

EASA AI Days 2026

Lunch break – 12:30 to 13:30

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Passcode: nyg15q



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EASA AI Days 2026

Panel of discussion: How to harmonize the different approaches on AI



Moderator: Ines Berlenga
Tech Lead 'Ethics for AI'



Trung Pham
FAA



**Rosenberg
Andre Da Silva**
ANAC



Peter Tsagaris
TCCA



Nive Sivanathan
CAA-UK



Ping Zhang
CAAC



Giovanni Cima
EASA

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Introduction

AI Approach to Harmonization

Trung T. Pham, Ph.D.

trung.t.pham@faa.gov

September 9-10, 2026



**Federal Aviation
Administration**

Top Three Challenges



- **Scope:** the breadth of AI applications makes common criteria challenging: from AI technologies used in developing a design, compliance documentation, and AI in an aircraft or ATM system
- **Legal Framework:** Potential conflict between Aviation framework and new AI-specific laws; while aviation legislation is consistent among States, AI-specific laws may diverge
- **Pace and Inexperience:** while AI technology is advancing quickly, aviation has very little experience to assuring its safety

Proposed Priorities for Harmonization



Application-Specific and Learned AI in Aircraft and ATM Systems

**Manage within aviation framework
Apply proportionality (from no
effect to catastrophic)**

General Purpose AI in Aircraft and ATM Systems

**Area of research and
informing new AI law**

Application-Specific and General Purpose AI in Product Development, Certification, Production, Operation

**Manage within aviation framework,
applying practices and experience
from other industries**

**National laws may also apply
but are outside CAA
responsibility**

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EASA AI Days 2026

How to harmonize the different approaches on AI

Cologne

September, 2026

Main challenges associated with AI in aviation

01

Assurance of AI behavior

AI behavior is dependent on data and may be statistical in nature. Adequate assurance requires evidence that the intended function is performed with sufficient confidence throughout the defined operational domain, including relevant boundary, rare and previously unobserved conditions.

02

Adequacy of existing assurance approaches

Conventional development assurance cannot, in all cases, be directly applied to learning-based systems. Additional or adapted objectives may be necessary for data, learning processes, generalization, robustness, uncertainty, explainability and associated verification activities.

03

Regulatory differences and technological evolution

Different regulatory frameworks and different rates of incorporation of AI-specific provisions may result in divergent certification expectations, particularly while the technology and the associated assurance approaches remain under development.

Proposed minimum scope for harmonization

1

REGULATORY PRINCIPLES

Compatible regulatory safety objectives, including the scope and conditions for acceptance of AI-based functions, relevant human oversight, and boundaries applicable to adaptive or learning behavior.

2

ASSURANCE OBJECTIVES

Sufficient alignment of the objectives applicable to system safety, data assurance, learning assurance, generalization, robustness, uncertainty, explainability, independence and verification.

3

MEANS OF COMPLIANCE

A common understanding of the minimum evidence necessary to substantiate compliance and of the corresponding acceptance criteria, while allowing different standards, guidance material and means of compliance.

4

LIFECYCLE, CHANGE AND VALIDATION

Common principles for configuration control, model and data changes, in-service monitoring, reassessment thresholds, and acceptance or credit of certification evidence generated under another authority.



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Artificial Intelligence in Canadian Civil Aviation

A Product Certification Perspective by Transport Canada

Peter Tsagaris

Engineering Manager, Electronic Equipment Design Assurance, National Aircraft Certification

Transport Canada / Government of Canada



Transport
Canada

Transports
Canada

Canada

AI in Product Certification

TCCA's Experiences & Challenges Faced

- Experience
 - Approved and ongoing type design applications and validations incorporating machine learning technologies
 - Current approvals involve advisory or assistive functions with no safety-critical decision authority (Level 1 AI)
 - Implementations aligned with lower Development Assurance Levels (DAL C)
 - Certification achieved using existing airworthiness frameworks, supplemented with project-specific guidance and AI-specific assurance objectives
- Key Challenges
 - Integrating AI Into Existing Certification Frameworks
 - AI incorporation was often identified late in the design and certification/validation life-cycle
 - No specific regulations, standards, or accepted Means of Compliance readily available
 - Reliance on the most mature available guidance, engineering judgement
 - Existing frameworks remained applicable but required project-specific guidance and additional assurance objectives
 - Questions emerged regarding impacts on established technical disciplines, certification responsibilities, oversight models, and delegated authority
 - Expertise is a Limiting Factor
 - AI expertise is limited and concentrated among a small number of specialists within both industry and authorities
 - Successful certification required blending AI expertise with traditional certification and safety disciplines
 - Additional assurance expectations were not always readily understood
 - Organizational resiliency becomes a concern when expertise is concentrated among few specialists
 - Technical & Life-cycle Assurance
 - Defining and demonstrating acceptable behaviour outside the trained Operational Design Domain
 - Identifying and assessing edge cases and scenarios with uncertainty
 - Incorporating AI into vintage products and development environments
 - Obtaining access to training, validation, and performance data where proprietary considerations exist

AI in Product Certification

TCCA's View to the Future

- Focus area: Harmonization of Core AI Trustworthiness Principles
 - Establish common expectations across jurisdictions for topics such as:
 - Life-cycle Assurance & Proportionality
 - Explainability & Human-AI Interaction
 - Continuous Safety Assessment
- Focus area: Harmonization of Means of Compliance
 - Recognition and acceptance of AI-related standards and associated Means of Compliance across authorities
 - Should a single globally recognized "de facto" standard emerge, or can multiple standards coexist?
 - Where multiple standards or approaches exist, establish confidence that they provide an equivalent level of AI trustworthiness
 - Assess alignment against Core AI Trustworthiness Principles
 - Apply an agreed gap assessment methodology
 - Define acceptable gap resolution strategies
- Key Enablers
 - Authority-to-Authority Collaboration
 - e.g. CMT TST on Machine Learning Certification Policy Harmonization
 - Concurrent Certification and Validation
 - Greater exposure and shared learning
 - Improved consistency and policy refinement
 - Standards Development and Knowledge Sharing
 - e.g. Industry committees such as SAE G-34/EUROCAE WG-114, emerging RTCA activities

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UK CAA - EASA AI Days

How to harmonise the different approaches on AI

Nive Sivanathan

Cyber and AI Assurance Specialist

09 Sept 2026



Top Three Challenges of AI in Aviation

Learned behaviour

- Can we trust what it has learned?

Boundaries & Change

- Do we know where not to trust it?

System Integration

- Can the system remain safe when AI is wrong?

Minimum Harmonisation for mutual acceptance

Common Language

- Are we assessing the same thing?

Common Assurance Objectives

- Are we demanding equivalent evidence?

Common Acceptance and Change Principles

- Can I trust your finding and know when it stops being valid?

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How to Harmonize Different Approach on AI



CAAC

September 8th, 2026



1. three challenges/difficulties about AI in aviation

- challenge to the traditional regulatory structure, which requires the deterministic design
 - ❑ intended function
 - ❑ unexpected behavior
- data validity, credibility and sufficiency compared to the actual scenarios
- For Level3 AI, the application of “operational oversight system” concept
 - ❑ natural man vs. airborne system
 - ❑ trustworthiness of oversight system vs. AI-based system
 - ❑ pilot-on-board vs. remote monitoring system



2. minimum scope for harmonization proposed

- more research on data, scenario, interface with traditional airborne systems
- a step-by-step methodology to promote AI application in initial certification
 - ▣ different civil aviation product categories (unmanned, restricted, general aviation)
 - ▣ different safety criticality airborne systems
- limitations on the use of AI-based systems
 - ▣ flight phase
 - ▣ predefined boundaries on the ML/LKB



Thanks for your listening



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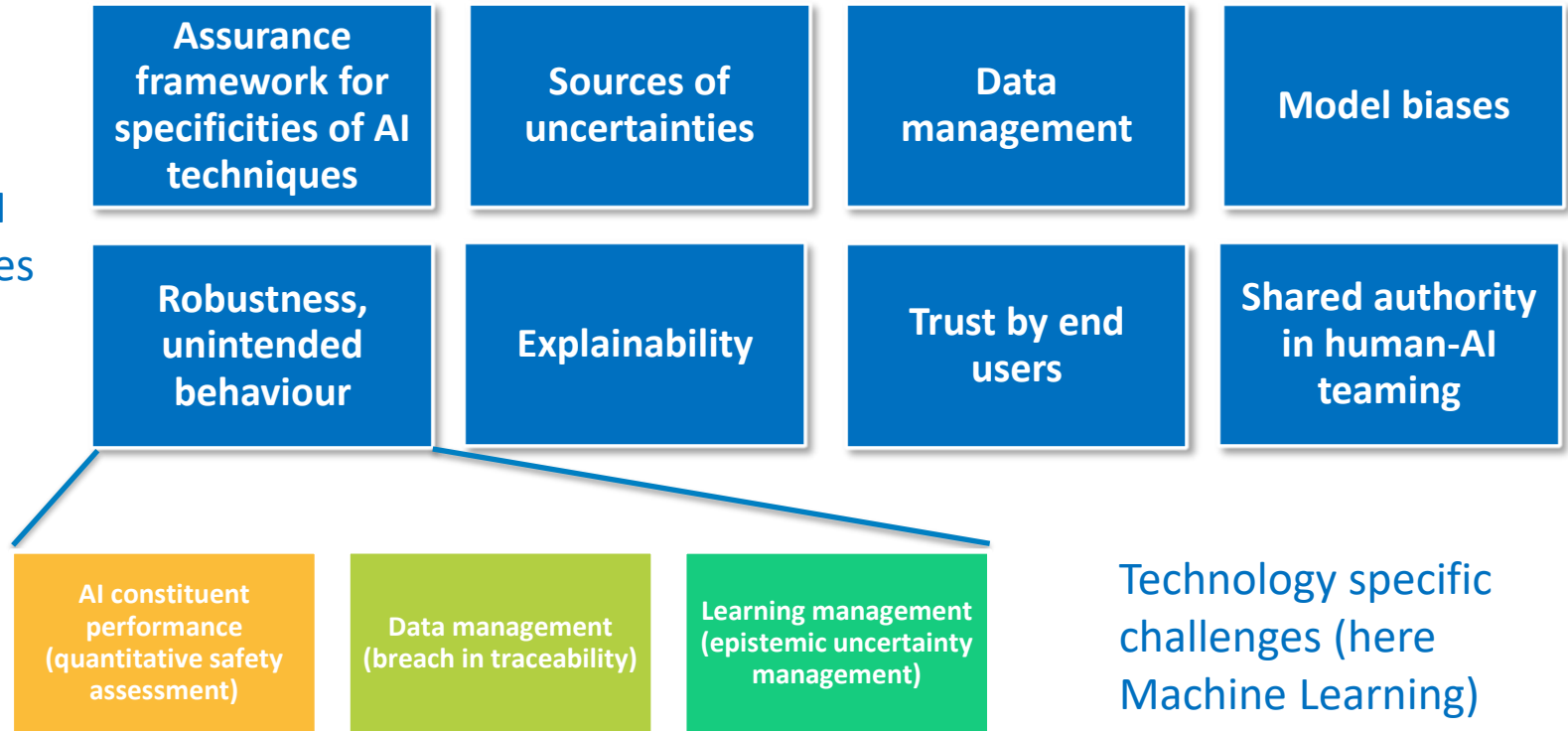
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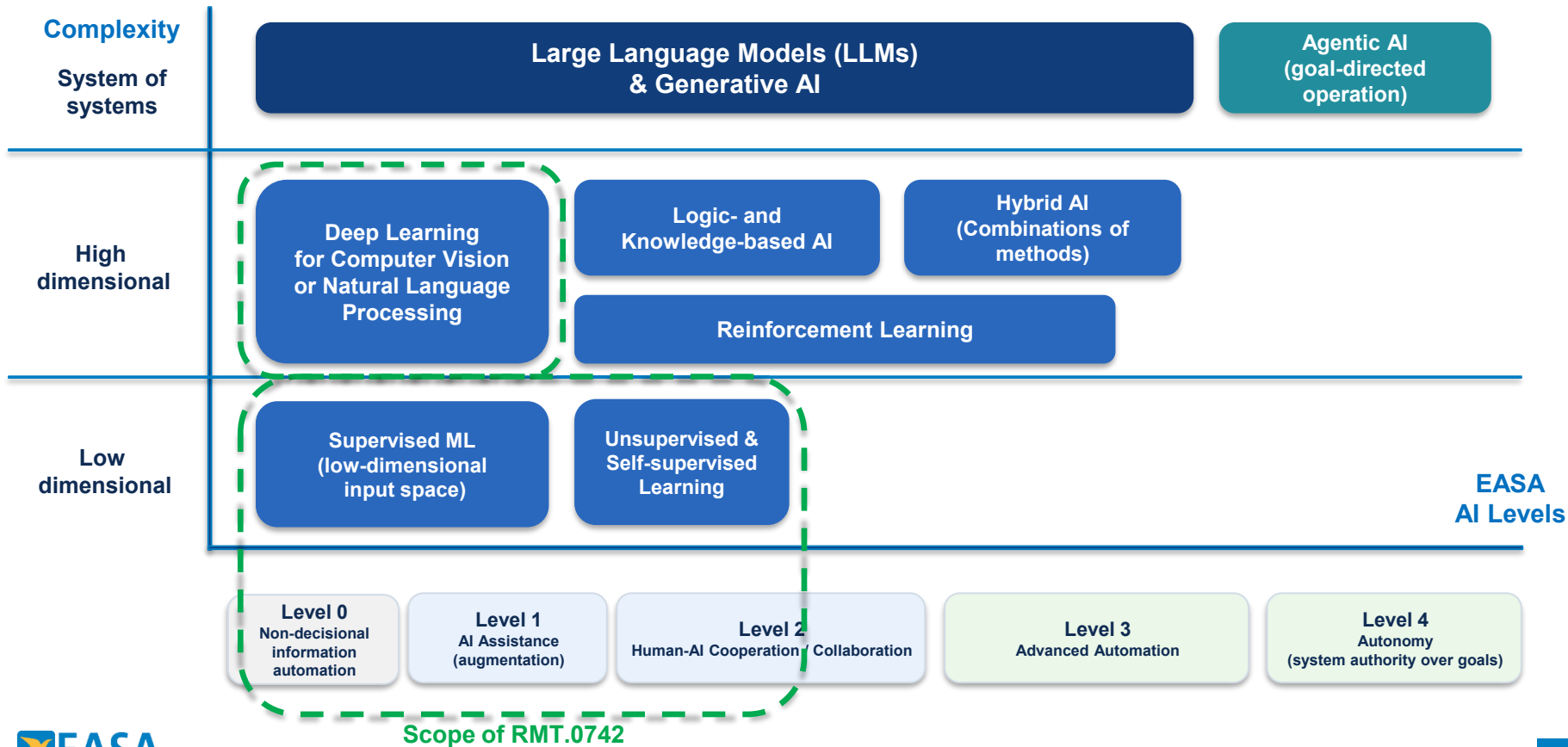
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Challenges around AI in aviation

Global AI
challenges



Scope of RMT.0742 as possible harmonisation subset



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Panel of discussion : Q&A

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EASA AI Days 2026
Coffee break – 15:00 to 15:30

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Workshops on AI:

- AI Assurance
- Ethics-based assessment
- Human centered design

For online participants: conference resumes tomorrow with workshops debrief on 10th September 2026 at 08:15. Thank you!

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EASA AI Days 2026

Workshop: AI assurance



Guillaume Soudain
EASA AI Programme Manager



Sergio Nadal
Tech Lead 'AI assurance'

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Workshop overview

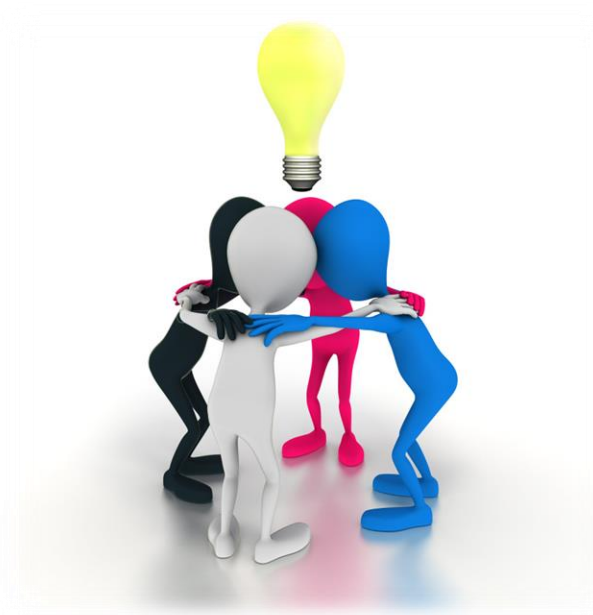
→ 15:30 – 16:00 – Visit at the « AI Olympics »

→ 16:00 – 16:45 – Part I

Reuse and OTS (focus on LLM approach)

→ 16:45 – 17:30 – Part II

LKB AI frontier versus classical systems

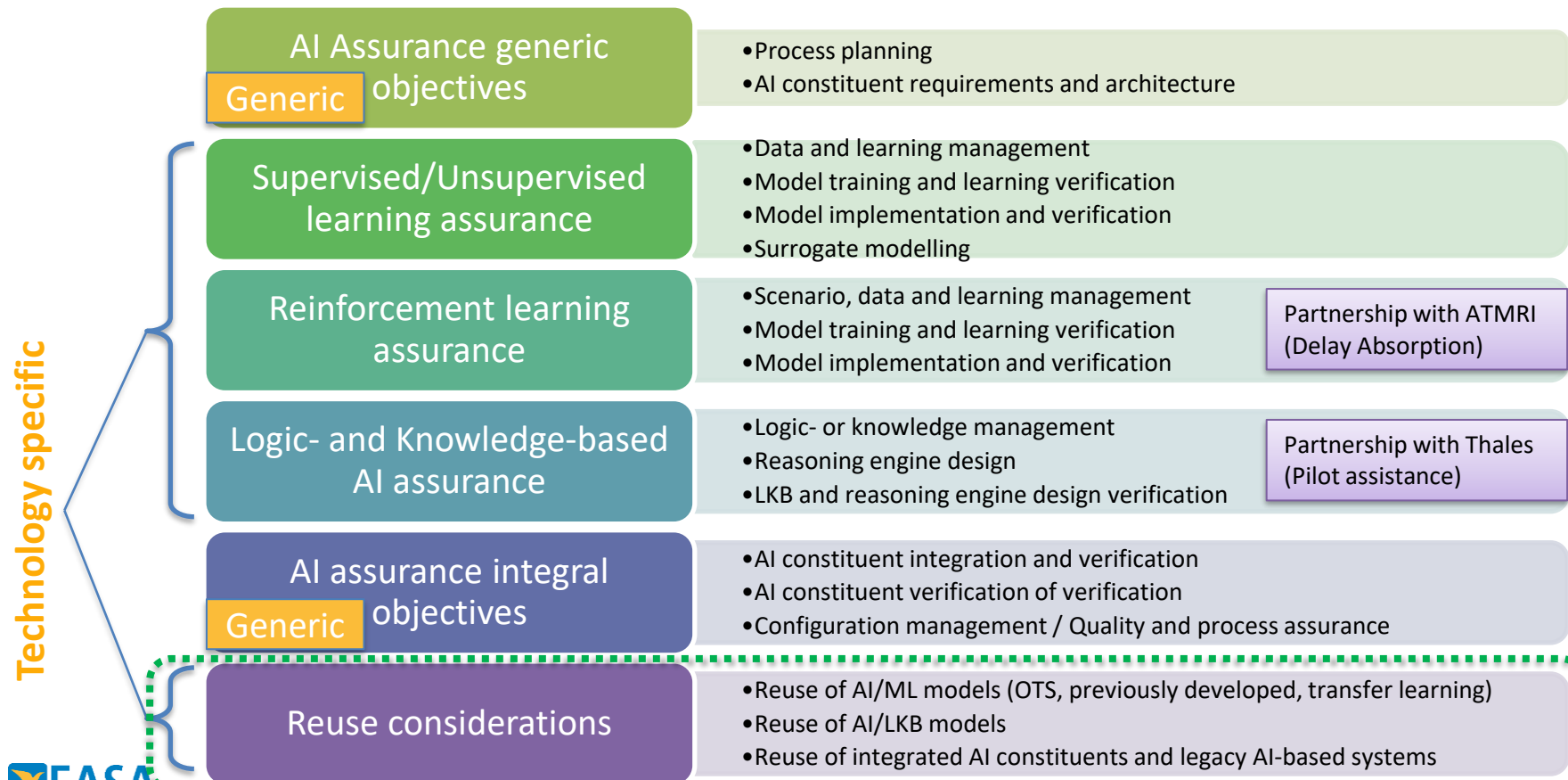


Workshop – AI Assurance

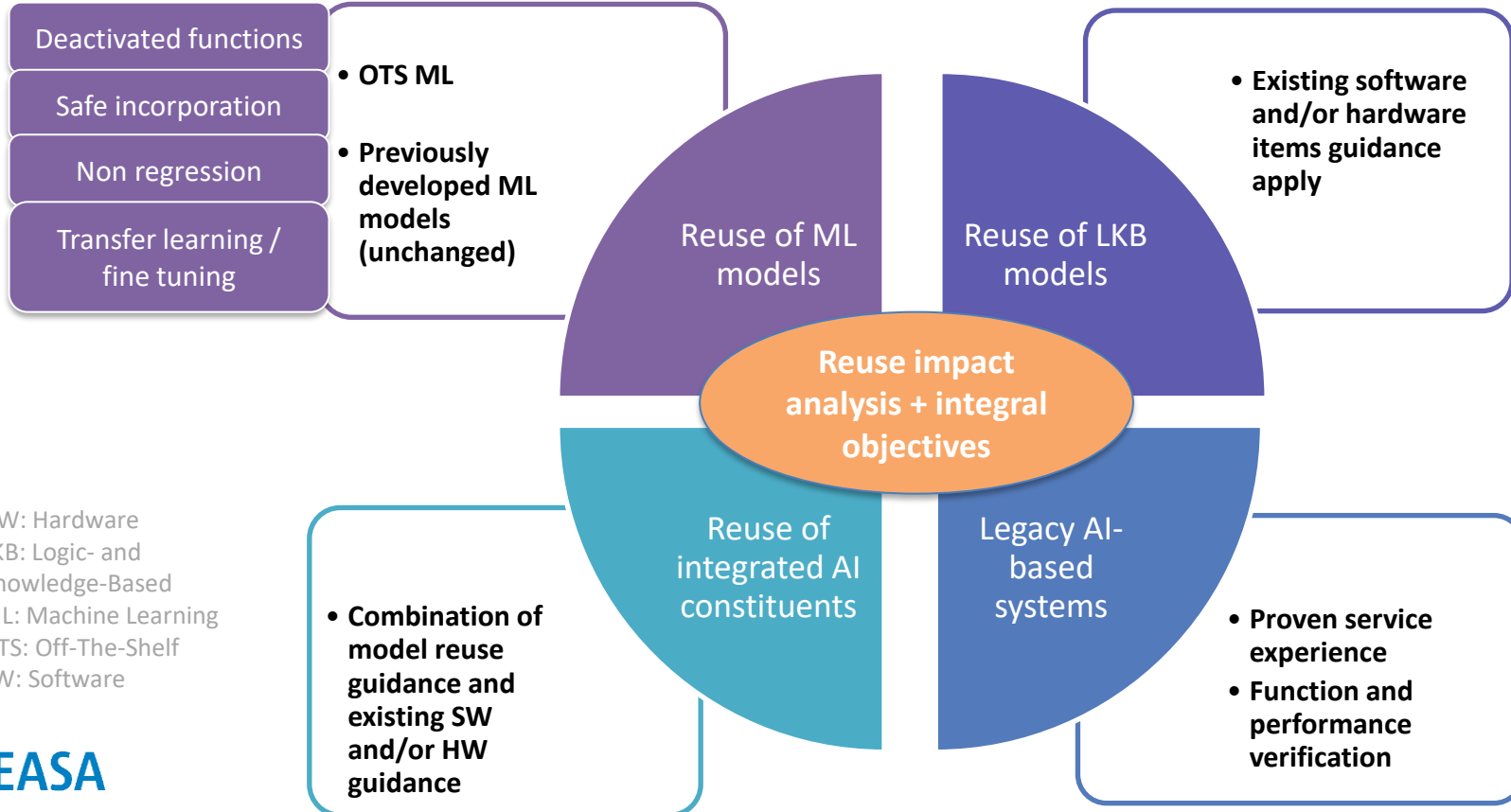
Part I - Reuse and OTS (focus on LLM approach)



AI assurance: big picture



AI assurance: reuse concept



Large Off-the-shelf & LLMs – Strategy overview

Boundaries

What EASA enables

Use state-of-the-art OTS AI models, including general-purpose LLMs, where their role is limited and the system can demonstrate appropriate assurance.

Current limit

Large OTS models are warranted only at AL5 / SWAL4 / DAL D; they must not drive catastrophic or hazardous failure conditions.



Objectives

1. Reuse impact assessment

Fit to intended behaviour, requirements, architecture, ODD, performance, documentation and required assurance level.

2. Fine-tune / evaluate

For LLMs, emphasis shifts to fine-tuning controls, performance evaluation, and integration verification.

3. Safe incorporation

Contain the model within safeguards so failures cannot exceed the allowable hazard level.

Discussion points

- Guidance for LLMs : coverage and appropriateness.
- Challenges of the proposed approach for LLMs
- Discussion on LLM use cases and experience from the audience

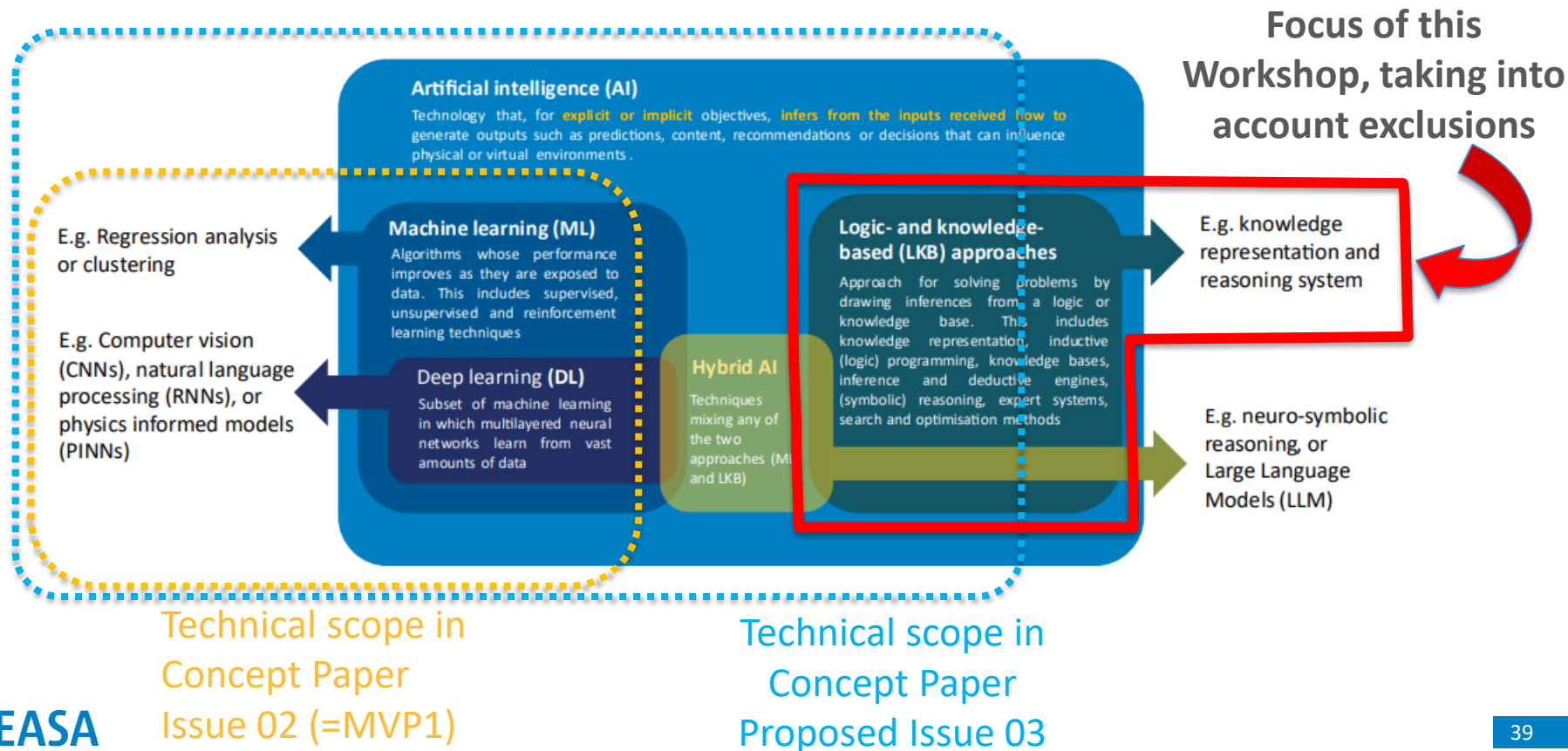
TOP 3 benefits to be reinforced	TOP 3 challenges to be further addressed

Workshop – AI Assurance

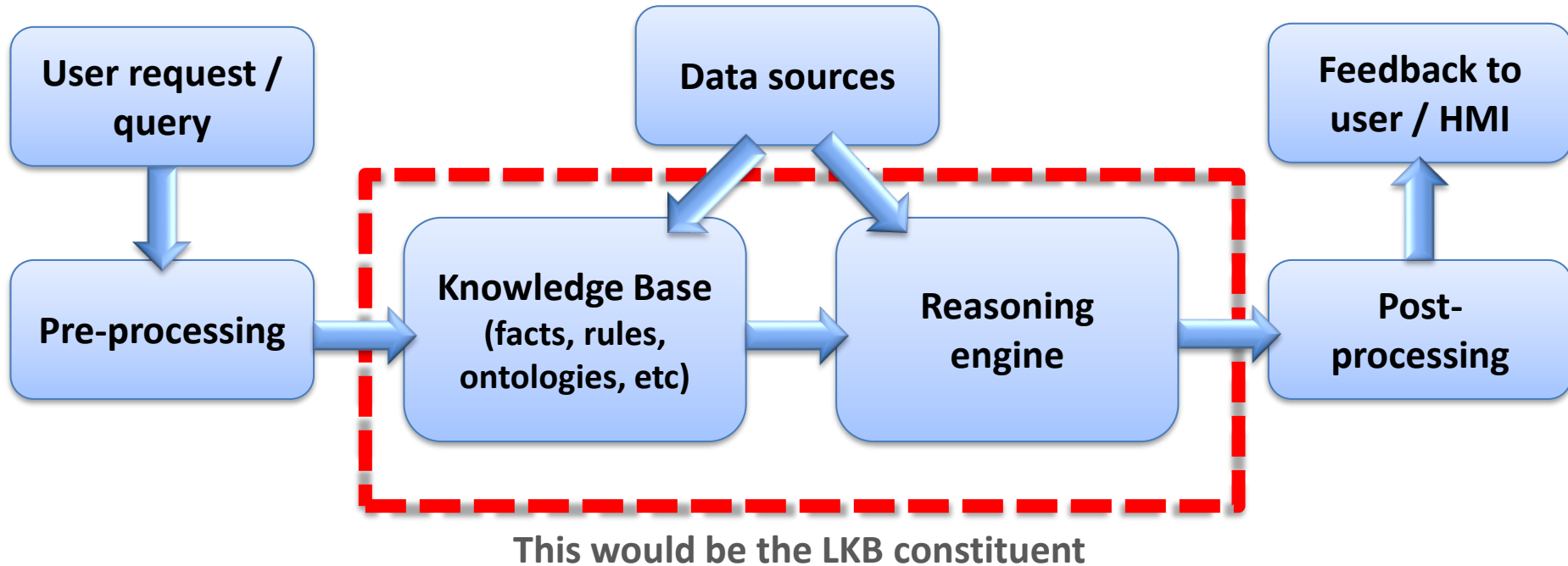
Part II - LKB AI frontier versus classical systems



LKB (Logic and Knowledge Based AI) frontier



LKB simple example



Discussion points

- When does traditional Development Assurance become LKB?
- EASA Concept Paper issue 3, what elements do you think have been “forgotten” or improperly captured (i.e. mistakenly captured as LKB)?
- EASA Concept Paper issue 3, do you think it is correct in terms of coverage and fitness?
- Use cases from the audience?

TOP 3 benefits to be reinforced	TOP 3 challenges to be further addressed

EASA AI Days 2026

Workshop: Human Factors for AI



Andrew Kilner
Technical Lead 'HF for AI'



Giovanni Cima
Project Manager 'RMT.0742'

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Workshop overview

→ 15:30 – 16:15 – Part I

Level 2B AI challenges

→ 16:15 – 17:00 – Part II

Remote oversight in Level 3A AI

→ 17:00 – 17:30 – Visit at the « AI Olympics »



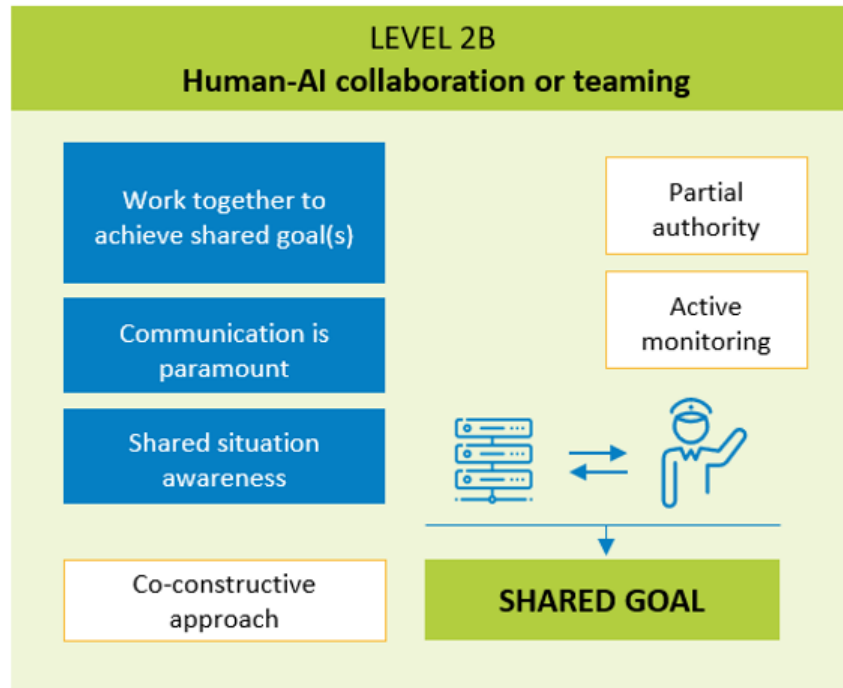
Workshop – Human Factors for AI

Part I - Level 2B AI challenges



Human-AI collaboration - Level 2B AI overview

- Collaboration is a process in which the end user and the AI-based system work together and jointly to achieve a predefined shared goal and solve a problem through co-constructive approach.
- Collaboration implies the capability to share situation awareness and to readjust strategies and task allocation in real time.
- Communication is paramount to share valuable information needed to achieve the goal.



USE CASE #1 – ATC digital executive

- List of end users: Executive Controller (EC)
- Goal: Safe separation of flights from entry into the sector to exit of the sector.
- High level task: All flights are transited conflict free throughout the sector.
- On one sector (piece of airspace) two ATCOs – Executive controller (EC) and a Planning controller (PC)- are working traffic. The Executive Controller is the person communicating with the aircraft via radio or CPDLC. The PC is the one preparing the traffic for the EC making sure it enters the sector conflict free, points out situations of interest to the EC within the sector, coordinates with adjacent sectors.
- The aircraft can be either controlled by the EC or by the ATC digital executive.
- The PC allocates the flights before entry into the sector either to the EC or to the ATC digital executive.

USE CASE #1 – ATC digital executive (features)

- The digital ATC executive can perform tasks that are usually performed by the EC. The aircraft that is under control by the ATC executive is clearly identified as such. The digital ATC executive will “assume” the aircraft (after assigned by the PC) and “transfer” the aircraft in line with letter of agreements.
- The digital ATC executive will detect and solve conflicts by issuing clearances (level, heading, speed), without creating knock on conflicts.
- The digital ATC executive is sharing the decisions and actions taken on the flights with the EC (e.g. level clearance indicated on the Human Machine Interface (HMI)).
- The digital ATC executive uses either CPDLC or spoken language to issue clearances to the pilot and amends then the HMI accordingly. The digital ATC executive is able to understand the read back and act accordingly.

Our Task: 40 Minutes

- What does interaction look like? How is communication taking place between the AI based system and the 'Operator'?
- Are there any specificities for the environment that need to be taken into account
- What situation representation for such a system? How can shared situation awareness be realised in such an interaction?
- How does the 'Operator' detect errors that the system might make.

TOP 3 benefits to be reinforced	TOP 3 challenges to be further addressed

Workshop – Human Factors for AI

Part II - Level 3A AI challenges



Exploration – AI level 3A concepts

Human factors: remote oversight in case of alerting

Safety risk mitigation: delegated human oversight to an OOS

Responsibility scheme assessment

LEVEL 3A Safeguarded advanced automation

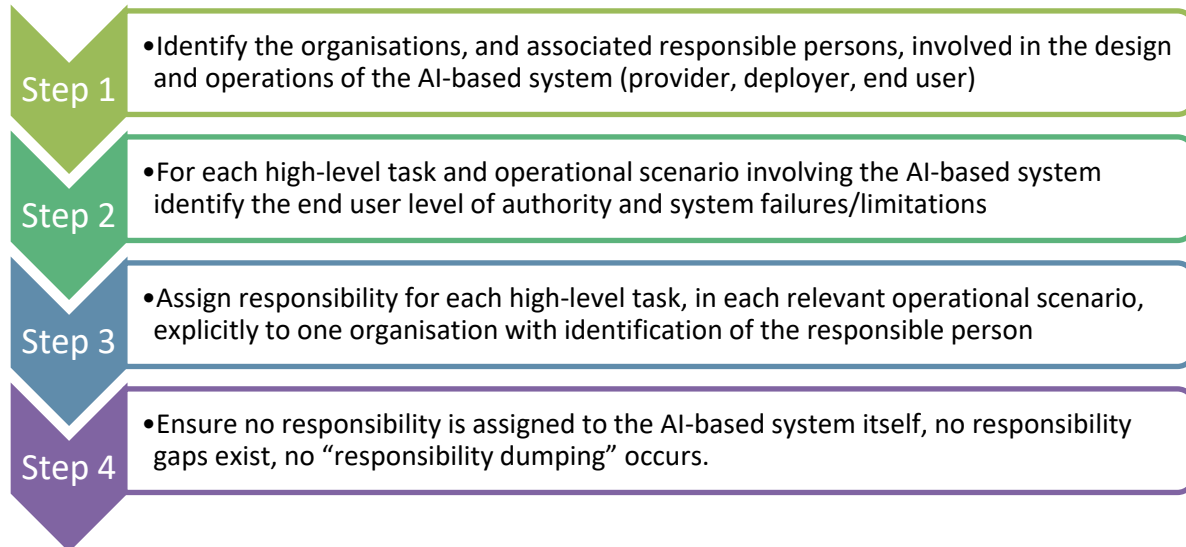


Responsibility scheme assessment

→ Objective:

- Ensuring that responsibility for the behaviour and outcomes of the AI-based system, across all high-level tasks and operational scenarios, is fully allocated to identified organisations and responsible persons with the authority and means to assume that responsibility.

→ Anticipated MOC:



USE CASE #2 – Cockpit digital assistant

- List of end users: Pilot Flying Pilot Monitoring (one nominated Captain)
- Goal: Safe Landing of a single flight established on the ILS.
- High level task: Fly the a/c, correctly configured, on a stable approach down the ILS to landing, being sensitive to the need to perform a go around if necessary.
- In the aircraft, the PF commands the Digital Assistant to “Establish the a/c on the ILS and land the aircraft”. The PF remains responsible for the approach and the PM continues to monitor the aircraft and outside environment to ensure the approach is clear. The digital assistant takes over the management of the aircraft flight path, power, speed, flap settings and positioning relative to the runway.
- Without human intervention the digital assistant lands the aircraft on the runway and breaks to taxi speed. On reaching taxi speed, the aircraft informs the PF the goal has been reached and requests the pilot resumes control.

Our Task: 40 Minutes

- What is remote oversight (human on the job)
 - Can we agree a working definition ?
 - What issues arise in 'recovering' Situational Awareness / representation from the AI based system to the 'Operator'.
 - How does the 'Operator' give responsibility back to the AI based system ?
- How does a responsibility work in such a case?
- How is delegated oversight performed ?

TOP 3 benefits to be reinforced	TOP 3 challenges to be further addressed

EASA AI Days 2026

Workshop: Ethics-based assessment



Ines Berlenga
Project Manager 'Ethics for AI'



Sofia Kyrampalidou
DLR – ELSA team

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Workshop overview

→ 15:30 – 16:15 – Part I

Checklist approach for AI ethics

→ 16:15 – 16:45 – Visit at the « AI Olympics »

→ 16:45 – 17:30 – Part II

Mitigation approach in practice



Bias

ALL LEVELS

Read every statement on both sides and classify it.

ET-01 | Identify

MOC ET-01

Is it clear what should be assessed?

B1

Could the data sets, scenarios or knowledge bases create or reinforce unfair bias, discrimination or unequal opportunities?

B2

Could the AI model itself create or reinforce unfair bias, discrimination or unequal opportunities?

ET-02 | Mitigate

MOC ET-02-

1

If a risk is found, is it clear what should be done?

B3

Raise awareness among those involved in development through policies, procedures, guidance, controls or quality checks.

B4

Remove identified unfair bias through the development assurance processes.

**YOUR
TASK**

GREEN - CLEAR
Write the statement code

YELLOW - CLARIFICATION
Write the statement code - what is unclear - example

Manipulation

LEVELS 2A/3

Read every statement on both sides and classify it.

ET-01 | Identify

MOC ET-01

Is it clear what should be assessed?

M1

Is the end user free to exercise their human autonomy?

M2

Is the end user free from emotional influence by the AI system?

M3

Does the end user depend on the AI system's performance in order to take action?

M4

Could the AI system manipulate the end user and jeopardise their decision-making?

ET-02 | Mitigate

MOC ET-02-

2

If a risk is found, is it clear what should be done?

M5

Requirements-based tests should verify that end users interacting with the AI system can perform oversight.

**YOUR
TASK**

GREEN - CLEAR
Write the statement code

YELLOW - CLARIFICATION
Write the statement code - what is unclear - example

Social aspects

LEVELS 2A/3

Read every statement on both sides and classify it.

ET-01 | Identify

MOC ET-01

Is it clear what should be assessed?

S1

Could the end user experience professional threats — e.g. feeling controlled, unfit, lacking competence or that their job is at stake?

S2

Could the system negatively affect the end user's well-being or mental health?

S3

Is the end user informed if, when and under what circumstances personal data are recorded?

ET-02 | Mitigate

MOC ET-02-

3

If a risk is found, is it clear what should be done?

S4

Involve end users in defining operational scenarios to identify potentially socially unacceptable impacts.

S5

Consider impacts related to professional/job threats and psychological well-being.

S6

Inform end users whether personal data are recorded by the system.

**YOUR
TASK**

GREEN - CLEAR
Write the statement code

YELLOW - CLARIFICATION
Write the statement code - what is unclear - example

Discussion points

TOP 3 benefits to be reinforced	TOP 3 challenges to be further addressed

EASA AI Days 2026

Conference first day wrap up



David Solar
HoD Sustainability, Research & Innovation

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EASA AI Days 2026

Conference first day wrap up



Thank you for your participation.
Please join the dinner at 19:00 at the 'Ex-Vertretung'
(Frankenwerft 31-33, 50667 Köln).

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