



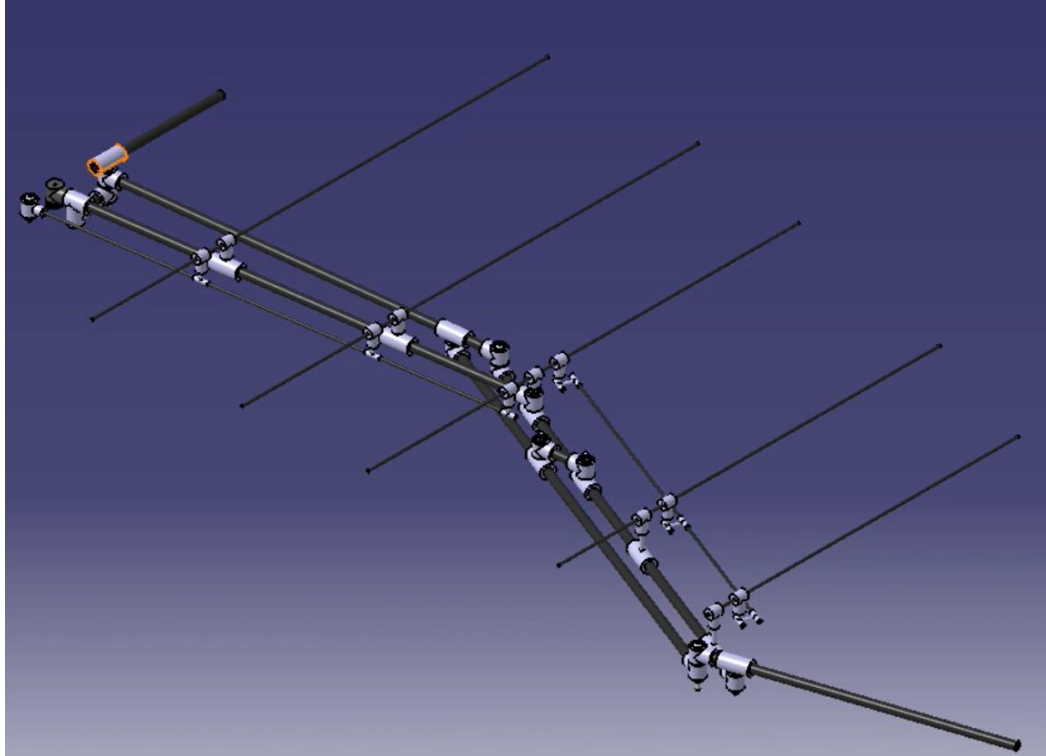
Study of the folding of the GRIFFIN Project model wing

Lorena Calvente Roldán

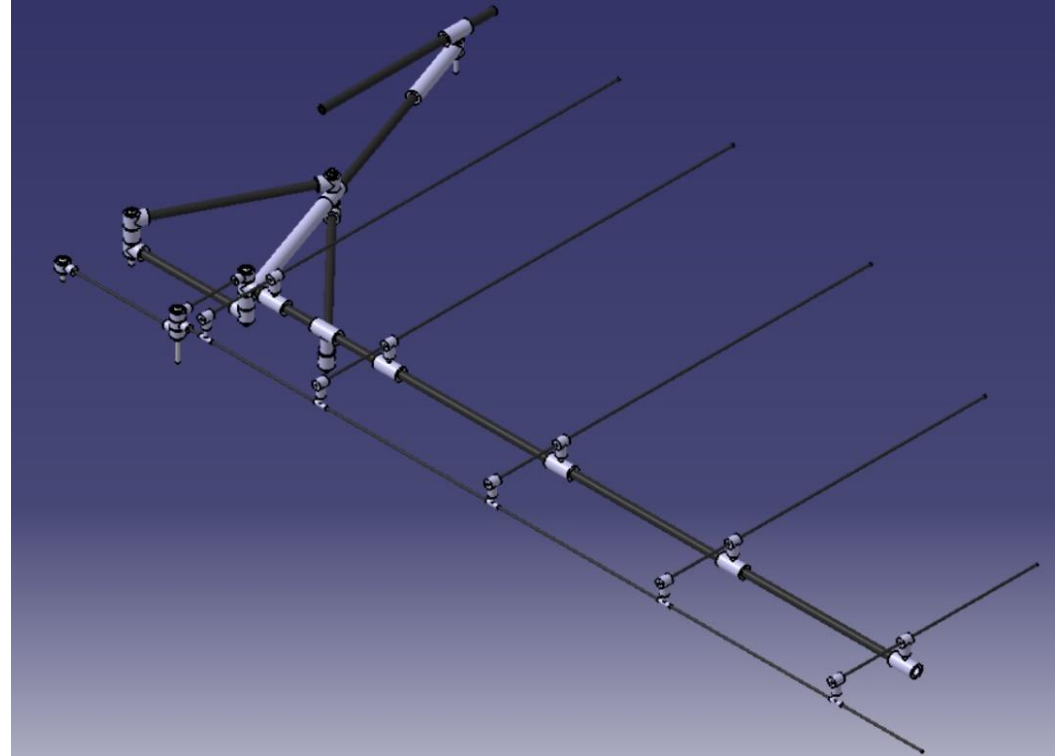
Miguel Ángel García Bravo

1. MECHANISMS

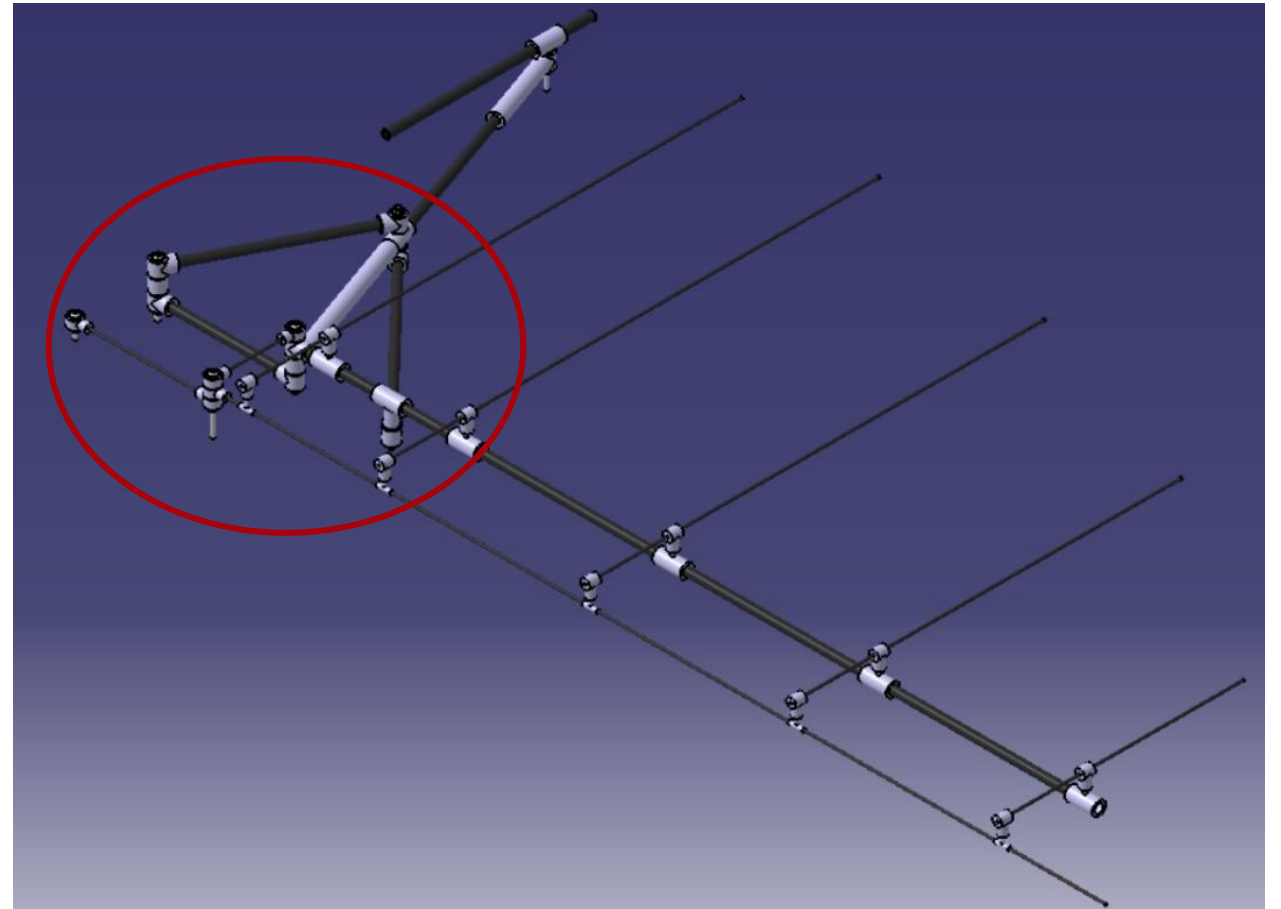
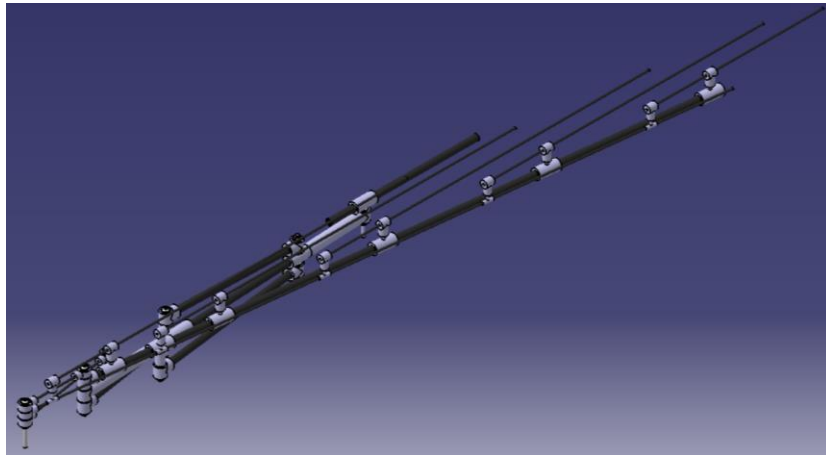
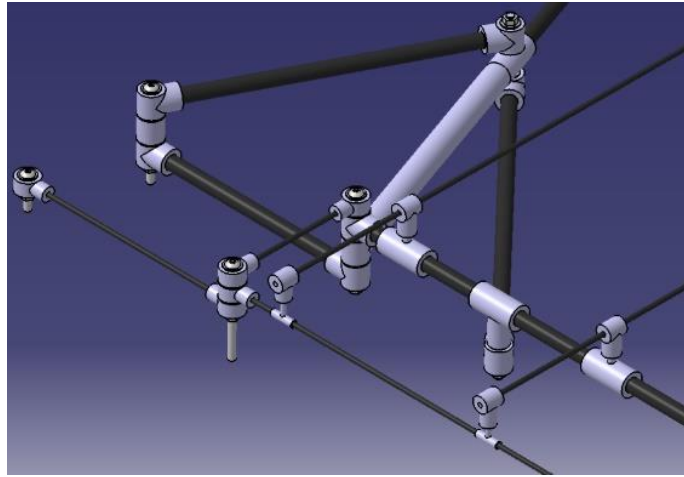
Mechanism 1



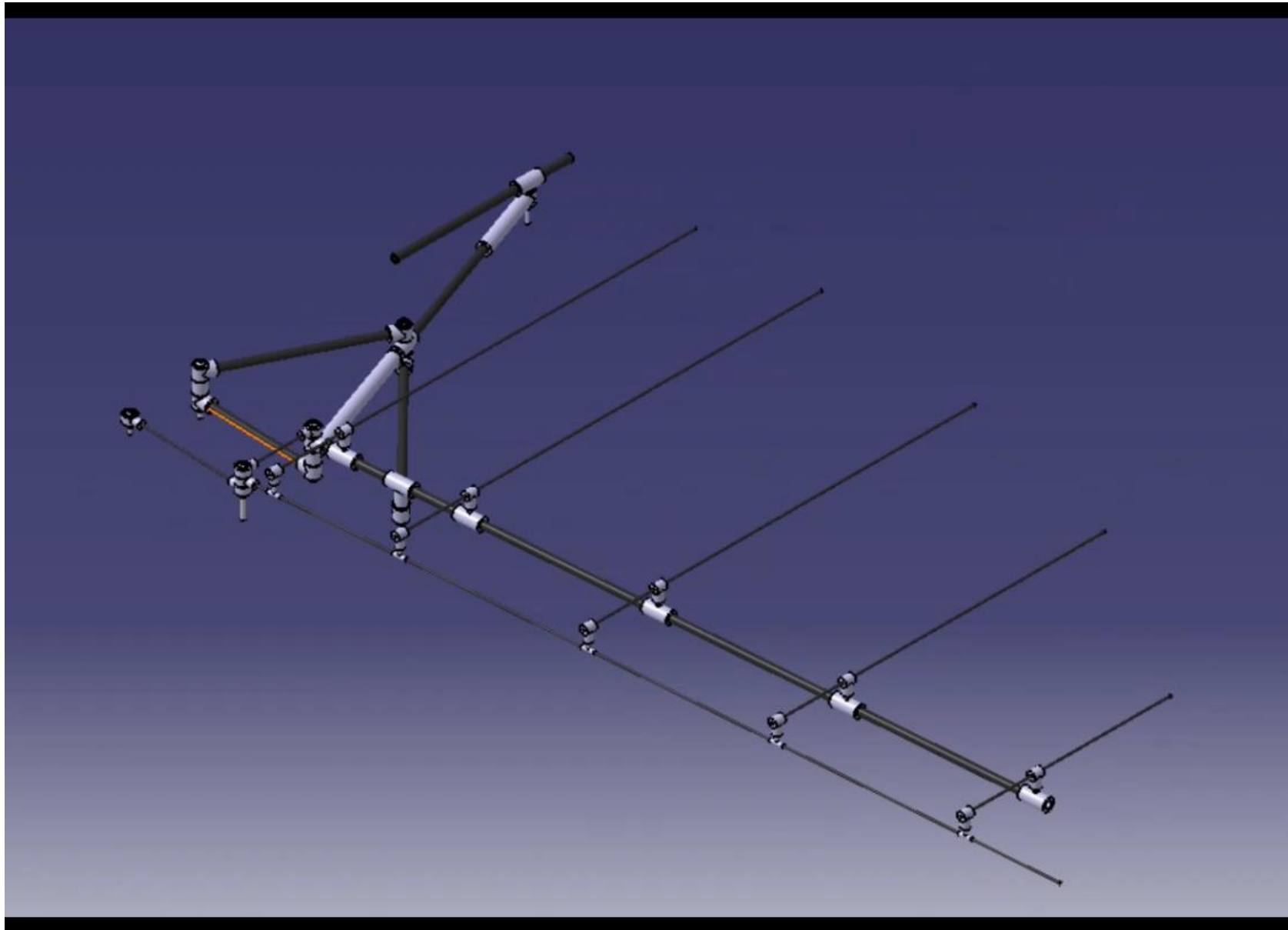
Mechanism 2



2. MECHANISM 2



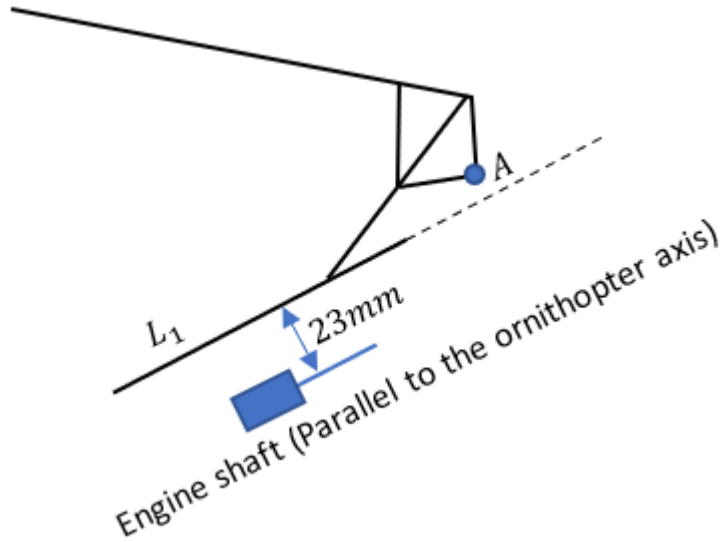
2. MECHANISM 2



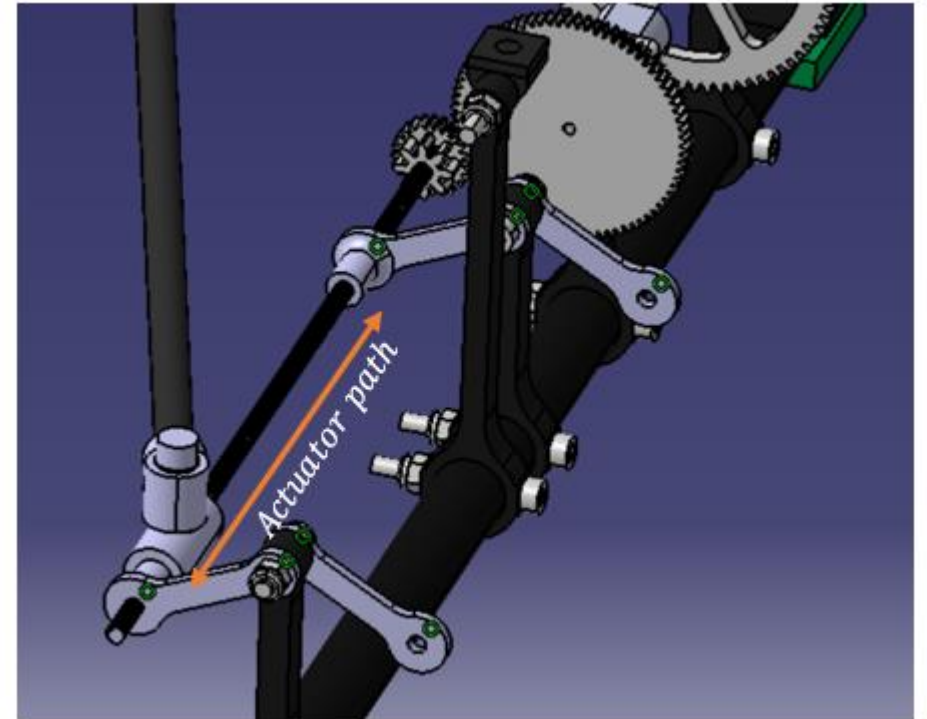
3. CHANGES FROM ORIGINAL DESIGN

MECHANISM 2

- Separation of rod L1



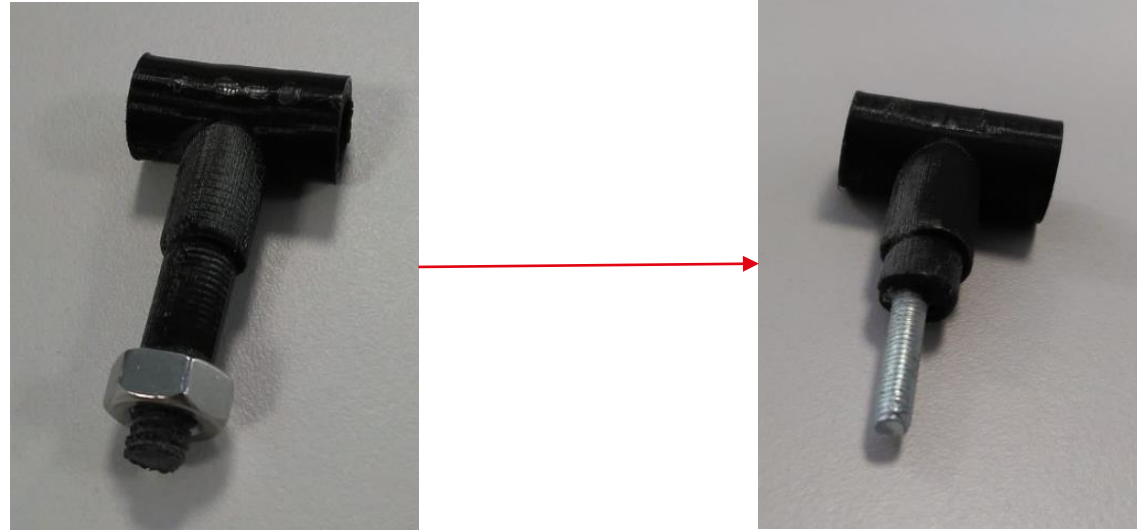
- Connecting rods as limits of the positions of the mechanism



3. CHANGES FROM ORIGINAL DESIGN

MECHANISM 2

- Alternative to the plastic threaded zones (external)

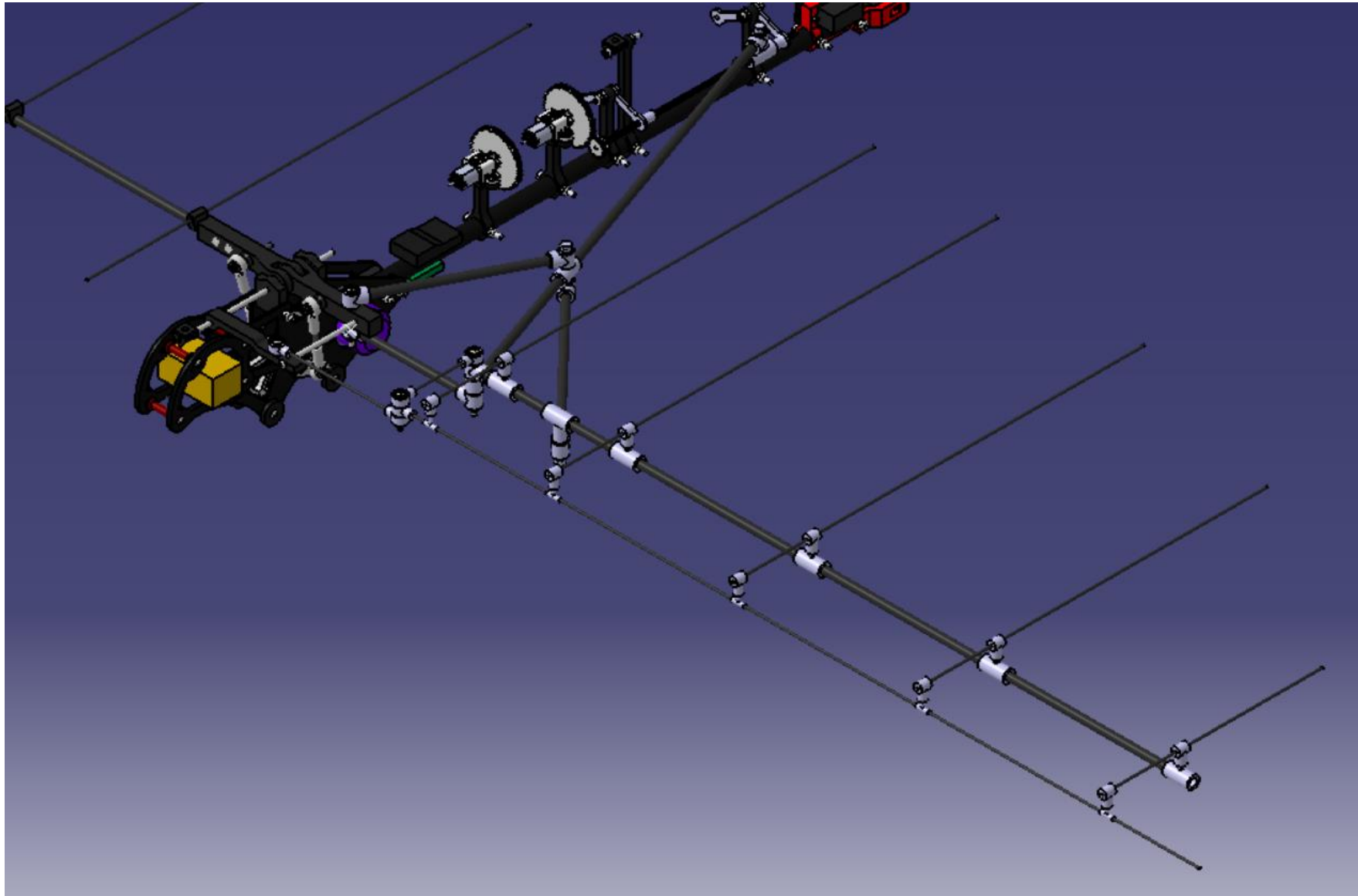


- Alternative to the plastic threaded zones (internal)



4. CONNECTION TO MAXPOWER

MECHANISM 2

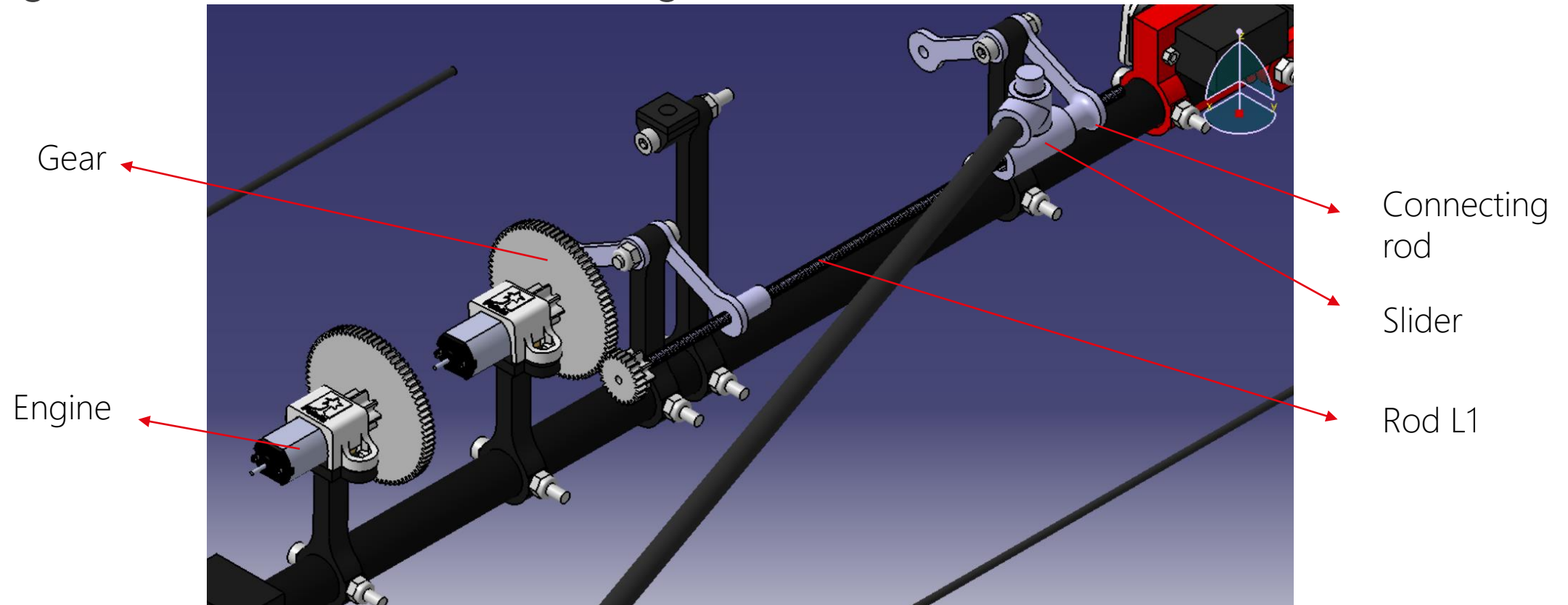


4. CONNECTION TO MAXPOWER

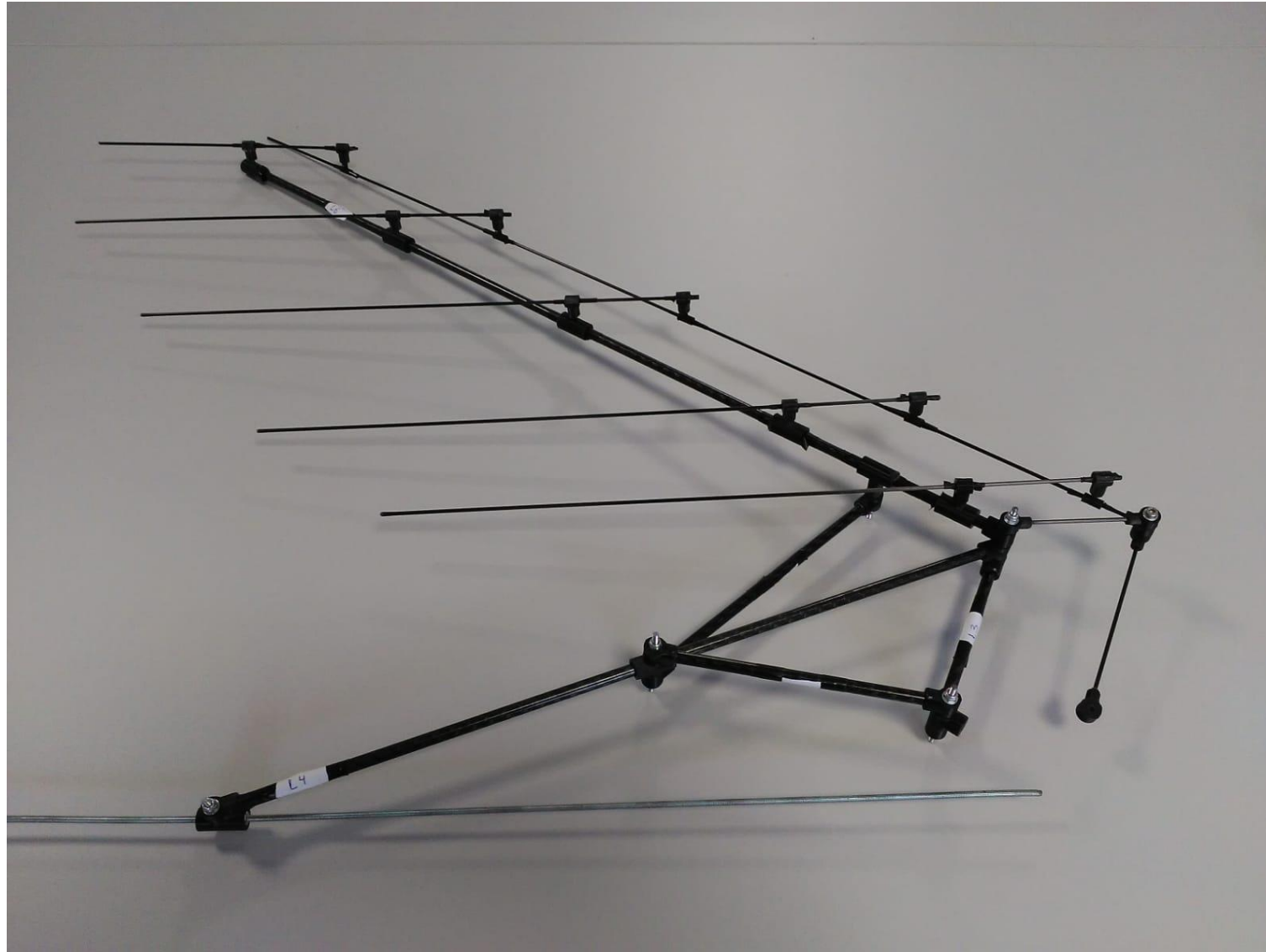
MECHANISM 2

Each wing can be folded independently when the ornithopter is perching or during flight for any angle of flapping.

1. An engine on a support connected to the bird axis
2. Two supports with connecting rods to hold the rod L1
3. A gear transmission between the engine and the rod L1



5. CURRENT STATE



5. CURRENT STATE



6. FUTURE LINES

Implementation of the fabric

- Problem of the initial option:
 1. Fabric connection doesn't allow full folding
 2. When the mechanism is extended the fabric isn't tight
- Solutions:
 1. Modifying the connection between fabric and mechanism
 2. Introduction of threads to tighten the fabric

Connection of the mechanism to MAX POWER

- Checking the behaviour of the gears (ensuring their contact during flapping and folding)



Thanks