



January 2021

Opportunity

Critical infrastructure inspections often rely on **unscalable, manual, third party services**.
Drone use is limited by **minimal systems integration and unmanageable data collection**.



Energy



Agriculture



Utilities



Retail



Warehousing



Logistics



Construction

Airtonomy's Solution

Scalable, fully autonomous, self-service inspections of critical infrastructure.

Push-button simplicity and **end-to-end data management** enable enterprise drone adoption.



Off-the-shelf hardware.
Cost-effective asset
management.



Minimal training required.
Deploy in minutes with
existing staff.



Push-button simplicity.
No professional pilots
required.



Real-time processing for
expedited results. Flexible data
reporting and visualization.



Operate remotely.
Available to staff on-
demand, 24x7x365.



Flight + Computer Vision



Platform Animation



Airtonomy's Competitive Edge

Category	Company
Wind	Clobotics
Wind	Skyspecs
D&T	eSmart
DSP	DroneBase
DSP	PrecisionHawk
DSP	Measure
Multi-Solution	DroneDeploy
Hardware	Skydio
Hardware	Airobotics
Hardware	Percepto
Hardware	Aerodyne



Competitive solutions for critical infrastructure inspection rely upon a **single purpose, low margin, low availability, professional services model.**

Airtonomy's solution is uniquely positioned to displace competitive solutions with a **multipurpose, high margin, high availability, self-service model.**

Technology

- Integration of hardware, software (IoT), and ML/CV algorithms **enables push-button simplicity** that minimizes customer overhead.
- Combination of modular, polymorphic actions at low-level abstractions (object tracking, obstacle avoidance) **maximizes flight routine adaptability** across applications.
- Automation of image stitching via Airtonomy's proprietary mosaicking process **produces high-fidelity, ML/CV-digestible asset data**, even in suboptimal flight conditions.
- Assembly of ML/CV models in interchangeable Docker containers **delivers anomaly detection** based on application or asset parameters (manufacturer, dimensions, components present).



Drones

DJI Matrice 300
PX4 Compatibility (Coming Soon)



Sensors

LiDAR
High Resolution RGB
Thermal
Stereoscopic




Components

Custom Gimbal Mount
LiDAR Mount
Onboard Processor Housing

Onboard Processor

Nvidia Jetson TX2, Xavier NX
Qualcomm QRB5165

Data Workbench (Feedback Loop)

 Admin Organization Wind Logout

Turbine Inspection Generations

LRSC 53e0f1 – Generation 1 – 10/14/2020, 3:59:19 PM

Blade Slot Blade Side

1 2 3 LE TE HP LP


Inspections for 1-HP

a36d48 – 3/29/2020, 8:50:29 PM – Generation 1 *

Inspection Tools

Publish Published

Help






Image Edit Navigate View Download and Share

Tools

Damage Edit View

Tools

Class

Chip Crack Lightning Vortex Delamination Other

Zone Severity

? A B1 B2 B3 C 1 2 3 4 5

Turbine ID	4b733926-1a29-43b0-9e48-539c1aeb0277
Num. flights	12
Num. generations	5
Inspection ID	a36d4876-7316-4021-9490-b91c616f60f7
Num. images	13
Image Index	0
Damage ID	40baf56e-1358-4830-8da3-950c55dc53d3
Damage distance	38.428

Sectors

Airtonomy provides **a single inspection platform** that extends across a **variety of sectors**.

Wind



Energy Pipeline



Distribution & Transmission Line



Cell Tower



Wind Applications

Blade Inspection



Icing



Lightning



Avian



Pricing

Customers **use their own fleet** of off-the-shelf commercial drones, retrofitted with Airtonomy kits.

Airtonomy's solution can be purchased on a **per-inspection basis**, with no obscure pricing or hidden fees.

On-board software can be licensed for use across **multiple sectors and applications**.



Team



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Former UND



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