Autonomous Flying Car

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Description

**Personal self-driving/flying vehicle that provides door-to-door transportation by using both ground and airspace.*

Autonomous flying cars combine the advantages of ground and aerial vehicles to enable door-to-door mobility. Flying cars have been tested successfully in the past, with autonomous capability expected in the next few years. Terrafugia, Aeromobil, PAL-V, Butterfly, Maverik and Parajet have all carried out pilots.

1. Expected impact

- Convenience and increased choice of destination (air + land transport)
- Reduction in road congestion by shifting vehicles to airspace when needed
- Current infrastructure will still be used for road part of journey – impact on urban form/design limited
- Reduced travel time
- Low affordability for users – high initial cost of ownership (cost will decrease gradually but likely to stay relatively high)
- Noise pollution

2. Technology requirements

Much of the technology needed is already in use in other vehicles, for example: **LiDAR sensors,** Radars, Cameras, Ultrasonic sensors, GNSS, IMU, Odometry sensors. The following technologies are still in pilot stage:

- **Flight technology**: Foldable wings, push propellers or other that will allow autonomous flying car to fly
- **Power systems**: Engines (hybrid or other) capable of lifting weight of car
- **V2X**: “Vehicles-to-everything” communication to optimize movement

3. Regulatory requirements

- Regulations for ensuring safety of passengers during flight mode

- Regulations for defining category of vehicle and ensuring safety norms of both road and aviation modes are satisfied

4. Investment requirements

- Cost of the autonomous flying car is expected to start at ~0.2-1.6m USD – expected to decrease gradually
- Infrastructure investments will be moderate – extent/sophistication of dedicated takeoff/landing platforms built will be determined by regulations

Tags

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- Technological

Links

INFORMATION

Uber will test its flying taxis in Melbourne

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Rating criterion	04.06.2020
Importance	