intetics
The Remote In-Sourcing® Company

INTETICS HELPS THE MINISTRY OF TRANSPORTATION IMPROVE PUBLIC ROAD MANAGEMENT SERVICES

Objective

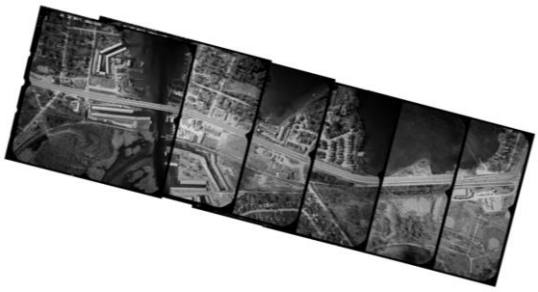
To produce high quality maps that would enable the Ukrainian Ministry of Transportation provide effective map services and technical solutions for road management.

Challenge

The main government organ in charge of road construction and management in Ukraine wanted to create efficient aerial view maps to help them manage important regional roads. They did not have the capacity to develop these maps internally and were looking for a partner capable of creating highly detailed orthophoto-based maps and integrating them with CAD (Computer-Aided Design) systems. Specifically, they wanted a photogrammetry team to process high resolution aerial photo images obtained from an external source, organize spatial data, and perform stereophotogrammetry mapping (piecing multiple aerial view images together). The goal was to create high quality and highly detailed ortho-based maps (scale 1:500) that covered a 25 km^2 area and documented features normally found on topographic maps, such as vegetation, water ways, roads, and other man-made and natural features.

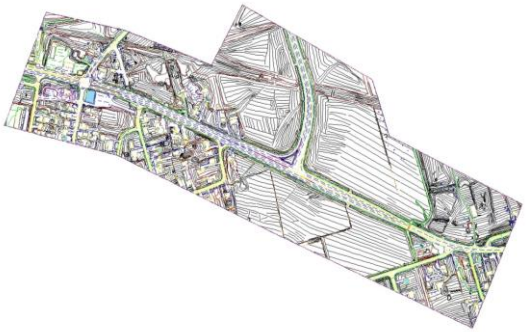
Solution

The Ministry of Transportation turned to Intetics, which has many years of experience working with remote sensing and photogrammetry technologies. Intetics geo-experts used the most effective 3D Mapping and GIS methods to digitize and extract different spatial features based on multiple aerial images (the stereophotogrammetry mapping approach). The project consisted of four major steps. First, using the Ground Control Points, the Intetics team orientated and rectified the raw aerial photos and internal camera parameters provided by our client *(right, above)*. After aerial photo orientation and orthofication, Intetics team digitized the 3D map spatial features as DEM and DTM models using 3D glasses, 3D monitors, and stealth 3D mouse. This helped compile high quality, accurate 3D feature strings used to produce ortho-based maps *(left)*. Third, Intetics team reviewed the correctness of geo-positioning and identified element on the maps based on country specifications, and made changes if errors occurred. Finally, the processed maps and layers were converted to a number of different formats such as DWG, DGN, ShapeFile and PDF.



Results

Due to working with Intetics, the Ministry of Transportation was able to use the ortho-based maps for better road management without reservation about quality. The maps contained specified styles, colors and symbols, and were customized to be used by consumers of the service department easily. Most importantly, our client was able to realize their service program and provide excellent maps that met their user needs.



"The maps are a great addition to our service program. It would not have been possible without the help and expertise of Intetics."

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