



11th September 2024

SYNTHETIC SOLUTIONS FOR MAINTENANCE PRACTICAL TRAINING

ACCELERATING SUSTAINABLE CONNECTIONS



HOW TO BRING THE AIRCRAFT INTO THE CLASSROOM ?



PRACTICAL TRAINING IN
PROGRESS

PLEASE DO NOT DISTURB

EASA REQUIREMENTS

AIRCRAFT PRACTICAL TRAINING



COMPONENTS



SIMULATOR



AIRCRAFT

COMPLY WITH REGULATORY REQUIREMENTS



EASA ANNEX 3 PART 66 – CROSSTABLE ITEMS



*Easy Access Rules for Continuing Airworthiness
(Regulation (EU) No 1321/2014)*

Annex III (Part-66)

APPENDICES TO ANNEX III (Part-66)

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
36A Pneumatic — Monitoring and indicating	X/X	X	X	X	X	X	X	X	X	X	X
21 Air Conditioning	X/X	X	X	—	X	X	X	X	—	X	X

50%

To do or not to do...? On Aircraft or ...?



SOME TASKS CANNOT BE DONE ON AIRCRAFT

NEEDING TO DEFINE A SYNTHETIC TRAINING DEVICE SOLUTION

TRAINING NEEDS ANALYSIS (TNA)



REAL AIRCRAFT



SYNTHETIC AIRCRAFT

A PRACTICAL TNA FOR THE RIGHT BALANCE BETWEEN A/C & SYNTHETIC A/C



AIRCRAFT	SYNTHETIC A/C
ATA 12: SGH/LOC (50%)	X
X	ATA 21: RAI/FOT/MEL/TS (100%)
X	ATA 24: RAI/FOT/TS (100%)
ATA 45: LOC/FOT/TS (75%)	X
ATA 61: LOC/FOT (50%)	ATA 61: RAI/FOT/MEL/TS (100%)

FROM TNA TO STORYBOARDING

STORYBOARDING FRAME

TECHNICAL LOGBOOK ENTRY



TROUBLESHOOTING SCENARIO



REMOVAL &
INSTALLATION

OPERATIONAL
TESTS

DISPATCH
SOLUTION



ATR

TOWARD IMMERSION

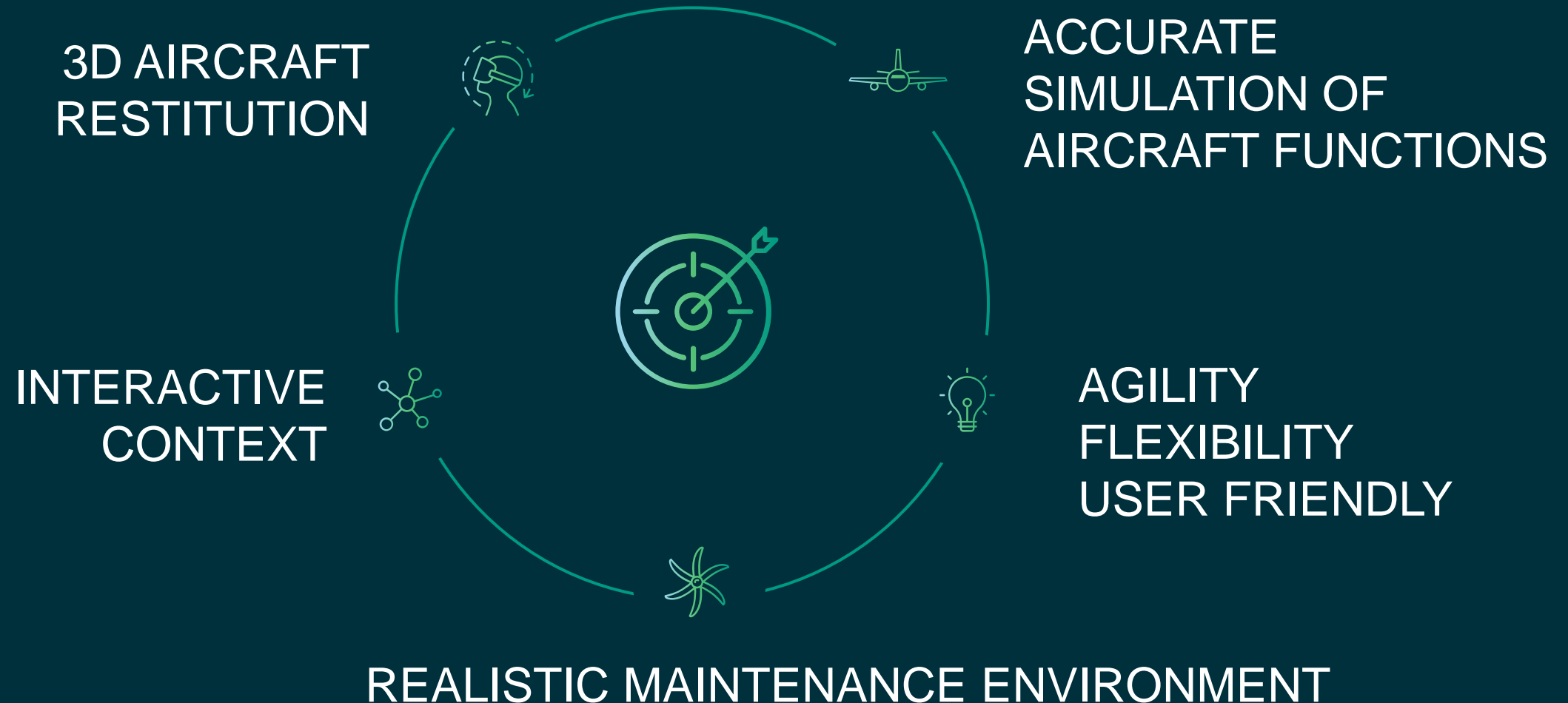
TNA

+

STORYBOARD



SYNTHETIC AIRCRAFT OBJECTIVES?



ATR 72-600 - FCV Flow Control Valve

ATR AIRCRAFT TECHNICAL LOG		MEL/CDL ITEMS ACCEPTANCE		LEGS	DL	FLIGHT TIME	OIL UPLIFT		NAME	SIGN.	W	E	F	E	L	D	E		
CAPTAIN NAME/SIGN. DUPOND				O R Y		0060	1	2											
F/O NAME/SIGN. DURAND				T L S															
F-GATC	240720	00019																	
A/C REGISTRATION	DATE	LOG PAGE NUMBER		AIRCRAFT ACCEPTANCE															
IDENTIFICATION		DEFECT / REMARKS				ACTION				STATUS									
ITEM 1	MAREP	Pack 1 FAULT in Flight. No bleed FAULT																	
FLT Nbr.	001																		
LEG	O R Y T L S																		
ATA CODE	2111																		
LOG REF.																			
OPE	<input type="checkbox"/>																		
ITEM 2	MAREP																		
FLT Nbr.																			
LEG																			
ATA CODE																			
LOG REF.																			
OPE	<input type="checkbox"/>																		
ITEM 3	MAREP																		
FLT Nbr.																			
LEG																			
ATA CODE																			
LOG REF.																			
OPE	<input type="checkbox"/>																		
ITEM 4	MAREP																		
FLT Nbr.																			
LEG																			
ATA CODE																			
LOG REF.																			
OPE	<input type="checkbox"/>																		
CAPTAIN REMARKS		ITEM 5		BASE MAINT. CHECK		LINE MAINT. CHECK		DOC. REF.		REV.									
		STA		PART 14SA50.....APRS		<input type="checkbox"/> ETOPS		<input checked="" type="checkbox"/> NOT ETOPS											
		DATE		IDNbr															
		UTC		SIGN.															

FAULT CHECK

AIRCRAFT TECHNICAL LOG BOOK

CHECK PACK FAULT ON MCDU
ENTER IN ACMS MENU.

ENTER ON CMC MENU

ENTER ON THE LAST FLIGHT REPORT
MENU

CHECK THE FAULT ON THE MCDU

FAULT ISOLATION

CHECK MAGNETIC INDICATOR ON RIGHT
HAND MAINTENANCE PANEL

ON MCDU, SELECT RETURN

ON MCDU, SELECT RETURN AGAIN

ON MCDU, SELECT MFC

ON MCDU, SELECT BASIC MEMORY

ON MCDU, SELECT NAVIGATION MENU

MFC HAS RECORDED A BITE CODE
COMING FROM IASC.
USE SMA TOOL TO TROUBLE SHOOT.

CONNECT SMA TOOL ON LEFT HAND
MAINTENANCE PANEL

START SMA TOOL

PRACTICAL COMPETENCIES ASSESSMENT



AIRCRAFT SYSTEMS KNOWLEDGE



SYNTHETIC AIRCRAFT BENEFITS?



DIGITAL TRANSFORMATION IN PROGRESS...

Extended Reality (XR)

Augmented Reality
(AR)

Mixed Reality (MR)

Virtual Reality (VR)

Low Immersion

High Immersion

DIGITAL, WHAT FOR?



LEARNING
BY DOING

TRUST
VECTOR

IMMERSIVE
LEARNING



COST SAVING \$\$

DIGITAL UP TO...



source: simbott.com

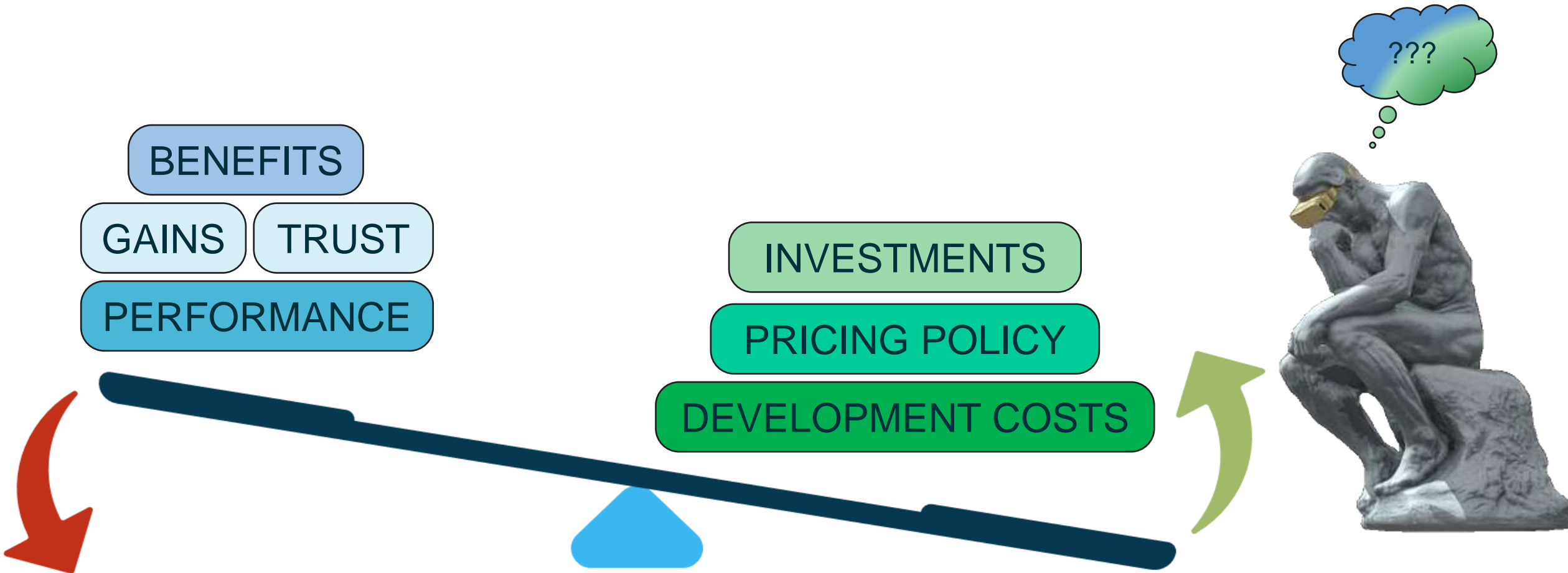


source: zapp2photo – stock.adobe.com



source: NLR Netherlands Aerospace Centre

...AND FINDING THE RIGHT BALANCE





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ACCELERATING SUSTAINABLE CONNECTIONS



Q & A

ACCELERATING SUSTAINABLE CONNECTIONS