PROVIDING LOWER OPERATIONAL COST AND BETTER LIFECYCLE MANAGEMENT THROUGH UNMANNED AERIAL SYSTEMS

Drone based Data Analytics & Predictive Failure Modeling

PAPER AIRPLANE

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PAPER AIRPLANE provides an end-to-end, **COST-EFFECTIVE** physical asset assessment solution to organizations by bringing leading edge data analytics to critical infrastructure inspection through:

Data Acquisition

Data Analytics

Predictive Failure Modeling

Real-time File Management capabilities

Combined, these capabilities provide all stakeholders with the information they need to efficiently manage *EVERY LOCATION*

Large Footprint of Diverse Physical Locations Require:

Regular **inspection** to properly maintain asset at peak performance

Acquisition of additional assets without true knowledge of what is there

Identification of issues before they cause business disruptions

Objective Inspection (Manual Inspection can be inaccurate and inconsistent subject to individual interpretation across the footprint)

Maintaining **accurate records,** which is difficult without properly captured data

Access to historical data across entire infrastructure footprint anytime

Current Market Solution

Contractor “walks” asset to assess condition. There is a high level of **risk** associated with this method and **assessments/results** can **vary** by person

Consultant or contractor takes picture of single site issues. No 3D modeling or data analytics

Paper Airplane

Drone pilots fly regional/national footprint. This methodology:

Saves Time

Increases **objectivity** and **accuracy** of findings

Saves Money

Drones do not damage asset during assessment

Captures **entire project** with no need to remobilize to acquire additional data

Sensors capture required data that is processed to produce a 3D model

Datasets can be compared over time allowing users to apply advanced technologies such as AI and Machine Learning to solve complex problems

The **Condition** of infrastructure is Critical to Operational Performance

- Survey of physical asset
- Accurate asset awareness reduces business interruption
- Increases worker safety
- Lowers operating cost and surprise capital expenditures
- Upholds corporate image
- Knowledge of operational condition of assets allows smart preventative maintenance planning, yielding targeted upgrades that can be budgeted in advance

Infrastructure Lifecyle Management Improves Company Performance

- Convenience Factors
- One number to call for National coverage
- Data accumulates (twice a year), client has access to data over years
- Fee schedule locks in fixed rates based on volume

- Accurate assessment reduces business interruptions
- Proactive predictive maintenance to identify “issues” before they turn into “problems”
- Increases worker safety
- Reduces unplanned capital expenditures
- Extends life of assets
- Increases profitability
- Relationships / Partnerships with industry suppliers and installers providing “best value”

UAS Solution Reduces Cost, Increases Accuracy & Mitigates Contractor Safety Risk

Replace slow / dangerous manual inspections with drone deployment

Eliminate hours of tedious image review with data analytics, algorithms and predictive failure modeling

Provide actionable management reports to all stakeholders

Retain historic information on all infrastructure assets

Highly accurate sensors gather information missed by visual inspection

Demonstrated Results

- Higher accuracy of physical asset status
- Fewer manual inspections
- Reduced inspection costs
- Fewer unplanned capital expenditures
- Less emergency repairs
- Lower operational interruptions
- Improved stakeholder communication

Professionally Managed Process

Data Acquisition

Certified drone pilots with pre-planned flight instructions gather project data

Sensors are chosen based on project criteria and desired data analytics

Data Analytics

Raw data is processed utilizing one of several software packages, based on project criteria, and converted into 2D and 3D models

Data analytics are performed on processed files to assess critical findings

Algorithms are run to perform predictive failure modeling to extend life of asset usefulness

Data File Management

Data is stored in a secure cloud-based environment

Actionable management reports sent to all stakeholders

Clients are provided secure log-in and password to access management reports and processed files

Let Paper Airplane

Show You How To Lower Your Facilities Operating Cost

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