EASA update on rulemaking and research

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EASA Certification Directorate

IAMFTF/IASFPF Meeting
Bremen, 16-18 April 2024

Your safety is our mission.

Agenda

- → EASA Rulemaking
  - → PED battery fire on the flight deck
- → EASA Research
  - → AirPED
  - → LokiPED
  - → HEALTH

EASA
European Union Aviation Safety Agency

PED battery fire on the flight deck

PED fire on the flight deck

- **Continuing Airworthiness (CAW) activities:**
  - In May 2018 EASA issued a Continuing Airworthiness Review Item (ref. CARI 25-09) to request TCHs to assess the hazard associated to a lithium battery fire on the flight deck
  - The CARI identifies a minimum set of measures necessary to address the hazard
- **Initial Airworthiness (IAW) activities:**
  - In December 2021 EASA published proposed special conditions to address the safety concern highlighted in the CARI for new design certification project
  - On 26 April 2022 EASA published the final Special Condition SC-G25.1585-01 Issue 2 and the related CRD
- **SIB addressed to operators:**
  - On 12 October 2022 EASA published SIB 2022-08 including recommendations based on the special conditions
  - The SIB was shared with other Aviation Authorities before pubblication

PED fire on the flight deck

Potential Risks due to devices containing Lithium batteries located on the flight deck

- Personal electronic devices (PED) carried by passengers and crew contain as well lithium batteries. Additionally, passengers and crew may carry spare lithium batteries and powerbanks. Lithium batteries and PEDs commonly found in the flight deck are electronic flight bags (EFB) and those carried by the flight crew for personal convenience.

- The increasing number of lithium batteries contained in equipment carried by the flight crew on commercial transport aircraft results in a higher risk of in-flight lithium battery fires.

- Typical location may be in the storage boxes available or on mounting brackets when provided. On certain aircraft design, the flight deck storage boxes may be located in close proximity to built-in oxygen lines routed in the flight deck, the oxygen mask storage box or other critical system components.

PED fire on the flight deck

CARI 25-09 : Potential Risks due to devices containing Lithium batteries located on the flight deck

- In case of a battery/cell thermal runaway, the flight deck would become potentially affected by generation of heat, smoke and flames, as well as by explosions. Additionally, a battery fire affecting critical aircraft systems (e.g. flight controls and oxygen lines) may be catastrophic.

- The use of PED's in the flight deck is regulated by operational requirements. However, the Agency believes that the safety risks associated to PED fires relate for some aspects to the design.

- The purpose of CARI 25-09 is to investigate if potential unsafe conditions associated to lithium battery fires in the flight deck may exist on any specific transport aircraft type that would require corrective actions as a second step.

PED fire on the flight deck

CARI 25-09 : Potential Risks due to devices containing Lithium batteries located on the flight deck

The Type Certificate Holder (TCH) is requested to:

- → 1) Perform a hazard assessment of a representative lithium battery fire in the flight deck.
- → 2) If in case of lithium battery thermal runaway the storage boxes or mounting brackets cannot keep their physical integrity, or the thermal runaway effects may may be critical f or the surrounding systems, the TCH is requested to define how to handle such event.
- → 3) Define the procedure associated to a PED fire in the flight deck.
- → 4) Define the safety equipment (e.g. fire gloves) necessary to relocate an overheated PED to the location specified for fire fighting and subsequent storage.
- → 5) Define the necessary safety makings.

Special Condition SC-G25.1585-01

Special Condition

Mitigation of flight deck fires originating from lithium batteries

that are not part of the aircraft design

1) The emergency procedures to be followed in case of lithium battery fire on the flight deck must be specified considering the different threats (i.e. heat, smoke, fire and explosion) associated to a potential lithium battery thermal runaway event.

2) Adequate training must be specified for the flight- and cabin crew addressing such emergency procedures.

3) The emergency equipment required to effectively follow the procedures established to meet above SC 1) must be suitable for lithium battery fires and must be located either in the flight deck or in its close proximity so that it can be timely retrieved by the flight crew or the cabin crew, as applicable.

4) The design of each stowage compartment and each mounting bracket on the flight deck, must be evaluated by means of a fire hazard assessment supported by test evidence to determine its suitability to place or stow PEDs, power banks and spare batteries.

5) Placards must be installed to allow the identification of stowage locations and mounting brackets inside the flight deck that are determined to be suitable for PED stowage according to above SC 4).

Special Condition SC-G25.1585-01

Means of Compliance

The associated Means of Compliance is published for awareness only and is not subject to public consultation.

MOC to SC 1

The emergency procedures required to meet special condition 1) should be included in the AFM and should be developed considering the following guidance:

a. Personal Electronic Devices (PEDs) powered by lithium batteries are commonly transported on the flight deck of Large Aeroplanes, e.g. electronic flight bags (EFB) or devices carried by the flight crew for personal convenience (mobile phones, tablets, laptop computers, e-cigarettes,etc.). In addition to PEDs, also power banks or spare batteries may be transported on the flight deck by flight crew members.
b. A possible means of compliance with special condition 1) consists in prohibiting the carriage on the flight deck of lithium batteries that are not part of the aircraft type design and that have a capacity exceeding 2 Wh.
c. The lithium battery may be in a PED on a mounting bracket or may be in the personal belongings of the flight crew - both cases need to be addressed.
d. A lithium battery fire on the flight deck could be potentially catastrophic and therefore the emergency procedures should involve either the removal of the PED, power bank or spare battery from the flight deck or placing it in a safe stowage that is readily on the flight deck.
e. The need to use liquids to cool the battery as part of the fire-fighting procedure.
f. The likelihood that cabin crew members can actively participate to the fire-fighting procedure should be evaluated.
g. The procedure should make clear whether it is required for the aircraft to land as soon as possible.

Special Condition SC-G25.1585-01

MOC to SC 4

The hazard assessment required by SC 4) should cover all the consequences of a thermal runaway event, such as for example:

a. Smoke and toxic gases released from the battery, taking into account the effects of the implementation of the applicable flight deck smoke evacuation procedure.
b. The need to remove the battery from the flight deck, if applicable.
c. The consequences of the use of liquids to cool the battery as part of the fire-fighting procedure.
d. The impact of the battery fire on the physical integrity of stowage boxes or mounting brackets.
e. The potential for corrosive leakage from the battery.

The hazard assessment should be performed considering a representative lithium battery fire in terms of heat, smoke and toxic gases generation. In absence of any other justification, it should be assumed that in a thermal runaway of a representative PED battery temperatures as high as 760° C could be reached and that the event could have a duration of at least 2 minutes. The setup and procedure of any test conducted to support the demonstration of compliance with SC 4 should be agreed with EASA.The proximity of critical systems (e.g. oxygen systems, wire bundles, other batteries, etc.) that could be affected by direct flame impingement or heat transfer should be taken into account. Mounting brackets should be shown to withstand the PED overheat/ fire until the PED can be safely removed from the mounting bracket.

A possible means of compliance with special condition 4) consists in prohibiting the carriage on the flight deck of lithium batteries that are not part of the aircraft type design and that have a capacity exceeding 2 Wh.

EASA SIB 2022-08

Recommendation(s):

EASA recommends the large aeroplane operators to:

- Ensure that no PEDs, spare batteries or power banks are transported on the flight deck, unless, when not in use, they can be placed or stowed in flight deck stowage compartments that have been specifically designated to stow PEDs, power banks and spare batteries by the relevant design approval holder.
- Implement Service Bulletins published by TC holders to address the lithium battery fire events on the flight deck.
- For EFBs, ensure that the battery fire scenario is addressed in the risk assessment performed to authorize their use on the flight deck. In such risk assessment no credit should be given to existing EASA approvals of mounting brackets installations, as regards to withstanding the effects of a lithium battery thermal runaway, unless there is the evidence that EASA Special Condition SC-G25.1585-01 was part of the certification basis considered for the related projects.

CARI 25-09 : data review status

- Several non-EU TCHs have not provided any data
- Review of the data received from EU TCHs almost finalized
- Level of priority established based on the size of the in-service fleet
- Objective of the review of the available data is to identify any unsafe condition and implement appropriate corrective actions

CARI 25-09 : main findings

- → Unambiguous information on safe stowage locations available on the flight deck should be provided to operators (through placards and training material).
- → Donning fire gloves is essential to safely handle PEDs:
  - → Not always available on the flight deck or in its proximity
  - → Minimum performance standard for fire gloves should be specified
- → Use of fire containment bags: not acceptable for fire fighting but may be used as stowage facilities (in the cabin and on the flight deck), if adequate performance is demonstrated.
- → A strategy needs to be defined to address Continuing Airworthiness of EFB mounts installations

Fire containment bags

- FCBs may be used by TC holders as stowage means on the flight deck, if adequate performance is demonstrated.
- Fire containment should be demonstrated against a standard test method (e.g. UL5800).
- Relocation of the bag to another compartment (e.g. a lavatory) is essential to address smoke released by the PED during the thermal runaway event
- As of today, no FCB has passed fire containment tests requested and witnessed by EASA (performed using UL5800 as a reference).
- Fire containment performance significantly depends on the strict application of the instructions for closure of the bag.

Considerations on UL5800

- Lack of definition of the configuration of the artificial battery fire source:
  - Orientation of the 18650 cells with respect to critical features in the construction of the box (holes, joints, etc.).
  - Orientation of the artificial battery fire source with respect to critical features of the fire containment bag.

Next steps

- → Implementation the SC in the certification basis of large aeroplanes
- → Make progress in the definition of a standard for FCBs addressing PEDs handling and battery fire containment: on-going EASA research project LOKI-PED
- → Definition of a minimum performance standards for fire gloves
- → Address IAW and CAW of EFB mounts:
  - → EASA is developing a new CARI that will be sent to design approval holders (including DOAs that incorrectly approved mounts installation as minor changes…)
  - → revision of the MOC to SC-G25.1585-01

EASA
European Union Aviation Safety Agency

EASA Research

easa.europa.eu/connect

Your safety is our mission.

An Agency of the European Union

EASA research

LOKI-PED

Research Project details

Contracting Authority: EASA

Project Leader: Fraunhofer Gesellschaft

€ 800,000

08/2022 › 07/2025

This project will be funded from the European Union's Horizon Europe research and innovation programme.

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Airbus

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LOKI-PED Project

LOKI-PED

(https://loki-ped.de)

About LOKI-PED

The LOKI-PED project, funded by EASA and named after the nordic god of fire, aims to assess the risks associated with lithium batteries in portable electronic devices in case of fire and smoke in cockpit and cabin. Therefore, the Fraunhofer Institutes for Highspeed-Dynamics, Ernst-Mach-Institut, EMI and Building Physics IBP team up with AIRBUS (Airbus Operations GmbH and Airbus SAS). With this consortium, the latest numerical and risk assessment methods, advanced test facilities for battery abuse, cabin fire testing and cabin in flight conditions will be employed to make the inflight use of PEDs safer.

Smartphone battery after Thermal Runaway. © Adobe Stock

Burning Laptop. © Adobe Stock

Fraunhofer EMI

Fraunhofer IBP

AIRBUS

EASA European Union Aviation Safety Agency

LOKI-PED

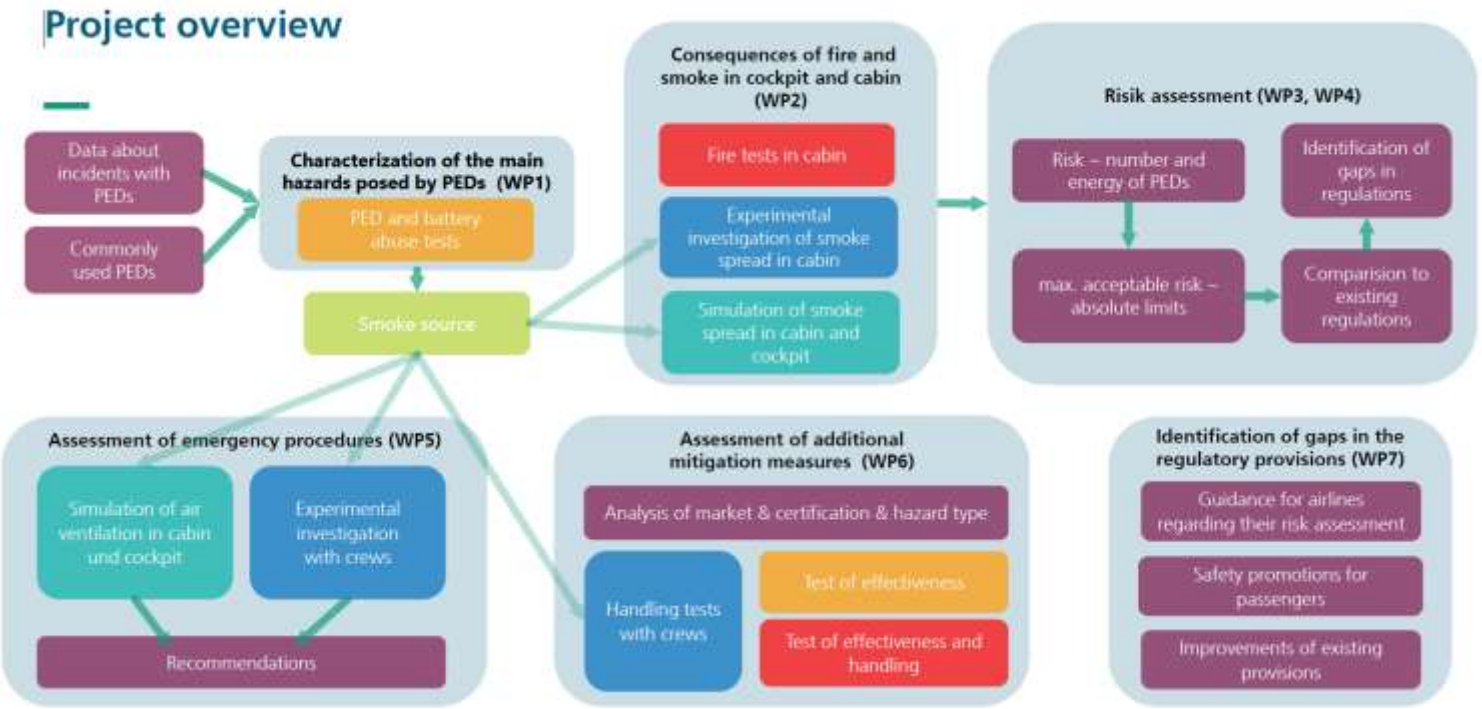
(https://loki-ped.de)

Expected outcome

- Provide experimental test evidence for the establishment of limits (power output and quantity) for the transport of PEDs, and study the effects of an increase/decrease in the risks involved.
- Develop new and improve existing emergency procedures to cope with lithium batteries and PEDs transported in the cabin, thus rendering it a safer environment for both passengers and aircrew.
- Reduce the occurrences of safety events caused by lithium batteries and PEDs carried by passengers and aircrew by better understanding the causes, consequences and patterns of lithium-battery thermal runaways in flight.
- Reduce the consequences of fire and smoke events by determining cabin and cockpit tolerances, identifying the consequences of failures in the aircraft systems, and identifying solutions both at aircraft and lithium-battery level.
- Support operators in assessing the risks associated with the transport of lithium batteries and PEDs in the cabin and identify the need for safety promotion for passengers.

LOKI-PED

(https://loki-ped.de)



EASA

INTERNATIONAL AIRCRAFT MATERIALS & SYSTEMS FORUM MEETING**, 2024,**
Bremen, DE

Simon Holz, Victor Norrefeldt

The LOKI-PED project

Lithium batteries in pOrtable electronic devices – risK of fIre and smoke

www.loki-ped.de

LOKI-PED: Lithium Batteries Fire/Smoke Risks in Cabin

Overview

Funding: European Union Aviation Safety Agency EASA

Partners

- Fraunhofer Institute for Highspeed Dynamics, Ernst-Mach-Institute, EMI
- Fraunhofer Institute for Building Physics, IBP
- Airbus Operations GmbH & Airbus SAS

including 20 experts, researcher and technicians.

Focus

- PEDs in cabin and cockpit
- Not cargo nor checked luggage

Tasks

- Characterization of the main hazards posed by PEDs
- Consequences of fire and smoke in cockpit and cabin
- Risk assessment regarding number and energy content of PEDs
- Assessment of emergency procedures
- Assessment of additional mitigation measures
- Identification of gaps in the regulatory provisions

Duration: 01/2023 – 06/2025

Experimental Approach – PED and battery abuse characterization

Battery Test Center – Fraunhofer EMI

Battery Test Center

08/2023 & 06/2024

WP 1

TR and source characterization

Realization: Laptops, Tablets, Smartphones, Power tool batteries are triggered by heating foils

WP 6

Containment capability of bags

Cooling capability of extinguishers

Realization: Laptop (100Wh, 9 cylindrical cells)

Selection of bags and extinguishers by working principle

Diagnostics:

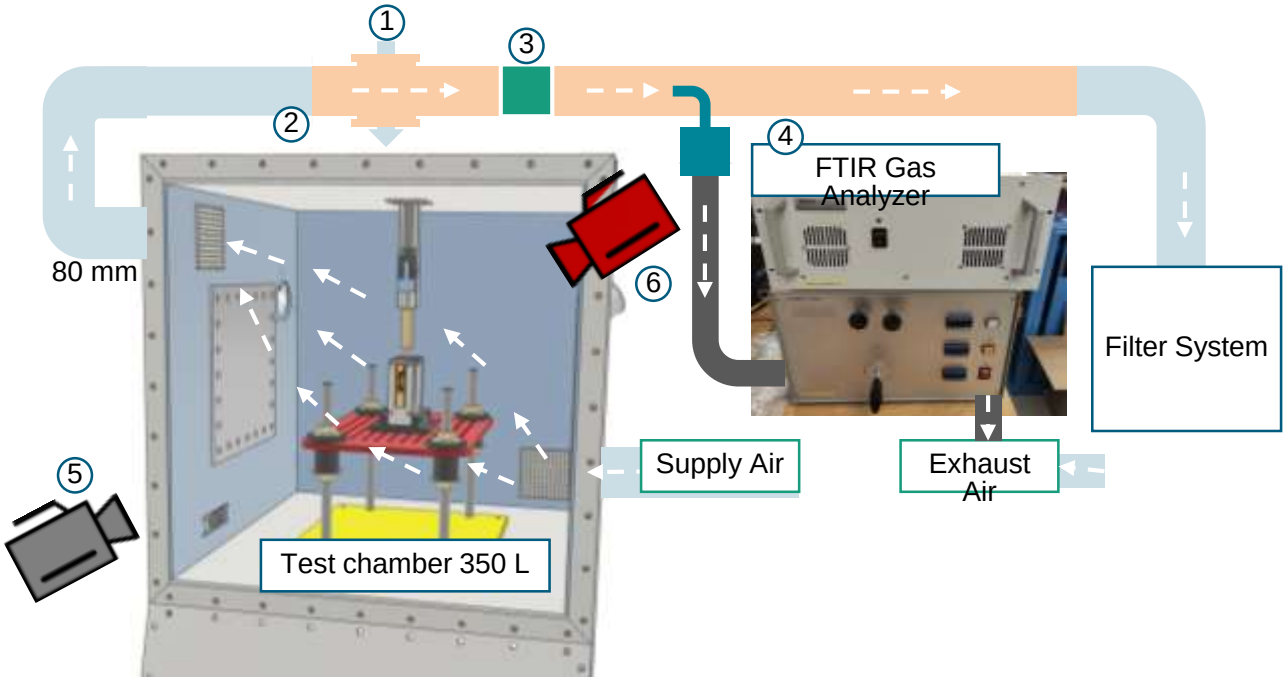
- gas volume (source)
- gas composition (toxicity)
- temperature on bag (handling)

Experimental Approach – PED and battery abuse characterization

Battery Test Center – Fraunhofer EMI

PED abuse

Battery Test Center



Diagnostics:

1. Light source / photo detector
   → *Smoke release rate*
2. Type K thermocouple
   → *Temperature / heat rate*
3. Flowmeter / Hot-Wire Anemometer
   → *Volume flow*
4. Gasmet FTIR Gas Analyzer
   → *Gas composition*
5. Optical video recording InfraTec VarioCAM
   → *Thermographic images*
6.

Experimental Approach – PED and battery abuse characterization

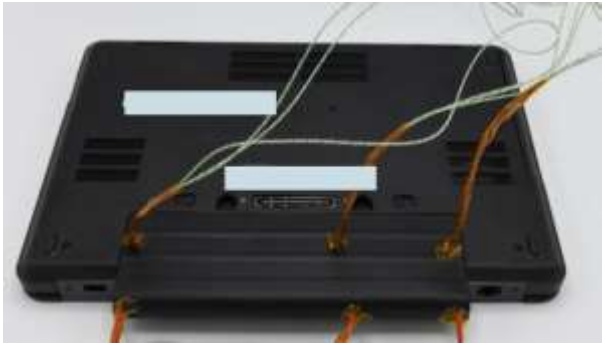
Battery Test Center – Fraunhofer EMI

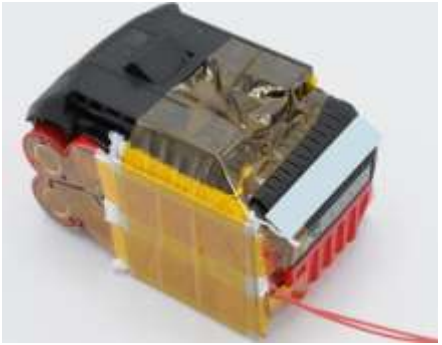
PED abuse

Battery Test Center

Instrumentation of PEDs with

- thermocouples
- heating foils





Exemplary test results

Battery Test Center – Fraunhofer EMI

PED abuse

Battery Test Center

Smoke hazard

Lithium-Ion battery emissions under thermal runaway

Polymer fire resulting from casing of both PED and battery

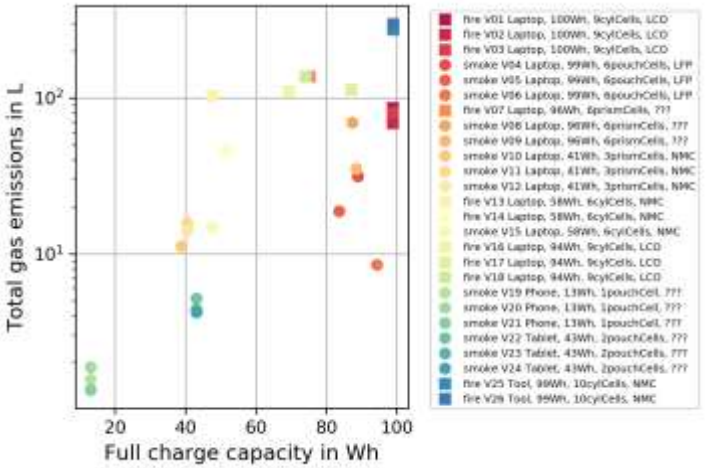
Flammable and toxic gases

Fresh air ventilation

Fire hazard

Post test inspection

Battery emissions under thermal runaway



Experimental Approach – PED fire in single aisle cabin

A320 mockup

06/2024 & 09/2024

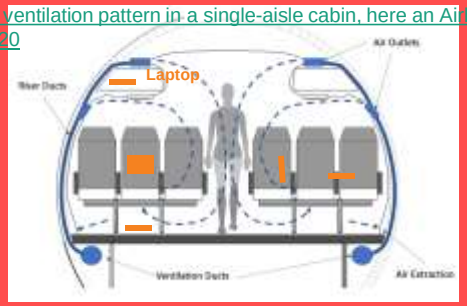
WP 2

TR and source characterization in cabin
Scenarios: on floor, on/in/under seat/pocket, overhead bin
Realization: PEDs triggered by heating. Realistic air flow pattern and geometry including aircraft seats.

WP 6

Handling of fire and heat from PEDs
Worst case scenario: laptop (100Wh) in TR on seat, in seat-back pocket, in overhead bin
Realization: PEDs triggered by heating. Person in PSE will handle the PEDs with containment bags and extinguishers.

Air ventilation pattern in a single-aisle cabin, here an Airbus A320



A320 Mockup, Fraunhofer EMI & IBP

DSAC: Treatment of a thermal runaway in cabin with 1 flight attendant on youtube.com

Experimental Approach – Smoke spread and handling in wide-body cabin

Flight Test Facility

06/2024 & 03/2025

WP 2	**Smoke spread in cabin** as reference for simulations
WP 5	**Influence of air ventilation** on smoke spread **Where to place the PED** during/after TR w/o bag, gloves
WP 6	**Handling of smoke** emitted from PEDs by crew in real cabin with bags, extinguishers and personal protective equipment like gloves and smoke hoods

Flight Test Facility, Fraunhofer IBP

Workshop series for additional mitigation measures against thermal runaway of PEDs

Def. AMM: containment bags and extinguishers
Handling of gloves, smoke hoods will be considered separately.

Participants: manufacturers of AMM

Idea: Exchange between research and industry.
Manufacturers provide products and knowledge for testing and perspective on future certification.
Fraunhofer provides insights in the performance of different technologies and provides industry perspective to EASA.

Situation: not all products may be tested due to resources.

Concept: Distinguish products by technology. Select one item per technology. We will publish results of tests excluding the brand. We will not draw conclusions from the results or recommend any product.

NDA between all parties involved (Fraunhofer, Airbus, Manufacturers)

Workshop 1 **February 2024** online, Introduction of concept, tests to be conducted within LOKI-PED, time table, NDA, agreement to share products

Workshop 2 **May 2024** online, sharing of information regarding usage, working principle, conducted tests, perspective on certification

Workshop 3 **July 2024** Efringen-Kirchen, Germany handling tests during fire test in A320 mockup with real PEDs (*Show case*)

Workshop 4 **Sept 2024** online, sharing of results, discussion on possible test standard

Workshop 5 **2025** Holzkirchen, Germany handling tests in **in Flight Test Facility** with artificial smoke source

Workshop 6 **2025** online, sharing of results, discussion on possible tests standard

Workshop series about safety management and emergency procedures in case of thermal runaway of personal electronic devices in cabin and cockpit

Def. PED: smartphones, laptops, power tools, [vaporizers, power banks]

Participants: active crew members, cabin crew trainers and safety managers of airlines

Idea: Exchange between research and industry.
Cabin crew and crew trainers testing different emergency procedures and mitigation measures in a real cabin environment.
Safety managers sharing actual issues regarding risk assessment.
Fraunhofer provides insights in the risks associated with PED fires and risk assessment.

Situation: All stakeholders want to enhance inflight safety.

Concept: Evaluate handling of mitigation measures (bags, extinguishers, gloves, smoke hoods) and emergency procedures in Flight Test Facility

NDA between all parties involved (Fraunhofer, Airbus, Training Companies, Airlines)

Workshop 1 **09/04/2024** online, Introduction of concept, time table, NDA

Workshop 2-n **2024 online,** sharing of airline procedures, discussion of procedures to be tested

Workshop n+1 **2025 Holzkirchen,** tests in **Flight Test Facility** with artificial smoke source, PSE and AMMs

Workshop n+2 **2025 online**, sharing of results, discussion on possible improvements of procedures

Thank you for your time!

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www.loki-ped.de

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EASA research

AirPED

Research project EASA.2020.HVP.12
based on the Horizon 2020 Work Programme Societal Challenge 4
'Smart, green and integrated transport'

- Lithium battery fires in cargo compartments:
  - PEDs in checked baggage
  - Bulk shipment of lithium batteries
- Budget: 600.000 €
- Project started in September 2021
- Report to be published in Q4 2024

vito

AIRBUS

DLR Deutsches Zentrum für Luft- und Raumfahrt
German Aerospace Center

AirPED

Objectives

- To evaluate the effectiveness of cargo fire suppression systems (Halon-based and Halon-free) in case of thermal runaway events originating from battery-powered devices in checked baggage

- To generate data to support the revision of the MPS for Aircraft Cargo Compartment Halon Replacement Fire Suppression Systems : validation of the definition of a new cargo fire test scenario involving lithium batteries

- To perform additional tests with the same setup as Task 4 of the Sabatair project (external fire scenario, with FCCs protecting the batteries/cells)

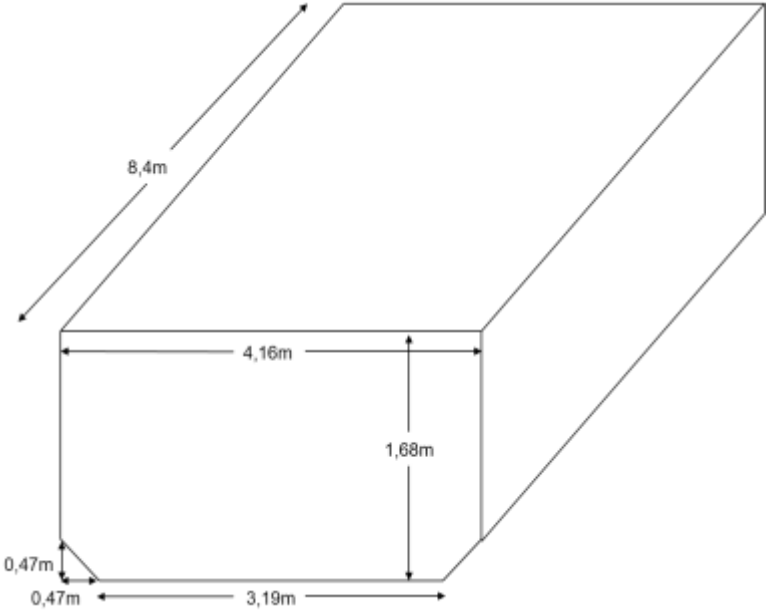
AirPED

TASK 1 – EVALUATE THE BASELINE PERFORMANCES OF THE SELECTED FIRE TEST CHAMBER FOR MPS TESTS

- The test chamber should meet the definition given in DOT/FAA/TC-TN12/11 (Minimum Performance Standard for Aircraft Cargo Compartment Halon Replacement Fire Suppression Systems (May 2012 Update)), considering the changes currently under development by the IASFPF Cargo MPS Task Group.
- Compliance in volume and shape, materials and, as one of the most important performance influencing parameters, the leakage and the way it is imposed.
- Perform full-scale fire tests to prove the performance of the chamber.
- Introduce any design change necessary to ensure that the test chamber is suitable to perform testing as per the MPS.

AirPED

The tests are conducted in the cargo compartment Halon replacement MPS test chamber at DLR (Trauen, Germany)



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AirPED

TASK 2 – DEVELOP THE TEST PLAN AND PROTOCOLS

TASK 3 – PERFORMANCE OF FIRE TESTS

Test Scenario
Unsuppressed Surface Burning
Unsuppressed Bulk Load
Unsuppressed Containerized
Unsuppressed Multiple Fire Test

Test Scenario
Surface burning & Halon 1301
Bulk Load & Halon 1301
Containerized & Halon 1301
Multiple Fire Test & Halon 1301
Multiple Fire Test & Halon replacement agent
Surface Burning & Halon replacement agent
Bulk Load & Halon replacement agent
Containerized & Halon replacement agent

Test Scenario
Calibration of baggage
Compartment floor
Compartment ceiling
ULD container
Involvement of a bulk shipment of cells/batteries in an external fire event

AirPED

TASK 4 – ASSESSMENT OF TEST RESULTS AND AIRCRAFT FIRE PROTECTION EFFECTIVENESS

TASK 5 – PROJECT CONCLUSIONS, RECOMMENDATIONS AND PRESENTATION TO AVIATION STAKEHOLDERS

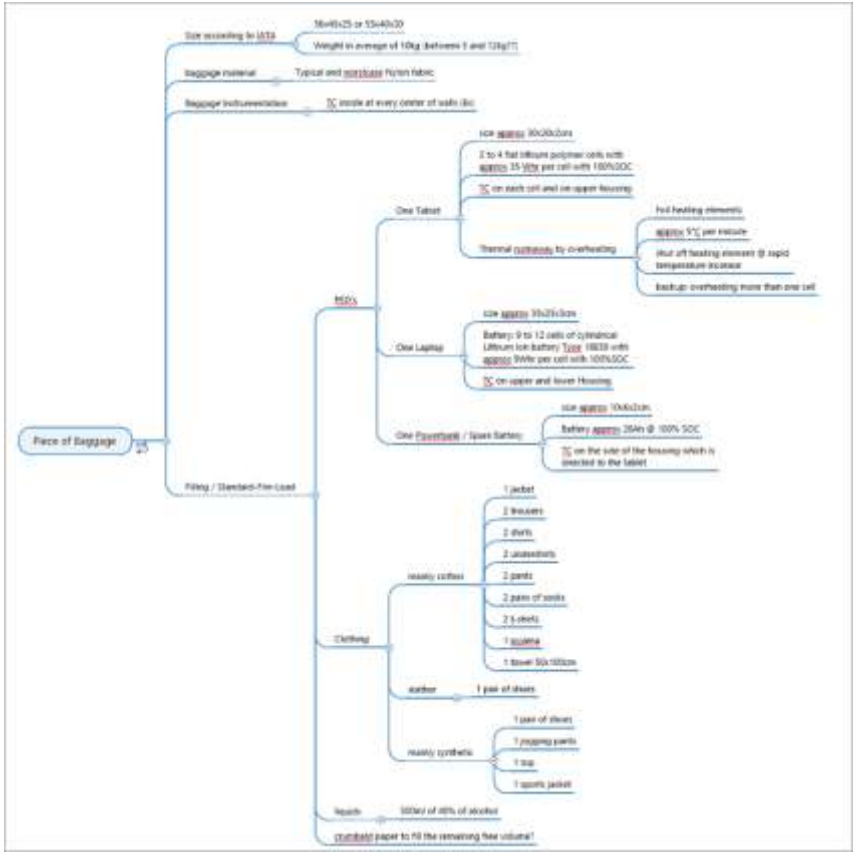
- The objective of Task 4 and Task is the assessment of the effectiveness of a state-of-the-art fire protection means of a Class C cargo compartment in suppressing a fire involving lithium batteries. This assessment will be done based on test data from the different test scenarios carried in the previous tasks and will include:
  - the evaluation of the level of performance of the tested aircraft fire protection systems in the tested cargo fire scenarios
  - recommendations for improvements of the MPS test protocols, with particular reference to the definition of the new Multiple Fuel Fire scenario involving lithium batteries.
- The final project report will also identify recommendations and further work on open issues that were not deeply investigated during this project.

AirPED

SCENARIO 1: Baseline – Calibration of baggage

- The objective of this test is to define a representative single baggage configuration to be used for the thermal runaway test scenarios that will address possible fire events in representative check-in baggage of passenger aircrafts.

- Different baggage configurations including PEDs, power banks and/or spare batteries, together with other representative checked-in baggage content (e.g. clothes, permissible liquids and/or aerosol cans) will be tested until PEDs in thermal runaway are able to create a sustained internal fire that may propagate outside the baggage



AirPED

SCENARIO 2: Compartment floor

- The objective of this test is to investigate the scenario in which fire starts from a piece of baggage that is not directly exposed to the extinguishing agent discharged in the compartment.
- The thermal runaway occurs inside the baggage located on the floor in the middle of the compartment and which is fully hidden below other baggage items with similar PED battery loadings.
- The extinguishing agent shall be released inside the compartment after a timeframe that is established with the objective to simulate the sequence of events that would occur in an actual cargo fire scenario, from the time at which fire detection occurs and a warning is provided to flight crew to the implementation of the cargo fire emergency procedure.

SCENARIO 3: Compartment ceiling

- The objective of this test is to evaluate the scenario in which the fire starts in a point as close as possible to the ceiling level and as far as possible from the fire suppression system nozzle(s). This scenario is critical for the effectiveness of the fire suppression system considering the stratification of Halon 1301.

- The thermal runaway occurs inside a baggage located in one corner of the mock-up as close as possible to the ceiling considering the typical limitations to the maximum loading height for cargo compartments of large aeroplane (ref. paragraph 12 of AMC 25.851(b)).

AirPED

SCENARIO 4: ULD (container)

- The objective of this test is to investigate the scenario in which fire starts from a piece of baggage that is not directly exposed to the extinguishing agent because it is placed inside a standard ULD container.

- Three LD-3 containers will be used for this test and arranged like the containerized scenario in the MPS. A minimum set of 6 baggage units having the configuration determined in scenario 1 will be placed inside the middle container. Dummy load will be used to fill up the whole container.

SCENARIO 5: Multiple Fuel Fire Scenario

- The intent of these tests is to ensure that Class C cargo compartment fire suppression systems can address a fire event developing from a complex fire load.

- The fire load for the Multiple Fuel Fire scenario consists of materials that when combusted produces a complex fire (i.e., after ignition, the resulting fire consists of Class A surface burning, Class B flammable liquid fire, and thermal runaway of some lithium cells).

AirPED

SCENARIO 6: Halon Replacement

→ Show that a candidate replacement agent can pass the cargo MPS, including the Multiple Fuel Fire scenario.

Test Scenario
Surface burning & Halon 1301
Bulk Load & Halon 1301
Containerized & Halon 1301
Multiple Fire Test & Halon 1301
Multiple Fire Test & Halon replacement agent
Surface Burning & Halon replacement agent
Bulk Load & Halon replacement agent
Containerized & Halon replacement agent

AirPED

SCENARIO 7: Involvement of a bulk shipment of cells/batteries in an external fire event

- The objective is to perform a series of tests to assess the external fire threat on the packaging solutions used for the transport as cargo of lithium cells/batteries (other than 18650 cells).
- Assess fire suppression and non-propagation aspects with and without additional mitigating measures (e.g. FCCs) protecting the cell/batteries.

EASA

Project Status

- Task 1 is completed (pending finalization of unsuppressed fire test scenarios)

- Task 2 and Task 3 are on-going. Activities performed:
  - unsuppressed fire test scenarios (except for Multiple Fuel Fire scenario)
  - Halon 1301 fire suppression system calibration tests
  - Testing restarted in January 2024

- All fire test scenarios to be run by the end of Q3 2024

- Task 4 and Task 5 to be completed in Q4 2024

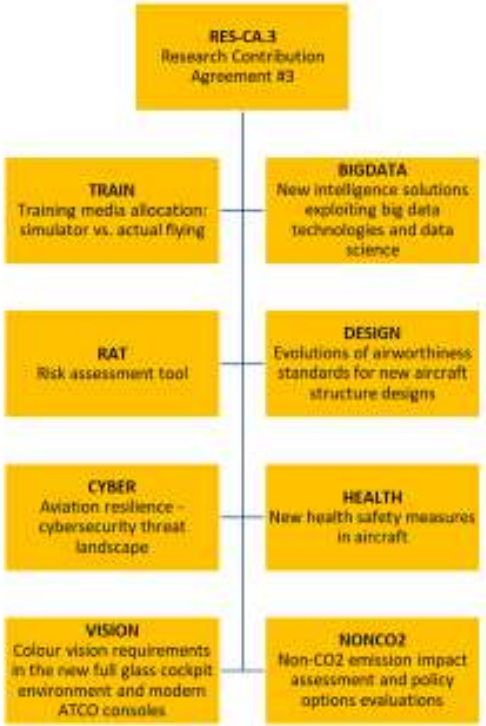
- Final report and project deliverables due by the end of Q4 2024

New research project: HEALTH

RES-CA.3 | tentative list of projects

Main objectives:

- Strengthen EASA's capacities as aviation authority and regulator
- Implement EASA Research Agenda and related strategic EPAS actions
- Contribute to EASA's competency management and knowledge development



New research project: HEALTH

- Horizon Europe Project
- HEALTH – New health safety measures in aircraft
- Expected outcome:
  - Identification of scientifically proven solutions to reduce the spread of airborne infectious agents within the aircraft environment.
  - Impact of various disinfection and cleaning methods implemented by operators on continued airworthiness and maintenance.
  - Generation of scientific evidence to support regulatory decision making, as well as an implementation roadmap for the Agency and Industry. T
  - The project shall take into consideration retrofit solutions, as well as solutions applicable to new aircraft cabin design.
  - Call for tender finalized in Q1 2024
  - Expected project start: Q3 2024
  - Project duration: 36 months
  - Budget: 1,1 million euros

EASA
European Union Aviation Safety Agency

Any Questions ?

easa.europa.eu/connect

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An Agency of the European Union