

Full-scale composite solutions from planning to final product

Calian specializes in the design, engineering and production of high-precision large format composite products.

Our designs are rustproof, corrosion-resistant, durable and have a high strength-to-weight ratio. We can support your projects at any point in their lifecycle, whether you require a brand-new design or just need a reliable manufacturing partner of existing components.

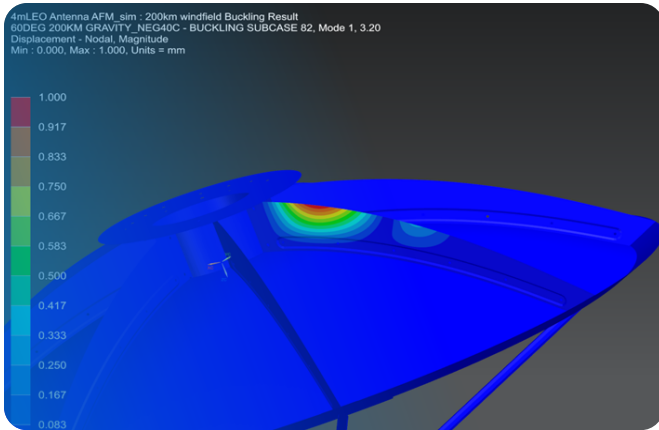
Engineering

Embracing the use of industry-leading CAD, FEA, metrology and other precision equipment, our team elevates and advances your products by designing components to meet any and all requirements. Calian's selection of efficient and repeatable manufacturing processes allows us to meet your schedule and quality expectations consistently.

Component design

- Industry-leading engineering modelling and simulation package
- FEA of composite structures
- Static, dynamic, buckling, modal and thermal analysis of components and structures
- Engineering designs to various industry standards and regulations





Verification, validation, and material testing

- Test programs to verify the performance of your solution, including the creation of custom testing apparatus and analyses
- Two-sided composite layup and infusion table for analyzing resin flow
- Non-destructive testing (NDT) via ultrasound equipment
- Viscosity, mass and adhesion test equipment
- Environmental chamber

Jig and tooling design

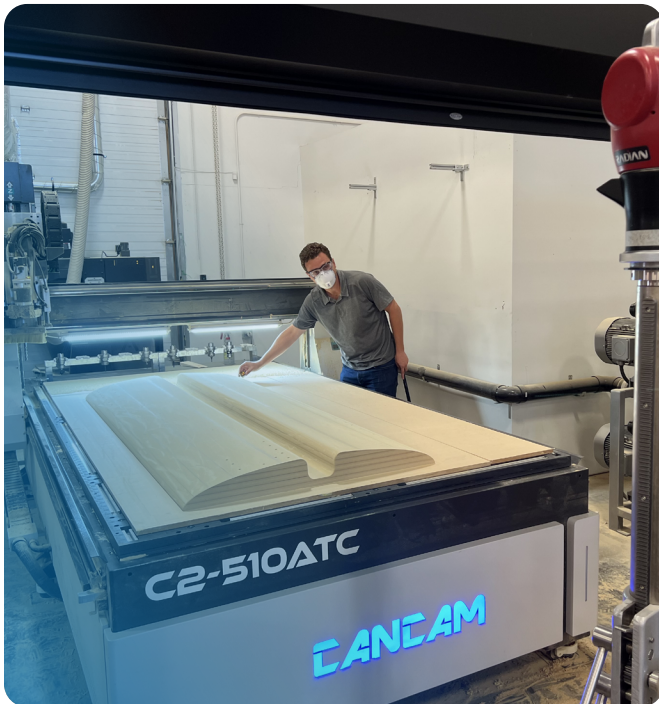
- Custom tooling design including molds, jigs and fixtures
- Tooling material selection for various manufacturing processes

Metrology services

- FARO and API Laser tracker, FARO arm
- Inspection of manufactured components to meet quality standards
- Reverse engineering and component inspection reporting

Manufacturing engineering

- Identification of manufacturing processes to meet requirements
- Production line optimization
- Tailored quality inspections and reporting



Manufacturing

Our Saskatoon-based facility boasts over 3,158 m² (34,000 ft²) of manufacturing space, designed to produce a broad spectrum of composite products from a variety of materials. We excel in molding intricate geometries and maintaining tight tolerances, all within a single manufacturing process.

Composites processing

- Wet lamination
- Vacuum infusion (disposable & silicone)
- Resin Transfer Molding (RTM)
- Out of autoclave pre-preg
- Cutting and kitting services
- Painting and gel coating

Molds, jigs and fixtures

- Positioning, clamping and bonding fixtures
- Trimming and drilling guides
- Material handling assemblies
- Custom plug and mold manufacturing

Equipment

- 5-ton and 1-ton overhead cranes
- 4-axis CNC Router
- Two large paint booths up to 20' x 30' x 10'
- Two batch ovens of varying size and temperatures (up to 340°C)
- Automated cutting machine for foams, fabrics and semi-rigid sheet goods



Component fabrication and product assembly

- Ability to meet customer tolerances as tight as 25µm
- Bonding of sub-assemblies up to and surpassing 30'
- Integration of hardware and electrical components
- In-laminate heating and sensing for de-icing applications
- Rapid prototyping for quick turnaround projects

Connect with us to learn about Calian.

Email us at composites@calian.com or visit calian.com/composites.



For over 40 years, Calian has delivered mission-critical solutions when failure is not an option. Trusted worldwide, we empower organizations in critical industries to overcome obstacles, manage risks and drive progress. By combining the expertise of our people, proven industry insight, cutting-edge technology, bold innovation and global reach, we deliver tailored solutions that solve complex challenges. Headquartered in Ottawa, Canada, with over 6,000 people around the world, Calian's solutions protect lives, strengthen security, foster global connectivity and drive economic progress, making a lasting impact where and when it matters most.