

Commercial sUAV Drone Flight Services & Consulting



The Agriculture Industry is Harnessing the Power of Drones Year Round

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GOING BEYOND EXPECTATIONS

ConnexiCore Cloud

"Innovation distinguishes between a Leader and a Follower" Steve Jobs

ConnexiCore[™] is a multi-faceted UAV Flight Services and consulting firm specializing in commercial, industrial, and institutional drone mapping & surveying applications. We routinely perform these services via our nationwide (FAA) licensed network of pilot partners for AEC, Utilities and Energy, and Industrial companies. With over 20 years of industry experience, ConnexiCore is involved in several inter-related aspects of drone management and the systems to support business workflow. We've quickly become one of the most recognized, full-scale drone solution providers because of the care we take in overseeing our client's requirements from an abstract idea, to a concrete solution.

Our executive, engineering and creative teams immerse themselves in partnering with industry leaders and often will incorporate their innovative products and concepts into our work-flow.

ConnexiCore is committed to partnering with companies through innovation, advancing groundbreaking information technologies and creating synergies that enable customers to take advantage of its entire geospatial and industrial service offering.



From Pre-Planting to Post-Harvest

Harnessing the Power of Drones Year Round-

In a few short weeks, the harvest will end. Listen carefully, and you'll soon hear the collective sigh of relief coming from fields and farmhouses everywhere. Time to clean up the combine, service the tractor, and take stock of the past six months.

But wait a minute. Do we see you getting ready to put that drone away for the winter? Not so fast. If you plan to keep your UAV out of commission until next season, you might want to reconsider. There are still plenty of ways to put your drone to work between now and April. From scouting for weeds to assessing drainage tiles, growers are increasingly using drones as an indispensable, year-round field management tool.

Assess Irrigation Systems and Drainage Tiles with Drone Maps-

Before the ground freezes, chances are you'll spend time repairing drainage tiles and optimizing irrigation systems. Why not make your work more efficient, and more effective, by firing up the drone first? A bare earth map is a great way to catch drainage and irrigation issues early, before they turn into bigger problems next growing season.



Use drone maps to assess drainage tiles and determine if irrigation systems are functioning correctly



Sub-Surface Drainage Tiles

To best view drainage tiles, map your field in the morning after a rain, when the soil is still wet but beginning to dry out. In the [RGB] imagery below, the red areas are the driest and the green areas are still relatively wet, signifying that they might not be draining as fast as the rest of the field.

An elevation map is also a useful tool here. Although a standard drone map (without the use of ground control points) shouldn't be used to determine the actual coordinates for laying drainage tiles, it can still help you assess how a field slopes, decide if tile is needed, and make a general plan for the location and number of tiles.



Pivot Irrigation Systems-

To detect potential problem areas with an above-surface irrigation system, an [RGB] or crop health map is ideal. Because excess water builds below the surface before any issues can be seen above ground, a lot of irrigation issues, like flat or sunken tires, or plugged nozzles, can be spotted early this way.



Use Historical Field Data to Make Smarter Crop Management Decisions

One of the best things about drones is that they allow you to analyze issues in real time, as they happen. But those same drone maps that were a life-saver at the height of the growing season are also invaluable when it comes time for a post-season debrief.

By reviewing side-by-side maps and integrating these with historical field data — such as soil type, soil sample, planting, and yield data — you gain a truly holistic view of your fields. With a greater understanding of what happened, exactly where it happened, and at what point in time, you can make smarter crop management decisions to maximize next year's yield.



Compare maps over time with ConnexiCore Cloud. This series appears in chronological order from left to right showing the same field from Late June through Late July.

Integrate drone maps with other field data-

If you want to dial down even further, compare your drone maps with other information, like harvest, yield, variety, and spraying maps. All of this is done seamlessly by importing field maps from software. Or, if you need to use the built-in tools from another platform, you can also export orthomosaic, plant health, and elevation maps.





Scan Soil to Detect Pre-Season Issues



Easily export orthomosaic, plant health, and elevation maps to your John Deere Operations Center account. The exported maps will appear in the Field Analyzer Section of your account. As spring arrives and planting approaches, it's a good idea to map your bare field one last time. A preseason barren earth map, combined with targeted ground-truthing, can help you understand what pests and weeds have come up as a result of heavy rains or severe weather. And, if any issues do exist, you can use ConnexiCore plant health tools to assess how much treatment to order and where to apply it. When it comes time to plant, you'll come back to the field with a little more confidence in its overall health.





Prepare for the Coming Months with a Seasonal Flight Plan

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Just as the off season is the time to take stock of equipment, maintenance, and staffing needs, it's also the time to create a seasonal flight plan. Flying at regular intervals creates a consistent record of what a field looks like over time and gives you more information to work with when it comes time to make those big, mid-season decisions. If you go into the busiest months with a pre-established calendar, you'll be more likely to stay consistent even when things get busy. So exactly how often should you fly your fields? This varies depending on your situation, but in general, consider the value of a particular crop and the distance of the field from your headquarters. Strive for flying the most convenient and high-value crops each week, and the less convenient crops biweekly.





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