

Mercer County company makes inroads with its drones at three Atlantic County locations

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EGG HARBOR TOWNSHIP — Matt DeNafo has enough work to do to fill up his time month after month as the vice president of centralized maintenance and asset management at the Atlantic County Utilities Authority.

One of the things that was necessary, but low on DeNafo's list of priorities, was checking how extensive the vegetation is on top of the sealed landfill at the ACUA site on Delilah Road.

So when contacted by a Mercer County company to receive a spectral image of the health of the vegetative cover of the sealed ACUA landfill, DeNafo accepted its offer even though the ACUA has its own drones.

Instead of relying on sky satellites, Geomatix LLC, uses drones with high-definition cameras and specialty sensors to produce computer images that are of higher resolution, faster turnaround time and lower cost, said Ben Jarrett, operations manager for Geomatix.

When it comes to topography and elevation contour data, a drone can collect this information in 1/10 of the time of a person standing in a field with measuring instruments, Jarrett said.

At the ACUA, there would be erosion issues with the soil and washouts without good vegetation on the capped section of the landfill, DeNafo said. The remedy of the situation would require DeNafo filling in the patchy sections with in-house compost that would be seeded to grow the grass and weeds back up.

"Twenty acres (of the landfill) are permanently capped," said DeNafo, who added the permanent capping took place eight years ago. "Our vegetation is good. I was happy with the result."

Information provided by Geomatix verified what the ACUA officials suspected of the vegetative health on the top of the capped landfill. The ACUA has its own drone, but not the computer software that Geomatix has, DeNafo said.

Geomatix is one of seven companies participating in the business aviation accelerator program sponsored by the Smart Airport and Aviation Partnership, also known as SAAP, a central player in the Southern New Jersey aviation hub.

Besides the ACUA landfill, the Geomatix drones were also employed at a section of Ventnor's dune project and at the Egg Harbor Township Nature Reserve.

After the drone is deployed, each of three locations eventually received computer software with the topographic mapping and 3D modeling.

"The ability to map our planet is a fundamental precondition to achieving a sustainable balance between the Earth's ecosystem and human co-existence. Each of these demonstration projects was highly successful in

advancing our partners' understanding of their unique site setting and its physical and ecological properties," Geomatix's CEO Chris French said in a statement.

The Geomatix drone, cameras and sensors also looked at one section of the 1.7-mile Ventnor dune for its vegetation and slope by the Ventnor Library at 6500 Atlantic Ave., said Lance B. Landgraf, Jr., Ventnor's commissioner of Public Works and Construction.

Usually, someone from the U.S. Army Corps of Engineers travels 25 feet into the ocean to figure out beach-slope issues, and down the road, the Geomatix information may be of use to the Army Corps of Engineers, Landgraf said.

Nate Vary, a volunteer for the Egg Harbor Nature Reserve and an experienced engineer, assisted with the reserve's project.

"The products look amazing, even better than my high expectations," Vary said in a written statement.

People are always surprised by the level of exploration possible via drone and sensor technology, French said.

"By example, the health of a forest can be assessed by measuring photosynthesis in the near-infrared wavelengths of light," said French.

The SAAP, of which Atlantic and Cape May counties are members, was established through a regional innovation strategies grant from the U.S. Economic Development Administration.

Both the Atlantic County Economic Alliance and the National Institute of Aerospace also actively participate, French said.

"What draws Geomatix to the South Jersey aviation ecosystem is the unique blend and concentration of regulatory, commercial, academic, technical and civic resources," French said.

The actions of the economic development authorities have seeded a unique ecosystem of developers, entrepreneurs, researchers and suppliers that drive technological innovation and collaboration for problem solving here, French said.

There is deep bench strength here within the National Aviation Research and Technology Park, the Cape May Drone Testing Center and the FAA Technical Center at the Atlantic City International Airport, French said.

"From a human resource perspective, we're also seeing a steady pool of talent emerging from Rutgers, Stockton and Rowan universities and Atlantic Cape Community College," French said in a written statement. "There's a strong incentive to locate a regional office here."