AR
AMERICAN ROBOTICS

AUTOMATED DRONES FOR ENERGY

July 2020

THE SCOUT SYSTEM

An overview of the **American Robotics** Scout System, and how it serves the energy industry.

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THE NEXT GENERATION OF DRONES IS AUTOMATED

THE NEXT GENERATION OF DRONES

For the past decade, the energy industry has been promised drones to unlock new efficiencies and value. The reality is that without automation, that promise was little more than hype and misinformation. The only way drones find their place in this industry is if humans are removed from the loop, unlocking the next generation of data collection, analytics, and automation.
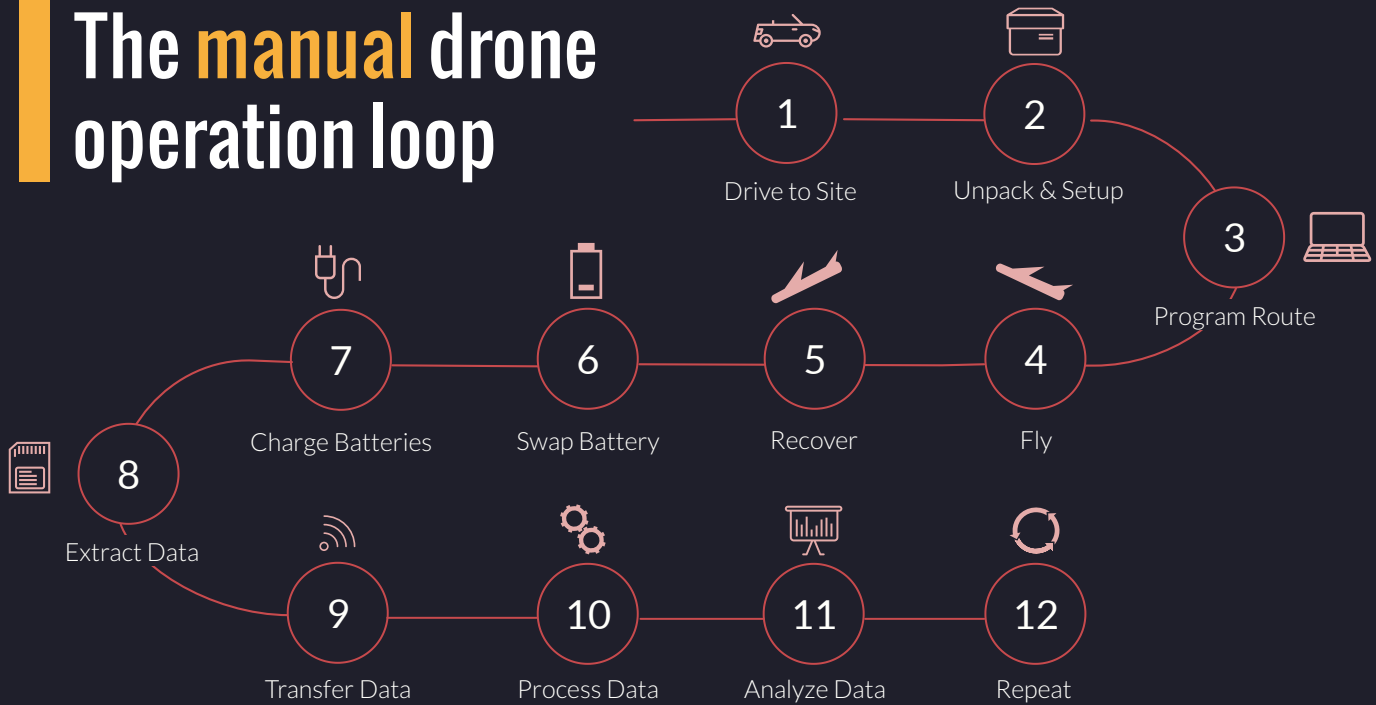
ABOUT AMERICAN ROBOTICS

American Robotics is an industrial drone developer specializing in rugged, real-world environments. Through innovations in robot autonomy, machine vision, edge computing, and AI we have created the next generation of drone technology: a fully-automated drone capable of continuous, unattended operation.

American Robotics was founded by Carnegie Mellon and Stanford roboticists with a shared vision for bringing robotic technology out of the lab and into the real-world.
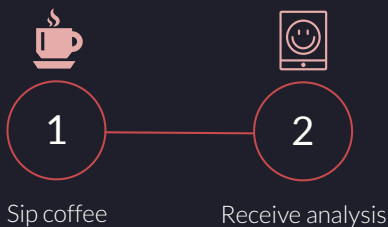
www.american-robotics.com

MANUAL VS AUTOMATED WHAT'S THE DIFFERENCE?

The manual drone operation loop

1 — Drive to Site

2 — Unpack & Setup

3 — Program Route

4 — Fly

5 — Recover

6 — Swap Battery

7 — Charge Batteries

8 — Extract Data

9 — Transfer Data

10 — Process Data

11 — Analyze Data

12 — Repeat

The automated drone operation loop

1 — Sip coffee

2 — Receive analysis

THE SCOUT SYSTEM
AUTOMATED DATA ON-DEMAND

SCOUT™ DRONE

Fully-autonomous, AI-powered drone with visual, multispectral, and thermal sensors
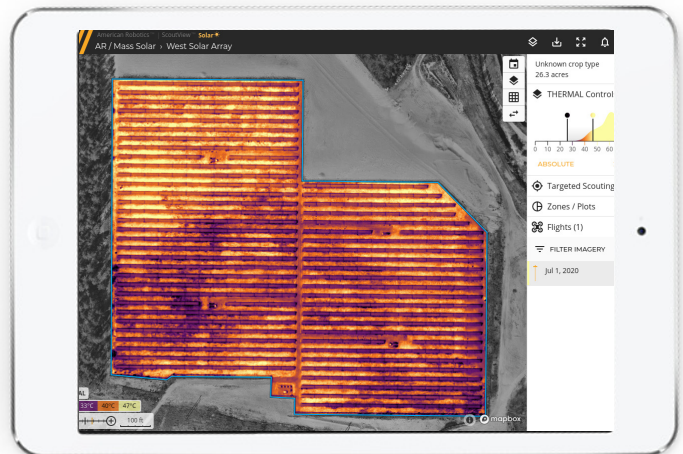
SCOUTBASE™

Weatherproof storage, docking, charging, and data processing, and data transfer station

SCOUTVIEW™

Secure web interface, mission scheduler, data viewer, analytics software, & API

Scout is the first of what is likely to be the next great tech wave: systems capable of making so many decisions on their own that people need to provide very little, if any, supervision."
— Smithsonian Air & Space Magazine

EVERYTHING IS AUTOMATED

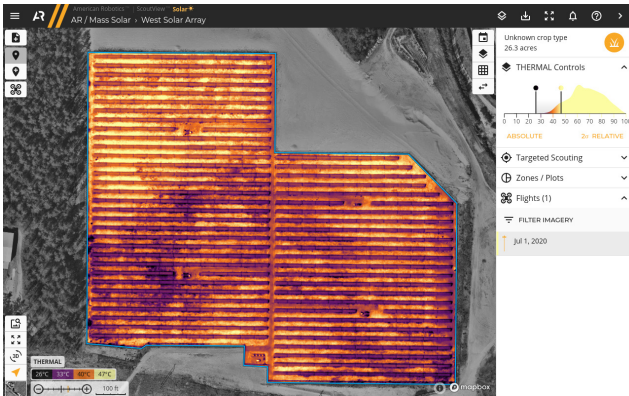|			
Launch	Precision Landing	Mission Planning	Data Processing
Flight	Charging	Scheduling	Data Transmission
Imaging	Storage	Obstacle Avoidance	System Diagnostics

Powered by innovations in robotics automation, machine vision, edge computing, and AI, Scout™ is the only scalable drone solution for the energy industry. Unlock the ability to conduct 24/7 automated infrastructure and asset inspections with no additional labor. Inspect facilities at ultra-high resolution remotely. Detect and correct problems through automated data collection, analysis, and alerts.

FEATURES & CAPABILITIES
AUTOMATED INSIGHTS ON-DEMAND

SCOUTVIEW™

ScoutView is your secure web interface, mission scheduler, data viewer, analytics software, & API. Interact with your Scout units remotely from anywhere in the world. Set a schedule and forget it, or command missions on-demand. Collect and analyze ultra-high resolution imagery (sub cm) multiple times per day everyday.

REMOTE 24/7 ACCESS

SCHEDULED MISSIONS

ON-DEMAND MISSIONS

DATA VISUALIZATION & ANALYTICS

DATA DOWNLOAD & API

FIELD NOTES & REPORTING

AUTOMATED ALERTS & NOTIFICATIONS

CHANGE & ANOMALY DETECTION

SCOUT™ DRONE & SCOUTBASE™

The Scout Drone and the ScoutBase are designed to be installed indefinitely in rugged, real-world conditions. Install anywhere and everywhere throughout your operation to enable continuous, automated oversight.

CELL & ETHERNET CONNECTIVITY

ON-SITE EDGE COMPUTING

AUTOMATED DATA PROCESSING

AUTOMATED OBSTACLE AVOIDANCE

AI-POWERED NAVIGATION

SECURE WEATHERPROOF ENCLOSURE

USE CASES

➤ THE BOTTOM-LINE

Adopting automated drone technology means increased uptime, increased efficiency, reduced costs, and minimization of risk. Enable real-time, high resolution awareness of all of your assets, and stop problems before they occur. De-man remote facilities, and survey by exception with automated change detection and anomaly alerts. The next generation of data is here.

➤ O&M / INSPECTION

Manage your full set of operations remotely, and assist your maintenance teams will high-resolution, real-time data of your assets. Minimize costly downtime and de-man your remote facilities.

The Scout System will autonomously patrol your well-pads, pipelines, substations, solar arrays, power plants, power lines, and other assets to monitor for any physical issues. Detect anomalies through thermal imagery, visual imagery, and change detection. Count, track, classify, and geolocate assets such as pipe stock and field equipment.

➤ SECURITY

Assure the security of your assets and operations with routine surveillance flights. Use thermal and visual data to detect and deter potential intrusions, whether they be human, animal, or vehicle. Detect and report suspicious activities along your perimeters, lines, or other asset locations.

➤ SAFETY & COMPLIANCE

Streamline your regulatory compliance and reduce monitoring costs with automated daily data collection. Detect and correct defects, faults, corrosions, leaks, and other environmental hazards on day one with daily scheduled imagery and immediate revisit capabilities.

ROBOT-AS-A-SERVICE

1

ANNUAL SUBSCRIPTION FOR SERVICE

The Scout System is bundled into one annual subscription fee, encompassing the full suite of hardware, software, and services, allowing us to provide you the highest performing product at the lowest possible cost.

2

REAL-TIME AUTOMATED OPERATION

Once installed, each Scout system operates at its maximum capacity. Automated missions occur multiple times per day, guaranteeing you the best data at the highest frequency.

3

NO UPFRONT CAPITAL COSTS

The Robot-as-a-Service (RaaS) model allows American Robotics to retain the burden of upfront manufacturing and hardware costs. All you pay for is the service the Scout system provides.

4

NO LONG-TERM RISK

Subscription fees are billed annually, and new units will automatically be swapped out at the end of the service life. American Robotics will also periodically install new software updates and provide access to the newest features., assuring industry-best performance throughout your subscription.

5

NO MAINTENANCE RESPOSIBILITIES

American Robotics and its affiliates remotely oversee the operation of your units 24/7, and manage all routine and unscheduled maintenance requirements.

6

NO PILOT TRAINING

Both the technology itself and American Robotics' staff oversee the realtime operation of your units. Health status and performance are constantly monitored to assure optimal performance, and no pilot training is required for your staff to integrate this technology into your business.

7

COMPLIMENTARY CONSULTING

American Robotics' staff will work with your team to determine the ideal number of units, placement of units, initial setup, provide software tutorials, and manage any required regulatory approvals.

HOW WE'RE DIFFERENT

Fully-automated
It's either automated, or it's useless

Designed for industry
End-to-end system optimized for the energy industry

Regulatory approvals
Required approvals for automated operation

American-made
HQ in the USA. Made in the USA. Know your data is secure.

Industry-best tech
Real-world autonomy is hard. We've achieved it.

Edge computing
Install these systems anywhere. No ethernet required.

True automation is the only way drones make economic sense for this industry. American Robotics has achieved both field-proven technology and the required regulatory approvals that permit it.

AMERICAN ROBOTICS

HOW TO ACCESS

Connect with an American Robotics representative to schedule your complimentary consultation today. See below for contact details.

CONTACT

Email | sales@american-robotics.com

Website | www.american-robotics.com