Operating System for Drones

Develop software compatible with any drone; easily add intelligence for automa

GET STARTED

Onboard Intelligence

Various modules, like, collision avoidance, precision landing, and object tracking, can be easily configured based on the requirements.

Payload Integration

Configure, trigger and interface a wide range of payloads, such as, camera, thermal sensor, LiDAR, and multispectral camera, with your drones.

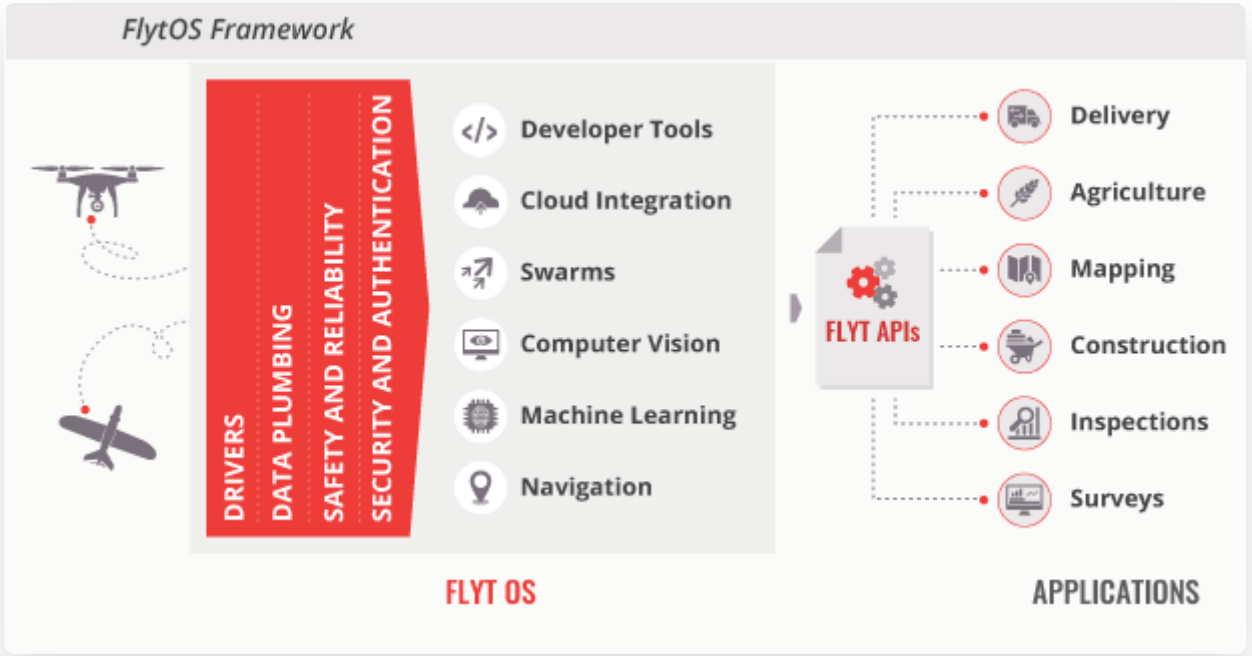
Drone Adaptors

FlytOS is compatible with all major drone/autopilot platforms. The drone adaptors make software applications agnostic to drone hardware.

Cloud Connectivity

FlytOS is fully compatible with FlytCloud over 3G, 4G/LTE, to provide you seamless, secure, reliable, and real-time access to your drone fleet.

FlytOS Architecture



FlytOS provides APIs and SDKs for building high-level drone applications, such as, aerial delivery, precision agriculture, surveys, industrial inspections and emergency response. FlytOS is compatible with all major drone/autopilot platforms and is supported on all popular companion computers, including those from Nvidia, Intel, Raspberry Pi and Qualcomm.

FlytOS is built on ROS (Robot Operating System) and Linux, making it an ideal platform for robust and scalable drone applications. It interacts with the drone/autopilot (flight stack) through drone-adaptors, and exposes high-level APIs in ROS, C++, Python, REST and Websocket. Integrations with a range of payloads, like, LiDARs, high-res cameras, thermal cameras, and multispectral cameras, help cut down the development time. Various intelligence modules are available to provide the capabilities, such as, collision avoidance, precision landing, object tracking, etc.

The APIs allow for easy development of onboard business logic as well as remote monitoring and control through the web and mobile apps. Seamless connectivity with FlytCloud provides a secure, reliable and scalable framework for building 4G/LTE connected fleet of drones.

FlytOS provides several other features, including, web/mobile SDKs and 3D software simulator, to help build complex drone applications, better and faster!

Download Now

Features

- **Drone Agnostic**

  Compatible with all major drones/autopilots

- **ROS Based**

  Scalable and extensible through plugins

- **Supports All CC**

  Supports all major companion computers

- **Onboard APIs**

  Rich APIs in Python, ROS, C++, RESTful, Websocket

- **Deep Learning**

  Modules for AI/ML based object detection, tracking, etc

- **Web/Mobile APIs/SDK**

  SDKs and templates to build custom applications

Security and Authentication

Designed for security and reliability at scale

Sync/Async commands

Powerful APIs to handle complex scenarios

Built-in Web Server

GCS is served right off the flight computer

Built-in Apps

Preloaded with sample apps with source code

SITL App Simulator

Simulator to test your applications without stepping out

Remotely Trigger Apps

Configure, trigger and talk to wide range of payloads

Addon Plugins

Precision Landing

Use visual markers for precise landing (or hover) on docking stations, charging pods, or for deliveries at designated sites.

Indoor Navigation

Complete solution for vision-based fully-automated indoor navigation in warehouses and other environments.

Video Streaming

Auto-selection of bit rate, resolution, and auto-config of transcoding parameters, for optimal performance over lossy networks.

Collision Avoidance

Integration with various sensors for obstacle detection, along with algorithms for rerouting to avoid collisions.

Swarm

Manage and configure swarms for large-scale deployments – automatic task-allocation, flight planning and data collection.

Object Feature Recognition

CV and AI/ML plugin for automated object detection, classification and/or counting is extremely valuable for various applications.

Object Track & Follow

Vision-based automated object tracking and following (with/without gimbal) can be configured on any custom drone.

Face & Gesture Recognition

Ready modules for face and gesture recognition help in integration of various smart features, based on the requirements.

LIDAR Integration

Tight integration's with popular LiDAR modules, for remote configuration, data access and processing, are readily available.

Camera & Gimbal Integration

APIs for direct configuration, control and data-access, from various popular camera and gimbal modules, are available.

DJI Guidance Integration

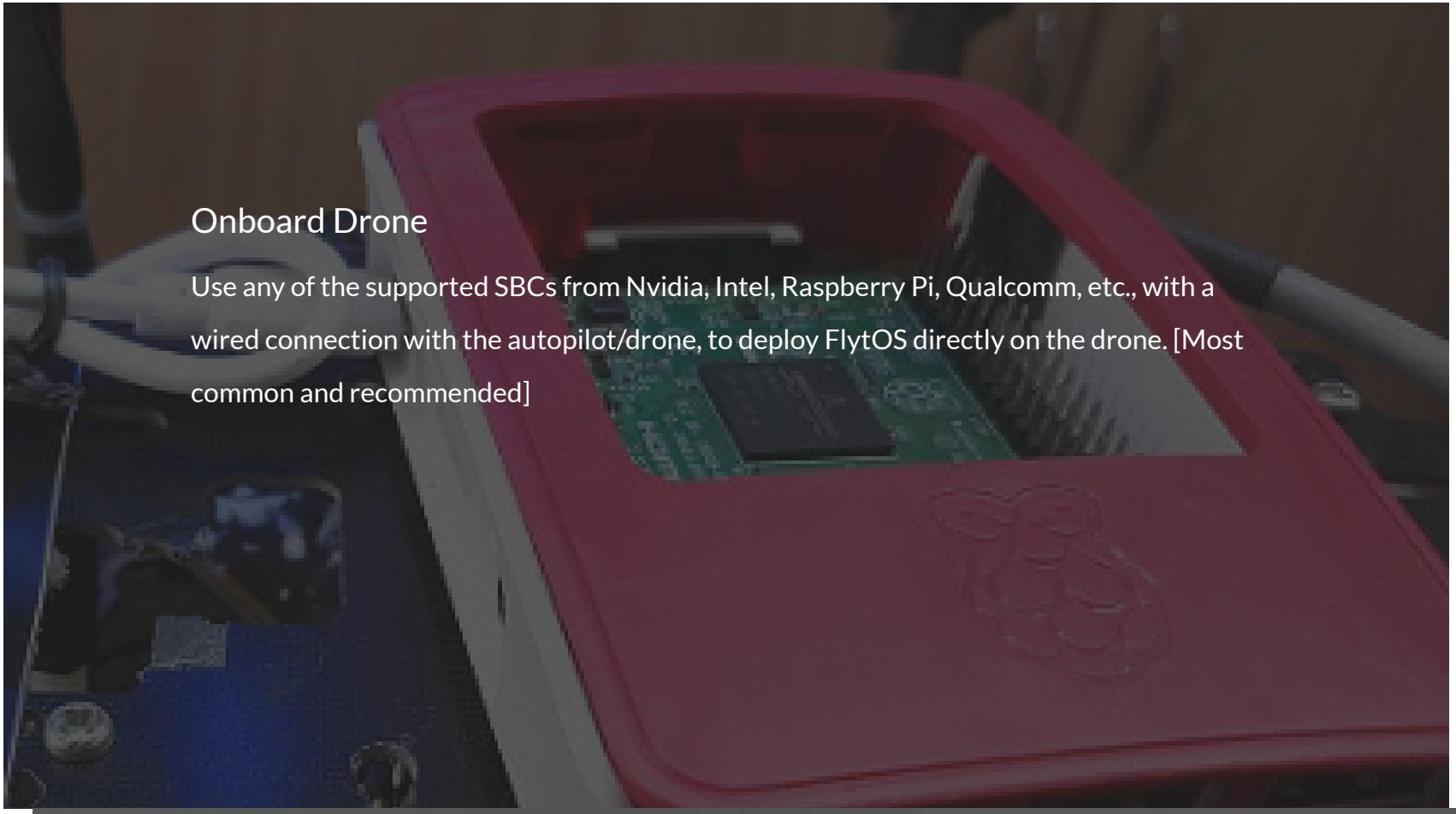
Detect obstacles on any custom drone with DJI guidance, using rich APIs for configuration, control and communication.

FLIR/Thermal Camera Integration

Integrate FLIR/Thermal camera with your drones and applications, using ready APIs for configuration, control and communication.

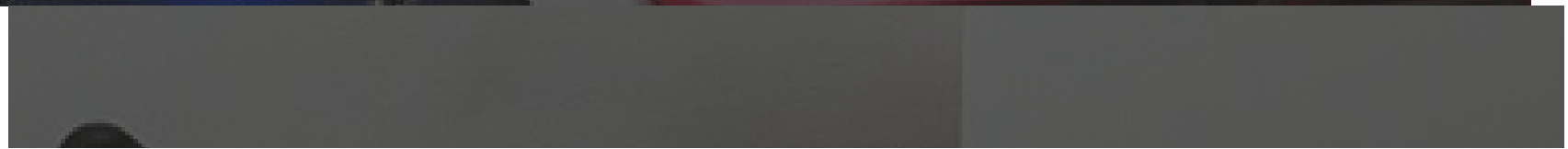
CONTACT US

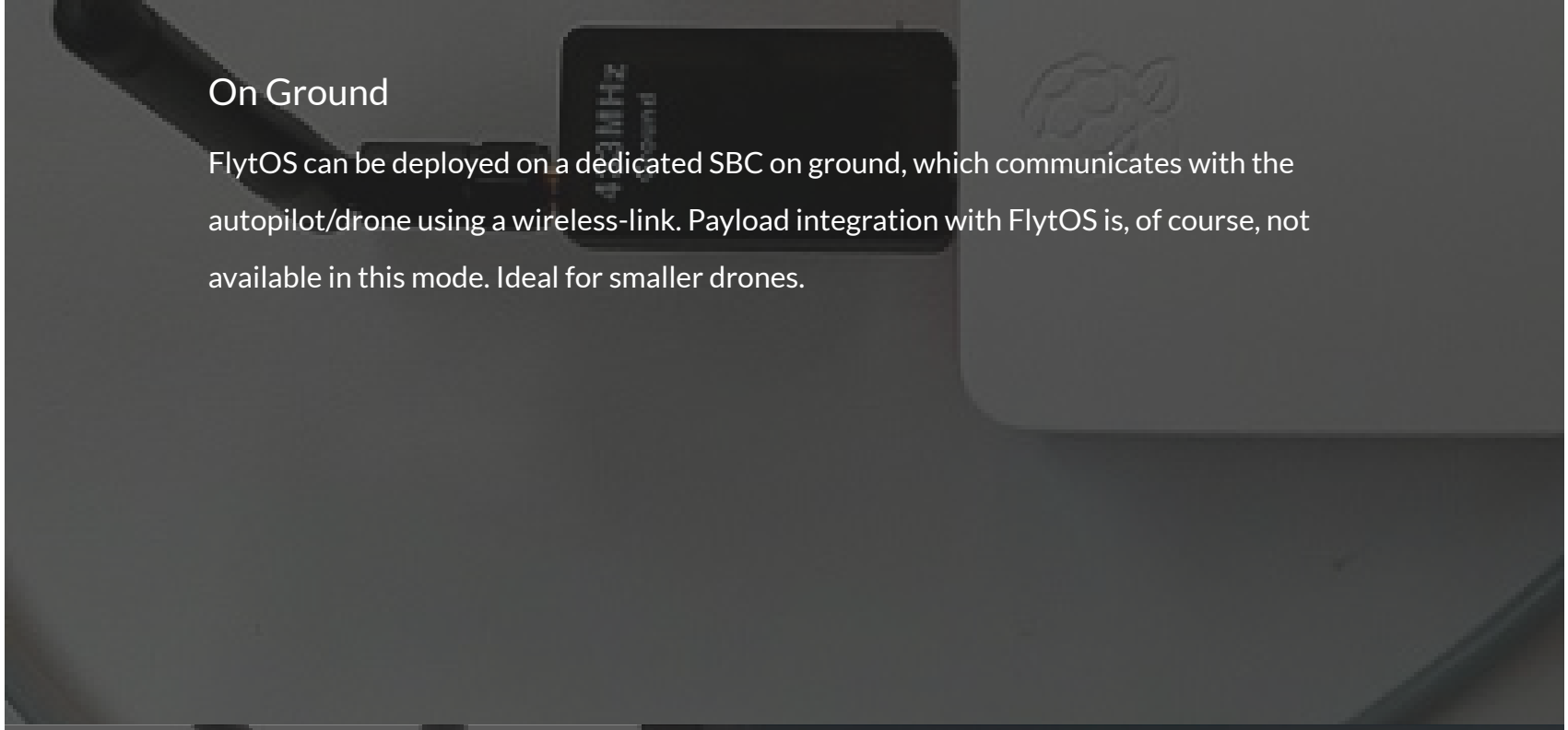
Deployment Models



Onboard Drone

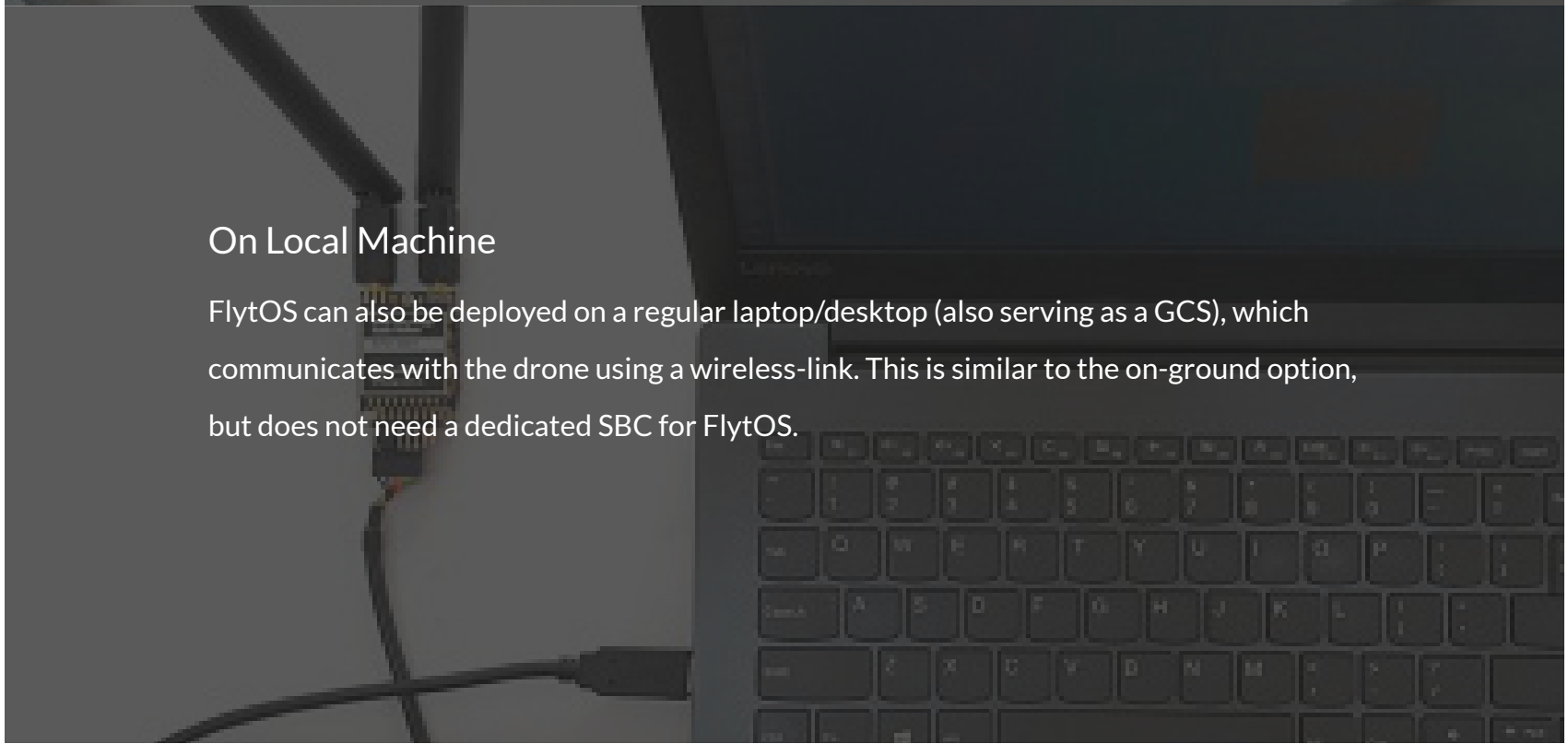
Use any of the supported SBCs from Nvidia, Intel, Raspberry Pi, Qualcomm, etc., with a wired connection with the autopilot/drone, to deploy FlytOS directly on the drone. [Most common and recommended]





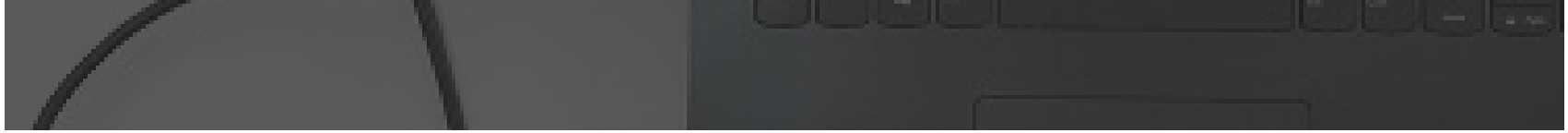
On Ground

FlytOS can be deployed on a dedicated SBC on ground, which communicates with the autopilot/drone using a wireless-link. Payload integration with FlytOS is, of course, not available in this mode. Ideal for smaller drones.



On Local Machine

FlytOS can also be deployed on a regular laptop/desktop (also serving as a GCS), which communicates with the drone using a wireless-link. This is similar to the on-ground option, but does not need a dedicated SBC for FlytOS.



Supported Platforms and Hardware


FLIR
Velodyne LiDAR
dji
ARDUPILOT
flytos
px4 inside

Developer Tools

FlytAPIs for Navigation, Telemetry, Payload

FlytAPIs are available in Python, ROS, C++, RESTful and websocket. They are designed to support a wide range of applications and complex scenarios. Build drone application for any vertical.

API Documentation ›

FlytSDK for developing Web and Mobile applications

Web/Mobile SDKs provide a framework for quick integration of drones with applications. Several templates and sample applications are available to help you get started.

Download FlytSDK ›

FlytSIM Simulator

Test your drone applications using a powerful simulator without stepping outdoors. This significantly reduces the development time, and effort/cost of conducting flight tests.

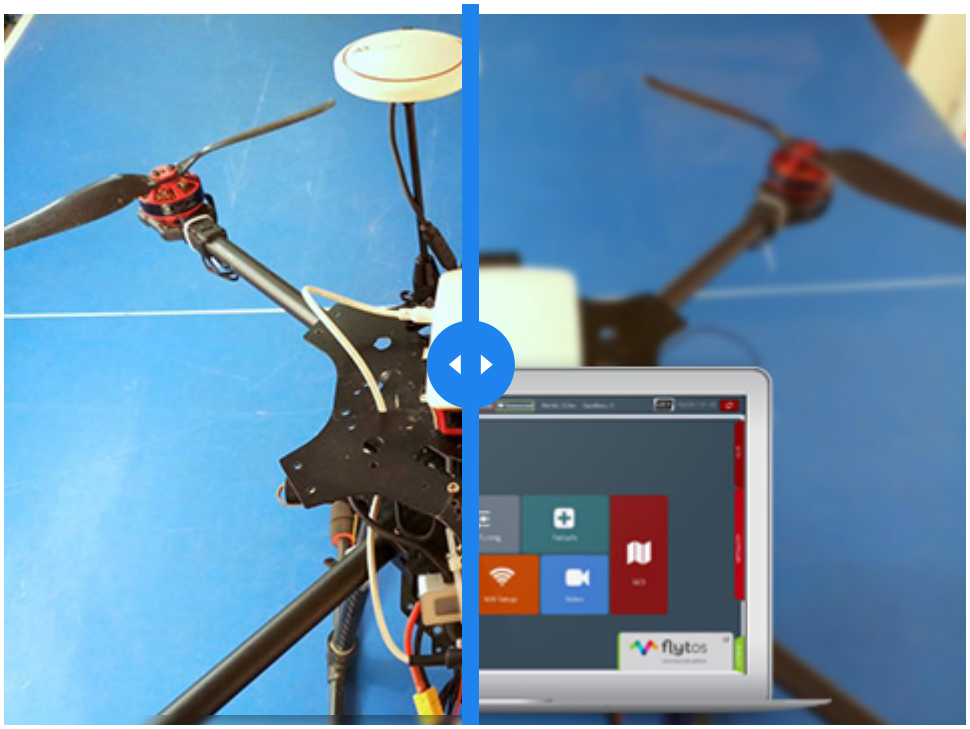
Learn More ›

Get Started With FlytPi Starter Kit

FlytPi Starter Kit is a turnkey companion computer pre-loaded with FlytOS Commercial Edition and FlytCloud Subscription. FlytPi is compatible with Pixhawk, Pixhawk2/Cube, DJI A3/N3, Matrice 100, Matrice 600 and Matrice 210.

BUY NOW

Prebuilt Apps



FlytConsole

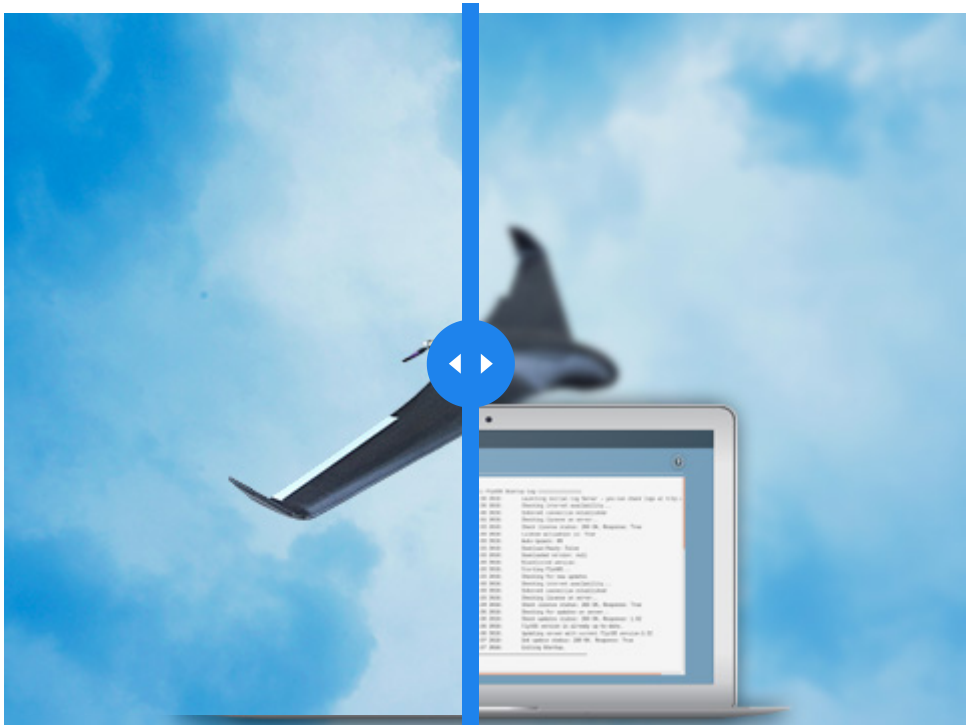
FlytOS serves its own GCS, right from the onboard webserver. Just point your browser to the right IP address, and get access to complete setup, configuration, testing and mission planning.

DOCUMENTATION

FlytPilot

A ready-to-use mobile application with joystick controls, built using FlytSDK, is available for download. It also serves as a template for developers to build their own custom mobile applications.

DOWNLOAD NOW



FlytLog

Manage your FlytOS and autopilot logs using a simple, unified, log-management application. This is integrated with FlytCloud for easy management of flight-logs through your cloud account.

DOCUMENTATION

Turnkey POC Solutions in 2 to 6 Weeks

Engage our Applications Team to build/configure a complete PoC, meeting your custom requirements, fast! Deliverables of a PoC include, custom web/mobile/cloud application, FlytOS licenses, FlytCloud subscription, consultation on drone hardware and payload selection, and support for complete integration.

GET STARTED OR Talk To Our Expert