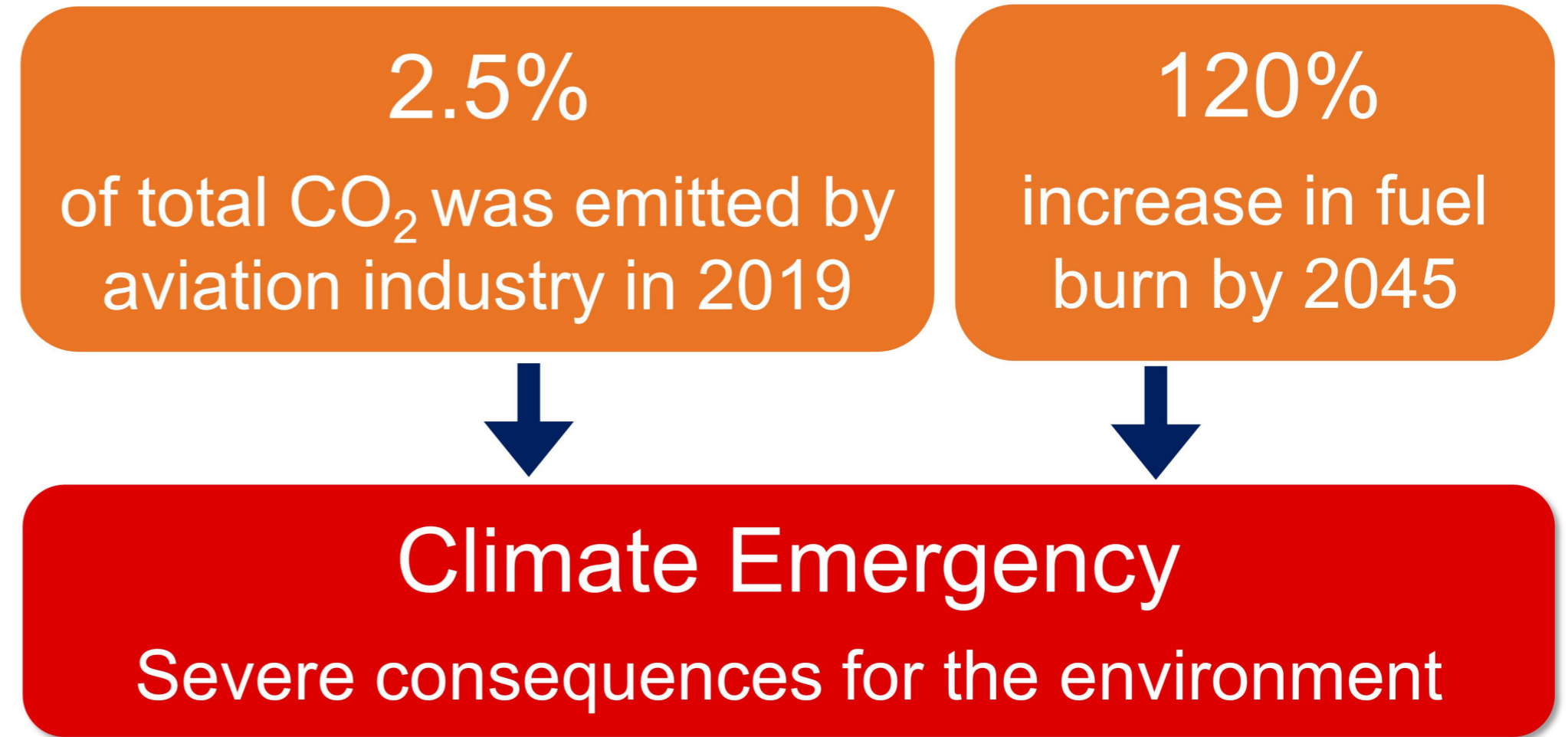
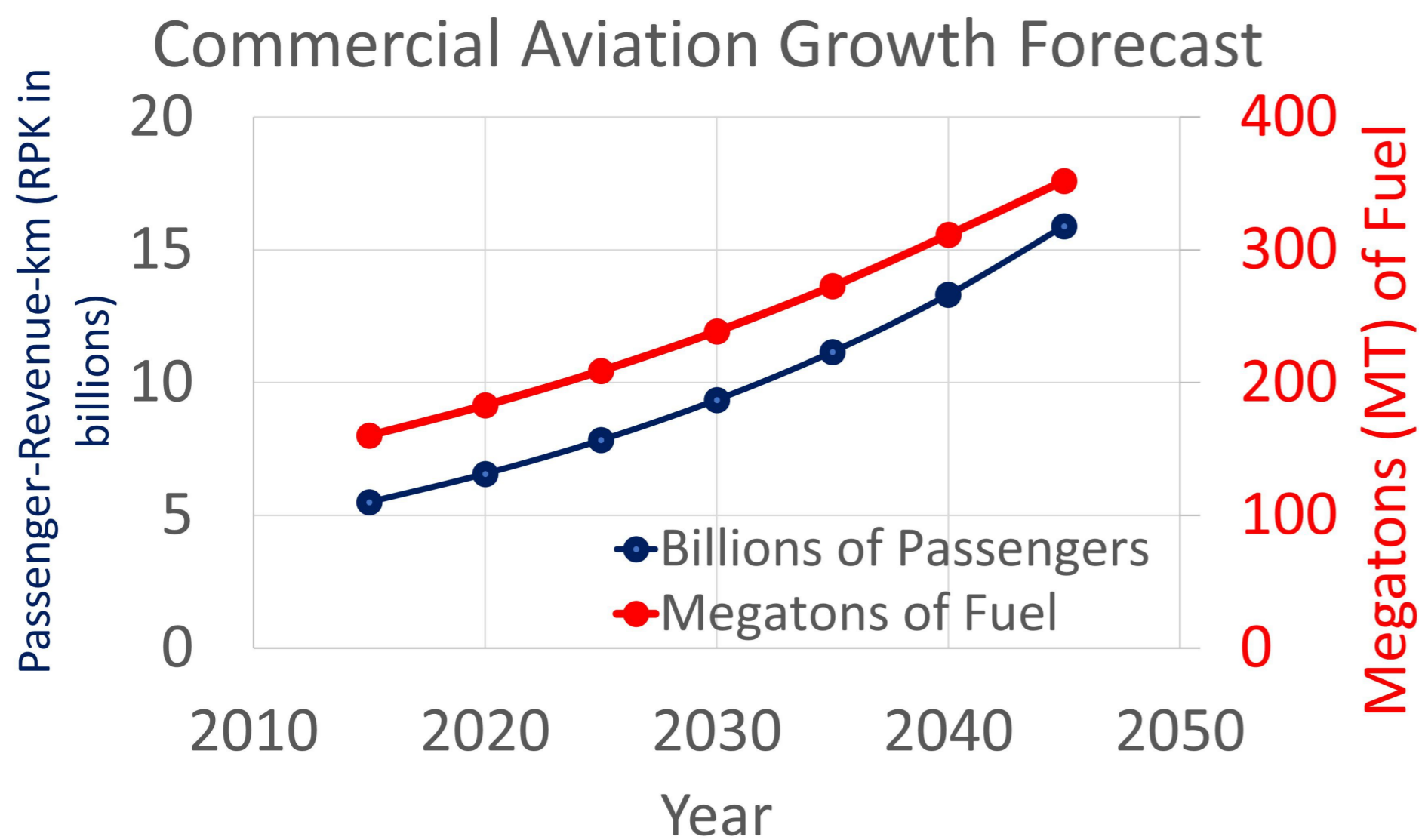


Flexible Airplanes?

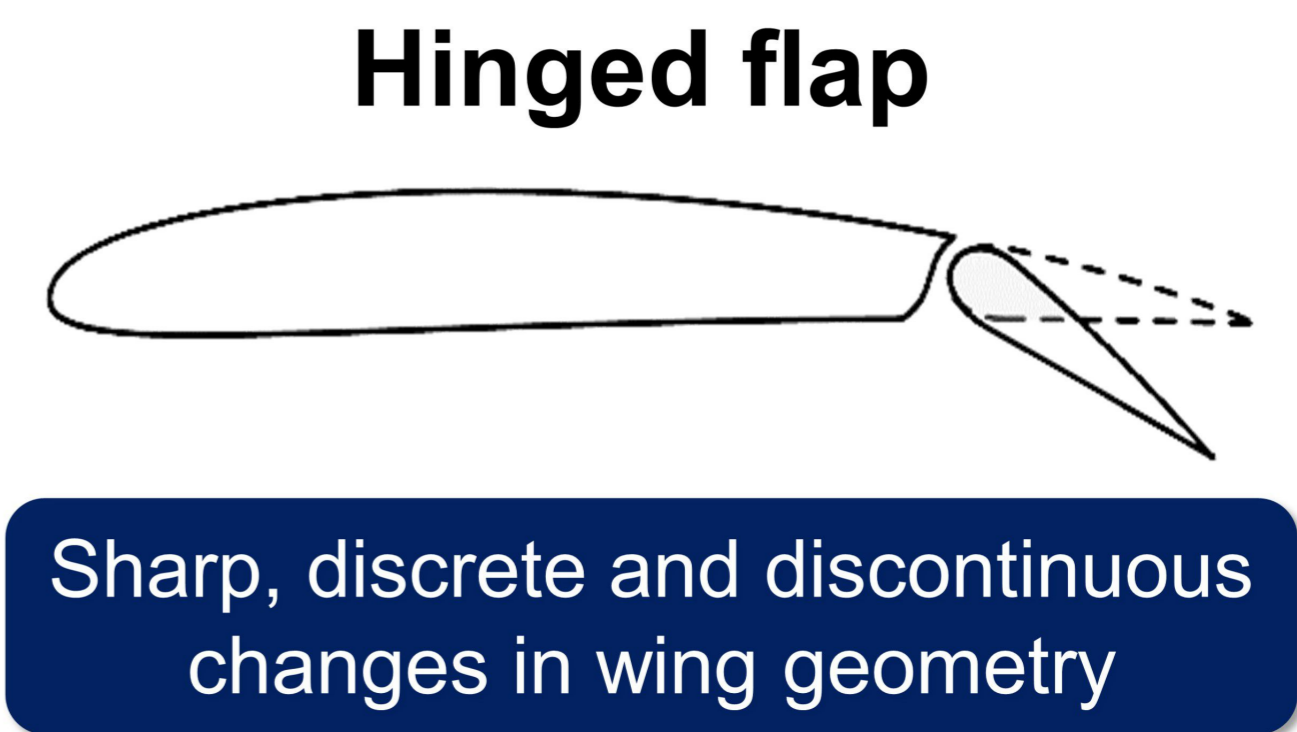
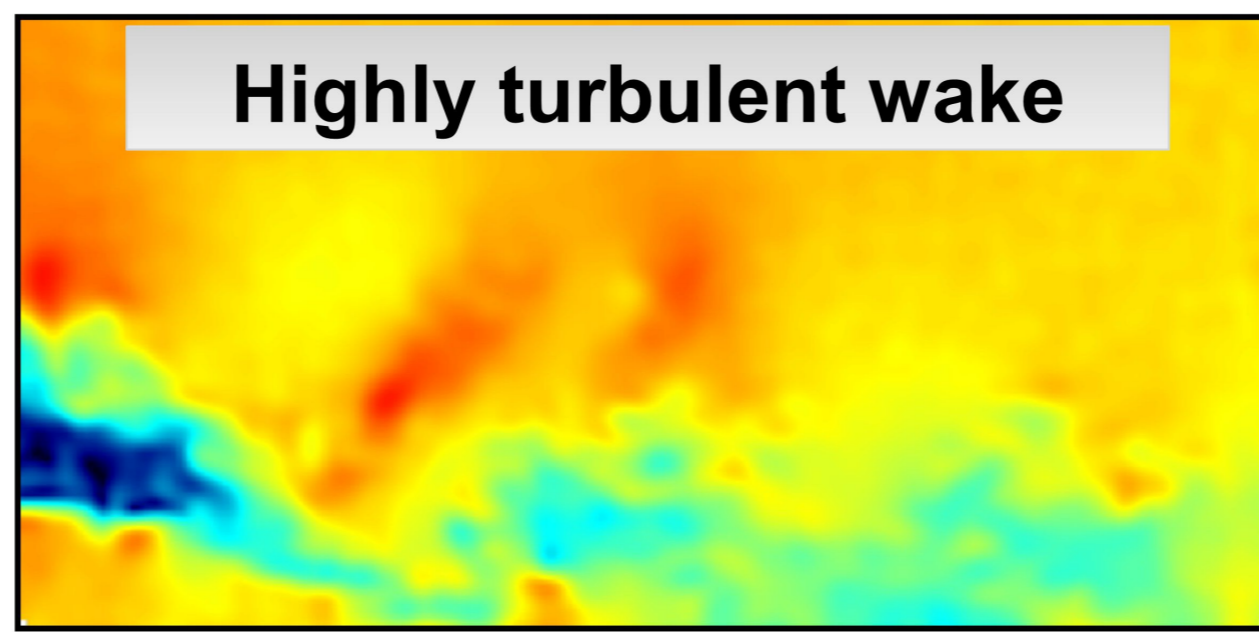
Achieving higher fuel efficiency by continuously adapting wing geometry

Andrés E. Rivero* and Benjamin K.S. Woods

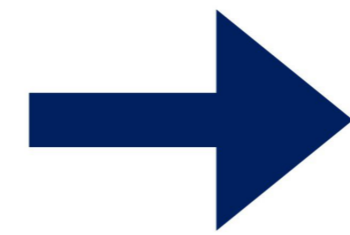
Problem



Technical Problem

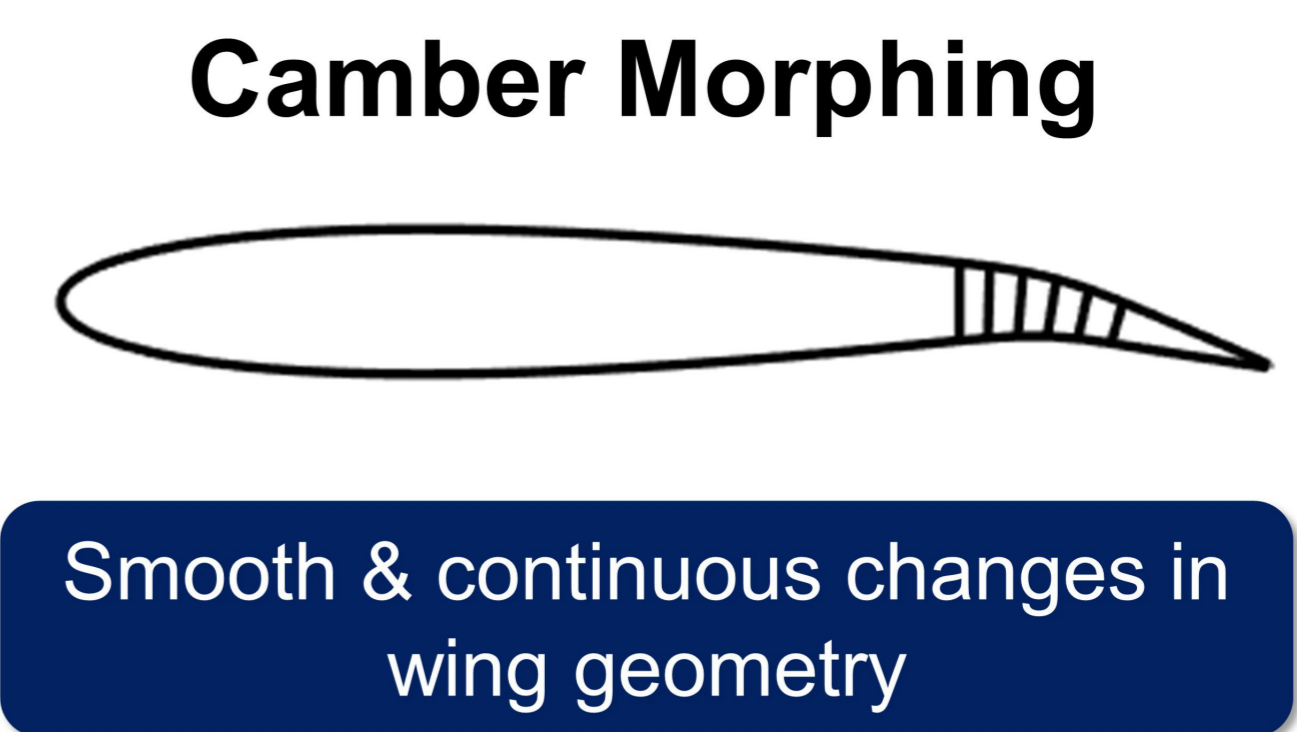
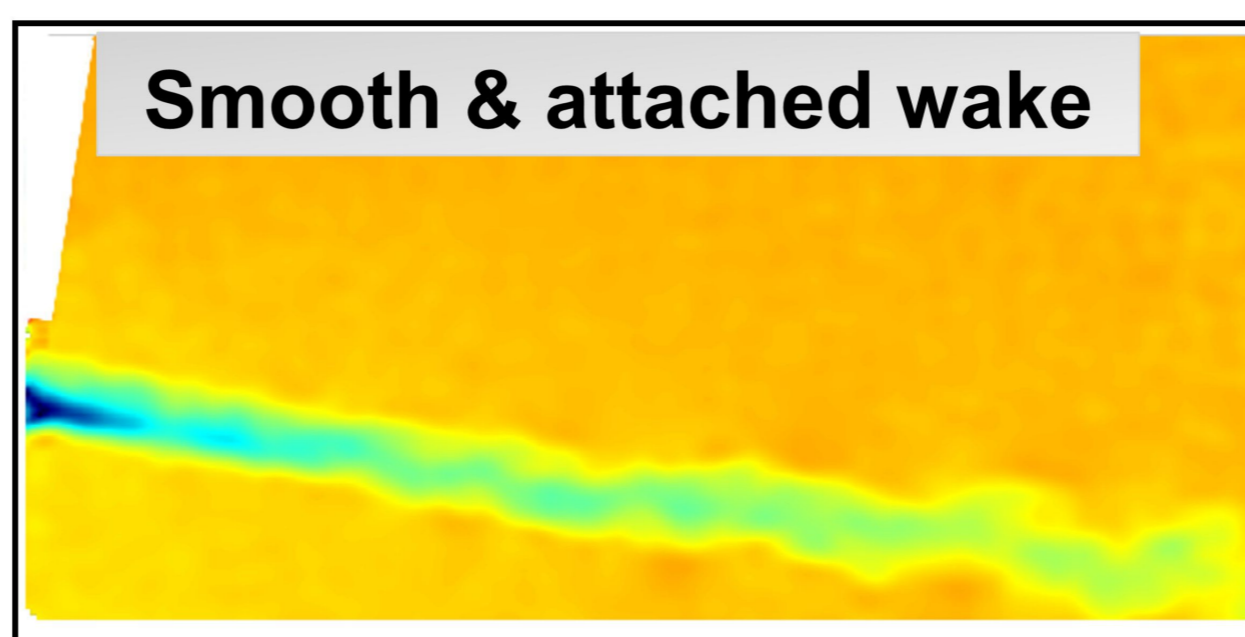
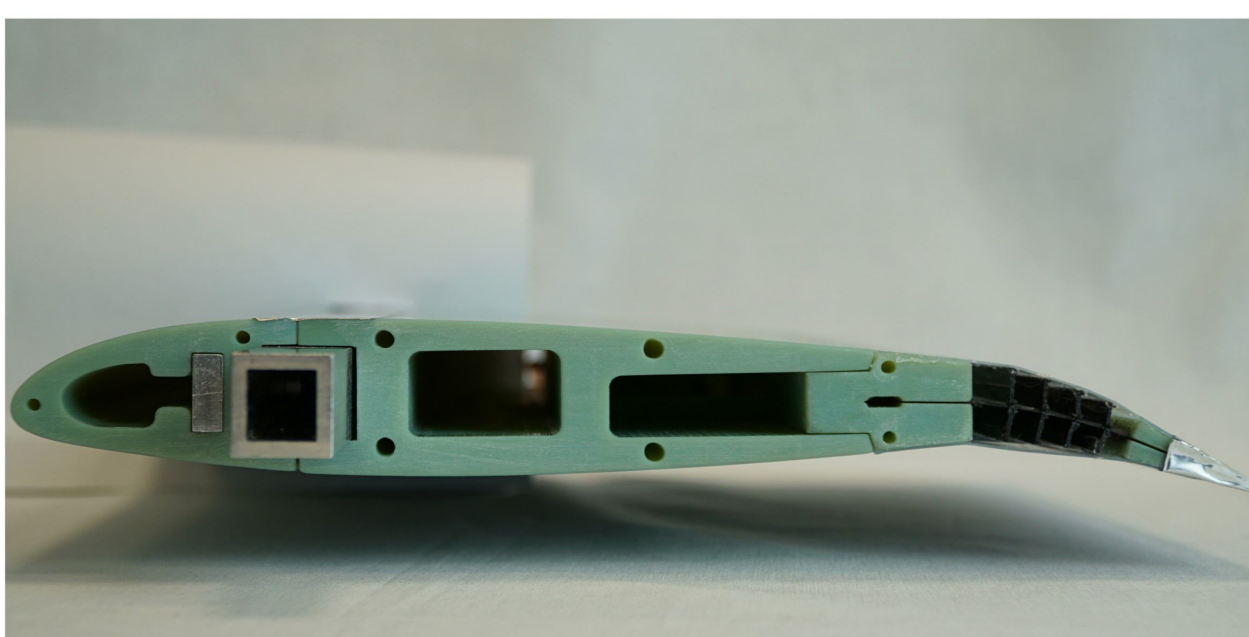


High Drag
Caused by surface discontinuities & gaps



Higher Fuel Consumption & Noise

Technical Solution



Fish Bone Active Camber (FishBAC) device

How can it deflect continuously?

Combination of stiff and rigid components (e.g. carbon fibre plate) with flexible ones (e.g. silicone rubber sheet)

How was it made?

Manufacturing techniques: 3D printing, machining, composite hand layup

How do you simulate its behaviour?

Developed novel & bespoke structural and aerodynamic mathematical models during PhD

How was it tested?

Structural and wind tunnel experiments to study its structural & aerodynamic behaviour

