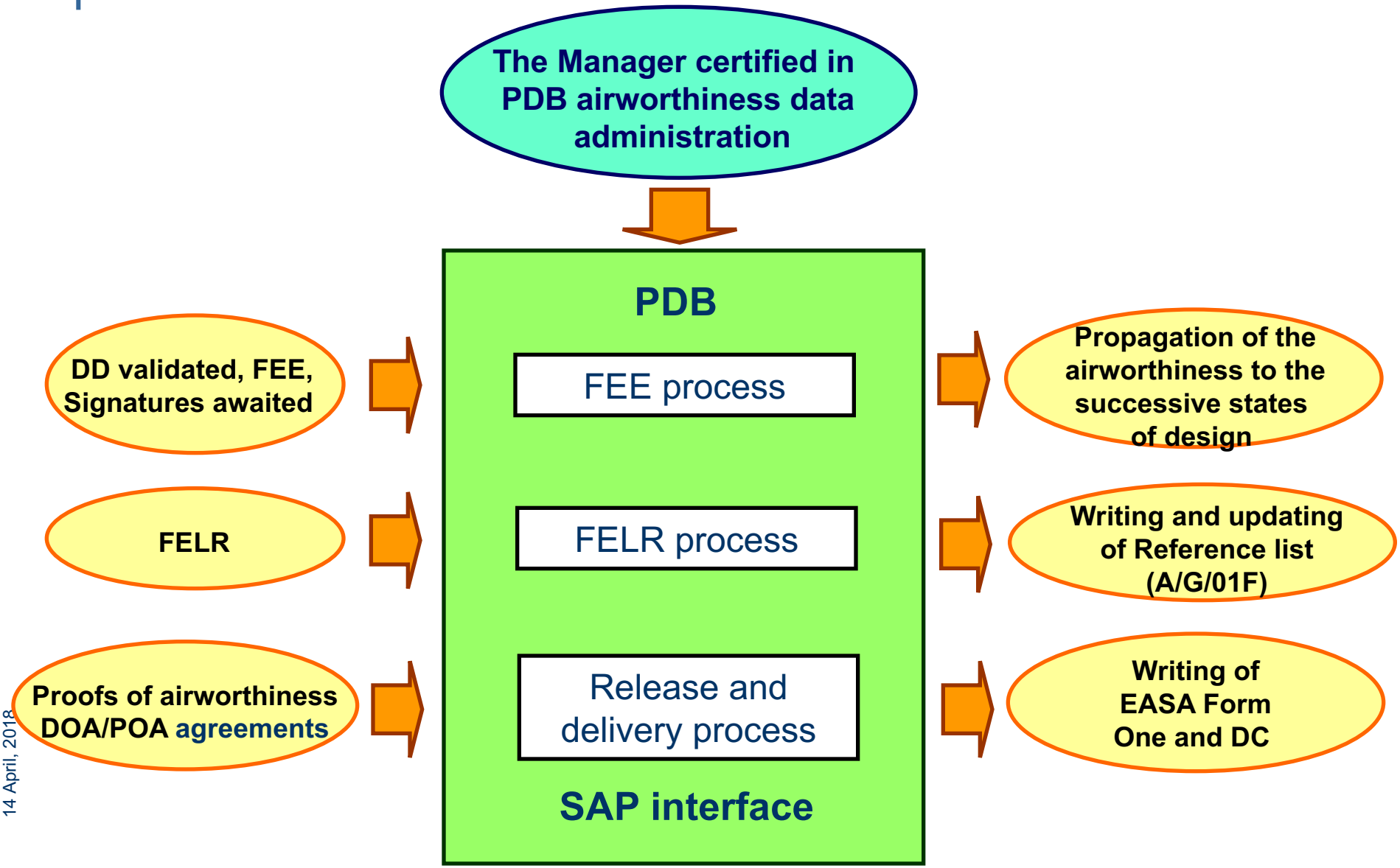
Acquiring the airworthiness of equipment

- **Three** methods of acquiring airworthiness: **TC, STC, TSO**
  - **TC**: consequence of the "Type" certification of an aircraft by the issuing of a Type Certificate.
    - Certificate that guarantees that the design, construction and operating characteristics of the aircraft satisfy the Authority's rules, which are at least equivalent to the OACI minimum criteria.
    - The equipment "inherits" the certification of the aircraft on which it is installed.
    - The proof of airworthiness is a Letter from the Aircraft Builder with the list of items of equipment
  - **STC**: consequence of a supplement to an aircraft's initial Type Certification, by issuing a Supplemental Type Certificate
    - The equipment "inherits" the supplementary certification of the aircraft on which it is installed.
    - The proof of airworthiness is a copy of the STC with the list of items of equipment

Acquiring the airworthiness of equipment

- Three methods of acquiring airworthiness: TC, STC, TSO
  - **TSO**: the equipment's "own" certification.
    - The certification is obtained directly from the Authority after demonstrating that the equipment meets one or more technical standards (**T**echnical **S**tandard **O**rder, as well as ETSO or JTSO)
    - The proof of airworthiness is a TSO Letter of Approval
    - From an aircraft builder's point of view, a TSO letter of approval is not of the same value as a "proof of installation on an aircraft".
    - However, TSO certification confers supplementary prerogatives on the equipment maker.
  - Under the term "TSO", we group these certifications:
    - ETSO issued by the EASA
    - TSO issued by the FAA
    - JTSO issued by the JAA
    - QAC specific to France before the JAA

The Airworthiness process



The players in the airworthiness process

- The PM and QCI/SBL responsible for collecting the proofs of airworthiness from the aircraft builders and IPOs.

- The Designated Certification Specialists
  - The DCS's objective is to ensure that the initial and maintenance airworthiness certificates are obtained,
  - More particularly, within the framework of the MOP, he/she intervenes during the process of handling change and waiver requests for equipment under STCs and ETSO/TSO equipment,
  - The DCSs are designated and accredited under BU (line management) Technical and QCI Division visas, in accordance with the **A/P/05F** procedure, in the "Avionics" and "Software" fields,
  - They are functionally or hierarchically attached to the CAS/DT/C service whose Manager runs the network of DCSs (see **R/G/08F**),
  - The CAS Technical Director, is responsible for the DCS sector.

The players in the airworthiness process

- The operators certified in PDB airworthiness data administration
  - record in the PDB (Product DataBase) all of the design data related to the phases of acquiring and maintaining the airworthiness of equipment under production approval, such as:
    - the update information of the reference list of equipment including the associated proofs of airworthiness (see **Procedure A/P/01F** and transaction LPG 23),
    - the different PE (Proposed Change)/FEE (Equipment Change Sheet) states,
  - check the validity of the proofs of airworthiness sent,
  - ensure that the configuration of the [aircraft/equipment] and [equipment/ BU] pairs is updated and that the airworthiness is propagated in the LRU (Line Replaceable Unit) / SRU (Shop Replaceable Unit) / Parts and other components structure after updating the airworthiness data.

Acquiring the airworthiness of equipment

- Design state of the equipment concerned by airworthiness
  - Prototype equipment and test specimens **if** identified in the A/G/01F reference list:
    - cannot acquire airworthiness unless these items of equipment are first made to conform to the series configuration, with a change of their P/N.
  - Series equipment, that can be reproduced "identically" on the basis of the fixed series configuration:
    - on output from the accepted PRR (Production Readiness Review) and FAI (First Article Inspection) reviews for the equipment's initial configuration, then during the the equipment's lifecycle,
    - when there are successive changes in the applicable configuration and after the FAI review for any change of equipment P/N or transfer of manufacture of an item of equipment,
    - up to the phase of stopping of series production, but with maintaining in commercial operation.

Maintaining the airworthiness of equipment

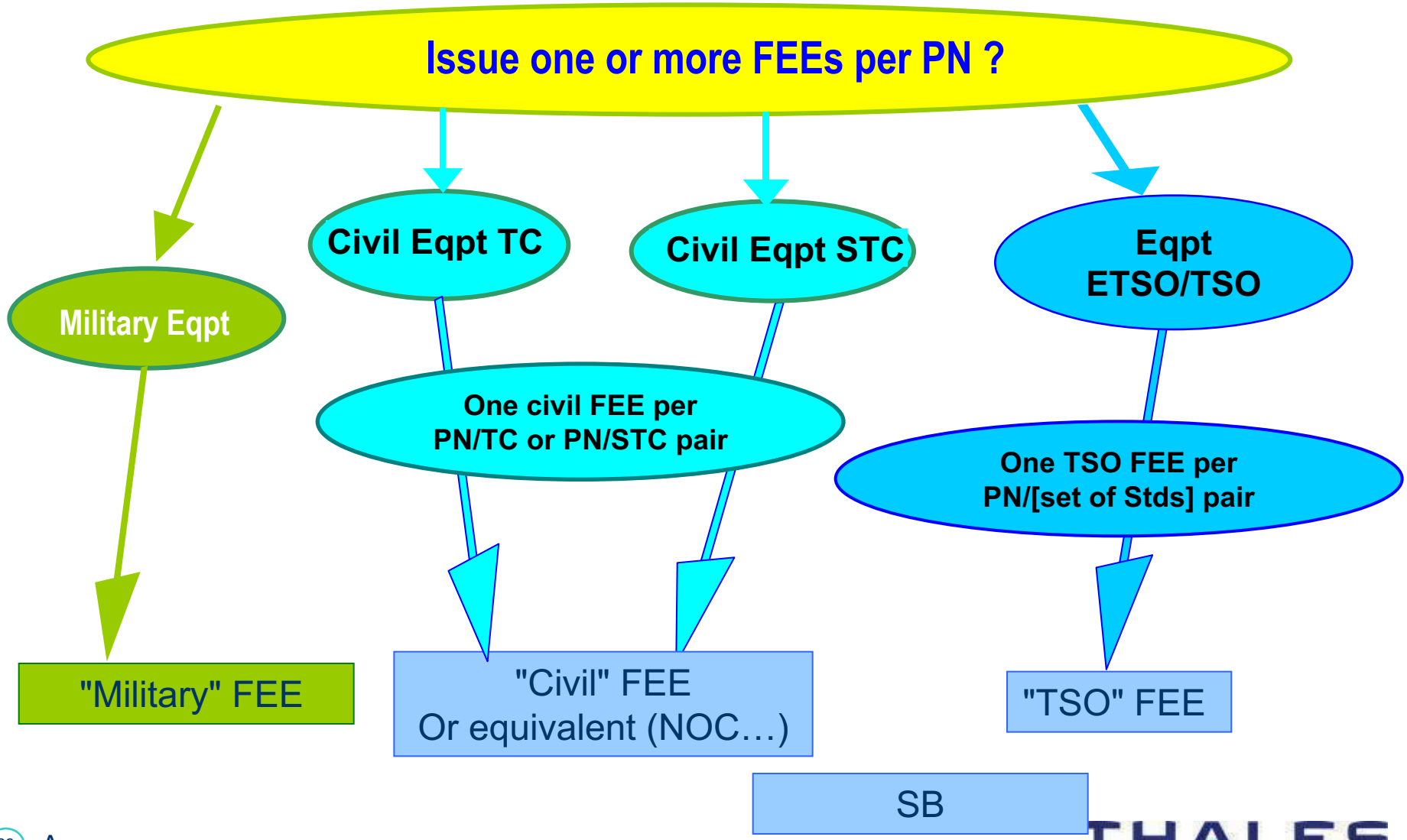
- The change management process includes:
  - An internal "PE" (Proposed Change) phase
  - An external "FEE" (Equipment Change Sheet) or equivalent (NOC, Mod. Sum. …) phase.
    The purpose of this phase is to get the agreement, in the form of signatures, of the Authority that granted the initial airworthiness
    - Indirectly by the intermediary of the aircraft builder (TC) or the organisation responsible for the modification (STC)
    - Directly (TSO)
  - There are specific FEEs for civil, military and TSO equipment.
    - Depending on the equipment concerned, it may be necessary to issue one or more FEEs.

Maintaining the airworthiness of equipment

- The accepted FEE transmits the airworthiness from the old design to the new one.
  - When several FEEs have been issued, the change is only closed and the airworthiness transmitted when all of the FEEs have been accepted.
- An accepted FEE bears two types of signatures which are of different natures
  - Technical agreement, given by a design office and sufficient in the case of amendments.
    Can be delegated.
  - Airworthiness agreement, necessary for modifications and TSO versions given by:
    - the aircraft builder (TC) or the company responsible for the modification (STC) under the cover of its DOA
    - the Authority directly for the TSOs

- Issue of one or more FEEs / Service Bulletins
  - In the case of a dual use item of equipment (same P/N for civil and military use) two FEEs must be issued separately for approval by the "civil" and "military" Authorities.
  - A civil item of equipment must be the subject of as many FEE procedures as there are types of certification held: TC, STC, TSO
  - **The FEEs (standard civil) classed as modifications, trigger the issuing of Service Bulletins (SB) at the same time**, intended for the Airlines, to inform them about the methods for applying the upgrade to the equipment in operation.
  - The SB initialised in the PE phase at the same time as the FEE is issued is approved by the aircraft builder delegated by the Authority or by THAV depending on the nature of the upgrade and type of equipment and, if there is no delegation, by the Authority itself (SB "Mandatory" for ETSO/JTSO/QAC/TSO equipment).

- Process of external approval of changes



Withdrawing the airworthiness of equipment

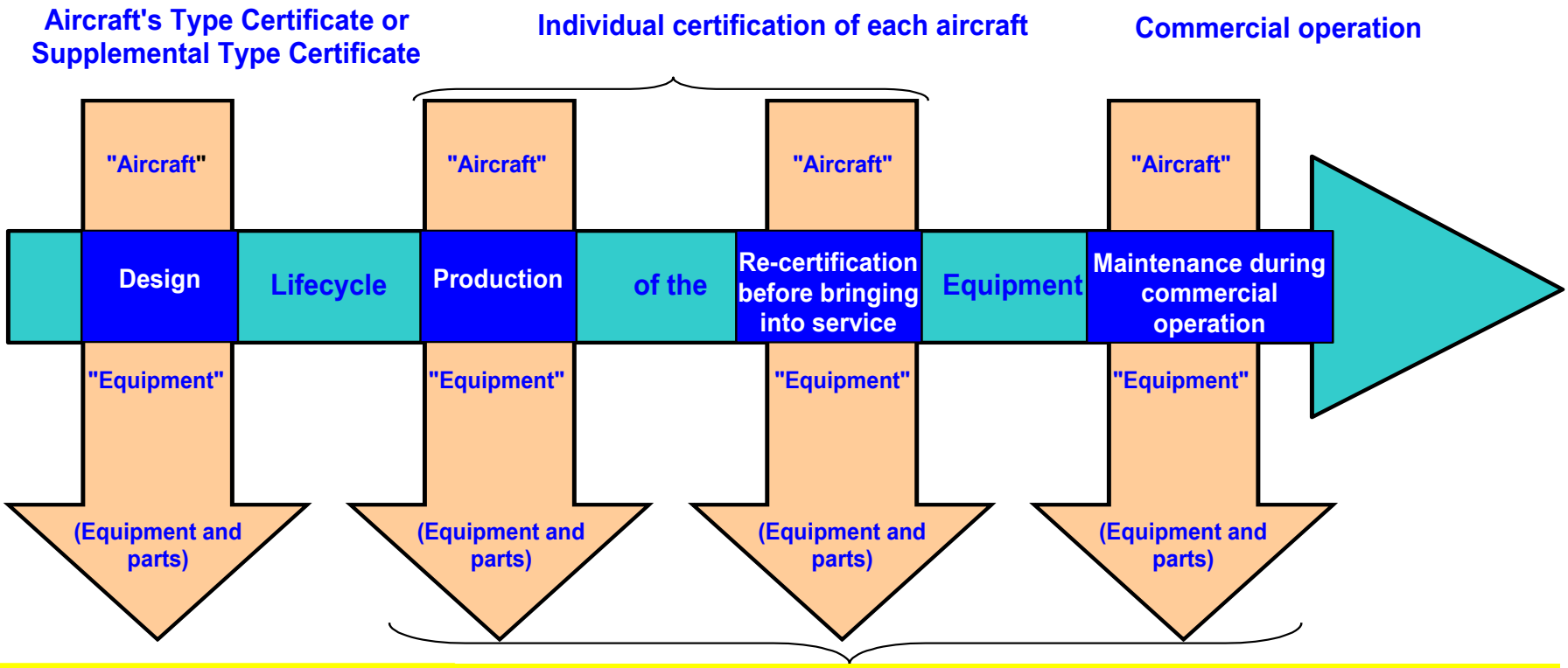
- End of life of equipment
  - At the end of its life, the equipment installed on aircraft is excluded from the reference list, depending on the date on which those aircraft are taken out of service (number of aircraft in service less than the quota defined by the contract).
  - An FELR is issued to remove the equipment from the reference list.
- Equipment suspended from service
  - An item of equipment may be suspended from service if there is an airworthiness alert - (see A/P/03F).
  - The item of equipment will be effectively brought back into service after application of the upgrade on the suspected equipment P/Ns.
  - An FELR is issued to indicate the change in the airworthiness state of the equipment (withdrawn then re-established).

Acquiring, maintaining and withdrawing the airworthiness of equipment

Summary

Process	TC	STC	ETSO/TSO
Acquiring airworthiness	- Aircraft Builder/THAV agreement - Letter from the Aircraft Builder	- AMC / THAV agreement - Aircraft level STC issued by the certification Authority (or by the AMC if it is delegated) and validation Authority or Authorities. - Associated C.I.D. (Configuration Index Document) to identify the items of equipment not included in the aircraft's initial TC.	- Letter of approval ETSO or JTSO or QAC or TSO issued by EASA or JJA or DGAC or FAA . - Airworthiness acquired under TC and/or STC to be managed jointly with the Aircraft Builder and/or the AMC.
Maintaining airworthiness	- FEE (or equivalent) for technical acceptance by the Aircraft Builder DO (1st visa required). An amendment change validated by the aircraft builder is equivalent to "airworthiness approval" (equivalent to 2nd visa required). - and/or Letter from the Aircraft Builder for approval (2ième visa required) if a modification change, in particular	- FEE (or equivalent) if minor change at aircraft level initialled by AMC (acceptance, and approval if AMC is accredited) or by the certification Authority (approval) - New STC + associated CID if major change at aircraft level	- "generic" FEE classed as minor for technical acceptance and approval (the two visas required) or - New ETSO/TSO request if changed classed as major for ETSO / JTSO / QAC / TSO equipment - Maintaining airworthiness under TC and/or STC to be managed simultaneously
Withdrawing airworthiness	- Definitive withdrawal of equipment (see: Contract) - Temporary withdrawal following the suspension of airworthiness on decision by the Authority and/or on the initiative of Thales Avionics SA (see: Airworthiness alert)		

Acquiring and maintaining the airworthiness of equipment



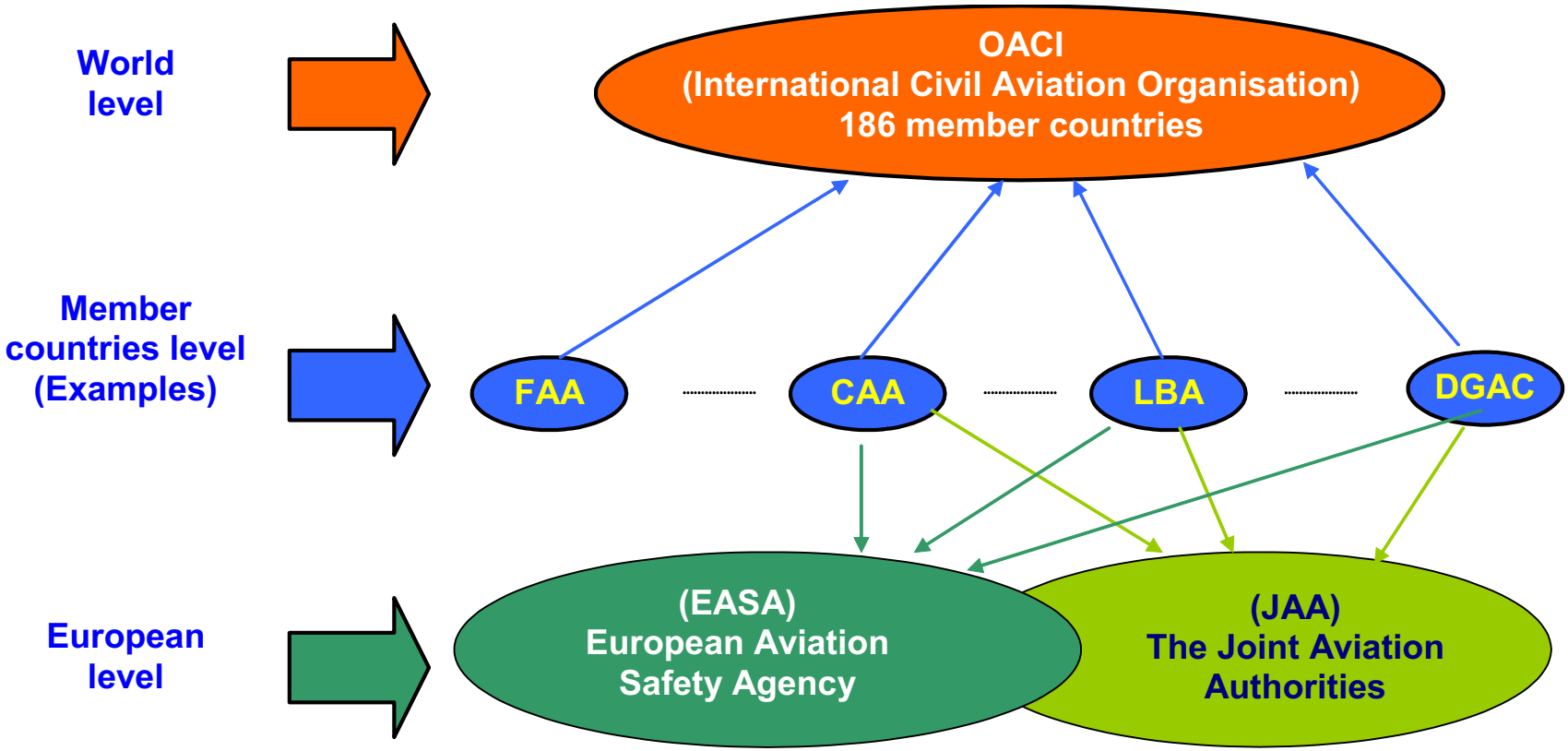
Acquiring Airworthiness	Maintaining Airworthiness	Withdrawing Airworthiness
- TC certification of the aircraft (aircraft builder letter)	- FEE (Equipment Change Sheet or any other equivalent document applicable by a foreign aircraft builder).	- Definitive withdrawal of the equipment from the list of references at end of the aircraft's life PART 21 /145 (see: according to conditions set contractually).
- Qualification of the equipment itself (ETSO/TSO letters of approval)	- "Aircraft builder letter" type document associating the eqpt. P/N with the aircraft model.	- Temporary withdrawal following an airworthiness alert, leading to a suspension of the airworthiness of an item of equipment.
- STC certification of the aircraft (STC + C.I.D. obtaining doc.)		
- Agreements with the Purchasers		

4

Presentation of the Authorities

- History
  - 1898: creation of the Aéro-club de France.
    Status: encouraging aerial locomotion in all of its forms
  - 1905: Fédération aéronautique internationale (ratifying records)
  - 1909: first pilots licences (Louis Blériot, Glenn Curtiss, Henri and Maurice Farman, …)
    Crossing of the Channel by Louis Blériot
  - 1919, Paris conference on Air Navigation. Definition of the first "air rights" (right to fly over foreign countries…)
  - 1944: Chicago conference. Foundation of the OACI.
  - 1970: foundation of the JAA
  - 2002: creation of the EASA

The airworthiness authorities



FAA= Federal Aviation Administration (United States),
CAA= Civil Aviation Authority (Great Britain),
LBA= Luftfahrt Bundesamt (Germany),
DGAC= Direction Générale de l'Aviation Civile (France)

International Civil Aviation Organisation

History

1 Signature of a convention relating to International Civil Aviation called the **"Chicago Convention"** by the representatives of 52 allied or neutral states.

7th of December 1944

2 Ratification of the convention instituting the International Civil Aviation Organisation (OACI).

13th of December 1946

3 Publication in its authentic version in French by the French state by decree n°69-1158.

18th of December 1969

4 The convention, which is recognised by more than 186 countries, continues to govern international air transport via the OACI.

2007

The OACI's aims and objectives

To establish the principles and techniques of international air navigation and **promote** the planning and development of international air transport.

More specifically, this organisation is responsible for:

- setting the **minimum requirements** for ensuring safety,
- ensuring the orderly and safe development of international civil aviation in the world,
- responding to the aspirations of the world's populations in air transport matters: **safe, regular, efficient and economic**.

Basic principles

- **SAFETY**
  - **In order to ensure that the safety level of air transport is achieved and maintained**, the **states** implement the necessary regulations and checking procedures.
- **AIRWORTHINESS**
  - Each state can establish its **own airworthiness regulations**, or adopt those of another contracting state (the EASA regulations are imposed on all of the other member states of the European Union).
- **CERTIFICATION OF AN AIRCRAFT**
  - In order to be allowed to circulate, an aircraft must have a certificate certifying its airworthiness (AC = Airworthiness Certificate).
  - The State's Authority issues an aircraft's certificate after it has checked that the aircraft's design, construction and use characteristics satisfy airworthiness rules that are at least equivalent to the OACI's minimum standards.

The Europe of JAAs and the EASA and the European Union

- **The Europe of JAAs (Joint Aviation Authorities)**
  European organisation grouping together, in the form of a "Club of Joint Aviation Authorities", 34 members represented by the National Aviation Authority (NAA) of each member state.
- **EASA (European Aviation Safety Agency) and the EU**
  Groups together the 25 members Of the European Union (EU), and 3 EU observer JAA members.
- **The 34 states membership of the JAAs and/or the EASA**

AUSTRIA (JAA/EU)	GERMANY (JAA/EU)	LUXEMBURG (JAA/EU)	SLOVAKIA (JAA/EU)
BELGIUM (JAA/EU)	GREECE (JAA/EU)	MACEDONIA (JAA)	SLOVENIA (JAA/EU)
BULGARIA (JAA/EU)	HOLLAND (JAA/EU)	MALTA (JAA/EU)	SPAIN (JAA/EU)
CYPRUS (JAA/EU)	HUNGARY (JAA/EU)	MOLDAVIA (JAA)	SWEDEN (JAA/EU)
CZECH REP. (JAA/EU)	ICELAND (JAA/EU OBS)	MONACO (JAA)	SWITZERLAND (JAA/EU OBS)
DENMARK (JAA/EU)	IRELAND (JAA/EU)	NORWAY (JAA/EU OBS)	TURKEY (JAA)
ESTONIA (JAA/EU)	ITALY (JAA/EU)	POLAND (JAA/EU)	UNITED KINGDOM (JAA/EU)
FINLAND (JAA/EU)	LATVIA (JAA/EU)	PORTUGAL (JAA/CE)	
FRANCE (JAA/EU)	LITHUANIA (JAA/EU)	ROMANIA (JAA/EU)	

(JAA/EU) = JAA and EU member (JAA/EU OBS) = JAA member and EU Obs (JAA) = JAA member only

The EASA, a European Union agency

- The EASA is the **single authority** that is gradually substituting itself for the national authorities of the EU member states.
- The EASA is gradually taking over (service contracts) the role of the JAAs in the publication of regulations. The JAAs are due to disappear in the long term.
- **Strong point** – The regulations published by the EASA have the force of law (mandatory) and are strictly **applicable without interpretation**, by every member state of the EU.

The regulations previously published by the JAAs were promulgated (or adapted) by the member states of the JAAs (see: application decrees in the J.O. for France).

History of the European Aviation Safety Agency

- **1979** - Signature of a first "arrangement" aimed at the **harmonisation of national regulations**.
- **1995** Initialisation of the Joint Aviation Authorities (JAA) which formed the foundations of a European legal structure (first step towards the Single Authority).
- **2002** Creation of the **EASA** (European Aviation Safety Agency)
- **24/09/2003** Publication of Commission (EU) regulation 1702/2003
  relating to the airworthiness and environmental certification of aircraft and related products, parts and equipment as well as for the certification of design and production organisations.
- **11/12/2003** Issue of the 1st EASA Type Certificate to Turboméca.

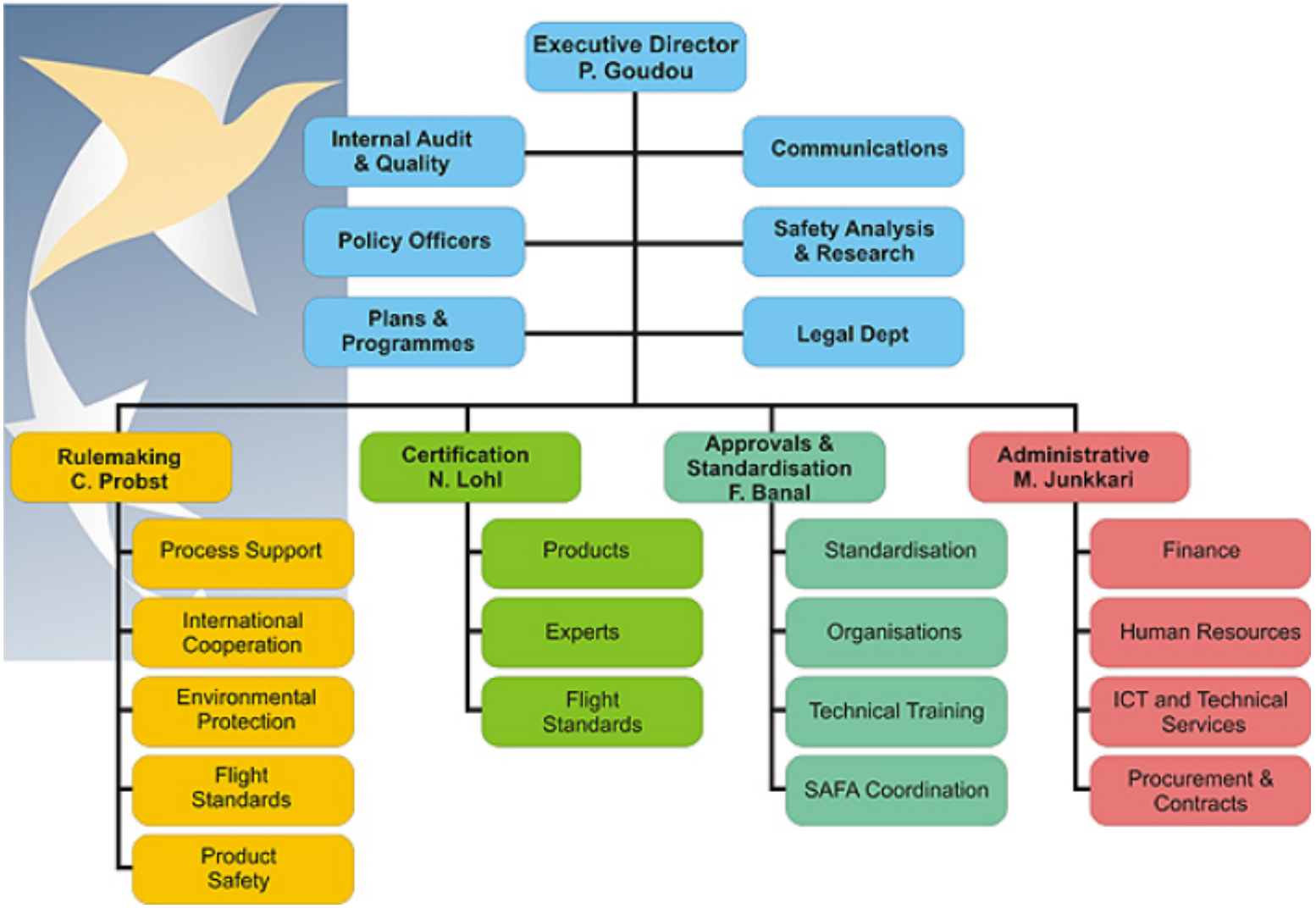
History of the European Aviation Safety Agency

Continued

- **Currently**
  The EASA has taken back internally all of the tasks delegated as and when its staff has expanded.
- The EASA is installed in Cologne
- **2004 marked the rise in the numbers of EASA staff:**
  - # 20p 12/2003,
  - # 100p 12/2004,
  - **# 300p / 350p at a stabilised level after 2004.**

EUROPEAN AVIATION SAFETY AGENCY

AGENCY STRUCTURE



The French airworthiness system

- **1945** Direction Générale de l'Aviation Civile (DGAC) (French Civil Aviation Authority) attached to the ministry in charge of civil aviation for responsibilities concerning civil equipment airworthiness (initial attributions at Air Ministry (Army)).
- **2005** Organisation of the DGAC significantly modified by the creation of **3 major business sectors**:
  - activities related to national sovereignty,
  - supervision and certification,
  - service providers in air navigation and training.

Missions of the Direction Générale de l'Aviation Civile

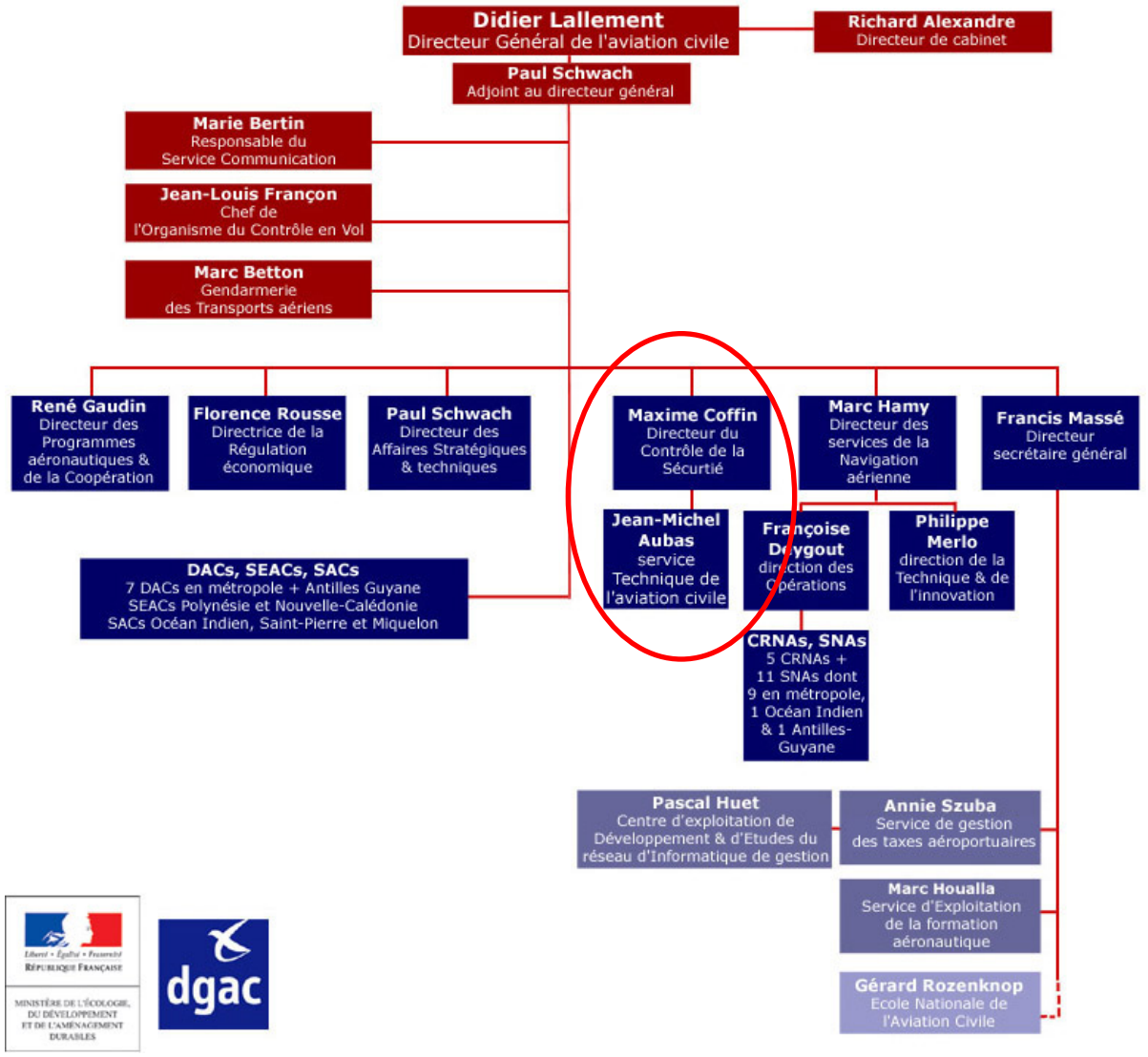
- Safety: the DGAC's core business
  - Air navigation services,
  - Supervision and certification of aircraft builders, aircraft operators, workshops, aircrew, etc.
  - Certification of airports.
- Security (passengers, freight)
- Protection of the environment (noise, air…)
- Economic regulation (airlines, airports)
- Support for aeronautic construction

Missions of the Direction Générale de l'Aviation Civile

- The DGAC does not substitute itself for industrial companies, which are responsible for achieving and maintaining the expected level of safety.
- The DGAC delegates part of its prerogatives to industrial companies:
  - Approval of minor changes,
  - Release of new or maintained equipment
- The industrial companies must demonstrate that they have an organisation and practices that conform to the regulatory requirements
- Recognition of this conformity takes the form of "Approvals"
  - For design, DOA (Design Organisation Approval)
  - For production, POA (Production Organisation Approval)
  - For maintenance, MOA (Maintenance Organisation Approval)

The Direction Générale de l'Aviation Civile *(DGAC)*

Organigramme d'ensemble de la DGAC



The Inspections and Safety Department *(DGAC / DCS)*

- Makes sure that the national and international regulations in terms of safety and security are respected.
- Organises the supervision of civil aviation operators.
- Issues the necessary approvals, authorisations, licences and certificates for the operators, aircrew, equipment and systems.

The DCS's field of action has been considerably enlarged, in relation to the earlier attributions of the SFACT (Aeronautic Training and Technical Inspection Service – integrated into the DCS after the reorganisation of the DGAC), with the exception of type certification, transferred to the EASA.

The Office of Investigations and Analyses for the safety of civil aviation

- Article 16 of the Chicago Convention
  - introduces the obligation to hold an investigation if there is an incident which causes "death or serious injury or reveals serious technical defects in the aircraft or the air navigation installations and services".

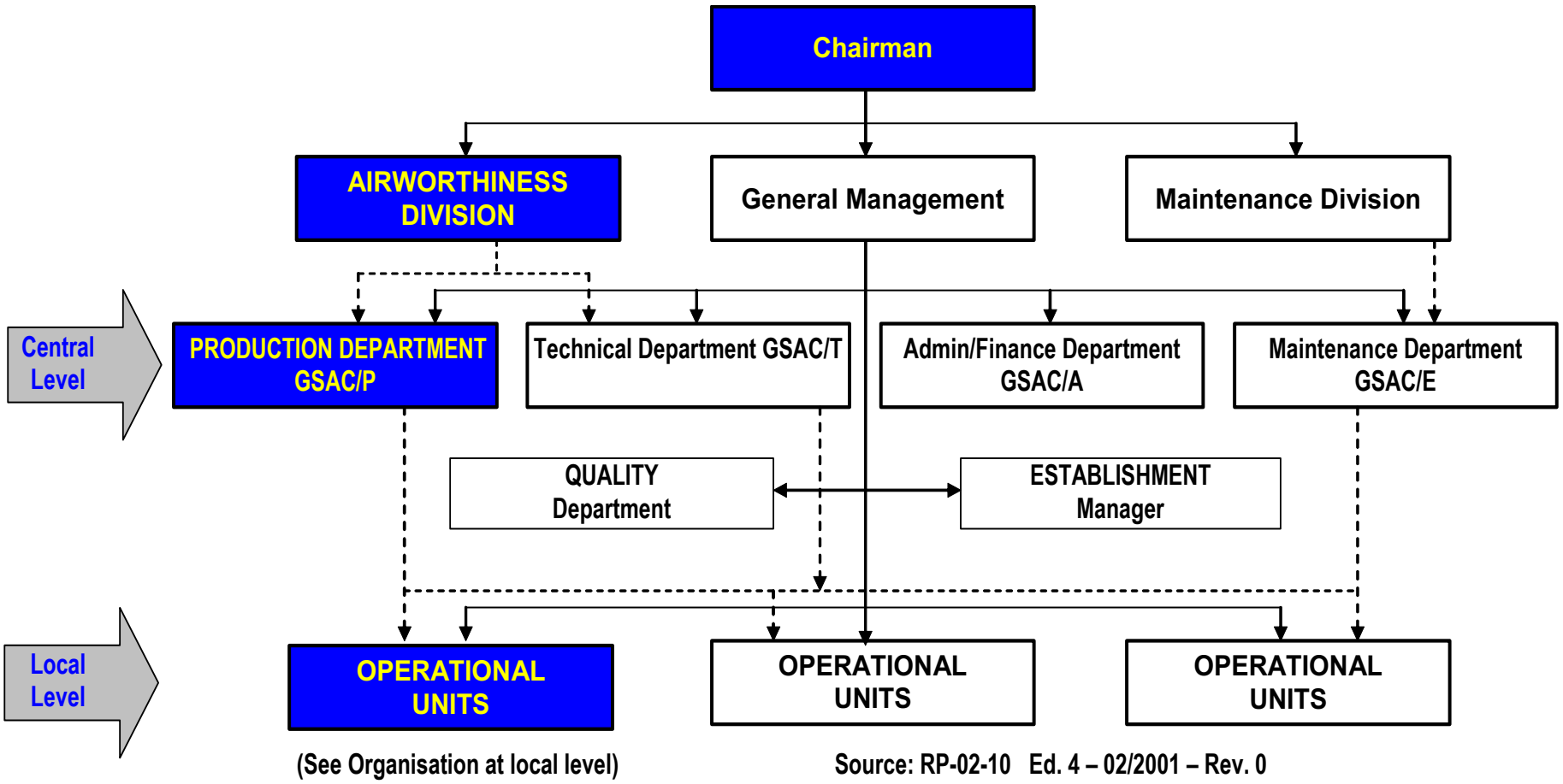
- Directly attached to the ministry in charge of civil aviation, the B.E.A.:
  - conducts investigations into accidents and serious incidents (especially) in France and the overseas territories,
  - takes part in investigations in foreign countries into accidents and serious incidents involving French designed aircraft and French operators and nationals.

- These investigations of a preventive nature result in safety recommendations sent to the DGAC, the operators and the manufacturers concerned.

The Civil Aviation Flight Safety Group *(GSAC)*

- The Civil Aviation Flight Safety Group (GSAC) is the operational arm of the Direction Générale de l'Aviation Civile (DGAC)
- The Inspections and Safety Department (DGAC/DCS) delegates powers to it.
- The Civil Aviation Flight Safety Group (GSAC) is an Economic Interest Group (GIE), created on the 1st of January 1994, associating:
  - with 50% of the shares, the Direction Générale de l'Aviation Civile (DGAC),
  - with 45% of the shares, the VERITAS agency, shareholders since its creation,
  - with 5% of the shares, the SOFREAVIA SERVICE company introduced on the 1st of January 1998.

Organisation



(See Organisation at local level)

Source: RP-02-10 Ed. 4 – 02/2001 – Rev. 0

Monitoring and supervising of approval by the local level

- **Monitoring** Production Organisation Approval (POA)
  - Monitoring all of the changes attached to the approval,
  - Approving the important modifications to the organisation of Thales Avionics SA,
  - Accepting modifications, when necessary, to the Production Organisation Manual (MOP) and associated procedures and supervising those not subject to prior agreement.
- **Supervising** Production Organisation Approval
  - Defining the annual programme with the Central Level,
  - Carrying out the supervision,
  - Monitoring the treatment of any incidents in service,
  - Writing the annual supervision report,
  - Informing, explaining and advising about the regulations and procedures.

Organisation for Thales Avionics SA

GSAC Central Level — Alain LESAGE

RLSP* — Nelly CANO (Thales Avionics SA Level)

Escalating the problems that cannot be resolved in the local BU

Meudon	Bordeaux (Le Haillan)	Valence Vitrolles	Châtellerault (La Brelandière and the CLI)	Vendôme	Toulouse
Nelly CANO	Frédéric OSTRÈ	Jean-Pierre BLASCO (Val) Yves PROUVENC (Vitr.)	Jean BOURLOIS	Nelly CANO	Patrick MULOT

The local players are assigned to an establishment

*** R.L.S.P.: Local Production Supervision Manager**

5

PART 21 – Section A – Sub-part G

Commission regulation n° 1702/2003 (PART 21) dated 24/09/2003

- PART 21 of the regulation is divided into two sections:
  - Section A contains the requirements applicable to the "Candidates" (industrial companies)
  - Section B contains the procedures for the "Competent Authorities": it describes the way in which the Authority carries out its monitoring and supervision activities.
- Section A includes 13 sub-parts.
  - Sub-part G is about the Production Organisation Approval. It is divided into 17 articles.

Commission regulation n° 1702/2003 (PART 21) dated 24/09/2003

- Establishes the rules to be applied for the airworthiness and environmental certification of aircraft and associated products, parts and equipment as well as the certification of design and **production** organisations.
  Its implementing decree is under the authority of the Commission of the European Union.

- The EASA has direct authority, for the application of PART 21, over all of the members of the EU.

- PART 21 of the regulation is mandatory and directly applicable (in all of its parts) in every member state of the EU.

Document available in the Standards GED, "reference number" = 17022003

An approval – Why and how?

- The activities of certification, production and maintenance of civil aircraft and aeronautic equipment must necessarily come within the framework of approvals for:
  - Design (DOA - Design Organisation Approval),
  - Production (POA - Production Organisation Approval),
  - Maintenance (MOA - Maintenance Organisation Approval),

  attributed to an entity called an "Organisation" (with a scope covering all or part of a company).

- The organisation undertakes to respect the regulations attached to each approval and provides proof of this to the Authority, which issues an approval certificate in recognition of this conformity and checks its validity over time and, if necessary, limits, suspends or withdraws the approval.

An approval – Why and how?

- Thales Avionics SA is the holder of Production Approval Certificate (POA) n° FR.21G.0012 in conformity with Part 21, section A and sub-part G of regulation n° 1702/2003
- It is valid as long as THAV conforms to that regulation.

Appendix 1 to the complete regulation (sections A and B) defines the EASA Form One

- The approval confers on THAV the power to:
  - issue Authorised Release Certificates (EASA Form One) without a supplementary demonstration …

An approval – Why and how?

- RECOGNITION OF PART 21 – Section A - Sub-part G:
  - PART21 - Section A - Sub-part G of the regulation is currently recognised worldwide by all of the airworthiness authorities of the countries that receive deliveries, with no supplementary requirements.

    (This is not the case for PART 145 (Maintenance of equipment) which requires supplements from the "FAA" (United States), the "TCCA" (Canada) and the "CAAC" (China), …
    in order to conform to the regulatory requirements of those countries' Airworthiness Authorities).

  - Therefore, the EASA Form One is recognised worldwide (*) unless there are specific notified import conditions.

(*) Reciprocal recognition of the FAA Form 8130-3 for example for the United States

PART 21 requirements – Some basic principles

- To issue an authorised release certificate ("EASA Form One"), a company must hold a PART 21 Production Approval.

- To obtain this Approval, the Production organisation must demonstrate that it has set up and is capable of maintaining a Quality System that is:
  - documented and
  - enables the organisation to ensure that **each product, part or item of equipment conforms to the applicable definition data and is capable of working safely.**

PART 21 requirements – Some basic principles

- After the production organisation approval has been issued **any change made to the approved production organisation** that has an important effect on the demonstration of conformity with the applicable requirements or the airworthiness of the product, parts or equipment, in particular, any change made to the quality system, **must be approved by the authority**...

A change of site of the production installations of the approved production organisation (partial) should be **considered to be an important change to the production organisation.**

PART 21 requirements – Some basic principles

- Management of the risks related to transfers of production (see Guide SMD-D-DAE-201-FR] – Management of industrial changes).
  - The Industrial Director of the receiving TBU, nominates the Transfer Manager (CIM Manager).
  - The CIM Manager's main missions are to:
    - analyse the risks and needs, then initialise the "MES" (Manufacturing Evolution Sheet, P/F/04F) form,
    - inform the different internal and external players concerned (customers, representatives of the civil Authority (DGAC, GSAC), …), and make sure their prior agreement is obtained, if necessary,
    - define, schedule and implement the actions to be taken to guarantee the continuity of the quality of production.
  - The MES sets down the decision taken (Acceptance, Postponement or Acceptance with reservations) and the results of the end of Major Industrial Change review.

PART 21 requirements – Some basic principles

- To be installed in a product that conforms to a type certificate, a spare or substitute part or item of equipment (except standard part) must necessarily be accompanied by an "EASA Form One" authorised release certificate.

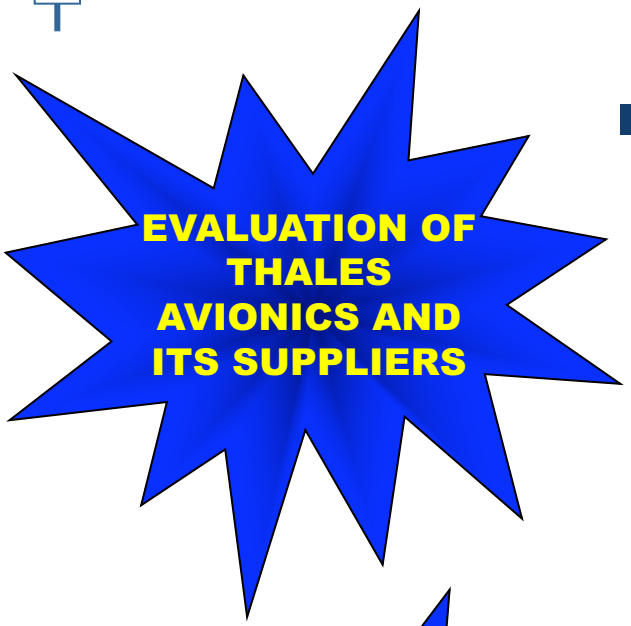
Conversely

- There is no need to draw up an EASA Form One for equipment that is not intended for on-board use.
  This excludes ground equipment, simulators and other tools.

PART 21 requirements – Some basic principles

- The EASA Form One authorised release certificate is used to certify **the airworthiness or conformity**.
- **Before** type certification of the aircraft by the authority, the design data is qualified as "not approved"..
  The parts and equipment can be the subject of an authorised release certificate - EASA Form One – drawn up as a **certificate of conformity**
- **After** type certification, the design data is "approved".
  The authorised release certificate - EASA Form One – is used to certify the **airworthiness**.

PART 21 requirements – Some basic principles



- Any holder of a Production Organisation Approval must take measures enabling the Authority to make any evaluations, including **evaluations at the premises of partners and/or sub-contractors,** necessary for determining the conformity with the applicable requirements of this sub-part G.

- No mandatory approval for the sub-contractors inspected by Thales Avionics SA and therefore under its direct supervision.

The evaluation may include: audits, investigations, questions, discussions and explanations, supervision, validations, inspections, checks, flight and ground tests and inspection of complete products, parts or equipment, etc.

PART 21 requirements – Some basic principles

The holder of a Production Organisation Approval is obliged to:

- **Inform the holder of the type certificate** or design approval of all of the cases where the parts or equipment have been released by the production organisation and where **deviations from the applicable definition data have been subsequently identified.**

- **Collaborate** with the holder of the type certificate or design approval in identifying deviations that could lead to conditions compromising safety.

- **Assist** the holder of the type certificate or design approval **in dealing with all of the actions for maintaining airworthiness** relating to the products part or equipment that have been produced.

PART 21 requirements – Some basic principles

The holder of a Production Organisation Approval is obliged to:

- **Inform the authority about the deviations identified**

These reports must be made in a form and a way that is acceptable to the Authority.

6

Presentation of the MOP

Production Organisation Manual (MOP)

- **The Production Organisation Manual (MOP)**
  - meets requirement 21A.143 of the regulation,
  - describes the measures taken by the industrial company to meet the regulation's requirements.
  - Its plan is imposed.
  - It must be constantly kept up to date.
  - Its changes are subject to the prior consent of the Authority (GSAC).
- **Maintaining production organisation approval** depends on respecting the procedures described in the MOP.
- **The holder of the approval** ensures that the MOP and the documents to which it refers are used as basic working documents within the organisation.

Production Organisation Manual (MOP)

- **The MOP is made up of 2 parts**
- **Part I "Descriptive"**
  - I.A General information
  - I.B General organisation of Thales avionics SA
  - I.C Quality Function. General Organisation
- **Part II "Quality System Rules and Procedures"**
  - II.0 Special measures for the critical parts
  - II.A Management of the industrial file
  - II.B Organisation of production control
  - II.C Control of processes
  - II.D Identification and traceability of equipment
  - II.E Non destructive inspections

- **Part II "Quality System Rules and Procedures" (continued)**
  - II.F Tools and measuring instruments
  - II.G Supervising bought in supplies
  - II.H Test procedures
  - II.I Dealing with non conformities of products. Waivers.
  - II.J Handling - Storage-Transport.
  - II.K Final determination of the equipment's state of airworthiness or conformity
  - II.L Archiving
  - II.M Dealing with non-conformities of products discovered after delivery
  - II.N Maintenance privilege according to PART 21A.163 (d)
- **Appendices**

- The MOP meets very strong regulatory requirements in terms of personal responsibility **implicating**:
  - The Managing Director who signed the Company's undertaking,
  - The Managers authorised to deal directly with the Authority,
  - The Signatories authorised to sign release documents.

  and other functions contributing to the control of the "Airworthiness" process:
  - The Designated Certification Specialist (D.C.S.), and
  - The Certified Operators in PDB Airworthiness Data Administration.

- §1.A.2 Commitment of Thales Avionics SA.

  "I the undersigned, Jean-Marc Gardin Managing Director of Thales Avionics SA, promise to ensure that:

  - the provisions set out in the MOP and in the documents to which it refers are respected and applied,
  - those provisions are adapted in accordance with the modification procedure defined in § I.A.3 of that MOP and the changes in the PART 21 regulation,
  - all the necessary measures are taken to enable the Authority to exercise its supervision mission in the Company's establishments and those of our partners, sub-contractors and suppliers who play a role in the production of the parts and equipment covered by the PART 21 – Sub-part G approval,…."

- §1.A.3 Modification procedure (of the MOP).

Important modifications to the MOP and its associated documents require the prior agreement of the GSAC/RLSP, as part of the monitoring of the production organisation approval:

- geographic location of production,
- change of owner,
- area of the approval (Modif. sheet signed by the Managing Director)
- significant change to the production capacity or methods,
- change in the structure of Thales Avionics SA at the Quality level, particularly,
- change of the manager responsible or a manager who signs an EASA Form 4,
- change in production or quality systems that may have an important impact on the conformity or airworthiness of equipment,
- production or quality systems that may have an important impact on the conformity or airworthiness of equipment.

- §1.B.2 Organisation
  - Flow chart, general information

- §1.B.2.3 The managers authorised to deal directly with the authority
  - These managers are identified as signatories of an EASA Form 4, **in the R/G/13F list**.
  - The areas in which they are authorised to deal directly with the Authority in the context of Civil Aviation are defined **by the MOP (page 16/125 IR: 10).**
  - The Managing Director's commitment and responsibilities in terms of the applicable standards and regulations are delegated to the Directors of the Central Operational and Functional Divisions concerned (delegation or even sub-delegation).
  - These Directors release **the means** and/or take the actions necessary for respecting the commitment made on behalf of Thales Avionics SA by the Managing Director.

- §1.B.6 Area covered by the Approval
- §1.B.6.1 Equipment and activities covered by the Approval
  - Families of systems and equipment for which THAV has requested the privilege of the approval (flight control, M/M interfaces, sensors, instruments, navigation …)
  - The detailed list of the items of equipment and their assignment to the BU/BL is given by the A/G/01F guide, "Reference list associated with the MOP".
- §1.B.6.2 Industrial Organisation set up to produce the equipment and carry out the activities covered by the Approval
  - Missions and functioning of the SBL and TBU
  - Main avionics suppliers, sub-contractors and suppliers

- §1.B.6.3.1 Exercise of privileges: activities covered by the Approval
  - Series production of parts and equipment intended for the "aircraft builders" (original equipment),
  - Series production of parts and equipment delivered directly to the "users" (spares),
  - Series production of STC, ETSO, JTSO, QAC and TSO equipment,
  - Maintenance in the sense of PART 21A.163 (d) or modification, inspection or test work on series produced equipment equipping aircraft not yet brought into commercial service,
  - Production and tests of prototypes and test on request from the "aircraft builder" with a view to certification of a type certificate.

§1.B.6.3.2 Relations with the prime contractors

- The regulation imposes close coordination between the holder of the Approval and the prime contractors.
  Agreements are essential in order to ensure that the proofs of airworthiness (TC or STC) sent are valid.
- THAV has set up protocols (agreements - arrangements) with its:
  - DO (Aircraft builders holding design approvals),
  - IPO (Intermediate Production Organisation) and
  - AMC (Aircraft Modification Centre).
- The objectives of these protocols (see R/G/12F - Lists of Protocols) are to:
  - Govern the everyday relations between THAV and its prime contractors,
  - Authorise THAV and/or its suppliers to deliver spares directly to the user (THAV end customer) and to
  - Govern the transfer of airworthiness data from the prime contractor to THAV (most often - lists of equipment P/Ns appended to the protocol).

17 PROTOCOLS agreed between THAV and Aircraft Builders (R/G/12F IR:06)

- AIRBUS France
- AIRBUS U.K.
- AIRBUS Deutschland
- AvCRAFT AEROSPACE GmbH
- ATR EADS
- BAE Systems Regional Aircraft
- BOEING North
- BOEING South (Mc Donnel Douglas)
- BOMBARDIER AEROSPACE
- DASSAULT AVIATION
- EUROCOPTER Deutschland GmbH
- EUROCOPTER France
- GKN WESTLAND HELICOPTERS Ltd
- HINDUSTAN AERONAUTICS Ltd
- SAAB Aircraft AB
- STORK FOKKER SERVICES B.V.
- TURBOMECA

6 PROTOCOLS agreed between THAV and the IPO (R/G/12F IR:06)

- SIEMENS (CERBERUS SA)
- GOODRICH ACTUATION SYSTEMS SAS
- GOODRICH CORPORATION FUEL&UTILITY SYSTEMS
- NORTHROP GRUMANN (LITTON)
- LIEBHERR-AEROSPACE TOULOUSE SAS
- SAGEM SA

1 PROTOCOL agreed between THAV and an AMC (R/G/12F IR:06)

- HOLLINGSEAD International

- §1.B.6.3.2 Relations with the avionics suppliers
  - The cooperation agreements and contracts concluded between Thales Avionics SA "main contractor" and its avionics suppliers define the division of industrial activities between the two parties including the methods of direct delivery to the aircraft builders and users.
  - Thales Avionics SA sets out and adjusts the aircraft builder's requirements, formalised by a contract and/or an associated protocol, with its suppliers, and especially with its avionics suppliers (suppliers of complete equipment).
  - The avionics suppliers' items of equipment can be identified in **a single reference list**:
    - That of the supplier, if it is the holder of a POA, **or**
    - That of THAV, if the supplier is the subject of an authorisation to produce and release equipment on behalf of THAV.

4 PROTOCOLS agreed between THAV and the Avionics Suppliers

- **DIEHL AVIONIK SYSTEM GmbH**
- **SAGEM NAVIGATION GmbH**
- **SMITH AEROSPACE Ltd**
- **THALES Communication France**

- Authorising suppliers to produce and release equipment on behalf of THAV (see A/P/02F)
  - A protocol agreed between the parties deals with the following points:
    - **The protocol's attachment to the contract**
      (industrial environment to be developed, if necessary)
    - **The supplier's authorisation**
      (notification, promulgation, validity and classification of the protocol),
    - **The area covered by the protocol**
      (equipment produced and released, activities carried out by the supplier under the terms of the protocol),
    - **The implementation of the protocol**
      (applicable documents, authorised named interfaces, mutual informing of the parties, supervision of the protocol, supervision by the GSAC),
    - **The regulatory provisions**
      (direct delivery of spares to the users, transfer of airworthiness data, list, examination and analysis of information),
    - **The management of the applicable and applied configuration**
      (changes to the definition, handling of non conformities),
    - **The release of equipment**
      (authorisation of the supplier's employees, definition of the EASA Form One, methods of release),
    - **The archiving**
      (traceability data, EASA Form One),
    - **The appendices**
      (named interfaces, EASA Form One model format).

- The authorised suppliers

2 suppliers are authorised to produce and release equipment under the Thales Avionics SA approval n°

- **THALES SYSTEMS AEROPORTES SA**
- **THALES MICROELECTRONICS SA (*authorisation in progress*)**

- § I.B.8 Obligations vis-à-vis the approval
  - QCI is responsible for managing and dealing with the findings notified by the Authority (see § I.C.4).
    In the case of findings classed as level 1 (or level 2 if the delay set by the Authority for presentation of a corrective action plan by Thales Avionics SA has not been respected), QCI must:
    - **confirm, within a delay of 3 working days**, the reception of the decisions notified in writing by the Authority in the matter of limitation, suspension or withdrawal of the FR.21G.0012 approval, in accordance with PART 21A 158(b),
    - **return the approval certificate** to the Authority within a delay compatible with the effective date of its return or withdrawal, in accordance with PART 21A.159 (b).

- §1.C Quality Function – General Organisation
- § 1.C.1. Organisation
  The general organisation has a very strong identity
  - The Managing Director is involved in the sense of PART 21 as the person responsible at the highest level.
  - The Director of Quality and Continuous Improvement (QCI) is involved **in the sense of PART 21** as the "Quality" Manager (in charge of the **quality assurance and production management** functions).
  - The SQCI Managers are nominated jointly by the Directors of Units and the QCI Director
- § 1.C.2. Missions
  - Signs the release documents
  - Manages the findings made by the authority
  - ….

- § I.C.4 Management of the Quality System
  - **Internal quality audits** - 2 year interval for covering the quality system for PART 21 - The audits cover all of the functions described in the MOP from § I.C then from § II.A to II.N,
  - **External quality audits** - Validation of the application of the Thales Avionics SA Reference System sent to its suppliers,
  - **Demonstration of the correct working of the quality system** Drawing up of the Thales Avionics SA quality report (see GSAC fascicule P.32.60) presented during the annual summary meeting,
  - **Handling of "quality problems" or malfunctions** (see II.G, II.I, II.M and II.N),
  - **Handling of findings made by the authority** (see below).

§ I.C.4 Management and handling of findings made by the authority.

- Any non conformities in relation to PART 21 sub-part G found by the Authority in the Units and at partners, sub-contractors and other suppliers of Thales Avionics SA are classed at three levels, depending on their impact on the aircraft's safety.

Non conformity	Decision notified to Thales Avionics SA by the Authority	Delay for presenting an Acceptable Corrective Actions Plan (PACA)
Level 1 • Aircraft's safety affected, • Non conformities with the applicable design data not controlled	- LIMITATION OR, - SUSPENSION OF THE APPROVAL APPROVAL WITHDRAWN IF 21 DAY DELAY IS NOT RESPECTED	**21 days**
Level 2 . Non conformities with the applicable design data not controlled	- ACTION PLAN IMPLEMENTATION DELAY SUSPENSION/LIMITATION OF THE APPROVAL IF DELAY FOR IMPLEMENTATION NOT RESPECTED	**3 months** (6 months max if justified)
Level 3 . Potential problems that could lead to a level 1 or 2 non conformity	- NO DECISION NOTIFIED A PRIORI LEVEL 2 DEVIATION NOTIFIED IF HANDLING OF THE ACTIONS UNSATISFACTORY	**<< 12 months** (analysis of the deviations in the annual quality report at the latest)

Part 2 – Quality system Rules and Procedures

- § II.A.1 Design File
  - shared responsibilities between Thales Avionics SA and the prime contractor, FEE, SB
  - introduction of airworthiness data into the Design File,
  - provisions relating to "ETSO/JTSO/QAC/TSO" and "STC" equipment,
- § II.A.2 / II.A.3 Production File, Inspection File
  - strong requirements for the recording of work

ETSO = European Technical Standard Order **QAC = Qualification Aviation Civile**
JTSO = Joint Technical Standard Order **TSO = Technical Standard Order**
STC = Supplemental Type Certificate

- § II.B Organisation of production management.
  - The parts delivered as spares must be produced by a production process similar to that implemented when those parts are integrated into new products.
  - This requires all of the production/inspection operations; such as debugging, tests and checks and implies, in particular:
    - "the creation of a specific production programme for each sub-assembly,
    - the use of an item of equipment or a specific test bench as the final inspection tool,
    - tests from the Product ATP, applied only to the functions of the SRU delivered as a spare"

    The set of tests applied to the SRU must ensure that the SRU works perfectly safely and provides the required performances on the LRU (new or repaired).

Definitions: LRU (Line Replaceable Unit) - SRU (Shop Replaceable Unit)

Part 2 - Quality system Rules and Procedures

- § II.D Identification and traceability of equipment.
  - General provisions: GC/G/01F
    - Examples: C12345AA01 A
  - Specific provisions:
    - "EPA" marking
      - Approved part without type certificate (TC) or ETSO (European Technical Standard Order), applied to the "European" STCs: HFDS (MD-82) Alitalia
      - Label or plate, identifying the three letters EPA, near the main label,,
      - Entry in EASA Form One field 13
    - ETSO/JTSO/QAC/TSO marking
      - Label or plate, identifying the ATC (applicable technical conditions – Ex: TSO C4c) and the weight.
      - Entry in EASA Form One field 13

Part 2 - Quality system Rules and Procedures

- § II.F Tools and measuring instruments
  - Strict control requirements (qualification, calibration, management, etc.)
  - Case of the use of tools that do not conform
- § II.G Supervision of the bought in or sub-contracted supplies
  - Strict requirements about the control of suppliers and supplies (case of orders), acceptance procedures,
  - Introduction of the case of foreign external companies

- § II.G.4 Case of foreign external companies
  - Selection and supervision of foreign external companies as for national suppliers, with in addition strategic criteria (compensation and cooperation) to be taken into account, and application of the "Management of industrial changes" procedure if production is outsourced.
  - Application of the DGAC methodology (see GSAC fascicule P31-50) for the supervision of these companies:
    - analysis of the actions taken by THAV,
    - organisation of the **cooperation with the local Authority** to set up a protocol agreement with the DGAC in the matter of supervision,
    - identification of responsibilities if there is any stacking of sub-contracts.
  - Prior to any order placed with foreign suppliers, THAV ensures that:
    - there are relations with the Authority of the country concerned on behalf of the DGAC formalised by a protocol agreement or similar,
    - that the external company will be covered by a production approval (according to PART 21 or JAR 21 sub-part G, or other regulation).

Part 2 - Quality system Rules and Procedures

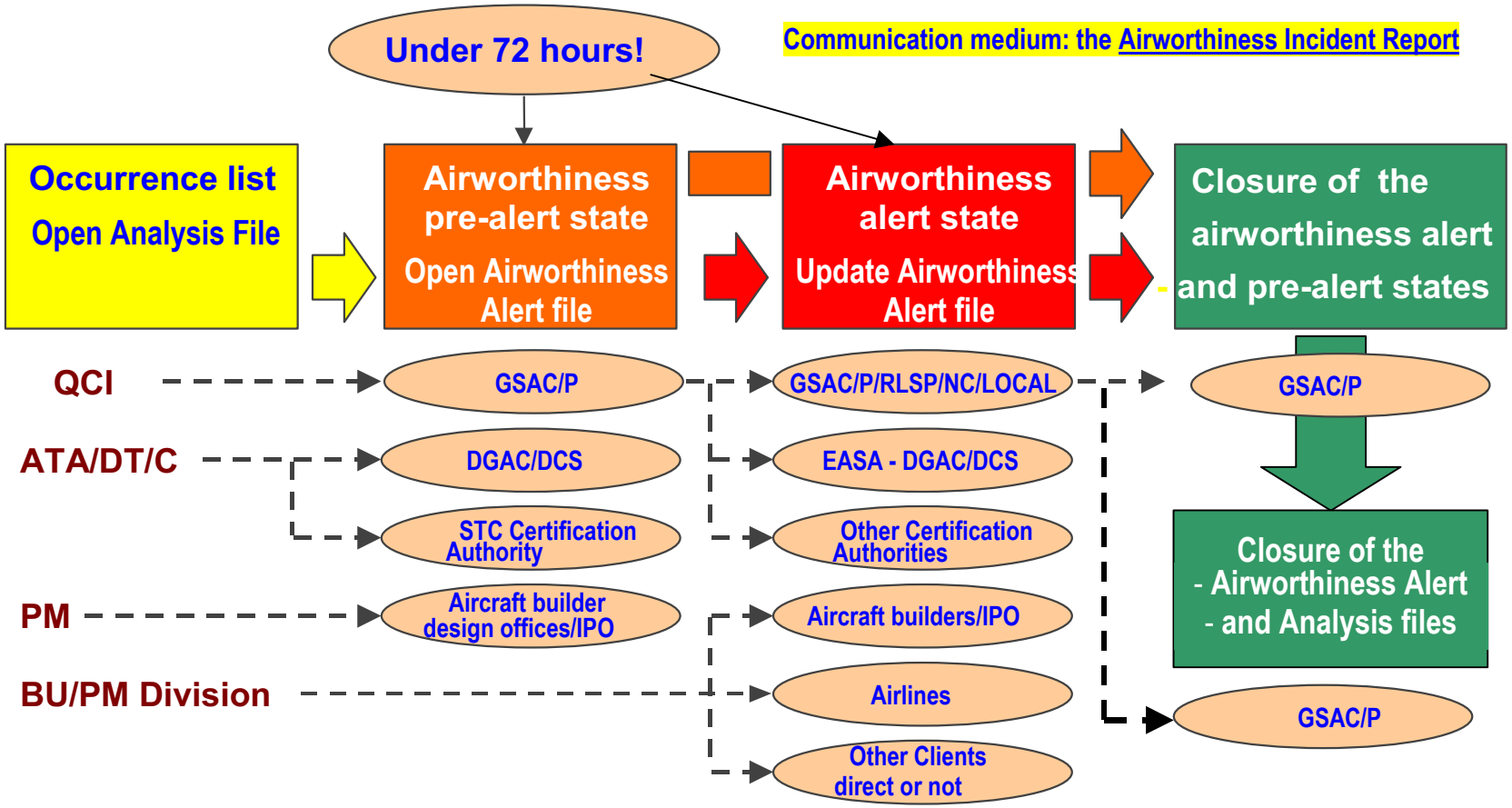
- § II.K Final determination of the airworthiness or conformity state of the equipment
- § II.K.1.2 The Airworthiness Instructions (CN)
  - ASW/QCI ensures that the Airworthiness Instructions are circulated to the BU/QCI:
    - Photocopies of the documents are sent to the SQOs.
  - The BU/QCI propagate that circulation inside the BU, for the attention of:
    - Product Managers,
    - Industrial Managers,
    - Line Managers (made available to the authorised signatories).
  - A/G/04F defines the methods of analysis and circulation of the CN applicable to Thales Avionics SA identified by a list appended to this guide.

- § II.M Handling of production non conformities discovered after delivery
  - An "Occurrence Reporting" process deployed with the clientele:
    - **Establish and maintain an occurrence collection system** in order to study trends, signal deficiencies and extract the occurrences to report,
    - **Report to the holder of the design approval** the deviations concerning the equipment delivered and identify with it those that may lead to safety being compromised,
    - **Report to the agency and state authority** only those deviations which, after analysis with the aircraft builder, may lead to safety being compromised (see **Airworthiness Alert** procedure).

- § II.M Special "Occurrence Reporting" procedure for the **ETSO/JTSO/QAC/TSO** equipment identified in the reference list associated with the MOP; Thales Avionics SA circulates instructions to the known users of this equipment in an S.I.L. (Service Information Letter) in order to:
  - inform them of the need to report to Thales Avionics SA any occurrence relating to this equipment that may adversely affect the safety of the aircraft,
  - define the interfaces used to ensure that information is fed back from the users to Thales Avionics SA, and
  - provide the users with a list of the type of occurrences that could compromise the safety of the aircraft (see A/G/03.10F).

Partie 2 - Quality system Rules and Procedures

§ II.M "Airworthiness Alert" procedure (A/P/03F)



Part 2 - Quality system Rules and Procedures

- Examples of occurrences that should be the subject of in depth analysis to identify airworthiness risks
  - Failure occurring in service and reported directly by an airline (working in degraded state or even out of service),
  - New failure mode discovered and not mentioned in the original FMEA,
  - Operational limitation or deterioration in performances,
  - Late discovery of a requirement not met,
  - Special vulnerability of an item of equipment to certain aggressions (electromagnetic, other interfering equipment, ...),
  - transient failure, ...
  - Unexpected test result (simulation tests, crash test, ...) in relation to the technical specifications, regulatory requirements, ...
  - Recurrent quality defects (in production or in service/or batch of components of doubtful reliability (component alert, ...).

These occurrences may be identified during the production of the equipment (internally at Thales Avionics or suppliers), in flight or certification tests of the aircraft or in commercial operation.

Part 2 - Quality system Rules and Procedures

- § II.N Maintenance privilege in accordance with PART 21A.163 (d)

  Intervention on equipment after delivery

  - at the request of aircraft builders,
  - on Thales Avionics SA sites and on cooperating sites,
  - application of professional standards:
    - applicable instructions and procedures, means and tools, requirements, secured premises,
    - Work done conforming to approved data,
    - intervention of qualified, certified and authorised personnel,
    - recorded on an appropriate medium (CER),
    - handling of non conformities,
    - release of the work,
  - As "occasional work" - [A plus for THAV!]

    Privilege extended to allow intervention "OUTSIDE THAV SITES " **under the cover of the approval**.

7

Release & delivery of equipment (Authorised signatories)

Release of an item of equipment at the end of the production cycle

- The Production Approval confers on Thales Avionics the right to release equipment with an EASA Form One
- The signatory authorised to sign the authorised release certificates must "**ensure that the equipment and parts fulfil the conditions for obtaining an authorised release certificate**".
- He holds his authorisation by delegation from the Managing Director, "Manager Responsible" in the sense of the MOP.
- An item of civil equipment can only be released after:
  - Its conformity has been checked and recorded
  - Its airworthiness has been checked
- The distribution or assorting site operator must take into account the **Customer's expression of requirements not known by the authorised signatory**.

Release of an item of equipment at the end of the production cycle

- Checking the conformity of the equipment
  - Configuration created = applicable configuration
    - Application rank / waiver for anticipated application forbidden
  - Recording of the configuration (P/N, S/N LRU and SRU …)
  - Look conforms / ATR conforms
  - Marking of equipment and documents
    - Recordable waivers, EPA marking, ETSO/TSO marking, 12 digit S/N, manufacturer code, customer reference, amendments applied,….
- Checking the conformity of the production process
  - Logs and production programmes: visas, dates and operator marks, etc.),
  - Handling of the DFT/FAC (blocking technical event or airworthiness non-alert, …)
  - Date of manufacture (not modified except in the specific case of revalidation),

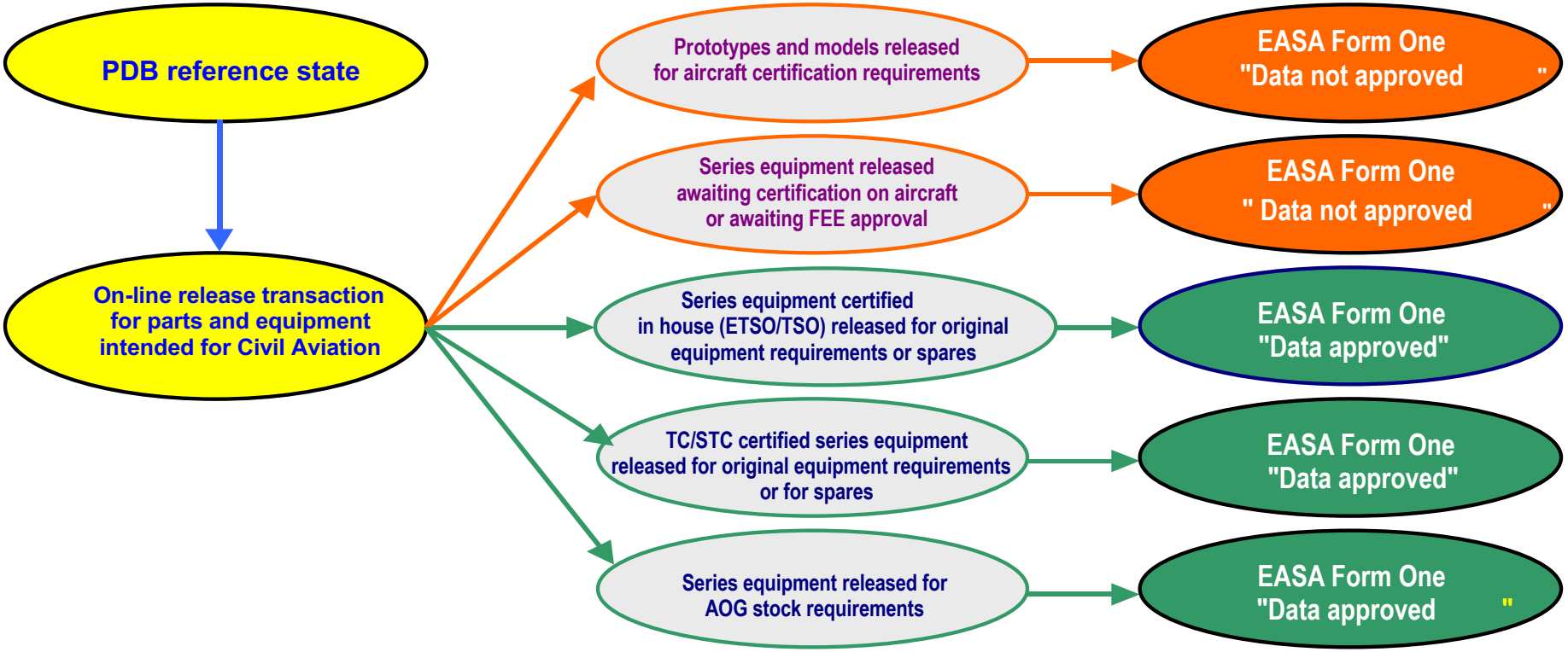
Release of an item of equipment at the end of the production cycle

- Checking the airworthiness of the equipment
  - The airworthiness state is provided by the PDB
  - It controls the issue of the release documents
  - The reference list (A/G/01F) is published once a year.
    It must be updated by the accepted change sheets (FELR)
  - Check the application of the airworthiness instructions.
  - For deliveries to the users (airlines), check that Service Bulletins (SB) are being issued at the same time as the issue of the FEE classed as a modification
  - Fill in and/or check the specific entries to be inserted in the EASA Form One automatically or manually,
  - For equipment in storage:
    Re-certification if storage time is exceeded, …

Release of an item of equipment at the end of the production cycle

- In the absence of airworthiness, the release document may be:
  - A "data not approved" EASA Form One. Check that this really is an authorised case:
    - Release of a prototype
    - Change in progress that has received technical acceptance
  - A Declaration of Conformity (DC)
    - If an EASA is necessary, contact the Series Product Manager to get him to obtain a valid proof of airworthiness (aircraft builder agreement in progress or TSO)
- A "manual" EASA Form One is always possible
  - after the state of airworthiness has been checked

Release of an item of equipment at the end of the production cycle



"Conformity only" = "….data not approved…" with the reason entered in field 13 of the EASA Form One,

"Airworthiness" = "…data approved…. in a state for working safely…."

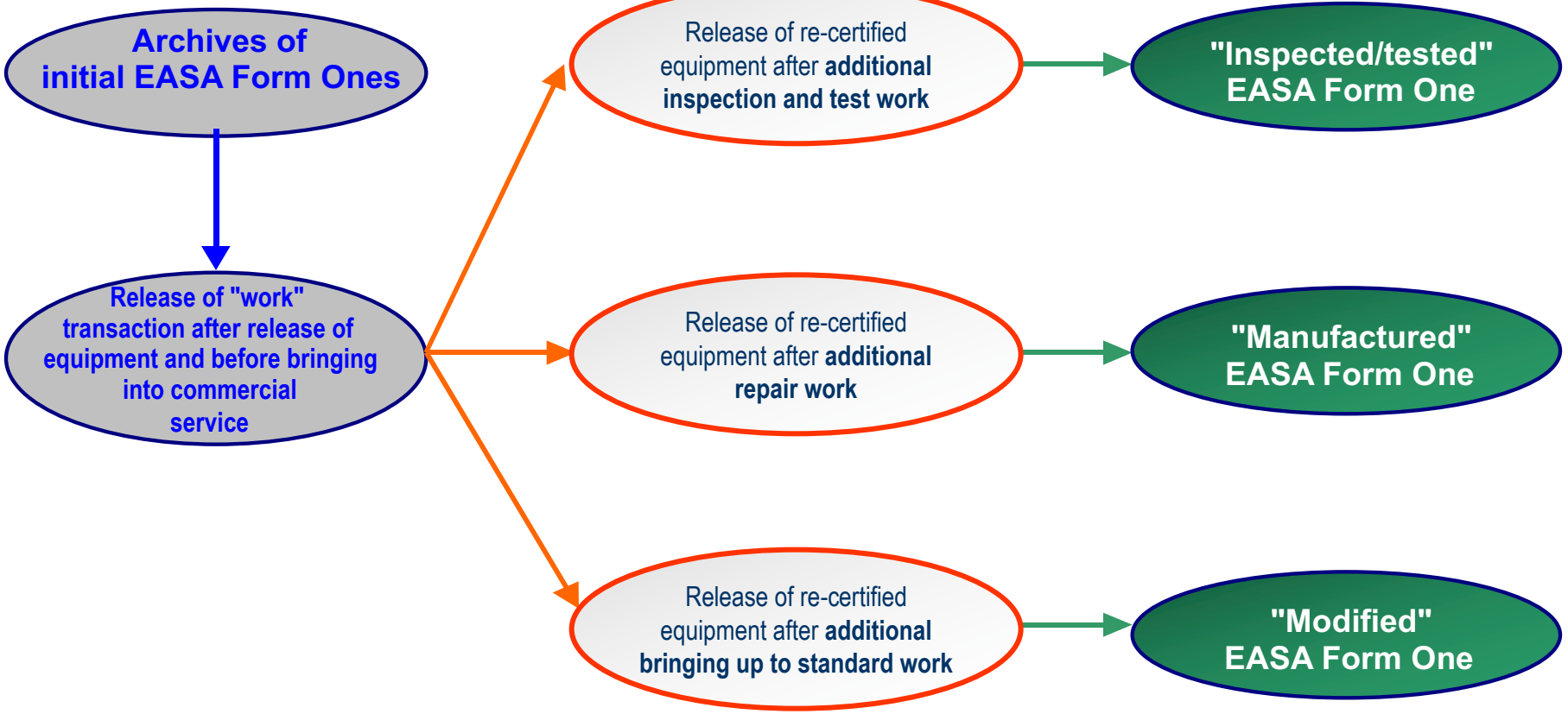
Delivery of equipment

- Responsibilities of the Distribution Centres
  - Checking the conformity of the order:
    - Ref.: computer database, paper copy of the order, etc.
    - Last applicable standard if the precise specification of the customer's requirement is missing,
- Application of the DDA agreements:
  - Do not deliver spares to the end customer (Airlines, brokers, …) if there is no authorisation for direct delivery of those spares to the end customer.
- "Customer" destination:
  - Refuse to deliver equipment under a recordable waiver to a customer other that the customer that approved the waiver request.
  - Refuse to deliver equipment under an STC if the destination country is different from the country of the certification Authority identified on the EASA Form One
  - Refuse to assign an EASA Form One "... data not approved…" for the AOG stocks and for the ASW subsidiaries.

Release of work done after delivery on equipment not yet put into service

- Maintenance on Original equipment / Embodiment privilege
- Work done on request from the aircraft builder under cover of PART 21A.163 (d)
- Using the production documentation (DFC) and not the maintenance documentation (CMM, SB, …)
- Always indicate "manufactured"
  - to show that it is new equipment

" Release of work" done after delivery on equipment not yet put into service



Release of equipment FAQ

- For which items of equipment must we fill in an EASA Form One (new parts)?
  - Only for the items of equipment designated by the "Reference list" (A/G/01F) and by the reference list's approved change sheets (FELR). They have "airworthy" status in the PDB.
    - LRU
    - SRU covered by the approval, through the structure of LRUs.
    - The basic parts excluding standard products. "ASW spares for the repairers" activity (ex.: electronic components).

The simulators, "ground" equipment, tools and "catalogue" or commercial "standard" parts (parts purchased from the catalogue according to the manufacturer definition and manufacturer reference or conforming to national and international standards) are excluded from the scope of the approval and are deliverable by BL/DC.

Release of equipment FAQ

- Must an "approved data" EASA Form One be filled in for delivery to the AOG (Aircraft On Ground) stock?
  - **YES – IMPERATIVE!** We must be able to install AOG equipment on an aircraft in service without delay.
  - It is essential that we guarantee the maintenance of the airworthiness of this equipment by regular revalidations (application of the airworthiness instruction and FEEs, if necessary, supervision of products with limited lifetimes, etc.).

An item of equipment awaiting certification cannot be delivered as AOG stock, because THAT ITEM OF EQUIPMENT IS NOT AIRWORTHY (…data not approved.)

Release of equipment FAQ

- Can we fill in a "data not approved" EASA Form One for the spares?
  - **YES – THERE ARE TWO POSSIBLE CASES:**
    - Series equipment awaiting certification on an aircraft (in pre-positioning situation when setting up stocks of spares for the airlines before the type certification of aircraft),
    - Less commonly, series equipment awaiting FEE approval (change awaiting approval, after prior acceptance by the aircraft builder's design office).
    - Important for THAV: in these two cases, ensure that a written formulation of the Customer's request is used.
  - RECORD the reason why only conformity is certified on the EASA Form one (see the entries in field 13 before and after acquiring or maintaining airworthiness).

Stating "conformity only" leads to the postponement of the determination of airworthiness by the end operator and/or the sending of an "Airworthiness" EASA Form One by THAV after proofs of airworthiness have been obtained.

Release of equipment FAQ

- When should we use a "modified" EASA Form One?
  - When performing maintenance of original equipment.
  - **After modification** (unit opened or closed if software is loaded, for example) of serial equipment occurring after it is first released and before it is brought into commercial service, after application of an Equipment Change Sheet (FEE), for example.

The "Manufactured, modified" EASA Form One supplements the initial "manufactured" EASA Form One and mentions its reference.

Release of equipment FAQ

- When should we use an "inspected / tested" EASA Form One?
  - When performing maintenance of original equipment.
  - **After inspection and test work** (unit closed) on any series equipment occurring after it is first released and before it is brought into commercial service, in order to:
    - make sure that it conforms to a specification or particular customer standard (entry to be inserted in field 13), to the applicable definition (Verification of Serviceability - VBF),
    - Re-certified by inspections and tests (without additional work),

The "inspected/tested" EASA Form Ones supplements the initial "manufactured" EASA Form One and mentions its reference.

8

The "EASA Form One" (Authorised signatories)

The EASA Form One (new parts)

- Called the " **Authorised Release Certificate**", drawn up by delegation from the Authority, the EASA Form One stands as the official certificate.
  It is not a Thales document, unlike the BL/DC.
- Guarantees the origin of parts (fight against copies, "suspected unapproved parts"). In order to be used in repairs, any part with a specific definition (P/N attributed by the equipment maker) must be accompanied by the original of the EASA Form One guaranteeing its origin.
- In most of the cases of its use, it is drawn up automatically, by the information system (PDB / SAP. ref: QUAL/F/58A), but **all or part of its text can be hand written**.

The EASA Form One (new parts)

- Certifies on each form (no mixing allowed on the same certificate):
  - either **airworthiness** (conformity with the definition approved by the Authority for equipment capable of operating safely established),
  - or **conformity** (with the applicable configuration, for series equipment awaiting certification or approval of a change to the definition or with the configuration of prototype equipment and test specimens in the context of the certification / approval).
- Used to release:
  - "new" parts (in the sense of PART 21), or
  - "used" parts (in the sense of PART 145)
    (No mixing allowed on the same certificate).

Filling in the EASA Form One (new parts)

Field 1	Authority of the member state of the EASA, on behalf of which the certificate is issued (reference in field 16).
Field 2	Authorised release certificate / EASA form 1
Field 3	Individual and unique number (serial n°, ..), see manual procedure (case of prototypes,…)
Field 4	Company name of the approval holder (Thales Avionics SA) plus: - Complete address of registered office, and - Address of the unit responsible for manufacturing and releasing the equipment (Thales Avionics SA unit of establishment of an authorised external company).
Field 5	Order note / contract / invoice (optional field). Preferably, eliminate any reference to the order for deliveries to a Customer other than the end Customer. Data item not defined for putting into commercial or AOG stocks.
Field 6	Item N° for reference to the texts in field 13.
Field 7	Usual name or designation of the equipment (see PDB source).
Field 8	"Manufacturer reference" Thales Avionics SA P/N. Field 8 records, unless there is a specific Customer requirement, the reference of the last applicable standard. If the customer imposes it, indicate a second reference in field (13).

Filling in the EASA Form One (new parts)

Field 9	Authorised destination: - Indicate the TYPE CERTIFIED AIRCRAFT or AIRCRAFT SUPPLEMENTAL TYPE CERTIFICATE, on which the suitable for installation, a single type of aircraft, if several indicate VARIOUS - Indicate "N/A, ETSO/JTSO/QAC/TSO article " if it is ETSO/JTSO/QAC/TSO equipment (see A/G/01.02F), - indicate VARIOUS, if the equipment (LRU) is destined for installation on more than one type certified aircraft model and for all SRUs (see A/G/01.02F), - indicate UNKNOWN, if the final destination is unknown (case of supply of spares to repair centres and resellers), indicate NONE, if the equipment released is not part of a certified definition: - pre-positioning for creating initial stocks by the airlines (equipment awaiting certification), or - awaiting FEE approval (after technical acceptance of the change), prototypes and tests specimens released on request by the aircraft builder.
Field 10	Number of items of equipment delivered (authorised to be brought into service).
Field 11	S/N (serial or batch n°) of the equipment depending on the case (if none put N/A). Specify the serial n°s if required by the customer (Ex: "120, 121, 122" not "120 to 122")

Filling in the EASA Form One (new parts)

Field 12	Insert one (or a combination) of the following standard words for the new equipment (see the list of specific entries): - Manufactured - Manufactured + Inspected - Tested - Manufactured + Modified **Attention: the terms " Inspected - Tested" and " Modified" must always be associated with the term " Manufactured" when releasing work**.
Field 13	This field must identify the items below (see reference to the field 13 entries): - data related to the re-certification of equipment (reference to the original EASA form, type of repair work, reasons for re-certification when, in particular, inspections and tests are sufficient for ensuring the airworthiness and the serviceability of the equipment, transition from "…data not approved…" to "…data approved..." certification, - explanation of the reasons for the missing certified definition (awaiting type certification, for test only, prototype, etc.), putting in the ad hoc entry. - if destination unknown (field 9) the different aircraft on which airworthiness has been acquired could be entered to justify the unknown origin (delivery to repair centres), - identification of the amendments attached to the equipment, - recordable applicable waivers, accepted by the users, referenced in field 13 of the EASA Form One.

Filling in the EASA Form One (new parts)

Field 13 (continued)	reference of the applicable Service Bulletins if there is an FEE and for spares. - Field13 may include specific indications agreed with the customer. - Enter the reference of the applicable ETSO/JTSO/QAC/TSO - For the STCs (specify the attributing Authority and the STC reference), In the case of issue of an STC intended for a geographical zone other than that of the certification authority, ensure (if it has not already been done at the level of the reference list) with the Airworthiness and Certification Service attached to the Technical Department of the ATA SBU that - either, the STC certification is recognised by the Airworthiness Authority of the new customer country, (then update the reference list), - or, if not, request an extension (validation) of STC certification to that new customer country, (then update the reference list). Unless recognition or extension of certification is obtained, the equipment released cannot be released with an EASA Form One (BL/DC). - If there is no indication in this field, enter N/A.
Field 14	Tick one box in this field, which may be either: - " design data approved and equipment in a state to operate safely", or - " design data not approved specified in field 13".

Filling in the EASA Form One (new parts)

Field 15	Mandatory signature of the authorised signatory "manual and in writing". Subject to acceptance by the competent Authority (GSAC/P), computerised signatures are allowed if it can be proved that an equivalent level of traceability and responsibility control exists [See AMC 21A.163 (c) for information about computer generated signatures]
Field 16	PART 21 approval number according to sub-part G identified in the form FR.21.G. 0012.
Field 17	Readable name of the signatory (name and visa of the signatory not dissociable)
Field 18	Date (day/month/year) of release of the equipment. Month written in letters.
Fields 19 to 23	Not used for new parts (cross out or hatch).

- The EASA Form One must be written in English (basic), then the authorised official language of the issuing member state added.
- Unless indicated otherwise, each field of the EASA Form One must be filled in for the certificate to be considered valid (enter N/A in English if the field is not used).
- The declaration in field 14 of the EASA Form One does not constitute a certification for installation on the aircraft.
- In every case, "the user/installer", responsible for installing the equipment on the aircraft must refer to the aircraft builder's documents.
- The EASA Form One is not a configuration document of the aircraft.

Filling in the EASA Form One (new parts)

Main entries to be inserted in field 13 see QUAL/G/09F guide

Case of use	Entries in field 13 [in brackets]
Release of equipment under STC attributed by the EU (European Union) related to the programmes: - HFDS MD 82 (Alitalia), - SATCOM Aéro H (British Airways), - SATCOM Aéro H (Air France). Identify the "EPA" in field 13	Insert the three letters [EPA]
Release of equipment under STC attributed outside the EU by a foreign Authority. Identify the Authority and the STC reference in field 13	[Design data approved by "enter the authority's name in English here and the STC approval reference"]
Release of equipment with a limited lifetime. Insert an entry in field 13 specifying the limits on use.	[<Remaining potential life (if partly consumed)/on initial potential, lifetime in storage, etc>]
Release of equipment under an recordable waiver. Insert the waiver's reference in field 13.	[<n° of the recordable waiver accepted by the Customer which is the destination of the delivery>]

Filling in the EASA Form One (new parts)

Main entries to be inserted in field 13 see QUAL/G/09F guide

Case of use (continued 1)	Entries in field 13 [in brackets]
Release of equipment repaired before use by the line and before being brought into commercial service (following removal during embodiment, following any fault found in storage under THAV control, following loan, following demonstration, etc). Insert the two entries opposite in field 13, and the entry [Manufactured] in field 12	a) [First original EASA Form One Reference], b) [Maintenance performed on aircraft manufacturer request according to Part 21A.163 (d)].
Release of equipment modified after delivery by the line and before being brought into commercial service. Insert the two entries opposite in field 13, and the entry [Manufactured + modified] in field 12	a) [First original EASA Form One Reference], b) [< reference of the FEE that can be used to trace the modification >].
Release of equipment inspected/tested after delivery by the line and before being brought into commercial service. Insert the two entries opposite in field 13, and the entry [manufactured + inspected-tested] in field 12	a) [First original EASA Form One Reference], b) [< reference of the specification or the customer standard that can be used to trace the nature of the tests (VBF or specific tests) >].

Filling in the EASA Form One (new parts)

Main entries to be inserted in field 13 see QUAL/G/09F guide

Case of use (continued 2)	Entries in field 13 [in brackets]
Release of restored new/old equipment from stocks under THAV control, when the difference between the date of delivery and the equipment's date of manufacture (shown on the label) exceeds a storage value acceptable to the Customer (standard > # 18 months). Insert the two entries opposite in field 13, and an entry in field 12 depending on the nature of the work done: [manufactured], or [manufactured + modified], or [manufactured + inspected-tested]	a) [Re-certification of parts in accordance with technical note ref.], b) [First original EASA Form One Reference],
Release of prototypes on aircraft builder request, in the context of certification / approval. Insert the two entries opposite in field 13, and the entry [none] in field 9, and the entry [Manufactured] in field 12.	a) [For test only], b) [Only for conformity, not eligible for installation on in service type certificated aircraft / engine / propeller].
Correction, or modification, at the Customer's request of an EASA Form One previously issued. Insert an entry in field 13 specifying the nature of the correction modification.	a) [This document has been issued only to correct the information in blocks x, y, ….but does not cover conformity / conditions after release of the initial EASA Form One Reference ….. issued on dd/mm/yyyy],

Filling in the EASA Form One (new parts)

Main entries to be inserted in field 13 see QUAL/G/09F guide

Case of use (continued 3)	Entries in field 13 [in brackets]]
Release, at the Customer's request, of series equipment: - awaiting certification on an aircraft (TC or STC) for pre-positioning requirements, - awaiting approval of its change after technical acceptance of the FEE (AAV status). Insert the two entries opposite in field 13, and the entry [none] in Field 9, and in field 14 tick the […design data not approved…] box.	a) [Pending Type Certificate] or [Pending Supplemental Type Certificate] or [Pending approved data] if FEE b) [Only for conformity, not eligible for installation on in service type certificated aircraft/engine/propeller].
Re-issue of an EASA Form One for series equipment: - after certification on an aircraft (TC or STC), of P/N previously delivered for pre-positioning needs at the Customer's request, - after FEE approval (ASO status), of P/N previously delivered at Customer request under FEE/ AAV status. Insert the entry opposite in field 13, and the new entry required in field 9 (refer to the ad hoc rubric defined previously) and insert the [Manufactured] entry in field 12.	[Re-certification of new parts from conformity to airworthiness: this document only certifies the approval of the design data to which this item (these items) was (were) manufactured but does not cover conformity / condition after release of the initial EASA Form One ref. XXXXX].

EASA Form One FAQ

- GROUPING: use of a single EASA Form One for deliveries of many different articles is allowed (case of supply of spares).
  - Referenced list of the items of equipment containing all the information for fields 6 to 12,
  - EASA Form One with the following entries in fields 6 to 12 :
    "This document applies to the parts listed in the appended document, reference----------, dated the -------, number of pages ----------".
- UNGROUPING: No mandatory authorisation.
  - Make as many photocopies of the original document (original archived by Thales Avionics SA) and the appended documents as needed to accompany the different parts to their final destinations with the document certifying their origin,
  - The photocopies should bear the following words:
    "photocopy made on the ---------- on removal of x parts (S/N XXX,YYY) out of a total of y parts by Mr/Ms----------(name of the person) from the Company----------, followed by the person's signature and the company's identification mark.

EASA Form One FAQ

- **ORIGINAL**: A single copy of the EASA Form One destined for the Customer is identified by an "ORIGINAL" mark. (use a red stamp of the mark or pre-printing of the mark in colour on a sheet or a single example of a bundle of drawings).
- **COPY**: The number of copies of an EASA Form One is not limited (both for the customer's needs on request and for the needs of Thales Avionics SA).
- **CERTIFIED TRUE COPY**: copies identified by the "CERTIFIED TRUE COPY" mark can be sent to the Official Services (Production of proofs, ...) at their request.

FAQ EASA Form One

- **DUPLICATE**: A duplicate identified by the red "DUPLICATE" mark is sent to the customer on request if the original is lost (reference of the customer request in field (13) of the EASA Form One). **Archive a copy of the duplicate**.

- The "DUPLICATE" and the " CERTIFIED TRUE COPIES", contain all of the information in the "ORIGINAL" and are issued under the authority of the Manager Authorised to sign release documents. The Manager gives his/her name, dates and signs the documents and the dispatch note of those documents.

Archiving the EASA Form One

- One copy of the EASA Form One containing all of the information of the original is archived. It must be easily accessible for responding to any request for duplicates and copies and for consultation.

- For THAV Units involved in the civil field: Recording of the EASA Form Ones, classed according to the case by the quality secretariats, the Sales Administration function (ADV), the Orders Administration function (ADC) or by a logistic function.

9

The Delivery Note / Conformity Declaration (BL/DC)

The Delivery Note / Conformity Declaration

- The BL/DC applies in the following cases:
  - Civil avionics equipment not identified in the reference list when the application of a EASA Form One is not required.
  - Civil equipment not in avionics markets.
  - Any other supply, avionics or not in the sense of the ISO 17050 standard (replacing NFL00-15C). As well as the equipment, the term "supply" covers the software, documentation and services.
- The BL/DC, by its conformity declaration function, certifies the conformity of the articles delivered for the order.
- In the case of equipment released under PART 21 approval, the BL/DC provides the link between the order and the EASA Form One reference.

10

The signatory authorised to sign the release documents

The signatory authorised to sign the release documents

- The signatories authorised to sign the authorised release documents are people empowered by the Managing Director to certify the absence of faults on the equipment delivered.
- They are nominated by the Unit Directors, the first level delegates.
- The Managing Director and/or his delegates can be criminally prosecuted, in a personal capacity, if a fault is proven.

Note 1: **The Company, a legal person represented by its Managing Director and/or by the employees to whom powers are delegated, is responsible for any damage caused by any fault in its products.**

Note 2: **The principle of no-fault civil liability is recognised in French Law (law dated the 19th of May 1998).**

The signatory authorised to sign the release documents

- The "delegated" signatory is a line employee
- The BU/QCI signatory is the "substitute" who:
  - steps in when "delegated" signatories are absent ,
  - takes decisions in disputed cases,
  - validates the Production processes.
- A line manager, or any other **unauthorised** person, may never sign a release document by "Proxy" instead of and in the place of the authorised signatory.

Missions of the signatory authorised to sign the release documents

- To ensure that the equipment and parts meet the conditions for obtaining an authorised release document.
- To alert the BU/QCI managers about an imperfect application of the Production Organisation Manual (MOP) and associated documents (*)
- To issue authorised release documents under the terms of the powers conferred by the production organisation approval.

(*) or of the protocol and the documents associated with it in the case of signatories working for an external Company authorised to manufacture and release equipment under the Thales Avionics SA approval n°.

Authorisation of the candidate for the signature of release documents

- The candidates designated by their line management are confirmed then retained in the framework of an AUTHORISATION PROCESS that conforms to the QUAL/P/03.02F procedure including theoretical training in the regulations and a tutoring phase (acquiring practical knowledge).
- This authorisation, formalised by an INDIVIDUAL AUTHORISATION SHEET (presented to the civil Authority), is signed by the:
  - DIRECTOR OF THE BU to which the signatory is attached,
  - QCI DIRECTOR (authorisation of the BU/QCI Manager), or by the BU/QCI MANAGER (authorisation of Unit's personnel).
- A list of authorised signatories, including the employees of external companies authorised to release equipment on behalf of THAV, is drawn up for each BU (QUAL/G/BU/XXF).

Tutoring the candidates for signature of release certificates

- Tutoring is essential in the context of being put into a practical situation in the field.
- The candidate, supported by his/her designated tutor, must be trained in:
  - How to issue the EASA Form One, how to consult the EASA Form One, how to consult the airworthiness status (PDB),….),
  - Accessing the GED Reference System,
  - Performing checks before signing the authorised release certificates.
- The end of the tutoring is formalised by a **tutored training certificate** signed by BU/QCI and the tutor.

Authorisation of the candidate for the signature of release documents

- Docs to be given to the person tutored (Ex: INT/E/BE/267-05/BV).
  - INT/E/BE/430-04: Verifications before signing the release document,
  - INT/E/BE/412-04/BV: EASA form issuing and consultation procedure,
  - INT/E/BE/428-04/BV: Guide for consulting Airworthiness.
- Docs that you must know how to consult
  - A/M/04F: Production Organisation Manual,
  - QUAL/G/09F: Release documents.
- If you are looking for an item of information (for example)
  - GC/G/01F: Identification of products and configuration documents (information about product references),
  - GC/G/02F: Marking of products (information about product markings, serial n°, date of manufacture or marking of applied amendments),
  - P/G/08F: Storage, delivery and dispatch conditions and rules (information about regular power-ups of about VBF (Verification of Serviceability of products)).

11

Appendices

Production Approval Certificate

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

MINISTERE DE L'EQUIPEMENT, DES TRANSPORTS, DE L'AMENAGEMENT DU TERRITOIRE, DU TOURISME ET DE LA MER

Direction Générale de l'Aviation Civile

SERVICE DE LA FORMATION AERONAUTIQUE ET DU CONTROLE TECHNIQUE

Membre de l'Union Européenne

CERTIFICAT D'AGREMENT DE PRODUCTION

(Production Organisation Approval Certificate)

Numéro FR.21G.0012

(reference)

Conformément à la réglementation européenne en vigueur et dans les conditions indiquées ci-après, la Direction Générale de l'Aviation Civile atteste que

(Pursuant to the european regulations for the time being in force and subject to the conditions specified below, the Direction Générale de l'Aviation Civile hereby certifies)

THALES AVIONICS S.A.
45, Rue de Villiers
92526 Neuilly-sur-Seine
FRANCE

est un Organisme de Production agréé selon la Partie-21, section A, sous-partie G .
(as a Production Organisation approved according to the Part 21, Section A, subpart G.)

CONDITIONS :

1. **Cet agrément est limité aux travaux décrits dans les termes de l'agrément ci-joints, et**
   (The approval is limited to that specified in the enclosed terms of approval, and)
2. **Cet agrément exige le respect des procédures décrites dans le Manuel d'Organisme de Production, et**
   (This approval requires compliance with the procedures specified in the Production Organisation exposition, and)
3. **Cet agrément est valide tant que l'organisme de production agréé reste en conformité avec la Partie 21, section A, sous-partie G.**
   (This approval is valid whilst the approved maintenance organisation remains in compliance with Part-21, section A subpart G.)

- Date de délivrance initiale : 1er septembre 2004
(Date of original issue)

Pour le Ministre chargé de l'Aviation Civile
Le 26 novembre2004

L'Ingénieur en Chef de l'Armement
Rémi JOUTY

EASA Form 55 Feuillet (*sheet*) A — Mai 2004

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

Direction Générale de l'Aviation Civile FRANCE	TERMES DE L'AGREMENT *(Terms of approval)*	TA : FR.21G.0012

Ce document fait partie du certificat d'agrément de Production Numéro FR.21G.0012 attribué à :
(This document is part of Production Approval number FR.21G.0012 issued to)

THALES AVIONICS S.A.

SECTION 1 DOMAINE D'ACTIVITE *(Scope of work)*

Pour détails et limitations se référer au MOP, réf. A/M/04F, chapitre I.B.6
(For details and limitations refer to the POE, ref. A/M/04F, section I.B.6)

Catégorie *(production of – rating)*	Désignation des produits/Pièces *(products/categories)*
C1 Equipements *(Appliances)* C2 Pièces *(Parts)*	Systèmes : avionique, conduite de vol, visualisations, interfaces hommes/machines, navigation, antennes de communication par satellites, surveillance *Systems : avionics, flight control, display units, man/machine interfaces, navigation, satellite communication antenna, surveillance* Instruments de bord, équipements aéronautiques / *On board instruments, aeronautical equipment* Capteurs / *Sensors* Enregistreurs de paramètre / *Parameters recorders*

SECTION 2. SITES *(Locations)*

MEUDON-LA-FORET (92), VENDÔME (41), CHATELLERAULT (La Brelandière et CLI) (86), LE HAILLAN (33), VALENCE (26), TOULOUSE (31), VITROLLES (13)

SECTION 3. PRIVILEGES *(Privileges)*

L'organisme de production est autorisé à exercer dans les termes de son agrément et en accord avec les procédures de son MOP approuvé, les privilèges exposés dans la partie 21.A.163 sous réserve de ce qui suit :
(The production organisation is entitled to exercise, whithin its terms of approval and in accordance with the procedures of its Production Organistion Exposition, the privileges set forth in 21A.163. Subject to the following)

Avant approbation de la conception du produit, une EASA Form 1 ne peut être émise que pour démontrer la conformité.
(Prior to approval of the design of the product an EASA Form 1 may be issued only for conformity purposes.)

L'entretien peut être réalisé en accord avec le Manuel d'Organisme de Production chapitre II.N, jusqu'au moment où la satisfaction à des règlements relatifs à l'entretien est exigée.
(Maintenance may be performed, until compliance with maintenance regulations is required, in accordance with the Production Organisation Exposition section II.N)

- Date de délivrance initiale : 1er septembre 2004
(Date of original issue):

Pour le Ministre chargé de l'Aviation Civile
Le 1er septembre 2004
Le Chef du Bureau Production
Florence LEBLOND

DIRECTION GÉNÉRALE DE L'AVIATION CIVILE

EASA Form 55 Feuillet (*sheet*) B - Page 1/1 — Mai 2004

Procedures

Thales Microelectronics SA acknowledges possession and /or having read and understood the following documents:

- *A/G/01F: Reference list associated with the MOP,*
- *A/G/01.02F: List of equipment that can be released with the "various" status*
- **A/G/04F**: Analysis and circulation of the Airworthiness Instructions applicable at Thales Avionics SA,
- *A/M/04F: Thales Avionics SA Production Organisation Manual (MOP),*
- **A/P/03F**: Airworthiness alert.
- **GC/G/09F**: External approval of changes
- **L/G/2.34F**: Validation and approval of Service Bulletins
- **QUAL/P/03.02F**: Authorisation of employees to sign release documents,
- *QUAL/G/09F: Release documents,*
- **QUAL/G/ASW/35F**: List of ASW employees authorised to sign release documents.
- **GC/G/13F**: Assignment of EASA Form 1 identification letters and numbers
- **PUR-G-DAE-010-FR**: Industrial Quality requirements applicable to suppliers

Terminology / Abbreviations

AOG:	Aircraft On Ground
BFE:	Buyer Furnished Equipment
BL/DC:	Bon de Livraison / Déclaration de Conformité –Delivery Note / Conformity Declaration
BS:	Bulletin Service - Service Bulletin (SB)
CAA :	Civil Aviation Authority formed in 1971, from the Air Registration Board (ARB) created in 1937, public body carrying out all of the state's responsibilities for controlling air safety on behalf of the British government.
CIL:	Customer Information Letter
CIM Manager:	Industrial Change Manager
CMM:	Component Maintenance Manual
CN:	Airworthiness Instructions
DCS:	Designated Certification Specialist
DDA:	Direct Delivery Authorisation
DGAC/DCS :	Direction Générale de l'Aviation Civile / Direction du Contrôle de la Sécurité – French Civil Aviation Authority / Inspection and Safety Department

Terminology / Abbreviations

DOA :	Design Organisation Approval
DFT:	Déclaration de Fait Technique –Technical Event Declaration
EASA:	European Aviation Safety Agency, known as "the Agency"
EPA:	European Part Approval
ETSO:	European Technical Standard Order
FAA :	United States Federal Aviation Administration depending on the Department of Transport, competence covers all of the aspects of Air Safety
FAC :	Fiche d'Action Corrective – Corrective Action Sheet
FEE :	Fiche Evolution Equipement – Equipment Change Sheet
FELR :	Fiche d'Evolution de la liste de Référence – Reference List Change Sheet
GSAC :	Groupement pour la Sécurité de l'Aviation Civile – Civil Aviation Flight Safety Group
IPO:	Intermediate Production Organisation (Organisme de Production Intermédiaire)
JTSO:	Joint Technical Standard Order
LBA :	Luftfahrt Bundesamt airworthiness authority depending on the Federal Republic of Germany's Ministry of Transport.
LRU:	Line Replaceable Unit
MES:	Manufacturing Evolution Sheet

Terminology / Abbreviations

MOP:	Manuel d'Organisme de Production – Production Organisation Manual
NAA :	National Aviation Authority
OACI :	Organisation de l'Aviation Civile Internationale - International Civil Aviation Oganisation
PE:	Proposition d'Evolution – Proposed Change
POA	Production Organisation Approval
PRODUCT :	Aircraft, Helicopters, engines and propellers
QAC :	Qualification Aviation Civile – Civil Aviation Qualification
QCI :	Direction de la Qualité et de l'Amélioration Continue – Quality and Continuous Improvement Division
SBL:	Strategic Business Line
SIL:	Service Information Letter
SFE:	Supplier Furnished Equipment
SSFE:	Selectable Supplier Furnished Equipment
SRU:	Shop Replaceable Unit
STC:	Supplemental Type Certificate
TC:	Type Certificate
TSO:	Technical Standard Order