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CEMETERY OPERATOR OPTIMIZES LAND MANAGEMENT WITH MAPS BY INTETICS

OBJECTIVE

To help a cemetery management organization create a CMS (Cemetery Management Software) that could perform data search, record site sales and other information using a map interface.

CHALLENGE

A regional cemetery operator in France decided to implement GIS-enabled CMS and get rid of outdated paper maps. GIS-based applications allow most cemetery record operations to be performed by using a displayed map. Functions such as searching, selling and interment record keeping are all done through the map interface. The agency wanted to use these GIS technologies to simplify the cemetery monitoring process and decided to find a partner capable of creating an appropriate cartographic base for such a system.

A typical cemetery is a relatively small site with a large amount of small objects. Cemetery land is scarce and expensive, so it requires data records of very

high (sub-decimeter) accuracy. The cheapest and fastest way to get topographical data of an area is using an Unmanned Aerial Vehicle (UAV) survey.

The cemetery operator had local professionals perform land surveys. However, there are strict drone regulations in France and use of autopilot is prohibited. As a result, most areas had to be filmed by manually controlled UAVs. Accordingly, images were captured unsystematically and frequently inclined at an angle to the ground; some datasets even contained photos without GPS coordinates. All these factors make data processing extremely difficult. While the cemetery operator acquired the drone data, they still needed help processing the data to get accurate maps of their land.

SOLUTION

After completing the fieldwork, the cemetery operator turned to Intetics to process the raw UAV data to create a set of accurate maps. The client used existing Intetics cloud UAV data service for source data transmission. Upon receiving the source files, Intetics specialists

UP-TO-DATE, INTERACTIVE MAP HELPS CEMETERY LAND USE ORGANIZATION MANAGE LAND MORE EFFECTIVELY

processed and analyzed the images. To reach the best results, quality control was performed at each stage of the process. Based on the UAV photos, Digital Elevation Model (DSM) and an Orthomosaic were generated.

After the image processing and quality checks were completed, the next and final step in the workflow process was vectorization. Then, based on the orthomosaic as a base layer, Intetics created a digitization of the roads, buildings and burial plots. After that, Intetics created an up-to-date, accurate cemetery plan based on the relief model and vectorized data.

RESULTS

As the result of working with Intetics, the cemetery management organization was able to use precise maps of their cemeteries in their work process. They received an up-to-date, interactive map, created using a UAV data processing method that delivered highly accurate results alongside cost efficiency. A topographical plan was delivered to the organization and became the base for parcel boundaries. All map layers and metadata has been uploaded to the client's database, where client's employees can easily maintain them without specialized GIS knowledge.

“Accurate and up-to-date information is very important in the funeral business. We work with families in their hardest time, and one little mistake could seriously hurt a grieving person. That's why reliable and up-to-date Cemetery Management Software is so important for us. Our CMS creation would not have been possible without the help and expertise of Intetics.”