



Lighthouse Project

From concepts to reality

Cross-Maintenance under EMARs:

improving operational efficiency

Military Airworthiness Conference

Bonn, 18th OCT 2023

Major (OF-3) Christoph Ölscher

Staff Officer Technical & Logistics Branch (EATC)



Agenda

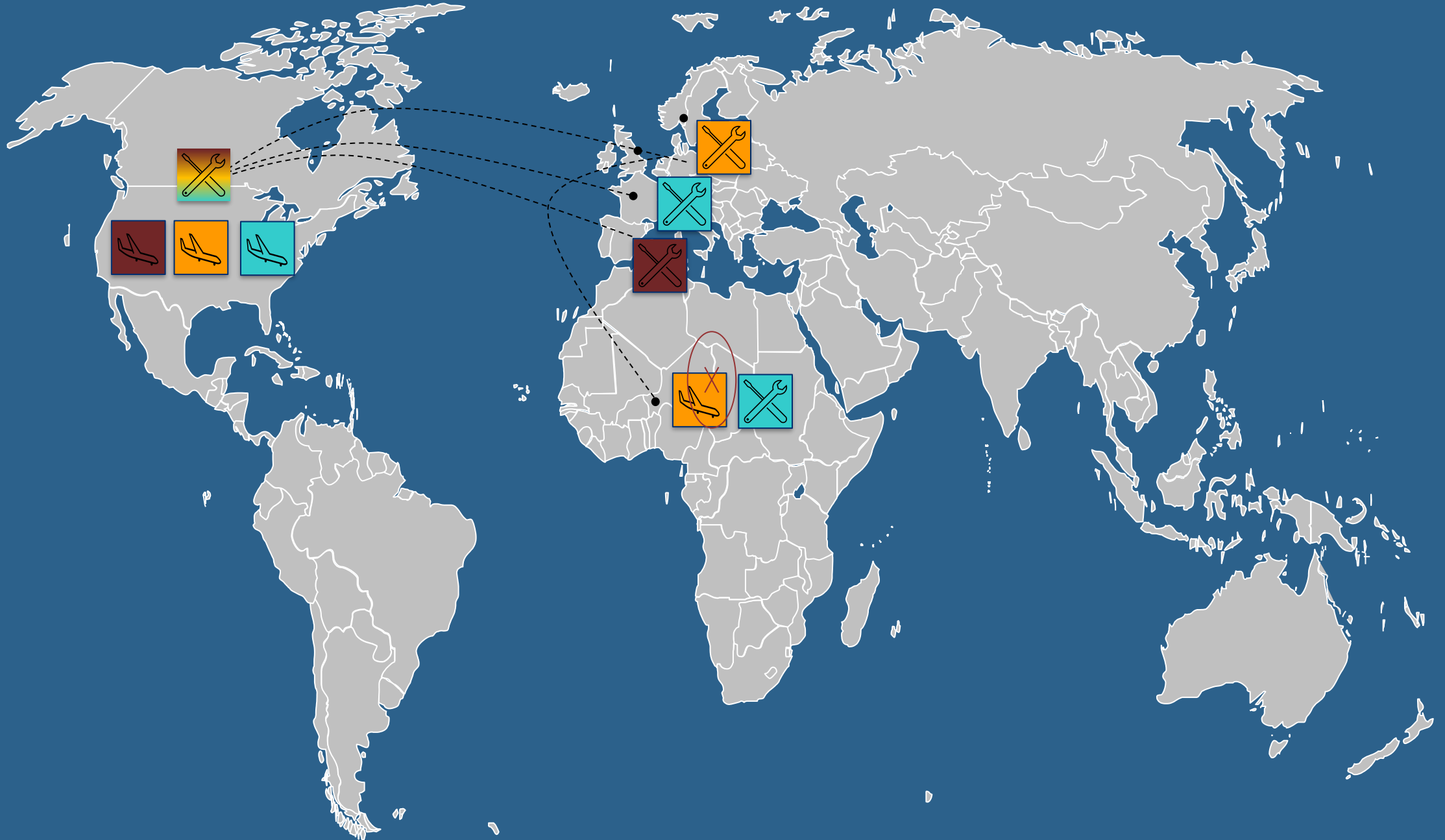
Military Airworthiness Conference 18th OCT 2023

Cross-Maintenance under EMARs: improving operational efficiency

1. What is Cross-Maintenance and why?
2. Requirements & Airworthiness artefacts
3. Lighthouse Project Cross-Maintenance events in 2023
4. Key messages



Cross-Maintenance is an operational need.



LIGHTHOUSE
PROJECT
CROSS -
MAINTENANCE

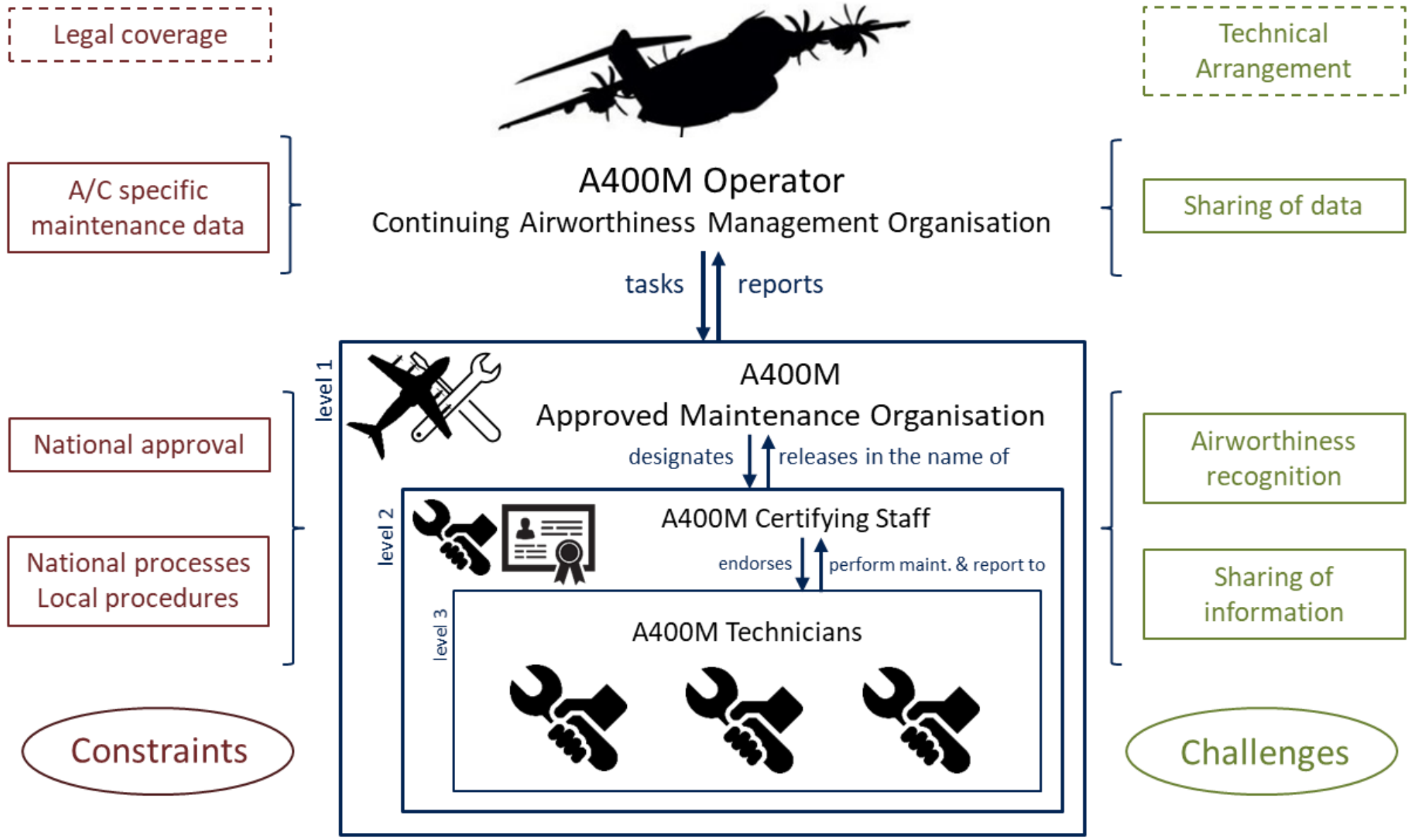
Cross-
Maintenance
Objectives



Cross-Maintenance

=

Integration of foreign elements at any level



EATC to define interface (↕) management, responsibilities, communication processes and common forms

Implementation of EATC X-maint OM



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Requirements



Certificate of Recognition

Reference N°: LufABw-MAA-003-20


of

Direction de Sécurité Aéronautique d'État
(DSAÉ)

as the competent Military Airworthiness Authority
performing Airworthiness oversight
of all aircraft under their Airworthiness auspices
and of organizations approved under their Authority
within the framework of EMAR/FR

by

Luftfahrtamt der Bundeswehr
(German Military Aviation Authority, GMAA)


Director General GMAA
Günter Katz
Major General

Cologne, 02 July 2020

Integrated, Innovative, Effective
European Air Transport Command



EATC Cross-Maintenance Operations Manual (EXOM)

A400M Aircraft

EATC, Functional Division

2023

Version 1.0



EATC Operations Manual Subpart M - Maintenance

TECHNICAL ARRANGEMENT
BETWEEN
THE MINISTER OF DEFENCE OF THE KINGDOM OF BELGIUM
AND
THE MINISTER OF DEFENCE OF THE FRENCH REPUBLIC
AND
THE FEDERAL MINISTRY OF DEFENCE OF THE FEDERAL REPUBLIC OF GERMANY
AND
THE MINISTER OF DEFENCE OF THE KINGDOM OF SPAIN
CONCERNING
CROSS-MAINTENANCE ACTIVITIES OPERATING THE A400M AIRCRAFT

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Airworthiness
Artefacts

EMAR	Artefact
EMAR 21G	Military Production Organisation Approval (POA) Form 1
EMAR 145	Maintenance Organisation Approval (MOA) Certificate of Release to Service (CRS) Form 1
EMAR 66	Military Aircraft Maintenance License (MAML)

Use-case	Artefact
ET	MOA with the appropriate scope of work
TAMO	MOA with the appropriate scope of work + CRS
One-off	-
SoS	For new components: POA + Form 1 For used components: MOA with the appropriate scope of work + Form 1

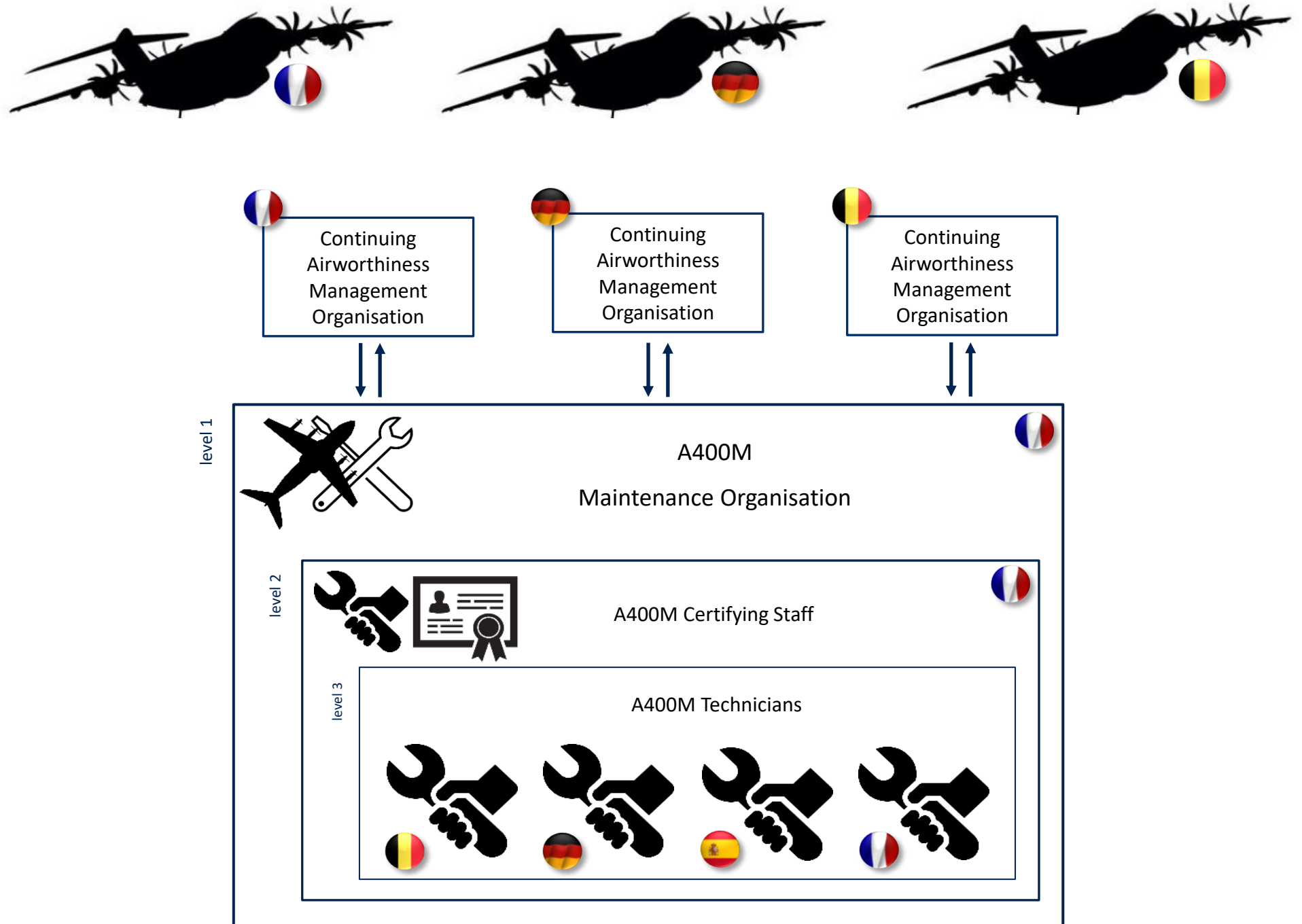


A400M Recognition Matrix

recognised recognising	BEL	DEU	ESP	FRA
BEL		<u>21G</u> POA + Form 1 <u>145</u> MOA + Form 1 + CRS <u>66</u> MAML	<u>21G</u> POA + Form 1 <u>145</u> MOA + Form 1 + CRS <u>66</u> MAML	<u>21G</u> POA + Form 1 <u>145</u> MOA + Form 1 + CRS <u>66</u> MAML
		Expires 30/11/2026	Expires 01/06/2026	Expires 30/11/2026
DEU	<u>21G</u> POA + Form 1 <u>145</u> MOA + Form 1 + CRS		<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML (Cat. B1,B2,C)	<u>145</u> MOA + CRS + Form 1
	Expires 31/05/2023		Expires 31/10/2023	Expires 30/09/2025
ESP	<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML	<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML		<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML
	Expires 01/06/2027	Expires 04/2027		Expires 06/2027
FRA	<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML	<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML	<u>145</u> MOA + Form 1 + CRS <u>66</u> MAML	
	Expires 17/06/2023	Expires 31/07/2025	Expires 31/07/2024	

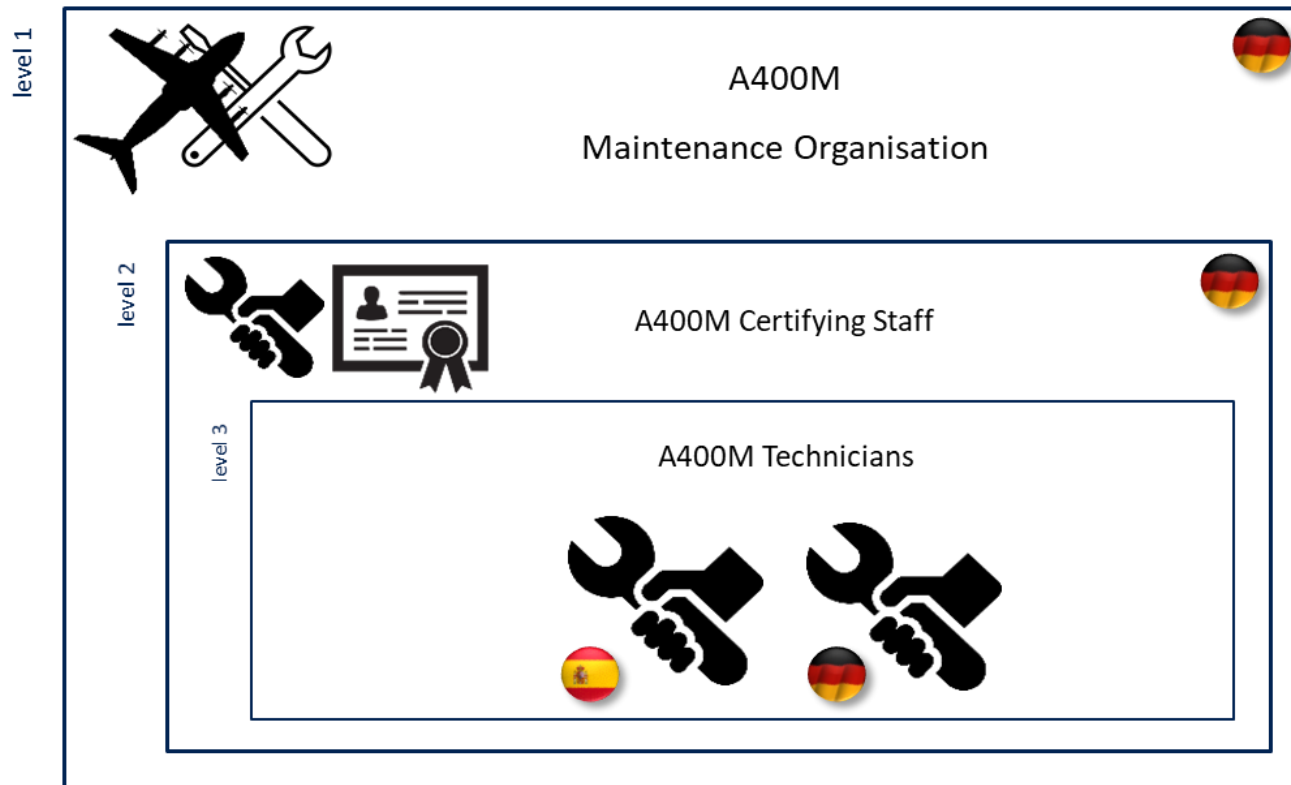
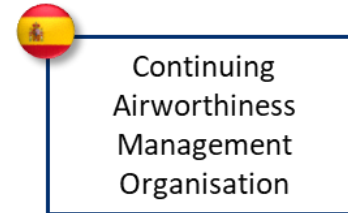
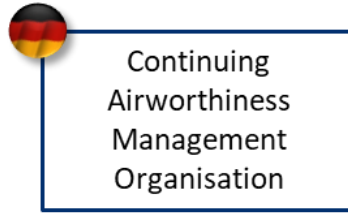
LIGHTHOUSE PROJECT CROSS - MAINTENANCE

Multinational
Maintenance
Team
(ETAP-C,
Orléans)



LIGHTHOUSE PROJECT CROSS - MAINTENANCE

Bi-national
Maintenance
Team
(GF23-10,
Alexandria)



LIGHTHOUSE PROJECT CROSS - MAINTENANCE

XM Rights Statement



Cross-Maintenance Rights Statement

Providing Nation	Nation: GERMANY	Rank / Name: [REDACTED]			
	Trade	<input type="checkbox"/> Cat. A	<input checked="" type="checkbox"/> Cat. B1	<input type="checkbox"/> Cat. B2	<input checked="" type="checkbox"/> MAML
		<input type="checkbox"/> Specialised Service Staff		<input type="checkbox"/> Other: Click or tap here to enter text.	
	Trained to	<input checked="" type="checkbox"/> Human Factors	<input checked="" type="checkbox"/> EWIS	<input checked="" type="checkbox"/> CDCCL	
	Rights	<input checked="" type="checkbox"/> Sign-off Rights	<input type="checkbox"/> Certifying Staff	<input type="checkbox"/> Support Staff	
Personal Means of Identification: 11723765					
Security Clearance Level: Nato Secret					
Medical Limitation <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes:					
Granted Rights					
Receiving Nation	<input type="checkbox"/> One-off Certification Authorisation		<input checked="" type="checkbox"/> Sign-off Rights		
	One-off Identification Number: Click or tap here to enter text.				
	Scope of employment: Click or tap here to enter text.		<i>Cat. B1 with sign-off rights being ETAC in Orleans</i>		

By signing this statement, both MOs confirm the acceptance of the principles established in the EATC Cross-maintenance Operations Manual. The Providing Nation's MO certifies that the mentioned information is correct. The Receiving Nation's MO confirms that according to the assessment of the competences internally performed, sign-off rights or certification authorisation are granted to the maintenance personnel in accordance with the scope defined in the XM Activities Form and the scope of employment if detailed.

The maintenance personnel is now considered as part of the Receiving Nation' MO and will follow its MOE procedures. This includes the possibility for him/her to sign-off the work he/she has personally performed, using his/her Personal Means of Identification or his/her signature. In case of one-off certification authorisation, this includes in addition the authorisation to release to service the aircraft, using the One-off Identification Number if any.

Providing Nation's Maintenance Organisation GAF LTG 62		Receiving Nation's Maintenance Organisation Click or tap here to enter text.	
Rank / Name	Wendland Hendrik	Rank / Name	<i>Lieutenant-colonel Jean Yemy RIZOUP</i> Click or tap here to enter text. <i>Personnel 13 061 "Loin"</i>
Date	Datum: 2023.05.23 12:13:47 +02'00'	Date	<i>06/06/2023</i> Click or tap to enter a date.



LIGHTHOUSE PROJECT CROSS - MAINTENANCE

XM Reporting Sheet

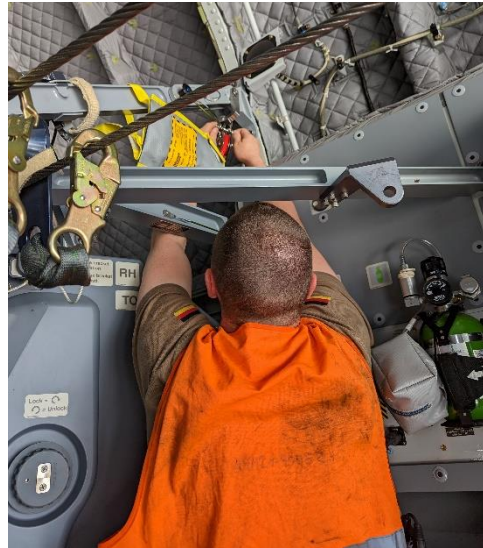


Date	14 Jun 23	Location	LFOJ	Cross-Maintenance Reporting Sheet #BAF/WO26321,26646,26648			Page number	1 out of 1		
Air Force / MO	BAF / BMAR-145	A/C type	A400M	Serial Number	MSN114	Flight Hours	785:17	Flight Cycles	356	
Report - Logbook entry							Name	Sijmons A.	Date	14 Jun 23
WO 26321: FUEL TANKS DRAIN OUTER WING TANK AND CENTER WING TANK WATER CONTENT Ref:AJ-A-28-11-00-01ZZZ-226Z-A WO 26646: WHEELS & TYRES, VISUAL INSPECTION OF CARBON BRAKE UNIT Ref:AJ-A-32-41-00-03ZZZ-281Z-A WO 26648: WHEELS & TYRES, FUNCTIONAL CHECK OF THE TYRE PRESSURE Ref: AJ-A-32-41-00-01ZZZ-362Z-A										
Work description - Corrective actions - WO 26321 Fuel Tank draining for water contents performed according to AJ-A-28-11-00-01ZZZ-226Z-A Area checked for FO; nothing found performed by GAF, CAT A, OR-6, Schmoe, DE.EMAR66.00409							Start of work Date 14.06.2023 Time 1530Z			
- WO 26646 Visual check of carbon brake units performed according to AJ-A-32-41-00-03ZZZ-281Z-A Area checked for FO; nothing found performed by GAF, CAT A, OR-6, Schmoe, DE.EMAR66.00409							End of work Date 14.06.2023 Time 1630Z			
- WO 26648 Tire pressure check performed according to AJ-A-32-41-00-01ZZZ-362Z-A Tire inflation kit S/N: 23240/003 of FAF used Area checked for FO; nothing found performed by GAF, CAT A, OR-6, Schmoe, DE.EMAR66.00409							Certificate of Release to Service Yes* <input checked="" type="checkbox"/> No <input type="checkbox"/> MO approval # ENAR/FR 145-002			
							Signature / Stamp 			
							Name SANDRIN Agreement # X17 Form 30.05-23		Date 14/06/2023	
*by ticking this box, the authorised signatory certifies that the work specified, except as otherwise specified, was carried out in accordance with the national implementation of EMAR 145 and in respect to that work the aircraft is considered ready for release to service.										



LIGHTHOUSE PROJECT CROSS- MAINTENANCE

Examples



German technician replaces
a lifting rope on FR A400M



French technician adjusts
Paratroop door on DE A400M

PART NO.	MANUFACTURER	PART NUMBER	QUANTITY	UNIT PRICE	TOTAL PRICE
1	SKYSCAPER	1000000000	1	1.000	

BE receives spare part
through FR HITW



German CS performs maintenance
on a fuel leakage on ES A400M



Spanish, French and Belgian technicians
perform oil refueling on DE A400M



Key
messages

Cross-Maintenance...

- I. ...complies with national adaptations of EMAR
- II. ...leads to increased operational efficiency and reduced logistic footprint

Recognitions...

- III. ...are key enabler for Cross-maintenance
- IV. ...must be clearly and accessible



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Questions

