

# Rotorcraft Structures Workshop

18-19 February 2025

Join at  
**slido.com**  
**#RSW2025**



**Rotorcraft Structures Workshop**  
18-19 February 2025

**Your safety is our mission.**

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**Your safety is our mission.**

An Agency of the European Union 

# Welcome

Emily LEWIS  
Senior Expert – Structures,  
GA / VTOL



# Welcome

Fabrice LEGAY  
Section Manager – Medium  
and Light Rotorcraft



# Welcome

Laurent PINSARD  
Chief Expert - Airframe



# Objectives presented in 2019 Rotorcraft workshop

- ARAC (pre-rulemaking Process)
- SEI (Safety Emphasis Items)
- AC/AMC revision
- VTOL Vertical Take-off and Landing:

## Challenges

Incorporate, consistent, relevant, harmonised (and accepted) position

# Introduction – 2025

Since the last 2019 Rotorcraft Workshop.

- Part 26 (CRFS)
- CS & AMC revision (RCF, VHM...)
- EASA Safety Emphasis Items (SEI) established for validation (TIP),
- CMs publication (Elastomer, CIVP, Hybrid bearing, AM ...)
- New SC-VTOL (2019) & AMC
- Safety Recommendations
- IPC, TAC, PAC & Research (AI/ML, AM, Hydrogen, CBM/SHM/VHM...)
- EASA Material strategy (organise and maintain EASA involvement in Material Standardisation)
- **CERTIFICATION & CAW**

# Introduction – 2025

Applications/projects:

- New models
- External installation & equipment
- Cabin interior (VIP, EMS, operator station ..)
- Additive & Advanced Manufacturing
- VHM, SHM (with AI application)
- Firefighting
- Modifications (remanufacturing...)



$$\mathcal{L}_{\text{StandardModel}} = -\frac{1}{2}\partial_\nu g_\mu^a \partial_\nu g_\mu^a - g_s f^{abc} \partial_\mu g_\nu^a g_\mu^b g_\nu^c - \frac{1}{4}g_s^2 f^{abc} f^{ade} g_\mu^b g_\nu^c g_\mu^d g_\nu^e +$$

**Complex organisation**

**Complex product (high complexity)**

**Complex regulation structures**

**Simplification**

**Visibility**

**Clarity**

# Practical Aspects

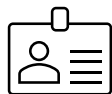
# Practical Aspects



Catering will be in the Foyer



Evaluation form – please fill in and leave with us at the of workshop



Please leave your plastic badge holders at end of workshop



Coat Hangars in the Foyer, near the stairs



Any queries: the admin team are here to help

# Workshop Guidelines



Questions at the end of the presentation (5 mins allocated)



Slido will be used to manage the questions (QR code on Agenda)



Please use the desk microphones (if needed)



EASA presentations will be available on the EASA website after the event



Please no recording!

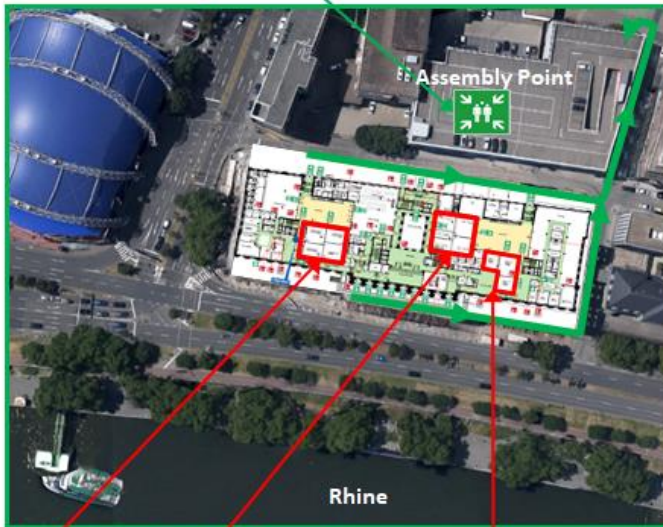
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# Evacuation instructions: conference rooms

## Escape route

Assembly Point: EASA Parking: Parkhaus  
Rhein Triadem, 3<sup>rd</sup> & 4<sup>th</sup> floor



Boeing

Airbus

Caravelle, Comet, Constellation

**EASA Emergency Number: 1111**

In case of emergency call: **1111**

The desk phones have a emergency speed dial button.



## 1. when to Evacuate

- a) Following acoustic signal
- b) Following instructions by emergency team

## 2. Evacuation signal and route

Signal: Continuous siren and/or voice message over loudspeaker

Routes: Nearest fire exit

## 3. Evacuation procedure

- a) Warn other people, help handicapped or injured persons
- b) Only use stairs and marked escape routes
- c) Do not use lifts
- d) Do not return to collect personal belongings
- e) Go directly to the assembly point
- f) Do not return to the building until instructed to do so

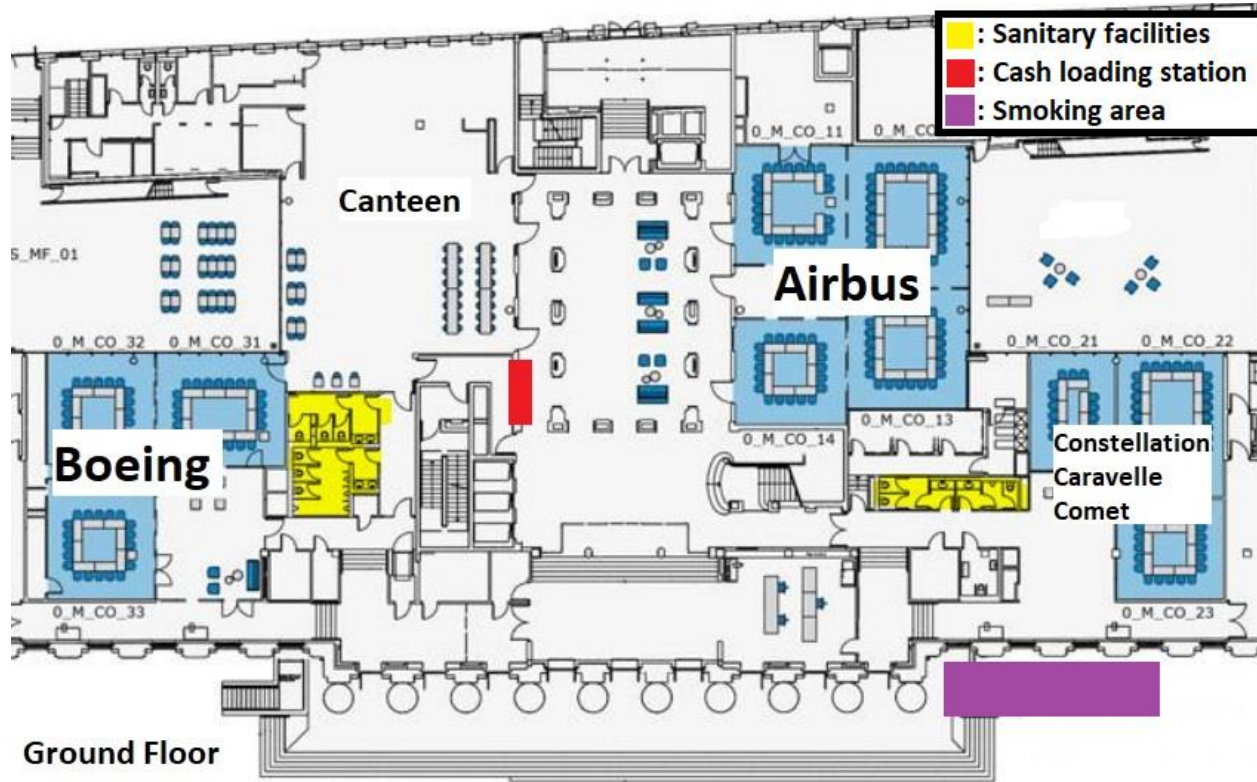


**EMERGENCY  
PROCEDURE CARD**

European Aviation Safety Agency  
Königsplatz 1  
D-50667 Cologne, Germany

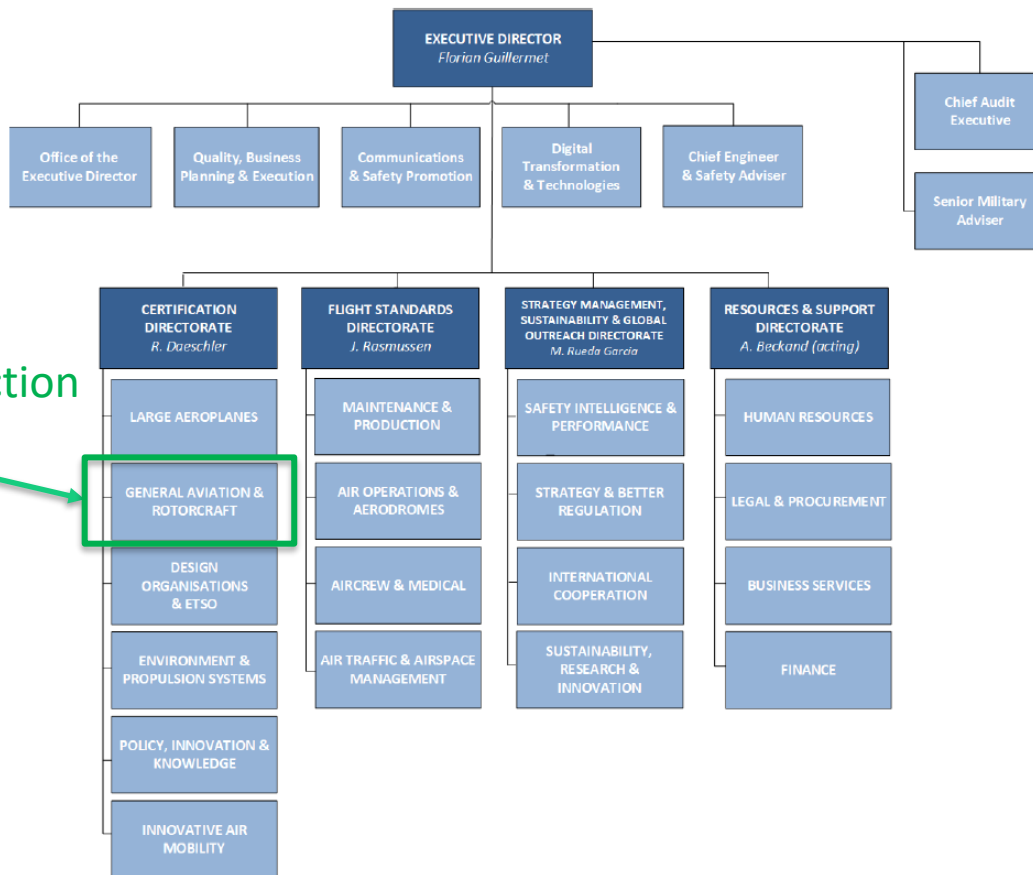
Find more information at your  
**EASA Emergency Procedure Card**  
on your visitor lanyard!

# EASA Direktion house rules



# Structures Experts

# EASA Organisation Structure



- Heavy Rotorcraft Section
- Medium & Light Rotorcraft Section



# Structures Experts: Technical Line



**Chief Expert - Airframe**  
Laurent PINSARD

NAA Colleagues



## Large Aeroplanes Department



**Senior Expert – Structures  
Large Aeroplanes**  
Wim DOELAND



## General Aviation and Rotorcraft Department

### Medium & Light Rotorcraft Section



**Senior Expert – Materials**  
Simon WAITE



**Senior Expert – Structures  
GA and VTOL**  
Emily LEWIS



**Senior Expert –  
Transmission**  
Rodrigo MARTIN GOMEZ



**Structures Expert**  
Aiko DÜHNE



**Transmission and  
Structures Expert**  
Louis MIGNOT



**Structures Expert**  
Melanie HERMAN



**Junior Expert - Structures**  
Jonas VOM-WEG

### Small Aircraft, Balloons & Airships Section



# Workshop Objectives and Agenda

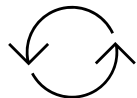
# Objectives of the Workshop



Enhance Collaboration and Communication between EASA Structures Experts and Industry Specialists



Clarify Structural Requirements and Acceptable Means of Compliance



Provide updates in policy since last Rotorcraft Structures Workshop, 2019



Share Industry Experience → Recommendations and Lessons Learned



Your participation is welcomed → please ask questions and give your opinions

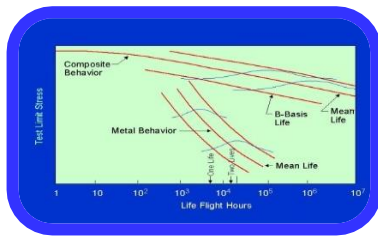
# Agenda – Day 1

## SESSION 1: Rulemaking and Policy



- Major/Minor, Cert Memos, Master CRIs, and SEI/SDD List
- Potential Future Updates to CS-27/29 AMC
- Part 26 / CS-26 Crashworthy Fuel Tank

## SESSION 2: Materials



- Material Properties
- Generic Material Issues
- Composite Materials
- Additive Manufacturing

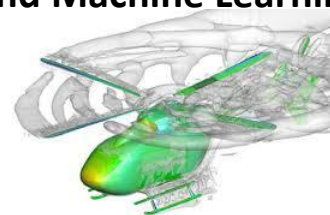
## SESSION 3: Fatigue and Damage Tolerance

- Fatigue (General) and Fatigue and Fatigue Tolerance Evaluation of Metallic Structure
- DT and Fatigue Evaluation of Composite Rotorcraft Structures
- Certification of Elastomeric Components



Elastomeric Component  
Selection, Design and  
Fatigue

## SESSION 4: Modelling, Simulation and Machine Learning



- Modelling and Simulation



Effective usage  
monitoring through  
Machine Learning  
Approaches

# Agenda – Day 2

## SESSION 5: Rotors and Transmission



- Hybrid Bearings
- Rolling Contact Fatigue
- Continued Integrity Verification Programme (CIVP)

**AIRBUS**

"Structural" CMR under 547(b) and 917(b)

**AIRBUS**

Airbus Helicopters experience on CIVP

## SESSION 6: STCs – Internal and External Installations



- Guide for STC Applications
- Vibrations
- Hoist and HEC, HEC Platform, Fast-roping Policy

## SESSION 7: General Structures Topics



- Fireproof / Fire Protection Compliance Demonstration
- Critical Parts
- Standard Fasteners
- Birdstrike
- Lessons Learned

# Thank you and enjoy the Workshop!

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