ALLIANCE FOR INNOVATION
TLG
TRANSFORMING LOCAL GOVERNMENT

Manatee County's Game of Drones

Manatee County, Florida

#Extensive Internal Collaboration

Population: 386,000

Innovation

> **Criteria:**
>
> - Initiative fundamentally changed a process, product or service (fundamental)
>
> *OR*
>
> - Initiative builds upon existing knowledge to improve a product, process or service (incremental)
> - The initiative substantially stretched the boundaries of ordinary governmental operations.

Describe Your Innovation

(When and how did this innovation get started? Do also detail how the program or policy innovative, how it has changed previous processes, products, or services, and how it has substantially stretched or improved the boundaries of ordinary governmental operations.)

Manatee County, Florida government is making strides with new technology and sustainability efforts. The Energy and Sustainability division, which is a young division, focuses on reducing energy consumption and being more efficient. Our innovation is about the lengthy process to implement the use of Unmanned Aircraft Systems (UAS), better known as drones, within the County. During an inspection by a hired firm to evaluate leakage of air from windows and doorways, a drone with a thermal imagery camera was used for the nine-story Judicial Center. During this same timeframe, the County's videographer photographer was using her personal drone as a hobbyist to capture the beautiful beaches and parks in the area to enhance publicity on our social media site. The County also utilizes Geographic Information Systems (GIS) in creative ways and with the release of ESRI's Drone2Map at the 2015 User Conference, the Energy Manager and the Director of Property Management were convinced this technology would benefit Manatee County. That is when the fun began. From submitting a request for Legal services to explore the idea of implementing a UAS program and through the grueling request for proposal process to select firms that offer UAS-drone services and support, many months had already passed. The next step was submitting a decision unit which is the County's two-year budget process asking for funding for a UAS program. This funding would include the purchase of drones and components, training, and the review of a policy and standard operating procedure. We are now two years later and Manatee County is within weeks of having a policy, insurance, and thirty certified drone pilots. Drones will be used for damage assessments after storms and assist in life saving at our beaches in addition to inspections and the showcasing our gorgeous County.

Collaboration

In less than 200 words, what individuals or groups are considered the primary initiators of your program? How does the innovation engage stakeholders or demonstrate high performance teaming? What strategic partnerships and/or community networks, if any, were developed?

The County is fortunate to have an experienced videographer on staff. Her creativity and outstanding video footage was being seen by most everyone within the County government which led to a high volume of requests for her services. Knowing the value of drones, a UAS standard operating procedure (SOP) committee was formed and is comprised of representatives from the twelve County departments, a County attorney who worked for a state water organization which had an established drone program. The committee has provided valuable insight and information for the creation of a policy and program. Many of the members are in the process of completing their Part 107 drone pilot certification. We knew the process to implement a program would take time, which led to the decision to launch a Request for Proposal process. This resulted in a contract with an exceptional firm who has been providing UAS training and guidance to the County.

If a private consultant was used please describe in detail their involvement, identify the consultant and/or firm and provide contact information. Maintain a 100 word maximum.

Maser Consulting's, Rob Dannenberg is recognized internationally as a forerunner with risk management and policies for the commercial Remote Piloted Aircraft System (RPAS) market. Rob manages Maser's UAS program and recently provided classroom instruction to Manatee County employees who want to become pilots. Rob has also reviewed and edited the draft UAS policy which is now in legal review and he will be returning to conduct flight operations training in the next few weeks.

Significance

Please describe the extent to which you believe your program or policy initiative is potentially replicable within other jurisdictions and why? To your knowledge, have any other jurisdictions or organizations established programs or implemented policies modeled specifically on this project? Please also provide verification of the replication.

There are a few other counties in the United States who have implemented a UAS drone program.

Many or most fall under the management of police or sheriff's departments and are used for emergency response. Manatee County plans to use with ESRI's Drone2Map app which turns raw still imagery from drone footage into professional 2D and 3D imagery products. This desktop app means that affordable imagery is available on demand

for land analysis, infrastructure inspection, and monitoring events such as natural disasters and environmental changes.

Property Management plans to use for inspections of roofs and to observe and track construction projects. Recently, we had a Red Tide event. Tons of dead fish were washing up on our beaches and backing up in canals. The use of drones gave us a clear picture of where we needed to place our clean-up efforts. The Utilities department will use drones for inspecting water treatments plants and water towers. Our IT department will inspect radio towers and the Building and development Services department are the first to go out after a storm to inspect for damages in the community.

Effectiveness

Criteria:

- Initiative addresses a community or organization need.
- Initiative has achieved tangible results.
- Initiative improved the organizational culture or the traditional approach to problem solving.
- Initiative has received recognition for its achievements, i.e. independent evaluation, national recognition, local press, etc.

Please describe the most significant obstacle(s) encountered thus far by your program. How have they been dealt with? Which ones remain?

Implementing a UAS program has not been a quick process and became frustrating at times due to waiting on reviews, funding, quotes from vendors, purchasing, approvals and so forth. We always believed the benefits of drones for use throughout the County would outweigh the risks, but there are definitely risks. Pilot error, inadequate training, damaged property and potential injuries gave risk management concerns. We have since included the risk manager and staff in our training and they are participating on the UAS SOP committee. The Federal Aviation Administration approved the County Attorney's request to apply for a public Certificate of Authorization which will further strengthen the safety of our program. The draft policy states that numerous hours of training must be completed by certified pilots if they are going to fly drones for the County. All pilots will need to submit a mission request prior to flying that will be reviewed and approved by the UAS Program manager and program coordinators.

What outcomes did this program or policy have? Could you share one or two objective measures that demonstrate these outcomes? Ultimately, how did you measure the change based on the intervention, and why do you believe in the credibility of this assessment?

We have already experienced great results using drones in the County. In recent months, a drone flights to inspect crumbling façade on a building, saved us hours and great costs for setting up scaffolding. It took 30 minutes which included the time to get the drone out of the case and assemble. Our beach patrol can locate swimmers that may run into problems with a quick flight. If pulled by current, their location can change quickly. They plan to train their entire lifeguard staff and keep drones stationed on the stands.

Has the program received any press or other media coverage to date? If yes, please list the sources and briefly describe relevant coverage.

The County videographer's drone footage has been used by local news stations. One of the most memorable videos were of Manatees at the beach. It receive millions of FB likes on our County website. Scientists were able to identify seven different species of manatees to use for research on Manatee behavior. Port Manatee uses drone footage for potential clientele and has been featured in their annual report. Many of her photos were featured in the 2018 county calendar "From a Birds Eye View" that was published in bulk and given out to employees and citizens. The Energy Manager's MBA capstone project entitled "Unmanned Aircraft System (UAS) - Drones for Use in Manatee County Government" was selected to be presented at the American Society for Engineering Management's annual conference which is being held in Coeur d'lene, Idaho in October 2018.

Pearce Canal flooding: https://youtu.be/rwFfvin4NmU

The famous mating Manatees on Coquina beach: https://youtu.be/GVMbFXvQGUQ

Symphony on the Sand: https://youtu.be/0moBZGWDYH8

Robinson Preserve Expansion: https://youtu.be/rJ4-FuqIVZQ https://youtu.be/IGgvT5U4F-Y

Ft. Hamer Bridge: https://youtu.be/p3M4_kZN3KQ

Alabama Power (after Irma - staging area): https://youtu.be/DEWOl3jGUH8

Port Manatee: https://youtu.be/yYf8Vf1ED7I

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Presentation

Criteria:
- Presentation will be delivered by a team.
- Presentation will be highly interactive and engaging.

Example Social Media Post

Manatee County is flying into the future with drone technology and how they do business. #UAS #localgovernment #drones #UASustainability #BigPicture #aerialview #UASfuture #certifiedpilots #community #havingfun #dronepilot #dronelikeagirl

Please write an abstract or short description for your innovation that would make conference attendees say "Well, I need to attend this session!"

Manatee County is proving the advantages of using drones for business far outweigh the disadvantages, including the risks. To use drones in your operations, you will quickly see a reduction in costs, time, and you will experience many benefits your organization.

This technology is going to continue to grow. From recovering from natural disasters to promoting tourism, find out the steps and oftentimes roadblocks Manatee County endured during their journey.

How will you make the session creative and unique?- How do you plan to be both entertaining and educational?- Include a description of how your session will facilitate group activities and/or interaction.- What will attendees be able to have as an actionable "takeaway" from the session?

We will show the many benefits of using UAS drones through video footage, photographs and we will do a live demonstration. We will show our produced, comical video "Drones in Government" to kick off the presentation. https://youtu.be/gg8lDe9SBug

We will have a question and answer in addition to meet the pilot and have our fleet of drones on display.

Show and tell of the different drone models.

Links to videos and contact information from others in the industry. We will provide a list of resources and best practices.

Anything else you would like to add?

Taking this journey has not been an easy one, but we have been able to teach others through our experience that this technology can be used to bring incredible results that you never would have imagined.