

# Development of a methodology for Design of a Small Horizontal-Tail UAV

## Motivation

While Indian industry is comfortable with the design and development of multirotors, a lack of proper design methodology has hindered the indigenous development of fixed-wing UAVs



## Highlights

Development of a methodology for the design and manufacture of small fixed-wing UAVs

Demonstration of the proof of the concept via design and manufacture of a 35 kg UAV

Hybrid metal-composite structure

Modular design: easy assembly, disassembly, and transportation

## Specifications

Length: 2.38 m

Span: 3.65 m

Height: 1 m

MTOW: 35 kg

Power-plant 1 x 10.6 hp (Indian made)

Payload capacity: 8 kg

Endurance: 6 hrs

Maximum velocity: 36 m/s

Service ceiling: 5 km

## Publication

Ankit Jaiswal and H Murthy, *A case study of medium sized metal-composite hybrid structure UAV – Design and Fabrication*, Session: Unmanned Aircraft Design I, AIAA SciTech Forum and Exposition, San Diego, USA, 2019. Paper: AIAA 2019-2093

Contact: [4nkitjaiswal@gmail.com](mailto:4nkitjaiswal@gmail.com)