
# 20 feb 2017

# Polo Tecnico "FERMI-GADDA"

# Seminario sui Servizi Aerei ( 3° incontro)

## *La Manutenzione dei Velivoli*

**Ing. Pasquale Falco**

**Customer Care Manager**

**AMO – Part-145**

# Who we are?

Atitech started its activities in 1990 after the ATI (domestic airline) Technical Division spin off.

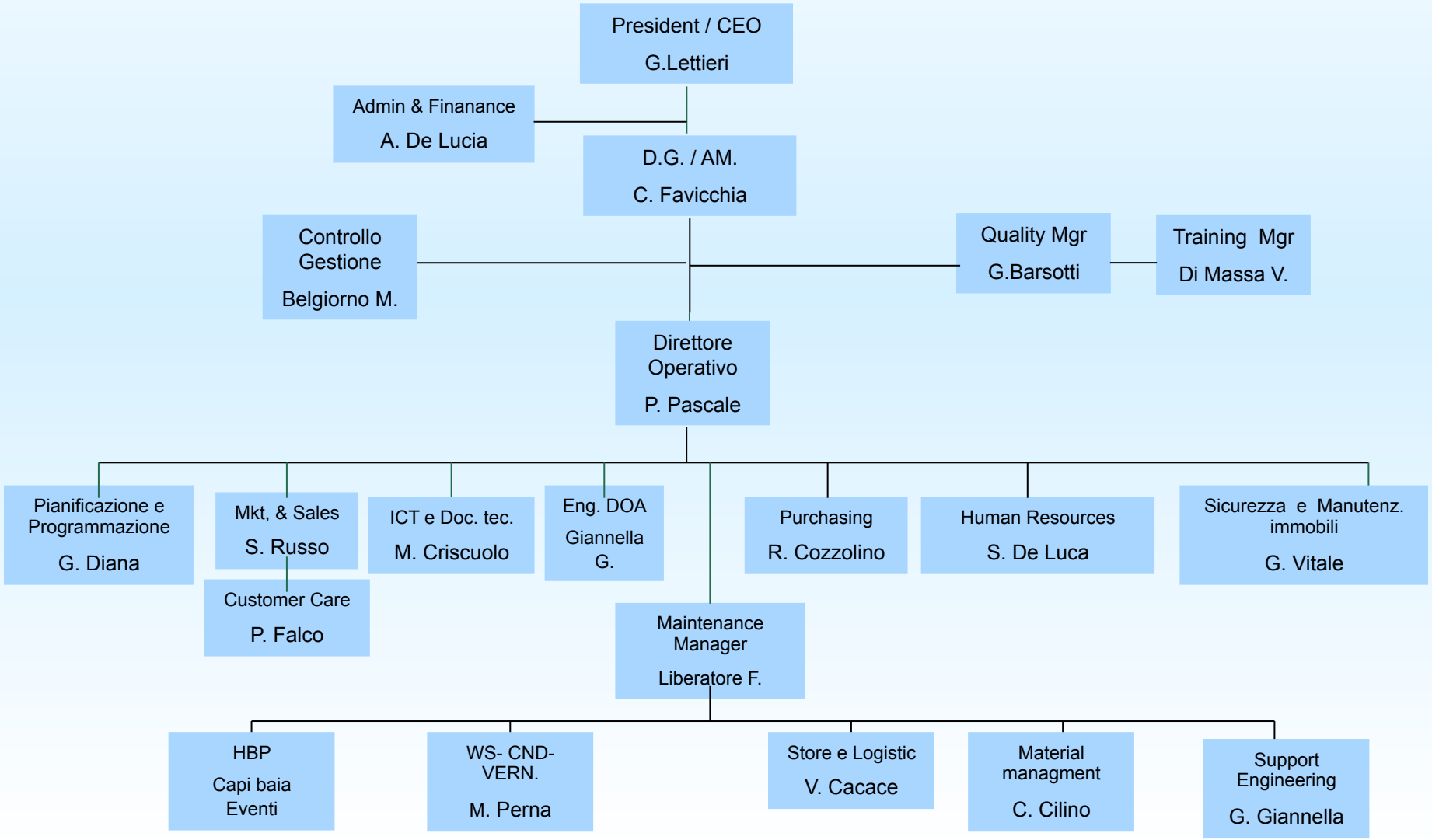
Atitech has been 100% part of Alitalia Group, up to September 2009, since its foundation.

Starting from the 19 Novembre 2009 the company was acquired by a private investment found named MERIDIE spa.
The actual new Atitech shareholders are:

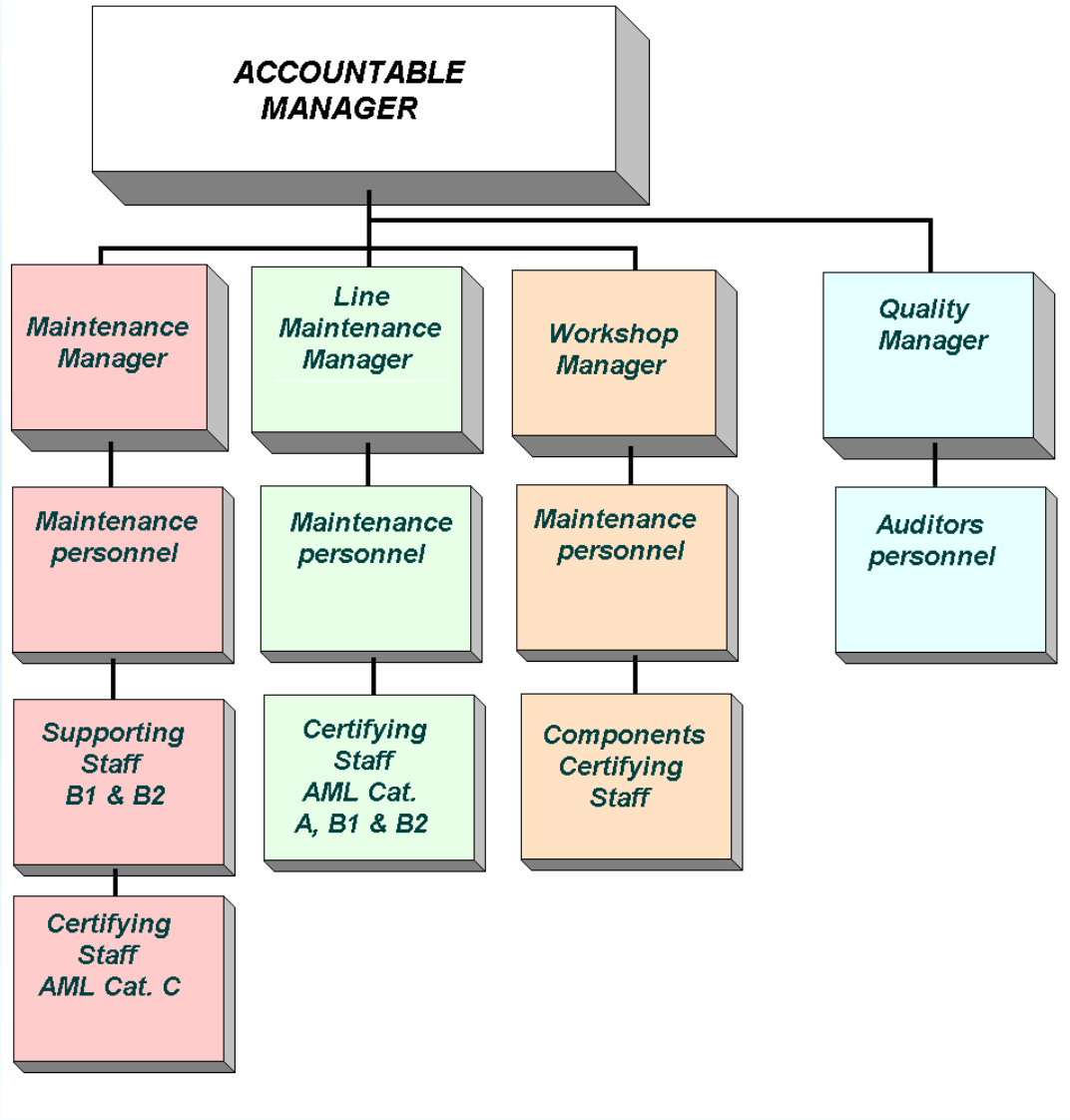
- Manutenzioni Aeronautiche Srl 60% (Gruppo MERIDIE S.p.A.)
- Alitalia - Ethiad SpA 15%
- Finmeccanica SpA 25%

| | |
|---|---|
| Locations | Naples |
| Activities | Aircraft Maintenance |

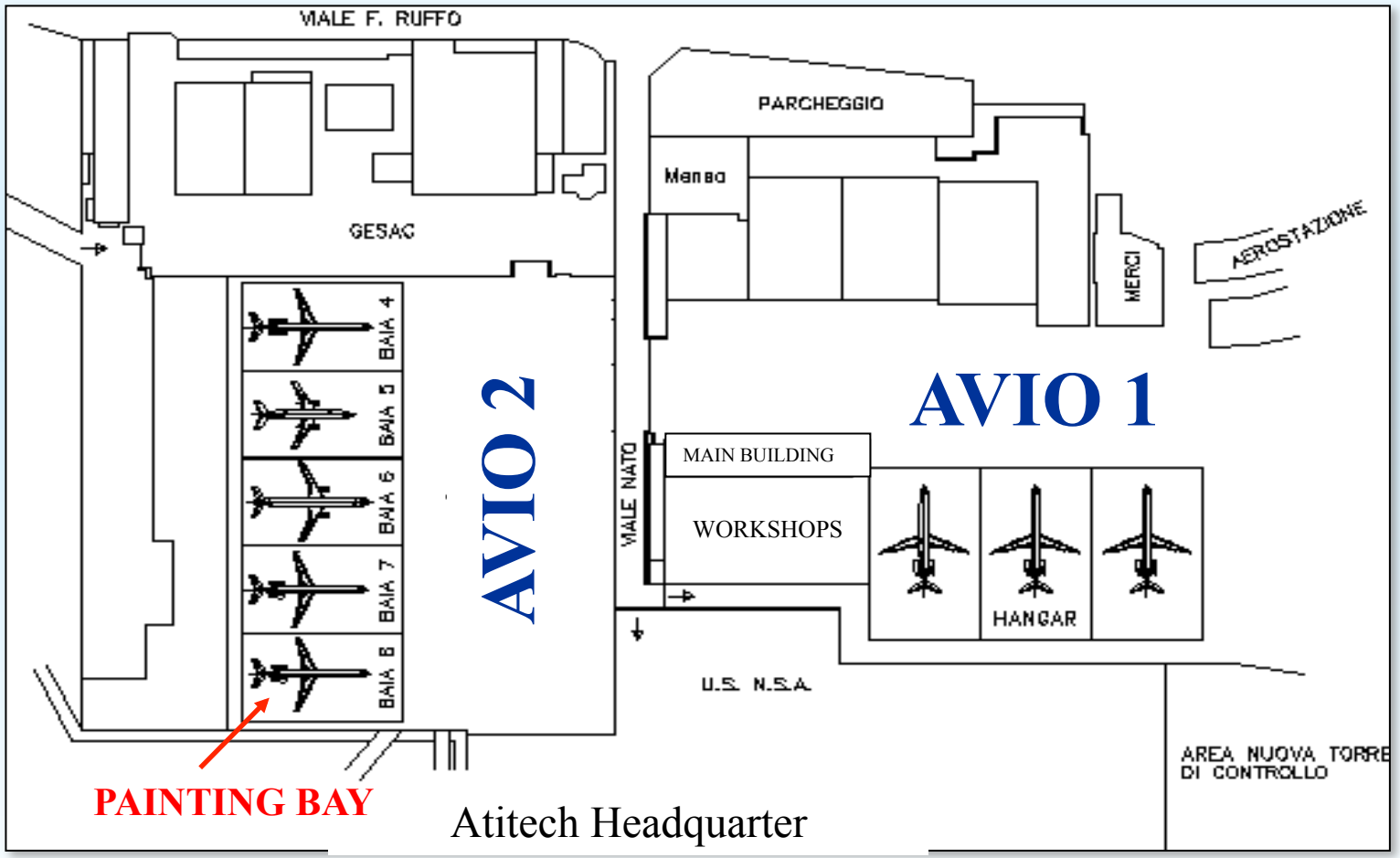
# Company Organization



# EASA Organization chart for Part- 145

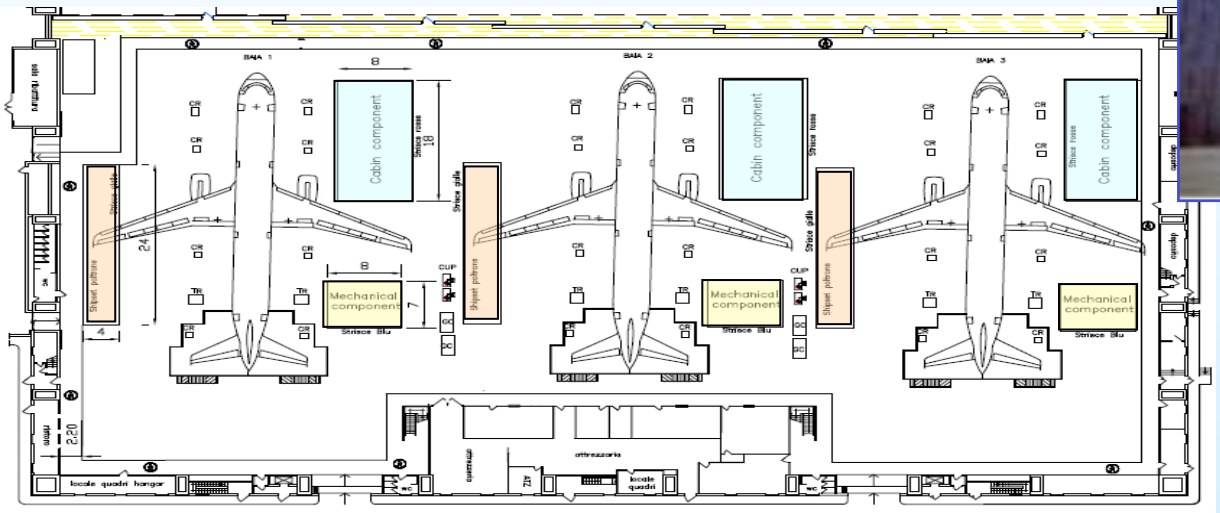


# Facilities




Atitech Headquarter

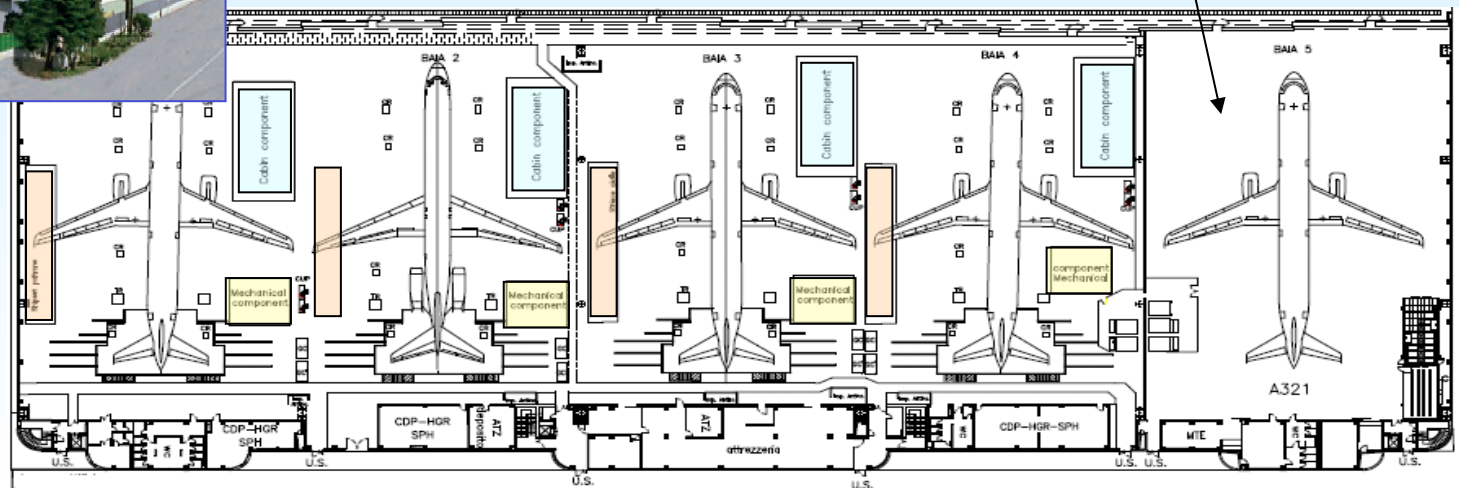
# Facilities


Avio1
N° 3 Bays
Mq: 9.000


Avio2
N° 5 Bays
Mq: 12.600

Painting bay



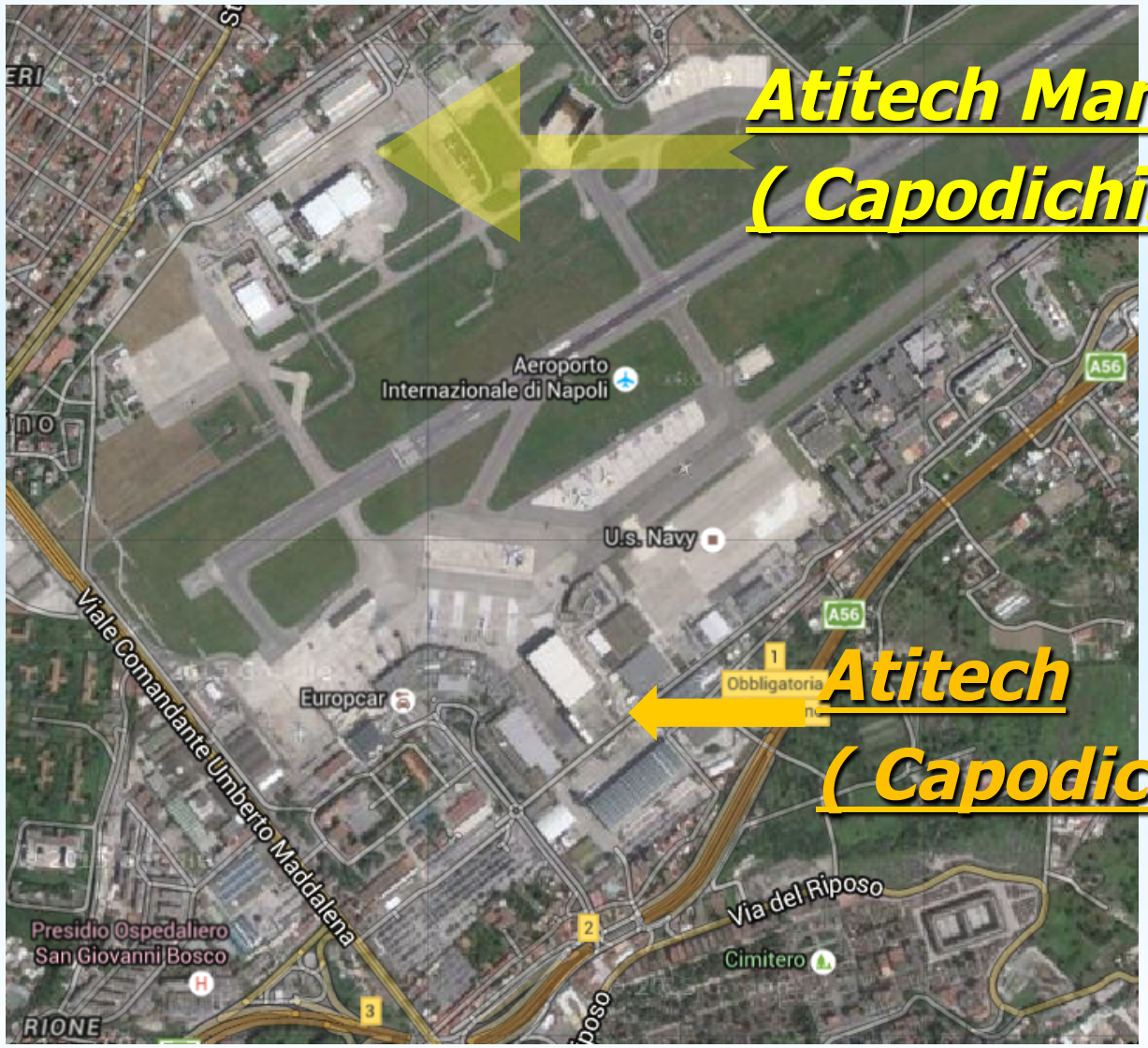
# Facilities



**Hangar 15**

**Mq. 8.400**

# All Atitech Facilities




**Atitech Manufacturing**
**( Capodichino Nord)**

**Atitech**
**( Capodichino Sud)**

# Certifications (continued)

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ENAC

**Repubblica Italiana**
Stato membro dell'Unione Europea
(A Member of the European Union)

**ENTE NAZIONALE PER L'AVIAZIONE CIVILE**

## CERTIFICATO DI APPROVAZIONE DELL'IMPRESA DI MANUTENZIONE
**(Maintenance Organisation Approval Certificate)**

**RIFERIMENTO (reference): IT.145.0026**

Ai sensi del Regolamento (CE) No 216/2008 del Parlamento Europeo e del Consiglio e del Regolamento (CE) n. 2042/2003 della Commissione, attualmente in vigore, e fatta salva la condizione di seguito specificata, l'Ente Nazionale per l'Aviazione Civile certifica:
(Pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council and to Commission Regulation (EC) No 2042/2003 for the time being in force and subject to the condition specified below, the Ente Nazionale per l'Aviazione Civile hereby certifies):

**ATITECH S.p.A.**

***Sede Legale** (Legal Address):* **Palazzo Atitech - Aeroporto Capodichino Napoli – 80144 Napoli**

quale impresa di manutenzione rispondente alla sezione A, dell'Allegato II (Parte 145) del regolamento (CE) n. 2042/2003, autorizzata ad eseguire la manutenzione dei prodotti, parti e pertinenze elencate nella Specifica delle Abilitazioni allegata ed a rilasciare i relativi certificati di riammissione in servizio utilizzando i riferimenti che precedono.
(as a maintenance organisation in compliance with Section A of Annex II (Part-145) of Regulation (EC) No 2042/2003, approved to maintain products, parts and appliances listed in the attached approval schedule and issue related certificates of release to service using the above references)

CONDIZIONI
(Conditions)

1. La presente approvazione è limitata a quanto specificato nella sezione relativa allo scopo dell'approvazione del manuale dell'impresa di manutenzione approvata di cui alla sezione A dell'Allegato II (Parte 145), e
(This approval is limited to that specified in the scope of work section of the approved maintenance organisation exposition as referred to in Section A of Annex II (Part-145), and)
2. La presente approvazione è subordinata al rispetto delle procedure specificate nel Manuale dell'Impresa di manutenzione approvata, e
(This approval requires compliance with the procedures specified in the approved maintenance organisation exposition, and)
3. La presente approvazione è valida finché l'impresa di manutenzione approvata resta rispondente all'Allegato II (Parte 145) del Regolamento (CE) n. 2042/2003.
(This approval is valid whilst the approved maintenance organisation remains in compliance with Annex II (Part-145) of Regulation (EC) No 2042/2003)
4. Fatto salvo il rispetto delle suddette condizioni, la presente approvazione rimane valida per una durata illimitata a meno che essa non venga restituita, sostituita, sospesa o revocata.
(Subject to compliance with the foregoing conditions, this approval shall remain valid for an unlimited duration unless the approval has previously been surrendered, superseded, suspended or revoked)

Data del primo rilascio: (Date of original issue) 24/11/2004

Data della presente revisione: (Date of this revision) 10/11/2014

Revisione n.: (Revision no.) 07

Firma: (Signed) Il Direttore della Direzione Operazioni Sud
Riccardo Perrone

BOLLO ASSOLTO IN MODO VIRTUALE
AUT. DIREZ. [illegible]
N. 135047/98 DEL 30/11/1998

Modello 3-145 AESA versione 2 (EASA Form 3-145 issue 2)

## Approval Certificate as a Maintenance Organization

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ENAC

**SPECIFICA DELLE ABILITAZIONI DELL'IMPRESA DI MANUTENZIONE**
***(MAINTENANCE ORGANISATION APPROVAL SCHEDULE)***

***Riferimento** (Reference):* **IT.145.0026**
***Impresa** (Organisation):* **ATITECH S.p.A.**
***Sede Legale** (Legal Address):* **Palazzo Atitech - Aeroporto Capodichino Napoli – 80144 Napoli**

| CLASSE (Class) | ABILITAZIONI (Rating) | LIMITAZIONI (Limitation) | BASE (Base) | LINEA (Line) |
|---|---|---|---|---|
| AEROMOBILI (AIRCRAFT) | A1 Velivoli di massa > 5700 Kg (Aeroplanes above 5700 kg) | Airbus A318/A319/A320/A321 | SI(YES) | SI(YES) |
| | | Boeing 737-300/400/500 | SI(YES) | SI(YES) |
| | | Boeing 737-600/700/800/900 | SI(YES) | SI(YES) |
| | | Boeing 767-200/300 | SI(YES) | NO (NO) |
| | | MD-80 Series | SI(YES) | SI(YES) |
| | | Embraer ERJ-170 Series | SI(YES) | NO (NO) |
| | | Embraer ERJ-190 Series | SI(YES) | NO (NO) |
| COMPONENTI DIVERSI DA MOTORI COMPLETI O APU (COMPONENTS OTHER THAN COMPLETE ENGINES OR APU's) | C4 Porte-Portelli (Doors - Hatches) | Secondo Capability List riportata nel Manuale Approvato (As Capability List detailed in Approved Manual) | | |
| | C5 Impianto Elettrico e Luci (Electrical Power & Lights) | | | |
| | C6 Equipaggiamenti (Equipment) | | | |
| | C7 Motore-APU (Engine-APU) | | | |
| | C8 Comandi di volo (Flight Controls) | | | |
| | C14 Carrello di atterraggio (Landing Gear) | | | |
| | C15 Impianto Ossigeno (Oxygen) | | | |
| PROCESSI SPECIALI (Specialised Services) | D1 – Controlli non distruttivi (Non Destructive Testing) | Liquid Penetrant Inspection (PT)<br>Magnetic Particle Inspection (MT)<br>Radiographic Inspection (RT)<br>Ultrasonic Inspection (UT)<br>Eddy Current Inspection (ET) | | |

La presente approvazione è limitata ai prodotti, parti e pertinenze ed alle attività specificate nella sezione relativa allo scopo dell'approvazione del manuale dell'impresa di manutenzione approvata.
(This approval is limited to the products, parts and appliances and to the activities specified in the scope of work section of the approved maintenance organisation exposition)

Riferimento del Manuale dell'Impresa di manutenzione: (Maintenance Organisation Exposition Reference) M.O.E. ATITECH Maintenance Organisation Exposition

Data del primo rilascio: (Date of original issue) 30/10/2004

Data dell'ultima revisione approvata: (Date of last revision approved) 07/11/2014 Revisione n: (Revision no.) 63

Firma: (Signed) Il Direttore della Direzione Operazioni Sud
Riccardo Perrone

Modello 3-145 AESA versione 2 (EASA Form 3-145 issue 2) Allegato al Certificato

Note: Updated Approval Schedule including ATR 42/72 Line and Base Maintenance approval will be included in next MOE revision 66

**EASA Part-145**

# Certifications (continued)

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

## Air Agency Certificate

Number EB5Y825M

This certificate is issued to
ATITECH S.p.A.
whose business address is
AEROPORTO DI CAPODICHINO
80144 NAPLES, ITALY
upon finding that its organization complies in all respects with the requirements of the Federal Aviation Regulations relating to the establishment of an Air Agency, and is empowered to operate an approved REPAIR STATION

with the following ratings:
LIMITED NON-DESTRUCTIVE INSPECTION, TESTING AND PROCESSING (March 7, 1994)
LIMITED AIRFRAME (March 7, 1994)
LIMITED POWERPLANT (March 7, 1994)
LIMITED ACCESSORY (August 16, 1996)
LIMITED RADIO (September 30, 2000)

This certificate, unless canceled, suspended, or revoked, shall continue in effect UNTIL DECEMBER 5, 2015.

By direction of the Administrator

Date issued:
SEPTEMBER 9, 1968

JOHN J. BENNING
MANAGER, EA-33

This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE FEDERAL AVIATION ADMINISTRATION

FAA Form 8000-4 (1-67) SUPERSEDES FAA FORM 390. AFS Electronic Forms System - JetForm FormFlow - 1.01.01

**FAA FAR Part 145 – Repair Stations**

UNAVIACert
Società del gruppo CERMET

CERTIFICATO DEL SISTEMA
DI GESTIONE PER LA QUALITÀ
*QUALITY MANAGEMENT SYSTEM CERTIFICATE*

Si dichiara che il Sistema di Gestione per la Qualità dell'Organizzazione:
*We certify that Quality Management System of the Organization:*

ATITECH S.p.A.

Reg. No: 041 - Rev. 7

Indirizzo/*Address:*
Palazzo ATITECH - Aeroporto Capodichino
80144 NAPOLI Italy

È conforme alla Norma/*is in compliance with the Standard:*

UNI EN ISO 9001:2008
*ISO 9001:2008*

Scopo/*Scope:*

Revisione, manutenzione ed assistenza di linea di aeromobili incluso il supporto tecnico logistico.
Manutenzione componenti ed esecuzione di controlli non distruttivi su aeromobili e componenti.
*Overhaul, maintenance and in line maintenance of aircrafts, including technical – logistic support. Maintenance of components and non-destructive inspection of aircraft and components.*

EA: 21 19 18

Il mantenimento della certificazione è soggetto a sorveglianza annuale e subordinato al rispetto del Regolamento UNAVIAcert
*Maintaining the certification is subject to annual survey and dependent upon the observance of UNAVIAcert Regulation.*
Riferirsi al Manuale della Qualità per i dettagli delle eventuali esclusioni ai requisiti della norma
*Refer to the Quality Manual for details on the any exclusions of the requirements of the standard.*

| | |
|---|---|
| Rilascio certificato/*Certificate issuance:* | 2001-06-14 |
| Ultima modifica/*Last modification:* | 2013-06-14 |
| Prossimo rinnovo/*Following renewal:* | 2016-06-13 |

Direttore Generale
*General Manager*
Giampiero Belcredi

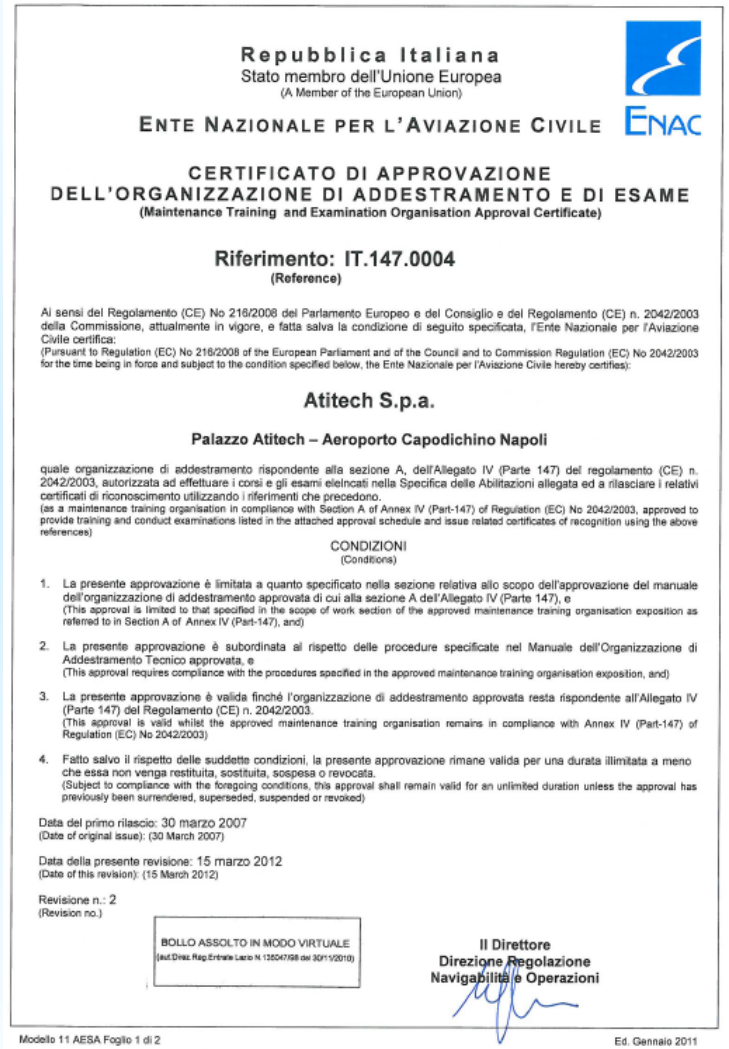
Presidente
*President*
Rodolfo Trippodo

IAF
ACCREDIA
SGQ N° 024 A
Membro degli accordi di mutuo riconoscimento EA, IAF e ILAC

UNAVIAcert S.r.l. Headquarter Italy - Via dei Mamili 18 - 00175 Roma, - Tel 0644254496 – Fax 0644002543 – www.unaviacert.it

**UNAVIACert ISO 9001:2008**

# Certifications (continued)



Repubblica Italiana
Stato membro dell'Unione Europea
(A Member of the European Union)

ENTE NAZIONALE PER L'AVIAZIONE CIVILE — ENAC

**CERTIFICATO DI APPROVAZIONE DELL'ORGANIZZAZIONE DI ADDESTRAMENTO E DI ESAME**
**(Maintenance Training and Examination Organisation Approval Certificate)**

**Riferimento: IT.147.0004**
**(Reference)**

Ai sensi del Regolamento (CE) No 216/2008 del Parlamento Europeo e del Consiglio e del Regolamento (CE) n. 2042/2003 della Commissione, attualmente in vigore, e fatta salva la condizione di seguito specificata, l'Ente Nazionale per l'Aviazione Civile certifica:
(Pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council and to Commission Regulation (EC) No 2042/2003 for the time being in force and subject to the condition specified below, the Ente Nazionale per l'Aviazione Civile hereby certifies):

**Atitech S.p.a.**

**Palazzo Atitech – Aeroporto Capodichino Napoli**

quale organizzazione di addestramento rispondente alla sezione A, dell'Allegato IV (Parte 147) del regolamento (CE) n. 2042/2003, autorizzata ad effettuare i corsi e gli esami elencati nella Specifica delle Abilitazioni allegata ed a rilasciare i relativi certificati di riconoscimento utilizzando i riferimenti che precedono.
(as a maintenance training organisation in compliance with Section A of Annex IV (Part-147) of Regulation (EC) No 2042/2003, approved to provide training and conduct examinations listed in the attached approval schedule and issue related certificates of recognition using the above references)

CONDIZIONI
(Conditions)

1. La presente approvazione è limitata a quanto specificato nella sezione relativa allo scopo dell'approvazione del manuale dell'organizzazione di addestramento approvata di cui alla sezione A dell'Allegato IV (Parte 147), e
(This approval is limited to that specified in the scope of work section of the approved maintenance training organisation exposition as referred to in Section A of Annex IV (Part-147), and)
2. La presente approvazione è subordinata al rispetto delle procedure specificate nel Manuale dell'Organizzazione di Addestramento Tecnico approvata, e
(This approval requires compliance with the procedures specified in the approved maintenance training organisation exposition, and)
3. La presente approvazione è valida finché l'organizzazione di addestramento approvata resta rispondente all'Allegato IV (Parte 147) del Regolamento (CE) n. 2042/2003.
(This approval is valid whilst the approved maintenance training organisation remains in compliance with Annex IV (Part-147) of Regulation (EC) No 2042/2003)
4. Fatto salvo il rispetto delle suddette condizioni, la presente approvazione rimane valida per una durata illimitata a meno che essa non venga restituita, sostituita, sospesa o revocata.
(Subject to compliance with the foregoing conditions, this approval shall remain valid for an unlimited duration unless the approval has previously been surrendered, superseded, suspended or revoked)

Data del primo rilascio: 30 marzo 2007
(Date of original issue): (30 March 2007)

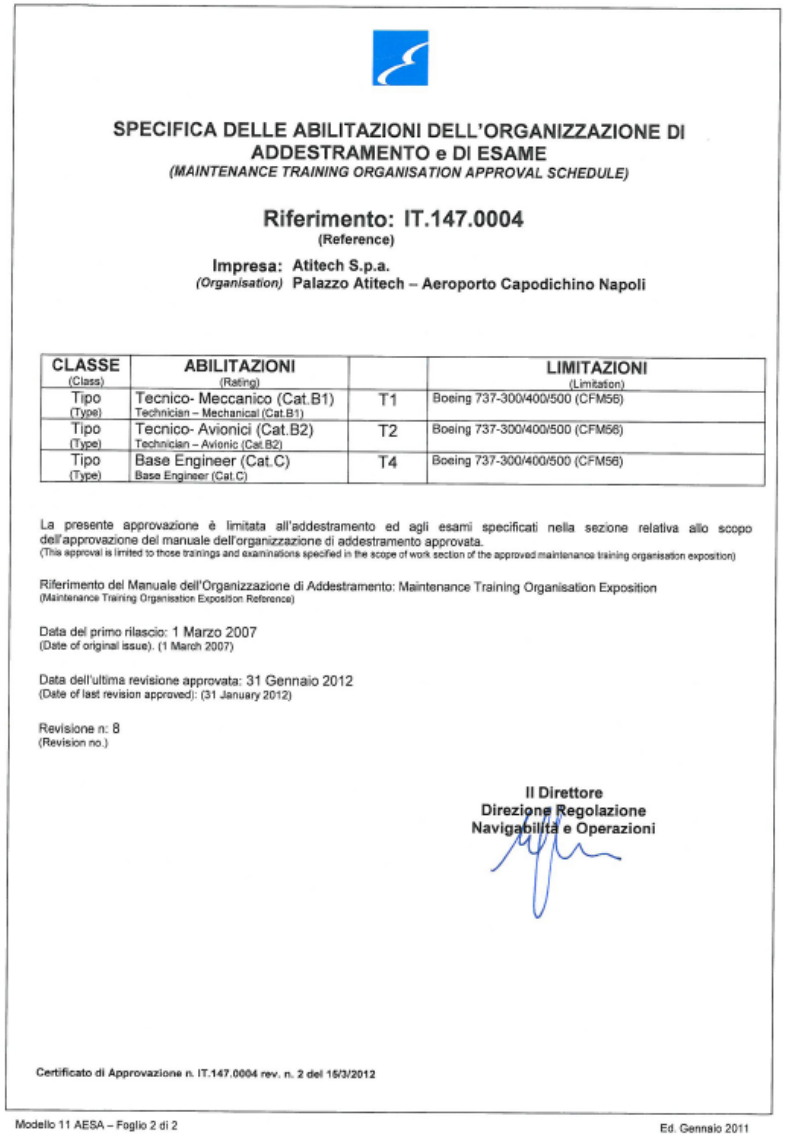
Data della presente revisione: 15 marzo 2012
(Date of this revision): (15 March 2012)

Revisione n.: 2
(Revision no.)

BOLLO ASSOLTO IN MODO VIRTUALE
(aut.Direz.Reg.Entrate Lazio N.135047/98 del 30/11/2010)

**Il Direttore**
**Direzione Regolazione**
**Navigabilità e Operazioni**

Modello 11 AESA Foglio 1 di 2 — Ed. Gennaio 2011



**SPECIFICA DELLE ABILITAZIONI DELL'ORGANIZZAZIONE DI ADDESTRAMENTO e DI ESAME**
***(MAINTENANCE TRAINING ORGANISATION APPROVAL SCHEDULE)***

**Riferimento: IT.147.0004**
**(Reference)**

**Impresa: Atitech S.p.a.**
***(Organisation)*** **Palazzo Atitech – Aeroporto Capodichino Napoli**

| CLASSE (Class) | ABILITAZIONI (Rating) | | LIMITAZIONI (Limitation) |
|---|---|---|---|
| Tipo (Type) | Tecnico- Meccanico (Cat.B1) Technician – Mechanical (Cat.B1) | T1 | Boeing 737-300/400/500 (CFM56) |
| Tipo (Type) | Tecnico- Avionici (Cat.B2) Technician – Avionic (Cat.B2) | T2 | Boeing 737-300/400/500 (CFM56) |
| Tipo (Type) | Base Engineer (Cat.C) Base Engineer (Cat.C) | T4 | Boeing 737-300/400/500 (CFM56) |

La presente approvazione è limitata all'addestramento ed agli esami specificati nella sezione relativa allo scopo dell'approvazione del manuale dell'organizzazione di addestramento approvata.
(This approval is limited to those trainings and examinations specified in the scope of work section of the approved maintenance training organisation exposition)

Riferimento del Manuale dell'Organizzazione di Addestramento: Maintenance Training Organisation Exposition
(Maintenance Training Organisation Exposition Reference)

Data del primo rilascio: 1 Marzo 2007
(Date of original issue). (1 March 2007)

Data dell'ultima revisione approvata: 31 Gennaio 2012
(Date of last revision approved): (31 January 2012)

Revisione n: 8
(Revision no.)

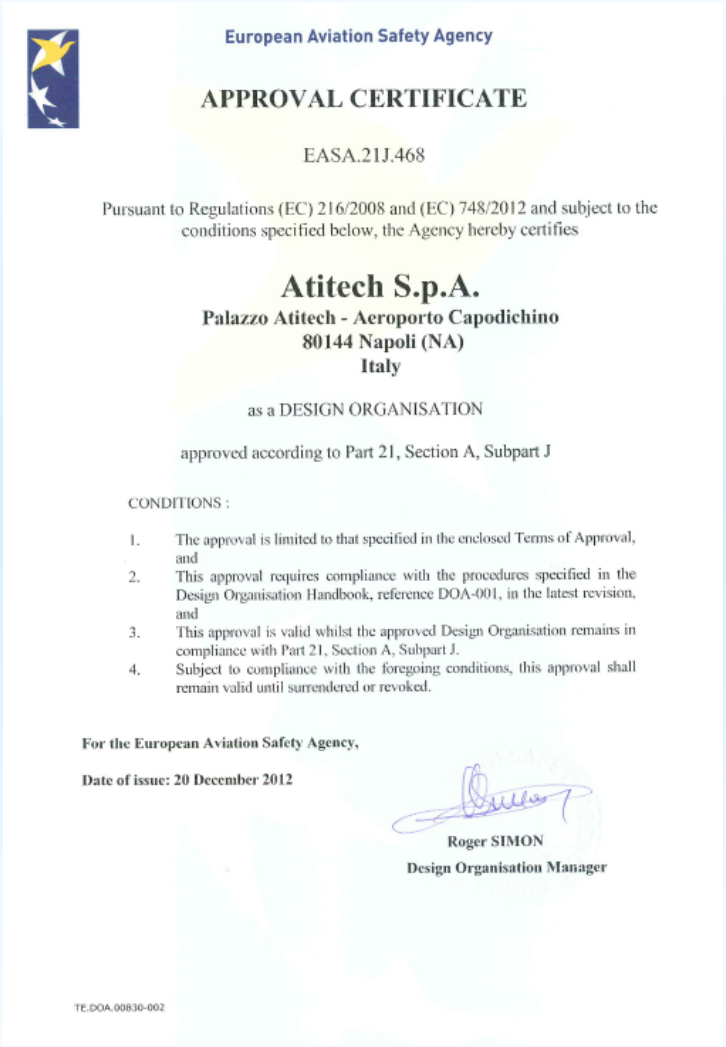
**Il Direttore**
**Direzione Regolazione**
**Navigabilità e Operazioni**

Certificato di Approvazione n. IT.147.0004 rev. n. 2 del 15/3/2012

Modello 11 AESA – Foglio 2 di 2 — Ed. Gennaio 2011

**EASA Part-147 – Maintenance Training Organization**

# Certifications (continued)



European Aviation Safety Agency

## APPROVAL CERTIFICATE

EASA.21J.468

Pursuant to Regulations (EC) 216/2008 and (EC) 748/2012 and subject to the conditions specified below, the Agency hereby certifies

**Atitech S.p.A.**
**Palazzo Atitech - Aeroporto Capodichino**
**80144 Napoli (NA)**
**Italy**

as a DESIGN ORGANISATION

approved according to Part 21, Section A, Subpart J

CONDITIONS :

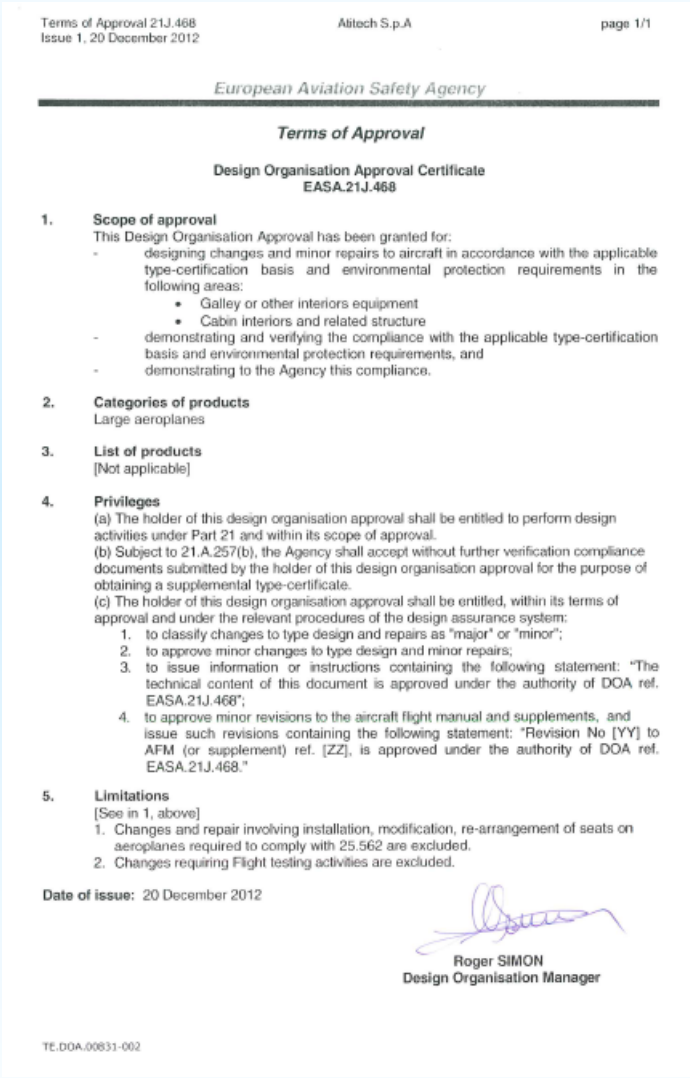
1. The approval is limited to that specified in the enclosed Terms of Approval, and
2. This approval requires compliance with the procedures specified in the Design Organisation Handbook, reference DOA-001, in the latest revision, and
3. This approval is valid whilst the approved Design Organisation remains in compliance with Part 21, Section A, Subpart J.
4. Subject to compliance with the foregoing conditions, this approval shall remain valid until surrendered or revoked.

**For the European Aviation Safety Agency,**

**Date of issue: 20 December 2012**

**Roger SIMON**
**Design Organisation Manager**

TE.DOA.00830-002



Terms of Approval 21J.468 Atitech S.p.A page 1/1
Issue 1, 20 December 2012

*European Aviation Safety Agency*

***Terms of Approval***

**Design Organisation Approval Certificate**
**EASA.21J.468**

1. **Scope of approval**
This Design Organisation Approval has been granted for:
- designing changes and minor repairs to aircraft in accordance with the applicable type-certification basis and environmental protection requirements in the following areas:
  - Galley or other interiors equipment
  - Cabin interiors and related structure
- demonstrating and verifying the compliance with the applicable type-certification basis and environmental protection requirements, and
- demonstrating to the Agency this compliance.

2. **Categories of products**
Large aeroplanes

3. **List of products**
[Not applicable]

4. **Privileges**
(a) The holder of this design organisation approval shall be entitled to perform design activities under Part 21 and within its scope of approval.
(b) Subject to 21.A.257(b), the Agency shall accept without further verification compliance documents submitted by the holder of this design organisation approval for the purpose of obtaining a supplemental type-certificate.
(c) The holder of this design organisation approval shall be entitled, within its terms of approval and under the relevant procedures of the design assurance system:
   1. to classify changes to type design and repairs as "major" or "minor";
   2. to approve minor changes to type design and minor repairs;
   3. to issue information or instructions containing the following statement: "The technical content of this document is approved under the authority of DOA ref. EASA.21J.468";
   4. to approve minor revisions to the aircraft flight manual and supplements, and issue such revisions containing the following statement: "Revision No [YY] to AFM (or supplement) ref. [ZZ], is approved under the authority of DOA ref. EASA.21J.468."

5. **Limitations**
[See in 1, above]
1. Changes and repair involving installation, modification, re-arrangement of seats on aeroplanes required to comply with 25.562 are excluded.
2. Changes requiring Flight testing activities are excluded.

**Date of issue:** 20 December 2012

**Roger SIMON**
**Design Organisation Manager**

TE.DOA.00831-002

**EASA Part-21J – Design Organization**

# Main Authority Company Certifications

| Doc. | Authority | Description | Certificate | Exp. Date |
|---|---|---|---|---|
| **ENAC - ENTE NAZIONALE PER L'AVIAZIONE CIVILE** | ITALY | COMMISSION REGULATION (EU) n° 2042/2003 ANNEX II (PART-145) | IT.145.0026 | Unlimited |
| **ENAC - ENTE NAZIONALE PER L'AVIAZIONE CIVILE** | ITALY | COMMISSION REGULATION (EU) n° 2042/2003 ANNEX IV(PART-147) | IT.147.0004 | Unlimited |
| **FAA - FEDERAL AVIATION ADMINISTRATION** | USA | 14 CFR PART-145 | EB5Y825M | 31 Dec 2017 |
| **EASA - EUROPEAN AVIATION SAFETY AGENCY** | EU | COMMISSION REGULATION (EU) n° 748/2012 ANNEX I PART-21 SECT.A SUB J | EASA.21J.468 | Unlimited |
| **UNAVIACERT** | ITALY | UNI EN ISO 9001:2008 | 041-Rev7 041A-Rev.4 | 13 Jun 2016 |

# Others Authority Certifications

| Doc. | Authority | Description | Certificate | Exp. Date |
|---|---|---|---|---|
| **UNITED ARAB EMIRATES - GCAA** | UAE | CAR 145 | UAE.145.1131 | 22 Jul 2016 |
| **CAO.IRI - CIVIL AVIATION ORGANIZATION of THE IR.IRAN** | ISLAMIC REPUBLIC of IRAN | CAO.IRI PART 145 | EIR.145.24 | 30 Jun 2017 |
| **DEPARMENT OF CIVIL AVIATION** | BERMUDA | OTAR PART 145 OPTION 1 | BDA/AMO/487 | 29 Apr 2017 |
| **DGCA TURKEY** | TURKEY | Approval Certificate DGCA of Turkey SHY145 | TR.145.F.0023 | Unlimited |

# List of Approved Operations

**Lista delle Operazioni Autorizzate**

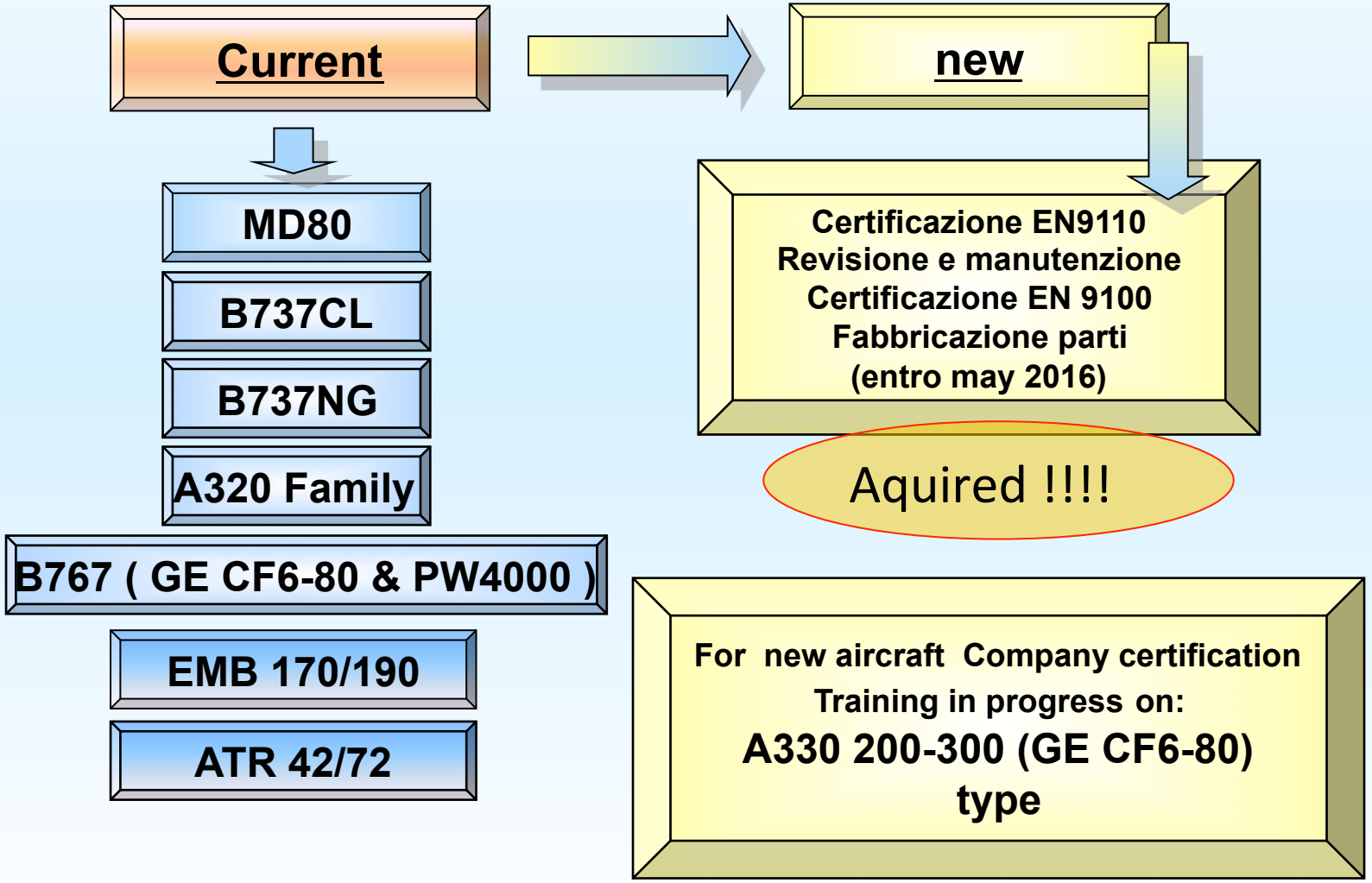
- Manutenzione di Base aeromobili, manutenzione componenti e processi speciali presso la base di Napoli Capodichino
- Manutenzione di Linea presso le basi approvate di cui alla Parte 5 sezione 3 del presente Manuale

***Classe - Aeromobili***

| | | | |
|---|---|---|---|
| A1 | MC D. DOUGLAS | MD 80 | LINE & BASE MAINTENANCE<br>fino al check "D" incluso |
| A1 | BOEING | B737-300/-400/-500 | LINE & BASE MAINTENANCE<br>fino al check "8C" incluso e<br>"Ispezioni Strutturali" |
| A1 | BOEING | B737 -600/-700/<br>-800/-900 | LINE & BASE MAINTENANCE<br>per le fasi da "01000000" a "01040040"<br>incluse e tasks con threshold fino a<br>24.000 FC, 30.000 FH e 10 Years inclusi<br>del Boeing MPD Doc D626A001.<br>(Rif. Atitech P.d.Q. 002/11 ed.5,<br>P.d.Q. 002/13 ed.1 e P.d.Q. 005/13 ed.1) |
| A1 | BOEING | B767 -200/-300(*)<br>(CF6-80) | BASE MAINTENANCE<br>Boeing MPD Doc D622T001 tasks:<br>Section 1 - tutti<br>Section 2 - fino a 144 Mth o 24.000FC o<br>80.000FH (inclusi)<br>Section 3 - tutti<br>(Rif. Atitech P.d.Q. 003/12 Allegato A) |
| A1 | AIRBUS INDUSTRIE | A319 Serie 110<br>A320 Serie 110/210<br>A321 Serie 110/210<br>(CFM56) | LINE & BASE MAINTENANCE<br>fino al check di intervallo "8C" e tasks di<br>threshold "20 Y", 120000 F/H e 45000<br>cyc. inclusi |
| A1 | AIRBUS INDUSTRIE | A319 Serie 130<br>A320 Serie 230<br>A321 Serie 130/230<br>(V2500) | LINE & BASE MAINTENANCE<br>fino al check di intervallo "8C" e tasks di<br>threshold "20 Y", 120000 F/H e 45000<br>cyc. inclusi |
| A1 | EMBRAER | ERJ-170 Series<br>ERJ-190 Series<br>(GE CF34) | BASE MAINTENANCE<br>Embraer MPD Doc 4222 e 4231 tasks:<br>fino a 50mth/8000FC/8000FH (inclusi) |

(*) sono esclusi i B767-300F.

# Aircraft maintenance Capabilities



# List of Approved Operations - Components

Approval on components is held in the following classes:

C4 – Stairs
C5 – Batteries
C6 – Seats, Toilettes, Galleys, Ovens
C7 – Thrust reverser
C8 – Flight Surfaces repair and balancing
C14 – Wheels and brakes
C15 – P.S.U.

# List of Approved Operations - NDT

**6.0 Procedura**

6.1 I metodi di controllo non distruttivo (C.N.D.) utilizzati presso l'impresa e per i quali è richiesta la qualificazione del personale sono:

| | | |
|---|---|---|
| - Liquidi Penetranti. | P.T. | ( Penetrant Testing) |
| - Polveri Magnetiche. | M.T. | (Magnetic Particle) |
| - Radiografico | R.T. | (Radiographic) |
| - Ultrasuoni | U.T. | (Ultrasonic) |
| - Correnti Indotte | E.T. | (Eddy Current) |

Pur non essendo considerati dalla normativa in riferimento metodi di controllo non distruttivo ma ispezioni non distruttive, sono trattati nella presente procedura anche i requisiti di qualificazione del personale per i seguenti metodi ispettivi:

| | | |
|---|---|---|
| - Boroscopio | BOR | (Borescope) |
| - Coin Tapping | T.T. | (Tap Test) |

Nota 1: La qualificazione all'ispezione non distruttiva (NDI) mediante boroscopio (BOR) è prevista per le sole attività ispettive (motori e strutture), per le quali la documentazione esecutiva richiede l'impiego di tale attrezzatura.

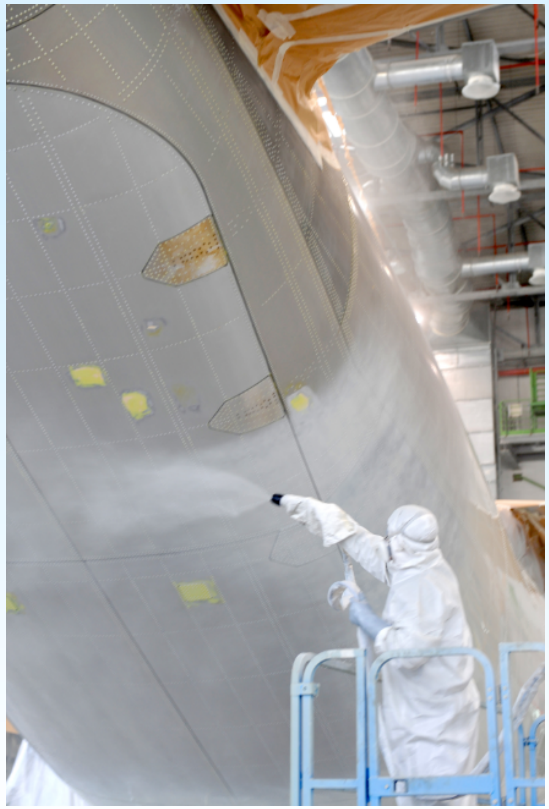
Nota 2: Per le attività che richiedono l'impiego del metodo Coin Tapping non sono previsti i tre livelli di Qualificazione ma la sola approvazione al metodo stesso, direttamente al 2° livello.

*(all inspectors are qualified according to EN 4179 / NAS 410 by ITANDT Board)*

# List of Approved Operations – A/C exterior painting

Bay 5 of hangar Avio 2 is the painting bay.
Approval for aircraft external painting is held for the following aircraft:

**Airbus A319/320/321**
**Boeing MD80**
**Boeing B737CL**
**Boeing B737NG**



# LA MANUTENZIONE DEGLI AEROMOBILI:

## un processo complesso incentrato sull'elemento umano a livello individuale e organizzativo

# The EASA System

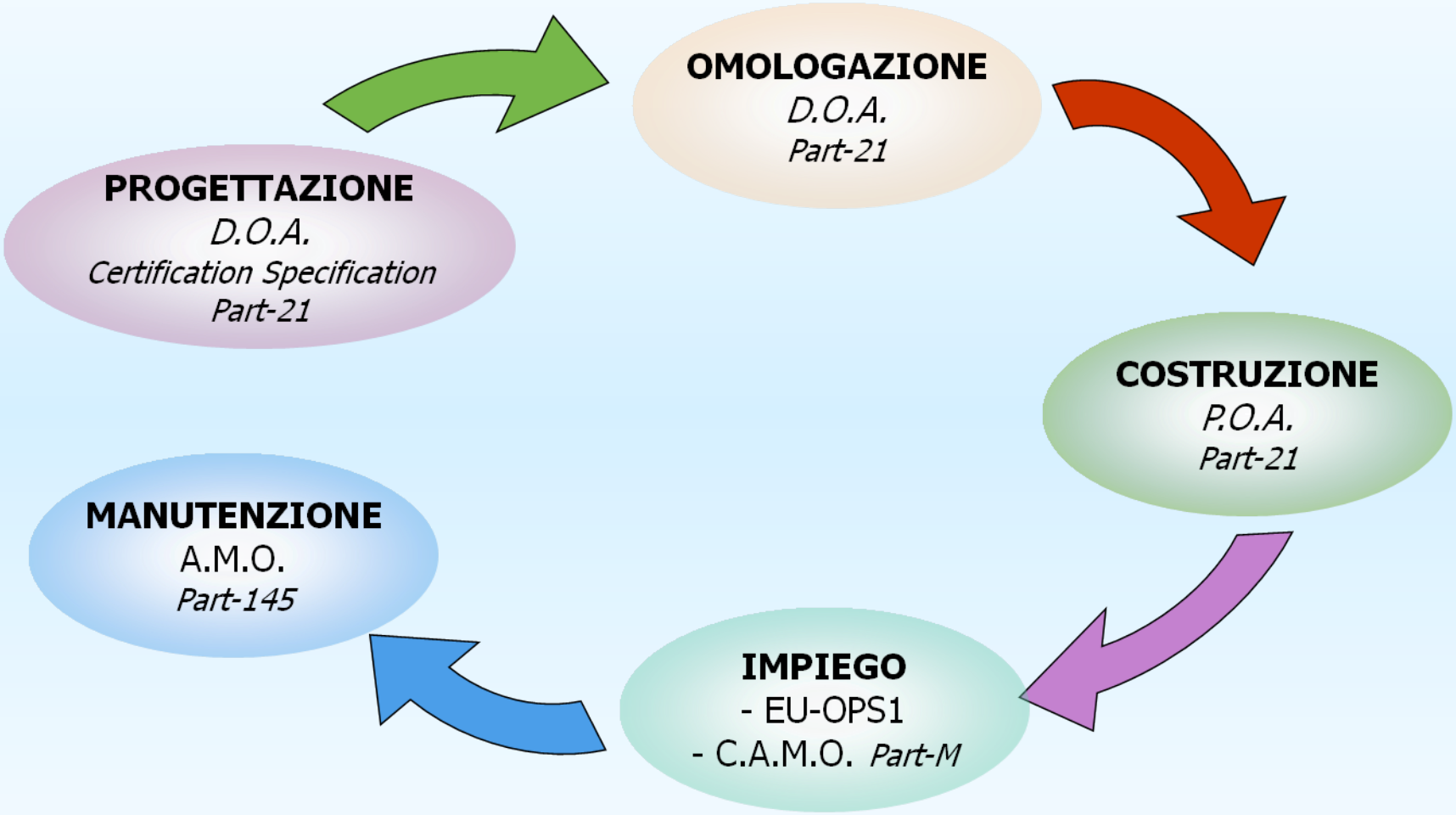
The **European Aviation Safety Agency** is the centerpiece of the European Union's strategy for aviation safety.

The EASA mission is to promote the highest common standards of safety and environmental protection in civil aviation.

Air transport is one of the safest forms of travel. As air traffic continues to grow, a common initiative is needed at the European level to keep air transport safe and sustainable.

The Agency develops common safety and Environmental Rules at the European level.

# Aircraft life-cycle

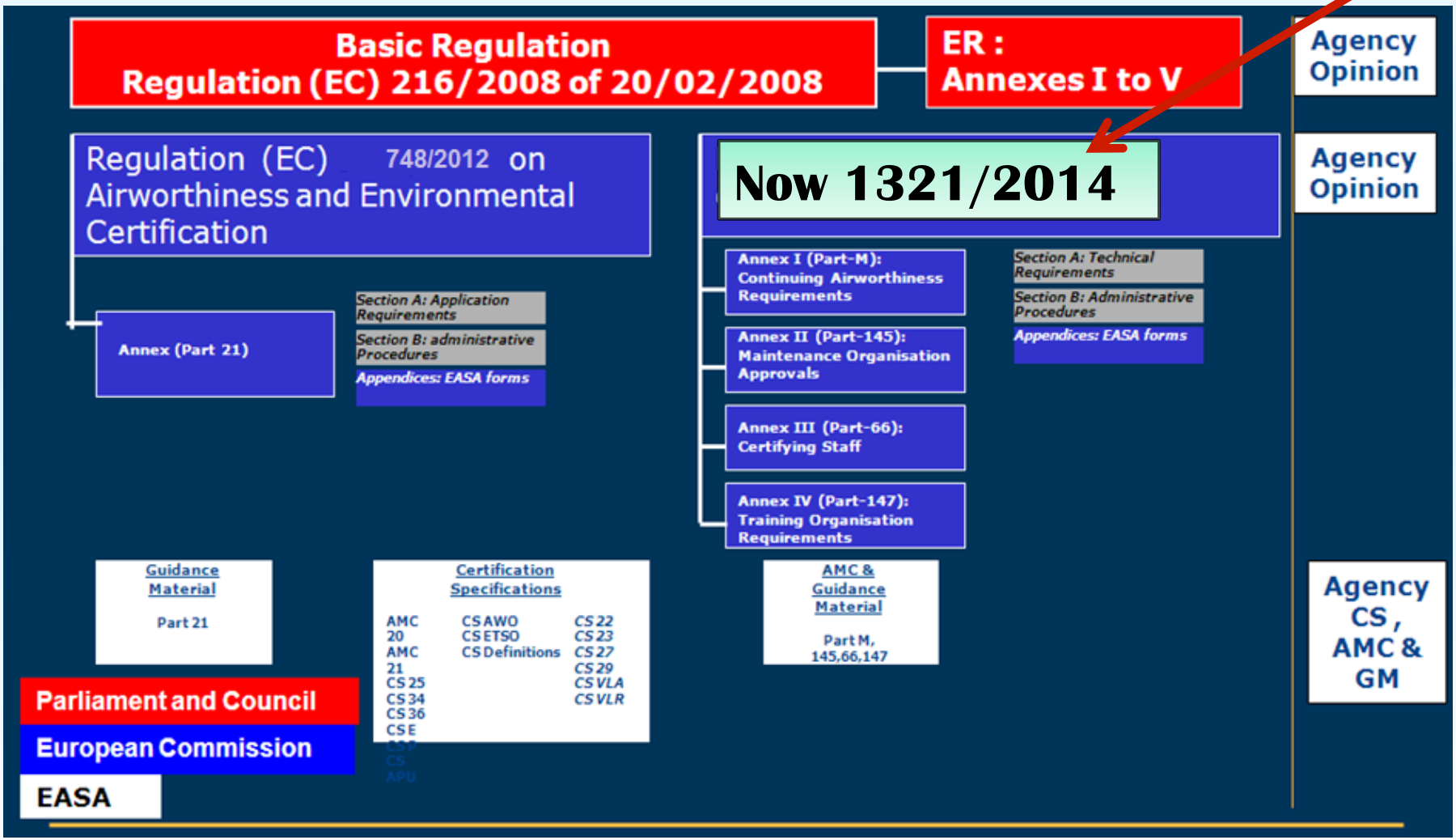


# Regulatory Framework

*Article 2*

**Objectives**

1. The principal objective of this Regulation is to establish and maintain a high uniform level of civil aviation safety in Europe.



# La sicurezza come obiettivo primario

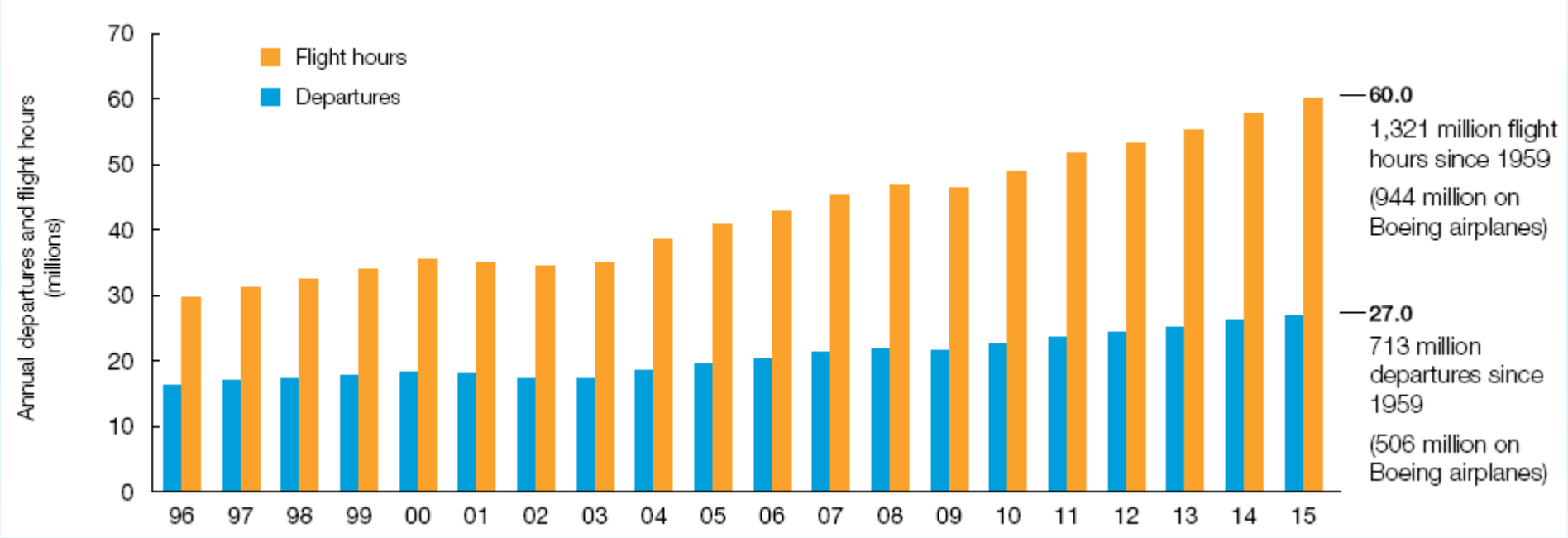
*Incidenti maintanance related*



FQI ATR 42.

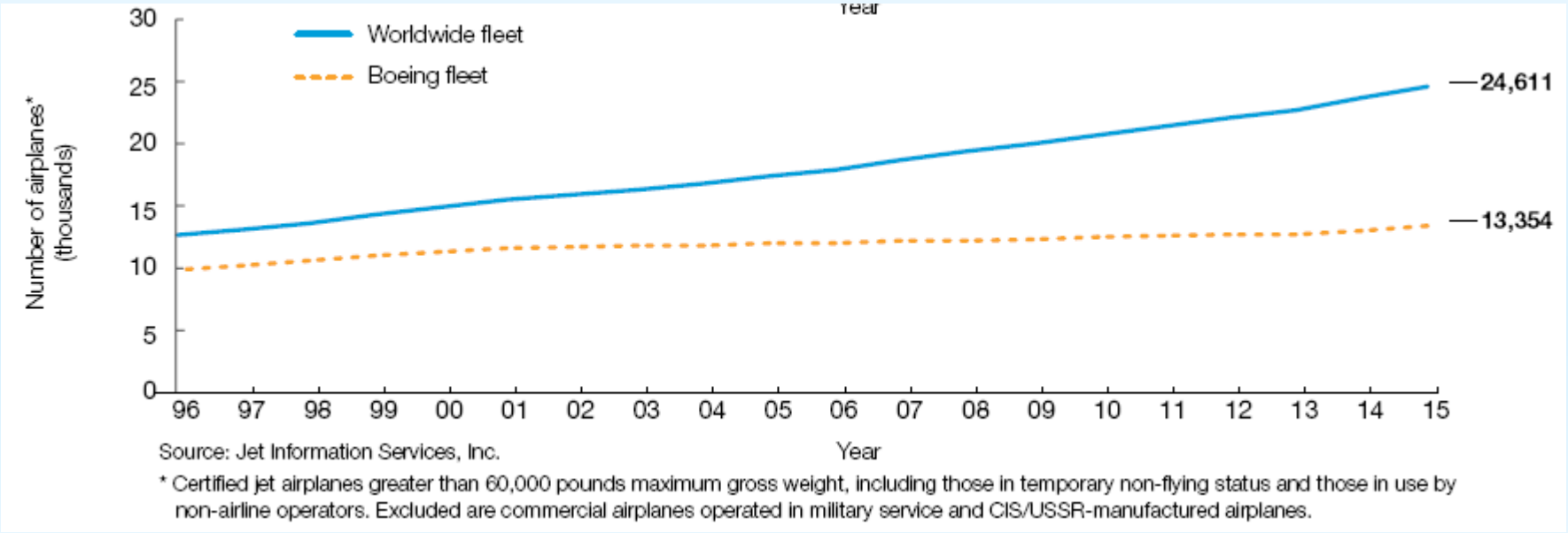

FQI ATR 72.

# Departures & Flight Hours



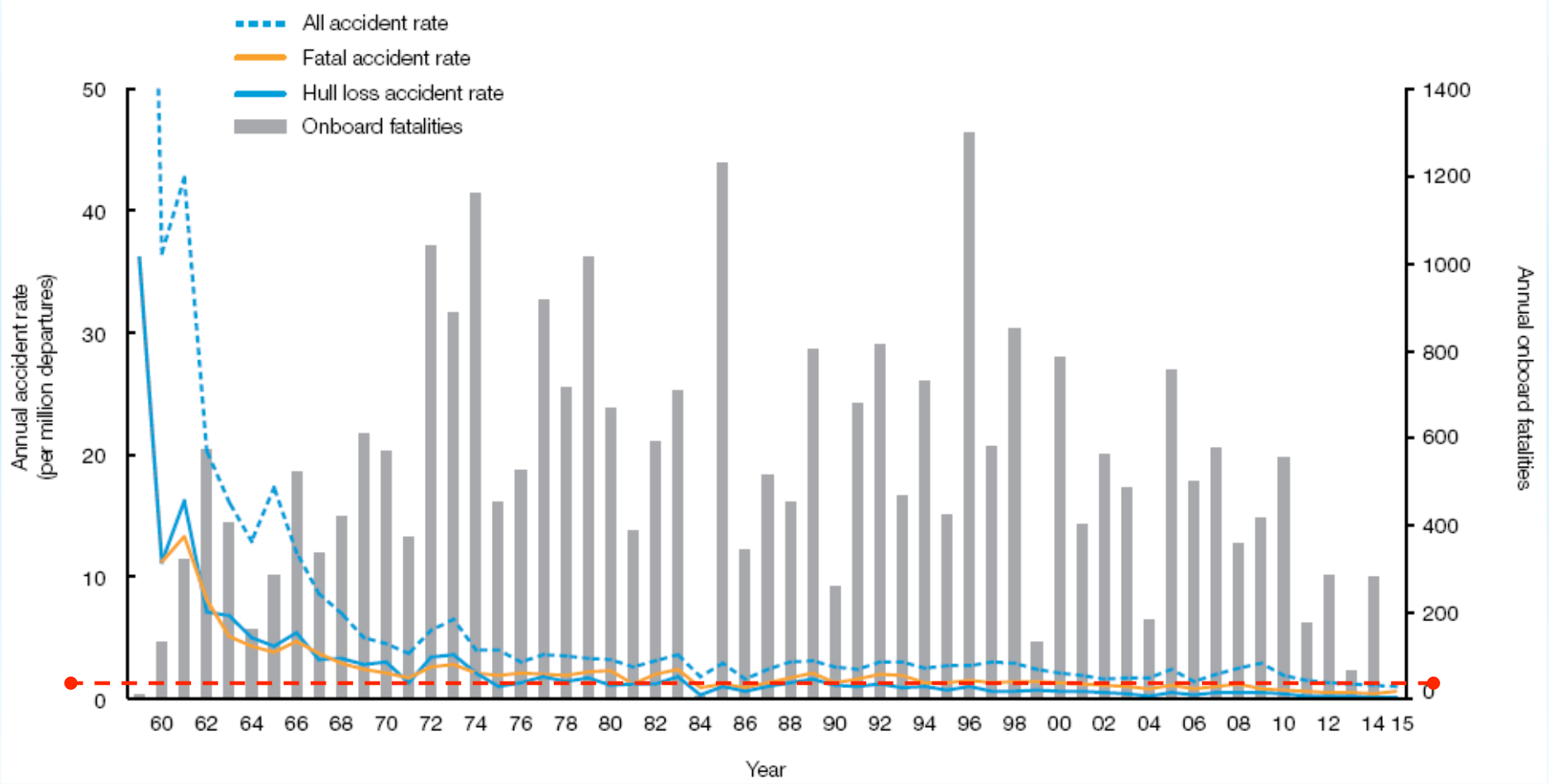

2015 STATISTICAL SUMMARY, JULY 2016

# Jet Airplanes in Service*

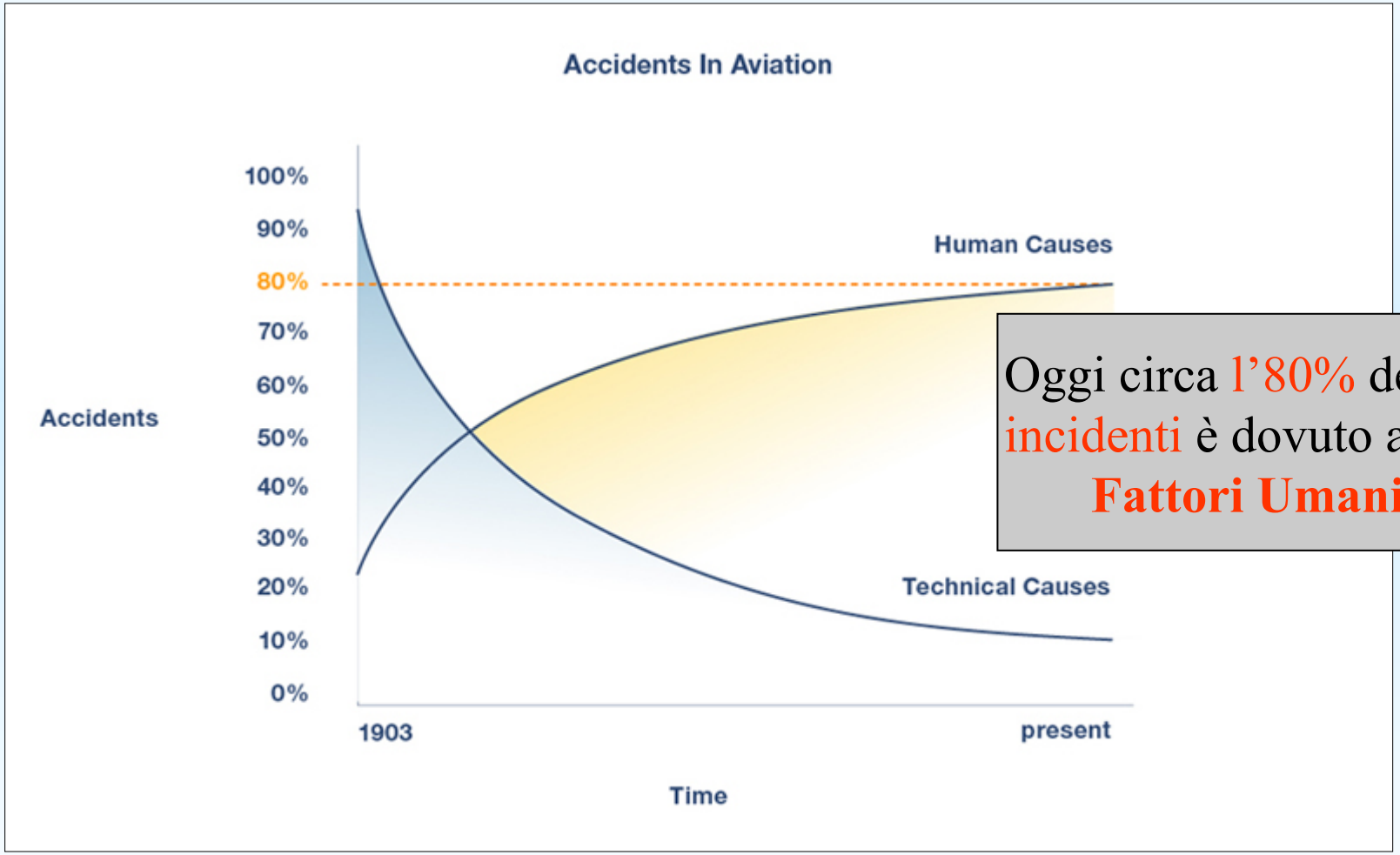



2015 STATISTICAL SUMMARY, JULY 2016

# Accident Rates and Onboard Fatalities by Year



# La sicurezza come obiettivo primario




Oggi circa l'80% degli incidenti è dovuto a **Fattori Umani**

# Airlcraft market forecast

Boeing prevede per i prossimi 20 anni:
( 2014-2033)
un incremento medio del traffico aereo:

- ✓ Passeggeri intorno **al 5% annuo**
- ✓ Cargo del **4.7% annuo**.

Tale incremento genereranno una domanda per
**36770**
nuovi velivoli jet(*) passeggeri
**(da 30 posti in su, esclusi i business jet)*

# Airlcraft market forecast

I valore totale sarà di
**5200** miliardi di dollari così distribuiti:

| Tipo di velivolo | Posti | Consegne | Valore (miliardi US$) |
|---|---|---|---|
| Regional jets | < 90 | 2490 | 100 |
| Narrow Body( Single-aisle) | 90 – 230 | 25680 | 2560 |
| Small Wide Body | 200 – 300 | 4520 | 1140 |
| Medium Wide Body | 300 – 400 | 3460 | 1160 |
| Large Wide Body | > 400 | 6200 | 240 |
| **Totale** | | **36770** | **5200** |

***Nota:*** ***ai velivoli su indicati si aggiungono*** **2170 velivoli cargo (840 nuovi per un valore di 240 miliardi di dollari e 1330 convertiti).**

# Airlcraft market forecast

Circa il 70% della domanda in quantità si indirizzerà sui **narrow body** (corridoio singolo) e su una capacità media di 160 posti (**Boeing 737, Airbus A320**), che rappresenteranno anche il primo segmento in valore (circa il 50%).

***Nota: Negli ultimi 4 anni (2010-13) i narrow body hanno pesato il 79% sul totale dei velivoli prodotti.***

Significativa la domanda anche per i **wide body** (doppio corridoio) che in totale ammonterà ad 8600 velivoli oltre la metà dei quali della classe di 200-300 (posti a cui appartiene il 787).

La distribuzione del mercato per area geografica vede in testa l'area Asia-Pacifico seguita da Nord America ed Europa.

# Part-145 Requirements

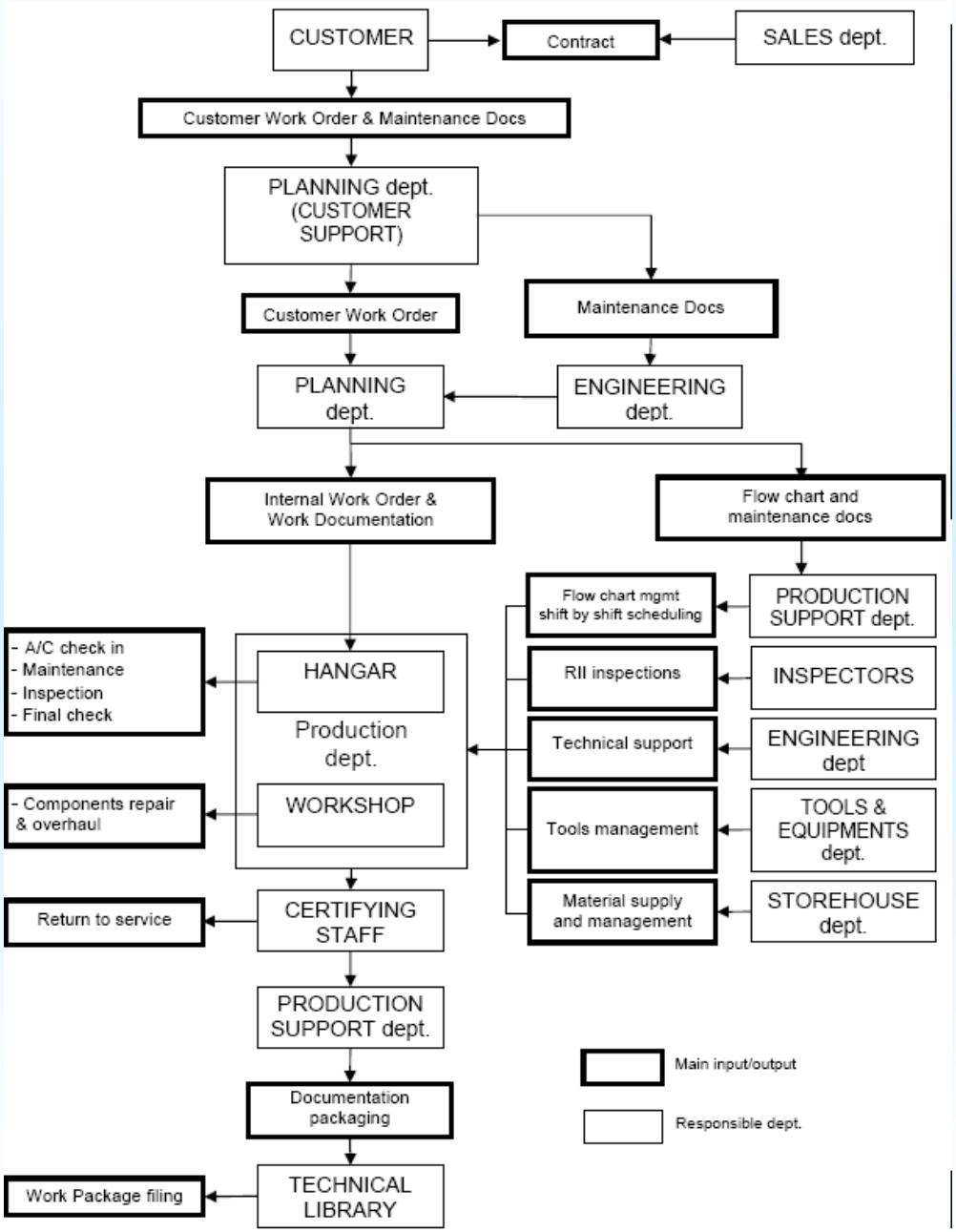
## SECTION A

- 145.A.10 Scope
- 145.A.15 Application
- 145.A.20 Terms of approval
- 145.A.25 Facility requirements
- 145.A.30 Personnel requirements
- 145.A.35 Certifying Staff and category B1 and B2 support staff
- 145.A.40 Equipment, tools and material
- 145.A.42 Acceptance of components
- 145.A.45 Maintenance data
- 145.A.47 Production planning

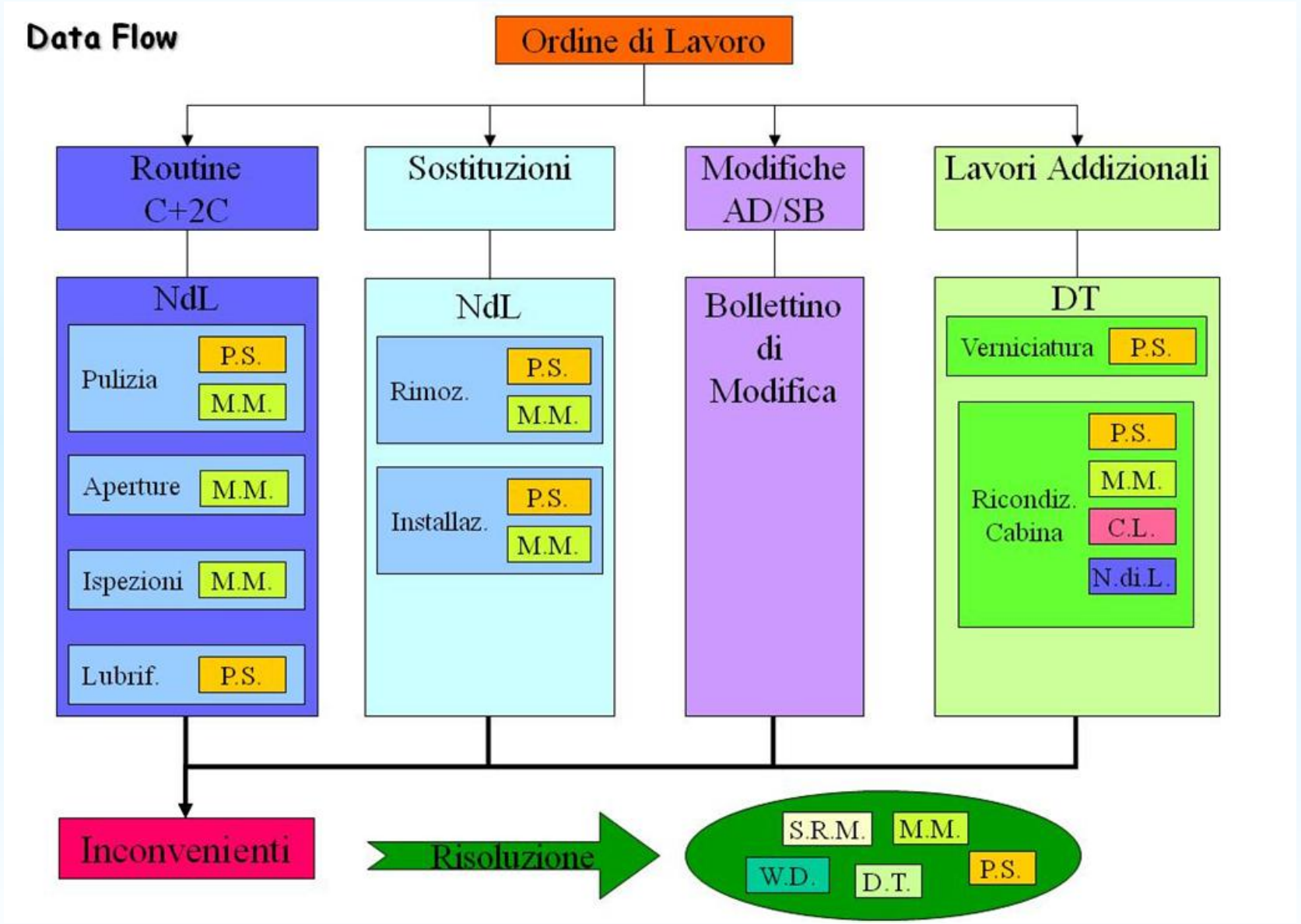
# Part-145 Requirements

- 145.A.50 Certification of maintenance
- 145.A.55 Maintenance records
- 145.A.60 Occurrence reporting
- 145.A.65 Safety and quality policy, maintenance procedures and quality system
- 145.A.70 Maintenance organisation exposition (MOE)
- 145.A.75 Privileges of the organisation
- 145.A.80 Limitations on the organisation
- 145.A.85 Changes to the organisation
- 145.A.90 Continued validity
- 145.A.95 Findings

# Maintenance Process



# Work Order


Data Flow
Ordine di Lavoro
Routine C+2C
Sostituzioni
Modifiche AD/SB
Lavori Addizionali
NdL
Pulizia
P.S.
M.M.
Aperture
M.M.
Ispezioni
M.M.
Lubrif.
P.S.
NdL
Rimoz.
P.S.
M.M.
Installaz.
P.S.
M.M.
Bollettino di Modifica
DT
Verniciatura
P.S.
Ricondiz. Cabina
P.S.
M.M.
C.L.
N.di.L.
Inconvenienti
Risoluzione
S.R.M.
M.M.
W.D.
D.T.
P.S.

# Customer Work Order

Main· Work· Order· Number¶

## Workpackage Content List

A2014 10:51 | 16.Dec.2011 Page 1/59

Workpackage IME/H12 I2C+PESATA for IME, planned for 03.Jan.2012

A/C-Type: 319, SerialNo: 1740

| TASKCARD | | TC Description | FOREMAN Performed | | 3LC | Signature |
|---|---|---|---|---|---|---|
| TC 1 | 30E300_02 | HORIZONTAL STABILIZER AND RUDDER - INSPECTIONS | YES | No | | |
| | | ITEM 1 / RH SIDE | | | | |
| TC 2 | 71.306 | EDP DEPRESSURIZATION - OPERATIONAL CHECK | X | No | | ·B1¶ |
| | | ITEM 1 / - | | | | |
| TC 3 | 79.148 | FLOOR PANEL HEATING SYSTEM - TESTS | YES | No | | |
| | | ITEM 1 / - | | | | |
| TC 4 | 79.156 | FLIGHT CONTROLS - TESTS | YES | No | | |
| | | ITEM 1 / - | | | | |
| TC 5 | 80E300_01 | PASSENGER/CREW DOORS - INSPECTIONS | X | No | | ·B1¶ |
| | | ITEM 1 / LH SIDE | | | | |
| TC 6 | 80E300_02 | PASSENGER/CREW DOORS - INSPECTIONS | YES | No | | |
| | | ITEM 1 / RH SIDE | | | | |
| TC 7 | 00C300 | MISCELLANEOUS - CLEANING/REMOVALS | YES | No | | |
| | | ITEM 1 / - | | | | |
| TC 8 | 00C301 | MISCELLANEOUS - CLEANING | YES | No | | |
| | | ITEM 1 / - | | | | |
| TC 9 | 00C302 | MISCELLANEOUS - CLEANING | YES | No | | |
| | | ITEM 1 / - | | | | |
| TC 10 | 00C303 | MISCELLANEOUS -INST./CLEANING | X | No | | ·B1¶ ·B2¶ |
| | | ITEM 1 / - | | | | |
| TC 11 | 00C304 | AIRCRAFT DISINSECTION | YES | No | | |
| | | ITEM 1 / - | | | | |
| TC 12 | 00C306 | MARKINGS AND PLACARDS - A/C INTERNAL INSPECTIONS | YES | No | | |
| | | ITEM 1 / - | | | | |



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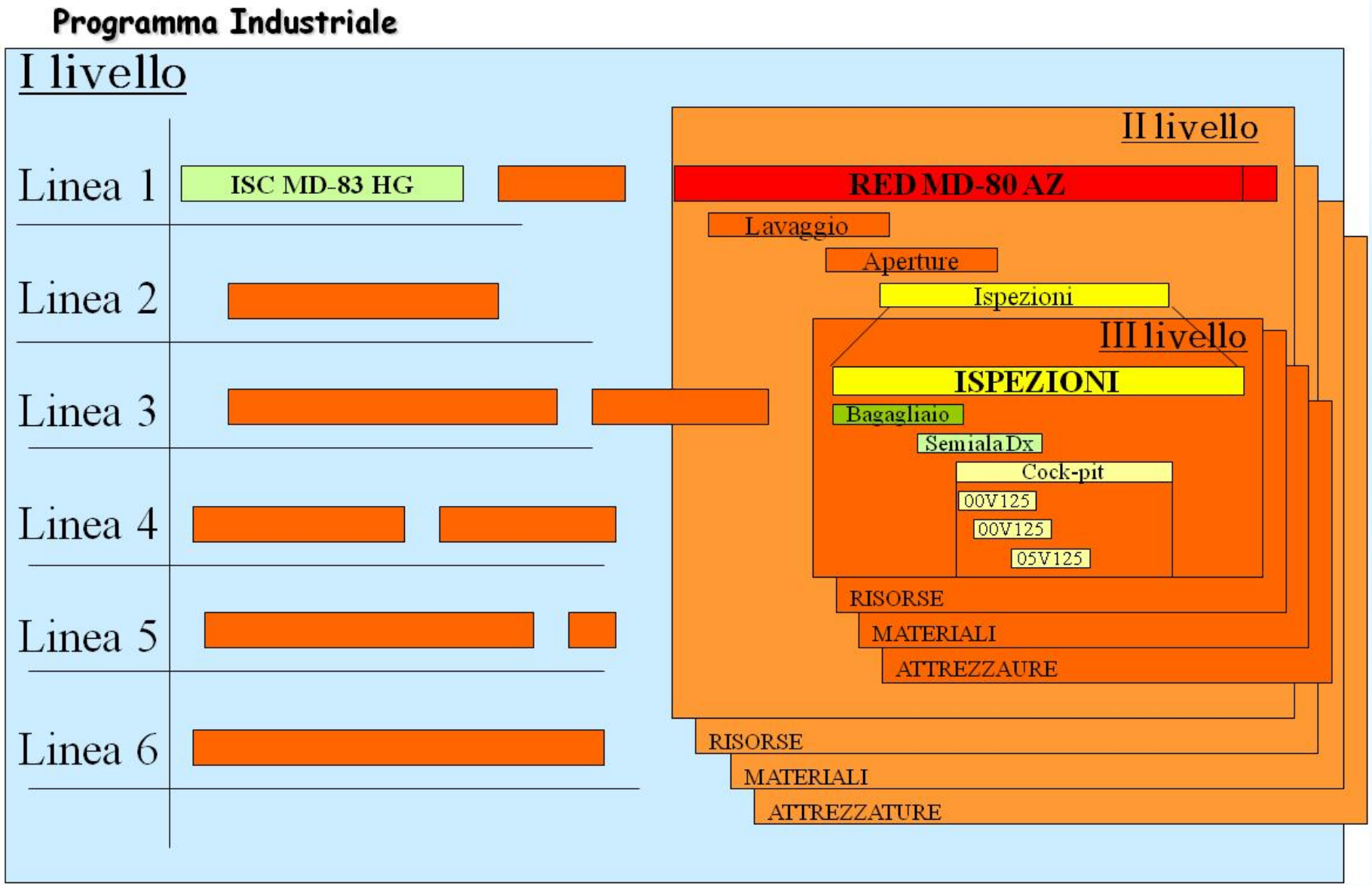
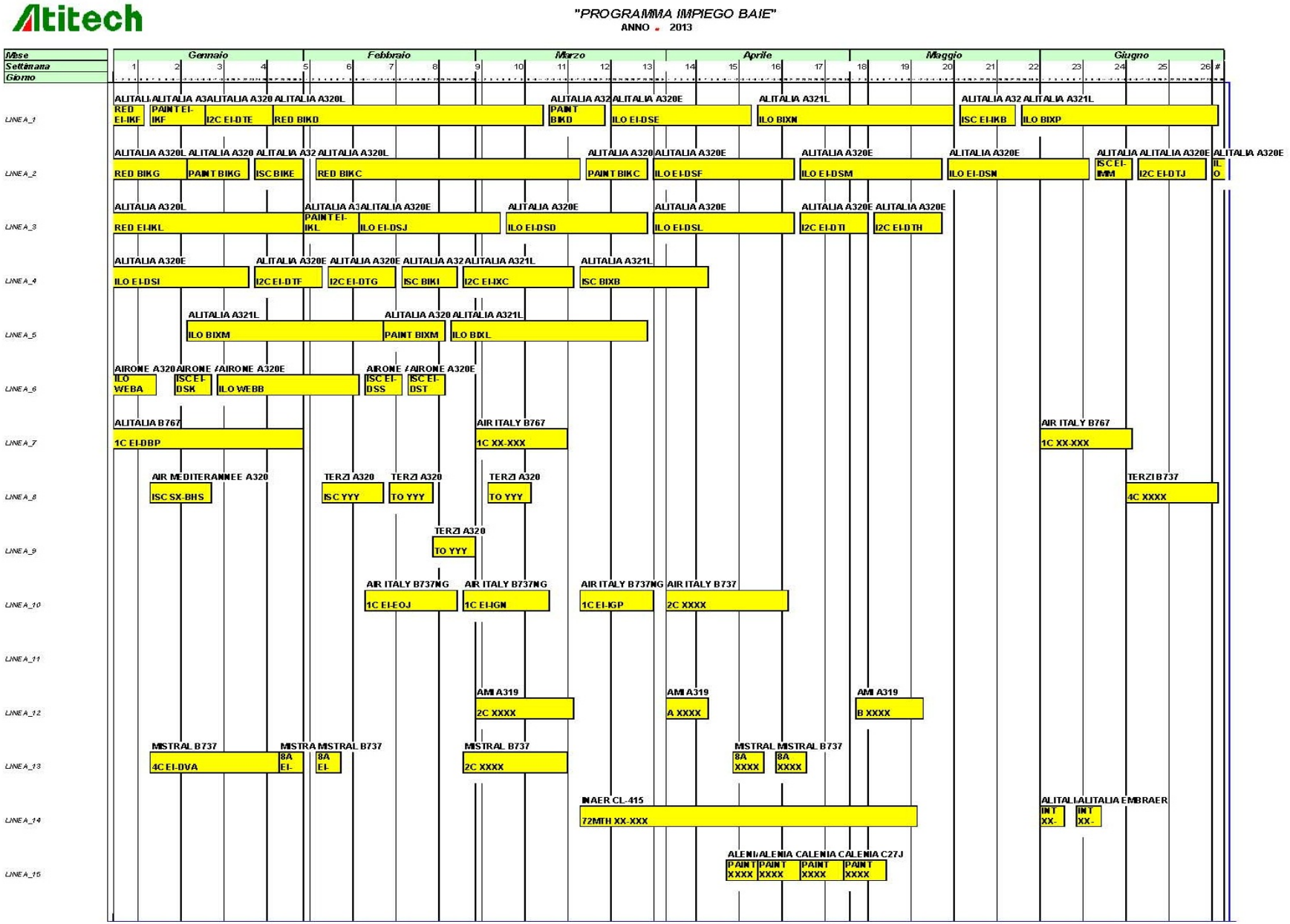
Stamp· by· the· Support· Staff· involved· in· Work· Card· closing·

Both·B1·and· B2·Support· Staff· involved·by· the·task¶

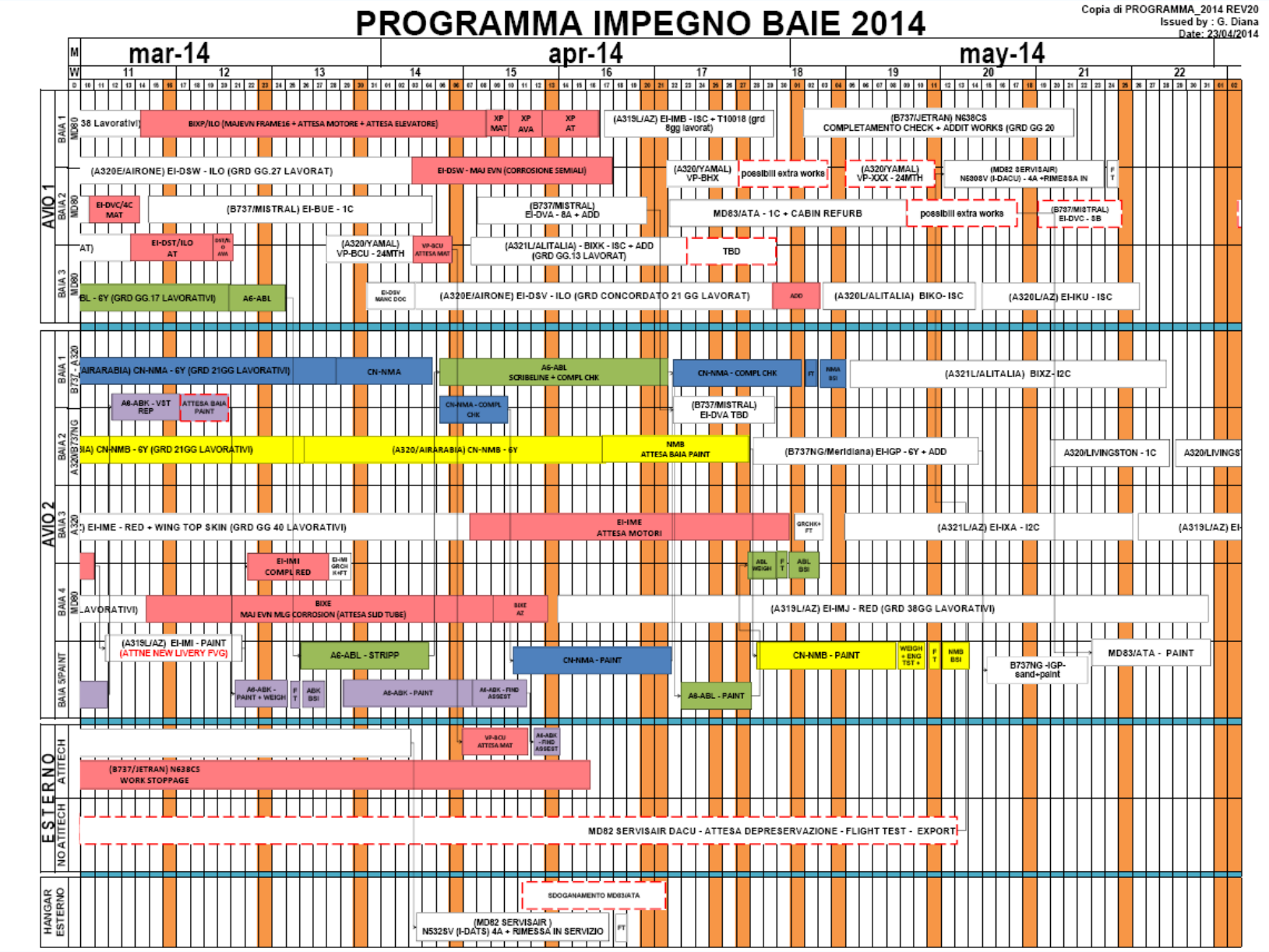
# Maintenance check Flow-Chart



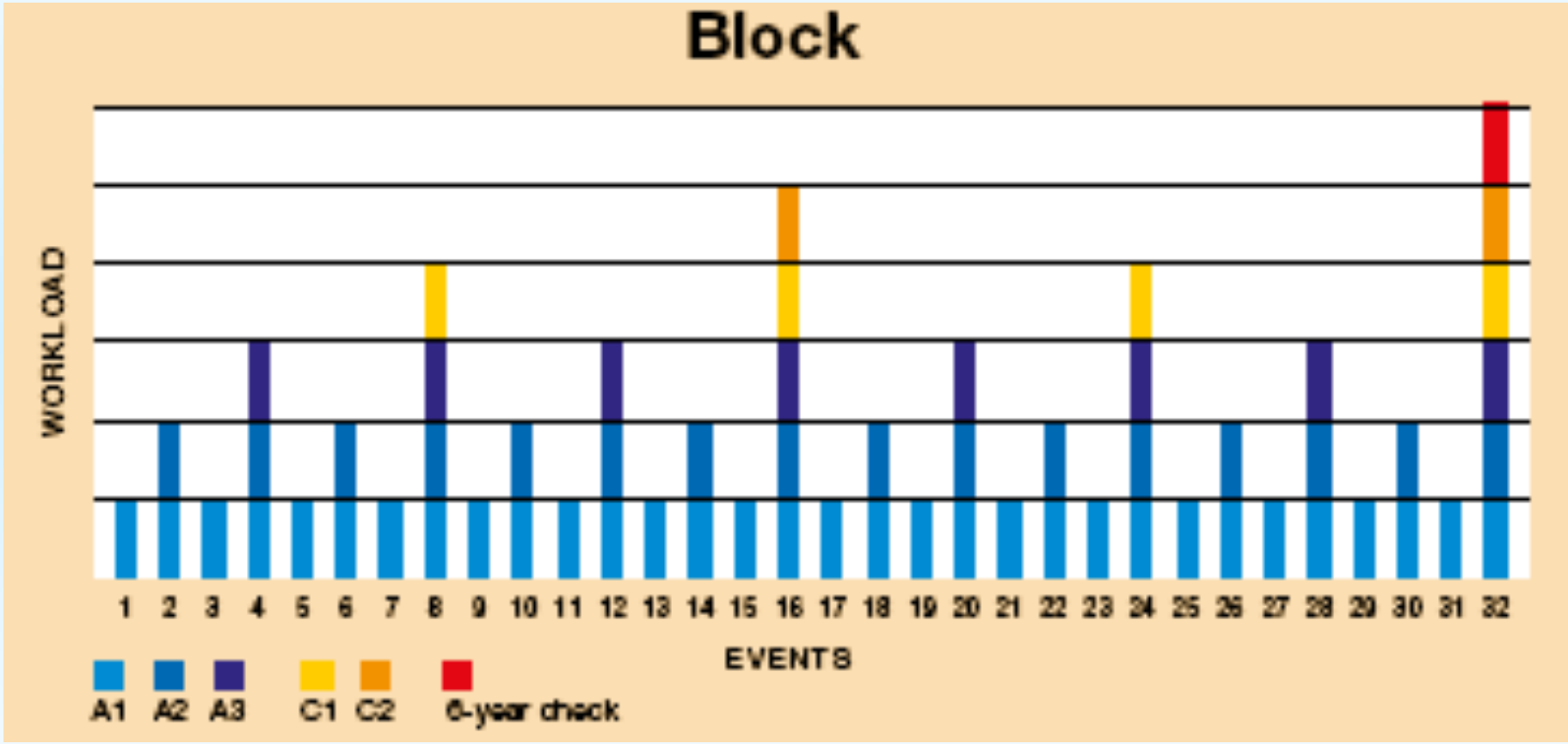
# Company Activity Plan



# Company Activity Plan



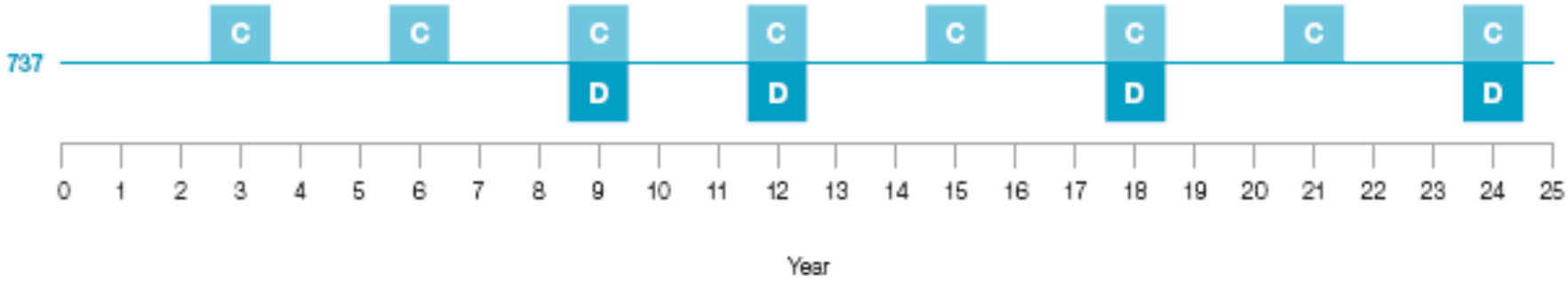
# COSTI DI MANUTENZIONE PER NARROW BODY




Based on 2,25 months check interval over 6 year timeframe

# COSTI DI MANUTENZIONE PER NARROW BODY

**737 Scheduled Maintenance Cost Estimates**




**Forecasted Event Cost and Labor Hours**

| | 25-Year Average Event Cost* | 25-Year Average Labor Hours |
|---|---|---|
| Average C-Check (including lesser checks) | $222,000 – $272,000 | 2,968 |
| Average D-Check | $426,000 – $476,000 | 5,026 |
| Average Total | $648,000 – $748,000 | 7,994 |

* U.S. dollars

# Maintenance Check Evaluation / Analisys

| | | | Mhrs Fixed | Mhrs Nrc | Mhrs Extra | NPT (4%) | Tot |
|---|---|---|---|---|---|---|---|
| Main WO | routine | Estimated Mhrs | 932,00 | 838,80 | - | 70,83 | 1.841,63 |
| | | Actual Mhrs | 1.572,73 | 2.065,98 | | | 3.638,71 |
| | | Deviation | 640,73 | 1.227,18 | - | - 70,83 | 1.797,08 |
| | oop | Estimated Mhrs | 736,60 | 662,94 | - | 55,98 | 1.455,52 |
| | | Actual Mhrs | 945,27 | 468,28 | | | 1.413,55 |
| | | Deviation | 208,67 | - 194,66 | - | - 55,98 | - 41,97 |
| | oompon rem | Estimated Mhrs | 30,50 | - | - | 1,22 | 31,72 |
| | | Actual Mhrs | 60,63 | 9,20 | | | 69,83 |
| | | Deviation | 30,13 | 9,20 | - | - 1,22 | 38,11 |
| | cc/bb & aadd | Estimated Mhrs | 2.879,80 | - | | 115,19 | 2.994,99 |
| | | Actual Mhrs | 1.357,92 | 222,22 | | | 1.580,14 |
| | | Deviation | - 1.521,88 | 222,22 | - | - 115,19 | - 1.414,85 |
| | deferr & others | Estimated Mhrs | - | - | | - | - |
| | | Actual Mhrs | | | | | - |
| | | Deviation | - | - | - | - | - |
| | opn/olc | Estimated Mhrs | 260,00 | 252,00 | - | 21,28 | 553,28 |
| | | Actual Mhrs | 332,48 | 249,13 | | | 581,61 |
| | | Deviation | 52,48 | - 2,87 | - | - 21,28 | 28,33 |
| | Totals | Estimated Mhrs | 4.858,90 | 1.753,74 | - | 264,51 | 6.877,15 |
| | | Actual Mhrs | 4.269,03 | 3.014,81 | - | - | 7.283,84 |
| | | Deviation | - 589,87 | 1.261,07 | - | - 264,51 | 406,69 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Check Analisys | Estimated Mhrs | 4.802,90 | 1.802,34 | 809,00 | 296,57 | 7.710,81 |
| | Actual Mhrs | 4.322,43 | 3.055,76 | 575,52 | - | 7.953,71 |
| | Deviation | - 480,47 | 1.253,42 | - 233,48 | - 296,57 | 242,90 |

| TAT Analisys | |
|---|---|
| Estimated | 28,58 |
| Actual | 33,17 |
| Deviation | 4,58 |

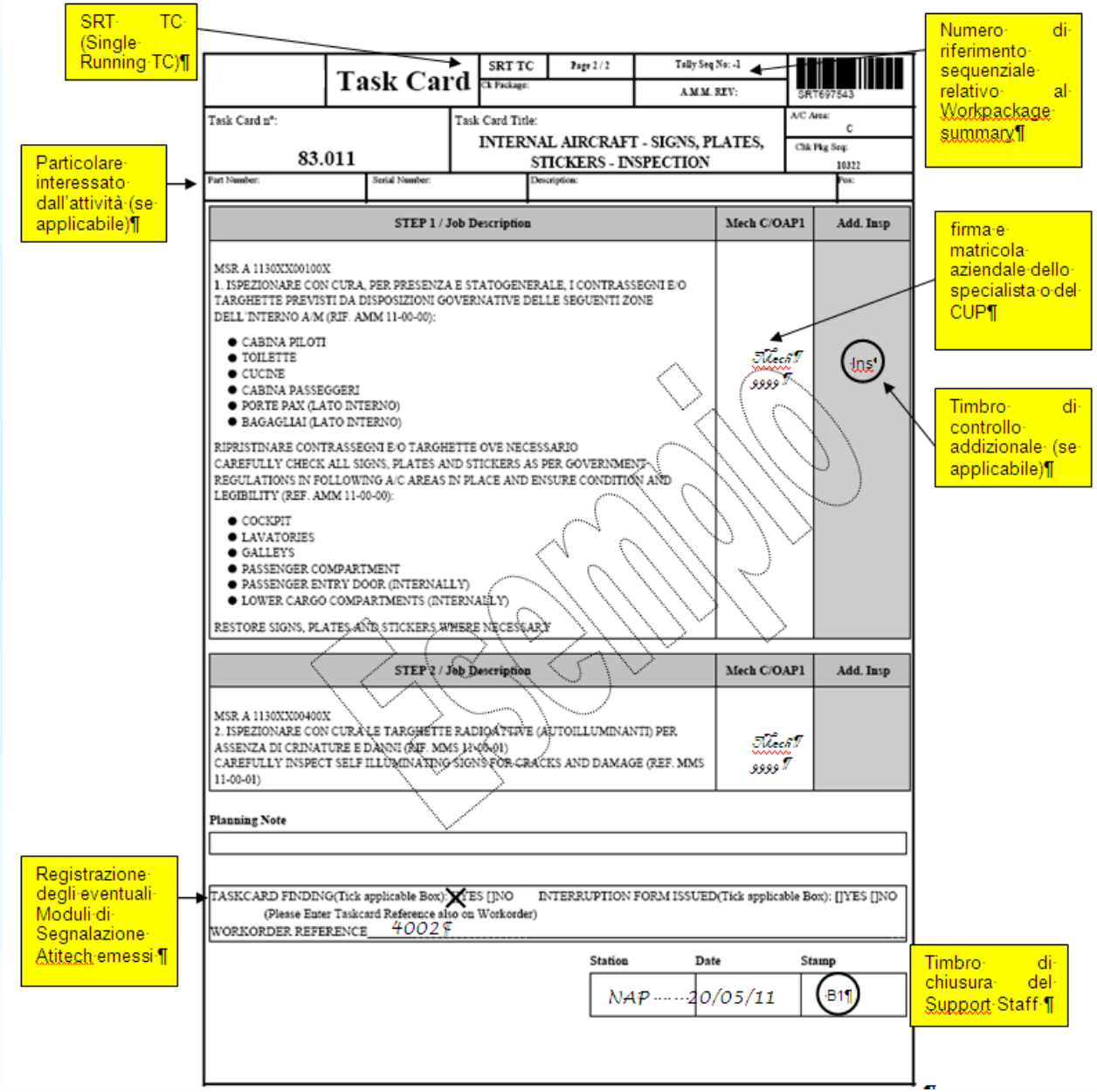
**Nota1 (TAT Estimated):**
Il preventivo TAT è espresso in giorni calendariali come da offerta nr. CF/174/13
**Nota2 (TAT Actual):**
Extragrd a seguito:
- 1,58 gg Major event (avaria motore sx)
- 3 gg material not available

| | |
|---|---|
| Internal WO n° | 7M000071 |
| Customer | MISTRAL AIR |
| Customer WO n° | VC005/14 |
| a/c type | B737-300 |
| a/c mark | EI-DVC |
| Check Type | 4C+ADD |
| Date IN | 10/02/2014 07.00 |
| Estim Date OUT | 10/03/2014 21.00 |
| Actual Date OUT | 15/03/2014 11.00 |

# Tasks Sign-off

- Tutti i lavori da eseguire in manutenzione sono prescritti in specifici documenti di lavoro, che costituiscono la documentazione esecutiva sulla quale devono essere rilasciate, negli appositi campi previsti, le attestazioni di esecuzione dei task, dei relativi controlli addizionali, laddove richiesti, ed, infine, le attestazioni di chiusura da parte di personale qualificato per tali attività.

# Customer Task Card



# Controlli Addizionali

- Il controllo addizionale si applica ai lavori critici per la sicurezza dell'aeromobile e sono elencati in apposite liste, periodicamente valutate ed eventualmente aggiornate su indicazione del Quality Manager, di concerto con le funzioni Produzione e Ingegneria.
- L'opportunità di sottoporre un lavoro a controllo addizionale è valutata tenendo conto:
  - della criticità del task e delle conseguenze dell'avaria;
  - della vulnerabilità del task all'errore umano;
  - della presenza o assenza di altri meccanismi di cattura dell'errore (ad esempio, functional check).

# MAINTENANCE DATA

## Modello Airbus

| | |
|---|---|
| **AirN@V Maintenance** | AMM, TSM, IPC, ASM, AWL, AWM, ESPM |
| **AirN@V Planning** | MPD |
| **AirN@V Repair** | SRM, NTM |
| **AirN@V Workshop** | CMM |

Maintenance (V1.12.1)

- Documents
  - AMM (Revision Number = 60, Revision date = Feb 01/12)
  - TSM (Revision Number = 59, Revision date = Feb 01/12)
  - AIPC (Revision Number = 66, Revision date = Feb 01/12)
  - ASM (Revision Number = 61, Revision date = Feb 01/12)
  - AWM (Revision Number = 61, Revision date = Feb 01/12)
  - AWL (Revision Number = 61, Revision date = Feb 01/12)
  - ESPM (Revision Number = 22, Revision date = Oct 01/11)
- Advanced Tools
  - Start Troubleshooting
  - Start Dynamic Wiring

# MAINTENANCE DATA

## Modello Airbus – AMM procedure (Sample)

4. Procedure

(Ref. Fig. NLG Door Operating Mechanism, SHEET 1)

Subtask 32-30-00-210-056-A

A. Detailed Inspection of the NLG Door Operating Mechanism

(1) Examine the bellcrank support brackets and the bellcrank assembly for:
- impact damage, cracks and corrosion
- damage to the protective finish.

(2) Make sure that the support brackets of the bellcrank assembly are correctly installed to the aircraft structure and are in safety.

(3) Carefully examine the control-rod levers of the bellcrank assembly for correct alignment to the door control-rods.

(4) Make sure that the eye-ends of the control-rods are correctly installed to the bellcrank levers and are in safety.

(5) Examine the door actuating cylinder for:
- impact damage
- signs of hydraulic leaks
- pitting and/or scoring of the chromium plating of the piston rod
- cracks, specially around the area of the connection to the bellcrank assembly and the mounting bracket.

(6) Make sure that the actuating cylinder is correctly installed to the bellcrank assembly and the mounting-bracket on the aircraft structure.

(7) Make sure that the actuating cylinder is in safety.

(8) Examine the actuating-cylinder mounting-bracket for:
- impact damage
- cracks
- damage to the protective finish
- corrosion.

(9) Make sure that the actuating-cylinder mounting-bracket is correctly installed to the aircraft structure.

(10) Make sure that the actuating cylinder is correctly aligned between the bellcrank assembly and the mounting-bracket.

(11) Make sure that the hydraulic pipes and connections are in the correct condition.

(12) Examine the door control-rods for:
- impact damage
- cracks, dents and corrosion.

(13) Make sure that the door control-rods are:
- correctly installed and in safety
- correctly aligned between the bellcrank levers and the door hinge-points.

(14) Examine the door hinges for:
- impact damage
- cracks, wear and corrosion
- damage to the protective finish.

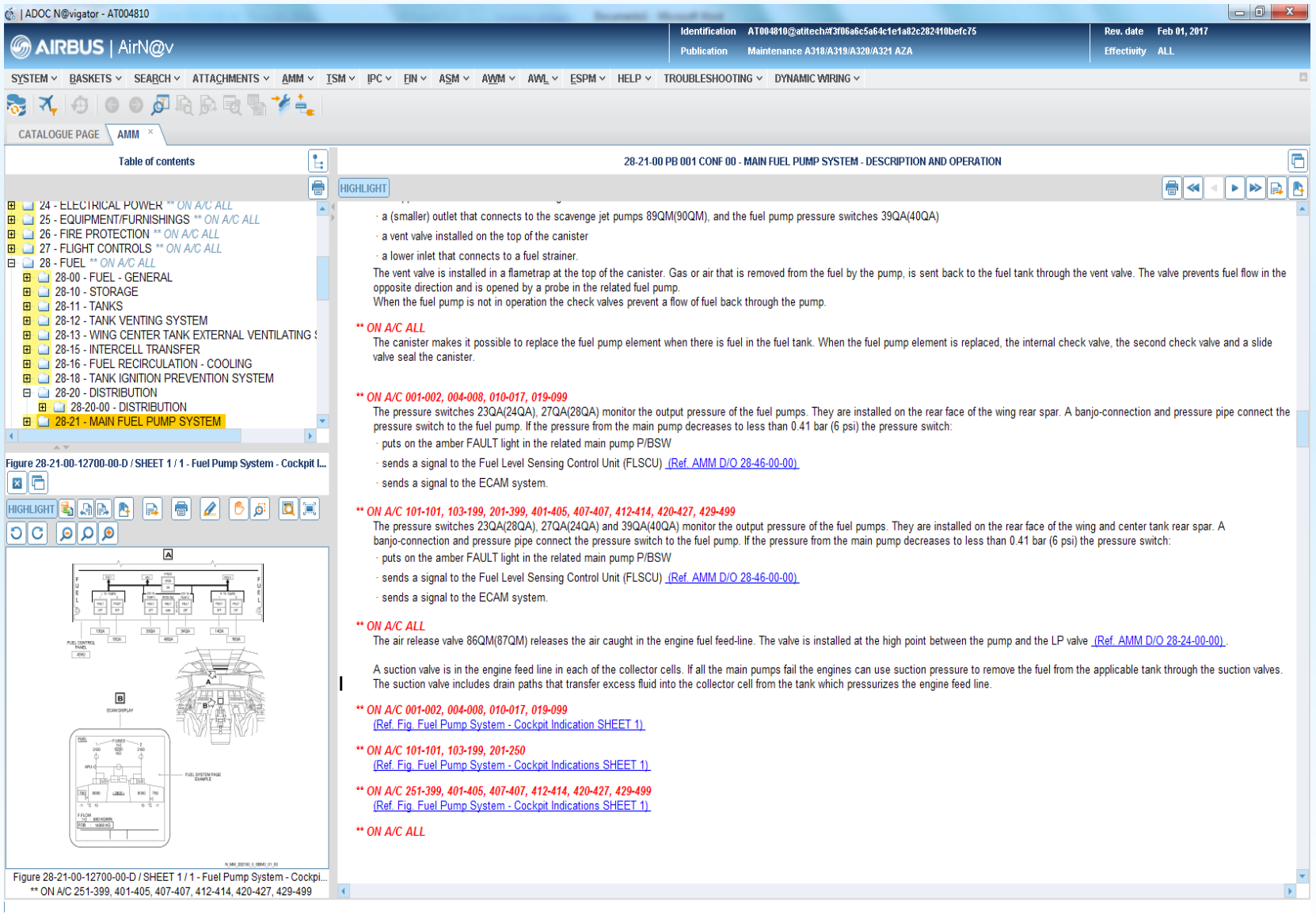
(15) Look for signs of delamination of the door structure, specially around the area of the door hinges.

(16) Make sure that the bonding leads to the door hinges are in the correct condition.

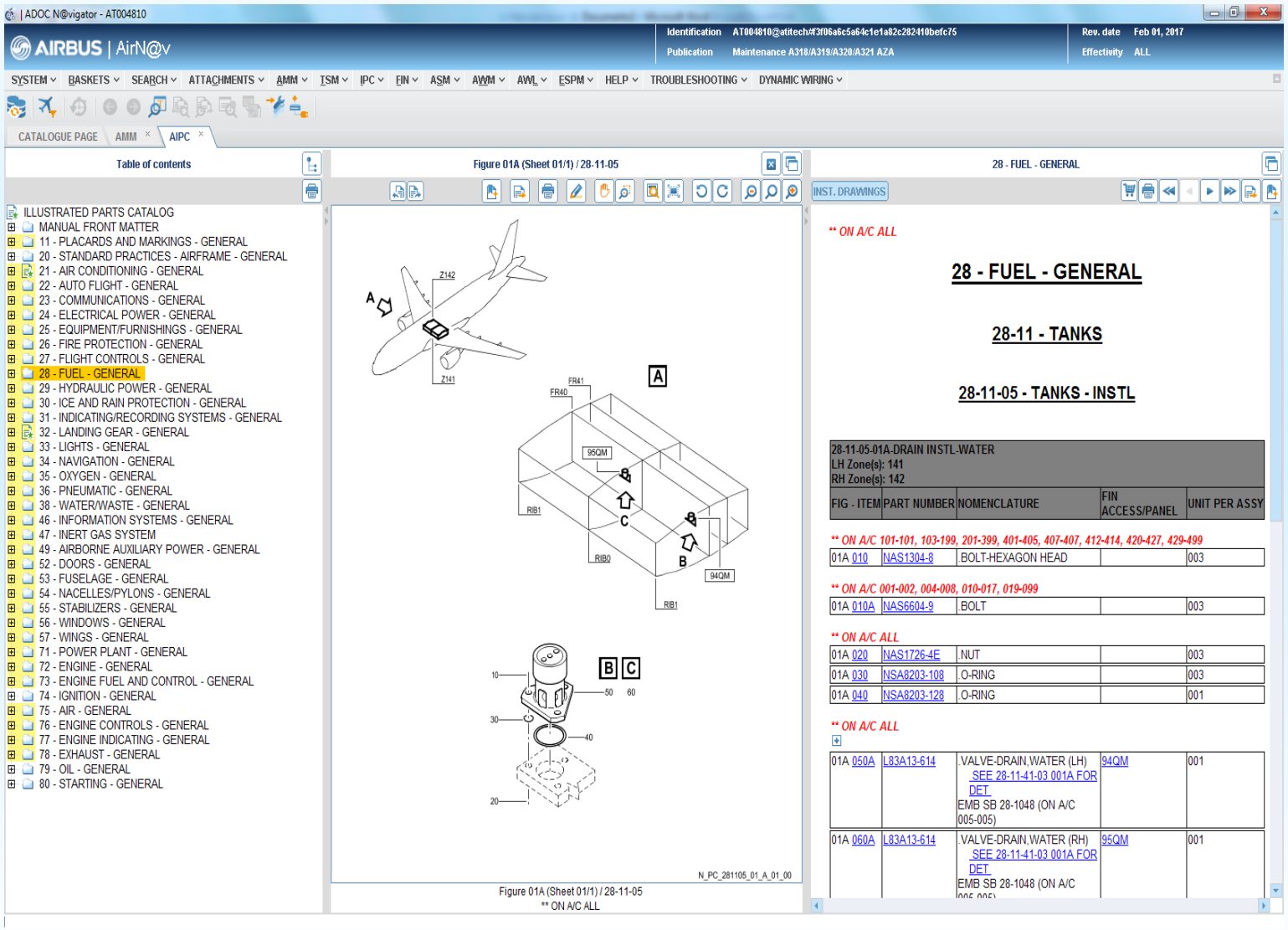
(17) Make sure that the proximity sensors, targets and their related mounting-brackets are in the correct condition.

5. Close-up

# Tipical_aircraft_maintenance Manual

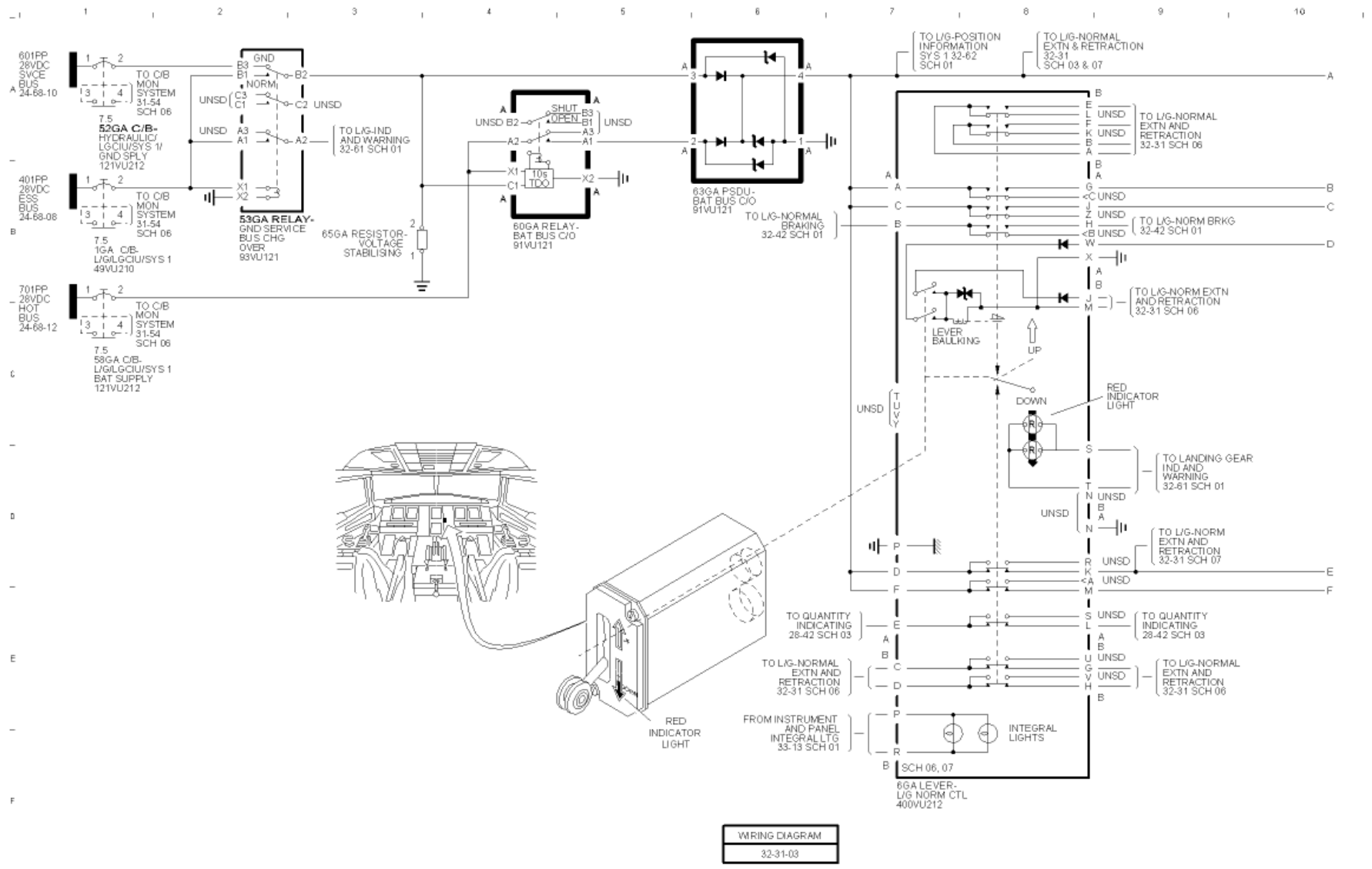


# Tipical_AIPC_Manual



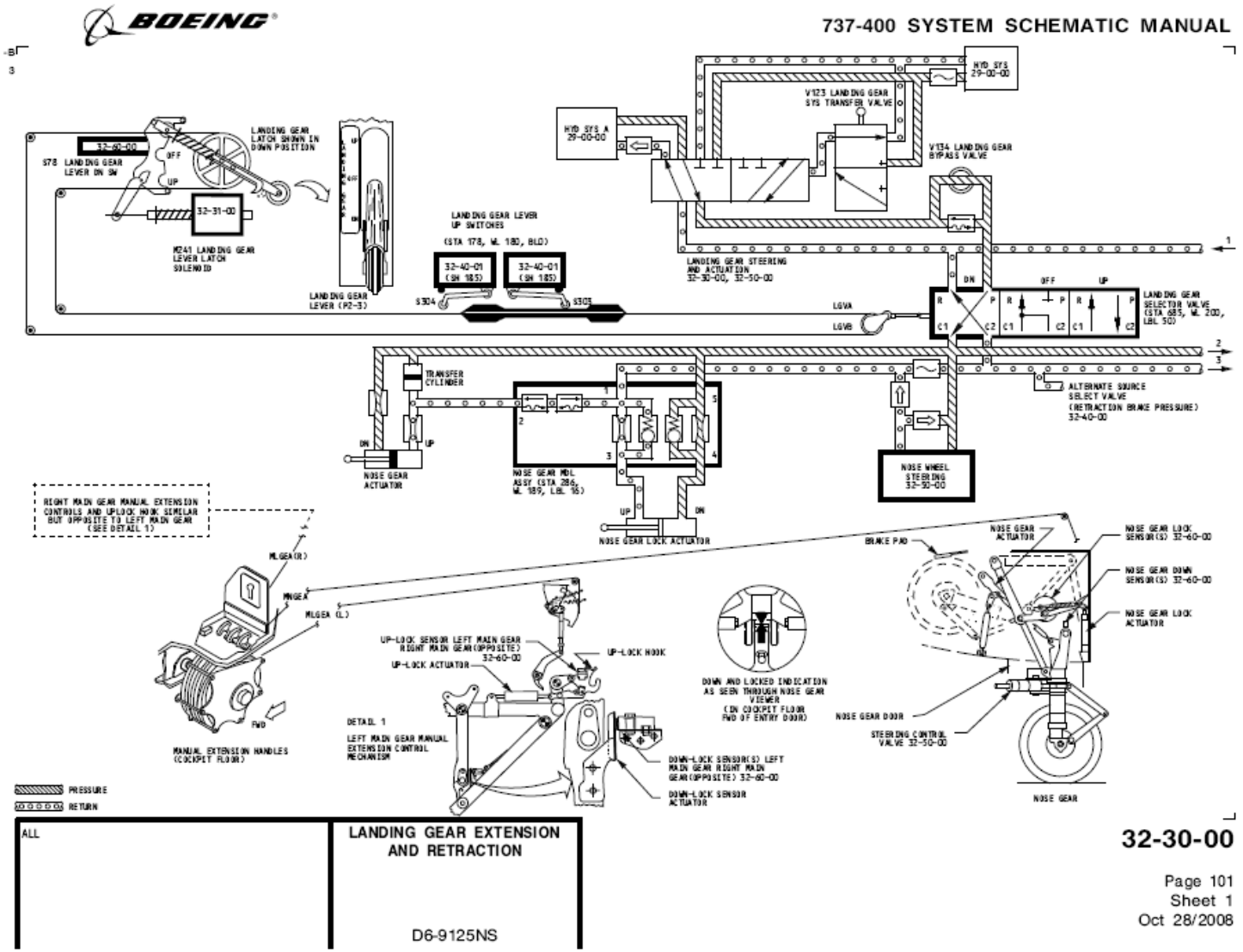
# MAINTENANCE DATA

## Modello Airbus – ASM (Sample)



# MAINTENANCE DATA

## Modello Boeing – SSM (Sample)



# Modulo Segnalazione Inconveniente

Atitech

**MODULO DI SEGNALAZIONE**
*REQUIRED ACTION/DISCREPANCY CARD*

| DATA/*Date* | ORA/*Time* | Oper./*Check* | A/M / *A/C Mark* | No |
|---|---|---|---|---|
| | | | | |

| ORIGINE / *Origin* | | | | RIF. / *Ref.* | ZONA A/M / *A/C Zone* | Emesso da: / *Issued by:* | | Visto/ *Approv. by* |
|---|---|---|---|---|---|---|---|---|
| QTB *LOG* | B d M *S.B.* | N d L *Job Card* | ALTRA *Other* | | DESCRIZIONE/*Description* | Cod. Costr. *Manuf. code* | Matr. *I.D. N°* | Firma *Sign.* |
| | | | | | | | | |

DESCRIZIONE *Description* _____

MATERIALE RICHIESTO/*Required Material*

| No | DESCRIZIONE/*Description* | PART NUMBER | Q.tà *Q.ty* |
|---|---|---|---|
| | | | |

RICHIESTA SUPPORTO TECNICO *Technical Data Required* ☐ SI *Yes* Firma *Signature* _____ DATA *Date* _____

AZIONI CONCORDATE *Action to be taken* _____

DATA/*Date* _____ Approvazione ENG/*ENG Approval* _____

RISERVATO SPP/*Reserved for SPP*

| MANODOPERA STIMATA/*Extimated Manpower* | | | |
|---|---|---|---|
| MEC/*Mech* | | STR/*Sheet Metal* | |
| ELE/*Electr-Avionic* | | CQA/*Inspector* | |
| CAB /*Cab.Mech* | | CTQ /*N.D.T. Insp.* | |
| VER/*Painter* | | | |
| | | | |

ATTREZZATURA SPECIALE RICHIESTA
*Special Tools Required*
☐ SI/*Yes* ☐ NO/*Not*

DOCUMENT.PARTICOLARE RICHIESTA
*Special Data Required*
☐ SI/*Yes* ☐ NO/*Not*

| COLL. CON ALTRI LAV./*Conn. with other W.C.* | | | | COMMESSA/*Maint. W.O. Ref.* |
|---|---|---|---|---|
| | | | | |

Mod. AT - 5 - 025- bl. 50x2 - Modernografica - Napoli -

# Modulo Segnalazione Inconveniente

**MODULO DI SEGNALAZIONE**
*REQUIRED ACTION/DISCREPANCY CARD*

**APERTURA CONTROLLO/*Inspection Required***

CAMP. *Sampling* _____ CONT. *R. I. I.* _____ DOP. *Double* _____

| No | INIZIO *Start* | | PROVVEDIMENTI *Action Taken* | COD. AREA *Work Area Code* | DATA *Date* | ORA *Time* | ESECUZIONE *Completion* | | | PROVA *Test* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DATA *Date* | ORA *Time* | | | | | MATR. OPER. *Mech. I.D.* | FIRMA OPER. *Mech. Signature* | TIMBRO CONTR. *Inspector Sign. or Stamp* | MATR. OPER. *Mech. I.D.* | FIRMA OPER. *Mech. Signature* | TIMBRO CONTR. *Inspector Sign. or Stamp* |
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PROVE RICHIESTE/*Test required*
- OPERATIVA *Operational test* ☐
- DI FUNZIONAMENTO *Functional test* ☐
- PROVA MOTORI *Engine test* ☐

ACCETTAZIONE CLIENTE PER L.R. O NON ESEGUITO
*Customer acceptance for deferred or open item*

FIRMA/*Signature* _____

EMESSO L.R. *Deferred Item* ☐ DATA *Date* ☐

I PROVVEDIMENTI SONO TALI DA CHIUDERE LA SEGNALAZIONE

*The action undertaken meets the requirement of the W.O.*

PRO

CQA

Cap. ATA *ATA Chap*

INSERIRE NEL FINAL REPORT *To be recorded on final report*

SI *Yes* ☐ NO *Not* ☐

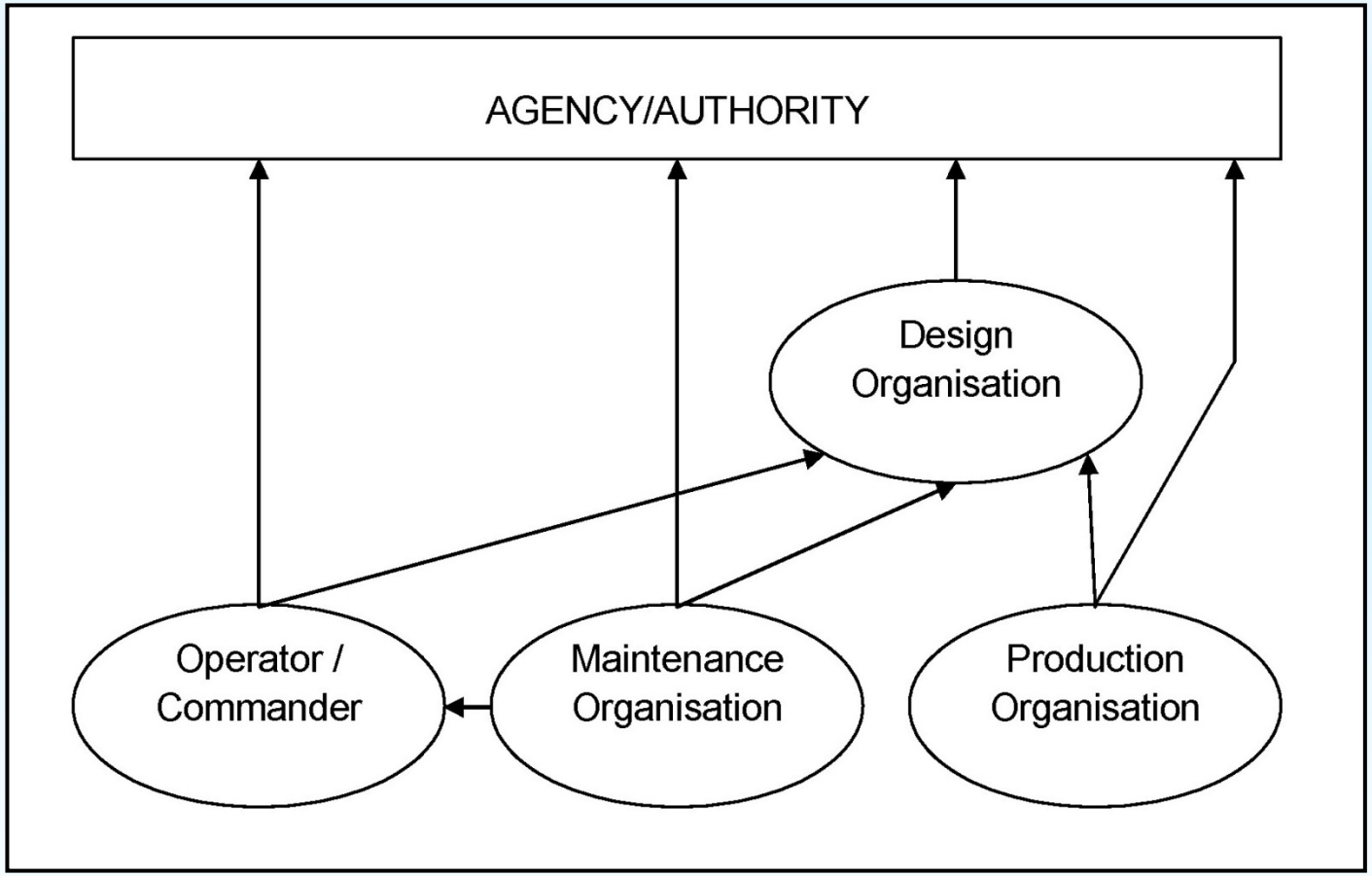
# Occurrence Reporting

Nel caso di eventi che possono avere effetti significativi sulla sicurezza, ciascun operatore è tenuto a compilare anche un Occurrence Report per riportare quanto riscontrato e le relative cause (se conosciute), al fine di consentire attraverso il sistema di gestione delle segnalazioni l'adozione di adeguate azioni correttive o preventive.

Un Occurrence Report deve essere emesso per segnalare ogni evento che possa avere effetti sulla sicurezza del volo e, più in generale, le discrepanze relative ai vari processi aziendali e gli errori rilevati durante l'attività di manutenzione.

# Occurrence Reporting

Schema di Occurrence Reporting secondo la EASA AMC 20-8



# Aircraft Certificate of Release to Service (CRS)

| Atitech ENAC CERTIFICATED | AIRCRAFT CERTIFICATE OF RELEASE TO SERVICE<br>*CERTIFICATO DI RIAMMISSIONE IN SERVIZIO DELL'AEROMOBILE* | CERTIFICATE Nbr<br>*CERTIFICATO N.ro* |
|---|---|---|

**AIRCRAFT TYPE:** *TIPO AEROMOBILE* MD-80 **REGISTRATION MARK:** *MARCHE* _____ **WORK ORDER :** *ORDINE DI LAVORO* I.W.O. _____ C.W.O.

**OPERATOR:** *OPERATORE* _____ **CHECK TYPE:** *TIPO DI OPERAZIONE* ISP.

**LOCATION WHERE CHECK WAS COMPLETED:** *LUOGO DI ESECUZIONE DELL'OPERAZIONE* NAPLES **DATE:** *DATA* _____

**AIRCRAFT TOTAL HOURS / CYCLES:**
*ORE / CICLI TOTALI DELL'AEROMOBILE* _____ / _____

**CERTIFIES THAT THE WORK SPECIFIED EXCEPT AS OTHERWISE SPECIFIED WAS CARRIED OUT IN ACCORDANCE WITH PART-145 AND IN RESPECT TO THAT WORK THE AIRCRAFT IS CONSIDERED READY FOR RELEASE TO SERVICE.**
**PERTINENT DETAILS ARE ON FILE AT ATITECH UNDER MENTIONED WORK ORDER.**

*SI CERTIFICA CHE L'INTERVENTO SOPRA DESCRITTO, SALVO QUANTO DIVERSAMENTE SPECIFICATO, E' STATO ESEGUITO IN ACCORDO CON LA PARTE-145 E RIGUARDO A DETTO INTERVENTO L'AEROMOBILE E' CONSIDERATO PRONTO PER LA RIAMMISSIONE IN SERVIZIO.*
*I DETTAGLI PERTINENTI SONO ARCHIVIATI PRESSO ATITECH CON RIFERIMENTO AL SUDDETTO ORDINE DI LAVORO.*

**REMARKS:** *NOTE* ISSUED D.I. : 100049546;100049855;100050166;100041527;100041577.

**PRINT NAME OF PERSON SIGNING:** *NOME IN STAMPATELLO* _____ **LICENCE NUMBER:** *LICENZA NUMERO* _____

**AUTHORIZED SIGNATURE:** *FIRMA AUTORIZZATA* _____ **CERTIFICATION AUTHORIZATION NUMBER:** *AUTORIZZAZIONE ALLA CERTIFICAZIONE NUMERO* _____

**PART-145 ORGANIZATION NAME AND ADDRESS:** *NOME ED INDIRIZZO DELL'ORGANIZZAZIONE* ***ATITECH S.p.A. AEROPORTO CAPODICHINO -- 80144 NAPLES, ITALY***

**PART-145 ORGANIZATION APPROVAL REFERENCE:** *RIFERIMENTO DELL'APPROVAZIONE PARTE-145*

# Maintenance Release Certificate – EASA Form 1

| 1. Approving Competent Authority / Country: *(Autorità Aeronautica Nazionale / Nazione)* | 2. **AUTHORISED RELEASE CERTIFICATE EASA FORM 1** | 3. Form Tracking Number: *(Numero identificativo del Certificato)* |
|---|---|---|
| ENAC / ITALY | | CND/001/11 |

| 4. Organisation Name and Address: *(Nome ed Indirizzo dell'Organizzazione)* | 5. Work Order/Contract/Invoice: *(Ordine di lavoro/Contratto/Fattura)* |
|---|---|
| S.p.A. Palazzo ATITECH AEROPORTO DI CAPODICHINO 80144 NAPOLI - ITALIA Phone +39 081 3691111 Fax +39 081 3694600 | WindJet E.O. 27-018 rev.02 W.O. WSA 222/10-CX item 5 |

| 6. Item *(N° prog.)* | 7. Description *(Descrizione)* | 8. Part No. *(N° Categorico)* | 9. Qty. *(Quantità)* | 10. Serial No. *(N° di Serie)* | 11. Status/Work *(Stato/Tipo di Intervento)* |
|---|---|---|---|---|---|
| 1 | Elevator Servocontrol Rod Eye-End | 341203-XXX | 4 | 10321 NMB, 11097 NMB, 11126 NMB, 11069 NMB | Inspected |

**12. Remarks:** *(Note)*

Complied with EASA AD 2010-0046

Accomplished Magnetic Particles Inspection i.a.w. Airbus S.B. A320-27A1186 Rev.06

13a. Certifies that the items identified above were manufactured in conformity to: *(Si certifica che gli items sopra identificati sono stati costruiti in conformita' a:)*

- ☐ approved design data and are in condition for safe operation *(dati di progetto approvati e sono in condizioni per un utilizzo in sicurezza)*
- ☐ non-approved design data specified in block 12 *(dati di progetto non approvati specificati nel blocco 12)*

14a. ☒ Part-145.A.50 Release to Service *(Riammissione in servizio secondo Parte-145.A.50)* ☐ Other regulation specified in block 12 *(Altra norma specificata nel blocco 12)*

Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, was accomplished in accordance with Part-145 and in respect to that work the items are considered ready for release to service.

*(Si certifica che, salvo diversamente specificato nel blocco 12 il lavoro identificato nel blocco 11 e descritto nel blocco 12, è stato eseguito in accordo alla Parte-145 e nel rispetto di tale lavoro, gli items sono considerati pronti per la riammissione in servizio)*

| 13b. Authorised Signature *(Firma persona autorizzata)* | 13c. Approval/Authorisation Number *(N° Approvazione/Autorizzazione)* | 14b. Authorised Signature *(Firma persona autorizzata)* | 14c. Certificate/Approval Ref. No. *(N° di riferimento approvazione)* |
|---|---|---|---|
| | | | IT.145.0026 |
| 13d. Name *(Nome)* | 13e. Date (dd mmm yyyy) *(Data)* | 14d. Name *(Nome)* ARFE' SALVATORE (C.A. 015 Rev.6) | 14e. Date (dd mmm yyyy) *(Data)* 02/MAR/2011 |

**User/Installer Responsibilities**

*(Responsabilità dell'Utilizzatore/Installatore)*

This certificate does not automatically constitute authority to install the item(s).
*(Questo certificato non costituisce automatica autorizzazione all'installazione della(e) parte(i).*
Where the user/installer performs work in accordance with regulations of an Airworthiness Authority different than the Airworthiness Authority specified in block 1, it is essential that the user/installer ensures that his/her Airworthiness Authority accepts items from the Airworthiness Authority specified in block 1.
*(Nel caso in cui l'utilizzatore/installatore esegua i lavori in accordo con le norme nazionali di una Autorità di Aeronavigabilità diversa da quella specificata nel blocco 1, è essenziale che l'utilizzatore/installatore si accerti che la propria Autorità di Aeronavigabilità accetti le parti dall'Autorità di Aeronavigabilità specificata nel blocco 1).*
Statements in blocks 13a and 14a do not constitute installation certification. In all cases aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.
*(Le dichiarazioni di cui ai punti 13a e 14a non costituiscono certificazione all'installazione. In ogni caso le registrazioni di manutenzione dell'aeromobile devono contenere una certificazione dell'installazione emessa dall'utilizzatore/installatore, in accordo con le normative nazionali, prima che l'aeromobile possa essere portato in volo).*

# MAINTENANCE REPORT

Atitech
TECHNICAL DOCUMENTATION

## MAINTENANCE REPORT

### Customer:

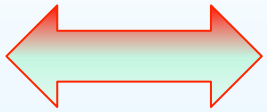
| | |
|---|---|
| **A/C REG.MARK:** | **CUSTOMER WORK ORDER:** |
| **A/C TYPE:** | **ATITECH WORK ORDER:** |
| **A/C S/N:** | **DATE IN:** |
| **MAINTENANCE CHECK:** | **DATE OUT:** |

Index of documents:

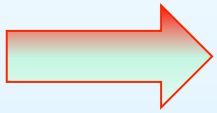


**PREPARED BY:** **DATE:**

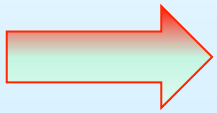
# Customer – MRO interfaces



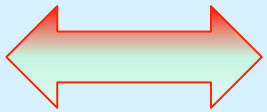
Maintenance Contract / Joint Procedures Manual



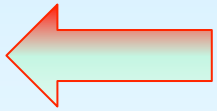
Work – Order and relevant amendments



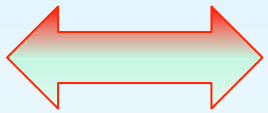
Customer supplied Maintenance Data / Parts



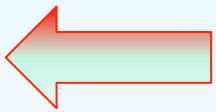
Customer Technical Representative (Maintenance check supervision)



Significant defects notification (Occurrences Reporting)



Deferred Works



Certificate of Release to Service / Maintenance Records and Maintenance Report

# Personnel

I mestieri nella manutenzione degli aeromobili nel balance fra specializzazione e flessibilità di impiego:

- ***Operatori/Controllori***
  preposti alla esecuzione ed attestazione dei lavori
  - skills: meccanici, elettroavionici, specialistici (NDT, sheet-metal, etc.)

- ***Personale certificato***

- Certifying Staff Base Maintenance (LMA Part-66 Cat. C)
- Certifying Staff for Line Maintenance, Support Staff B1/B2
- Tecnico NDT (inspectors NDT, liv.3 NDT)

- ***Personale di staff tecnico***
  preposto a supportare i processi produttivi
  - tecnici ingegneria, planners, tecnici qualità (auditors, safety engineers), buyers, istruttori )

# Personnel qualification

Atitech
Quality Department

## PERSONNEL QUALIFICATION ROSTER
## A320F CFM56

| Callouts | | |
|---|---|---|
| **Symbols Callout**<br>X> Mechanic skill task.<br>C> Mechanic skill task - limited to cabin interior<br>O> Electric/avionic skill task.<br>©> Limited to ATA Ch.28 and tasks inside fuel tanks.<br>**Tasks Definitions Callout**<br>**BASIC** • Servicing<br>• Simple Removal / Installation of components and parts which does not require special procedures or tools<br>NOTE: Qualification for Mechanics (X) includes electrical plugs/receptacles connection/disconnection<br>NOTE: Qualification for electro-avionics (O) includes any aircraft access panels removal/installation (excluded tank access panels)<br>• General Visual Inspection (GM)<br>NOTE: Qualification for Mechanics (X) includes GM of electrical installations and EWIS GM tasks.<br>• Towing operation attendance | **INSP** • Detailed Inspection<br>**OCC** • Operational checks<br><br>**LC** • Light corrosion removal.<br>**FRE** • Brakes operator<br>**TTS** • Tap Test (Coin Tapping)<br>**LF/SH** • Lifting and Shoring | **SUB** • Removal / installation of parts requiring measurement and tolerances verification (with test sets, measuring sets, or aircraft indicators) on "no safety related items"<br>**FU/SY** • Test of parts requiring measurement and tolerances verification on "no safety related items"<br>**C-SUB** • Removal / installation of parts requiring measurement and tolerances verification (with test sets, measuring sets, or aircraft indicators) on "safety related items"<br>**C-FU/SY** • Test of parts requiring measurement and tolerances verification (with test sets, measuring sets, or aircraft indicators) on "safety related items"<br><br>**E/T** • Engine Test<br>**"Safety related items"** are intended those belonging to the following ATA chapters: 22, 27, 32, 34, 52, 56, 61, 70-80 |

**Quality Manager**

*Signed copy on file at CQA Dept*

*Giuseppe Barsotti*

orm ADT-021-10/16 R.0

# Personnel qualification

## PERSONNEL QUALIFICATION ROSTER

| A/C Type | A320F CFM56 |
|---|---|
| 18 Jan 2017 | 6 / 14 |

| | AUTHORIZED TASKS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Matr | BASIC | INSP | OCC | LC | FRE | TTS | LF/SH | SUB | FU/SY | C-SUB | C-FU/SY | E/T | LIMITATIONS |
| 1244 | C | C | C | | | | | | | | | | |
| 1421 | X | X | X | | | | | X | | | | | |
| 1202 | X | X | X | | X | | | X | X | X | X | | |
| 942 | X | X | | | X | X | | X | | | | | |
| 842 | X | X | X | | X | | | X | X | X | X | | |
| 1315 | X | X | | | X | | | | | | | | |
| 973 | O | O | O | | O | | | O | O | O | O | | |
| 886 | O | O | O | | O | | | | | | | | |
| 253 | X | X | X | | X | X | | | | | | | |
| 633 | X | X | X | | X | X | | X | X | X | X | | |
| 1383 | X | X | X | | X | X | X | X | X | X | X | X | |
| 1203 | X | X | X | | X | | | | | | | | |
| 686 | X | X | X | | | X | | X | X | X | X | | |
| 454 | C | C | C | | | | | C | | C | | | |
| 937 | X | X | X | | | | | © | © | | | | |
| 1436 | X | X | X | | X | | | X | X | X | X | | |
| 1317 | O | O | O | | O | | | O | O | | | | |
| 1296 | X | X | X | | X | | | X | X | | | | |
| 580 | X | X | X | | | X | | X | X | X | X | | |
| 1219 | X | X | X | | | | | X | X | X | | | |
| 957 | X | X | X | | X | X | | X | X | X | X | X | |
| 1452 | X | X | X | | | | | | | | | | |
| 1238 | C | C | C | | | | | C | | C | | | |

# LMA Categories

66.A.3 **Licence categories**

(a) Aircraft maintenance licences include the following categories:

— Category A

— Category B1

— Category B2

— Category B3

— Category C

(b) Categories A and B1 are subdivided into subcategories relative to combinations of aeroplanes, helicopters, turbine and piston engines. These subcategories are:

— A1 and B1.1 Aeroplanes Turbine

— A2 and B1.2 Aeroplanes Piston

— A3 and B1.3 Helicopters Turbine

— A4 and B1.4 Helicopters Piston

(c) Category B3 is applicable to piston-engine non-pressurised aeroplanes of 2 000 kg MTOM and below.

# LMA Categories

66.A.30 **Basic experience requirements**

(a) An applicant for an aircraft maintenance licence shall have acquired:

1. for category A, subcategories B1.2 and B1.4 and category B3:

   (i) 3 years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or

   (ii) 2 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or

   (iii) 1 year of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Annex IV (Part-147);

2. for category B2 and subcategories B1.1 and B1.3:

   (i) 5 years of practical maintenance experience on operating aircraft if the applicant has no previous relevant technical training; or

   (ii) 3 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or

   (iii) 2 years of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Annex IV (Part-147);

3. for category C with respect to large aircraft:

   (i) 3 years of experience exercising category B1.1, B1.3 or B2 privileges on large aircraft or as support staff according to point 145.A.35, or, a combination of both; or

   (ii) 5 years of experience exercising category B1.2 or B1.4 privileges on large aircraft or as support staff according to point 145.A.35, or a combination of both;

4. for category C with respect to other than large aircraft: 3 years of experience exercising category B1 or B2 privileges on other than large aircraft or as support staff according to point 145.A.35(a), or a combination of both;

5. for category C obtained through the academic route: an applicant holding an academic degree in a technical discipline, from a university or other higher educational institution recognised by the competent authority, 3 years of experience working in a civil aircraft maintenance environment on a representative selection of tasks directly associated with aircraft maintenance including 6 months of observation of base maintenance tasks.

# FIGURE PROFESSIONALI NELL'ORGANIZZAZIONE

Possibili inserimenti per Diplomati / neo-ingegneri:

- *Personale di staff tecnico*

  - tecnici ingegneria
    a) gestione dei Maintenance Data e industrializzazione dei processi
    b) supporto tecnico nella preparazione e svolgimento degli eventi manutentivi (elaborazione documentazione esecutiva e gestione dei fuori standard)
  - tecnici qualità
    1) quality auditors & safety engineers
    2) technical instructors
  - tecnici nei processi di produzione/supporto
    Aree: planning, logistica, tools & materials management

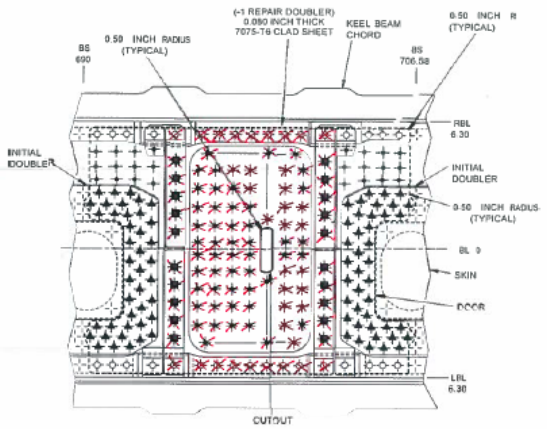
Ciascuna delle qualificazioni si basa sul possesso di requisiti di:

- addestramento teorico
- esperienza "on the job" (mediamente 1,5 – 3 anni)

# Tipical sketch repair from engineering

BOEING | REPAIR SKETCH

Job # AS2-AS2-17-0005-01C




AFT VIEW LOOKING DOWN

Production Fastener Locations:
- Reference fastener
- Install BACR15BB6D
- Install BACR15BB8D
- Install BACB30FP6A hex drive bolt and BACC30M6 collar for a 3/16 hole and BACB30FP8A hex drive bolt and BACC30M8 collar for 1/4 hole.

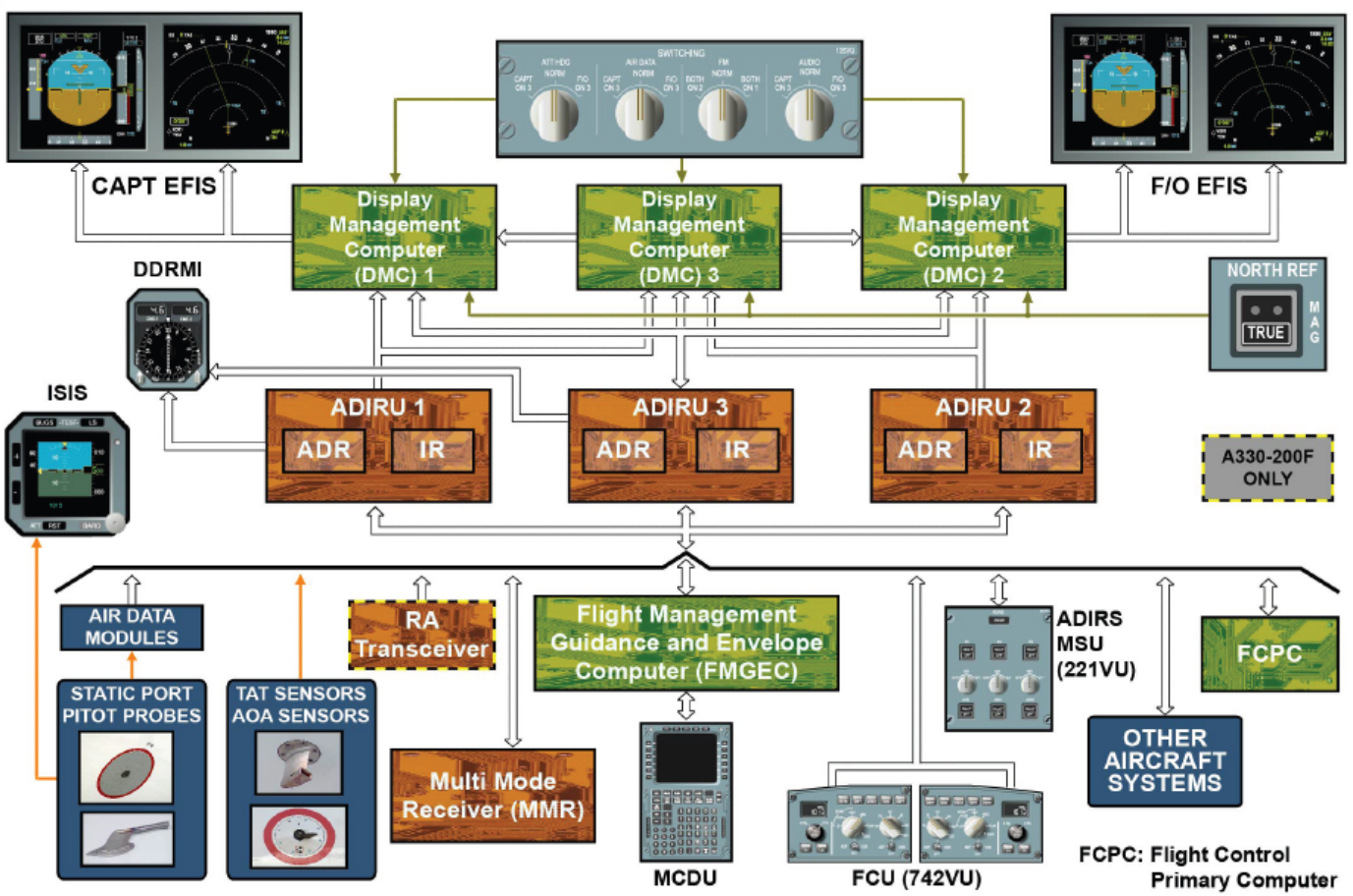
Repair Fastener Locations:
- Install BACR15BB6D

X SHOWN LOCATION WHERE BLIND FASTENERS INSTALLATION APPROVAL IS REQUIRED TO PERMIT THE A/C RTS AS SOON AS POSSIBLE.

DEVIATION FROM BOEING MESSAGE # AS2-AS2-17-0005-13B

# Tipical training manuals schematics



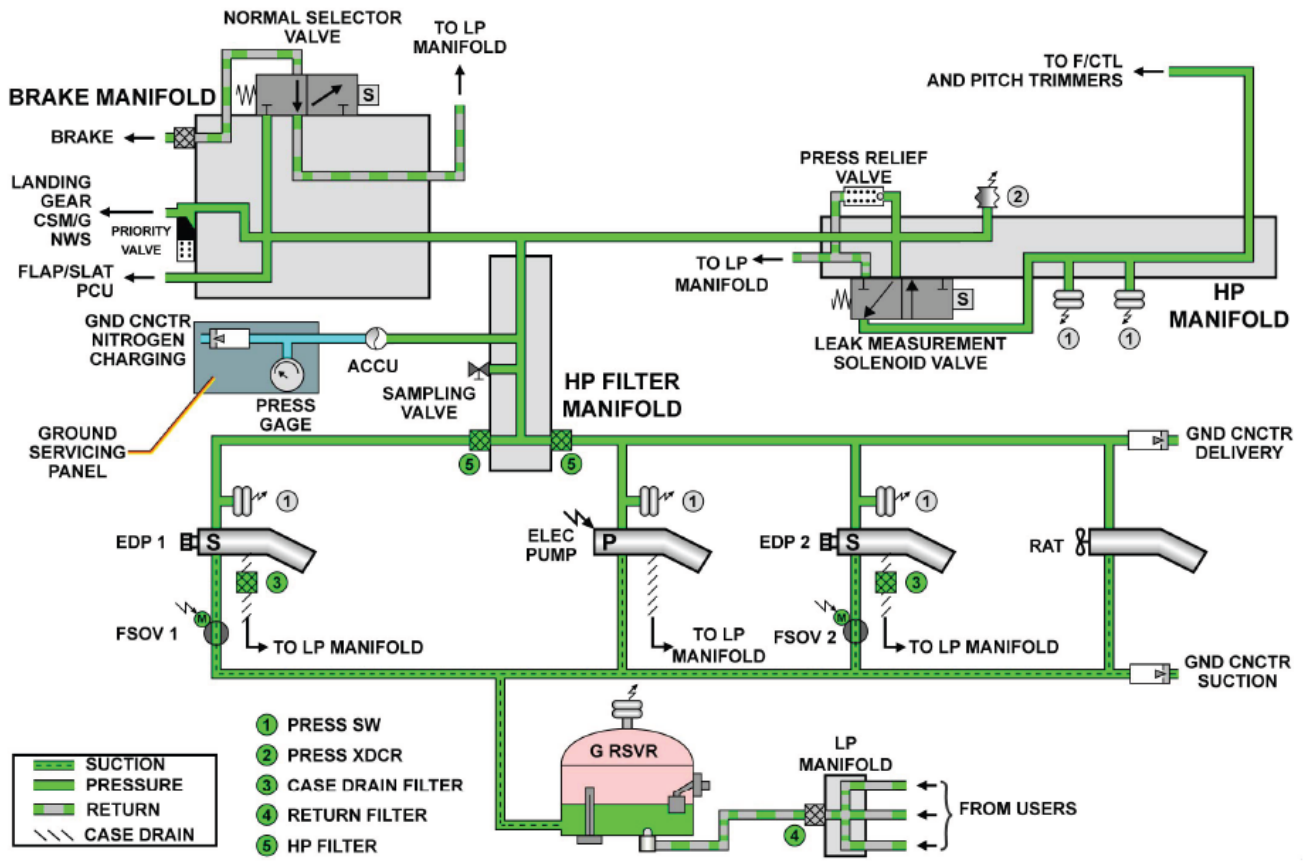



GCG13151 - GECT0DU - FM34DB000000001

ADIRS GENERAL - INPUTS ... INTERFACE

# Tipical training manuals schematics






SYSTEM DESCRIPTION - HP MANIFOLD


baStar.es


EC-MFS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# Customers


Alitalia
الإتحاد ETIHAD AIRWAYS
airberlin.com Your Airline.
Hifly
vueling
AVION EXPRESS
Blue Panorama
AleniaAermacchi
A Finmeccanica Company
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ATA airlines هواپیمایی آتا
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air HORIZONT
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العربية للطيران airarabia.com
AlbaStar.es

# Contacts

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Ente **FOC**
Formazione e comunicazione


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