

ATS: Aerial Tracking and Surveillance System

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***Abstract** – Quad rotor helicopters are becoming a popular research platform due to the availability of off-the-shelf components and their suitability for useful applications. We describe the Aerial Tracking and Surveillance System (ATS) that we are commissioning which takes a commercial quad-rotor (Draganflyer V Ti) and high-level flight controller, and adapt these for use in applications requiring the visual tracking of ground targets. This uses a camera on board processing system, which communicates summary information to a ground station. So far we have tested the system off the aircraft using laboratory targets and image sequences; we have also developed algorithms to scan a target area using a simulator program. The next step is to integrate these into the quad-rotor, and begin testing.*

***Keywords** - connectivity, autonomy, unmanned and system of systems, quadrotor, groundstation, image recognition.*