



Marketing and Communications

MIDDLE TENNESSEE STATE UNIVERSITY

SUDDENLY SOARING

MTSU's Aerospace Department ahead of the curve in launch of Unmanned Aircraft Systems program

**By Allison Gorman
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Earlier this year, Middle Tennessee State University signed a multi-year agreement with Savannah, Tenn.-based ISR Group, for collaborative research on “drones,” or unmanned aircraft systems (UAS). ISR, which conducts flight training and testing for those systems, has provided funding to help the University establish a UAS program.

In doing so, MTSU, and its Department of Aerospace, proved it is once again ahead of the curve in the world of aerospace studies, as the vast commercial applications of these drones are just being developed, says Kyle Snyder, who was recently hired as the university's program director for unmanned aircraft systems.

Military use of UAS, meanwhile, has grown exponentially, notes Tim Owings, deputy project manager for the Army's UAS Program Office in Huntsville, Ala.

“(As of 9/11), we were doing maybe \$150 million worth of work in unmanned aircraft systems; today it's about \$2.5 billion... Just in combat alone, we've flown over 1.2 million flight hours. That is a remarkable tribute to the success that these systems have had,” Owings says.

The University and the Army are forging a one-of-a-kind education partnership: MTSU will provide testing and research of UAS, and the Army will



The partnership between MTSU and the U.S. Army will allow the University to receive three Raven UAV aircraft and two control stations.

supply drone technology to the university's UAS program. MTSU will be receiving three Raven UAV aircraft and two control stations later this fall as part of this agreement. It's the first Army partnership on unmanned studies ever to exist.

LIFT-OFF

While unmanned aircraft systems (UAS) are already big business for the military, the commercial side of UAS is ready for takeoff, too.

More law enforcement agencies are using drones for surveillance, and as technology advances, UAS could be used for search-and-rescue operations or even to monitor crops on large farms.

As such, the launch of the Department of Aerospace Center for Unmanned Systems Operational Advancement and Research (CUSOAR) – announced in concert with the signing of the Army memorandum of understanding -- couldn't have come at a better time.

The mission of the new center will be to provide a collaborative environment for academic, industry, and government entities to advance UAS operations and technology integration through research and development.

"We are in the process of building a center of excellence in unmanned systems technologies," said MTSU Aerospace chair Wayne Dornan. "This agreement is another major step in that direction. To have the Army as a partner in the early development of this whole program is critical. The goal of the next few years will be to build the best UAS research and educational program in the United States."

Those who study UAS at MTSU now will be ready to go into business, selling and operating the systems, just as the commercial market emerges.

The program will benefit the government and Tennessee's economy as well, Snyder says.

FLYING IN TANDEM

The Federal Aviation Administration has seen the UAS trend coming, but it needs solid research to determine how to integrate drones into the national airspace.

ISR Group, specializing in UAS field service operations and training for military applications, wants to tap into the fledgling commercial UAS market, but the FAA currently won't allow drones in the national airspace unless they are used for law enforcement or research.

The multi-year partnership agreement between the Department of Aerospace at MTSU and ISR, signed in February, has something for everyone, Snyder says. The Department of Aerospace gains access to ISR's expertise and facilities, as well as corporate funding to establish a UAS curriculum. ISR

wins an entrée into the commercial market through its research with MTSU. And the FAA captures rare data, because unlike most other universities with UAS programs, which tend to be located near military bases, MTSU is in unrestricted airspace.

"Anybody can fly anywhere they want to in Tennessee," Snyder explains. "That means if we're going to fly UAS in that same space, the FAA knows about it. So any data that we're collecting off those flights is going to be valuable for the FAA to understand space integration, now that we've done it controlled, and we've done it successfully."

SAFE LANDING

In short, the Department of Aerospace at MTSU is uniquely positioned to help develop the commercial and governmental side of UAS. And Snyder, who worked for years in aerospace product development, is uniquely positioned to leverage that experience.

"I can take my knowledge, all those connections, and say, 'Hey, you at John Deere, you're wondering if we can provide an application that tells you when you need to apply nitrogen. Well, we can go do that research. We can fly to MTSU farms and do exactly that.'"

Since his hire, Snyder has been busy building a curriculum along with lucrative business partnerships.

The Department of Aerospace began offering an intro UAS course this fall, he says, and by next fall he expects UAS to become the newest concentration in MTSU's aerospace program.



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