

# Calian, Advanced Technologies Defence solutions

With our roots in Canada, we deliver complex aerospace and defence solutions around the globe. We are proud to be a trusted partner when failure is not an option.



## Overview

- Canadian-owned company
- Advanced Technologies HQ located in Saskatoon (corporate HQ in Ottawa)
- \$659M Calian revenues: more than 60% in the defence sector
- Workforce of 4,400
- More than \$60M in exports
- 200,000+ military personnel trained
- 2,000+ medical professionals delivering care at 37 bases/locations
- Strong integration with small/medium enterprises (SMEs)
- Experienced VP/ITB partner
- Expertise in sought-after key industrial capabilities (KICs), such as cybersecurity and advanced materials
- Corporate-wide Indigenous engagement policy



## Calian corporate overview

Calian is a strong and diverse company that helps the world communicate, innovate, learn and lead safe and healthy lives.

Calian, **Advanced Technologies** is a global supplier of highly technical solutions, services and products:

- Satellite communication ground systems
- Gateways and planning
- Communication products
- Aerospace and defence solutions
- Engineering and technical services
- Nuclear consulting
- Agriculture technology
- Composites engineering and manufacturing

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Calian **Health** is committed to delivering the highest quality healthcare and multidisciplinary health services:

- Health services for military personnel
- Psychological services
- Digital health technologies
- Training for military health services

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Calian's **military training and simulation** solutions provide a full suite of customized training:

- Synthetic training environments
- Tactical network integration
- Exercise design, development and delivery
- Immersive training technologies
- Specialized military leadership and occupational trades training
- Domestic disaster management

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Calian's **cyber defence** solutions deliver value to many of the nation's top companies and federal and provincial governments through our highly tailored approach:

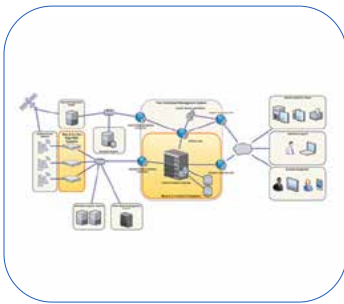
- Cyber threat/risk assessment
- Monitoring and incident response
- Training and preparedness
- Cyber consultants
- RF emissions security





## More about Calian, Advanced Technologies

- We maintain a 125,000-sq-ft facility with the majority of staff cleared to Secret level
- Facility includes our engineering, test and integration, manufacturing and supply chain management teams
- Canadian Controlled Goods Program registered and experienced in program execution with ITAR requirements
- Registered to ISO 9001:2015
- Adheres to IPC-A-610 class 3, J-STD-001, IPC-7711, IPC-7721, and IPC/WHMA-A-620 manufacturing standards
- Extensive expertise across multiple engineering disciplines
- Comprehensive custom/contract manufacturer with full SMT capability
- Research and development in advanced materials
- Strong project management process
- Valuable ITB and value proposition partner
- Successfully executing projects for commercial, government and defence customers



## Engineering and development capabilities

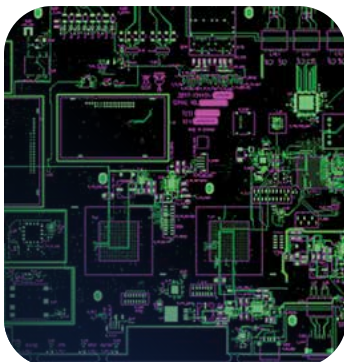
### Systems engineering

- Senior engineering resources with hardware and software backgrounds
- Proficient at both system- and product-level design including use case development, requirements analysis/development
- Product- and system-level integration and test, system verification and qualification



### Software design and development

- More than 30 years of experience designing and developing custom software systems
- Leverage our extensive satellite network communications domain expertise to solve complex problems creatively
- Agile software development processes with dedicated and focused software teams
- Customer engagement throughout lifecycle with automation in all phases, including test and development



### Hardware design and development

- Embedded systems and software
- Custom test and measurement equipment
- FPGAs and programmable logic development
- High-speed digital signal processing and software-designed radio
- Mixed signal circuit card design
- Drawing office, 3D CAD design
- Compliance testing for EMC, radiated emissions, thermal and vibration/shock

## Automated test systems

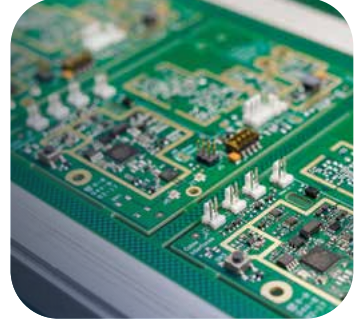
- Calian has the expertise to design and manufacture custom automated test systems providing extensive test coverage for a wide range of digital, RF and analog products.
- Our test solutions are designed to validate your test requirements, streamline your testing, increase reliability, speed time to market and ultimately save you money.



## Manufacturing capabilities

### Circuit Card Assemblies (CCAs)

- Calian specializes in low- to medium-rate production of CCAs, simple through complex.
- We have a state-of-the-art SMT assembly line with capabilities including laser marking of PWBs, automated solder paste inspection, 3D automated optical inspection (AOI), and off-line 3D x-ray inspection.



### Harness and cable assembly

- Calian designs, manufactures and tests many varieties of cable and harness assemblies, simple through complex.
- We are a proven supplier who can meet strict quality and E3 requirements cost-effectively.



### Product assembly and test

- Whether it is a mobile satellite communications ground station, one of our vetronics products, a carbon fibre antenna or a custom E3 certified harness assembly, Calian product assembly processes and procedures ensure the highest level of quality.
- Our teams adhere to IPC-A-610 class 3, J-STD-001, IPC-7711, IPC-7721, and IPC/WHMA-A-620 manufacturing standards.



### Product support

- Calian specializes in long-term customer relationships, and many of our customers have been with us for decades.
- Calian has a dedicated customer service/product support team which includes on-site repair and technical support, third-line repair and overhaul (R&O) services, custom refurbishment programs and obsolescence management.



# Vetronics manufacturing excellence

Calian designs, manufactures and tests vetronics products that are in use across a variety of combat platforms, combat networks and security and surveillance applications.



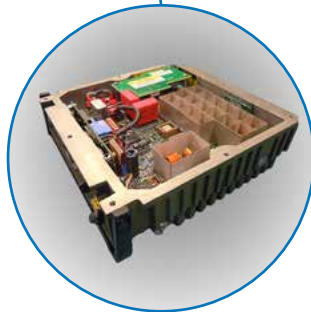
Fire suppression systems



Power control modules



Vetronics control units



High- power VHF radio amplifiers



MSTAR radar systems

## Our innovations in satellite communications

### Ground station technology

- Turnkey supplier of satellite ground stations, including antennas, RF equipment and network monitor and control software
- Draws on decades of RF systems experience, having implemented hundreds of systems globally including Canada's far north
- Applications in satcom, Earth observation, deep space, for commercial clients and space agencies
- Industry first to deliver commercial Q/V-Band (>50 GHz) ground stations for satcom
- Creates and implements state-of-the-art antenna systems for radio astronomy, radar, electronic warfare, deep space and satellite communications
- Calian provided all three 35m antennas that make up the European Space Agency's Deep Space Network. These are used for a variety of ESA interplanetary missions, including Bepi Colombo, Rosetta, Mars Express, Venus Express, Euclid and others.
- Calian is the incumbent provider of the new generation VLBI antenna systems for the NASA VLBI Global Observing System (VGOS).



### Calian composites

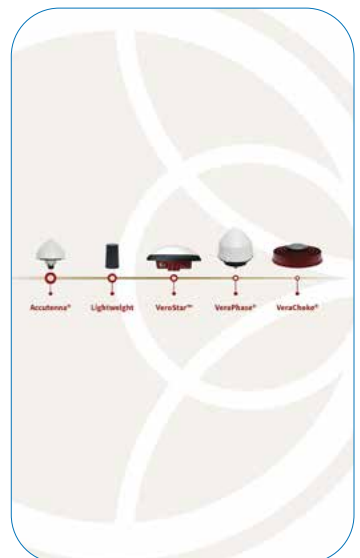
- Calian offers composites-specific engineering, metrology and project planning services, right through to full component prototyping with final products and assemblies
- Specializes in the design and production of high-precision carbon epoxy antenna structures, defence products and other commercial solutions
- Uses industry-leading engineering modelling and simulation tools for efficient and precise product development
- In-house infused carbon epoxy tooling with rapid prototyping and reverse engineering capabilities
- Produced the world's first composite 10m antenna



## Our innovations in antenna products

### GNSS antennas

- The most extensive range of GNSS and Iridium antennas in the world, three of which are patented
- Manufacture the most accurate choke ring antenna on the market today, the VeraChoke
- Develop products for the automotive industry, the defence industry, robotics industry, rail and the UAV markets
- Focus heavily on R&D and the development of world-class products



## Calian value proposition

The Calian team has proven experience with Canada's Industrial & Technological Benefits (ITB) Policy requirements, making it a valuable strategic partner for its defence clients. We deliver every time on offset commitments, providing high Canadian content value (CCV) and wide-reaching small- and medium-size business engagement.

In addition, Calian makes considerable investments in product research and development, internally and with industry partners and academia—activities that clearly align with Canada's key industrial capabilities (KICs).

With a published Indigenous engagement policy, Calian sets out the framework and guidelines for all Calian business activities, including interactions with Indigenous partners and suppliers, engagement with existing and potential employers, and engagement with Indigenous communities.

Calian is wholly committed to meeting—even exceeding—the five per cent Indigenous participation requirement on all Federal contracts.



 Installations

 Office Locations

- Saskatoon (Headquarters)
- Regina
- Kanata
- Vaudreuil-Dorion
- Steisslingen, Germany
- St. Hubert
- Oahu, Hawaii



We are a global organization with products installed and deployed worldwide



Learn more at:  
[www.calian.com/defence/](http://www.calian.com/defence/)



Calian® helps people communicate, innovate, learn and lead safe and healthy lives. Every day, our team embodies our core principles of unwavering customer commitment, integrity, innovation and teamwork, to engineer reliable solutions that solve complex problems. That's Confidence. Engineered.

We are a growing company headquartered in Ottawa with offices and projects spanning North American, European and international markets with a focus on innovative healthcare, communications, learning and cybersecurity solutions.