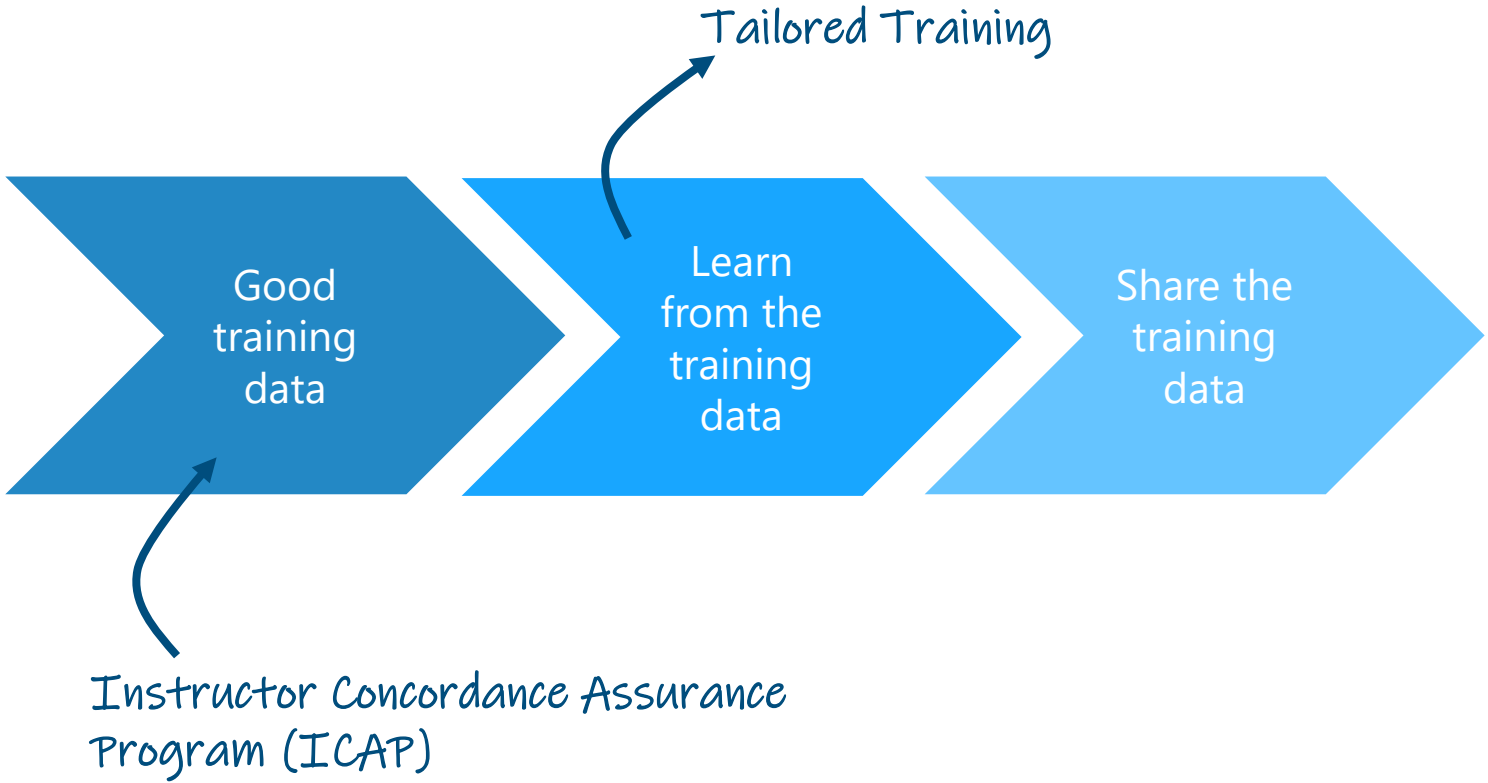
ICAP & the future of pilot training data

ICAO-IAC-IATA Moscow CBTA/EBT Webinar
26th November 2020

Captain Andy Mitchell BEng, FRAeS

What's our aim in CBTA?



Good data collection

SAFETY OFFICER

Good data collection

SAFETY OFFICER
Single Event
Low workload
No time pressure

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SAFETY OFFICER
Single Event
Low workload
No time pressure

SIM TRAINER

Good data collection

SAFETY OFFICER
Single Event
Low workload
No time pressure

SIM TRAINER
Multiple events
High workload
Time pressure

Good data collection

SAFETY OFFICER
Single Event
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SIM TRAINER
Multiple events
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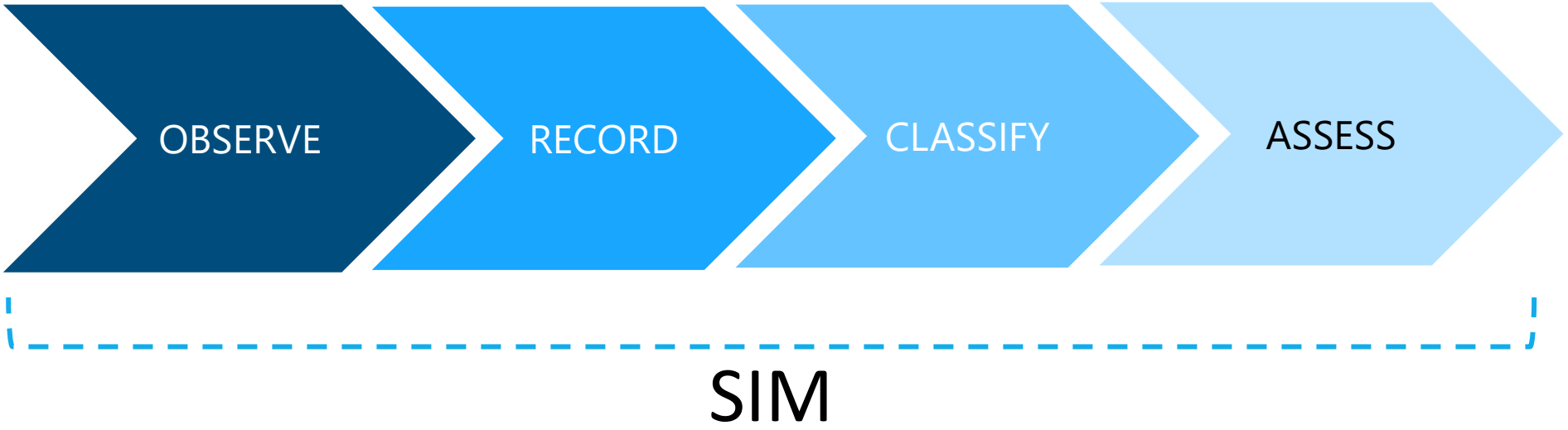
Current Data report

Future Data report

ORCA – Legacy



ORCA

OBSERVE

RECORD

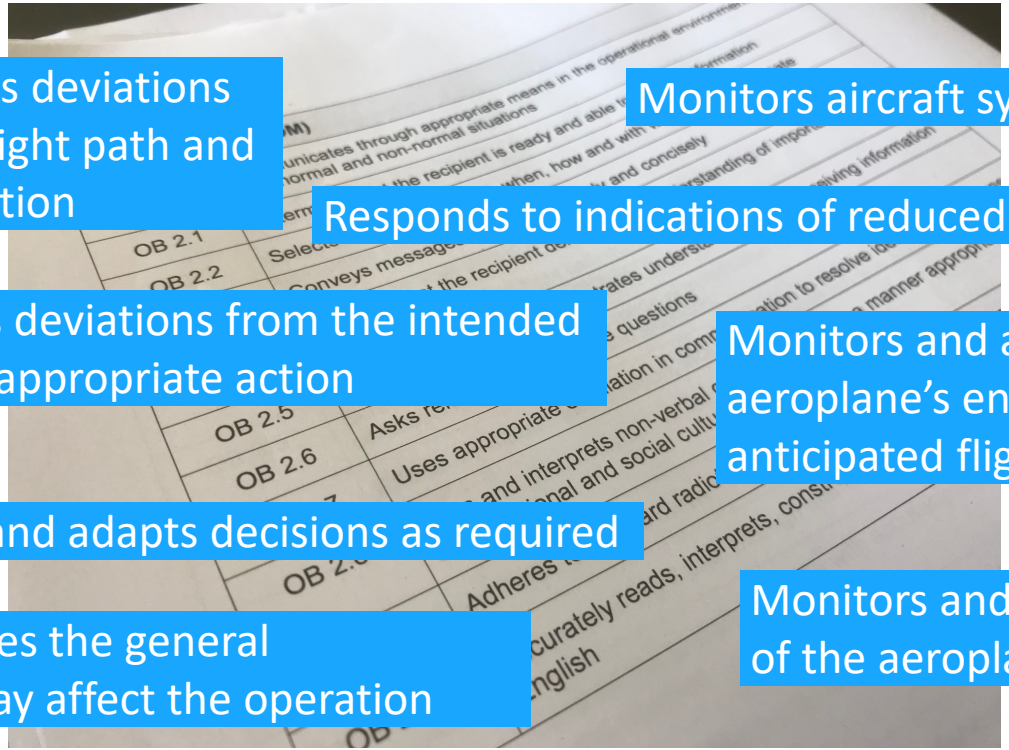
CLASSIFY

USE BEFORE FLIGHT

nlr

ORCA

OBSERVE → **RECORD** → **CLASSIFY**



Monitors and detects deviations from the intended flight path and takes appropriate action

Monitors aircraft systems status

Responds to indications of reduced situation awareness

Monitors and detects deviations from the intended flight path and takes appropriate action

Monitors and assesses the aeroplane's energy state, and its anticipated flight path

Monitors, reviews and adapts decisions as required

Monitors and assesses the general environment as it may affect the operation

Monitors and assesses the state of the aeroplane and its systems

USE BEFORE FLIGHT

nlr

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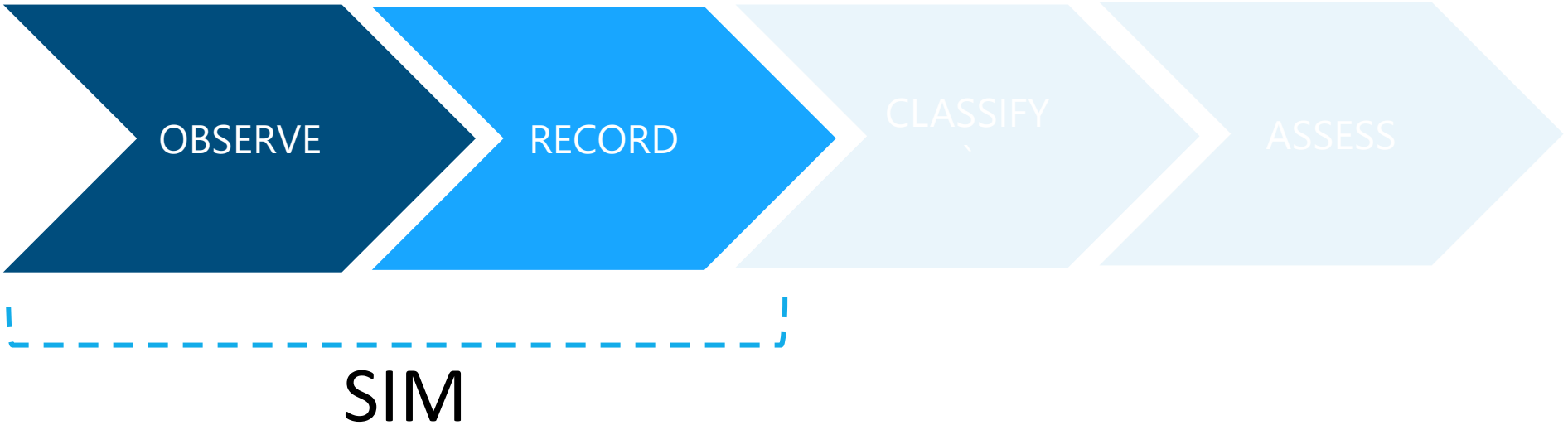
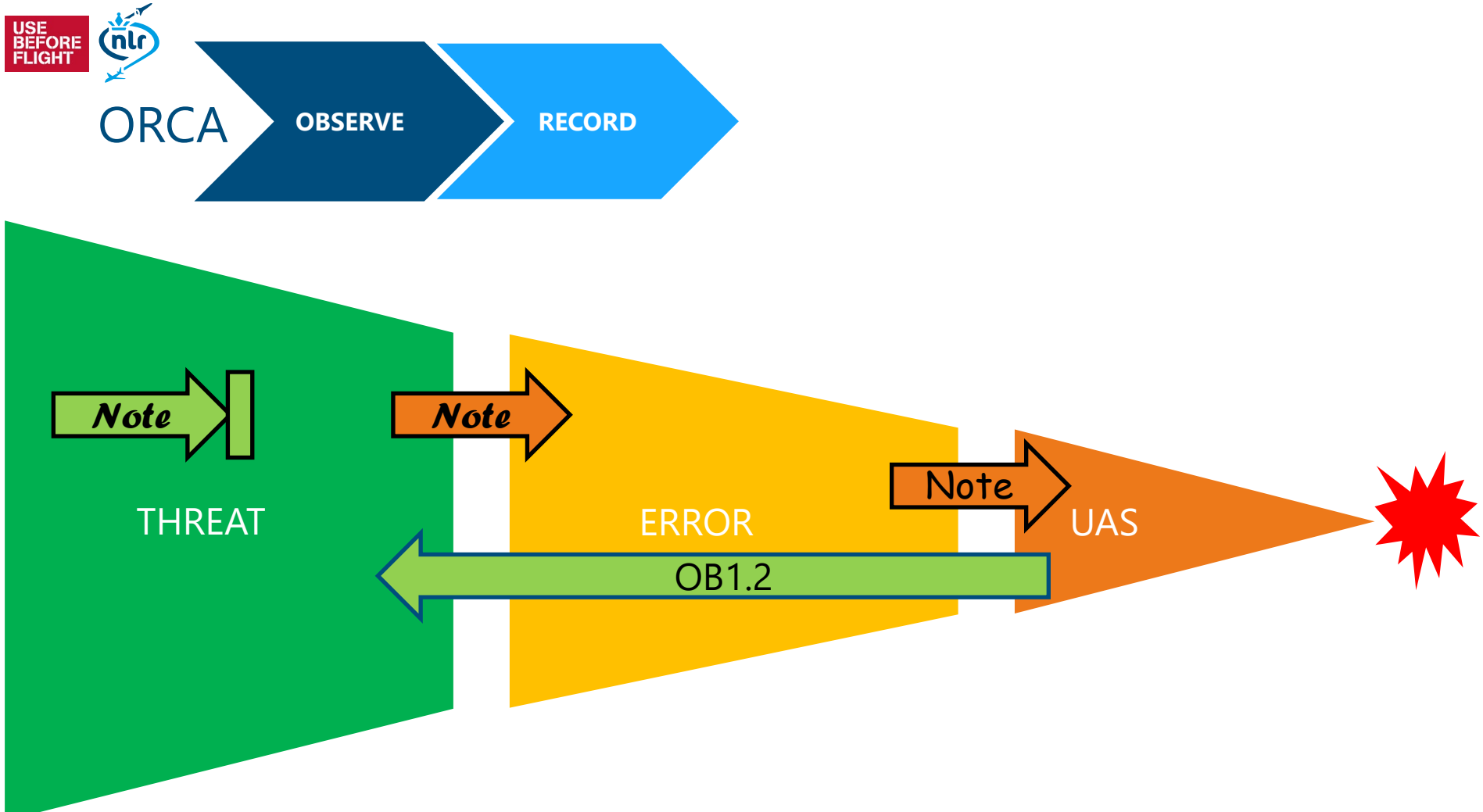
ORCA – CBTA/EBT





USE BEFORE FLIGHT

ORCA

CLASSIFY

KNO | PRO | COM | FPA | FPM | LTW | PSD | SAW | WLM

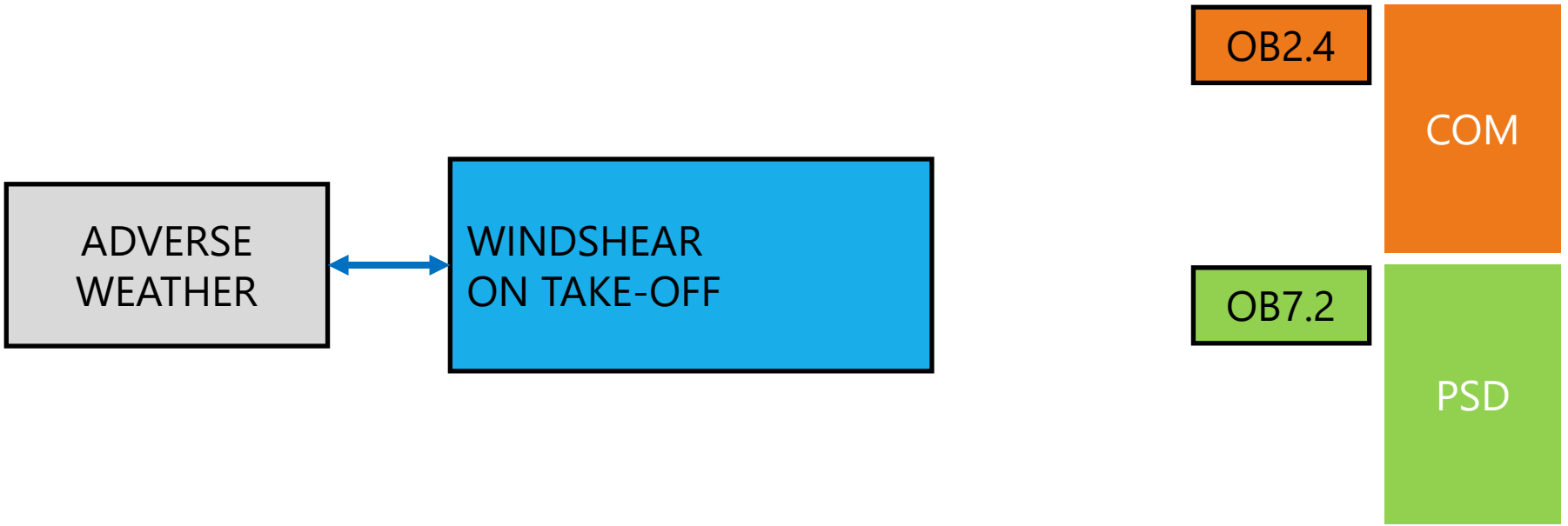
OB1.2	OB2.4	OB6.6	OB6.5
OB2.8	OB2.7	OB6.2	OB6.4

KNO	PRO	COM	FPA	FPM	LTW	PSD	SAW	WLM

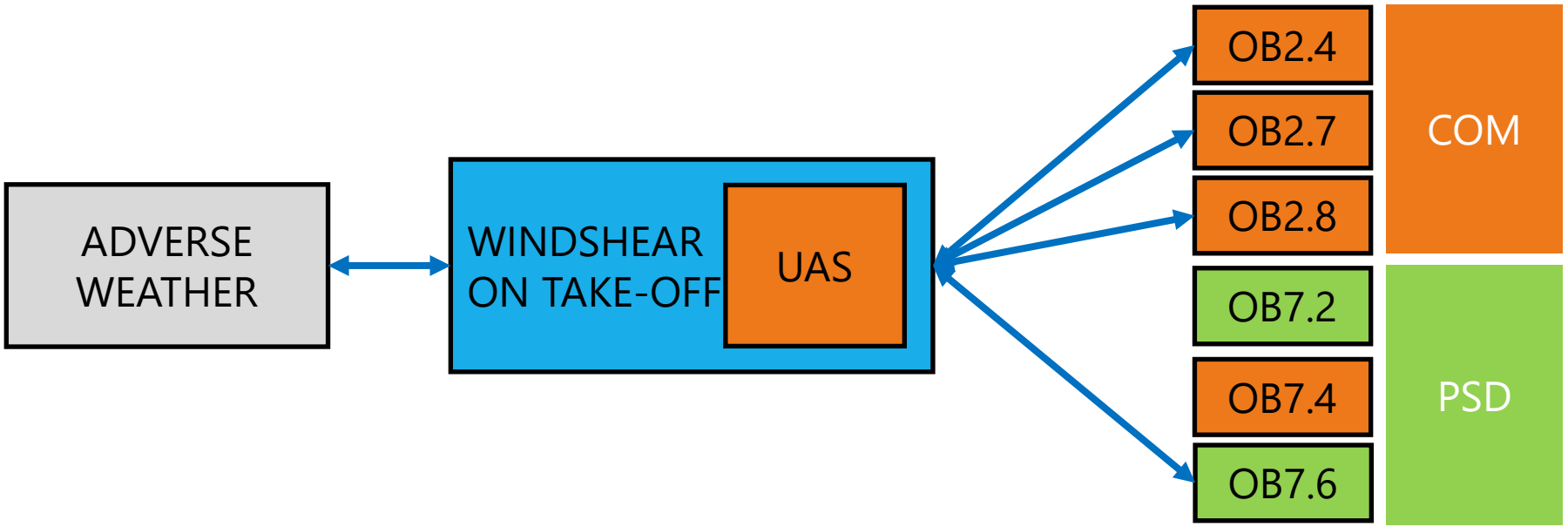
KNO	PRO	COM	FPA	FPM	LTW	PSD	SAW	WLM
		OB2.4				OB6.2		
		OB2.7				OB6.4		
		OB2.8				OB6.6		

KNO	PRO	COM	FPA	FPM	LTW	PSD	SAW	WLM
		OB2.4				OB6.2		
		OB2.7				OB6.4		
		OB2.8				OB6.6		

The future role of training data in the EBT data report



The future role of training data in the EBT data report



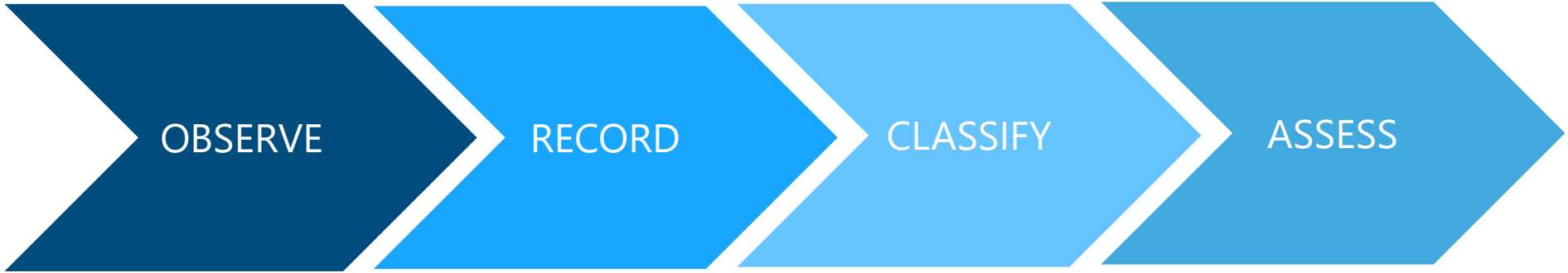
The future role of training data in the EBT data report

Automation management	A	CLB CRZ DES APP	The purpose of this topic is to encourage and develop effective flight path management through proficient and appropriate use of the flight management system(s), guidance and automation, including transitions between modes, monitoring, mode awareness, vigilance and flexibility needed to change from one mode to another. The means of mitigating errors are included in this topic. The errors are described as mishandled auto flight systems, inappropriate mode selection, flight management system(s) and inappropriate autopilot usage.	Know how and when to use the flight management system(s), guidance and automation. Demonstrate correct methods for engagement and disengagement of the auto flight system(s). Demonstrate appropriate use of flight guidance, auto thrust and other automation systems. Maintain mode awareness of the auto flight system(s), including engagement and automatic transitions. Revert to different modes when appropriate. Detect deviations from the desired aircraft state (flight path, speed, attitude, thrust, etc.) and take appropriate action. Anticipate mishandled auto flight system. Recognise mishandled auto flight system.	ACAS warning, recovery and subsequent engagement of automation	x		x						
		ALL			FMS tactical programming issues, e.g. step climb, runway changes, late clearances, destination re-programming, executing diversion	x		x						X
		CLB CRZ DES APP			Recoveries from TAWS, management of energy state to restore automated flight	x		x	x					
		CLB CRZ DES APP			Amendments to ATC cleared levels during altitude capture modes to force mode awareness and intervention	x		x				x		
		TO			Late ATC clearance to an altitude below acceleration altitude	x		x				x		
		TO APP			Engine-out special terrain procedures	x		x				x		
		CRZ			Forcing AP disconnect followed by re-engagement, recovery from low- or high-speed events in cruise	x		x	x			x		
		CRZ			Engine failure in cruise to onset of descent using automation	x		x						
		CRZ			Emergency descent	x		x						X
		DES APP			Managing high-energy descent capturing descent path from above (correlation with unstable approach training)	x		x				x		X
		APP			No ATC clearance received prior to commencement of approach or final descent	x		x				x		
		APP			Reactive wind shear and recovery from the consequent high-energy state	x		x				x		

TEM/OBs

TEM/OBs

ORCA - Demonstrating concordance



ORCA - Demonstrating concordance

ASSESS

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OBSERVE → RECORD → CLASSIFY → ASSESS

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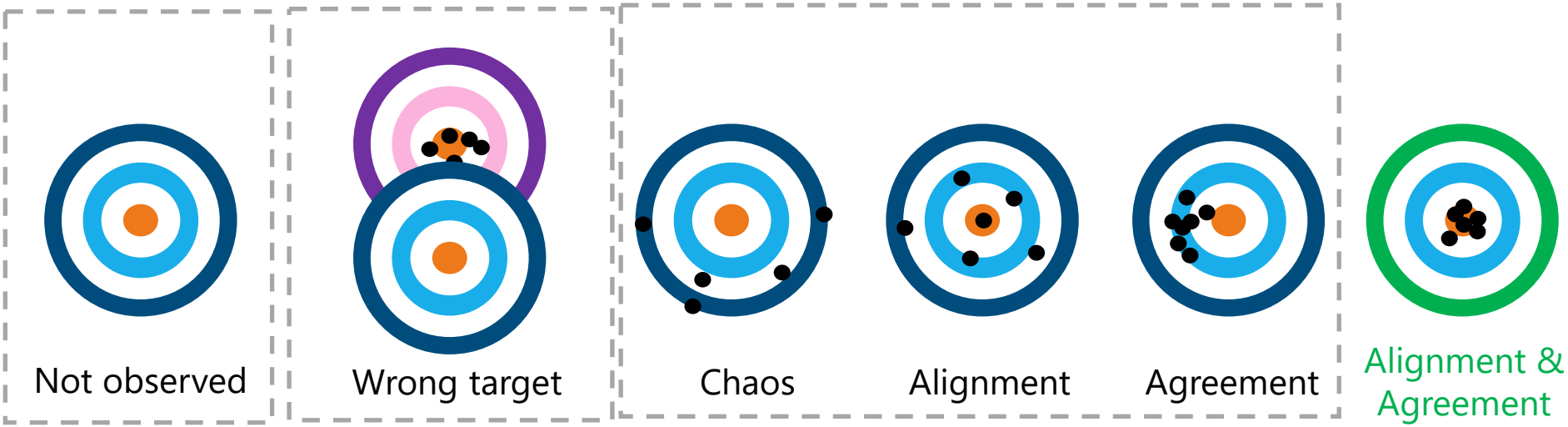
Types of concordance problems



ORCA - Demonstrating concordance

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Thank you! **Спасибо**

Questions & Feedback please