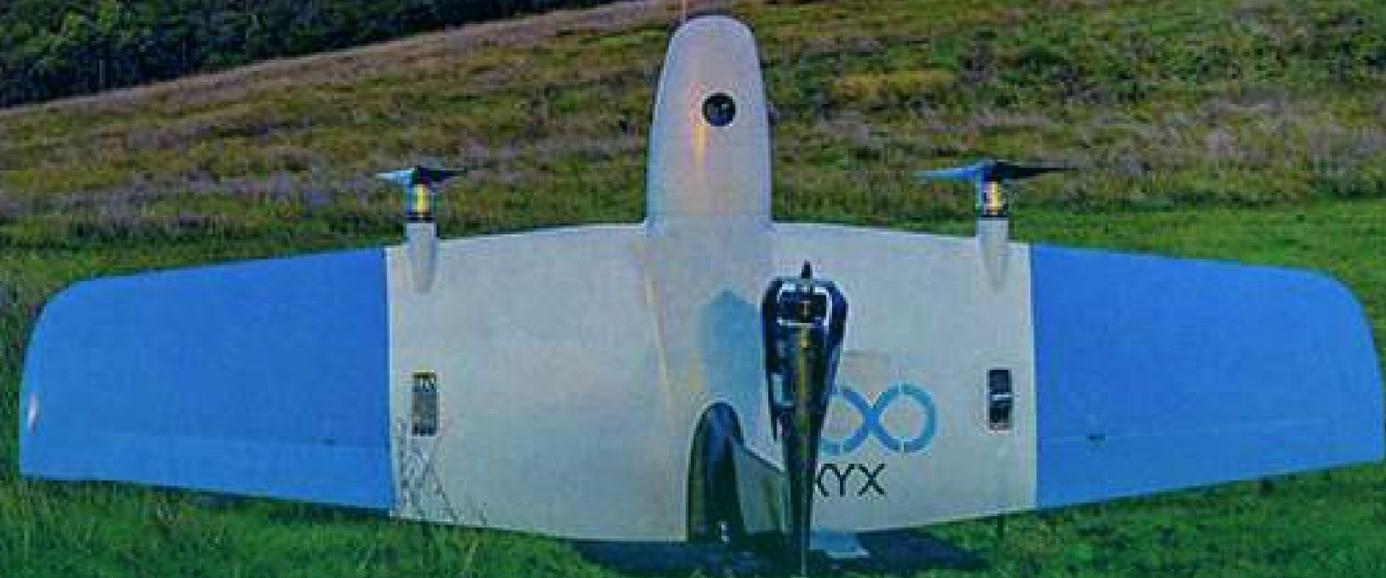


E-BOOK FOR MIDSTREAM OIL & GAS COMPANIES

Improve Your Pipeline Integrity with a New Layer of Data



SKYX∞

NOVEMBER 2021

Meet the Author



Hi, I'm Jeffrey Jones. Jeff for short. I'm the Vice President of Global Sales and Business Development at SkyX based in Austin, Texas.



I've spent the last twenty plus years providing technology solutions and services in the Oil and Gas industry. Throughout my career, I've seen the development of the market first-hand and the need for long-range external asset monitoring, aerial data, and systematic solutions for the Oil and Gas industry.

Now, at SkyX I have the opportunity to help Oil and Gas companies adopt an innovative, market-leading solution that is changing the pipeline integrity game by reducing risk and costs while increasing safety and efficiency and protecting the environment.

I hope the information and insights in this eBook are valuable to you and can help you improve your own pipeline integrity program.

If you have questions, feedback or want to connect:
Email me at jeff.j@skyx.com or [find me on LinkedIn](#).

Enjoy reading this eBook!
-Jeff



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Being an asset operator in a midstream Oil and Gas company isn't easy.

Today you need to manage the integrity and safety of aging infrastructure, often in remote locations, while mitigating risk and controlling costs. What's more, if you're like most organizations, you need to do it all while lacking high-quality data to make informed and intelligent decisions.

Given that aging infrastructure is more susceptible to leaks and other structural integrity issues, it's becoming increasingly harder to prevent problems and mitigate risk. Without the right data, your job is sure to get more difficult with each passing year. Fortunately, due to innovation in data analytics and Unmanned Aerial Vehicles (UAVs), you have the opportunity to equip yourself with the data and insight you need to improve your operations.



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It's time to gain control over costs, risks, asset health, and safety

Midstream Oil and Gas companies now have more options than ever before for gaining control over costs, risks, asset health, and safety.

Today's newest pipeline monitoring technologies make it easier to evaluate the health of your assets and make decisions about what to repair and when. They can even help you anticipate potential problems so that weak points in your pipeline can be addressed long before permanent damage or disaster occurs.

339.72 million U.S. dollars is the reported total costs of incidents at oil and gas pipelines in the United States in 2020. Continuing to use current inspection technologies means the risk of missing a leak or crucial anomaly is ever-present and increasing as these inspection technologies just can't keep up with decades-old infrastructure.



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The status quo isn't working

Midstream Oil and Gas companies employ a variety of different technologies to monitor their infrastructure including “smart” Pipeline Inspection Gauges (PIGs), SCADA control systems, fiber optic cables and aerial data. Each technology, however, has its limitations. For example:



PIGs can get stuck or malfunction in the pipe, and may miss anomalies that other technologies could detect.



SCADA systems do not provide cm or mm-level accuracy on the location of leaks, and sensors can provide false readings.



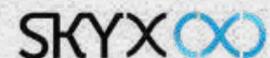
Fiber optics solutions are expensive and cannot be retrofitted to older pipelines.



Aerial data gathered from planes and helicopters is generally low resolution, in addition to being more expensive, time-consuming and riskier than other methodologies.

There is a layer of high-quality, reliable data that is missing:

Aerial data collected by UAVs on an ongoing basis



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Adopting a new, more detailed layer of data

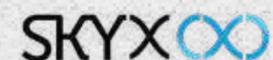
It's time to understand the opportunities that lie just beyond the status quo, and consider the benefits of systematic pipeline monitoring using UAVs.



Better quality, more accurate data

Compared to manned aircraft traditionally used for pipeline monitoring, UAVs offer significantly better spatial resolution and accuracy of aerial imagery. When these vehicles possess a high level of operational autonomy, they can fly precisely-programmed flight routes (read: a pipeline ROW) on a routine basis.

Ultimately, this enables the UAV to provide quality aerial data that can be turned into actionable data points. High-resolution visuals with detail down to an inch or less ensures the anomaly detector can recognize small objects within the pixels of the image. Meanwhile, image capture along a precise flight path at a regular cadence allows for accurate change detection analysis.

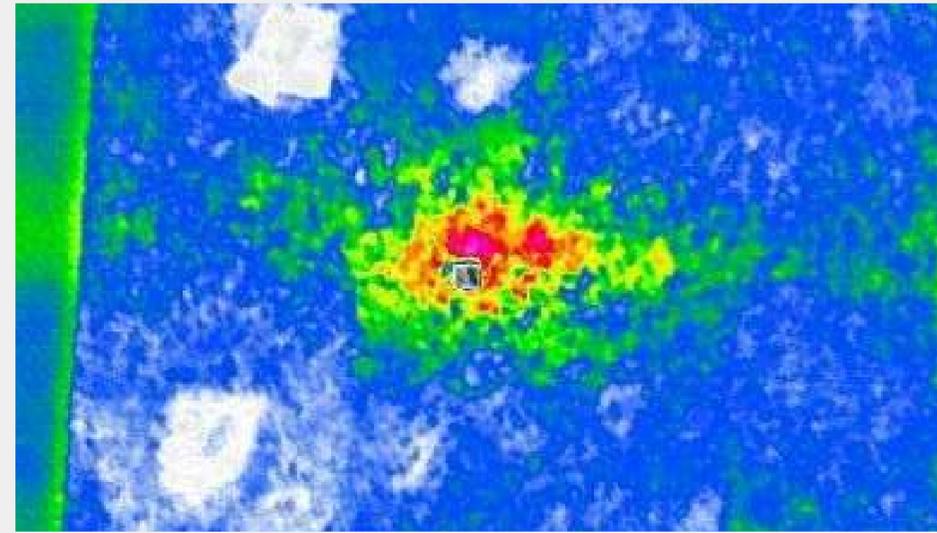


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Adopting a new, more detailed layer of data

Continued

It's time to understand the opportunities that lie just beyond the status quo, and consider the benefits of systematic pipeline monitoring using UAVs.

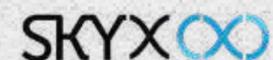


Shift from reactive to proactive decision-making

Aerial data collected by UAVs empowers midstream Oil and Gas companies to make a transformational shift from reactive to proactive pipeline management by having regularly scheduled flights proactively monitor their entire asset infrastructure.

The dynamic system captures, accumulates and compares new data to historical data over time, and brings operators' attention to potential anomalies before they manifest, reducing risk and costs. It can pinpoint critical issues along a pipeline which allows you to take an approach to maintenance that proactively addresses incidents before they occur.

This leads to more intelligence, more informed decisions about issues discovered on your asset – and higher confidence throughout the organization that these decisions are based on complete and accurate information.



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Holistic approach to integrity management

Transform visual inspections of your pipeline from subjective to quantifiable data that can be easily referenced against other sensors for holistic analysis. By layering high-quality aerial data over your existing technology ecosystem for a holistic view of your entire pipeline infrastructure is the pathway to holistic pipeline integrity management.



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Reduced inspection and maintenance costs

In addition to delivering better quality, more accurate data than traditional inspection vehicles, UAVs also stand to make a profound impact on the nature of field operations. The implementation of an outsourced UAV pipeline monitoring solution allows you to shift internal personnel to remote operations centers. This paradigm shift is anticipated to result in a 25% reduction in the cost of asset inspections, a 20% reduction in personnel costs, and ultimately help to reduce maintenance-related downtime by 20%.



Emissions reduction

UAVs typically flown for pipeline inspection are battery powered. As such, they don't produce CO2 emissions. By adopting a solution that flies UAVs for ongoing pipeline monitoring, Oil and Gas companies can decrease use of gas powered inspection vehicles like trucks, planes and helicopters for monitoring, which reduces emissions.

Recover strong from the pandemic

Recovering strong from the pandemic requires innovation. By embracing an innovative, digital approach to pipeline integrity management that leverages Unmanned Aerial Vehicles (UAVs) and data visualization – you can improve your preventative maintenance efforts while reducing the bottom-line effort it takes to deliver it.

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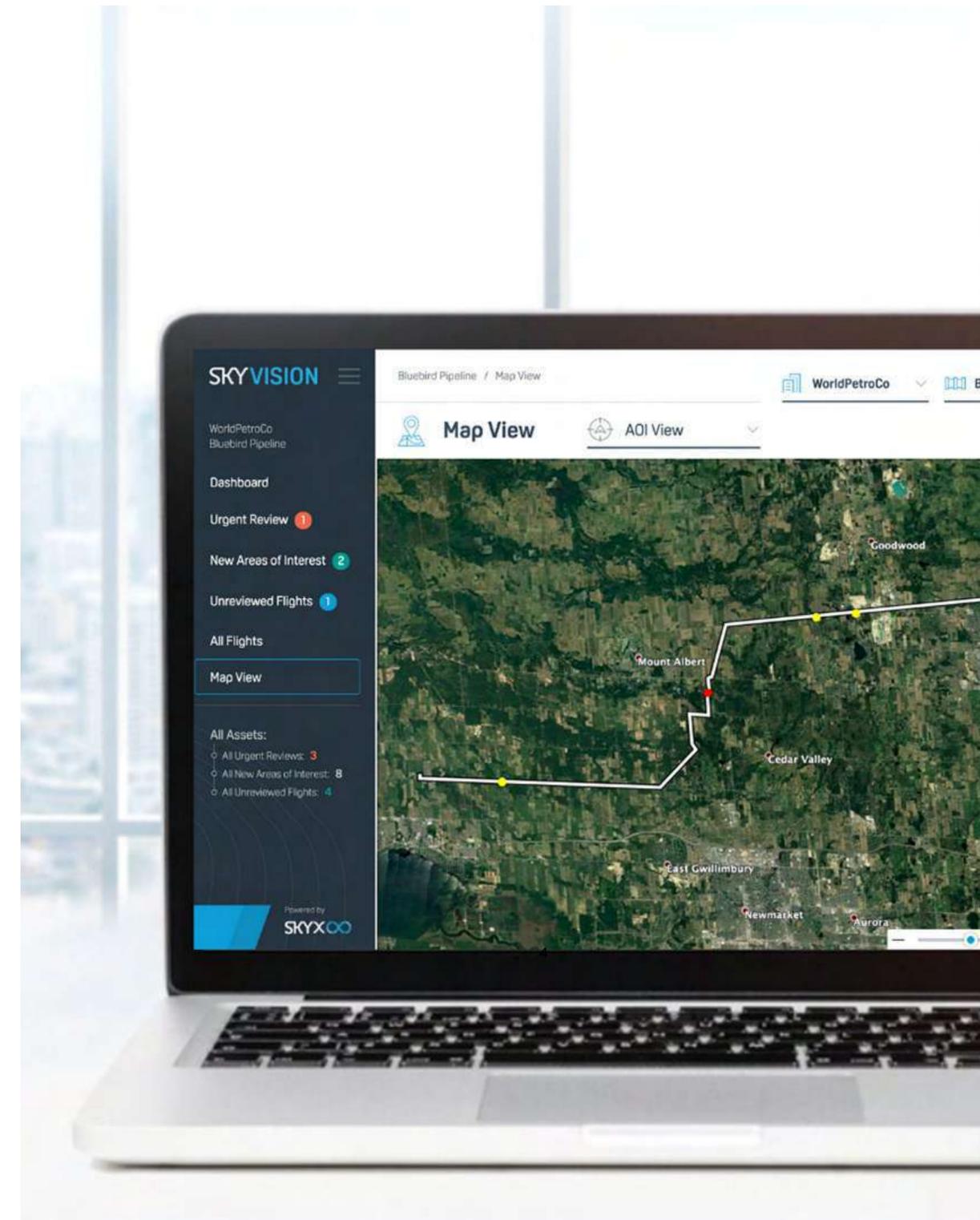
Lead digital transformation in the Oil and Gas industry

In the World Economic Forum's recent report on the Digital Transformation Initiative in the Oil and Gas industry, digitalization is poised to deliver \$100 billion of value for midstream firms. Core to this paradigm shift, is the implementation of automated systems and advanced data analytics. The adoption of these technologies in asset integrity workflows is poised to reduce incidents by nearly 10%, and the number of pipeline spills by nearly 100,000 barrels.

You and your organization have the opportunity to lead the change to proactive pipeline integrity by adopting the most innovative aerial data solution available today. You'll not only protect the health of your aging asset, you'll also be protecting people and the planet today and in the future. Adding a continuous, ongoing stream of aerial data to your pipeline integrity management program will allow you to capitalize on the promise of digital transformation for midstream Oil and Gas.



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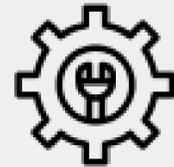


Trust the experts in long-range aerial pipeline data

Once you've decided that you're ready to integrate ongoing aerial monitoring to your pipeline integrity management program, the next step is to decide whether or not to manage the operation in-house or bring in the experts. It pays to know about the capital investment, staff, and training that are part of that commitment. Ongoing systematic aerial pipeline monitoring requires:



Sourcing, purchasing and operating your fleet of drones



Servicing, repairing and maintaining the fleet



Training drone pilots and operators



Planning and executing flights on a regular basis



Managing regulatory compliance and ensuring certifications are always up-to-date

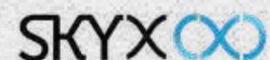


Storing and analyzing thousands of high-resolution images to identify anomalies

Since these requirements fall outside of core competencies, forward-thinking midstream Oil and Gas companies are engaging expert solution providers like SkyX.

The SkyX system is an end-to-end aerial data solution that includes the provisioning of unmanned vehicles, operations, ongoing support, data analysis, and high-impact reports for long-range asset inspection and monitoring.

SkyX helps midstream Oil and Gas companies reduce manual effort, streamline operations, and ultimately improve the integrity, safety and health of their pipeline while also driving costs down.



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Key takeaways

Here's a summary of the most compelling points about unique, **high-quality aerial data and its ability to greatly enhance pipeline integrity management** for midstream Oil and Gas companies when collected on an ongoing basis.



Long-range aerial systems that are equipped to do routine flights and gather data on an ongoing basis inform operators of potential problems before they happen, reducing costs and mitigating risk.



UAVs provide quality aerial data that can be turned into actionable data points. High-resolution visuals with detail down to an inch or less ensures the anomaly detector can recognize small objects within the pixels of the image.



Implementing an outsourced UAV pipeline monitoring solution allows you to shift internal personnel to remote operations centers.



Data captured and analyzed by today's innovative technologies help asset operators shift from reactive to proactive decision making, for better outcomes and higher confidence in decision making.



By adopting a solution that flies UAVs for ongoing pipeline monitoring, Oil and Gas companies can decrease use of gas powered inspection vehicles like trucks, planes and helicopters for monitoring, which reduces emissions.



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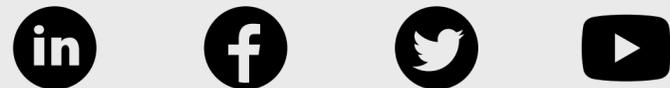
About SkyX

SkyX has been revolutionizing the way aerial data is acquired, analyzed and actioned since 2016. Their mission is to arm infrastructure asset companies across the globe with unique, actionable, long range aerial data on an ongoing basis. With this intelligence, these companies are empowered to take a proactive approach to asset integrity and ultimately ensure the health and safety of people and the planet. Headquartered in Toronto, Canada, SkyX has a broad global presence with customers in North America, South America and Africa.

For more information about SkyX, [visit skyx.com](https://www.skyx.com).

Contact us

Learn more about the only complete solution that includes the hardware to capture the data over long distances and the software system that converts all of that data to actionable insights.



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