

Mini-Bee TRL3 2PAX VTOL Hybrid Hexacopter

Mini-Bee – Hybrid VTOL

Regional Institutions



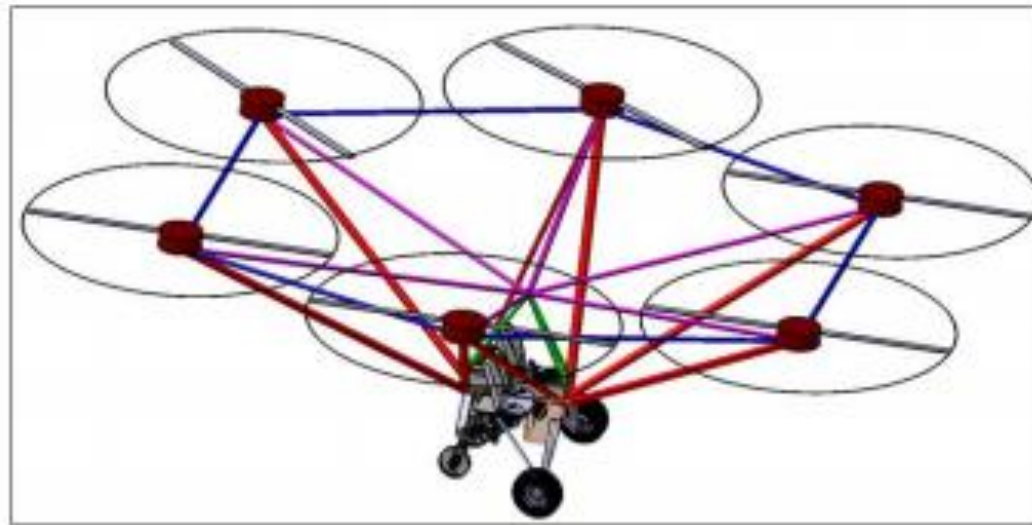
Urban Air
Mobility



Fondations and associations



Emergency and
humanitarian
missions



Financial partners



Public Fundings



Collaborative
innovation

Drive your
aircraft!

Industrial
development



Crowd Funding

Previous Incubators and institution



Institutional networks

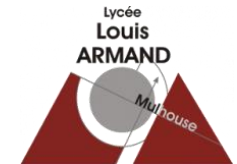


Academic partners

Academics



POLITECNICO
DI TORINO



Page Discussion

Minibee TRL3

Mini-Bee TRL3 task is active

Go back to **Mini-Bee** page.

Please refer to www.collaborativebee.com for usefull links on the project.

Brief summary of Mini-Bee projects since start in 2015.
File:Mini-Bee Evolution Projets v1.pdf

- Collaborative Projects
 - Mini-Bee
 - Bee-Plane
 - Iso-Plane
- Social Media
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Informations disponibles sur le wiki du projet

Industrial Property

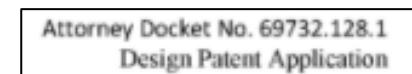
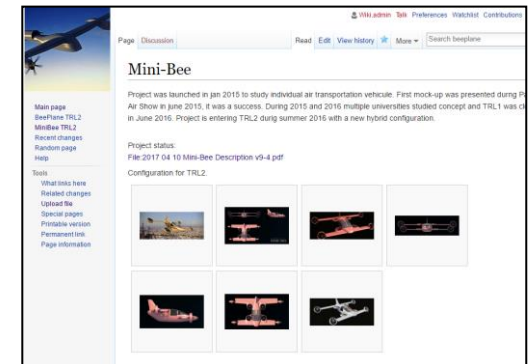
www.bee-license.com

Lesser Open Bee License 1.3

- Mini-Bee project is achieved under dedicated **lesser open source** license
- It allows multiple actors (academic, industrial, individuals) to collaborate in an **open-innovation** workflow. Project works are mainly shared on a public wiki.
- Tasks are achieved with coordinator management
- **Private Tasks** (without public disclosure) or product covered by other licenses or other intellectual property rights can be included within the project. Only interface works will be covered by the open source paragraph of the Lesser Open Source License
- Any Participant may use works done on the Project for technical or commercial use. By default, standard royalties percent are defined



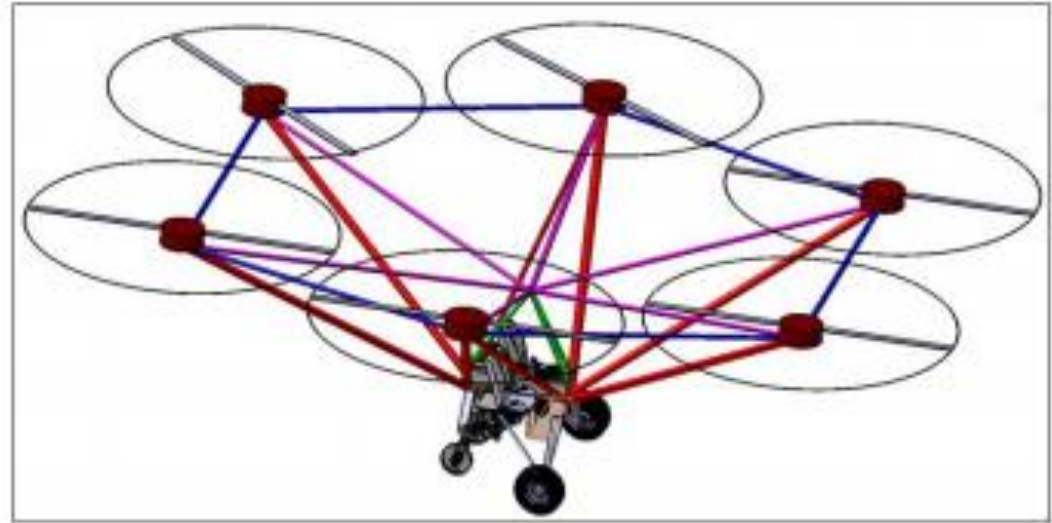
www.collaborativebee.com



Mini-Bee 2PAX : Hybrid Powered solution

Basic flight path

- Cruise speed : **170km/h**
- Range : **800 km**
- MTOW : 700kg
- Max power 100 kW
- Cruise flight : 90% of energy



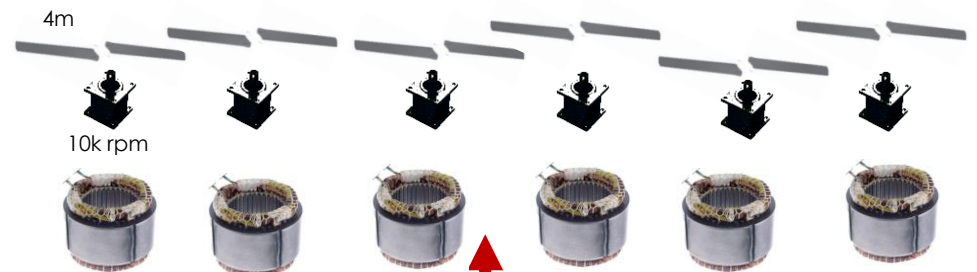
Fuel tank



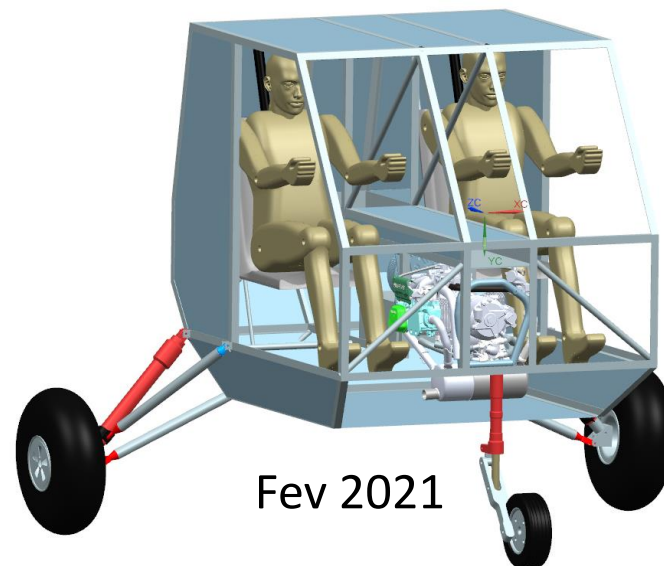
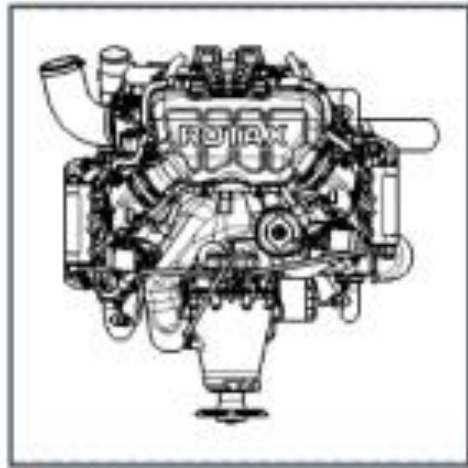
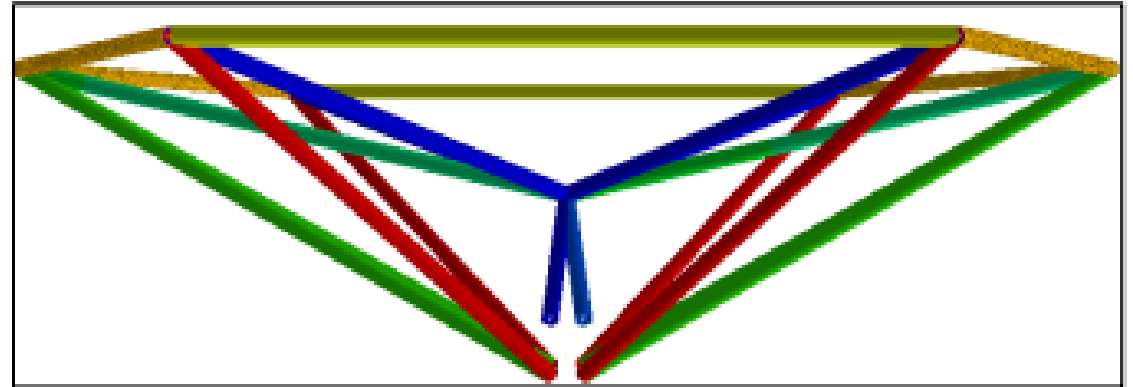
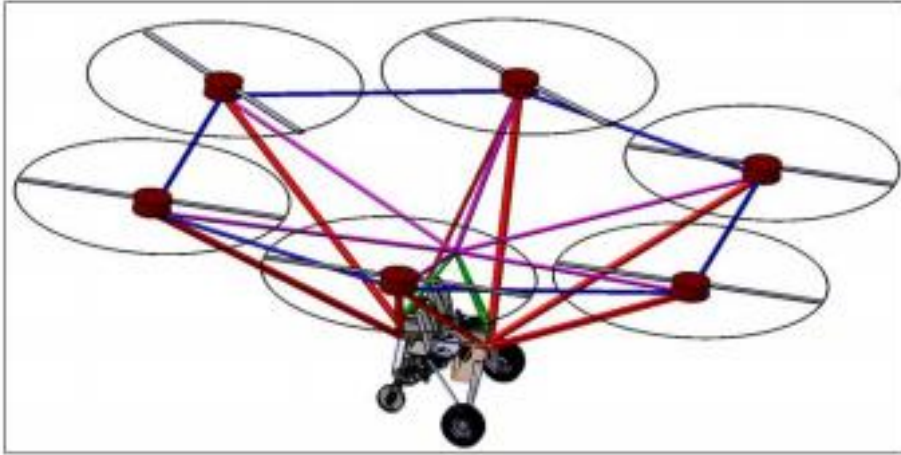
No Battery



10 Rounds
470V
2x UVW connectors



Actual 2PAX configuration for prototype



Flight controls

Computerized flight controls

Emergency beacon ON

Computers ON



ON

Sport mode ON



Engine Boost

Basic flight controls

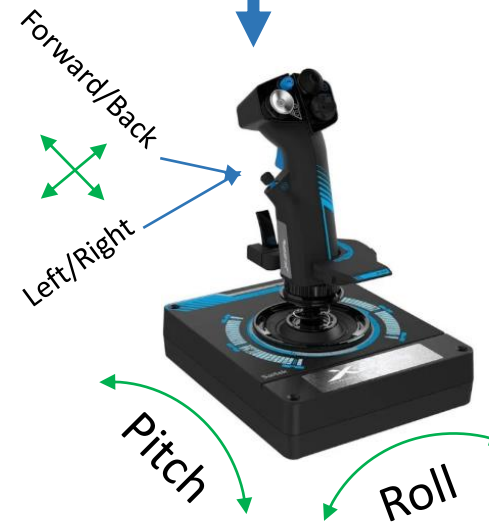
Left / Right

Vertical speed +
Vertical speed -

Horizontal Speed +/-

Radio ON

Stop



Joystick activated



Benchmark helicopter 2PAX and larger

Existing solutions

Mini-Bee solutions



Robinson R22

- Single-Engine
- No Parachute



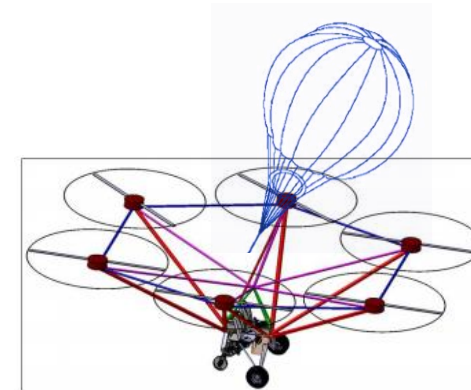
Autoroation in case of emergency landing



Zephyr

- Parachute

- No rotor loss



Security

Parachute
Loss of 1 rotor



EC130

- Cruise speed: **261km/h**
- Purchase cost: **3,6m\$**
- Total Variable cost/h: **\$847**



EC135

Turbine Engine



Cost

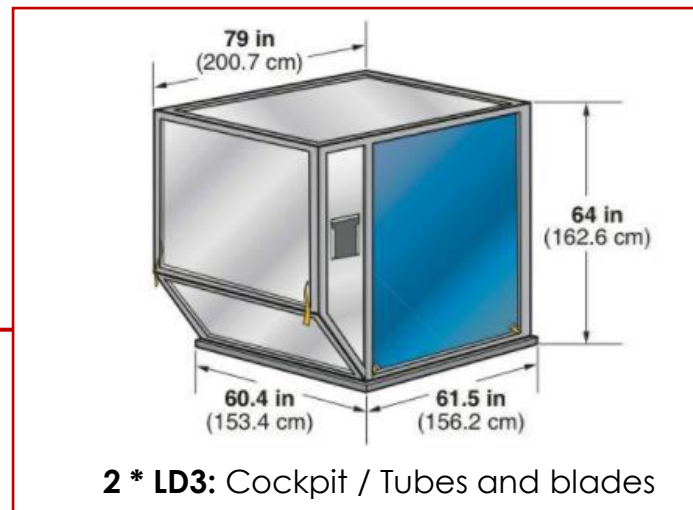
Source power
piston engine

Mini-Bee : Modular deployment

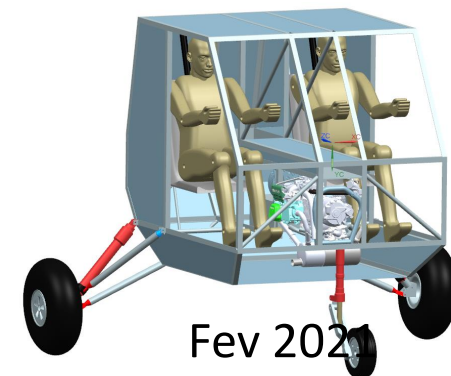
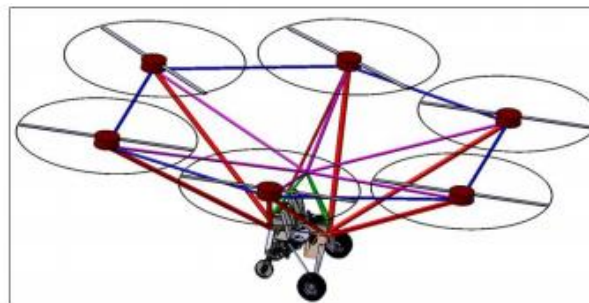
Air **transportation** by
civilian aircraft



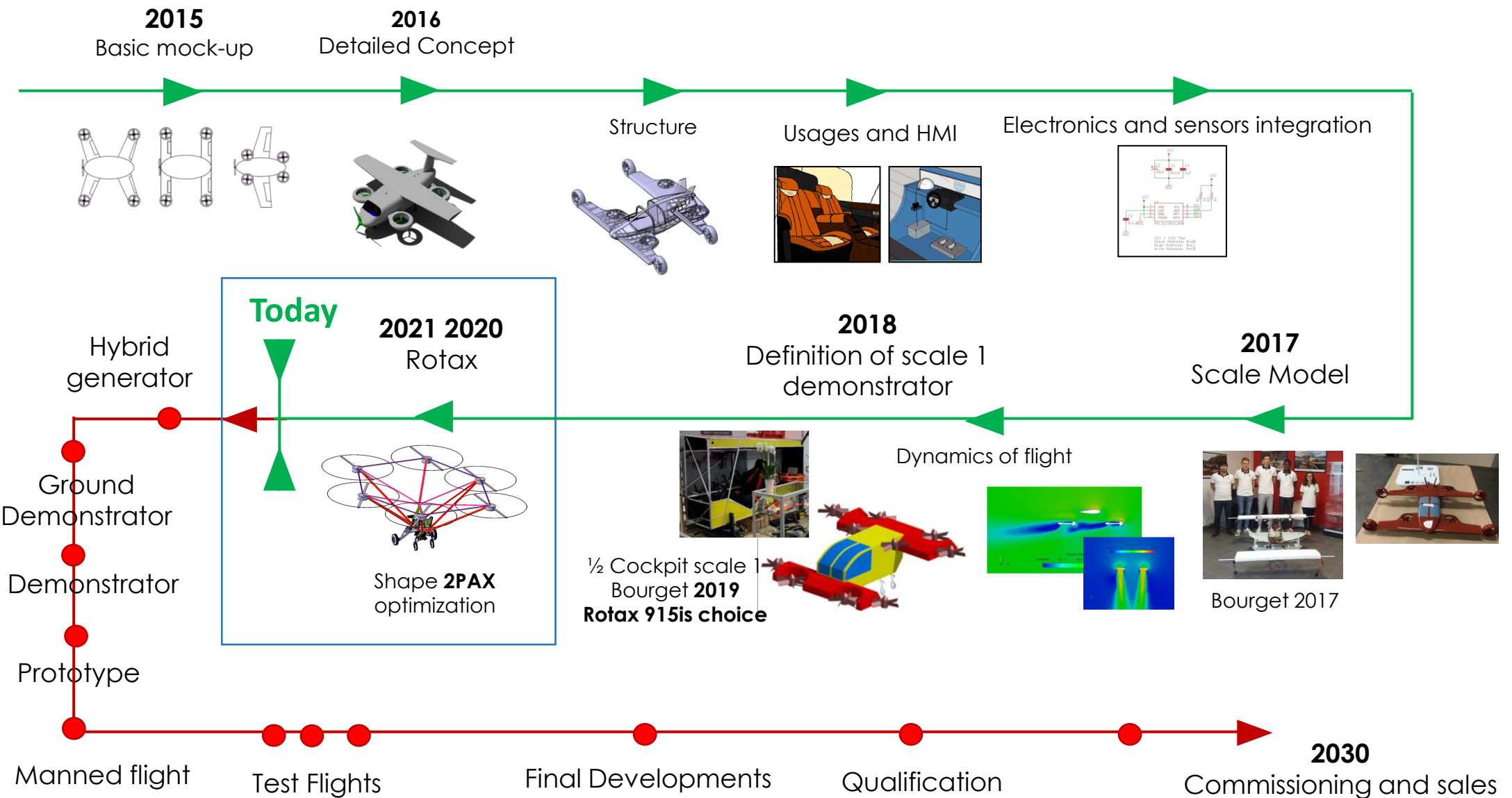
Mini-Bee can be loaded
onto civilian aircrafts
cargo route



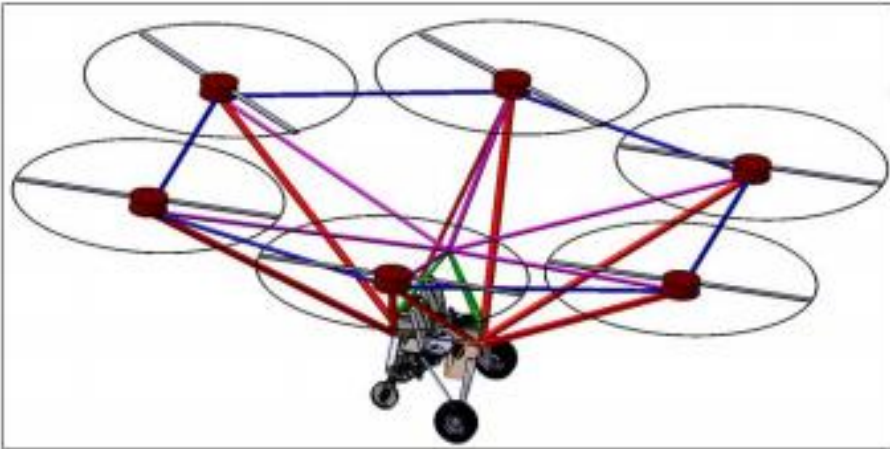
Mini-Bee can be **easily
mounted** on tarmac



Mini-Bee – Project development steps



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