



Prioria Robotics, Inc.
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Contact:
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Industry:
Aerospace/Defense

Number of Employees:

Business Description:

Prioria is a leader in the development of small smart Unmanned Aircraft Systems (UAS) and the embedded processing capabilities related to remote operating and sensing. Our flagship product is the Maveric, an autonomous, rugged, single man portable/operable system. The company has developed a successful defense based business delivering products and services to US and foreign Militaries. Recent changes in regulations enable UAS to be sold and used commercially, and the company is poised to take advantage of the multi-billion dollar commercial market. UAS's enable access to a new set of capabilities, as well as offering lower cost to operate per hour with quicker response time and better quality for existing needs in a wide array of new market segments, including mining, agriculture, and energy. Current customers include the US and foreign militaries, US government, commercial mining companies, large scale farmers, and survey companies.

Problem/Opportunity:

UAS are proven cost effective and easy to use delivery vehicles for sensors in many applications. They are used to capture information autonomously in places or situations that are dull, dirty, or dangerous. Current US use is largely regulated to military markets which have adopted and integrated UAS because of the ability of these systems to be force multipliers and efficiency boosters. With the commercial market now opening, users want to take advantage of the ease of use, lower cost, and faster response time as compared to using a helicopter or small plane or even larger UAS for aerial surveillance. Multiple industries, including agriculture, industrial inspection (of pipelines, transmission lines and facilities for example) and mining, offer the ability to get a sensor to specific areas in a cost effective highly responsive way. The key for UAS to meet these needs is to be more user-focused by being "smarter," with greater capabilities, more rugged, and less expensive. Prioria's fleet of Maveric (and related) UAS, with a unique patented airframe and proprietary onboard processing capabilities, enables these opportunities to be met.

Company Situation:

Prioria was in late stage discussions with a potential lead investor for a large (\$15 million) growth financing. At the last minute the investor pulled out. As a result, the Company has taken steps to reduce burn to a close to breakeven level based on current revenues (approx. \$4 million annualized) but has an immediate need for additional cost cuts and working capital. The base business is solid with a core group of loyal customers, and with significant potential for growth. The Company is seeking near term cost cuts as well as additional funds from our existing investors to stabilize the business and provide the platform to drive growth in the government and commercial sectors.

Management Team:

Stephen Turner, President has over 30 years of experience working in the national security and defense sectors. Prior to joining Prioria he worked with and mentored multiple small businesses in the capacity of Chief Operating Officer, Executive Vice President, and Director of Business Development.

Mr. Turner previously was Group Vice President, with responsibility for over 400 employees focused on delivering systems engineering solutions for critical missions within various federal agencies. He was responsible for growing small groups to over \$70 million in revenue in a few short years. This was achieved through the delivery of technical solutions in support of the U.S. Navy, U.S. Army, U.S. Air Force, U.S. Marine Corps and the Department of Homeland Security.

Jason Grzywna, CTO (Co-Founder) has 15 years of experience in leading diverse, incredibly bright, multi-disciplinary teams in the development of unmanned systems and robotics. Currently, Jason directs Prioria's overall technical direction, including product development, R&D investments, technology commercialization, intellectual property, talent recruiting, creative environment, and strategic partnerships.

Throughout his tenure at Prioria, Jason has been responsible for the development, integration, execution, and production of Prioria's ground-breaking products and technologies, including the Maveric UAS, the Merlin embedded processor, TerraScope vision processing software, Merlin Cam, and various other consulting services. He serves as principle on related proposals, grants, and multiple patents.

Geoffrey Flag, CFO has over 20 years of experience in corporate finance with private and public companies.

Products/Services:

Prioria has a family of enterprise class, highly capable, autonomous UAS platforms, including Maveric, Hex, and Leviathan. The Company is engaged with multiple government agencies and the Department of Defense to develop, improve, and use these platforms and the autonomous and processing capabilities that go with them. These externally funded development programs in areas including airframe development, vision based analysis, GPS denied navigation and multi-agent data coordination. Direct sales to governments include selling the actual asset, providing training, certification, currency, logistics support, repair services and customization for mission specific goals. Commercial sales include mining, surveying, and farming customers. Commercial sales include paid development, product sales and fee for service work.

Technology:

Prioria creates enterprise-class aircraft systems that gather the world's data safely and easily. To execute this vision, Prioria's technology and technical strategy is focused around four core concepts: air vehicles, autopilots, algorithms, and autonomy, supported by a portfolio of funded development contracts focused on next-generation technologies in each of these core areas. Air vehicles built from advanced materials and patented technology (Maveric, Leviathan, and Hex) make up our family of offerings. These vehicles are high-performance, modular, and are designed to be industrial tools. Future versions of these aircraft will take advantage of some of our more advanced technology like interchangeable propulsion, morphing wings and plasma drag reduction. An autopilot that includes the ability to process data on-board the aircraft provides a platform on which to build algorithms and autonomy to customize applications for a number of markets and produce answers rather than just aerial images. Prioria has 13 patents, and pending applications relating to various aspects of the system in all of our core areas.

Market Potential:

Over the last two decades the U.S. Military has adopted and integrated UAS into their day to day operations. The market has grown from zero in 1995 to now \$13B annually. With the success of US military operations, foreign militaries will continue to establish their UAS fleets. Commercial markets are poised to take advantage of emerging Federal Aviation rules and exemption processes for UAV's under 55lbs to fly in national airspace for non-military governmental operations. Prioria is one of a few companies that has a blanket 333 exemption, allowing the company to quickly and easily respond to commercial customers in markets such as mining, energy, surveying, and agriculture. Estimates for each individual market segment vary from \$600M - \$2B over the next 3 years.

Competitive Advantage:

At Prioria we have a premise that a smarter UAS is a better UAS, the core of our competitive advantage is to apply application intimacy with advanced algorithms in proprietary hardware with next generation airframes. In the defense market segment competitors are the Raven (AV), Desert Hawk (LM), and the Wasp IV (AV). Commercial market competitors include the Gatewing (Trimble) and Ebee (Sensfly). In all cases Prioria's competitive advantages are better airframes, enhanced capabilities, more accurate data, and competitive pricing than enterprise class alternatives.

Patent	Status
System and method for onboard vision processing	ISSUED
Fault-aware matched filter and optical flow	ISSUED
Autonomous range monitoring system	ISSUED
Bendable wing for micro air vehicle	ISSUED
Airfoil for micro air vehicle	ISSUED
Device and methods for enhanced matched filtering based on correntropy	ISSUED
Optimum non-linear correntropy filter	ISSUED
Robust signal-detection using correntropy	ISSUED
Systems and methods for estimating the structure and motion of an object	PUBLISHED – PENDING
Image-based system and methods for vehicle guidance and navigation	ISSUED
Systems and methods for estimating pose	PENDING



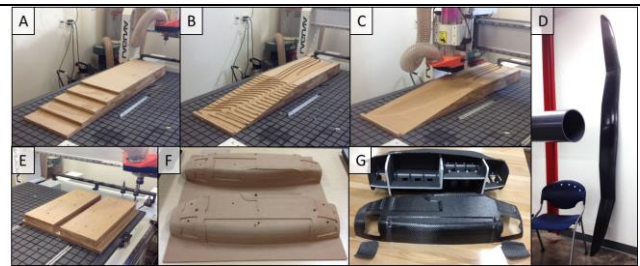
Leviathan UAS



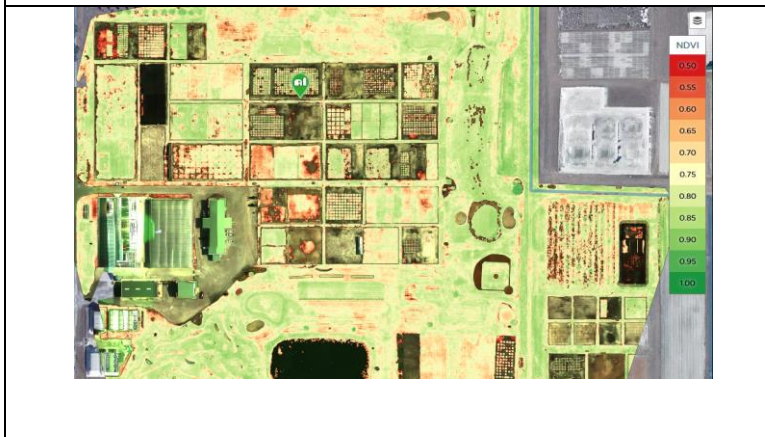
Maveric UAS



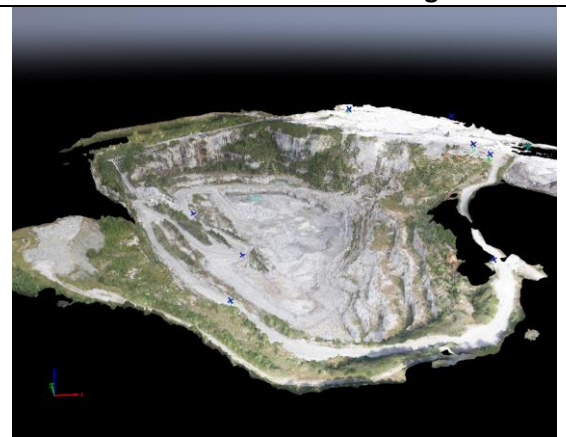
Hex VTOL



Advanced Manufacturing



High-Resolution Color and Multispectral Mapping



Aerial 3D Modeling