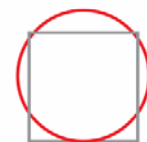




Industries > Commercial Drones

Who Will Win in the Exploding Drone Ecosystem?

Who will succeed in the burgeoning and progressively complex drone ecosystem?



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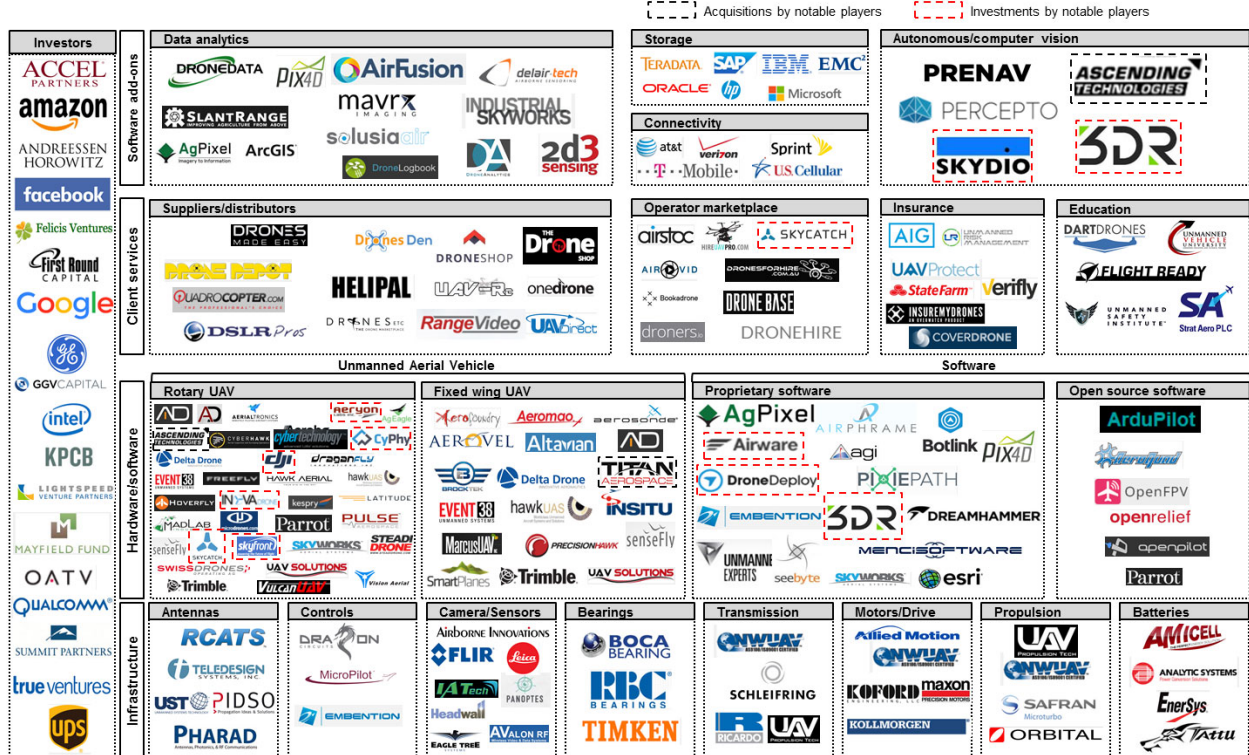
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Advances in commercial UAV technology (commercial drones) have rapidly unlocked new applications from precision agriculture to infrastructure surveillance as the prospect of significant revenue pools, enhanced business models, and market extensions have attracted a variety of industrial and financial players who are seeking footholds in the drone ecosystem with aspirations to lead and innovate – or simply hedge.

The resulting fragmented ecosystem consists of a diverse set of market participants ranging from historically upstream chipset vendors to downstream services vendors such as P&C insurers. See Exhibit 1. Naturally, investors are confronted with a problematic proposition: who will succeed in the burgeoning and progressively complex drone ecosystem?

Exhibit 1: The Commercial Drone (UAV) Market Map



One Leading Investor

One player that has garnered attention due to its multitude of investments across the value chain is Intel – we believe Intel’s minority investments (Airware, Yuneec), partnerships, and acquisitions (Ascending Technologies) across platform OS/software, drone hardware, and data analytics afford it with a unique position in the ecosystem. This unique position will allow Intel to potentially pursue one of several new initiatives and business strategies in the next 5-10 years, in ascending order of strategic and market impact (See Exhibit 2):

- Natural adjacency
- Software and data play
- Ecosystem driver
- IoT element

Exhibit 2: Potential Strategic Models for Intel

Strategic Scenario	Overview
<p>1</p> <p>Natural Adjacency</p>	<ul style="list-style-type: none"> Given the persistent growth challenges in the historic PC market, Intel has actively pursued investments into high-growth markets like mobile and IoT. Naturally, the drone market's growth prospects and need for viable and credible ecosystem partners aligns itself well with Intel's advantages and its new growth calculus focused on supplementing flat or declining historic markets with incremental growth. Moreover, the chipset and module technologies needed to support commercial and consumer drones are portable, representing a classic market adjacency.
<p>2</p> <p>Software and data play</p>	<ul style="list-style-type: none"> Consistent with Intel's pursuit of software solutions to buttress its legacy hardware driven model, drones potentially enable software and data-driven business models as no homogenous platform exists and Intel could provide valuable data analytics services to drone operators. With a product portfolio aimed at offering turn-key capability for drone operators across industry and application verticals, Intel can serve as the nexus for the ecosystem.
<p>3</p> <p>Ecosystem driver</p>	<ul style="list-style-type: none"> Akin to its x86 strategy, Intel may leverage investments, partnerships, and acquisitions across the entire ecosystem to help drive ecosystem standardization and convergence which could result in licensing opportunities for technology, IP, and/or vertical-specific solutions. Its acquisition of Ascending Technologies could represent a mechanism to leverage high-end UAVs to demonstrate and pilot vertical-specific solutions to drive consensus around a common set of hardware and software specifications, application partners and commands. In this scenario, Intel would replicate its historical "horizontal" platform model in a high-growth market with expected scale beyond the 5 year horizon.
<p>4</p> <p>IoT element</p>	<ul style="list-style-type: none"> Intel's ability to develop and commercialize advanced sensors could result in state-of-the-art, autonomous UAVs with the ability to aggregate a broad set of data across cities, industrial facilities, and geographic regions. In a world that will become increasingly interconnected across cities, systems and people, Intel could use drones as a key add-on instrument to drive data synergy across other devices powered by Intel chipsets and software modules. The breadth of these IoT applications is enormous, encompassing vehicles, buildings, roads, infrastructure, server centers, and a myriad of other connected devices. While this scenario likely has a 15-20 year horizon, it would represent a culmination of Intel's efforts to enable connected devices and transition to a data-centric, platform-based business model



Other Notable Entrants

While Intel has been exceptionally active through a wide scope / scale strategy, other players are eager to pursue the frontier landscape of drone technology ranging from those with commercial and operational objectives like General Electric and UPS, to companies tied to technological advancement and product integration like Google, Facebook, Amazon, and Qualcomm.

Strategies have varied by player but the aggregate trend across top investors indicates a concentration of activity in the rotary UAV and proprietary software segments of the ecosystem – this implies a necessity for developing core segments of the drone value chain

before expanding into value added segments such as data analytics and drone insurance software.

As an outlier, Facebook, pursued a core drone player through the acquisition of fixed wing UAV manufacturer Titan Aerospace for \$60M, likely with the objective of utilizing drones as an infrastructure element to maintain connectivity for the controversial “Internet.org” project.

Qualcomm deviates from general trend in that while the majority of investors have made large scale acquisitions of prominent drone players, Qualcomm has kept its investments relatively small – but with higher frequency – funding approximately ten players, with major drone players like 3DR pulling in the most cash.

While the ecosystem continues to develop, ancillary players (Insurance Carriers, Mobile Network Operators, Data Analytics Platforms, and Data Storage Vendors) will need to monitor the ecosystem to answer strategic questions with clarity:

Issues to note:

- How will the ecosystem evolve to adjust for vertical specific solutions across key markets?
- How will end-customers deploy UAV technology to enhance value propositions?
- What business models will succeed for ancillary players given the near-term fragmentation?
- When will profit pools solidify and across which discrete segments of the value chain?

- Which major operating companies are best positioned to drive value through UAV data?

Contact

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About Red Chalk Group's Management Consulting Practice

Red Chalk Group is a premier, boutique strategic advisor to senior executives at leading, global organizations. We are routinely engaged to advise on strategic growth platforms, technology disruption, investment decisions, and business-related intellectual property matters.

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