EASA
European Union Aviation Safety Agency

Webinar: Project Update

Impact of Security Measures on Safety

Wednesday 22nd May 2024

Delivered in cooperation with our consortium

UK Civil Aviation Authority International

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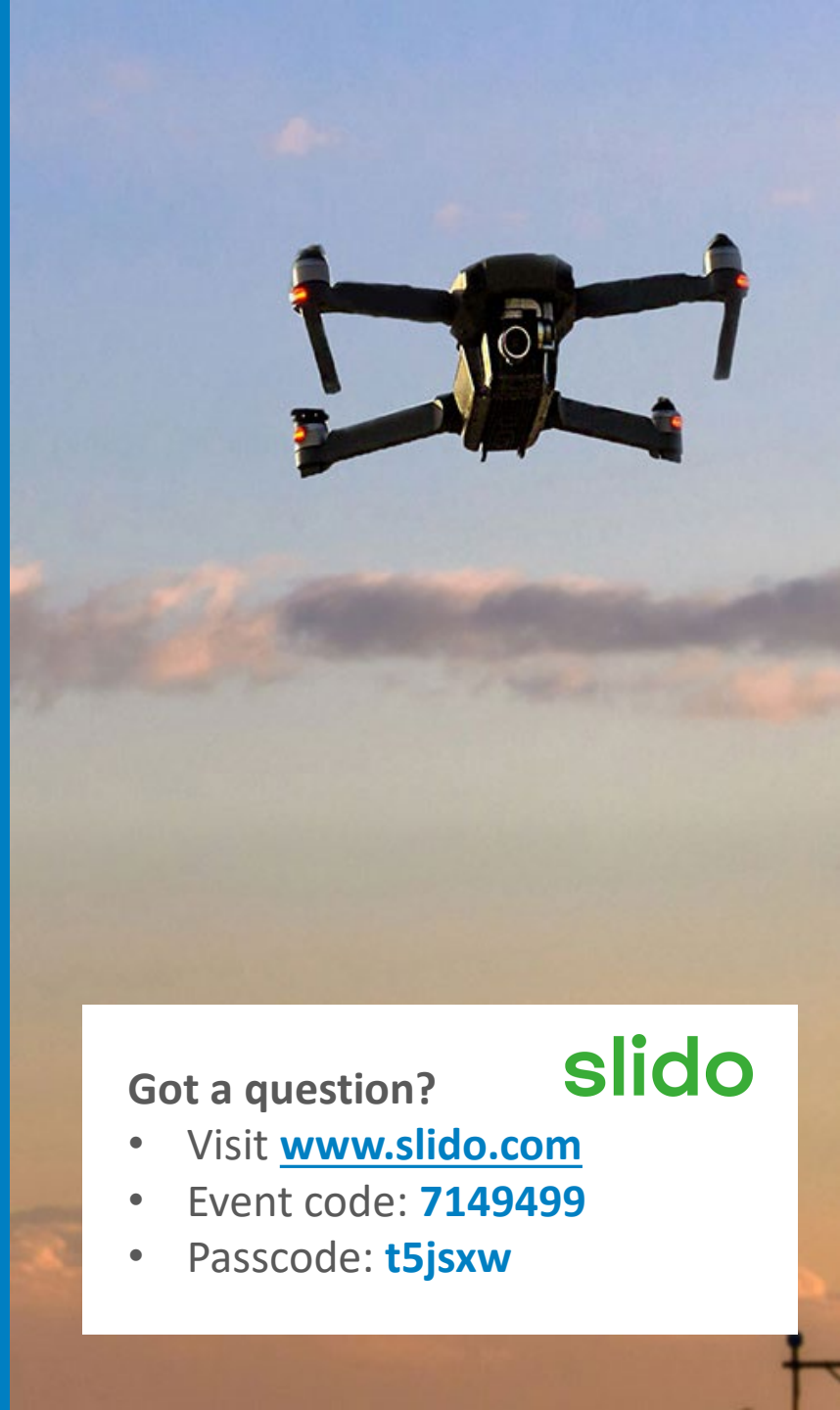
Agenda

1. Welcome from EASA
2. Project overview / Recap
3. Task 1 – An overview including impact assessment methodology. Followed by Q&A.
4. Task 2 – Upcoming activity, purpose, expected outputs and stakeholder input. Followed by Q&A.
5. Task 3 – Upcoming activity, purpose, expected outputs and stakeholder input. Followed by Q&A.
6. Task 4 – Summary of purpose, key steps and expected outcomes.
7. Next steps and concluding remarks



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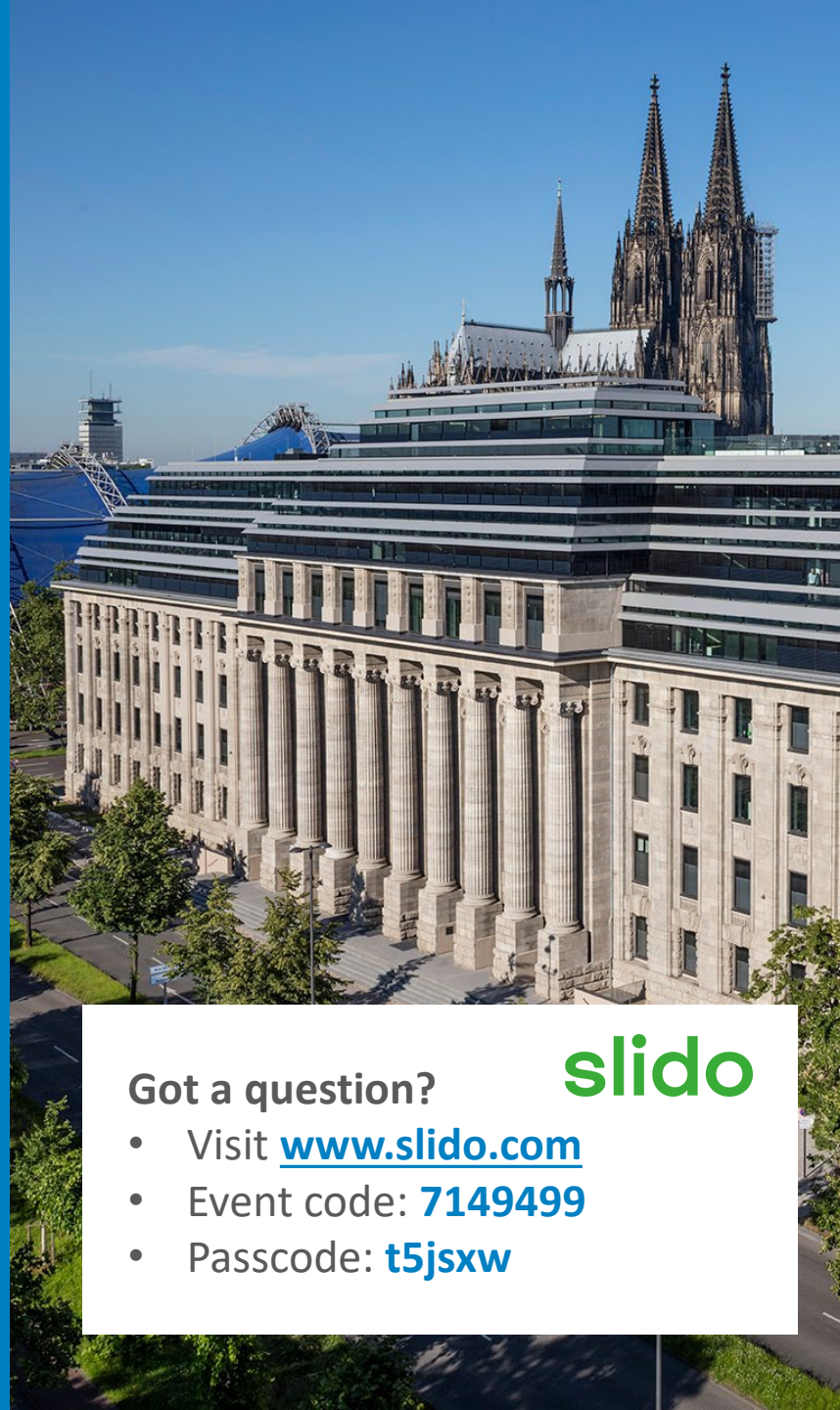
Welcome from EASA

Adam Borkowski
Technical Lead, EASA



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Welcome from EASA

Research project: Impact of Security Measures on Safety

Importance of understanding interdependencies

Your views and expertise are needed

Thank you and stay connected!

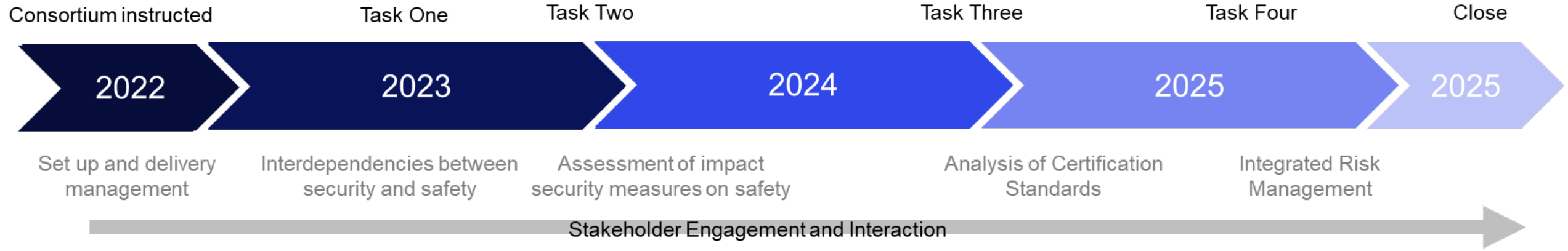
Project Aims & Objectives

Objectives:

- **Interdependencies analysis:** Assess how security measures / safety and security interdependencies impact safety.
- **Impact identification**: Identify affected processes, job roles, certification, and licensing activities.
- **Risk management:** Develop harmonized risk assessment methods, provide recommendations for national and EU policy and decision-making.

Output:

- **Knowledge Base:** Create a comprehensive resource to evaluate the impact of security measures on aviation safety, including key indicators and factors.



The Team

The consulting and training arm of the UK CAA
- Kevin Sawyer - Technical Lead
- Sarah Fox - Project Manager
- Dorota Broom - Lead for Tasks 1 & 4
- Stuart Coates - Communications Lead

Apave Group centre of excellence for risk and safety management solutions for both civil and military Aviation community
- Jacques Bernardi – Lead for Task 2
- Lucas Lempereur de Saint Pierre – Subject Matter Expert
- Ivan Pastorelli – Subject Matter Expert

Centre for Adaptive Security Research and Applications
- Sarah Merks – Lead for Task 3
- Adam Troczynski – Technical Expert

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Task 1 – An overview including Impact Assessment Methodology

Dorota Broom
Task Lead, CAAi

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Task 1 Overview

- Task 1 now complete
- Safety-Security interdependencies report available on EASA website
- Safety-security job roles report available on EASA website
- Provisional methodology to assess the impact of security measures on safety developed and in use

Impact of Security Measures on Safety | EASA (europa.eu)

Task 1 Interdependencies

- 64 interdependencies in 8 main areas
- Aircraft, ATM, UAS, Air Operations, Ground Operations, Aerodrome, Screening, Off- Airport Operations
- Analysis and definition of specific security measures that will undergo in-depth assessment (task 2.2)

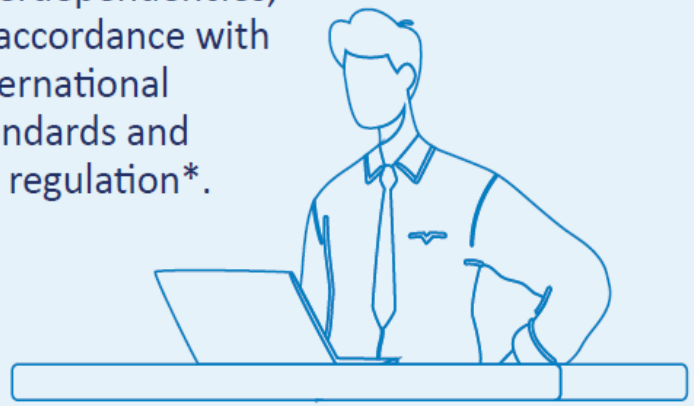
Task 1 Job Roles

Research Study on the Impact of Security Measures on Safety

1

JOB ROLES AT A GLANCE

Our research assessed the job roles within civil aviation that have both safety and security interdependencies, in accordance with international standards and EU regulation*.



50.7%

of safety roles include a security interdependency

63.6%

UAS and ATS have the highest percentage of safety-security interdependencies

*ICAO Global Risk Context Statement, ICAO Doc 8973 and Implementing Regulation (EU) 2015/1998.

Task 1 Job Roles

Percentage of Safety Roles by Domain with A Security Interdependency

15.4%

Aircraft and Aircraft Equipment

(including design certification and airworthiness)

13 job roles analysed
2 with security functions

63.6%

UAS

11 job roles analysed
7 with security functions

63.6%

Air Traffic Services

11 job roles analysed
7 with security functions

61.5%

Aerodrome / Airport Operation

13 job roles analysed
8 with security functions

50%

Air Operations

16 job roles analysed
8 with security functions

60%

Ground Operations

5 job roles analysed
3 with security functions

Task 1 Methodology (interim)

Step 1. Security measure to be assessed

- Rationale for introduction
- Threat to be addressed

Step 2. Identification of safety domain and selection of safety experts

- Safety areas pre-defined by the methodology

Step 3. Assessment

- SME's to indicate potential impact on safety and provide descriptive assessment

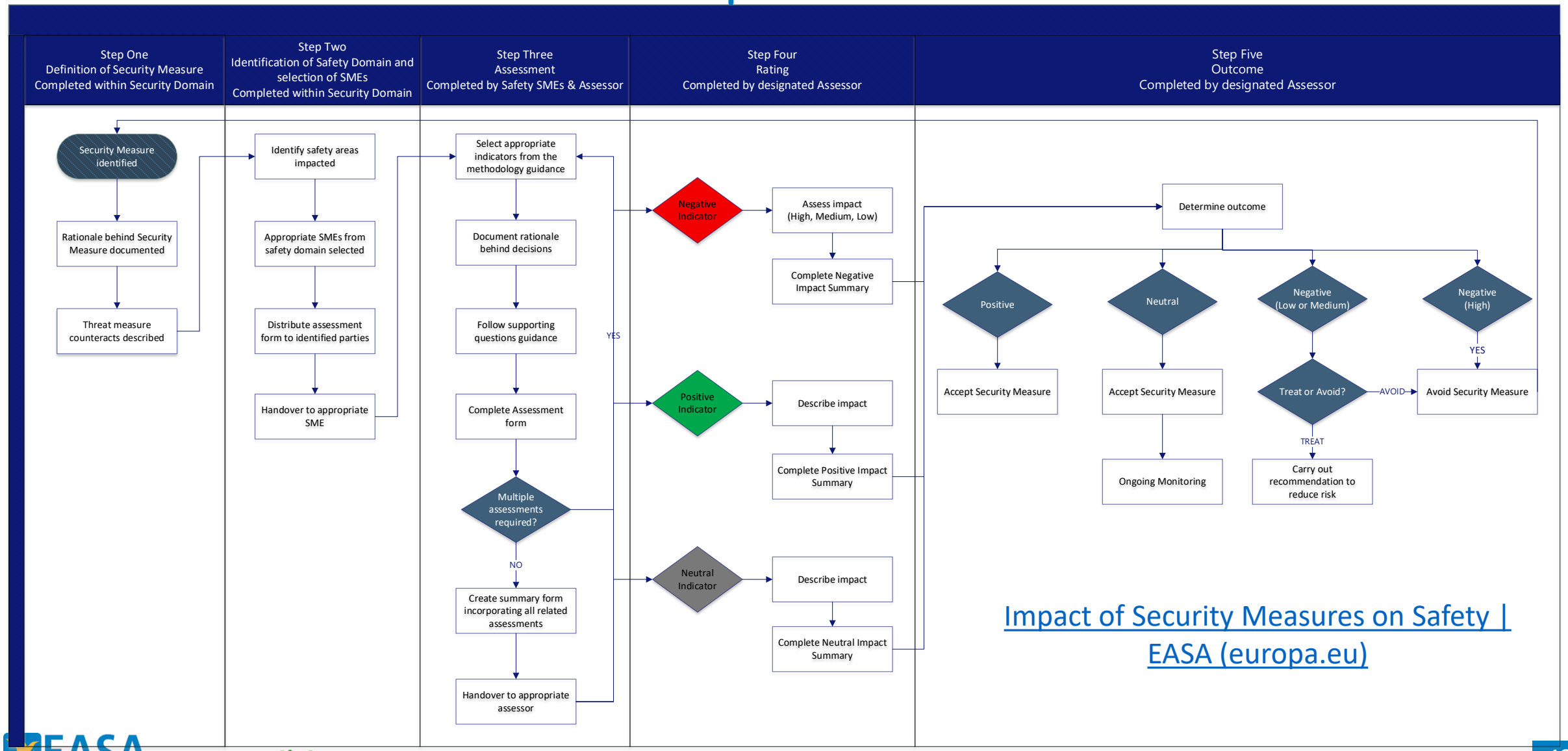
Step 4. Impact rating

- Based on analysis all assessments
- Rate negative impact
- Describe positive and neutral impact

Step 5. The outcome

- Accept, treat or avoid the impact on safety

Task 1 Methodology (interim) – more details can be found in D-1.3 report



[Impact of Security Measures on Safety | EASA (europa.eu)]

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Q&A

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Facilitated by Simon Evans
Subject Matter Expert, CAAi

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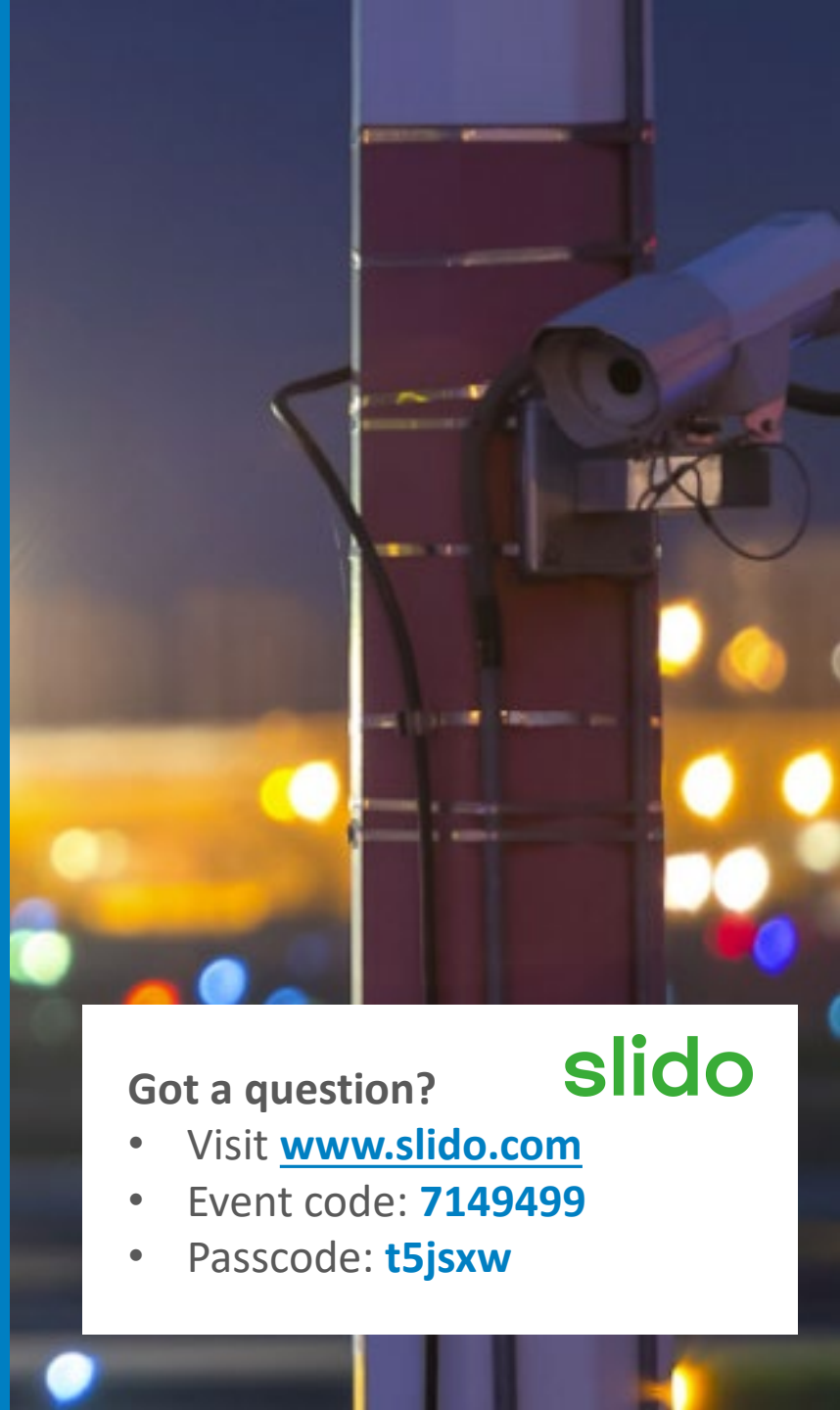
Task 2 – Upcoming activity, purpose, expected outputs and stakeholder input

Lucas Lempereur De Saint Pierre
Task Lead, Apave Aeroservices



Task 2

Assessment of the Impact of Security Measures on Safety

- Reminder and objectives
  - Assessment of the Safety – Security interdependencies
  - Assess the impact of Security measures on Safety
  - Detailed gap analysis to define which elements and measures are currently missing to ensure better safety outcomes

D-2.1
Identification of the main security threats and scenarios, having an impact on Safety

D-2.2
Safety and security interdependencies to be assessed, the questionnaires and interviews proposed as well as the participants to the surveys

D-2.3
Assessment(s) of the impact of the interdependencies on the areas agreed upon following the interim report

Task 2

Assessment of the Impact of Security Measures on Safety

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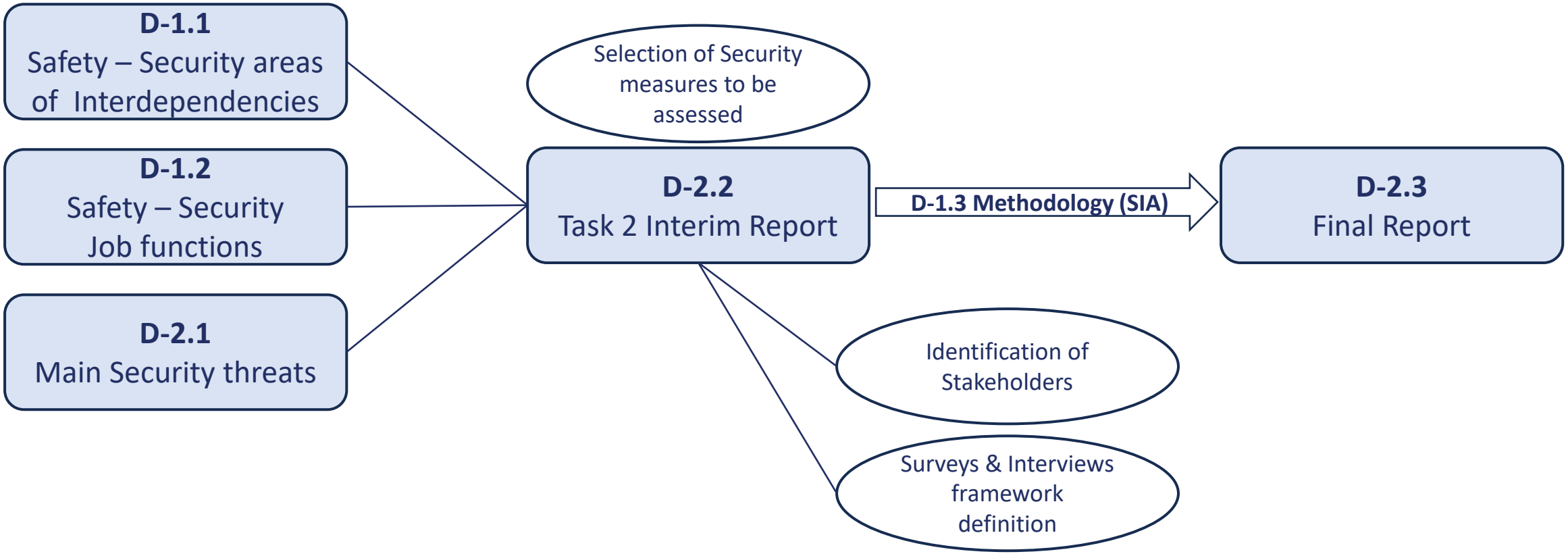
→ Task 2 - Overall methodology



Task 2

Assessment of the Impact of Security Measures on Safety

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→ D-2.1 - Main threats and scenarios, having an impact on Safety

→ Draw up an exhaustive listing of the main Security threats with an impact on Safety

→ Define existing EU security mitigation measures

→ Describe and characterise the threats:

- Potential scenarios
- Impact on Safety
- Type of perpetrator (Insider, Passenger, Non-travelling person)
- Impacted operational area(s)
- Type of threat (Landside, Airside, Cyber)

Task 2

Assessment of the Impact of Security Measures on Safety

- D-2.2 - Safety – Security interdependencies analysis

  - Clear and complete description of the Security measures:
    - Objectives
    - Origin (ICAO Safety/Security, EASA BR, EU Security Framework)
    - Rational for introduction
    - Mitigated security threat (based on D-2.1 list of threats)

  - Selection for Safety Impact Assessment in D-2.3

Task 2

Assessment of the Impact of Security Measures on Safety

→ D-2.2 - Safety – Security interdependencies selection

→ Based on the interdependency and associated Security measures origins

Criteria for selection	
The interdependency and associated security measures **originate in Regulations (EC) 300/2008**	Safety Impact Assessment to be conducted
The interdependency and associated security measures **originate from ICAO SARPs**	Safety Impact Assessment to be conducted, if considered of special interest
The interdependency and associated security measures **originate in the safety regulatory framework**	Safety Impact Assessment to be conducted, if considered of special interest
The interdependency and associated security measures **lack clear regulatory references**	Safety Impact Assessment to be conducted, if considered of special interest

Task 2

Assessment of the Impact of Security Measures on Safety

→ D-2.2 - Safety – Security interdependencies analysis

→ Example

#3 – Protection of Flight Crew Compartment (relating to aircraft design)	
Operational Domain	Aircraft safety
Safety Area	Design and certification
STEP 1 – Definition of the security measure	
Description of the security measure Measures under consideration primarily focuses on requirements related to the protection of the flight crew compartment, from the perspective of aircraft design, encompassed in the European safety regulatory framework. There is no European aircraft design security requirement for the protection of flight crew compartment. The European security regulatory framework focuses on in-flight security measures related to flight crew compartment protection, which falls under the "Air Operations" safety area for this study.	
Requirements originate from - CS 25.795 Security considerations - AMC 25.795(a)(1) Flight deck intrusion resistance	Safety Regulatory Framework (ICAO and EU)
Rationale for introduction These requirements have been introduced to protect the flight crew compartment against forcible intrusion (floors and ceilings shall be designed to resist penetration by small arms fire and grenade shrapnel). The access must be controlled, and only authorised personnel should have access to the cockpit to counteract the threat.	
Mitigated threats • Attack with improvised weapon • Conventional hijack	
Safety Impact Assessment to be performed According to the above analysis, Task 2.3 should not evaluate the aircraft design requirements concerning flight crew compartment protection, which will be analysed in Task 3. However, this interdependency is considered of special interest, and will undergo a further analysis in D-2.3. Additionally, task 2.3 will assess the in-flight security requirements related to flight crew compartment protection through a safety impact assessment, which is included in the "Air Operations" safety area, *#45 Security of the flight crew compartment*.	

Task 2

Assessment of the Impact of Security Measures on Safety

- → D-2.2 – Safety – Security analysis
  - → Identification of stakeholders
    - → Identification of the areas of impact
    - → Selection of appropriate stakeholders to be consulted accordingly (Based on D-1.2)

STEP 2 – Identification of safety domain and selection of safety experts	
Areas of Impact	☒Aircraft • Design • Maintenance ☐ATM / ATS / ATC ☐Air Operations ☐Ground Operations/Handling ☐UAS ☐Airport/Aerodrome ☐Other:
Stakeholders to be consulted	**Aircraft:** • Design Organisation Manager • MRO Safety Manager • MRO Manager • CAMO Safety Manager • CAMO Manager • CAMO Manager

Task 2

Assessment of the Impact of Security Measures on Safety

- Security Measures analysis

  - Reverse Study, starting from EU Security Regulatory Framework (2015/1998)

  - Correlation with identified interdependencies, main security threats

Task 2

Assessment of the Impact of Security Measures on Safety

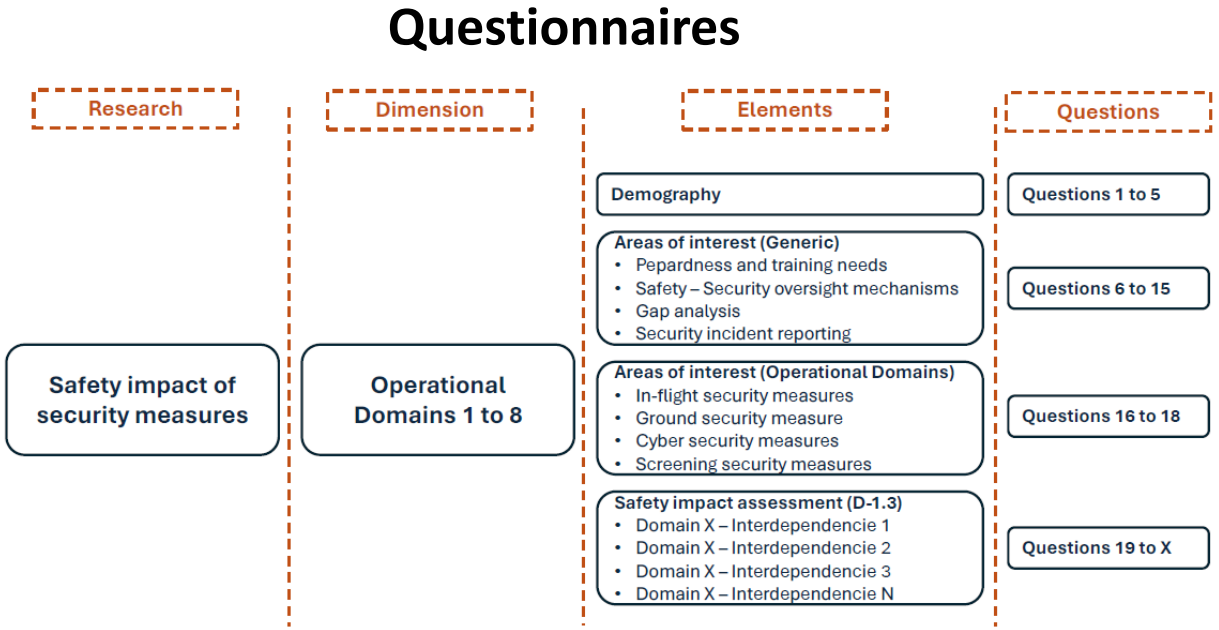
- Areas of special interest
  - Security measures
    - Impact of security measures implemented on the ground on overall safety of aerodrome and air operations
    - In-flight security measures
    - Cybersecurity measures
    - Cargo, mail, hold and cabin baggage security measures
  - Management of security incidents
  - Preparedness level and training needs

Task 2

Assessment of the Impact of Security Measures on Safety

→ Deployment of D-1.3 methodology

→ Development of Questionnaires / Interviews



- (Will be made) Available on the EASA website
- Tailored according to the participant's profile

Task 2

Assessment of the Impact of Security Measures on Safety

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→ Deployment of D-1.3 Methodology

→ Development of Questionnaires / Interviews

Interviews

- Support in the application of the Safety Impact Assessment Methodology
- Feedback on areas of special interest
- Validation of questionnaires' trends

- Addressed to the identified stakeholders
- To support the application of the Safety Impact Assessment

→ **Task 2 expected output:**

→ Impact assessment (Positive / Neutral / Negative) of security measures on safety

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Q&A

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Subject Matter Expert, CAAi

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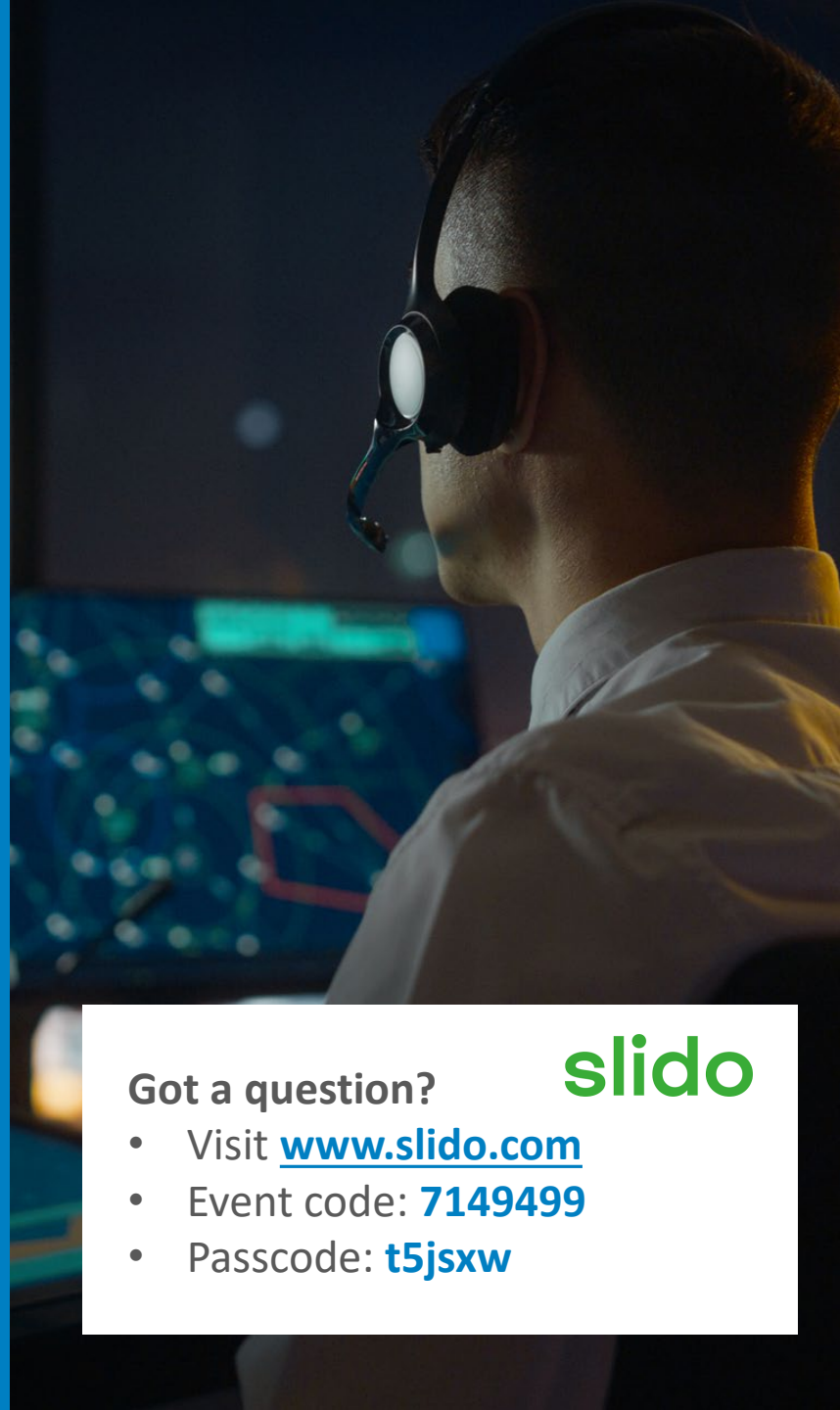
Task 3 – Upcoming activity, purpose, expected outputs and stakeholder input

Adam Troczyński
Task Lead, CASRA



Task 3

Analysis of certification standards

→ Recap of current developments

3.1 – Impact of security threats on aircraft design standards and best practices:

3.1.1 - Assessment report on the current aircraft design requirements and their relevance for mitigating physical security threats, including gap analysis of aircraft design standards

3.1.2 - Assessment report on the relevance of the existing detection requirements for screening equipment to mitigate threats to aircraft structure

3.1.3 - Assessment report on the current aircraft design requirements and their relevance for mitigating information security threats, including gap analysis of aircraft design standards

3.1.4 - Report on the assessments performed, conclusions and recommendations

Final call - you can still contribute before the end of May:

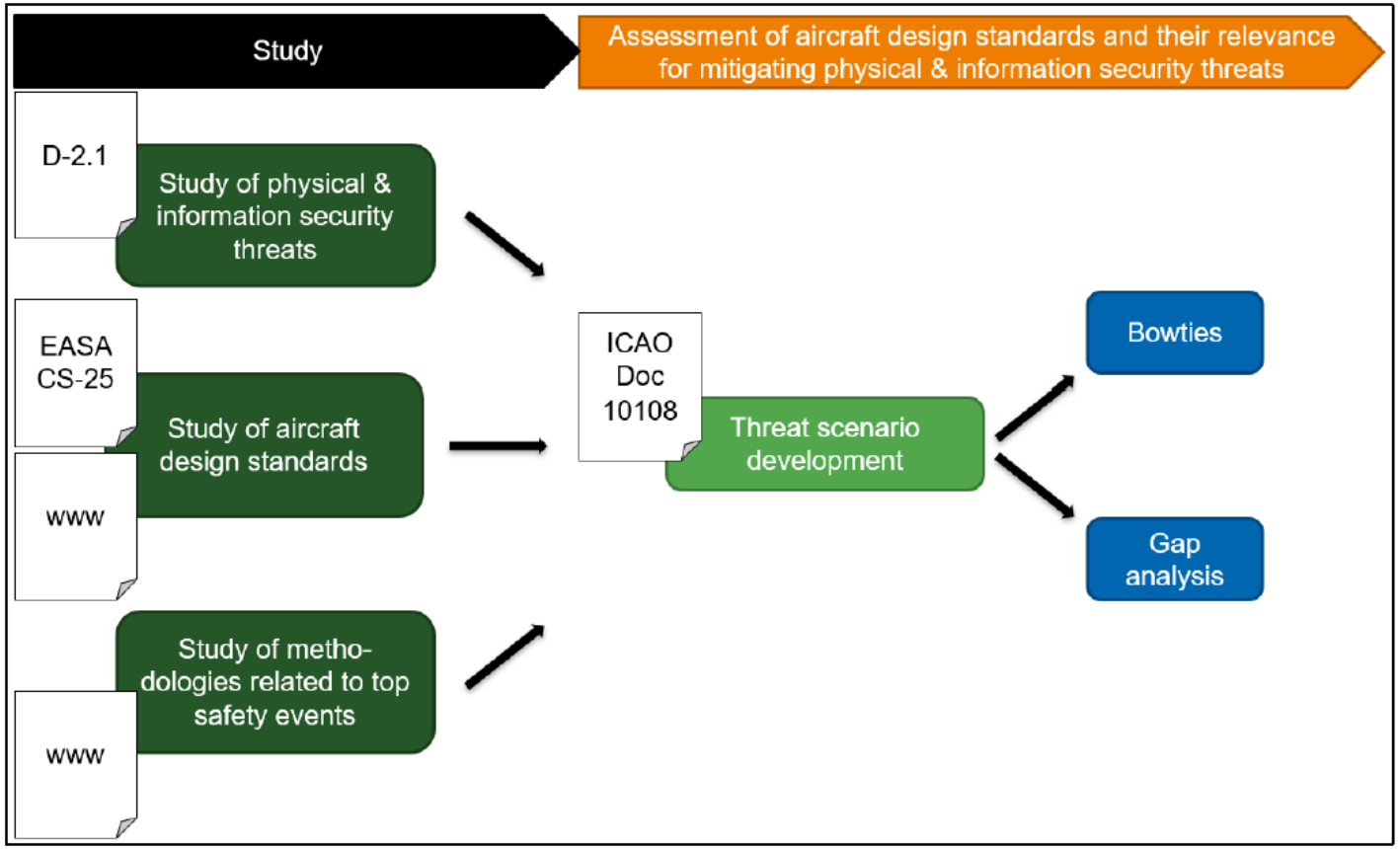
- Let us know if you are available for an interview

You input is important

Task 3

Tasks 3.1.1 and 3.1.3 methodology

→ Recap of current developments



Work methods:

- Analysis of documents, regulations, literature
- Stakeholders' consultations
- Workshop
- Surveys

Task 3.1.1 and 3.1.3

→ Prototype visualisation of output

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Threat

3. Escalating factors and their mitigations

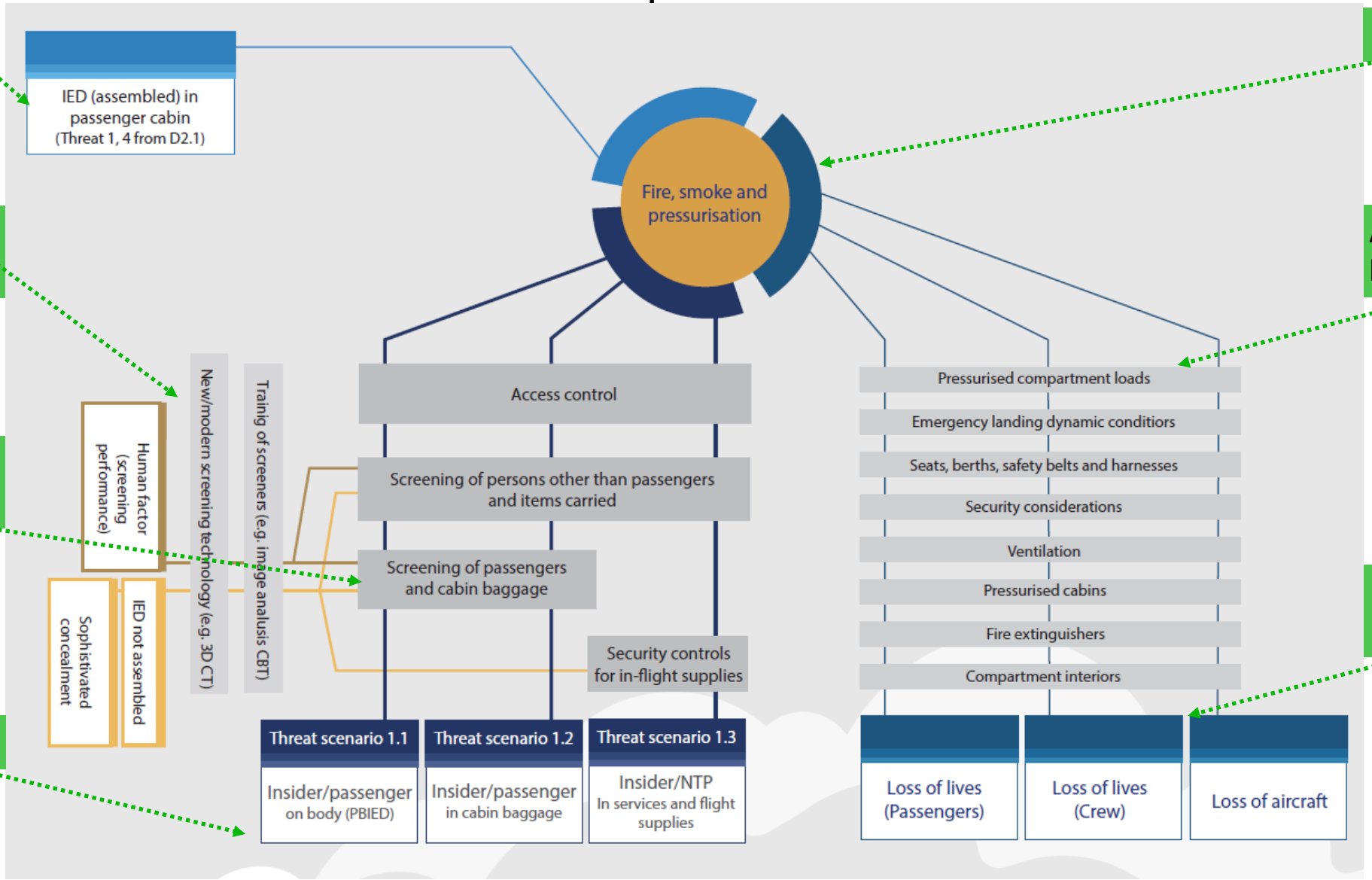
2. Preventive security measures

1. Threat scenarios

Top event

Aircraft design-based mitigations

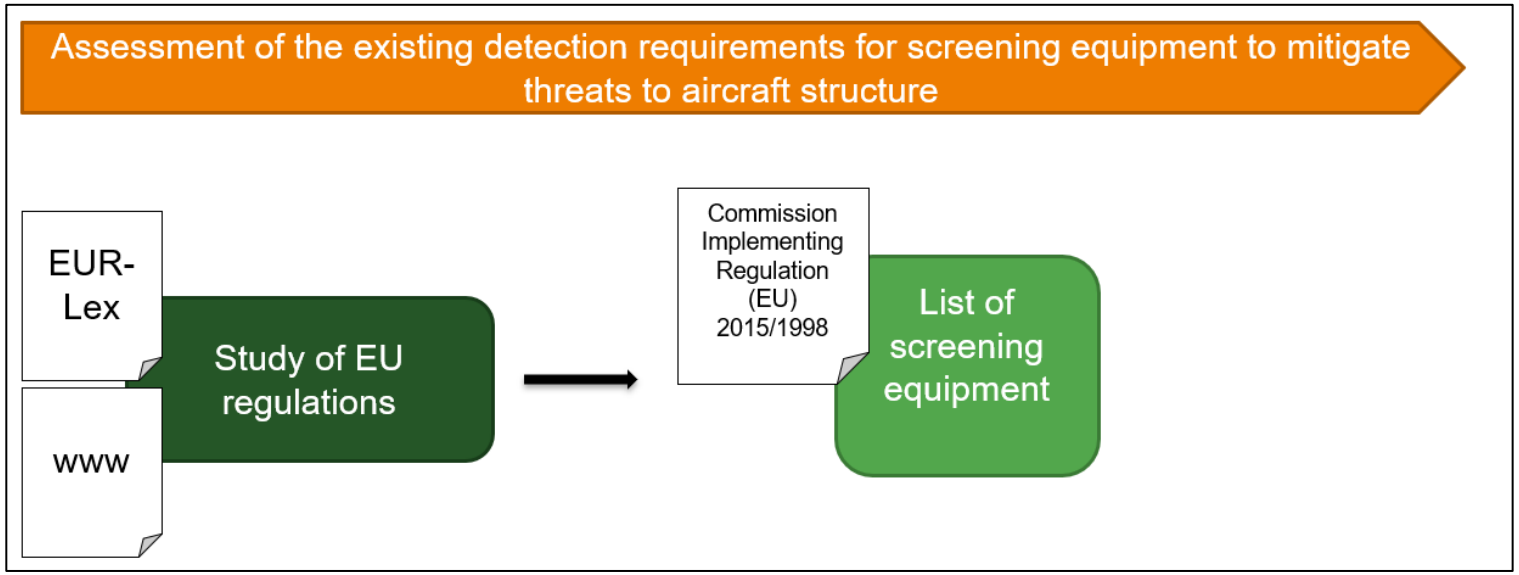
Worst case consequences



Task 3

Tasks 3.1.2 methodology

→ Recap of current developments

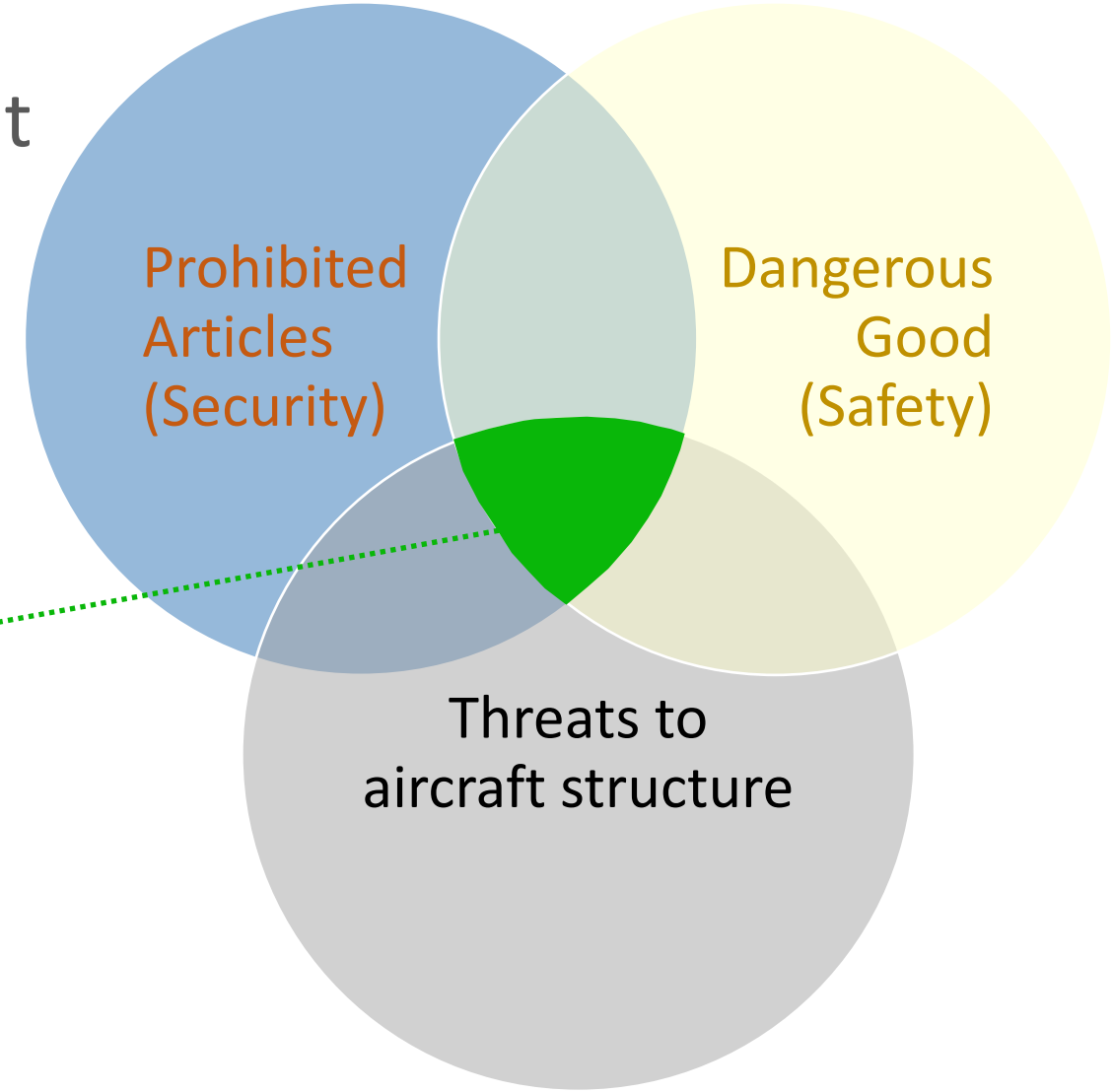


Work methods:

- Analysis of documents, regulations, literature
- Stakeholders' consultations
- Workshop
- Surveys

Task 3

→ Visualization of output



Security – safety interdependence in the context of screening equipment

Task 3

Analysis of certification standards

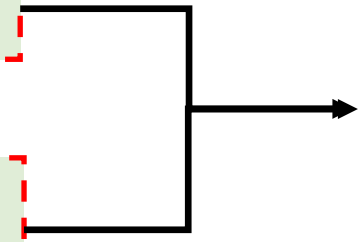
→ Next tasks

3.2 – Assessment of the impact of security-related requirements on the safety certification and/or licensing of air operators, aerodromes

3.2.1 - Assessment report on the existing safety and security certification requirements

3.2.2 - Assessment report on the verification of security related requirements during certification processes (gap analysis and best practices)

3.2.3 - Report on the assessments performed including data collection, analysis and review, and conclusions and recommendations for implementation



Engage with project team now so we can:

- Reflect perspective of all stakeholders involved (airports, air operators, regulators)
- Invite representatives responsible for airport certification and AOC processes

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Q&A

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Task 4 – Summary of purpose, key steps and expected outcomes

Dorota Broom
Task Lead, CAAi

Task 4

Objective: To identify a series of recommended practices and solutions for the implementation of integrated risk management concept while considering the key differences as well as the main limitations resulting from existing national or EU regulatory frameworks.

- Safety mechanisms, methods and tools that might contribute to the effective implementation of security measures
  - What safety tools are you currently using when implementing security measures?
  - Example: SMS, Reporting, Change Management, HIRA (Hazard Identification & Risk Assessment), Safety Case, Flight Safety Assessment
- Safety and security risk assessment practices
- Recommendations to support an integrated policy and decision-making process at national and EU level

Task 4

- Scheduled to commence June 24 and complete July 25
- Call for experts to support
  - Attend a workshop in March
  - Complete surveys
  - Sign up to 1-2-1 interviews

Get in touch with us if you currently undertake risk assessments and would like to be part of the research

caai.impactofsecuritymeasuresonsafety@caa.co.uk

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Next steps and concluding remarks

Simon Evans
Subject Matter Expert, CAAi

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Close

- Thank you all for attending
- Full details of this presentation, will be posted on the EASA Website
- Further workshops are scheduled for this year and next to share more information with you as to how the project is progressing
- In addition, there will be more topic focused workshops which we will notify you about.
- If you wish to participate further in this project, share your thoughts with us or provide general feedback please contact a member of the Project Team @ caai.impactofsecuritymeasuresonsafety@caa.co.uk

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Webinar: Project Update

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Wednesday 22nd May 2024

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End Presentation

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