



# SAE

# AeroDesign

Students' Inter-Faculty Research Group

**Politechnika  
Warszawska**



**Wydział Mechaniczny  
Energetyki i Lotnictwa**

POLITECHNIKA WARSZAWSKA

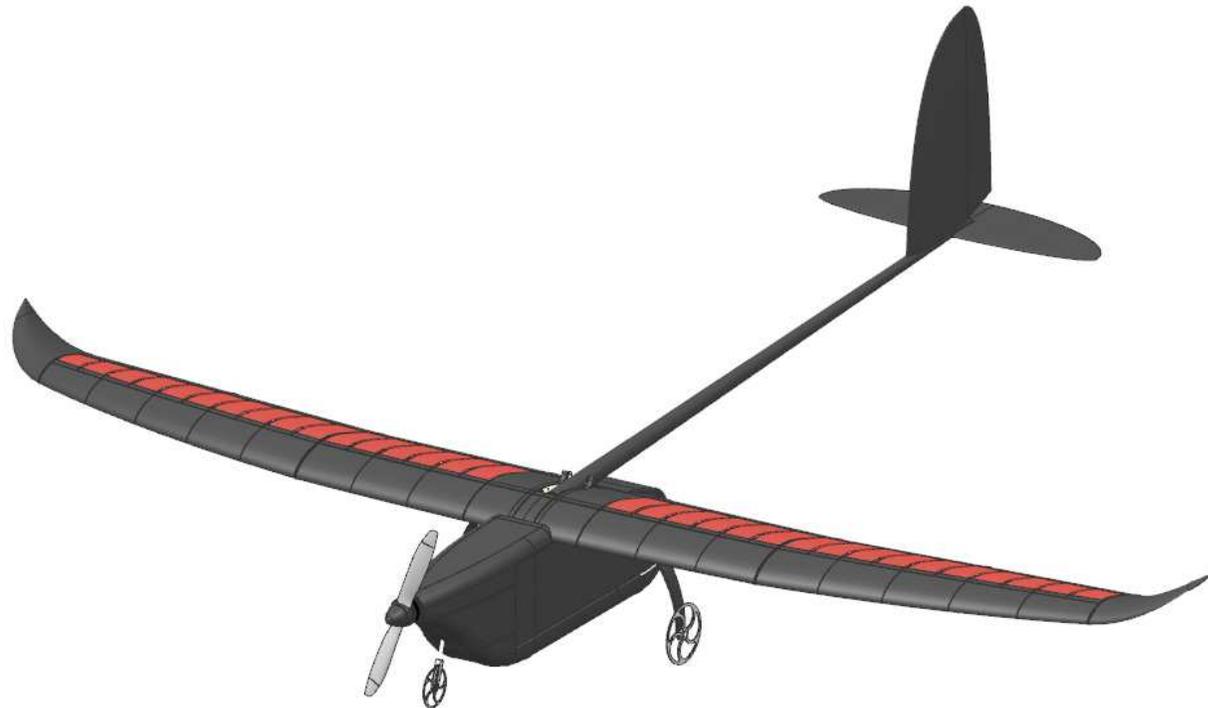
# SAE AERODESIGN COMPETITION

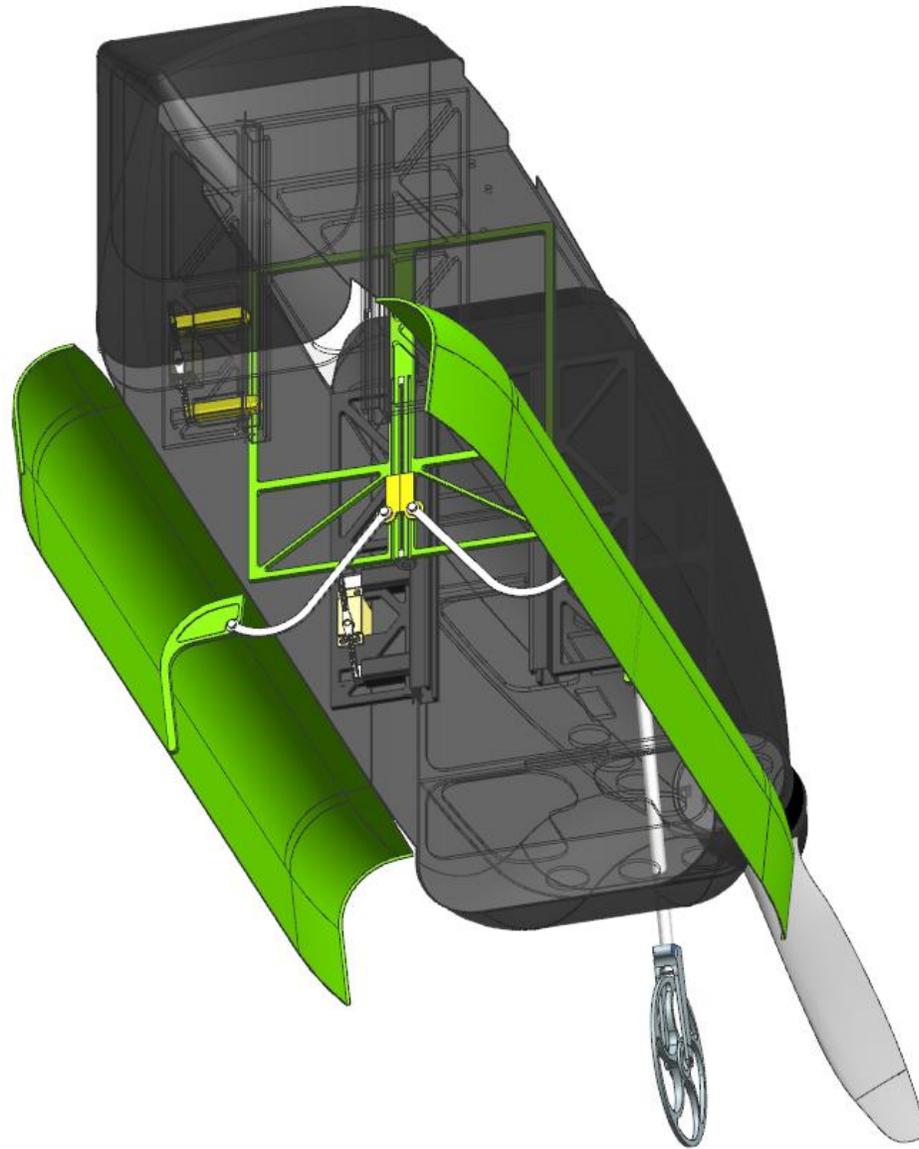


# COMPETITION TASK

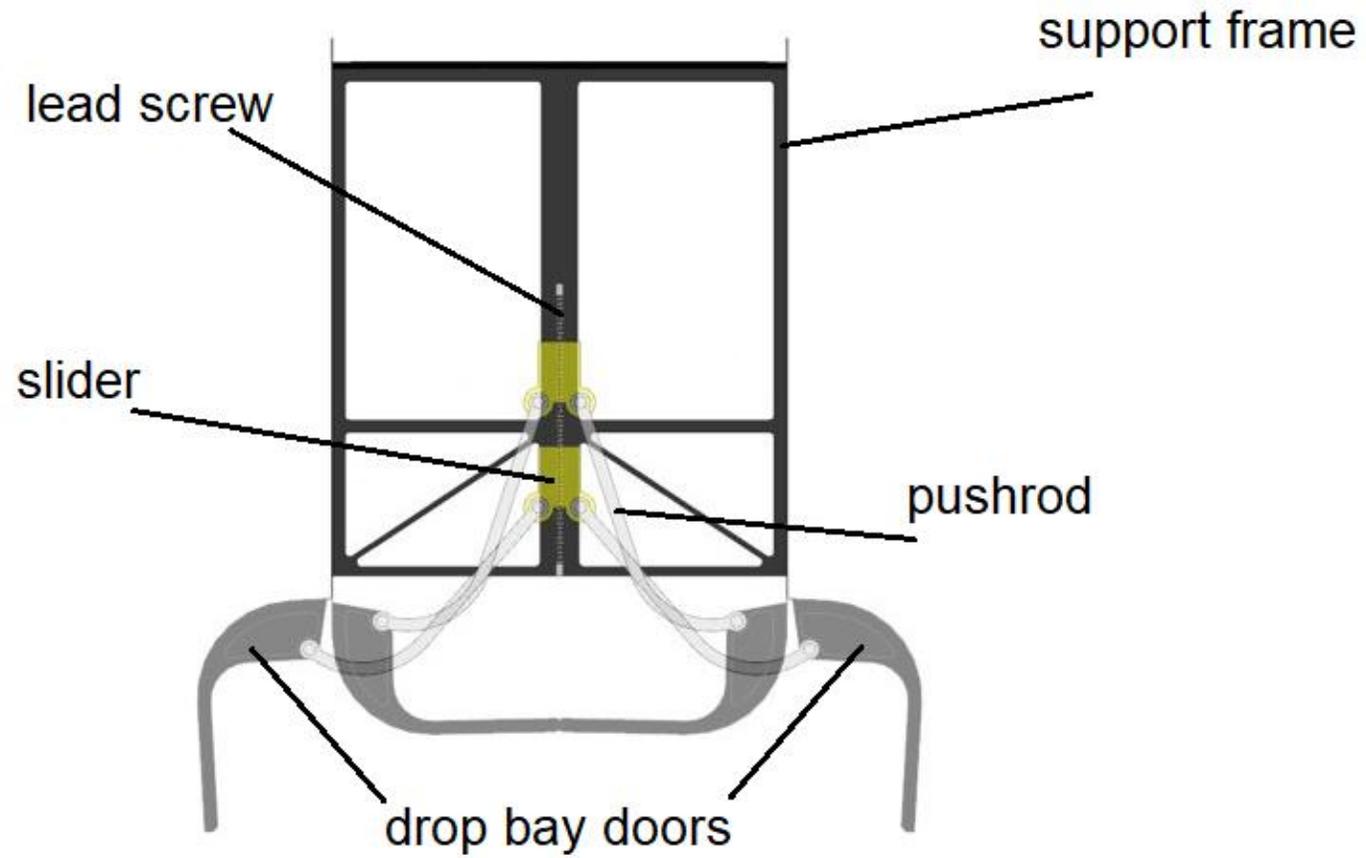


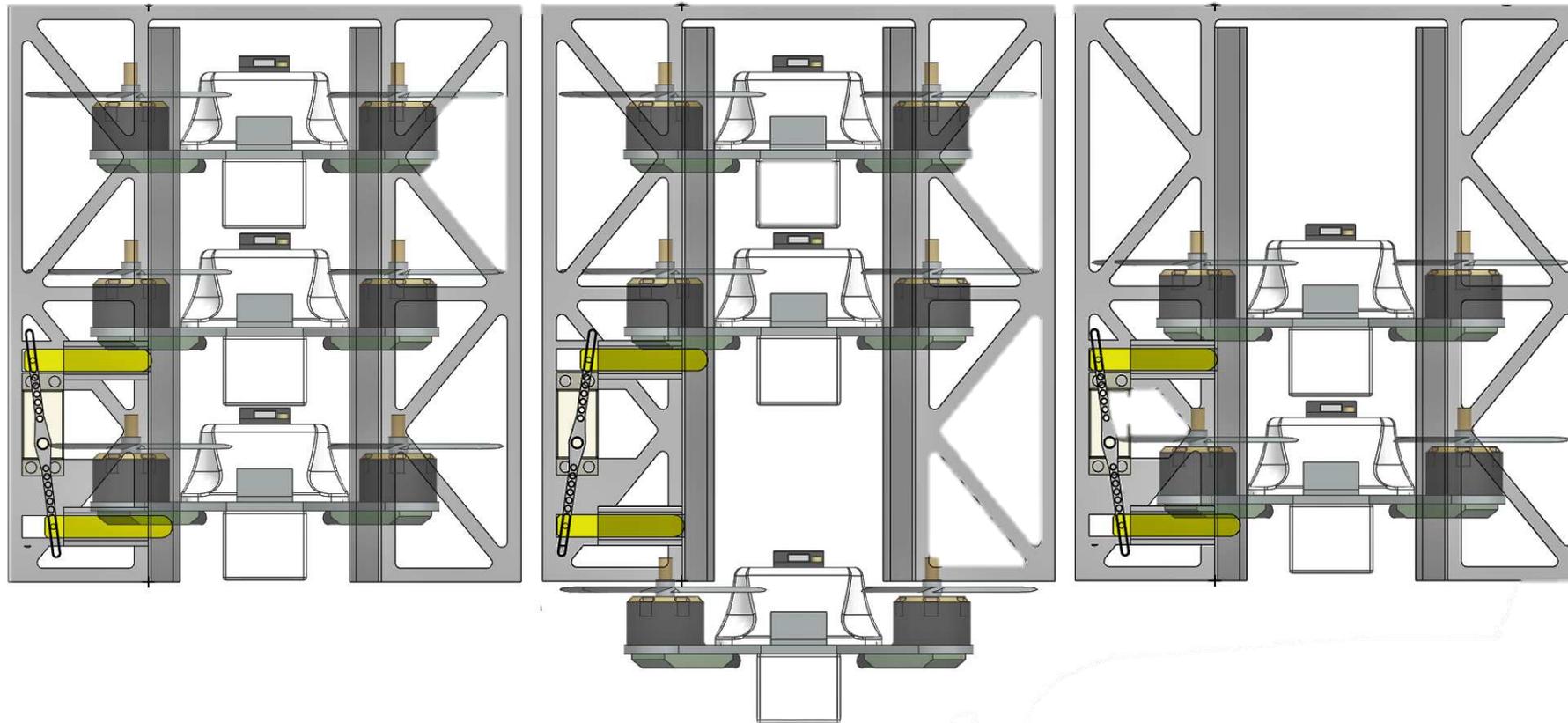
# DESCRIPTION OF THE MOTHERSHIP



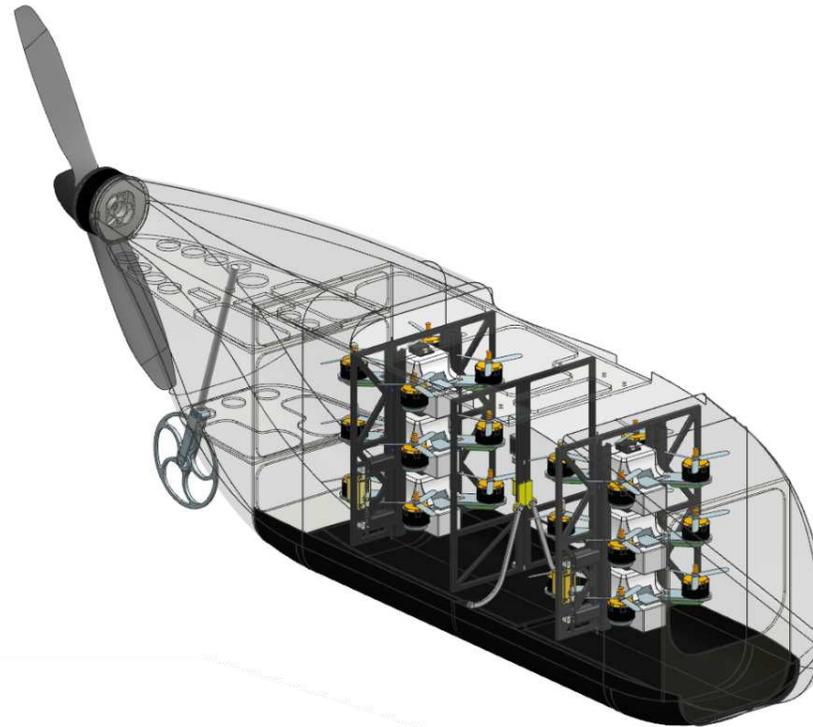
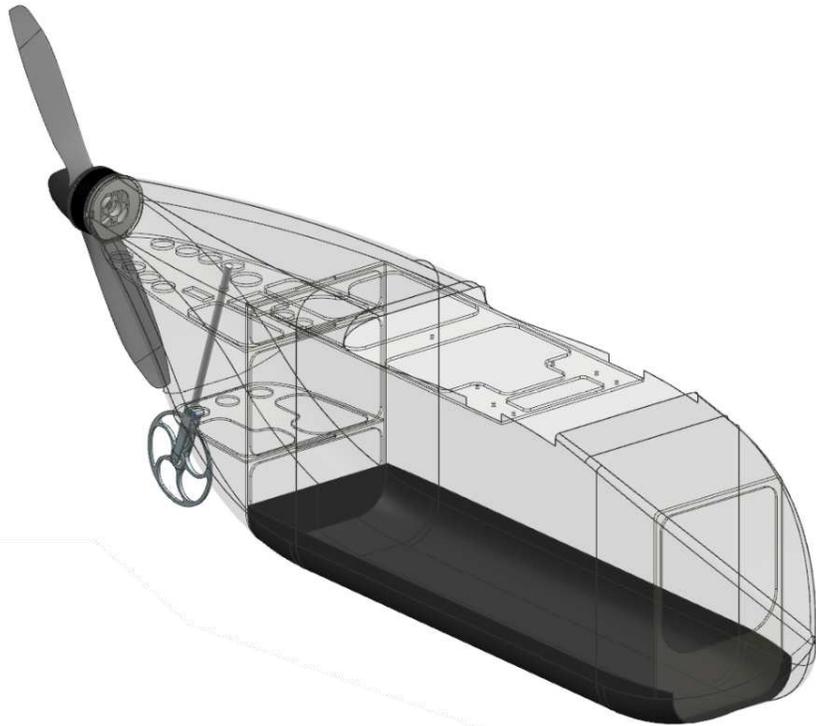


# DRONE RELEASE SYSTEM

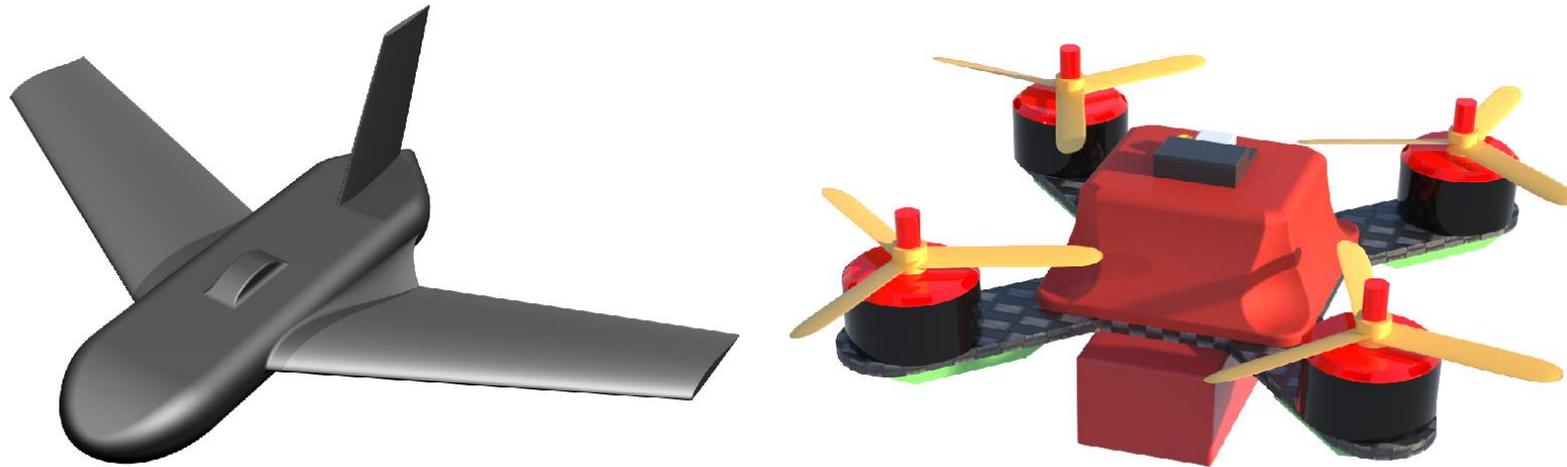




# FUSELAGE ENHANCEMENT



# GLIDER AND QUADCOPTER COMPARISON



|                     | GLIDER     | SENSING DRONE |
|---------------------|------------|---------------|
| COMPONENT           | MASS [g]   | MASS [g]      |
| Airframe            | 136        | 125           |
| Electronics         | 63         | 190           |
| Propulsion          | -          | 212           |
| Payload             | 78         | -             |
| <b>TOTAL WEIGHT</b> | <b>277</b> | <b>527</b>    |

# QUADCOPTER COMPONENTS

| Sensing Drone's Equipment  |                 |
|----------------------------|-----------------|
| Flight Controller with PDB | MindRacer       |
| Reciver                    | FrSky XM+       |
| Engine                     | Racestar BR2205 |
| Propeller                  | 3 blade 3-inch  |
| ESC                        | 30 A            |
| Batery                     | 1800 mAh        |
| GPS                        | Betian BN-180   |
| Telemetry                  | ESP8266         |

