When developing sensors and other intelligence, surveillance, and reconnaissance payloads for small manned or unmanned aircraft, surrogate platforms are often necessary to facilitate and accelerate flight testing. The Space Dynamics Laboratory (SDL) is uniquely equipped to provide this type of flight test support, having both manned and unmanned aircraft assets, as well as support facilities and ready access to several test range sites. SDL offers a full array of flight test resources and services—including aircraft pilots, operators, sensor integration, and FAA certification—at reasonable hourly rates.

**AIRCRAFT ASSETS**
SDL’s aircraft can be configured to support various power, processing, and communications requirements, including tactical data links.

**Dakota Unmanned Aircraft**
- Payload capability of up to 65 lbs & 360 W
- Large internal volume
- 2 wing mounts, a belly mount & sky-looking antenna mounts
- GPS/INS available

**2 Cessna SkyMaster 337 Manned Aircraft**
- Payload capability of up to 450 lbs & 2 kW
- 22 U of rack space
- Versatile mounts for sensor installation: 4 wing hardpoints & underbelly mounts
- Inline twin engines for stable flight
- GPS/INS available

**TEST RANGE ACCESS**
SDL is located in close proximity to multiple testing environments.

- Logan, Utah – civilian airspace: valley, mountains, urban, riverine
- Utah Test & Training Range (UTTR) – Air Force-controlled airspace: high desert & mountain
- Dugway Proving Grounds (DPG) – Army & Air Force-controlled airspace: high desert & mountain
- Close proximity to controlled airspace owned by Idaho National Laboratories (INL)

**SUPPORT FACILITIES**
SDL has the facilities necessary to support both integration activities and flight test operations.

- Secure, environmentally controlled 80’ x 70’ (5,600 ft²) hangar at the Logan-Cache Airport (LGU)
- 20’ field support trailer with tow vehicle
- Laboratory located 5 min from the airport; facilities include a machine shop, electronics assembly labs, calibration equipment & clean rooms
SDL FLIGHT TESTING SERVICE CENTER PROGRAMS

• Deployable Unmanned Aerial Vehicle (UAV) System for Targeting Exploitation & Reconnaissance (DUSTER)
  - Multi-UAV testing program for the Naval Research Laboratory
  - Continuous flight testing between 2004-2007

• Fusion, Exploitation, Algorithm, Targeting High-Altitude Reconnaissance (FEATHAR)
  - Cooperative UAV platform & sensors testing for the Office of Naval Research
  - Continuous flight testing between 2008-2011

• Real-time Autonomous Synthetic Aperture Radar (RASAR)
  - SAR sensor designed for unmanned operation aboard the Shadow-200 UAV
  - Currently in active flight testing

• EyePod Visible & Infrared Imager
  - Autonomous sensor designed for operation aboard the Shadow-200 UAV
  - Successfully flight tested in 2006 & still in active operation

• Naval Research Laboratory optical comms payload
  - Successful flight tested aboard the Dakota UAV in March 2008 at Dugway

• Testing or integration experience on other UAV platforms
  - TERN, Tiger Shark, Dragon Warrior, Raven, Dragon Eye

UAV ASSET

• Dakota UAV, manufactured by L3/Geneva Aerospace
  - Wing span: 16 ft
  - Ceiling: 15,000 ft
  - Endurance: 6 hrs
  - Range: 500 NMI
  - Payloads up to 65 lbs & 360 W
  - FlightTEK avionics package for unmanned operation

• Mobile launch & recovery laboratory for remote operation

• Mini-CDL data links for up to 45 Mbit/sec operation, manufactured by L3

• GPS/INS systems for supporting a wide variety of missions

• 2 surrogate-manned UAV platforms
  - SDL is flying unmanned platforms or sensors hundreds of hours each year for a variety of DoD & homeland customers