

## **AIRXOS PARTICIPATES IN HISTORIC UNMANNED AIRCRAFT DELIVERY OF ORGAN FOR SUCCESSFUL TRANSPLANT IN MARYLAND**

*Provides flight monitoring for world's first unmanned aircraft delivery of donor organ for transplant surgery in an urban environment*

**BOSTON, MA – April 26, 2019** – AiRXOS, part of GE Aviation, participated in the world's first unmanned aircraft (UA) flight that delivered a donor kidney to surgeons in Baltimore, Maryland for successful transplantation into a patient with kidney failure. The momentous flight was a collaboration between transplant physicians and researchers at the University of Maryland School of Medicine (UMSOM) in Baltimore; aviation and engineering experts at the University of Maryland (UMD); and collaborators at the Living Legacy Foundation of Maryland (The LLF). While organ transport by drone has been previously tested successfully between medical facilities by the University of Maryland UAS Test Site in St. Mary's County, this is the first time the flight operation was used to deliver an organ for transplant.

The unmanned aircraft system (UAS) flight operation was monitored by AiRXOS' Air Mobility™ Platform, a rich, cutting-edge grade framework enabling unmanned traffic management applications, operations and services. The Air Mobility Platform manages the volume, density, and variety of unmanned traffic data, while coordinating and integrating that data within a secure, FAA-compliant, gated cloud environment to ensure safe unmanned operations.

Among the many technological firsts of this effort include: a specially designed, high-tech apparatus for maintaining and monitoring a viable human organ; a custom-built UAS with eight rotors and multiple powertrains to ensure consistently reliable performance, even in the case of a possible component failure; the use of a mesh network radios to control the UAS, monitor aircraft status, and provide communications for the ground crew at multiple locations; and aircraft operating systems that combined best practices from both UAS and organ transport standards.

### **Flight Operation Details**

On Friday, April 19<sup>th</sup>, at approximately 12:30am, a human donor kidney was loaded onto the UMMC drone. The flight, led by the University of Maryland UAS Test Site at St. Mary's County, commenced at 1:00am. The vehicle traveled 2.6 miles (4.3 km) and flew for approximately 10 minutes. The human kidney was successfully delivered to University of Maryland Medical Center (UMMC) and was scheduled to be used for a transplant surgery at 5:00am.

"AiRXOS is honored to have taken part in this landmark moment in medical and aviation history," says Ken Stewart, CEO, AiRXOS. "This flight demonstrated how air mobility can transform the delivery of medical care in ways that can have significant impact on lives. It lays the foundation for future advanced drone operations. AiRXOS is privileged to have worked closely with the UMD team in helping perform this historic flight."

"Having a robust and highly capable partner like AiRXOS teaming with us not only gave us a greater confidence for this particular operation, it really sets the stage for future Unmanned Traffic Management and Beyond Visual Line of Sight research efforts", said Matt Scassero, director of the University of Maryland Unmanned Aircraft System Test Site in St. Mary's County.

Maryland faculty and researchers believe this prototype organ transport blazes a trail for the use of UAS to expand access to donated organs, improving outcomes for more people in need of organ transplants. Currently organs are transported by commercial aircraft or charter flights. Organ transplants have a limited window of cold ischemia time (CIT) in which an organ can be chilled and then have blood supply restored. As of January 2019, almost 114,000 individuals were on the national transplant waiting list and every day approximately 80 people receive organ transplants, according to the United Network for Organ Sharing - the nonprofit that manages the transplant system. For sensitive medical deliveries, reducing the amount of travel time in urban settings, as well as vibration during travel can help lead to better outcomes.

AIRXOS' Air Mobility Platform is a digital infrastructure for unmanned traffic that supports and benefits advanced operations like medical delivery by providing a unique, agnostic, single point of responsibility to manage and connect heterogeneous sets of operations, applications, and devices - giving enterprises the freedom to manage operations & communications, deploy applications and expand operations as air and ground mobility needs evolve.

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### **About AiRXOS**

AiRXOS is making a new way of moving possible. From people, to cargo, to delivery, inspections, and public safety - we're taking on the global challenge of the digital drone economy and changing the future of transportation. AiRXOS, part of GE Aviation, is digitizing today's airspace, infusing next generation air traffic management technology and services with world-class aviation expertise and execution, AiRXOS is shaping a new era of transportation through global, commercial Unmanned Aircraft (UA) solutions. Learn more at: <https://www.airxos.io/>, or follow us on [LinkedIn](#).

### **About the University of Maryland School of Medicine**

Now in its third century, the University of Maryland School of Medicine (UMSOM) was chartered in 1807 as the first public medical school in the United States. It continues today as one of the fastest growing, top-tier biomedical research enterprises in the world—with 43 academic departments, centers, institutes, and programs and a faculty of more than 3,000 physicians, scientists, and allied health professionals, including members of the National Academy of Medicine and the National Academy of Sciences and a distinguished recipient of the Albert E. Lasker Award in Medical Research. With an operating budget of more than \$1 billion, UMSOM works closely in partnership with the University of Maryland Medical Center and Medical System to provide research-intensive, academic, and clinically-based care for more than 1.2 million patients each year. UMSOM faculty, which ranks as the 8th highest among public medical schools in research productivity, is an innovator in translational medicine, with 600 active patents and 24 start-up companies. The School works locally, nationally, and globally, with research and treatment facilities in 36 countries around the world. Visit: [medschool.umaryland.edu](http://medschool.umaryland.edu)

### **About the University of Maryland**

The University of Maryland, College Park is the state's flagship university and one of the nation's preeminent public research universities. A global leader in research, entrepreneurship and

innovation, the university is home to more than 40,000 students, 10,000 faculty and staff, and 280 academic programs. As one of the nation's top producers of Fulbright scholars, its faculty includes two Nobel laureates, three Pulitzer Prize winners and 57 members of the national academies. The institution has a \$1.9 billion operating budget and secures \$514 million annually in external research funding. For more information about the University of Maryland, College Park, visit [www.umd.edu](http://www.umd.edu).

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