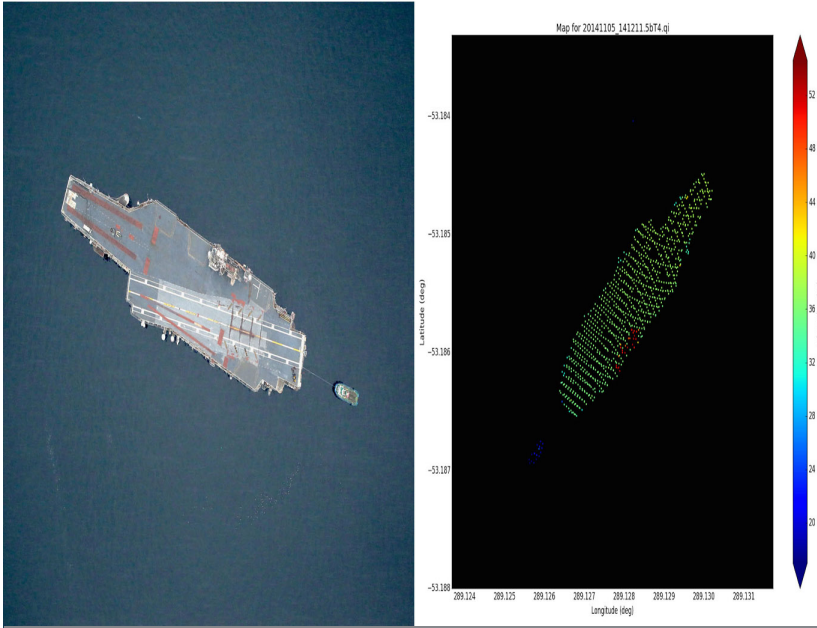


## TECHNOLOGY SOLUTION

### Optics



## Kodiak 3D Lidar

Provides low cost and highly reliable 3D lidar images in nearly any lighting condition.

High orbit satellite servicing and planetary science missions are presented with unique challenges, including a harsh environment and long mission life, coupled with the need for long range and high speed and accurate measurements. Conventional systems suffer from high costs of bringing other solutions to market and questionable reliability.

### BENEFITS

- Lower cost
- Higher performance and reliability
- Reconfigurable
- Low SWaP
- Capable of generating 3D imaging in nearly any lighting condition from long ranges



## THE TECHNOLOGY

NASA Goddard Space Flight Center has developed a 3D lidar system that consists of microelectromechanical systems (MEMS) beam steering, high performance reconfigurable computing, and an in-depth understanding of systems level integration. Kodiak combines a 3D MEMS scanning lidar with a long range narrow FOV telescope to produce a flexible and capable space flight ranging system. Also included is SpaceCube-level processing power to host a variety of algorithms enabling sensing and 6 degrees of freedom.

## APPLICATIONS

The technology has several potential applications:

- Space detection and ranging
- Proximity laser ranging
- Autonomous vehicles

## PUBLICATIONS

Patent Pending

## More Information

National Aeronautics and Space Administration

**Agency Licensing Concierge**

**Goddard Space Flight Center**

Code 102

Greenbelt, MD 20771

202-358-7432

Agency-Patent-Licensing@mail.nasa.gov

**www.nasa.gov**

FS-2019-11-435--GSFC

[technology.nasa.gov](https://technology.nasa.gov)

NASA's Technology Transfer Program pursues the widest possible applications of agency technology to benefit US citizens. Through partnerships and licensing agreements with industry, the program ensures that NASA's investments in pioneering research find secondary uses that benefit the economy, create jobs, and improve quality of life.

GSC-18054-1, GSC-TOPS-212