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HOW FLYTNOW CAN HELP YOU AT EVERY STAGE OF YOUR JOURNEY TOWARDS DRONE AUTONOMY

As commercial UAV hardware platforms become increasingly powerful with self-positioning, collision avoidance, and autopilot capabilities – that enhance usability – several industries are seeing widespread adoption of drone-based systems for use cases such as security, progress monitoring, emergency response, asset inspection.

However, the crucial process of frequent data collection, common to most applications of such systems today, has long been a daunting task to automate. While a significant aspect of the flight can be automated using an autopilot, a human operator is still often required to manage the drones, swap batteries, etc.

Modern Drone-in-a-Box (DiaB) solutions have been designed to overcome this limitation. However, the market primarily comprises monolithic solutions (with proprietary components), which have prohibitively increased the cost and lead time of transitioning to these systems.

We, at FlytBase, are on a mission to change this. We believe that a modular approach, consisting of a low-cost, reliable drone, a compatible docking station, and a hardware-agnostic automation software, can make this technology highly accessible (available at 1/10th the cost) and thereby increase its adoption across industries and applications.

We have been building FlytNow to provide businesses with an all-in-one, user-friendly software to manage drones, docking stations, payloads, flights, and all of the data captured in the process, while ensuring reliability, safety, and security throughout.

This article will help you gain a better understanding of the FlytNow product for automating drone workflows and simplifying aerial operations.

The Drone Autonomy Spectrum

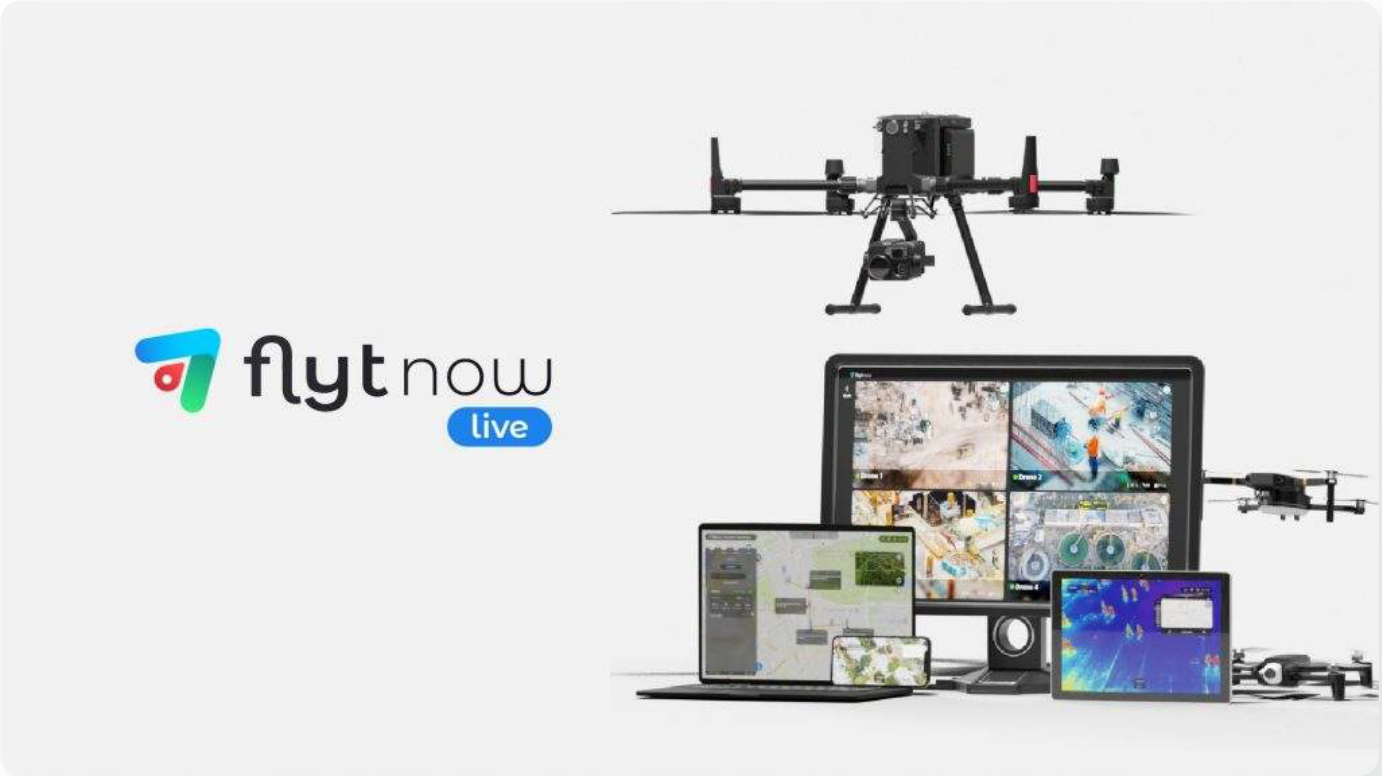
As quite popularly known, the term 'autonomy' in the drone industry has been used fluidly in different contexts with varying degrees of pilot involvement, which experts have attempted to identify and categorize.

Similar to the standards set by the Society of Automotive Engineers (SAE) for driving autonomous cars, roughly 6 levels have been defined for uncrewed aerial systems in increasing order of autonomy.

In essence, Level-0 systems would require complete pilot control and Level 5 would comprise fully autonomous UAVs that can fly themselves under all conditions, sense and navigate their environment in 3D space, and alter or replicate previous flight paths to successfully complete a mission without human intervention.

As our world moves closer to Level-5 autonomy, FlytNow, as a solution, aims to make the transition smoother for businesses at any stage – with its plethora of plans, offerings, and integrations.

FlytNow Live



In sectors such as law enforcement – where humans are systemically involved in the loop, drones serve best as first responders to proactively mitigate incidents or emergencies and provide real-time situational awareness.

Moreover, there is often an indispensable necessity for an onsite pilot or visual observer to monitor and control the drone, owing to regulatory limitations and the unpredictable nature of the field.

In the event of a fire or roadway accident, for instance, pilots must dispatch their fleet instantly to document and livestream all the necessary data at the scene and alert nearby public of the incident.

FlytNow Live is a Level-3 cloud-based software that helps stakeholders operate, monitor, control, and manage their UAV fleet remotely, providing intuitive onscreen controls and features to easily switch control between onsite and offsite operators, and record, review, and store valuable information.

Multiple safety features are baked into the design, including failsafes, DJI's collision-avoidance module, and secure (E2E-encrypted) communication between the drone and dashboard.

Feature breakdown

Following are some useful features provided by FlytNow Live for drone teleoperations.

Drone fleet management: Add and control unlimited drones to your fleet and execute multiple flight plans simultaneously. View and monitor live telemetry and vitals from the dashboard. Take remote control of any drone at any time.

Waypoint mission planner & geofence: Plan and schedule detailed & automated linear- or grid-based waypoint missions. Set individual actions such as flight speed and altitude for each waypoint. Configure cylindrical or polygon geofences to demarcate no-fly zones.

Ultra-low-latency video streaming: View HD video feed directly from the drone on your dashboard via 4G/5G/LTE. View and record footage from multiple drone cameras simultaneously and review captured videos from the dashboard gallery.

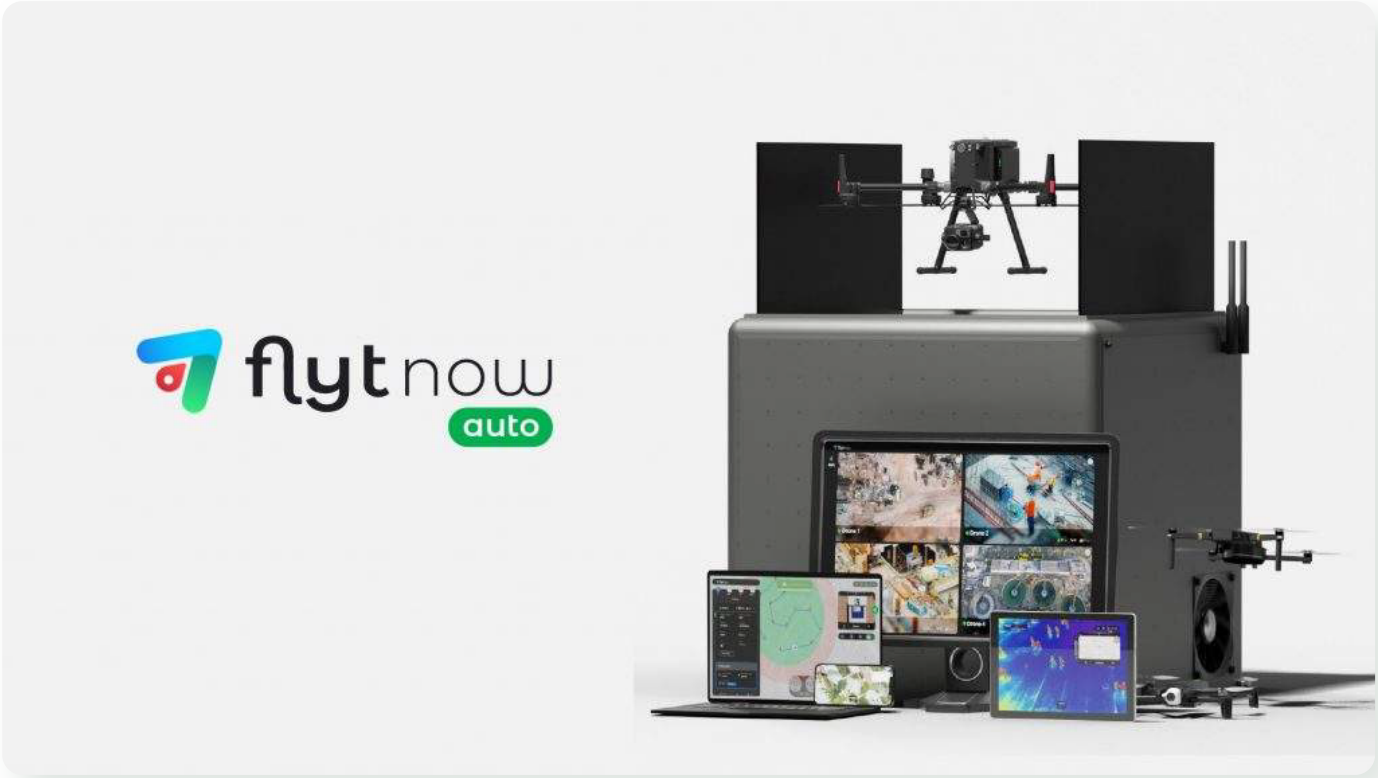
Go-to-location & guest-link sharing: Dispatch drones to a point of interest on command. Set live annotations on the map and invite guests to view live drone footage.

Payload control & integration: Remotely control common payloads such as loudspeakers, thermal/IR cameras, spotlights, etc. via the dashboard and integrate other accessories of your choice.

Weather station integration: Integrate weather modules to monitor ambient temperature, air pressure, wind speed, humidity, and much more from the dashboard.

Third-party integrations & addon modules: Integrate UTM, VMS, ERP, and other third-party software to FlytNow with ease. Additionally, modules like SBC integration for DJI Matrice and custom drones, intruder detection, smart RTH, autonomous precision landing, and language localization can be provided upon request.

FlytNow Auto



The majority of use cases that involve drones today – asset inspection, site security, and progress monitoring – comprise frequent and repetitive operations. Standard, off-the-shelf drones such as the DJI Mavic series have long been used to perform these operations; however, there exist certain disadvantages in piloting and operating them.

One of the most significant problems is battery life; such drones are lightweight by design and cannot afford to have big, chunky batteries supporting hours of flight time, let alone powering a wide variety of payload components.

Additionally, several operational inefficiencies occur in travelling to and from points of interest to collect and transfer the required data within a short period of time to the relevant stakeholders. Hence, the transition to Level-4 drone autonomy would be

practicable only with the existence of a secure endpoint: an automatic docking, cooling, and housing station to which your run-of-the-mill drone can return when it requires refueling or simply when it is not in use.

Enter docking stations—a smart, metallic box with the ability to autonomously charge, cool, and remotely communicate with drones. These boxes provide interfaces to open/close the drone bay, report weather data, and start/stop battery charging and/or swap the batteries.

FlytNow Auto has been designed to help automate DiaB systems. It provides an integrated user-experience and various workflows that control not just the drone, but also the docking station to make them work in unison. A range of failsafes, rule-engine, and user-configurable settings are available to help ensure that the entire operation is safe and reliable.

All the features of FlytNow Live are, of course, included, which help in controlling and monitoring the entire DiaB system from a remote location.

FlytNow Auto supports a wide range of drones and docking stations. This ensures that you are able to configure and customize your DiaB deployment based on your requirements and budget.

Feature breakdown

In addition to all the features of FlytNow Live, the following are the main modules offered by FlytNow Auto:

Remote drone & dock control and telemetry: Control your drones and docking stations remotely using onscreen controls, keyboard & mouse, or USB joysticks. View live telemetry and vitals from the dashboard.

DiaB fleet management: Add and connect unlimited drones and docking stations by establishing secure remote connections for each DiaB unit.

Autonomous precision landing: An advanced computer-vision-based module that helps your drones precisely land autonomously onto the docking stations.

Failsafes: Configure actions to be triggered during low/critical battery or internet, GPS, FlytNow, or RC link loss. Available actions include land, hover, and RTH.

For more information on the specific features offered in different FlytNow Live & FlytNow Auto plans, visit our pricing page.

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