

## INNOVATION = ENABLING A UNIQUE TECHNOLOGY TO TAKE FLIGHT

### INNOVATION AT A GLANCE

**Client:**

Coherent Technologies  
(now Lockheed Martin)

**Industry:**

Aerospace

**Syncroness services:**

- » Systems integration
- » Optical packaging
- » Thermal and vibration analysis
- » Chassis production
- » Validation

**Objectives:**

- » Develop an airborne LIDAR system for the detection of gas leaks.
- » Meet stringent requirements for mitigating high vibration and thermally aggressive environments for a sensitive optical system.



Our client developed a unique light detection and ranging (LIDAR) technology in their lab and intended to have it work in the real world. Syncroness was brought in to package the technology into a system that could be placed aboard a plane.

### RESULTS

The system met all stated requirements and is currently in operation in aircraft.

### TAMING A HOSTILE ENVIRONMENT

The optics, crystals, and laser required to make the LIDAR technology work were highly sensitive to vibration and thermal influences. Our engineers worked closely with the client's electrical engineers, and optics and laser experts to evaluate designs for the chassis that would hold the

device. Through our thermal and vibration analysis, we identified ways to reduce the footprint and weight of the final device, and most importantly, successfully mitigate the high vibration and thermally aggressive environment in which the device would operate.

**LET'S KEEP INNOVATING.**