Leveraging 50 years of sensor-design experience, the Composites Laboratory at SDL provides full life-cycle composite design and production services. Our highly-skilled team has experience creating a variety of composite structures and precision components for terrestrial, aerial, and space-based applications, using both pre-preg and wet layups.

SPECIFICATIONS

DESIGN CAPABILITIES
- **Engineering Analysis**: Analyze and verify composite design and performance.
- **Three-Dimensional Modeling**: Model and verify geometry prior to production.

TEST CAPABILITIES
- **Micrograph Imaging/Ply Verification**: Verify fiber directions and layer alignment.
- **Vibration Testing**: Verify robustness under cyclical loads such as those encountered during launch.
- **Cryogenic Testing**: Verify robustness with extreme changes in temperature.
- **Acid Digestion Testing**: Verify fiber to resin ratio.

MANUFACTURING CAPABILITIES
- **Pre-Preg Layup**: Fabric is pre-impregnated with resin by the manufacturer. Required for space-rated composites.
- **Wet Layup**: Resin system is applied to tooling with each layer of fabric.
- **Precision Machining Bonding**: Adhere composites to other materials.
- **Painting/Coating**: Apply protective/aesthetic coatings to parts.
- **Labeling**: Apply identification numbers/labels to parts.
- **Part Documentation/Traceability**: Verify materials and manufacturing procedures for parts and assemblies.

FACILITIES
- **Cutting and Layup Clean Tents**: HEPA-filtered, forced-air ventilation, prevent contamination and inclusions.
- **Autoclave**: Heat and compact parts during cure cycle.
- **Dimensions**: 4 ft. X 16 ft. of usable space
- **Max Temperature**: 400°F
- **Max Pressure**: 100 PSIG
- **Vacuum**: 380 mmHG

PAST PROJECTS
- UAV Airframe Components
- Structural and Precision Components for Satellite Applications
- Custom Shrouds for Terrestrial and Aerial Applications