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Drones are here to stay. Here are the startups seizing this space

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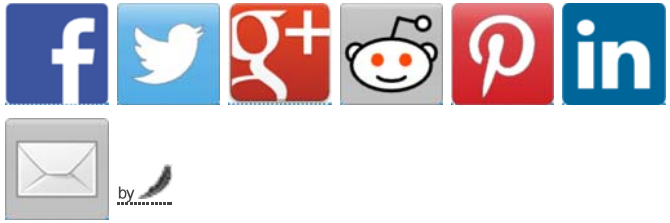

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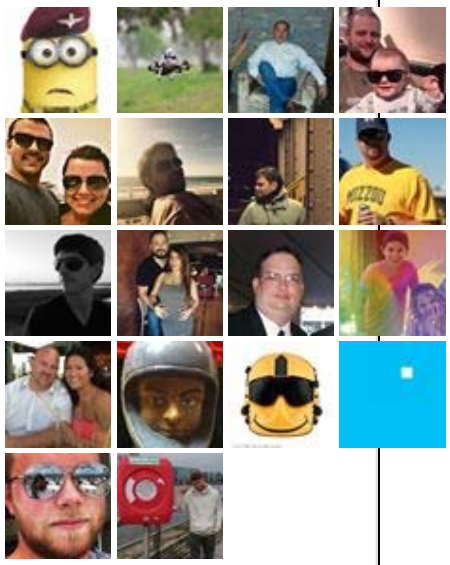

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Sushil Reddy

Remember ‘Interstellar’ and ‘3 Idiots’ and how both the movies featured drones? Now drones are entering real life through popular commercial applications. The Indian armed forces have been using unmanned aerial vehicle (UAVs) for intelligence gathering and vigilance at international borders. But drones can be used for civil purposes like filming of aerial shots and agriculture management (monitoring crop growth, solar power plant performance monitoring, and spraying of pesticides over a large tract of land, etc.)

In the past two-three years, startups have recognised the business opportunity in the commercial use of UAVs in India. Some players in the field are: Drona Aviation, a SINE IIT Bombay incubated company (focuses on aerial cinematography); Chennai-based Atoms & Bytes (sells custom-made drones, drone kits, and accessories); Bengaluru-based Edall Systems (provides industry-oriented training of UAVs for engineering students and builds and supplies UAV components to the

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Defense Research and Development Organisation and National Aerospace Labs); Mumbai-based startup Airpix (offers aerial photography and video production services for city planning and disaster management); and Netra by IdeaForge, founded by a group of IIT-Bombay graduates, an unmanned aerial vehicle that was used during the Uttarakhand floods rescue operations.

Aerial photography and cinematography is a lucrative business as far as drones are concerned. Currently focused on aerial cinematography, *Drona Aviation* builds and customises their own drones with features for safety and ease of use. Drona Aviation hopes to develop drone-based solutions for surveying, tourism, safety, mining, and agriculture. Apurva Godbole, CEO, Drona Aviation, says: “In the last decade and a half, especially after the advent of BLDC motors, aerospace engineering has moved from commercial and defense planes to low-cost decentralised solutions like drones. We want to solve civilian problems with the use of drones. Our present focus is on cinematography, security, advertisement, and tourism.”

Over the last two years, with the demand for drones entering into the mainstream, more entrepreneurs are entering the space. *Edall Systems* founded in 2011 by ex-National Aeronautics Limited engineer Pritam Ashutosh Sahu, started as an aviation training facility for drone hobbyists and colleges in Bengaluru. The company now is a drone consulting and deployment practice.

AirPix started in 2012 by four Mumbai college grads is another company hoping to capitalise on the use of drones. Says Aniket Tatipamula, Co-founder of AirPix: “Our drone is not yet commercial, because we are making image sensors that can take high resolution pictures of land or a

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physical structure and imprint them as 3D models on computers in real time." Aniket says that AirPix has piloted their drones with a windmill company and has provided them with information on the damages on the blades of windmills. The entire wind farm of 100 acres was monitored by photographs constantly sent by five drones. The company is planning to create a business model around photography analysis, 3D modelling, and annual maintenance contracts, says Ankit.

Skylark Drones (read their story here) offers services to companies in real estate, land survey and inspection, advertising, and sports events. They are looking at use cases for drones in aerial panoramas, ultraHD videos, and images. They have also moved into advertisements using drones for which they have applied for a patent. Other services which Skylark offers include: aerial photogrammetry (creating 2D and 3D topographical maps using photography and other techniques) and surface mapping. They are also expanding in the field of local drone delivery, which could be a very attractive point for takers. Skylark operates in the B2B space and is looking to cater mainly to startups.

Started by the father-son duo, *Eazypilot* (read their story) from SSAI is one among a handful of drone controllers available globally that converts any drone into a user-friendly gadget around which applications can be developed. Eazypilot also helps eliminate some common problems associated with buying different components off-the-shelf and trying to integrate them into a separate drone. SSAI has received a grant from the Tamil Nadu Small and Tiny Industries association for 2013-14, which was a shot in the arm for the development of Eazypilot. SSAI even has an MOU with NAL to take their technology further. Currently, Eazypilot's APIs are on embedded boards but will soon be processed by high level processors enabling integration

with cameras by the time of the official launch scheduled for end of July. Eazypilot now has around 60 beta users and is in the trial phase.

The challenges

Even though the financial opportunity looks attractive, doing business in drones is not easy. To begin with, the civil aviation ministry's regulation does not approve drones to fly over 500 metres if they are used by private companies. (In the US, a law was passed in 2012 directing Federal Aviation Authority to throw American airspace wide open to drones by September 30, 2015, which will result in huge opportunities for companies there.)

The second challenge is image resolution, which from 1,000 metres is still dismal. Drone makers have to increase the payload and add turrets to mount powerful cameras, which will increase their size to well over 10 feet, from the current size of three feet, to carry the weight of the more powerful batteries. The batteries can keep drones in the air for a limited time and have to be charged for hours after landing. Added to this is the problem of telemetry; the drone is only as good as the GPS signal it recognises. Such improvements will make the drones costly.

The third issue is the business model itself: there are already 900 drone manufacturers in China and over 200 in the USA. A new entrant must build new expertise in software and services to make it big in the drone management business.

Speaking about the future of drones in India, Apurva concludes: "We also see a significant use of drones in the defense sector – which presently, in the Indian context, is limited to only surveillance. Drones can develop to make the system more lean and effective. The medical

sector will also see applications of drones in case of medical emergencies. Drones will be seen in kids' toys sections and high tech defense labs. What should be, and will be, important here is the problem that you are looking to solve. If you are doing it more efficiently, you'll survive and grow."

http://yourstory.com/2015/05/startups-seizing-drones-aviation/

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