Using near-real-time data to deliver value to customers

How crop-scouting business owner Matthew Johnson leveraged FieldAgent analytics to provide actionable in-season data at the field edge

Matthew Johnson
Founder & CEO of M3 Aerial

The addition of the zone management tool to FieldAgent is just one of many updates the Sentera team has made in the last year. However, it's the update Matthew Johnson, founder and CEO of M3 Aerial Productions, an aerial photography and mapping company based in Manitoba, is most excited about. Matthew uses drones to survey fields and scout crops for his customers, monitoring everything from nitrogen levels to yield to plant stress; he has logged over 200 hours of flight time on unmanned aerial vehicle (UAV) systems.

Historically, Matthew estimated that the time between data collection and data sharing has ranged from 24-36 hours. Now, with the addition of FieldAgent's Zone Management tool, he expects to reduce that time to minutes.

In agriculture, one thing always holds true: there is never enough time during the growing season. The success of a crop hinges on decisions ag professionals make at critical points in the season. The ability to react quickly, whether that means making a replant decision, spraying a field, or just moving on to the next

task, is invaluable. Having a zone map available minutes after landing increases the value of the service Matthew provides, because it allows his customers to take action quickly. After all, they're not collecting this data for posterity—they're relying on it to inform their next steps:

"Everybody who's familiar with drones and collecting data for agriculture knows that the data by itself is not good enough—you need to ground truth it, and **it sure makes it a lot easier to ground truth it when you're able to process it on the side of field in 5 minutes and identify the areas that need to be checked out. From there, you can make your prescription. You could go from data collection to actual actionable data, like prescriptions and spraying, by the end of the day on the same day. And that's huge."**

> "We can create zones at the side of the field to see where we need to go take a closer look. Then we can give that information to the client while we're still at the side of the field. **That is a revolutionary development in the industry.**"

Time needed to generate actionable data
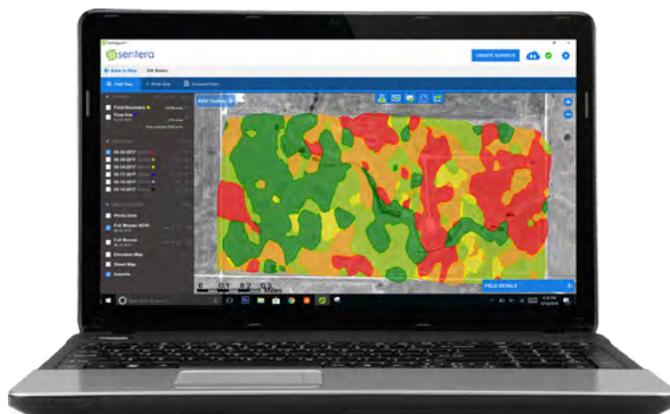
24h⁺

24 to 36 hours

5 minutes

How is FieldAgent able to process so much data so quickly?

Sentera's engineers built unique algorithms that allow the software to associate the images with each other without having to stitch them all together, and then communicate between the images to create regions (or zones). This process can turn several gigabytes of data into a ~200 kilobyte shapefile, which can then be quickly emailed or sent via text message, just minutes after the drone has landed.

The precision ag industry is evolving quickly. To stay at the forefront, the Sentera team is continually making updates and improvements to their technology. In part, that means interfacing with growers, agronomists, and crop advisers to understand their needs, the challenges they face, and what matters to them.

The Sentera team met with Matthew in September of 2017. The meeting was a learning opportunity, and Matthew's feedback informed several updates the team made in the ensuing months. **When asked how he would describe Sentera, Matthew said, "Aggressively adapting."**

Zone Management tool