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Law Enforcement
AND
Emergency Management Drones

APPLICATIONS AND OWNERSHIP

BY DAN EYLON

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Table of Contents

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1. Scope:

Remote Piloted Airborne Systems (RPAS), more commonly known as drones, are a "must have" for **emergency management and law enforcement activities**.

As support tools, these assets lead to quicker and more efficient interventions, offer enhanced situational information and provide direct support to first responders.

Drones require tailored and well-designed systems in order to maximize the benefits and minimize the drawbacks.

2. Background:

The UAV/RPAS have been widely used by military forces for more than two decades. Once drones with vertical take-off and landing capabilities have been introduced, more and more emergency and law enforcement teams are attracted by their potential use.

At this point in time, the drone solutions, are mainly introduced by the platform manufacturer, while the "systems aspects" are left, to their user, to be resolved. Skytech is working to integrate its vast systems experience with the leading manufacturer capabilities, thus presenting a "turn-key" and "best value" approach to this innovative trend.

This document exhibits such a systems approach, along with innovative Ownership solutions, bridging the gap between capabilities, requirements and ownership dilemmas, for the benefit of the end-user.

3. Drone Operational Missions:

As already indicated, drones are very attractive for the following missions:

- Emergency Management
- Law Enforcement

3.1. Emergency Management:

Drones have been designed to fly back and forth in grid patterns, doing overhead, what emergency response teams are doing on the ground. Drones, as a support tool, are transforming the approach to emergency management. These assets can lead to quicker and more efficient interventions, offer enhanced situational information and provide direct rescue assistance. All these capabilities

3

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translate into increased efficiency, clearer situational awareness, all around better prepared emergency services, and more saved lives while simultaneously reducing the cost of emergency management.

The following are examples of missions in which drones can be successfully used:

- Fire investigation and assessment
- Search and Rescue (limited to small and predefined areas)
- Emergency response & site management
- Accident response (surveillance)
- Disaster area surveillance
- Site mapping
- Emergency routes & evacuation management

3.2. Law Enforcement:

The law enforcement community is using drones mainly for surveillance and intelligence gathering purposes. Drone systems are attractive assets for all patrol and surveillance activities, including but not limited to:

- Supporting the policing of remote areas on an ad hoc basis
- Rapid deployment capability
- Incident control
- Enhanced situational awareness
- Crowd observation
- Security & protection
- Criminal Intelligence
- Narcotics investigations
- Anti-terror surveillance
- SWAT activities
- Arial policing
- Accident investigation
- Traffic control
- Gathering evidence

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Drone System - Schematic

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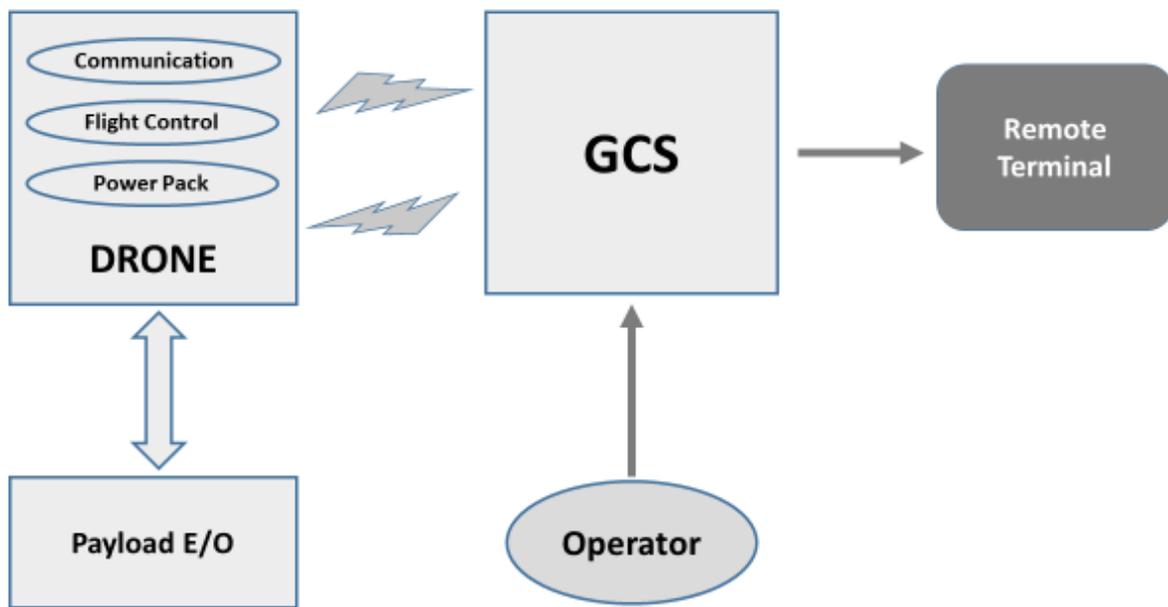
4. **System Requirement and Activities:**

The following is a list of Operational parameters that have to be considered once Drones are to be used regarding mentioned missions. In other words, any Emergency or Law Enforcement agency should consider these parameters if and when acquiring Drone systems.

Mission Modes:

- Single-drone mobile operation
- Multiple-drone mobile operation
- Extended time surveillance mobile operation
- Fixed site drone operation

Mission profile:

- Area Surveillance:
    - o Analyzing and investigation
    - o Close-up/Zoom analysis
    - o Tracking

Operation:

- Location
- Time
- Profile
- Reporting
- Payload data

Configuration:

- Drone
- Payload
- Display and recording

6

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Operating/Operators:

- Certification
- Training
- Insurance
- Availability/team

Mission planning and preparation:

- Identification of flight path and mission mode.
- Timetable for mission, including power-pack replacement and reload scenarios for extended time missions.
- Way-point definition
- Legal and/or safety restrictions
- Verification, if necessary and required, by regulations, mission clearance and communication channels with higher echelons

5. Ownership:

A short summary of the above topics:

- Drones are very attractive and important for Emergency and Law Enforcement activities.
- The requirements and activities associated with choosing and operating the right system for each mission, is a process requiring professional and well-trained manpower, in addition to owning the hardware and software.
- As a result, the use of Drone Systems is limited to those that own the above-mentioned assets.

Skytech makes life easier for every Law Enforcement and emergency agency by providing "Power by the Hour" services. This means that all of the above-mentioned "headaches" will be handled by Skytech and the net data is provided in real-time to those that request it.

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About the Author:

Dan Eylon is a Business Development Consultant for Skytech Systems.

Dan has more than 40 years of experience in engineering, engineering management, state-of-the-art technology, business development and leading of integrated systems programs.

Dan held executive management positions with a major Israeli Defense Industry, was head of the Board of Directors of the Israeli MMIC Consortium, an organization consisting of seven High Tech Industries, the IMOD and the Ministry of Commerce, and led a variety of high tech programs.

Dan holds a Practical Electronic Engineering degree from the Israeli Technical Education Institute, a BSc. degree in Physics and an MBA degree from the University of Tel Aviv in Israel.

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