For more than 20 years, Ofek Aerial Photography and Mapping has been a dominant player in the field of geographic applications, both in Israel and in other countries around the world, offering various services and products.

With a fleet of four airplanes, state-of-the art technology and a highly professional team, Ofek has successfully completed many projects in Israel, Greece, Cyprus, Romania, Honduras and Ethiopia, in addition to several international mapping projects funded by the World Bank.

The Challenge

With profitability margins getting tighter and good weather a scarce resource - Ofek’s challenge was to continue exceeding customer expectations, while generating more value.

Ofek was required to provide a customer with an orthophoto of 8000 sq. km. However, the potential of obtaining larger area given the same aircraft resources enabled actual acquisition of 10,000 sq. km with 15 cm GSD. In order to obtain the highest imagery acquisition efficiency, Ofek deployed a Cheyenne aircraft, capable of flying faster than 200 knots.
The Solution

Ofek chose VisionMap’s A3 Digital Mapping system to meet the challenge. The A3 Camera enabled Ofek’s aircraft to fly higher, faster and with wider flight line spacing, covering a larger area than previous systems they had used. The overall acquisition took four days. As the flights provided excellent coverage, Ofek decided to acquire additional area of 2800 sq. km, which thanks to the A3 camera was done in a single flight.

With the raw material in place, the aerial triangulation (AT) and bundle adjustment were piecewise solved in a 1000 sq. km per day rate by the A3 LightSpeed fully-automatic processing system. Accuracy analysis carried out for the adjustment processed without ground control points showed 1m CE90 accuracy.

The first portion of final orthophoto products were provided for packaging six days after the first flight, and the entire project was completed within four weeks. The project deployed a four server cluster, and required less than four hours of operator resources. The acquisition provided off the shelf material in addition to the area covered for the customer, enabling additional future sales.

Ofek’s Conclusion

“The results are very satisfying and exciting. For every day of good weather, we can capture with A3 three times more than we did before.” said David Peretz, Ofek CEO.

“We have just completed a project including acquisition of 10000 km2 in four days flying, and orthophoto generation in 15cm GSD after few days of automatic processing. The same project could have taken us weeks of acquisition and months of processing, with other systems. You can imagine the impact A3 has.”