

UCLR Unmanned Aircraft Systems Challenge

SERGIO AZIZI, ADITYA BANERJEE, HUAN MIN GAN, SAM HISCOX, BALAZS KONIG, LLOYD MARTIN

SUPERVISORS: DR TIM BAKER, DR WILL NEWTON

DEPARTMENT OF MECHANICAL ENGINEERING



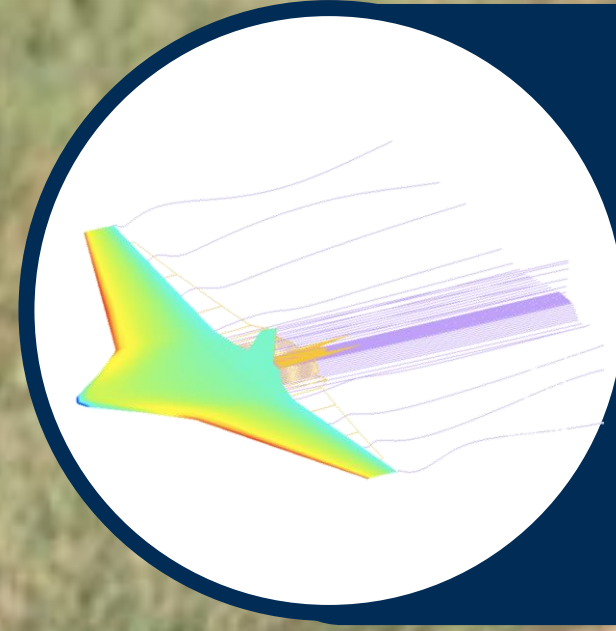
Institution of
**MECHANICAL
ENGINEERS**

UAS CHALLENGE 2018

COLLABORATORS:

ogle
models+prototypes

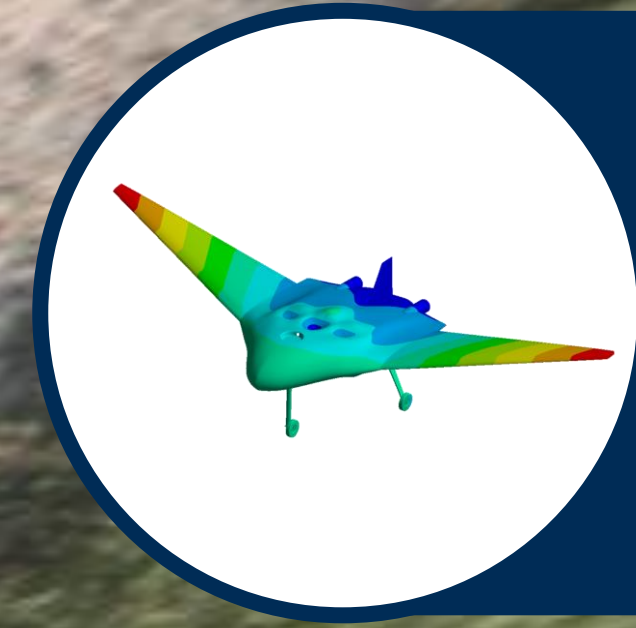
ACE
TECHNOLOGY



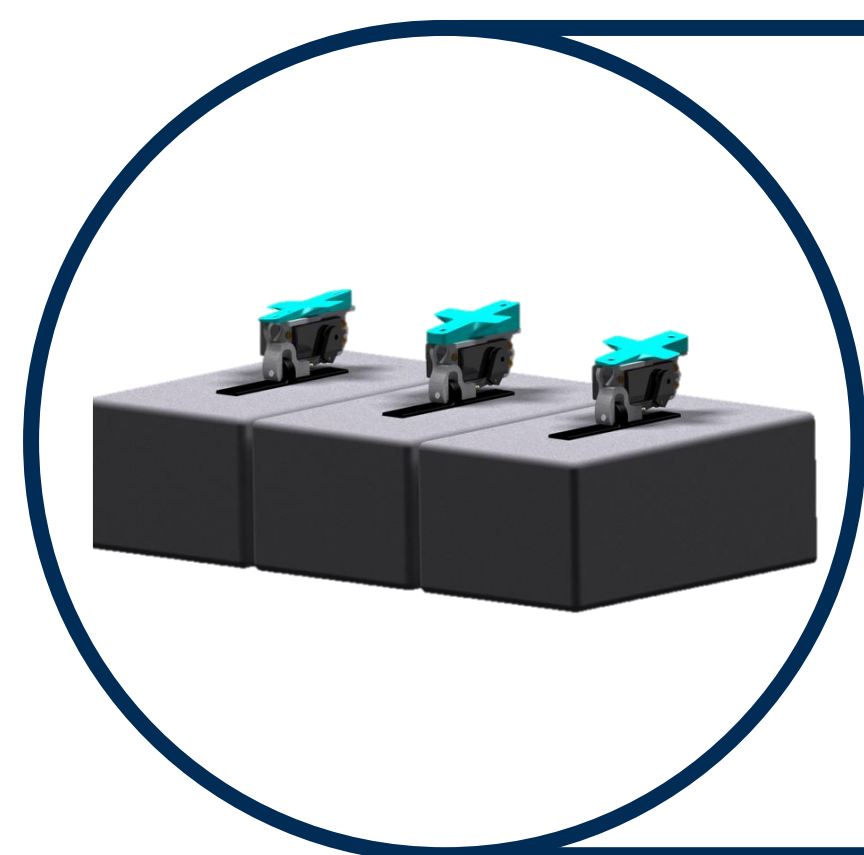
Optimised aerodynamic performance by CFD simulations



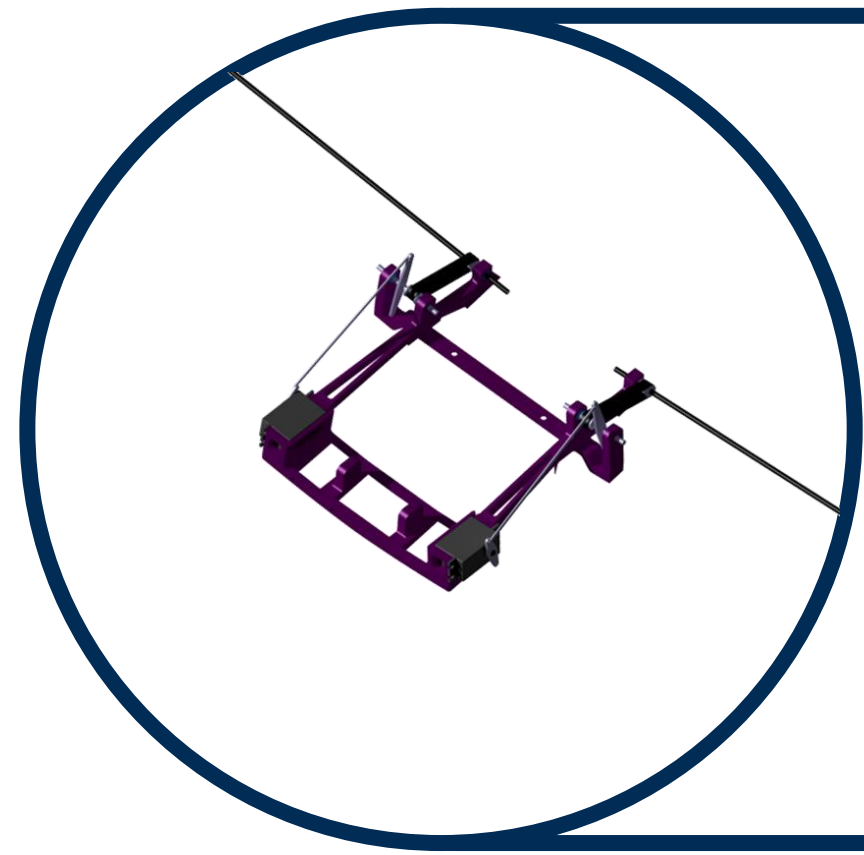
CFD simulations validated using wind tunnel tests



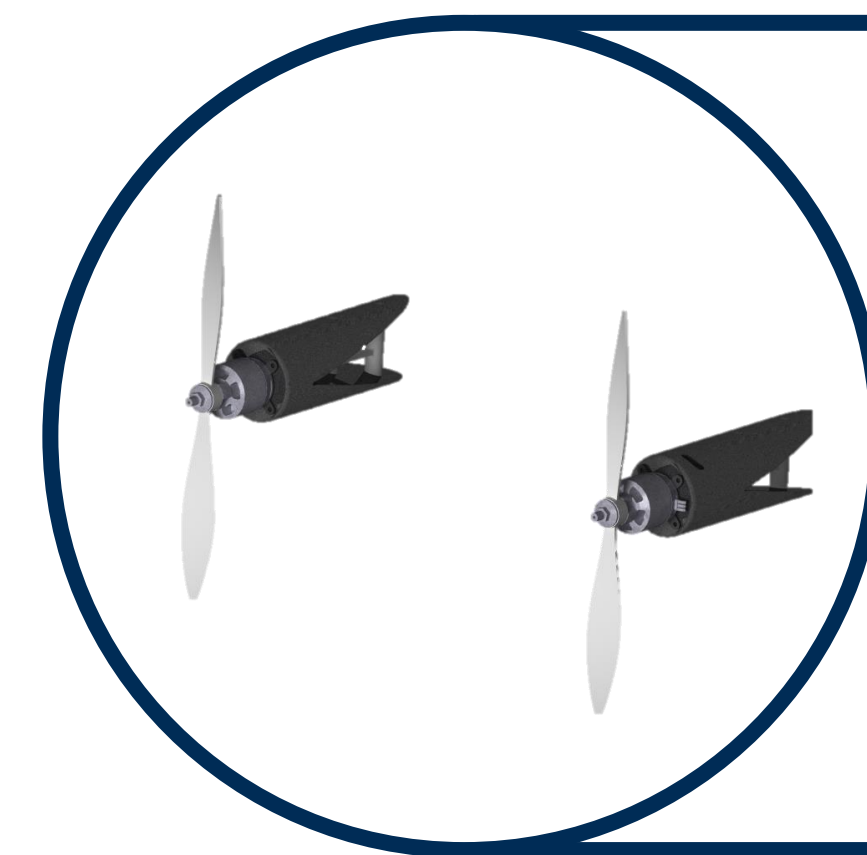
Optimised structural performance of innovative composite shell



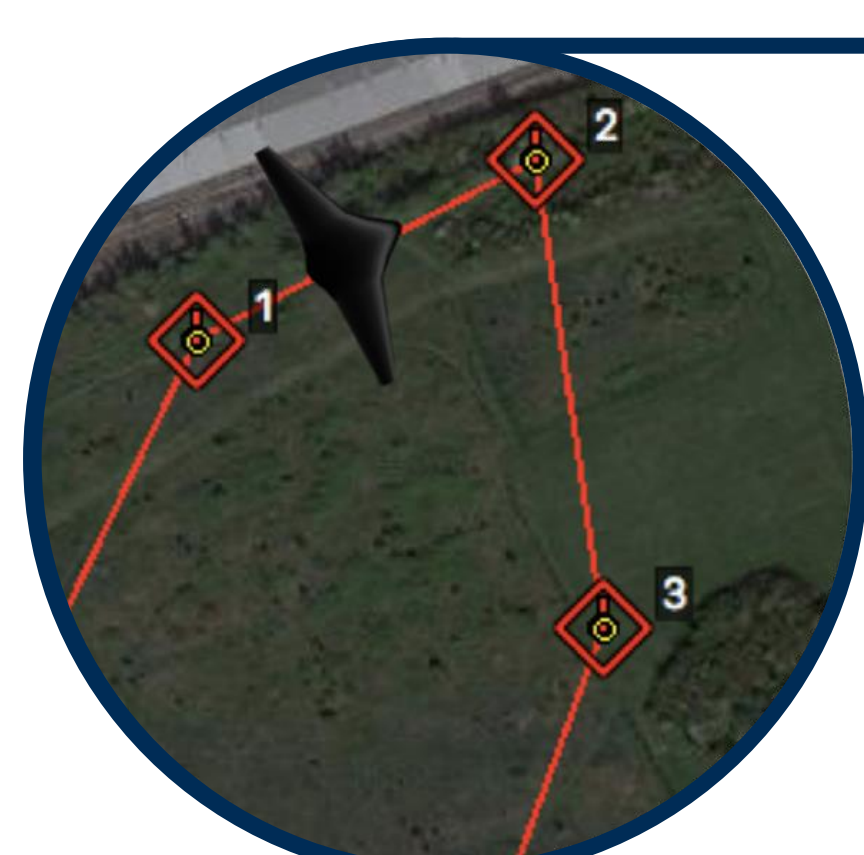
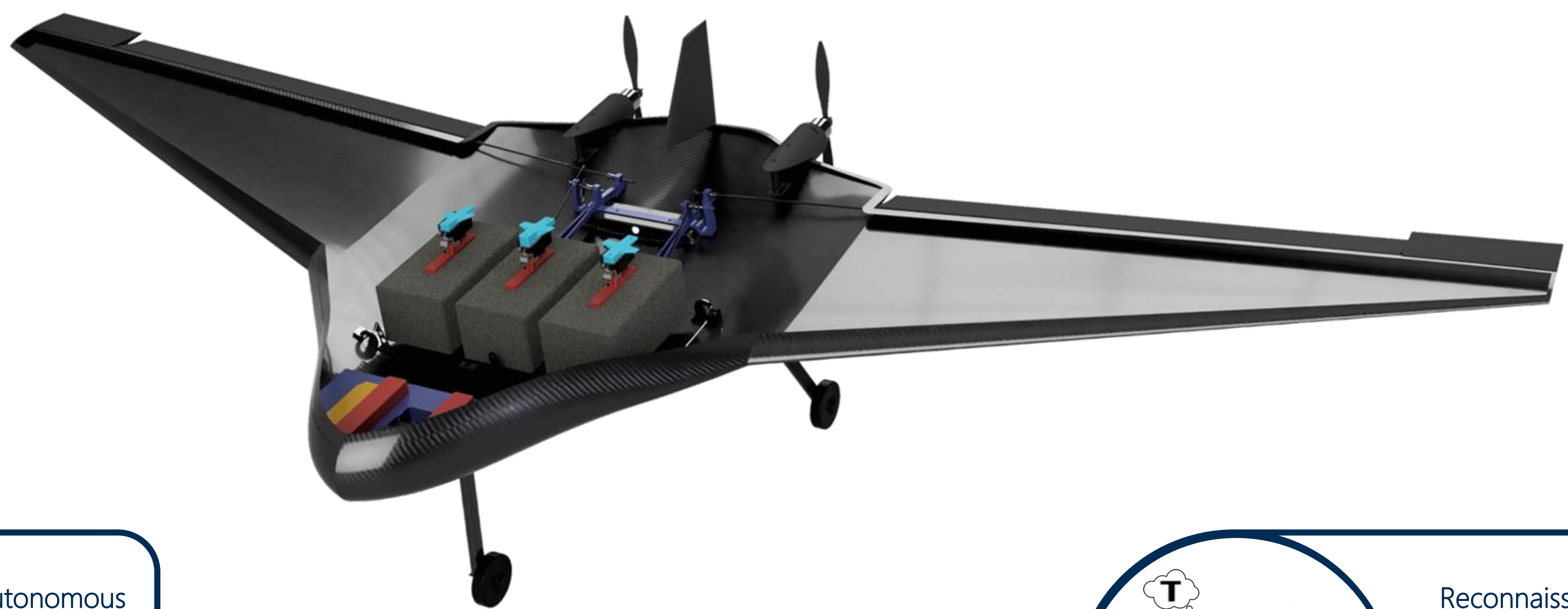
Payload Release:
Carries and attenuates up to 3 kg of payload for autonomous release to a location



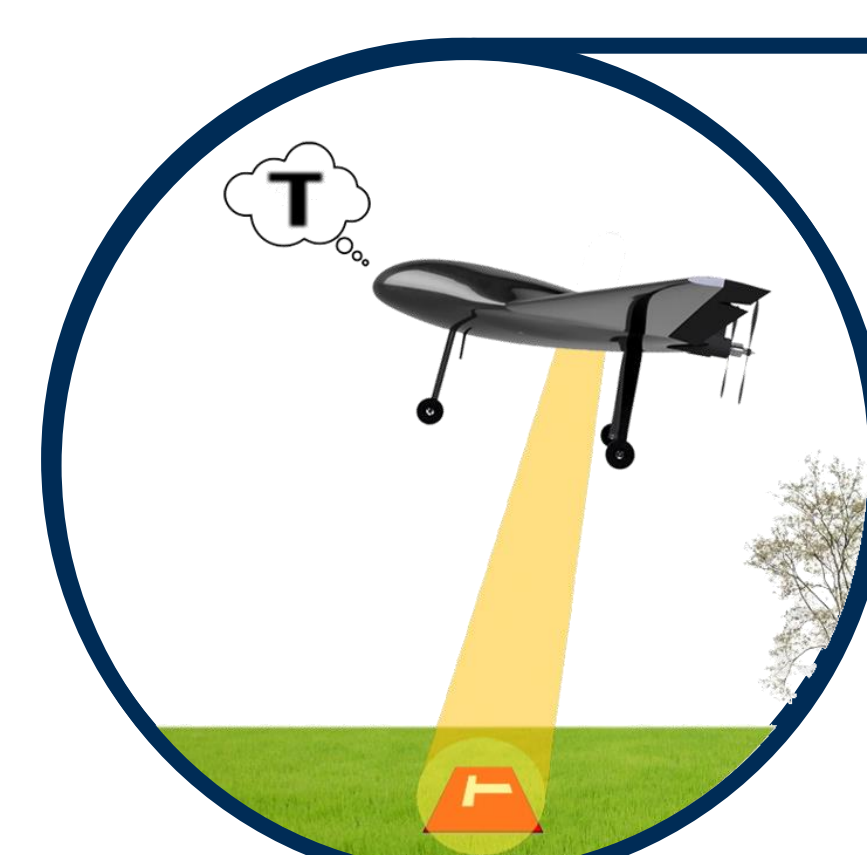
Internal Actuation:
All actuation mechanisms are completely contained within the monocoque



Propulsion System:
Dual motors using differential thrust to provide a maximum mission range of 8.6 km



Autonomous Navigation:
Allows the aircraft to follow a predetermined path



Reconnaissance System:
Scans through the area and uses image recognition to locate target