CASE STUDY

Disaster Recovery & Response
Intel® Falcon™ 8 drone

Information Captured by Intel® Falcon™ 8 System Helps Reopen a Major Commuter Route into Houston

Intel and the Center for Robot-Assisted Search and Rescue at Texas A&M University highlight cutting-edge drone technology helping to preserve the safety of human lives.

"We believe this is the largest formal deployment by public officials of small unmanned aircraft systems for disaster recovery response in our nation's history"

Lach Mullen, of the Fort Bend County Office of Emergency Management

Intel, in a strategic collaboration with the Center for Robot-Assisted Search and Rescue at Texas A&M University, demonstrates how the power of drone technology can assist in disaster recovery response. The data captured by the Intel® Falcon™ 8 drone was a key input into the decision to reopen a major commuter route into Houston after the devastation of Hurricane Harvey. The Intel Falcon 8 system allowed visual access to hard to reach areas while preserving the safety of human lives.

The Challenge

In September 2017, Hurricane Harvey pummeled Houston, TX with 130mph winds and about 50 inches of rain. This natural disaster lead to the destruction of 40,000 homes, and forced more than 30,000 people into shelters. The hurricane also damaged key infrastructure, such as bridges. The Judge Jodie Stavinoha Bridge in Fort Bend County had been closed due to flooding. It is a major thoroughfare into Houston and because a bridge immediately upstream had been closed due to erosion around its footings officials were concerned about similar issues with the Judge Jodie Stavinoha Bridge as well. Because the river was flowing so fast, it was impossible to use a boat to inspect the damage. The county officials needed to find a solution to inspect the bridge to determine if it was safe to be re-opened to commuters.

The Solution

Intel's work in the commercial drone market focuses on inspection, surveying, and mapping workflows across industries such as oil and gas, construction, and utilities. But the ability of Intel's drone technology to take high resolution camera images in potentially dangerous situations has also become a vital part of disaster recovery efforts. The Intel Falcon 8 drone is a professional unmanned aerial vehicle (UAV) with a patented V-shaped design and features best-in-class safety and advanced performance ideal for infrastructure inspection.

Dr. Robin Murphy, a Texas A&M University professor, had been providing aerial imagery of the flood damage to government officials as part of her Center for Robot-Assisted Search and Rescue at the university. As Hurricane Harvey subsided, Dr. Murphy phoned Intel for additional drone assistance.

The Result

With just 10 feet of clearance and rushing flood waters, experienced drone pilot Jorge Boucas of L.A. Drones piloted the Intel Falcon 8 system to inspect this crucial infrastructure. Because of the magnetic interference protection and its ability to look upward, the Intel Falcon 8 drone was ideally suited for the task. With just a single flight underneath the bridge, Jorge captured 50-75 high resolution images. After the flight, the County Engineer together with other bridge engineers, were able to view the photos retrieved from the drone's SD card. The resolution and the detail that was captured by the Intel Falcon 8 system was of such high quality that officials were able to determine that the bridge was safe and ready to be re-opened to commuters the next day.

Where to Get More Information

For more information on the Intel drones visit:

intel.com/commercialdrones

This product has not been authorized as required by the rules of the Federal Communication Commission. This product is not, and may not, be offered for sale or lease, or sold or leased until authorization is obtained.

[1]Warning: Indoor spaces are a GPS denied environment. Before using the Intel® Falcon™ 8 system indoors, you must isolate it and the Intel Cockpit controller from any other 2.4 GHz Wi-Fi or RF signals because, if you do not, the Intel® Falcon™ 8 drone may lose control. As the ETSI standard EN 300328 requires, this device performs a Clear Channel Assessment and other devices – such as 2.4 Ghz Wi-Fi, Bluetooth, and ZigBee devices - transmitting in the 2.4GHz ISM band in very close proximity to the Intel® Falcon™ 8 system may disturb its control link. Comply with applicable laws.