AFRA
AIRCRAFT FLEET RECYCLING ASSOCIATION

GREEN CABIN ALLIANCE

BOEING

16 JUNE 2026, ASA AFRA ANNUAL CONFERENCE, LAS VEGAS

&

2 DECEMBER 2025, REDCABIN SUMMIT, DUBLIN

# TODAY'S MODERATORS

**Karen Hills**
Boeing

**Christin Datz**
Boeing

**Lionel Roques**
AFRA

**Isabella Pourtaheri**
GCA

**Belinda Mason**
GCA

**Daniel Clucas**
GCA

**Ben Smalley**
GCA

**Elina Kopola**
GCA

Join the GCA, Boeing and AFRA for an interactive workshop exploring how today's aircraft interior design choices shape end-of-service solutions.

Help us co-create a more circular future for maximum resource efficiency in aviation.

# OUR MISSION

The Green Cabin Alliance brings the aircraft interiors industry together around a shared mission to reduce the environmental impact of aircraft cabin interiors.

# THE CIRCULAR CABIN:

# RETHINKING DESIGN AND END-OF-SERVICE

# WHY THIS TOPIC

There is a disconnect between design and end-of-service processes in aviation.

To bridge this gap, we brought together airlines, seat OEMs, material suppliers, engineers, and designers to collaborate on this topic.

Today, we invite AFRA members to share their views and insights.

# THE PROBLEM TODAY

When aircraft reach end-of-service, recyclers see the results first-hand.

- Sidewalls, galleys and seats can’t easily be separated
- Mixed materials that defy recovery
- Missing data on materials
- Much is waste or low-value scrap

# WHY IT MATTERS

- Cabin lifecycle is unique compared to airframe - 3 cabins:1 aircraft lifecycle
- Today’s design choice locks in decades of future assets as waste
- Industry is missing the economic potential of a Circular Cabin

# WHAT'S BROKEN IN THE CURRENT SYSTEM

- Product teams rarely have the opportunity to learn about end-of-service recovery
- Material data is incomplete
- Recovery costs often outweigh value
- Certification rules discourage change

# WHERE DO WE WANT TO BE?

- Establish reverse flow from end-of-service recovery to create new parts and materials which can re-enter service for second use

- Design for modularity with end-of-service in mind

- Manufacture for longevity of products

# TODAY'S TASK

Working in teams of up to 5-8 people

Intro 15 min

Tasks 30 min

Teams present 20 min

Feedback 15 min

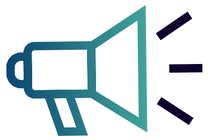

GCAir has announced the retirement of its old fleet and is launching a new tender for its next-generation Circular Cabin.

As the GCAir product team, **create circular ideas and systems to connect design and end-of-service** realities.

The winning pitch will deliver **innovation and new thinking** – while outcompeting rival teams.

GCAir

# YOUR TASK



## 1: FIX WHAT WE KNOW IS BROKEN

## 2: PITCH TO THE GCAIR CEO

# 1: FIX WHAT WE KNOW IS BROKEN

Rethink real-world cabin material challenges and create new pathways for circularity.

**Your goal:**
Create circular ideas and systems to connect design and end-of-service realities.

Task: 30 minutes

# EACH TABLE HAS A UNIQUE TOPIC

## SIDEWALL & OVERHEAD BINS

**Overview:**
Lightweight sandwich panels made of honeycomb cores bonded with fibre-reinforced polymer skins.

**Replacement cycle:**
2-3 times in aircraft lifecycle.

**Why they're a problem:**
Layers are permanently bonded hence impossible to separate. Fire-retardant resins and adhesives complicate recycling. High energy cost to produce, minimal recovery value.

New materials are relatively inexpensive, making end-of-service materials of less value

**Current recovery path:**
Landfilled or incinerated due to lack of scalable mechanical or chemical separation technologies.

**Economic challenges:**
Even if a process exists, the cost of collection, transport, and processing may not be economically favourable compared to landfill.

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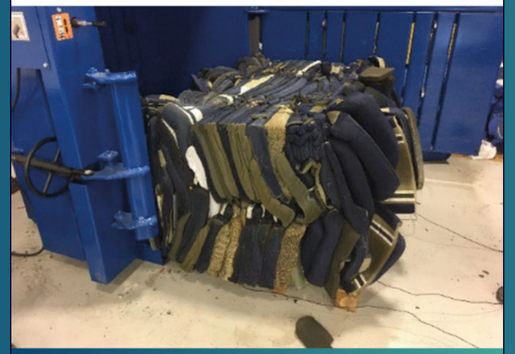
## SEAT FOAM & DRESS COVER

**Overview:**
Multi-layered assemblies of foams, fabrics, leathers, and permanent adhesives.

**Why they're a problem:**
Foams are often mixed PU and cannot be cleanly separated.
Adhesives and coatings prevent reuse.
Leather and textiles degrade unevenly over time.

**Current recovery path:**
Almost no closed-loop recovery.
Limited down-cycling into carpet underlay or energy recovery.

**Economic challenges:**
Even if a process exists, the cost of collection, transport, and processing may not be economically favourable compared to landfilling.



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## CARPET & TEXTILES

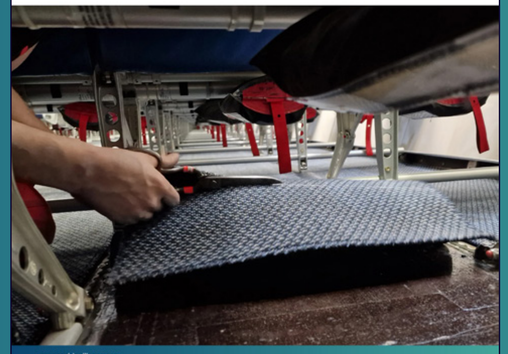
**Overview:**
Multi-layered assemblies of wool, nylon, polyester fabrics, latex binders, PVC, flame-retardant backings and permanent adhesives.

**Replacement cycle:**
Aisle carpets are replaced every 3-6 months, Underseat every 2 years, varies by customer.

**Why they're a problem:**
Adhesives and coatings prevent reuse and separations of material.

**Current recovery path:**
Limited re-purusing of textiles into new items (such as bags) or Landfill

**Economic challenges:**
Even if a process exists, the cost of collection, transport, and processing may not be economically favorable compared to landfilling, especially for smaller quantities of materials.



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## PLASTICS& LAMINATE

**Overview:**
Thermoplastics with decorative laminates or coatings for durability and flame performance

**Why they're a problem:**
Laminates obscure material type, preventing recycling.
No standardized part marking or labelling system.

**Current recovery path:**
Mostly shredded and landfilled.
Recycling plants rarely accept mixed plastic parts.

**Economic challenges:**
Even if a process exists, the cost of collection, transport, and processing may not be economically favourable compared to landfilling.

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take make in-use end-of-service

# ADD WORKING GROUP INSIGHTS TO THE POSTER




RETHINKING DESIGN AND END-OF-SERVICE

end-of-service in-use make take

# 2: PITCH TO THE CEO

From idea to impact.

Present your team’s best **Actionable Idea** for circular cabin design.

Convince the CEO your idea deserves a place on GCAir’s next fleet.

Task: 5 minutes per team

GCAir CEO FEEDBACK

# WINNING PITCH FOR THE CIRCULAR CABIN RETHINKING DESIGN AND END-OF-SERVICE

Find out more at
GreenCabinAllinace.org

joinus@greencabinalliance.org

# THANK YOU!

# GREEN CABIN ALLIANCE

The Green Cabin Alliance is a Community Interest Company (CIC) and as such any profits will be used for the public good. In our case membership fees will support our work in delivering the Green Cabin Alliance's objectives through education, events, advocacy and supporting collaboration across the industry.

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