

# ECO BRACKET

COST-EFFICIENT LIGHTWEIGHT DESIGN  
WITH RECYCLED MATERIALS

**DIEHL**  
Aviation

## SUSTAINABLE FEATURES



WEIGHT  
SAVING



CO<sub>2</sub>  
SAVING



RECYCLED  
MATERIAL

IN COLLABORATION WITH



## CHARACTERISTICS

Aerospace interior production chains generate significant amounts of waste, underscoring the need to find ways to reuse materials for both economic and environmental reasons. **Diehl Aviation and 9T Labs** have developed a groundbreaking ultra-lightweight *ECO* Bracket made from recycled thermoplastic production scrap. Through an advanced manufacturing process, the *ECO* Bracket is intricately designed for optimal load distribution, seamlessly combining outstanding mechanical performance with cost-effectiveness. Applied to overhead bin brackets, this innovative upcycling process replaces aluminum, reducing waste, achieving significant weight reduction, and promoting environmental sustainability.

## BENEFITS

- The *ECO* Bracket can save 1.6 kg per aircraft with just overhead bin brackets. Other brackets are planned for even greater lightweighting.
- Cost reduction through automated manufacturing & repurposed material
- Design freedom based on an additive manufacturing approach
- 96 % reduction in part manufacturing emissions in comparison to aluminum machining
- The *ECO* Bracket enables through weight saving a reduction of 17,5 t CO<sub>2</sub>eq emissions per aircraft over lifetime
- Operational cost reduction through lower fuel burn

## SUSTAINABLE FEATURES\*



WEIGHT  
SAVING

50 % weight reduction through the use of lightweight materials and design optimization



CO<sub>2</sub>  
SAVING

An aircraft's lifecycle carbon footprint is reduced by 17.5 tons due to the weight reduction of the *ECO* Bracket



RECYCLED  
MATERIAL

Trim waste is reused. The technology also facilitates the recycling of used components at the end of their product life

\*More Infos about the Sustainability Features you can find here:  
<https://www.highlights-diehlaviation.com/en/eco-efficiency/>

\*\* estimated for a current generation single aisle aircraft e.g. A321, operating on medium range missions, e.g. Paris-Istanbul, with an average operating hours of 3600 per year