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# ABOUT US

## Where We Came From

SICdrone, Inc. was founded by aerospace engineers with the goal of developing superior commercial small unmanned aircraft systems (sUAS) tailored towards industries where reliability, stability, speed, and endurance are mission critical. The company started in January of 2016 in San Diego California but now has its headquarters in Portland, Oregon. This branch comprises a small team of engineers with experience in software, electrical, and mechanical engineering, as well as a business management.

SICdrone is the first small drone company to fully integrate a technology only seen on military aircraft to this point which is 360 degrees of thrust vectoring. The ability to rotate propellers and fly instantaneously in any direction allows for higher performance, including; unmatched acceleration, deceleration, stability, maneuverability, power efficiency, higher cruise speeds and top speed capability exceeding the FAA speed limit of 100mph. Speed and distance are considerable advantages considering larger multicompartment drones are currently testing at top speeds closer to 50mph and have much lower cruise speeds when compared to SICdrone. SICdrone has over a dozen provisional related drone patents on-hand.

SICdrone partnered with Jaguar Land Rover (JLR) in Portland during the spring of 2016 to develop a combined aerial and ground based system capable of launching and returning a drone to an SUV. SICdrone was accepted into the JLR Tech Incubator program after competing with many other companies with breakthrough technologies. Being in the incubator program allowed SICdrone to view the latest JLR automotive engineering and receive a financial investment. SICdrone traveled to London in April of 2017 to visit with JLR Special Vehicle Operations (SVO) group and ultimately agreed to an engineering SOW extending into 2018.

# DRONE

## Product Details

SICdrone aims to create a commercial small Unmanned Aircraft System (sUAS) that can be depended on in high stress situations where mission success is critical and failure is not an option. Typical quad, hex, and octocopters in today's market lose speed capabilities as the drone weight increases. SICdrone uses its unique 360-degree capable thrust vectoring system, where the right and left propellers on the hexacopter are able to rotate, to enable its drones to reach higher max speeds as its weight increases, allowing for increased stability, speed, and payload. While typical recreational and commercial drones have to choose between either speed or payload, SICdrone has designed drones that offer the best of both worlds. SICdrone produces the world's first commercial multicopter drones capable of reaching a 100mph cruise speed. There is no other multicopter out there that can outperform SICdrone in flight mission capability.

The aggressive speed and performance targets set by the engineering team of SICdrone are attainable through the use of lightweight aerospace grade materials that optimize flight performance. Furthermore, the concept of a triple redundant system (a minimum standard in the aerospace industry) implies that single points of failure are virtually eliminated during the SICdrone design and development process. SICdrone is keenly focused on safety and minimizing failures in the field and aims to develop a highly reliable sUAS. We believe this will be essential to gaining trust from the public and acquiring market share.

## Drone Highlights:



- Maximize Flight Time: Fly further distances on the same power source by maximizing power efficiency



- High Speed Multicopter Drone: Fly twice the speed of existing high payload commercial multicopter drones with thrust vectoring capability enabled



- Active Stabilization-Maneuvering: Smooth flights while aircraft carries larger payloads, holds position in high wind conditions, immediate starts and stops possible with payloads up to 25 pounds on the SICdrone SD25



- Seamless Integration: SICdrone SD5, SD10 and SD25 sUAS are suited for most camera and sensor types used in commercial drone industries

Furthermore, SICdrone is currently developing enhanced flight control security and a user friendly and intuitive tablet based interface allowing users complete control of the system with minimal cognitive involvement and supervision. This control system can also be an embedded system within a moving vehicle,

such as a car, that allows the driver hands-free control over the sUAS. The sUAS is capable of launching and landing autonomously from a rooftop platform in rugged environments and will be capable of replacing the battery with no human intervention. SICdrone is currently in negotiations to provide their product and services to companies within government backed emergency and military response markets such as fire departments, US Air Force, USSOCOM and global humanitarian organizations. However, SICdrone recognizes the broad need for this application within defense, border patrol, private security, agriculture and construction among a host of other applications as well.

SICdrone sUAS models:



**SD5**

Speed

Payload Capacity: 5lbs  
 70 mph Standard  
 100mph Max with High Speed Kit  
 FAA Speed Limit: 100 mph  
 Cruise Speed for Max Flight Distance: 25mph\*

Aerostructure

10-Inch Rotor System  
 Diameter: 3ft  
 Empty Weight: Under 5lbs  
 Body Material: Carbon Fiber, Titanium, Aluminum, Steel, and CFRP

Performance

Range: Telemetry 5000ft/  
 Video 2000ft (extensions possible)  
 High Wind Positional Hold: Up to 50mph\*



**SD10**

Speed

Payload Capacity: 10lbs  
 75 mph Standard  
 100mph Max with High Speed Kit  
 FAA Speed Limit: 100 mph  
 Cruise Speed for Max Flight Distance: 32mph\*

Aerostructure

20-Inch Rotor System  
 Diameter: 6ft  
 Empty Weight: Under 12lbs  
 Body Material: Carbon Fiber, Titanium, Aluminum, Steel, and CFRP

Performance

Range: Telemetry 7000ft/  
 Video 3000ft (extensions possible)  
 High Wind Positional Hold: Up to 55mph\*



**SD25**

Speed

Payload Capacity: 25lbs  
 80 mph Standard  
 100mph Max with High Speed Kit  
 FAA Speed Limit: 100 mph  
 Cruise Speed for Max Flight Distance: 35mph\*

Aerostructure

30-Inch Rotor System  
 Diameter: 8ft  
 Weight: Under 20lbs  
 Body Material: Carbon Fiber, Titanium, Aluminum, Steel, and CFRP

Performance

Range: Telemetry 7000ft/  
 Video 3000ft (extensions possible)  
 High Wind Positional Hold: Up to 60mph\*

\*Calculated and Sensor Driven

**Cost & Configurations**

Depending on the size, sensor, and camera packages selected, the total cost of a drone can be anywhere from a few thousand dollars to over \$50,000 based on the configuration package chosen based on flight mission and payload requirements. sUAS Kits offered will be: First Responder, Construction-Excavation, Tower-Pipeline-Bridge-Power Inspections, Precision Agriculture, Smart City Data, Surveying-Mapping and Security-Patrol.

## Real World Solutions to Real Industry Concerns



**Urban Environments / Smart Cities / Construction** – From easing traffic congestion by signaling to change stoplights to analyzing events and construction, SICdrone makes cities smarter through better aerial views that capture better data.

**Emergency Response / Search and Rescue** – SICdrone gives first responders such as fire fighters greater ability to immediately assess the scene of a disaster and identify danger and/or injured people.

**Immediate Off-Road and First Responder Aerial Support**– Flying over buildings, scanning rooftops and mountainous or wooded terrain, SICdrone sUAS has systems designed to assess scenes real-time. SICdrone can pair with off-roading SUVs and first responders such as Police, Ambulances, and Fire Departments to keep personnel tracked and safe and assist in saving lives by providing launch capability upon arrival at an event in under 60 seconds.

**Agriculture** – Our hover-type multicopter goes straight to the problem area, allowing for quick takeoff and more precise crop imaging. Capabilities include: crop monitoring (disease, irrigation), water absorption of soil measurement, spraying to manage weeds and other pests. We've teamed with awesome partners, [Droneseed](#), [MicaSense](#) and [SlantRange](#) to provide our customers with a premium precision agricultural package.

**Filming / Real Estate** – From film studios to real estate photographers, professionals capture superior photos with state of the art camera systems should have the same high quality in the drone they use.

# SICdrone team

## Military and Corporate Leadership Experience

The management team has unique talent and experience in the aerospace field that they bring to the SICdrone team.

Dan Bosch, the CEO, has an MBA and BS in Engineering in addition to being a US Navy Veteran. While Tom, the SICdrone pro tem CFO is pursuing a PhD in Mechanical Engineering. Both combine to have over 25 years of aerospace experience and truly understand the reliability and design aspects of both fixed wing and helicopter aircraft. Dan has previous experience working as an engineer at Boeing and United Technologies. Dan's strength in structural integrity is crucial to the development of a safe and reliable sUAS. Tom has engineered components on high performance helicopters including the Sikorsky S-97 Raider and the Bell V-280 Valor.

During his time at the Rady School of Management at the University of California San Diego, Dan developed further interest in Unmanned Aerial Vehicles (UAVs). Dan was especially interested in their ability to gather data and to assist emergency response situations. While at UCSD, Dan and fellow MBA student Neil Puri began developing a plan to build a drone that had abilities well beyond those of current drones.



Neil Puri (MBA, MS in engineering) previously worked at General Atomics on the Predator drone and

Members of the SICdrone team working out of the Portland office. From left to right, Dan Bosch, Alex Michel, Jordan Goldey, Thomas Manfredonia, Joseph Dummer, and Tom Vankeppel in April of 2017

has seen major design evolution for military UAS. The first Predator concept was very similar to today's small commercial drones and began with a simple motor-propeller design, external payloads, and limited plug and play capabilities. We strongly believe that several of these features including high payloads, plug and play capabilities and extensive flight mission capability will be the future of the commercial UAS market. With this foresight, SICdrone will lead the industry in drone quality and capabilities while focusing on progressive features that increasingly meet our customers' needs and create immense value.

## Diverse Company Culture

Beyond its experienced executive level leadership, SICdrone has a team with a broad range of backgrounds, with people who bring unique skills and talents, both in the aerospace industry, and beyond. The engineering team is a talented group with experience in electrical engineering, computer science, software engineering, mechanical engineering, web and app development, marketing, finance and business. SICdrone is a veteran owned company that encourages everyone; white, black, LGBTQIA, minorities and women in engineering to apply and work for us!

## PRESS



SICdrone bridges the gap between drones for the hobbyist market and drones that address the requirements for commercial and public safety applications. – **Portland Business Journal**



SICdrone's technological advances and capabilities set it apart from the rest of the pack. – **Rady School of Management, University of San Diego**



Drones are long overdue for a drastic reboot, necessary to ensure their capabilities match their far-reaching possibilities. SICdrone is one startup that's reimagining the design, performance, and reach of the multicopter drone. – **Jaguar Land Rover Tech Incubator**



When you encounter an innovation that promises to improve performance across attributes that typically work against each other – like speed and stability – you have something really special. That seems to be what the guys at SICdrone have come up with. – **Roswell Flight Test Crew**



SICdrone tiltrotor systems are second to none when comparing speed, maneuverability and stability to existing small drone technology. – **CrowdOptic**



Excellent solution for increased speed. Recommend this technology integrated into a SOF (Special Operations Forces) drone... Good for rapid delivery of payload pending on weight carrying capacity. – **SOFWERX**

## Articles About SICdrone

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