

Airbus Services

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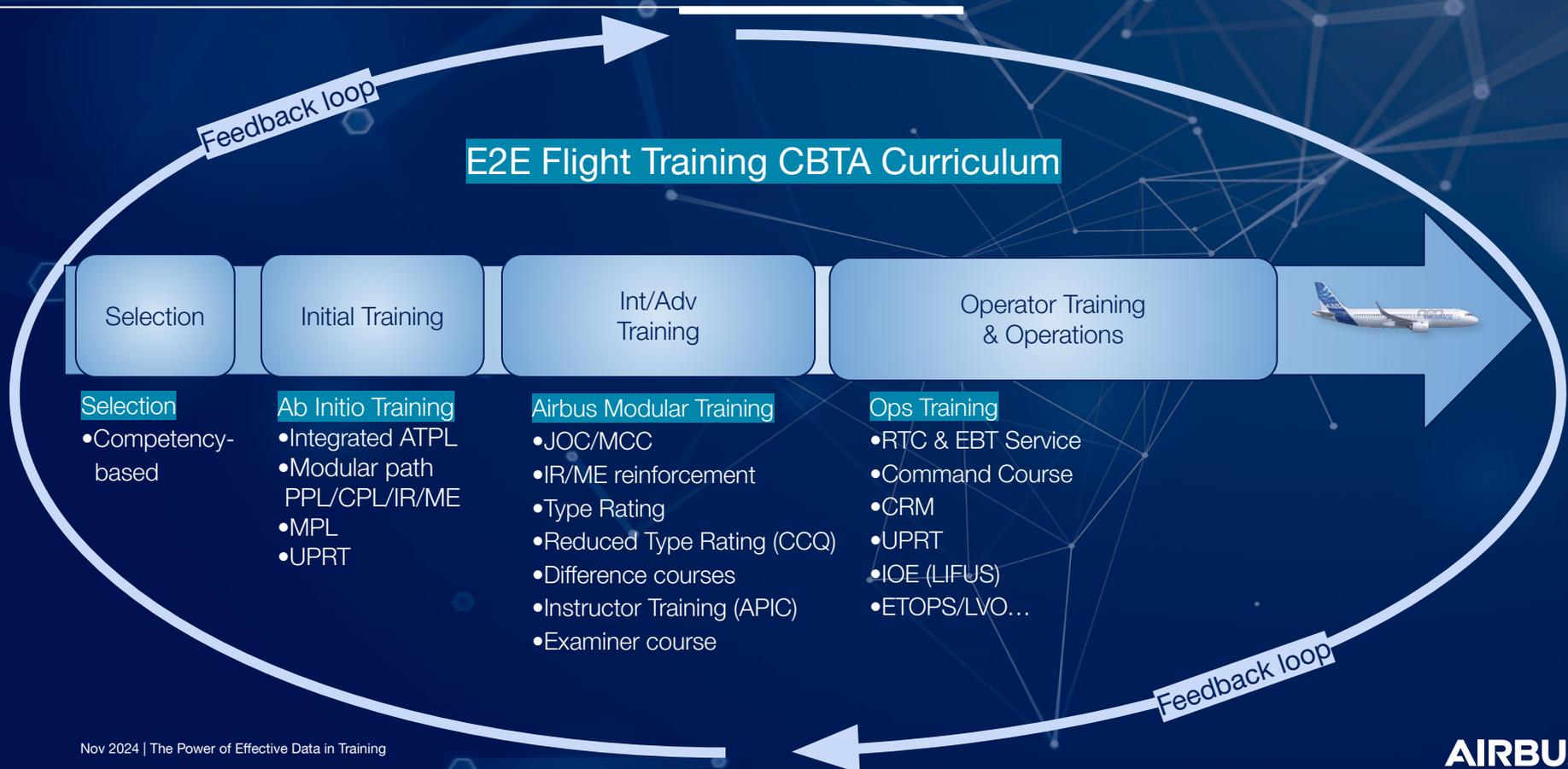
# The Power of Effective Data in Training

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EATS Cascais, 7th November 2024

**AIRBUS**

# Airbus Total System Approach



# Pilot Competency Development



	Selection	Initial Training				Int/Adv Training							Operator Training & Operations				
	Selection	Integrated ATPL	Modular Path PPL/CPL/IR/ME	MPL	UPRT	Difference Courses	Examiner Course	Instructor Training (APIC)	IR/ME Reinforcement	JOC/MCC	Reduced Type Rating (CCQ)	Type Rating	Command Course	CRM	ETOPS/LVO	IOE (LUFUS)	RTC & EBT Service
COM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
FPA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
FPM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
KNO	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
LTW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
PRO	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
PSD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SAW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
WLM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

# Extract from regulation on ‘Metrics’

## AMC1 ORO.FC.231(c) Evidence-based training

ED Decision 2022/014/R

### TRAINING SYSTEM PERFORMANCE — FEEDBACK PROCESS

- (a) Feedback process is the continuous process of collecting and analysing assessment and training data from an EBT programme.
- (b) The feedback process should use defined metrics to collect data in order to:
  - (1) identify trends and ensure corrective action where necessary;
  - (2) identify collective training needs;
  - (3) review, adjust and continuously improve the training programme;
  - (4) further develop the training system; and
  - (5) standardise the instructors (when the standardisation and concordance assurance programme is integrated into the training system performance).
- (c) The following defined metrics should be collected as a minimum:
  - (1) level 0 grading metrics (competent metrics): data metrics providing the information



Easy Access Rules for Air Operations

ANNEX III (Part-ORO)

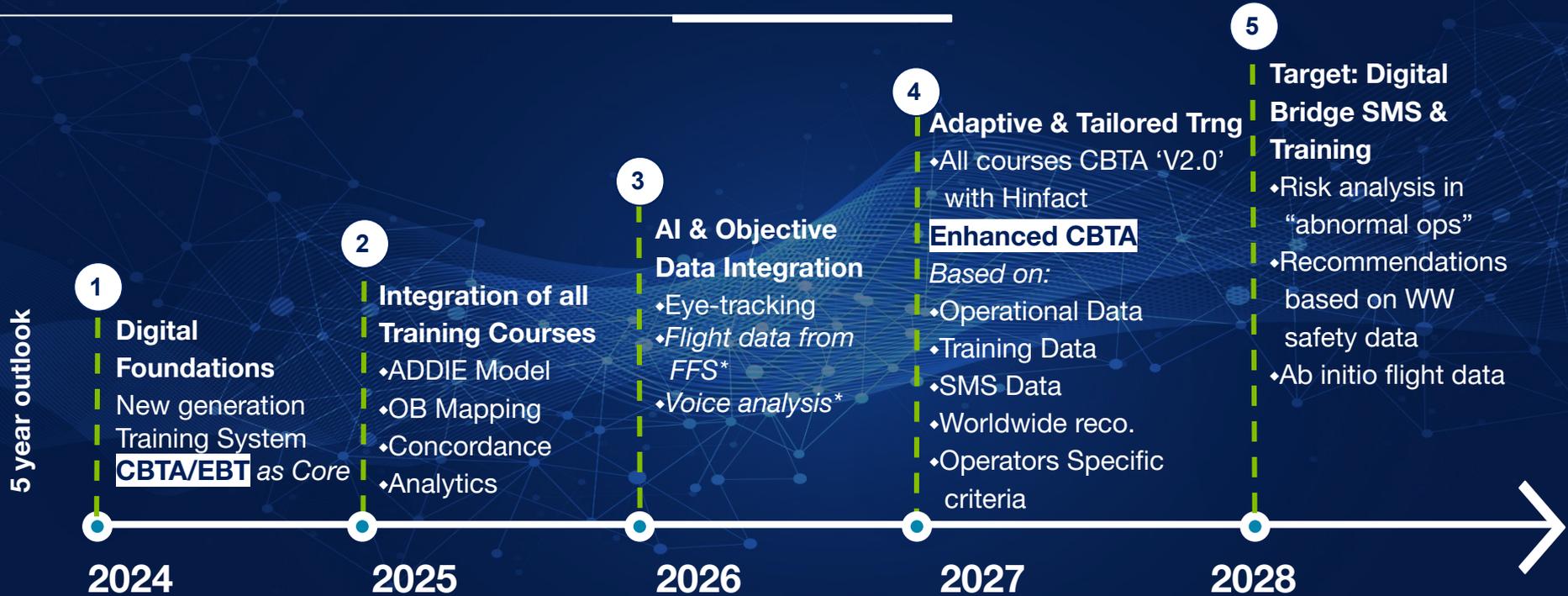
SUBPART FC: FLIGHT CREW

- (3) level 2 grading metrics (observable behaviour metrics): the instructors record predetermined OBs during the session;
- (4) level 3 grading metrics (other metrics): the instructors may record other data (e.g. abstract, specific tasks, actions, questions, etc.).
- (d) Alternatively, where a system for the measurement of training system performance already exists, the operator may use it and, if necessary, adapt it to meet the demands of EBT.

# Grading Metrics



# Airbus Training & Data Milestones



\*Under study







## 2

# Integration of Metrics in all courses

Flight Phase	Task	Subtask	SAW 7.1	SAW 7.2	SAW 7.3	SAW 7.4	SAW 7.5	SAW 7.6	SAW 7.7
3. PERFORM TAKE-OFF	3.1 Perform pre-take-off and pre-departure preparation	3.1.2 Checks correct runway selection	I	I	R	I	C	C	C

Monitors and assesses the state of the aeroplane and its systems

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

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

Validates the accuracy of information and checks for gross errors

Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected

Develops effective contingency plans based upon potential risks associated with threats and errors

Responds to indications of reduced situation awareness

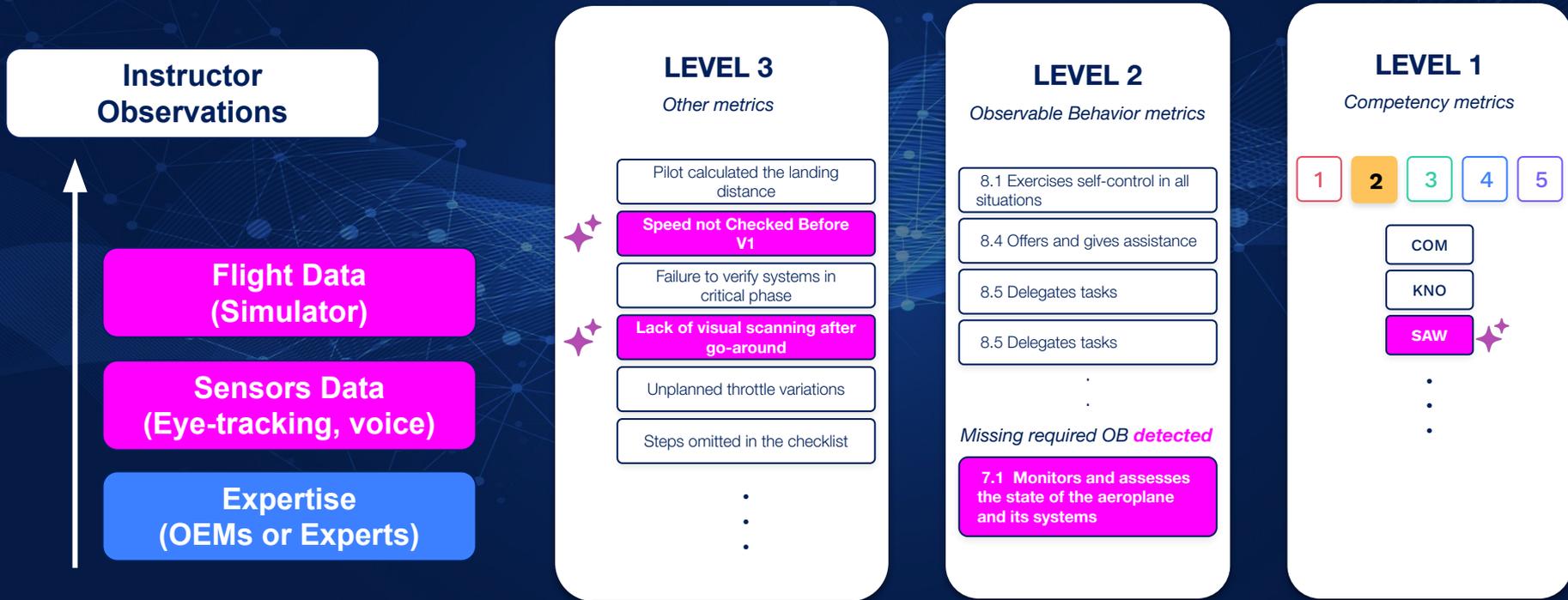
*I= Irrelevant, the OB is not supposed to be demonstrated*

*R= Relevant, the OB demonstration is required*

*C=Conditional, the OB demonstration depends on the context*

# 3

# Integration of AI and Objective Data



# 3

# Example



18:05 PM Wed Feb 22 100%

< Session debriefing Take-Off LFBO 32R

Take-Off Procedure

ALT (ft)  SPD (kt)

5117  
3964  
2811  
1658  
505

1152

00:00 02:30 03:41

PM: Speed check before V1

Overview Video Ocular Aircraft data StaticAnalytics

# 3

# Example



**FOCAL TARGET**

3

# Example



12:14 PM Wed Feb 2

< Home

Session Demo 2 pilots ⓘ

2min / 23min ⚙️ ↺ ▶️ ⏹️

00:00

202:51

Session Content

Ocular

Aircraft data

PF: SAW : A/C State monitoring (ECAM check after Flaps 0)

Take-Off Procedure: incomplete



12:13 PM Wed Feb 2

Home

Session Demo 2 pilots 3min / 23min

TAKE-OFF LFBO 32R

HUD AP LIVE

3min / 10min

DOWNWIND

HUD AP

5min

INITIAL APPROACH 32R

HUD AP

5min

APPROACH 32R

HUD AP

3min

GO-AROUND

HUD AP

3min

ADD ITT EXERCISE

TAKE-OFF LFBO 32R

KNO PRO COM FPA FPM LTW PSD SAW WLM 10min HUD AP LIVE

SAW : A/C STATE... CANCEL CLEAR SAVE

Who? PF CM1 PM CM2

KNO PRO COM FPA FPM LTW PSD SAW WLM

SAW

Appreciation

UNSATISFACTORY PARTIALLY SATISFACTORY SATISFACTORY

Observable behaviors

7.1 A/C STATE 7.2 ENERGY STATE 7.3 ENVIRONMENT

7.4 CHECK INFORMATION ACCURACY 7.5 MAINTAINS OTHERS AWARENESS

7.6 CONTINGENCY PLANS WITH TEM 7.7 RESPONDS TO REDUCED SAW

TAKE-OFF PROCEDURE: INCOMPLETE

Take-Off Procedure: incomplete

Session Content

Ocular

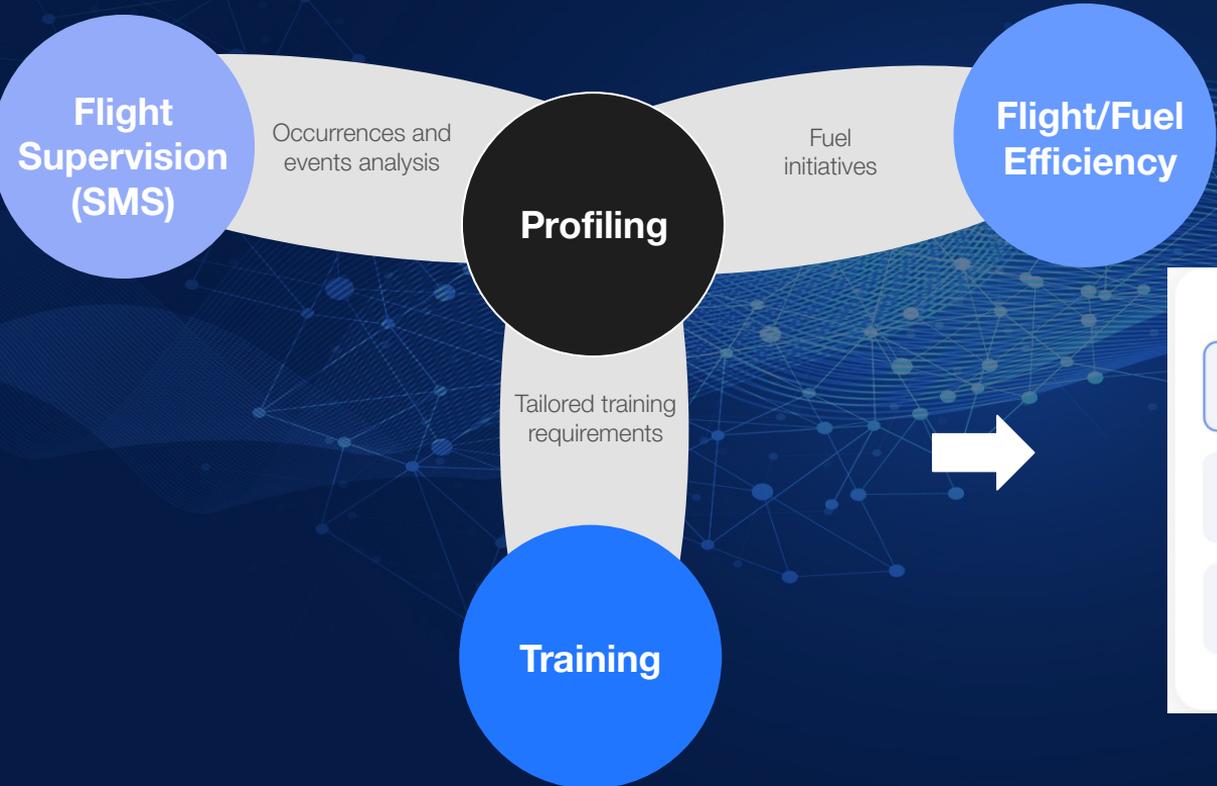
Aircraft data

OBSERVATIONS

COMP. OBS

BOOKMARK

# 5 Target: Bridge between SMS and Training



### RECOMMENDED EXERCISES

1	TRAFFIC	98%	👍
	PRO	Efficiency	Safety
2	AUTOFLIGHT MALFUNCTION	88%	👍
	PSD LTW SAW WLM FPM	Skills	
3	VISUAL APPROACH IN MRS	77%	👍
	PRO FPA FPM	Efficiency	Cost

⌚ 2:00 min

**ADD TO SESSION**

# Meet the Instructor: Arthur Intel

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Restricted visibility...



# Meet the Instructor: Arthur Intel

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Restricted visibility...

## **HISTORICAL DATA**

Data from previous sessions



# Meet the Instructor: Arthur Intel

Restricted visibility...

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions



# Meet the Instructor: Arthur Intel

Less restricted visibility...

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions



2

## E2E TRNG COURSES

ADDIE Model  
OB Mapping  
Concordance  
Analytics

# Meet the Instructor: Arthur Intel

Less restricted visibility...

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions



2

## E2E TRNG COURSES

ADDIE Model  
OB Mapping  
Concordance  
Analytics

## INSTRUCTORS

Instructor Policy  
Concordance  
Mindset & acceptance  
Invest in instructor

# Meet the Instructor: Arthur Intel

Increased visibility

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions



2

## E2E TRNG COURSES

ADDIE Model  
OB Mapping  
Concordance  
Analytics

## INSTRUCTORS

Instructor Policy  
Concordance  
Mindset & acceptance  
Invest in instructor

## AI & OBJECTIVE DATA INTEGRATION

Eye-tracking  
*Flight data*  
*Voice analysis*

3

# Meet the Instructor: Arthur Intel

Highly increased visibility...

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions



2

## E2E TRNG COURSES

ADDIE Model  
OB Mapping  
Concordance  
Analytics

## INSTRUCTORS

Instructor Policy  
Concordance  
Mindset & acceptance  
Invest in instructor

3

## AI & OBJECTIVE DATA INTEGRATION

Eye-tracking  
*Flight data*  
*Voice analysis*

4

## ENHANCED CBTA

Operational Data  
Training & SMS Data  
Worldwide reco.  
Operators Specific criteria

# Meet the Instructor: Arthur Intel

Full 360° visibility

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions

## AUTOMATIC

Realtime analysis + historical  
data: propose recommended  
exercises or e-learning based  
on individual & operational  
metrics

2

## E2E TRNG COURSES

ADDIE Model  
OB Mapping  
Concordance  
Analytics

## INSTRUCTORS

Instructor Policy  
Concordance  
Mindset & acceptance  
Invest in instructor

3

## AI & OBJECTIVE DATA INTEGRATION

Eye-tracking  
*Flight data*  
*Voice analysis*

4

## ENHANCED CBTA

Operational Data  
Training & SMS Data  
Worldwide reco.  
Operators Specific criteria



# Total System 360° Approach

Full 360° visibility

1

## DIGITAL FOUNDATIONS

New gen training system  
CBTA/EBT methodology as  
Core

## HISTORICAL DATA

Data from previous  
sessions

## AI, ADAPTED & TAILORED TRAINING

based on historical data

## AUTOMATIC

Realtime analysis + historical  
data: propose recommended  
exercises or e-learning based  
on individual & operational  
metrics

2

## E2E TRNG COURSES

ADDIE Model  
OB Mapping  
Concordance  
Analytics



360° VIEW

CAPTURE THE INVISIBLE  
EXTENSIVE TRAINING & SAFETY  
IMPACT

## INSTRUCTORS

Instructor Policy  
Concordance  
Mindset & acceptance  
Invest in instructor

## AI & OBJECTIVE DATA INTEGRATION

Eye-tracking  
Flight data  
Voice analysis

3

## ENHANCED CBTA

Operational Data  
Training & SMS Data  
Worldwide reco.  
Operators Specific criteria

4

# Impact of Effective Data in Training

Thanks to the **effective use of data**, big changes are to come with some **impact...**

## Be prepared!



The **role of the Instructor** will change greatly



**Detect** the unexpected threats that progress and countermeasures can bring



Use the **right tools** to capture the right data, flight... SMS... data

1

TRAINING AND  
SAFETY ARE ONE





**HINFACT**

Thank you

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**AIRBUS**