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**The Agriculture Operations Center . . . the answer to
“What if . . .”**

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Abstract.

After another long day, the farmer sits down in front of a computer (wishing this time was instead spent on the front porch catching a last glimpse of the sunset), and reflects once again ...

What if ... I actually knew the health of 100% of my crops rather than what I know today. a mere 20%.

What if ... there was an effective, simple way to synchronize crop scouting and crop imagery efforts.

What if ... those guys who are touting “big data” gave me useful, personalized information I could use right away.

What if ... imagery of my fields could be scheduled so it was economical and beneficial for me and I didn't have to “own the drone.”

What if ... “big data,” imagery, and computers worked for me instead of me working (so hard) for them.

It is an understatement to say that technology routinely changes the landscape of the agriculture industry. For many farmers, it has been a dizzying series of developments where crop yields, field productivity, and farm management have all dramatically improved. Yet, with all these revolutionary advances in hybrid seeds, variable-rate application (VRA), global position system (GPS), auto-steer systems, satellite imagery, yield mapping, grid sampling, remote sensing, and yield monitoring systems, the farmer's life seems more complicated than ever. And...it isn't going to stop. Can't farming be simpler? Yes...and not only simpler...but more consistent, more profitable, and with all of those “what if” dreams coming true. How? With an **Agriculture Operations Center** -- we call it the **AGOC**.

In short, the AGOC is the next big step for precision agriculture. The AGOC provides the ability to schedule, execute, collect, consolidate, and distribute all the support a farmer needs from satellites, piloted aircraft, unmanned aircraft, modeling, and analysis...all packaged into “one stop shopping.” Without the power of a centralized facility, these activities are disjointed, and consequently force the farmer to be the integrator of this complex array of information. But with the AGOC, a farmer receives useable and tailored solutions from big data, sensors, and analytics...actionable and synchronized!

The Agriculture Operations Center (AGOC) Construct.

Today, there is no effective or efficient method to integrate all these technological enhancements. But an AGOC steps past the era of farmers drowning in information overload by blending capabilities from all these technological enhancements and delivering the right “effects” at the right time, tailored specifically for the farmer.

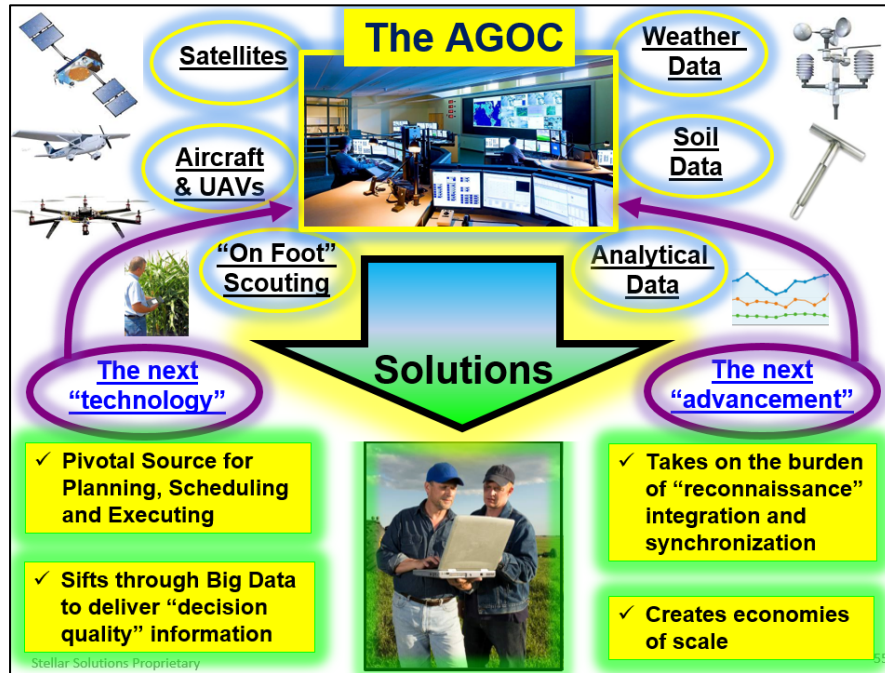


Figure 1. Components and Benefits of the Agriculture Operations Center

Why should the farmer be interested in the AGOC concept? Because it better integrates computer technology (modeling and analysis), data sources (i.e., imagery), and UAS technology advancements for the farmer's enterprise to get the **right effect**. Superior integration and cost effective...something hard to achieve as an individual farmer:

- 1) More effective seed selection and planting
→ cost savings/increased yield/more profit
- 2) More effective analysis of imagery and "big data" products
→ cost savings/increased yield/more profit
- 3) More effective crop fertilization
→ cost savings/increased yield/more profit
- 4) More effective field irrigation
→ cost savings/increased yield/more profit
- 5) Crop scouting more efficiently synchronized and increasingly utilized
→ cost savings/increased yield/more profit

Summary.

An AGOC is the future of Precision Agriculture. It will make the farmer's business simpler and more profitable. Ready for today's and tomorrow's technology, the AGOC will turn the complexity of "big data," sensors, and aircraft into tailored solutions ready for implementation...computers working for the farmer rather than the other way around. An AGOC will make those "what if"

dreams a reality.