



Department of
**Primary Industries and
Regional Development**

SIF – drone livestreaming

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Industry partners – Pivotel, Eztec, others...

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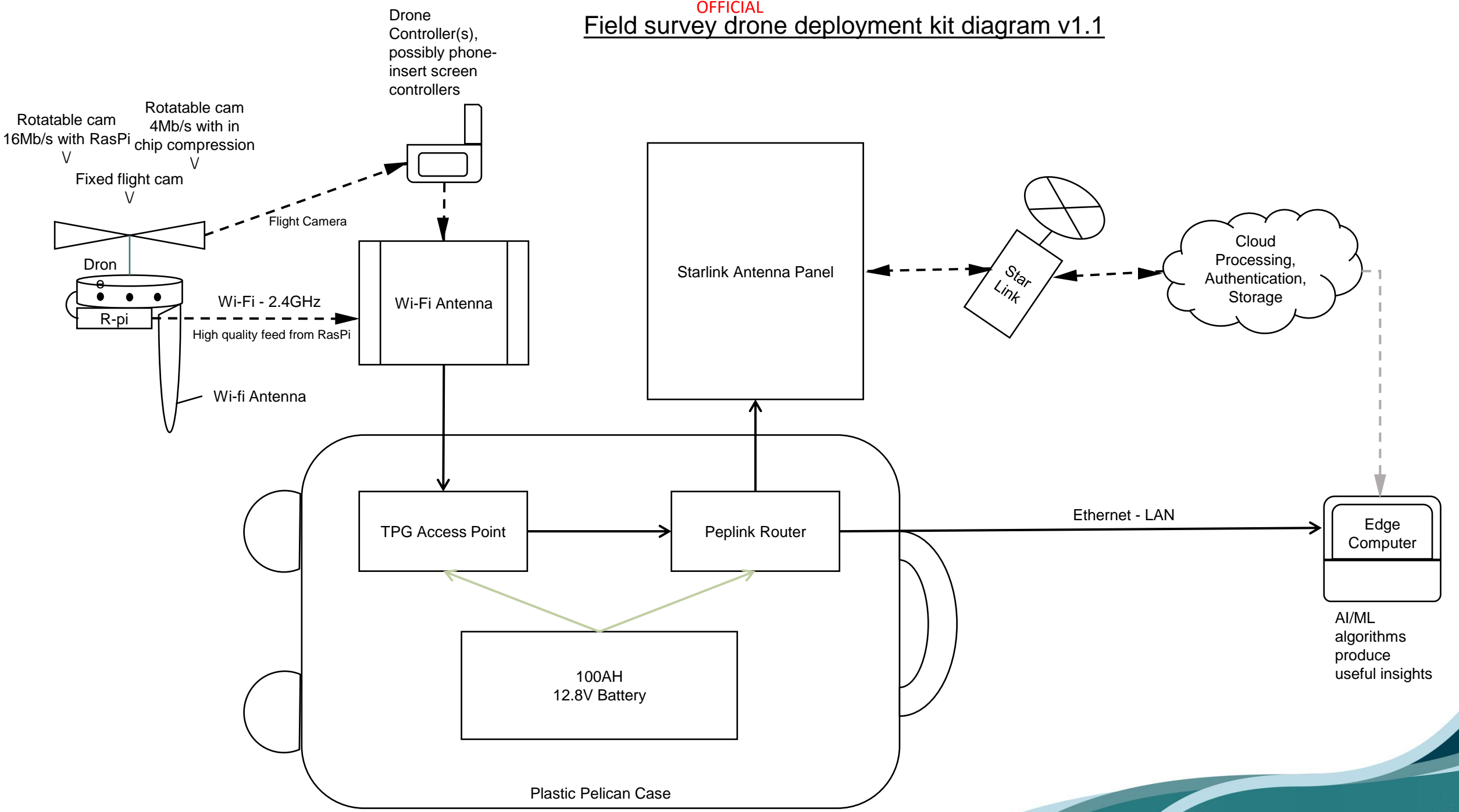
“mobile livestreaming” project

Be able to have internet/cloud services in the field when collecting data

- Push images from drone to cloud for iterative 3D stitching/AI (and then transfer/display on in-field NUC/edge-computer)
- Aim to provide more bandwidth from drone to Starlink-wifi-hub
- Equipment
 - Drones (DJI M300/M350 + [Gryfn](#), DJI [M3M](#), DJI [mini-4](#))
 - Mobile/ute-based Starlink-wifi hub
 - Portable (< 32kg); batteries (>4hours); Starlink backhaul; wifi6e/7; edge-computer; secure router/hub; plugins for: power (charge drone-batteries), internet-port, and chargeable/solar-panels; geotagged heat-tolerance/lockable container (with some room to store stuff)
 - Software
 - Livestreaming via DJI-customised-wifi = [AVCRM](#)-connect/live
 - Custom-build livestreaming = drone via wifi6+Pi-5 to starlink-wifi to cloud-server



Field survey drone deployment kit diagram v1.1



Live-streaming

- Need all equipment to work together
 - Drone + high-res cameras
 - Remote controller
 - Internet connection (wifi, LTE, Starlink)
 - Edge-computer (Image pre-processing; visualisation)
 - cloud service (analyses)
- Issues
 - Signal range/interference
 - Bandwidth
 - Battery life
 - Image quality/stability
 - Environmental (weather, terrain/obstacles)
 - Operational (planning, equipment, CASA regulations)



Performance

- Starlink
 - Starlink Fixed Business Enterprise 40G /month (220/40 Mbps)
- Wifi 6e (max 9.6Gbps; 3 bands = 2.4MHz, 5Mhz, 6Mhz)
 - Nearby = 220/20 Mbps (3 bandwidth)
 - 100-150m = 200/13 Mbps (2 bandwidth)
 - 300m 65/7 Mbps (1 bandwidth?)
 - ~500m ??? (1 bandwidth)
- Pi-wifi (drone-camera to cloud)
 - Nearby = 90Mbps (15MB/sec)
- [Video of Starlink setup on ute](#)



Thank you

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