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## Hughes Demonstrates High Definition Video Over Satellite from Rotary Wing Aircraft

### DoD and industry representatives witness first-of-its-kind transmission over new Inmarsat Global Xpress I-5 F2 Ka-band satellite

MELBOURNE, Fla., July 20, 2015 /PRNewswire/ -- Hughes Network Systems, LLC (HUGHES), the global leader in broadband satellite solutions and services, today announced that its Defense and Intelligence Systems Division (DISD) successfully demonstrated the transmission of real-time, high definition video through helicopter blades with no signal disruption using its unique beyond-line-of-sight (BLoS) technology. Conducted on July 6-8, the testing of the Hughes end-to-end SATCOM solution for airborne platforms was performed on a NorthStar Aviation Bell 407 multi-role helicopter (MRH), and was supported by Boeing, General Dynamics, DataPath, and Northrop Grumman Corporation. The test was the first of its kind in the Ka-band over the Inmarsat-5 (I-5) F2 satellite, part of the Global Xpress constellation.



"High definition video with zero packet loss through rotary blades is a significant new capability for satellite communications," said Rick Lober, vice president and GM, Hughes DISD. "The military and law enforcement personnel employing helicopters for BLoS communication have been limited in the past, but not anymore. This technology opens the door for pervasive use of SATCOM-enabled helicopters over mountainous terrain, open water, natural disasters, or anywhere that line of sight communication means are blocked or out of range."

A new, ruggedized modem was employed during a series of flight tests to assess the capabilities of relaying real-time video from helicopters to ground operatives who could potentially be hundreds or even thousands of miles away from the aircraft. Rotary wing aircraft applications using the novel Hughes waveform technology include intelligence, surveillance and reconnaissance for military use, border security, search and rescue, wildfire response, news gathering and police patrol. Though testing was conducted on the Ka-band over the Inmarsat Global Xpress system via its I-5 F2 satellite, the Hughes solution can transmit across all satellite frequency bands, and may be applied to fixed and rotary wing platforms built by Sikorsky, Boeing, Lockheed Martin, General Atomics and others. Representatives from the DoD, several large aerospace prime contractors and commercial helicopter operators attended various phases of the testing to witness the new Hughes technology.

#### About Hughes Network Systems

Hughes Network Systems, LLC (Hughes) is the global leader in satellite broadband for home and office, delivering innovative solutions and a comprehensive suite of HughesON™ managed services for enterprises and governments worldwide.

HughesNet® is the #1 high-speed satellite Internet service in the marketplace, with offerings to suit every budget. To date, Hughes has shipped more than 4.8 million systems to customers in over 100 countries, representing approximately 50 percent market share. Its products employ global standards approved by the TIA, ETSI and ITU organizations, including IPoS/DVB-S2, RSM-A, and GMR-1.

Headquartered outside Washington, D.C., in Germantown, Maryland, USA, Hughes operates sales and support offices worldwide, and is a wholly owned subsidiary of EchoStar Corporation (NASDAQ: SATS), a premier global provider of satellite operations and digital TV solutions. For additional information about Hughes, please visit [www.hughes.com](http://www.hughes.com).

#### **About EchoStar**

EchoStar Corporation (NASDAQ: SATS) is a premier global provider of satellite and video delivery solutions. Headquartered in Englewood, Colo., and conducting business around the globe, EchoStar is a pioneer in secure communications technologies through its EchoStar Satellite Services, EchoStar Technologies Corporation and Hughes Network Systems business segments.

#### **About Inmarsat Global Xpress**

Global Xpress will be the first high-throughput wideband network to span the world. Built purposely with additional capabilities specific to government and military users, Global Xpress seamlessly complements MILSATCOM Ka-band networks, allowing governments to cost-effectively augment their systems when needed, without any up-front financial commitment. Designed for worldwide mobility, Global Xpress is a flexible communication solution that enables consistent, seamless wideband connection and dual Ka/L-band resiliency, wherever and whenever needed.

For more information, visit [echostar.com](http://echostar.com). Follow [@EchoStar](https://twitter.com/EchoStar) on Twitter.

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