CASE STUDY

AIRCRAFT BRACKET

Achieving lightweight design for aerospace.

The aircraft bracket is used as a key loadbearing component and functions as a part of the wing flap hinge. It was redesigned to dynamically respond to maximum forces and movements from different directions with a consistent strength. Its redesign maintains original features and continues to meet the stringent regulatory regulations of the aerospace industry.

CHALLENGE

- **Reduce component** weight
- **Maintain strength integrity** of original part

SOLUTION

- Applied **topology optimization**
- **Consolidate assembly** into a single unified body

IMPACT

- **Reduced buy-to-fly ratio** from 5X to 1.06
- Achieved **60% weight savings**
- **Shortened** lead time

AM Technology: Laser Powder Bed Fusion
Material: Aluminum (AlSi10Mg)

60%
WEIGHT SAVINGS

1.06
BUY-TO-FLY RATIO

Burloak Technologies
a division of SAMUEL