



TEXTRON SYSTEMS EMPLOYEE PROFILES

BILL VETETO

Textron Systems Geospatial Solutions employee Bill Veteto uses his specialized skills to create pictures that tell agriculture customers an important story about happenings on the ground.

Q: What is your background?

A: I am a GIS (geographic information system) analyst for Textron Systems Geospatial Solutions. As Textron Systems has gotten into the imagery business, that's where we have come in to help offer solutions to manipulate the images they take.

Q: In what ways are the images you work with different than ones that might be taken with a smartphone or point-and-shoot camera?

A: The camera delivers really high-quality imagery. You can fly at various heights depending on the lens you put on. The images overlap as they are taken in series, then processed, color balanced and in the correct geolocation on Earth. Then the images come to me for analysis.

Q: How can your geospatial analysis skills be applied to precision agriculture?

A: When you take a picture with a camera you just get RGB (red, green, blue) and it looks like what you see with your naked eye, but if you have this

fourth, near-infrared band in an image, it can tell you that this red is healthy vegetation that's growing, and the gray is not – there's no vegetation there – and in between is not growing as well. These kinds of images are being delivered to farmers to give them an idea of crop health.

Q: How accurately can images be used to show crop health?

A: The camera is able to collect four image bands at once. When we manipulate the bands with NDVI (Normalized Difference Vegetative Index), the calculation tells you how healthy the crop is. The closer the value is to one, the better the crop health or the more biomass there is. If we went into a bare area of bare soil, we're going to be closer to zero.

Q: Can agriculture customers use this information in other ways?

A: You can use Textron Systems' Feature Analyst™ to count things like plants. When it's emerging from the ground, you want to count it before it is so big that its leaves are touching the next plant. There also are other sensors that can be used to capture different information for the customer.



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