



NIGHTINGALE  
SECURITY®

**THE SMARTEST EYES IN THE SKY**

# THIS IS WHO I AM

I am the strong, silent type. I am vigilant and ready to respond. I am highly capable working alone and even better as part of a team. Sometimes I'm deployed into harm's way in order to keep others safe. And to all those who understand the importance of this type of mission, I am ready to join your team.



 NIGHTINGALE  
SECURITY

**I AUTOMATE YOUR PERIMETER SECURITY**

**US PATENT  
9,864,372**







Since 2014, Nightingale Security has been building and deploying autonomous drone systems that protect critical infrastructure for Fortune 500 companies. Our autonomous perimeter security system features networked base stations and mission-ready drones which can airborne in less than 30 seconds. The system is driven by our Mission Control software, which equips security teams with a real-time decision support system to help keep their facilities safe.

# THIS IS MY HOME

The Nightingale base station is an integral component of Robotic Aerial Security. Base stations are installed on rooftops and other secure locations around your facility. They are the communication hub of the drone fleet and their industrial-grade, weather- and endurance-tested aluminum construction makes them strong—and a great place to call home.



# IT KEEPS ME READY FOR ACTION

## ALWAYS ON DUTY

The Nightingale base stations allow the drones to be mission-ready 24/7. The drones and base stations are a force multiplier providing additional capabilities, and they never switch off. They're always on duty, alert, and ready for deployment.

## CHARGING

When the drone lands on the base station after a mission, it immediately begins charging through contact points in its legs and the gold-plated nickel charging plates on the base station. Our contact charging solution has been proven reliable in all sorts of challenging weather environments.

## EDGE COMPUTING

The base station contains the necessary network and computation capacity to provide drone coordination support, task assignment, and machine learning processing power to the system. All data gathered by our system is processed and stored behind your firewall—ensuring your data is onsite and safe.

## AUTONOMOUS TAKEOFF AND LANDING

Using advanced computer vision, IR beacons, and cameras, our drones can take off and land completely by themselves—even in high wind speeds. So when duty calls, our autonomous system can have a drone airborne in less than 30 seconds.

## WEATHER PROTECTION

The base station comes with both heating and cooling elements to keep the drone at an optimal operating temperature and protect the drone from the weather elements. Nightingale now also offers a specialized cold-weather base station with more robust heating and ice melting capabilities.

## REDUNDANCY

Our drones and base stations communicate and collaborate. If a drone is on a mission and its battery runs low, another drone will autonomously deploy and finish the mission—allowing the first drone to safely return to the base station and recharge.





# THEY CALL ME BLACKBIRD

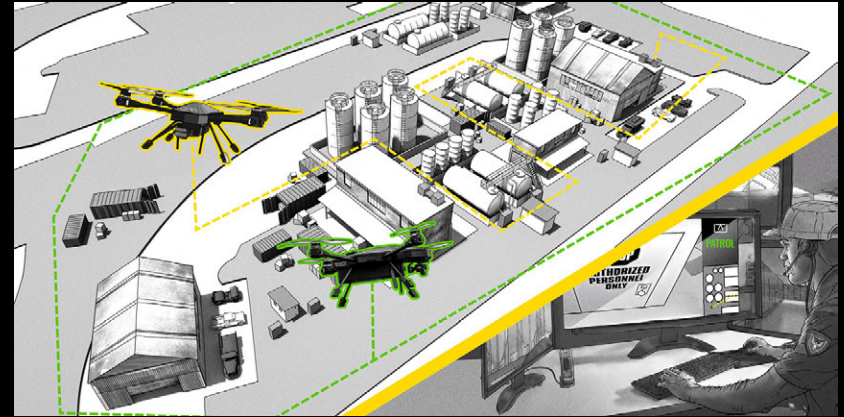
The name of our drone pays homage to the historic SR-71 Blackbird of the United States Air Force—a strategic reconnaissance aircraft.

# THIS IS WHAT I DO



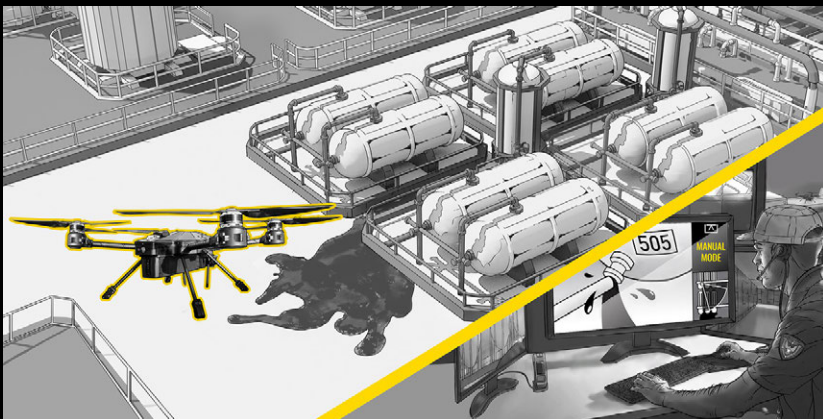
## AUTONOMOUS THREAT RESPONSE

When a security alarm is triggered, the system automatically dispatches a drone to the alarm location and streams live video to the security team.



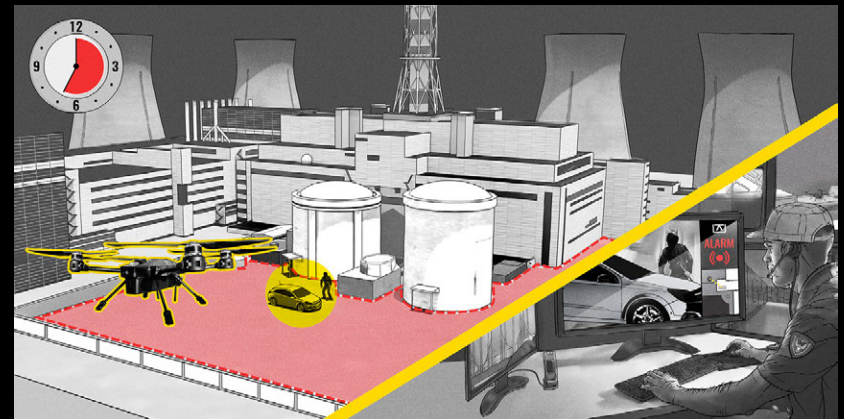
## SCHEDULED AUTONOMOUS PATROLS

You can set repeatable, autonomous patrol missions based on day, time, path, altitude, hover duration, camera direction, and other mission details.



## MANUAL SURVEILLANCE MISSION

During a major event such as an oil spill, chemical leak or fire, you can manually dispatch a drone to monitor events as they unfold on the ground.



## ROBOTIC AI INTRUSION DETECTION (RAID)

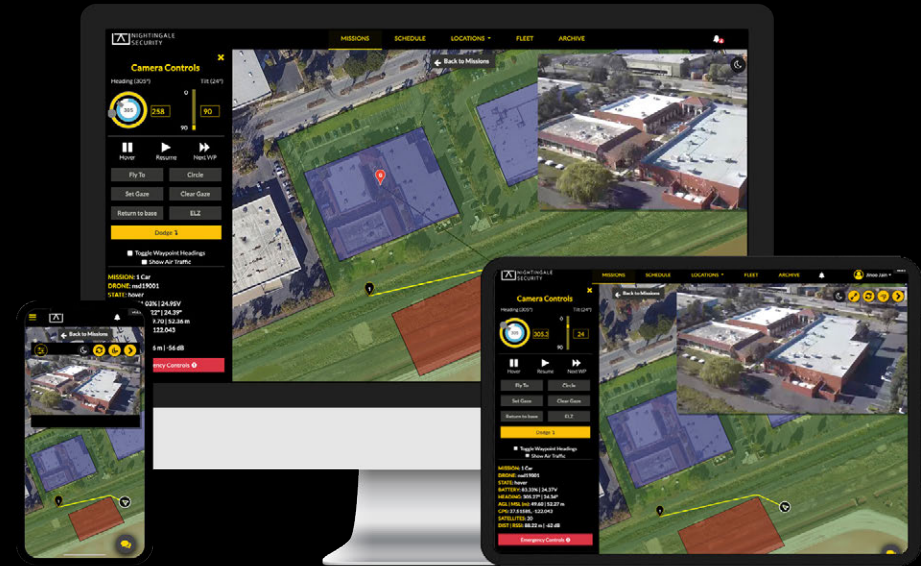
Our drones autonomously patrol areas of interest around the facility and send out alerts only when they detect human and vehicle intruders.



# THIS IS MY COMMANDING OFFICER

Mission Manager software provides live command and control, actionable intelligence for surveillance, and fleet coordination from anywhere in the world.

The simple and intuitive command and control interface allows security officers to create missions, launch drones, view live video streams, and receive alerts from the drones to gain situational awareness quickly and efficiently across large facilities.



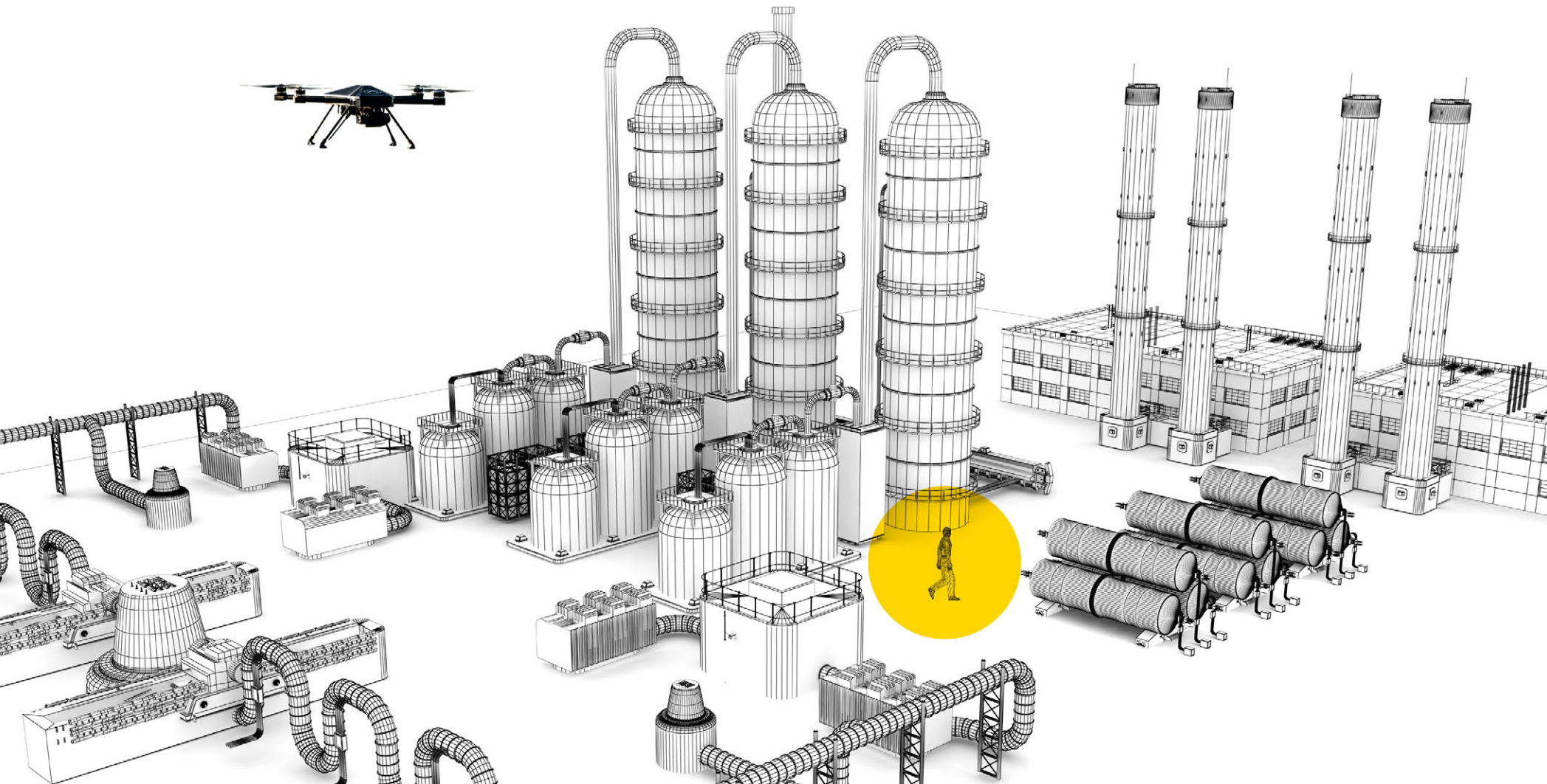
- Command your global fleet from anywhere at anytime
- Share live video streams to gain situational awareness
- Intelligent Path Planning (IPP)
- Onboard AI for object recognition and following
- Mission Manager works across all devices - PC & mobile
- Schedule missions to launch at repeating intervals
- Configure mission details -- flight path, hover duration, etc.
- Secure user role management within Mission Manager
- Live chat with other users directly within Mission Manager
- Review archived video footage



# C4AI

## COMMAND, CONTROL, COMMUNICATION, COMPUTING AND ARTIFICIAL INTELLIGENCE

Our end-to-end system provides Autonomous Remote Operations (ARO) so no human intervention is needed to maintain operational continuity 24/7. The system is also outfitted with Artificial Intelligence, enabling the entire system to learn and get smarter as drones fly more missions—it's autonomous, on-the-job training.





# I'M ALWAYS ON DUTY

OUR FULLY-AUTONOMOUS SYSTEM FLIES PATROLS  
DAY AND NIGHT, IN RAIN AND SNOW, RESPONDS  
TO ALARMS, TRANSMITS LIVE VIDEO, LANDS,  
RECHARGES, COMMUNICATES, COORDINATES, AND  
REPORTS MAINTENANCE NEEDS — ALL BY ITSELF.





# MRU

## MAINTENANCE | REPAIR | UPGRADE

MRU support is covered by our maintenance contract, which includes hardware maintenance and repair as well as software upgrades—helping your system operate smoothly and continuously. Our integrated Autonomous Logistics (AL) constantly monitors the operational status of our platform to ensure operational readiness and to predict maintenance needs before they arise—maximizing platform up time while minimizing the impact of maintenance.



# **I HAVE REAL FIELD EXPERIENCE**



**I HAVE FLOWN TENS OF THOUSANDS OF MISSIONS PROTECTING MANUFACTURING FACILITIES, CORPORATE HEADQUARTERS, RAIL YARDS, MEDICAL RESEARCH FACILITIES, COMMERCIAL FARMS, AND SPACE AND DEFENSE MANUFACTURING FACILITIES.**

**I HAVE WEATHERED RAIN, SNOW, DUST STORMS, HURRICANES, POLAR VORTICES AND MORE — FROM THE HIGH PLAINS OF COLORADO TO THE COAST OF FLORIDA, FROM THE TIMBERLAND OF MICHIGAN TO THE DESERTS OF SAUDI ARABIA, AND MORE.**



Our autonomous Robotic Aerial Security (RAS) service offers numerous innovative, capability expanding use cases and applications for various industries including: Oil and Gas, Critical Infrastructure, Data Centers, Corporate Facilities, Power Plants, Manufacturing Facilities, Border Patrol, Search and Rescue, amongst others. If you have something to secure, our Robotic Aerial Security service can do it cheaper, faster and better than your current solution.





# I'M THE NEXT GENERATION AMERICAN PIONEER

For two years in a row, American Security Today awarded Nightingale Security the 'ASTORS' Homeland Security Award for Best Aerial Perimeter Protection System. The 'ASTORS' Awards is the preeminent U.S. Homeland Security Awards Program highlighting the most cutting-edge and forward-thinking security solutions coming onto the market today.

*"Nightingale Security is at the forefront of Robotic Aerial Security, with capabilities to fly programmed, autonomous missions around a defined perimeter and help security teams lower response times, and gain invaluable insight into potential threats."*

- American Security Today



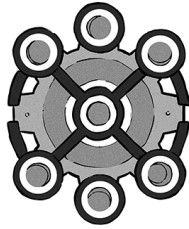
ASTORS HOMELAND SECURITY 2018



ASTORS HOMELAND SECURITY 2019

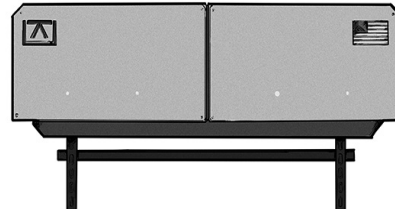


# I'M READY TO SERVE



## FEATURES

- Autonomous Perimeter Security
- Designed specifically for security applications
- Stationed onsite for rapid response to alarm events
- Autonomous takeoff, patrol, landing and recharging
- Routine, pre-scheduled flight missions
- Access Mission Control app from PC and mobile devices
- Stream live video feeds to multiple users simultaneously
- Dual sensor (visible and thermal)
- Expandable platform allows integration of new applications
- Autonomous navigation to the point of interest
- Object recognition and following
- Drone-relay capability for extended or persistent monitoring
- Retrieve data and video 24/7 from our secure data storage
- Integrates with existing VMS, alarm sensor and alert systems



## BASE STATION SPECS

- Rooftop mountable with Unistrut Metal Framing System
- IR landing beacon and drone centering mechanism
- Autonomous contact charging of drone
- Cellular, WiFi or Local network connectivity
- Weight: Net 160 Kgs. (352 Lbs.) / Gross 265 Kgs. (583 Lbs.)
- Dimensions: LWH – Closed (62.25" / 66.125" / 32") / Open (62.25" / 148" / 32")
- Waterproofness: IP43
- Max Power: Without base heater: 1000W / With base heater: 2000W
- Edge Computing:
  - CPU: i7 8700
  - RAM: 16GB DDR4 2400MHz
  - GPU: RTX2060S
  - Storage Device: 256GB SSD, 5TB HD (expandable on request)



## DRONE SPECS

- Weight: 5500 grams (12.13 lbs.)
- Dimensions: LWH - 18" x 25" x 11" without propellers / LWH - 26" x 33" x 11" including propeller disks
- Power: 6 cell lithium polymer battery (16 Ah 22.2V nominal, 26.1V max)
- Propulsion: 4x brushless DC motor
- Flight Endurance: 33 minutes max (~25 min software governed)
- Flight Controller: Cube Black
- Flight Performance: 52 mph max ground speed (35 mph software governed); 8 ft/s ascent (software governed); 20 deg/s rotation rate (software governed); (speeds can be increased on request)
- Collision Prevention: Anti-collision strobe (>3 mi visibility); Red/green direction lights; Intelligent Path Planning avoids all predefined ground obstacles and hazards; ADS-B in integration for aircraft collision avoidance (in development)
- Camera Payload: RGB daylight digital camera: 47 degree HFoV, 720p or 1080p (streamed video, depending on bandwidth available) and 4k (recorded video), h.265 encoding; Thermal imager: 24 degree HFoV, 320x256 h.265 encoding; RGB: streaming resolution of 720p or 1080p at 17 fps; recording resolution of 4k at 17 fps; 5X digital zoom
- Microhard Encryption: AES 128
- Max Wind Speed: Performance - up to 55 mph wind gust, up to 45 mph sustained wind; Software limited to 25 mph sustained wind
- Temperature Range Can Fly In: In dry conditions: 0° – 122°F (-18° – 50°C); Max 140°F (60°C) with 'Heat Shield' package - currently only available in Gulf Cooperation Council (GCC) region)
- Weather No Fly Conditions: icing conditions, electrical storms / convective weather, dense fog, hail
- Weatherproofness: IP43
- Max Operational Radius: 3 miles (rural environment)

MAX MINUTES PER FLIGHT

33

MAX GROUND SPEED

52

MINUTES TO RECHARGE 100%

45



**WINNING SINCE 1776**

**CONTACT US FOR A  
FREE DEMO**

USA 408.909.7227

[RAS@NIGHTINGALESECURITY.COM](mailto:RAS@NIGHTINGALESECURITY.COM)

[WWW.NIGHTINGALESECURITY.COM](http://WWW.NIGHTINGALESECURITY.COM)