

SUGGESTIONS

BVLOS AND PACKAGED DELIVERY USING RPAS



DRONE FEDERATION OF INDIA

DRONE FEDERATION OF INDIA
MUMBAI



BVLOS

POLICY MOTIVES ACROSS THE GLOBE

BVLOS RPAS operations have been viewed with a fair amount of apprehension across the globe leading to a very guarded approach to regulatory framework. Either the engagement of BVLOS flights are banned or fastened to a highly regulations. Hence operators and manufacturers face ambiguity in such situations. For instance, BVLOS flights in the United States are forbidden at night; in Canada, BVLOS flights would require clearances from the meteorological department while in Australia, prior permissions are required subject to convincing demonstrations of the operators' / flight capabilities keeping in mind privacy, safety and other social parameters. (htt4) (htt5)

BENEFITS

As we are aware, the overall benefits in India are immense. Some areas of application are outlined below. BVLOS flights in India would help futurise very traditional and rudimentary forms of survey. For instance, pipelines are often surveyed on foot or on bike for pilferages, vegetation and damage. The efficacy of incumbent processes can be raised exponentially with the application of BVLOS.

- Intercity railway lines
- Oil and Gas pipelines that run across states
- Offshore oil rigs and drilling areas
- Maritime operations and terminal / port inspections
- Large agricultural areas for land record digitization
- Search and rescue operations
- Wild life conservation
- Defense, surveillance and patrolling of border areas

POLICY RECOMMENDATIONS FOR CAR

- Separate licences may be issued based on demonstration of capabilities. This can be integrated into Digital Sky and handed out to only a select cohort of experienced RPAS operators
- LED / flashlights for UAVs that are on BVLOS missions
- Scheduled area library- Each time a BVLOS mission is undertaken, the flight corridor may be added to a data library similar to the [B4UFLY](#) app that identified safe or scheduled areas to fly (htt)
- Blanket ban on recreational BVLOS flights

- Easier [framework](#) around Fixed Wing flights given the limited leveraging ability of the operator in comparison with multi rotor UAVs (htt2)
- Payload restriction of 7kg and height restriction of xxx m from ground level
- Adequate distance from densely populated areas, wild life sanctuaries and environmentally fragile areas
- Authorised certification programs for BVLOS flights with government endorsed [curriculum](#) (htt3)

PACKAGED DELIVERY / VARIABLE PAYLOAD

Reports of misuse using payloads have result in governing bodies issuing rigid laws in its implementation. However, a deep dive into the overall benefits can help overcome the odds and build an innovation and industry friendly policy.

INDUSTRIES THAT BENEFIT

- Supply chain- warehouse and yard management using drones
- e-commerce- parcel deliveries
- Culinary- Food deliveries
- Healthcare- delivery of blood samples, organs etc.
- Search and rescue- telecom hotspots in affected areas while distributing medical and relief supplies
- Drone taxis

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ROADBLOCKS

- Adverse weather conditions that could impact parties that are unconnected to the transaction
- Unattended delivered parcels that could fall into wrong hands
- Smuggling of contraband and other illegal items using drones
- Prison deliveries using UAVs that can impact the law and order situation
- Modified payloads that can drop dangerous, inflammable items

POLICY RECOMMENDATIONS

- Designated / gated landing areas or drone pads across localities
- Restrictions on weight vs flight time- Limited timing for heavy payloads and limited payloads for long flights
- Demarcated drone freight corridors that are away from densely populated spaces
- Differently color coded long haul UAVs



DRONE TAXIS

- Only licensed entities be allowed to test such drones in a limited area/corridor without a person on-board
- Limits of AUW and no. of passengers be defined
- Allow humans to be lifted only after obtaining an airworthiness certificate equivalent to established standards
- Autonomous flight controller should abide by standards defined in CAR accepted globally
- Initial experimental/pilot flights to be limited to certain corridors with fixed take-off and landing locations
- System redundancy should meet civil aviation standards
- A detailed provision in CAR only after successful evolution and demonstration of passenger flights

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