

UAS TEAM 2 – DRONE AID

Team Members: Ibrahim Al Abed, Layth Baddar, Akmal Bin Abu Bakar, David Rees, Emmanouela Rokofyllou, Eisuke Shimizu

Supervisor: Prof. Yiannis Ventikos



Drone Aid – a UAS for Payload Delivery and Reconnaissance



A **hybrid UAS** capable of flying as a fixed-wing plane and a quadcopter, as well as vertical take-off and landing (**VTOL**). Our design combines the **manoeuvrability** needed to navigate through urban environments with the **endurance** for travelling long distances.

The product also includes **autonomous** navigational capabilities for carrying out missions independently. The developed system is capable of executing missions that involve **decision making**, where the entire operation can change depending on specific triggers or events.

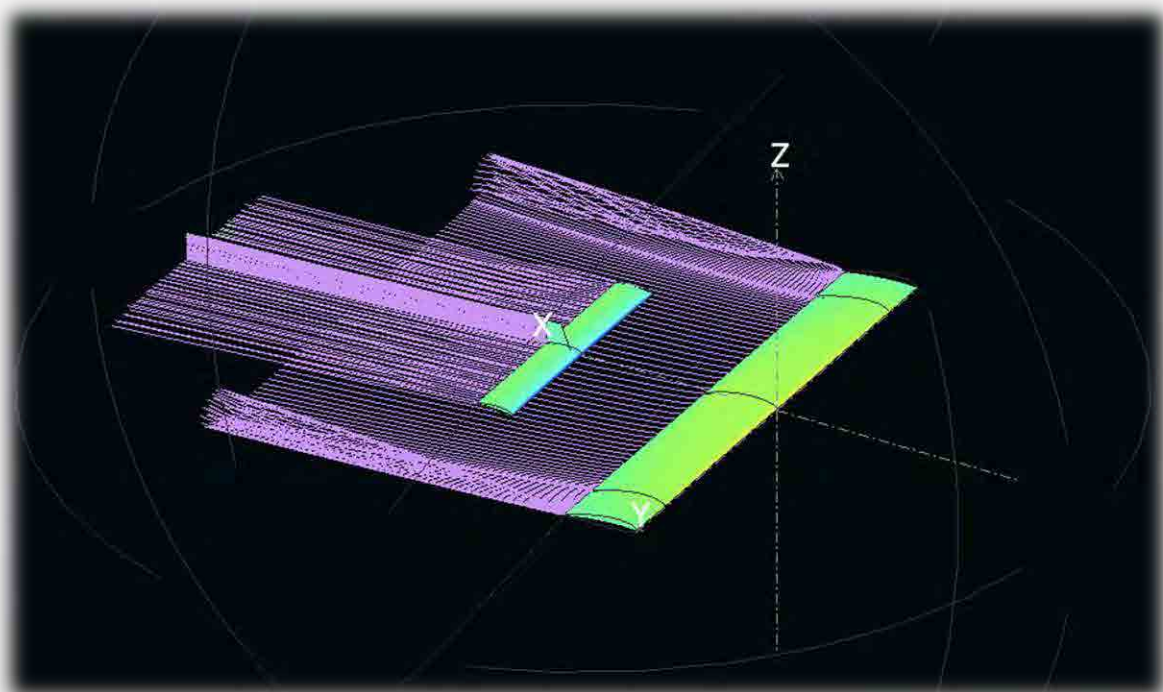
Natural Disasters Impact Remote Communities

A global issue with an innovative solution

Thousands of people living in far removed coastal regions devastated by earthquakes and tsunamis can be left isolated from other communities by land. With their houses destroyed and night-time temperatures below freezing, they are urgently in need of **supply drops** of food, shelter and first aid supplies. Missing people are another issue, with the area too dangerous for on-foot **search and rescue**.

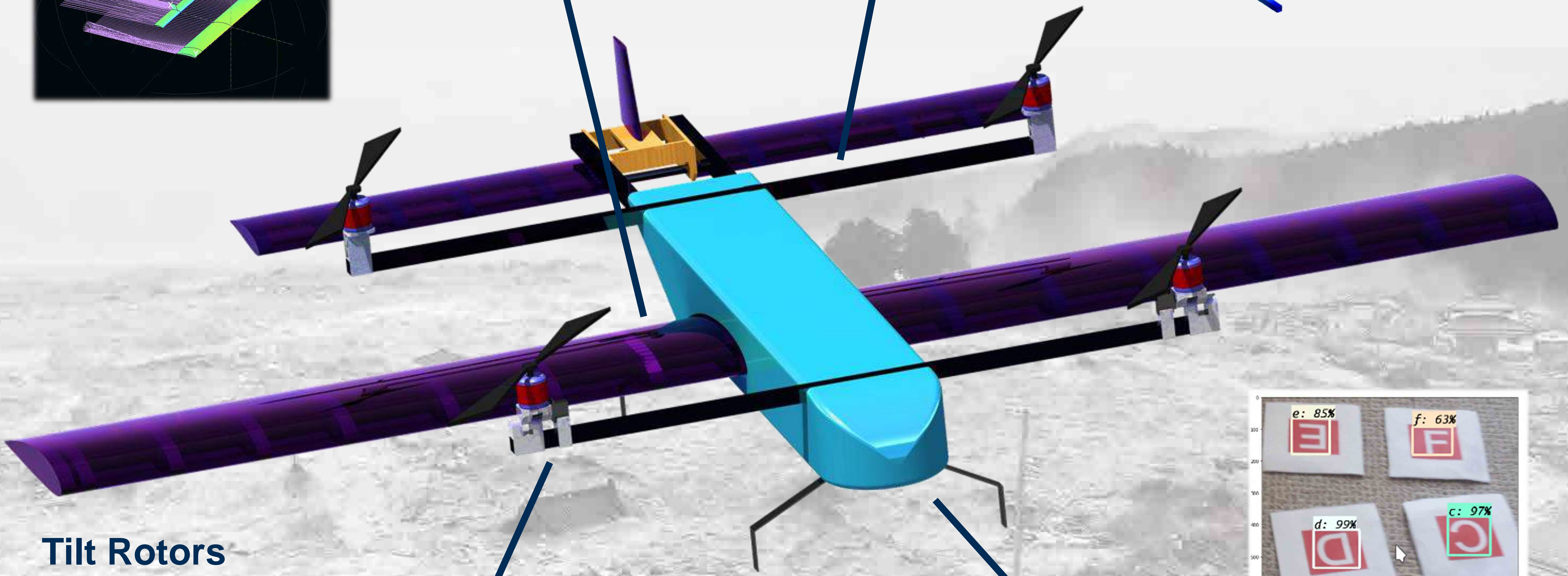
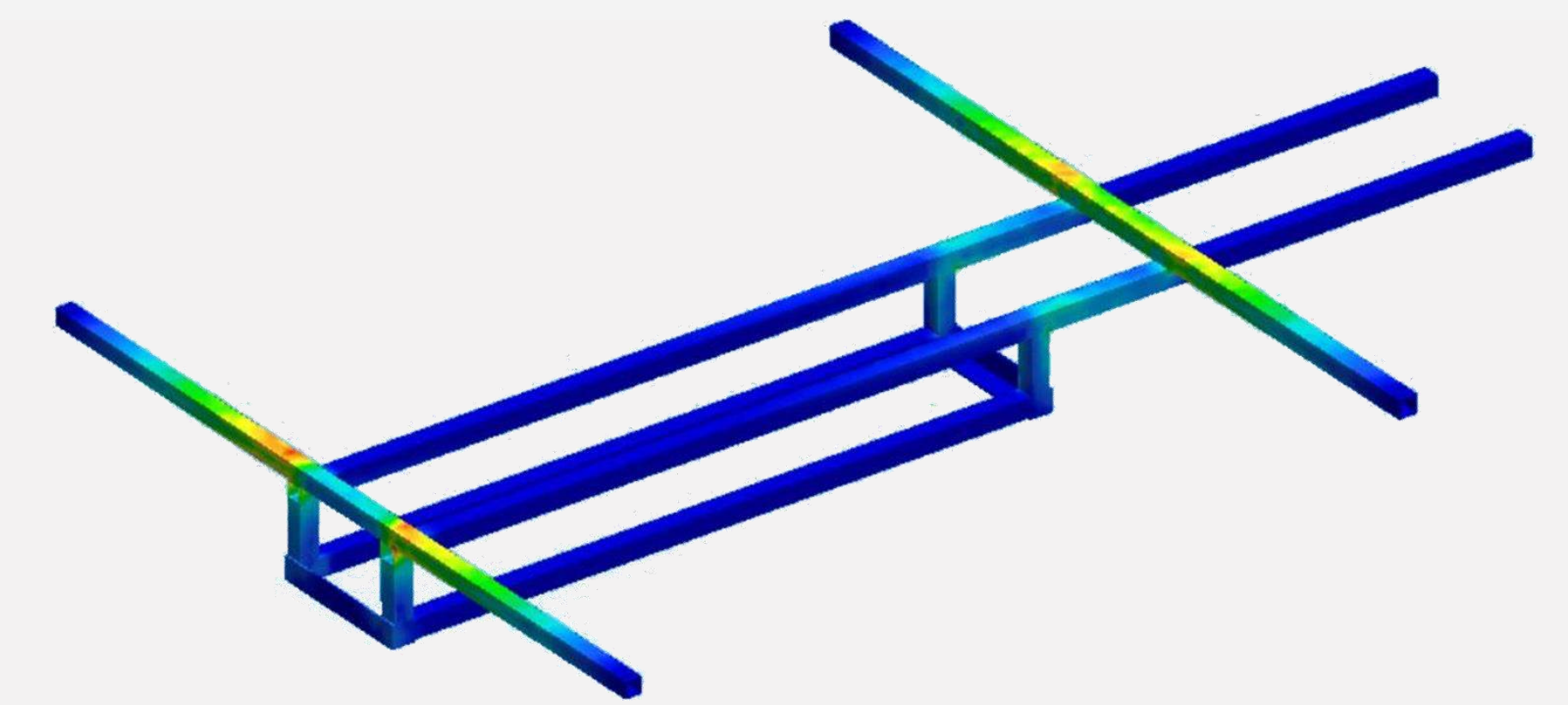
Efficient Wing Aerodynamics

18:1 lift-to-drag ratio



Carbon Fibre Airframe

Designed for high strength-to-weight



Tilt Rotors

For transition from quadcopter to fixed-wing

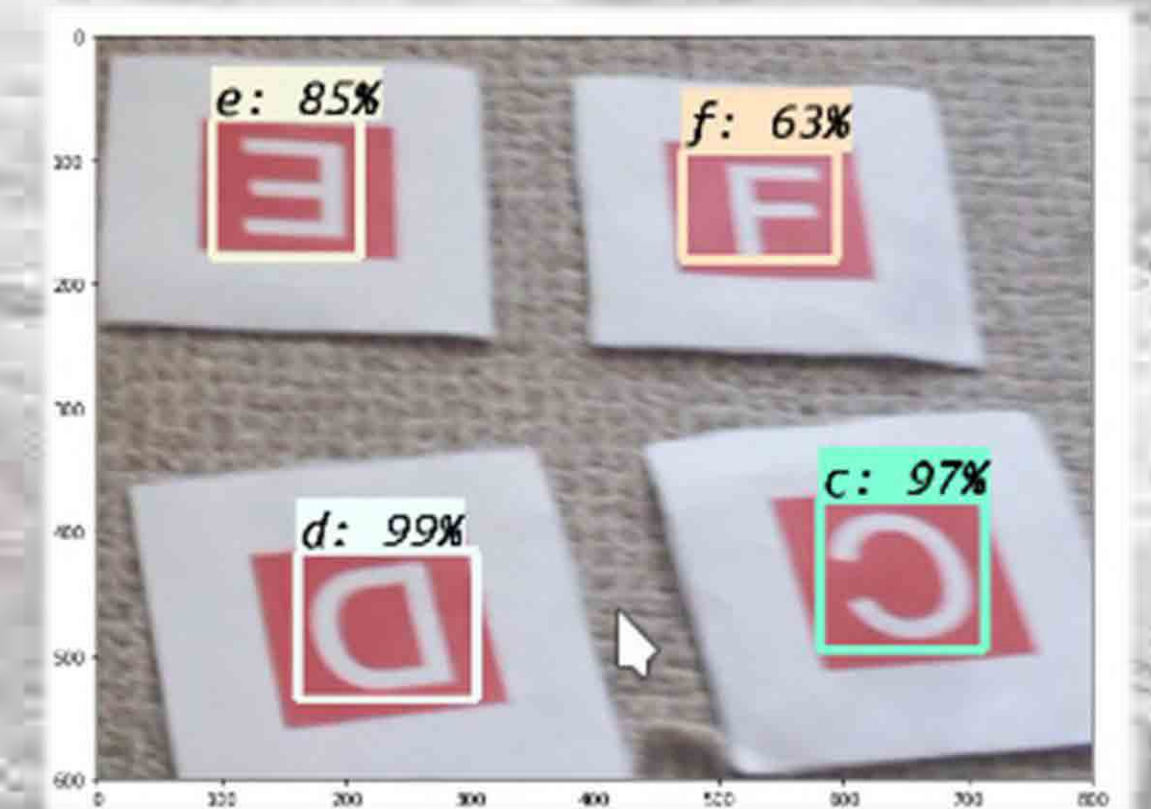
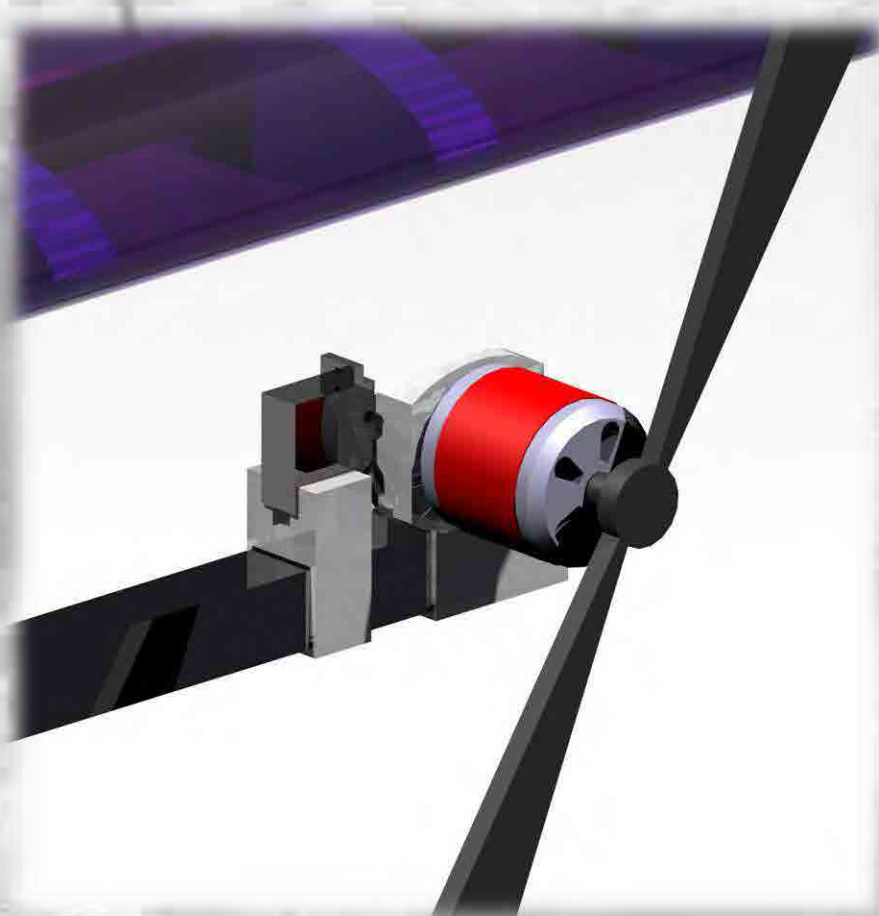


Image Detection System

Versatile for locating various targets



1 kg Payload Capacity



20 m/s Operating Speed



6.5 minutes Flight Time

