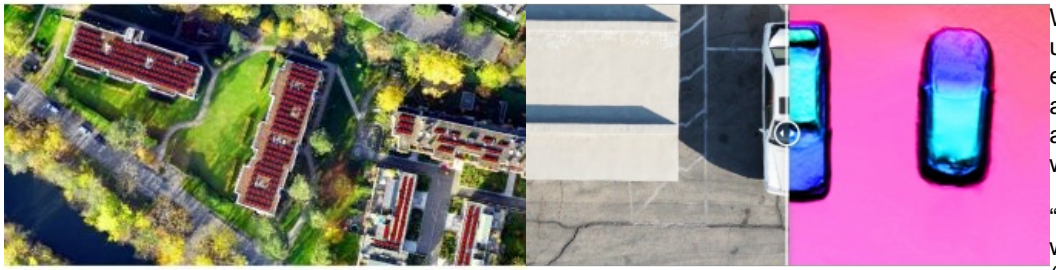
Wingtra and PCI Geomatics Enter into Drone Maps Partnership



Wingtra and PCI Geomatics are teaming up to offer flexible software solutions, easier ground control for repeated surveys and one-to-one resolution – also known as DSM true ortho – image processing with the WingtraOne-Geomatica bundle.

“In order to produce high-quality products, we generate digital surface models (DSMs) at one-to-one resolution,” said Kevin Jones, executive director of marketing at PCI Geomatics. “This means if you are producing one-centimetre imagery captured by the WingtraOne UAV, you can produce one-centimetre DSMs using Geomatica.”

For more than 35 years, PCI Geomatics has been providing academics, governments and commercial enterprises with mapping solutions for aerial imagery. Recently, Jones said the demand for higher-quality drone mapping outputs and software solutions is rising.

Ground control points

“Since we orthorectify images based directly on the DSMs, we can reduce some artifacts commonly seen in UAV datasets,” Jones said. “Often these appear as poorly reconstructed areas due to movement (trees, vehicles). Other typical image analysis problem areas include water and building edges. Through the extraction of one-to-one DSMs, these effects are minimized.”

Another benefit of the Wingtra-PCI software bundle is the ability to automatically apply stored ground control points (GCPs). I.e., users have the option of setting GCPs manually for the first aerial survey and then use the resulting ortho-mosaic for automatic ground control thereafter. They can also use an existing, accurate ortho-mosaic to automatically apply GCPs. This reduces manual labor, and increases the quality and consistency of results for repeated surveys of the same area.

Geomatica DSM True Ortho (left) and Geomatica DSM (right).

"Wingtra provides the perfect solution for collection through its unique and proven VTOL technology. Geomatica provides automation, scalability, live editing, and a host of additional tools to extract information from UAV imagery and perform analysis," said Kevin Jones.

“Geomatica software reduces the need for ground control point collection and increases the accuracy of surveys, over time,” Jones continued. “If clients need to measure changes on the ground, the software can produce sub-pixel alignment (down to 1/10th of a pixel), which makes it easy to detect changes and use the reliable ground control information built up over time.”

Flexible data processing

PCI Geomatics software solutions can be custom fit based on the needs of clients. The software is fully scalable to projects of any size and can be automated.

Overall, the WingtraOne Geomatica bundle blends leading VTOL performance, high-accuracy and broad coverage with a robust and flexible software solution to produce next-level drone maps.

“The UAV market has evolved over a short period of time, with professional users looking to source efficient platforms to collect imagery, coupled with efficient processing software that provides the needed tools for editing and producing high quality DSMs and ortho mosaics,” said Jones.

“If clients are processing thousands of images per day, or even tens of thousands of images per day, they can leverage our technology to keep up with the demand. If there’s a specific throughput that they’re trying to achieve, then our technology can adapt. The efficient

processing is among the fastest on the market based on internal benchmark results," Jones concluded.

Automated detection of solar panels from a segment of a larger map based on WingtraOne data processed by Geomatica.
