



## National Reconnaissance Office Release

**FOR IMMEDIATE RELEASE**  
**Contact: (703) 808-5050**

**Release #06-19**  
**November 2, 2019**

### **NRO launches two IMPACT small satellites as rideshare on NG-12**

Two National Reconnaissance Office (NRO) research and development CubeSats were successfully launched via rideshare aboard an Antares rocket as part of the Northrop Grumman-12 (NG-12) Cygnus cargo resupply mission from NASA Wallops Space Flight Facility, Wallops Island, Virginia, Nov. 2, 2019.

Led by NRO's Advanced Systems and Technology (AS&T) directorate, the two CubeSats are part of the NRO's IMPACT project – a research and development effort to provide early evaluation of new technologies in space.

Manifested as AeroCube 14, the two 3U IMPACT CubeSats<sup>1</sup> launched Saturday use the Aerospace Corporation's AeroCube for unique bus and integration support and host 14 technology demonstrations ranging from new materials, such as structural materials and thermal straps, to solar cells, star tracker experiments and on-board processors.

The CubeSats will first travel to the International Space Station (ISS) as part of the cargo resupply and will deploy in about two months from the ISS to their final orbit.

"With IMPACT, our goal is to take the pioneering research areas we're exploring and test their survivability and performance in space," said Dr. Susan Durham, Director, AS&T.

To assist with the NRO's research and development goal of rapid technology infusion, the IMPACT program offers a regular launch cadence for technology demonstrations; provides an adaptable bus that enables easy onboarding and off-boarding of those technologies, and serves as the front end of the technology for NRO future capabilities.

Four of the experiments launched today are also part of NRO's new Greenlighting program, which leverages and evaluates the performance and space survivability of new technologies developed by non-traditional commercial partners in a streamlined fashion on a rapid timeline.



The unclassified Greenlighting program focuses on technology development, not satellite development, by giving vendors supporting NRO’s mission goals the ability to focus on maturation of technologies without having to worry about the logistics of getting to space.

By using a standard circuit board interface on which to host small module technology experiments, the Greenlighting program drives miniaturization of technologies and keeps costs low — all while giving these projects access to space testing that might not be available through traditional means.

“The launch of our IMPACT CubeSats along with our new Greenlighting program represents the best of NRO’s collaboration with our commercial research and launch partners, and we’re excited to see how these efforts will help the NRO push the boundaries of our future capabilities,” Durham said.

-NRO-

The NRO is the Intelligence Community element and Department of Defense agency responsible for developing, acquiring, launching, and operating America’s intelligence satellites to meet the national security needs of our nation.

<sup>1</sup> CubeSats are often measured in “units,” denoted as a “U,” enabling a standard form factor ranging from 1U to 6U in size. A 1U CubeSat measures 10 centimeters x 10 centimeters x 10 centimeters; thus, IMPACT’s 3U CubeSats are 30 centimeters x 10 cm x 10 cm, or roughly the size of a loaf of bread.