

The Doorway

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A DEEP DIVE: TGC-FRANCE



ANTIMICROBIAL TREATED

Based in southwestern France, TGC-France (formerly Alcore Brigantem™) combines a sophisticated in-house design office with precision 5-axis CNC machining and advanced 6-axis robotics. Operating out of 148,542 ft² (13,800 m²) of state-of-the-art workshops and office space, our facility includes a dedicated Contamination Control Area (CCA) that ensures the strict cleanliness standards required for high-conformance, advanced composite products. Our skilled team provides an extensive range of specialized core processing services, backed by our key competitive advantage: engineering independence. By keeping all design, toolmaking, and machining in-house, we eliminate reliance on third-party vendors. This complete control under one roof allows us to avoid supplier delays, adapt instantly to evolving design changes, and maintain strict quality control, ultimately delivering faster turnarounds, lower development costs, and uncompromised precision on complex customer projects.

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- A collage of nine hexagonal images arranged in a circular pattern, showcasing various industrial manufacturing processes. The images include: a close-up of a multi-spindle CNC lathe machining a metal part; a worker in a white lab coat operating a large industrial machine; a worker in a grey shirt and safety glasses working on a curved metal component; a close-up of a CNC machine's cutting tool removing material from a workpiece; a close-up of a worker's hands using a tool on a textured surface; a close-up of a CNC machine's cutting tool machining a metal part; a worker in a white lab coat operating a large industrial machine; a close-up of a CNC machine's cutting tool machining a metal part; and a close-up of a CNC machine's cutting tool machining a metal part. The background is a light blue and white geometric pattern.



MAJOR PROGRAM SUPPORT

TGC-France remains a preferred Tier 1 partner for Europe’s most prestigious industrial programs, tailoring high-conformance, “ready-to-bond” solutions that can be delivered directly to assembly lines.

Dassault Aviation (Falcon Family): TGC-France manufactures high-precision, 3D-curved metallic honeycomb components for the Falcon 6X and 8X business jet platforms. Utilizing advanced multi-axis robotics, the facility sculpts complex, deep-contoured geometries with tight-tolerance accuracy. This ensures optimal balance of low weight and high strength, allowing the landing gear doors and fairings to handle high aerodynamic stress during flight.

Safran Nacelles: TGC-France supplies acoustic and structural engine nacelle components for the Airbus A320neo. Built to exact tolerances for high-vibration and extreme-heat environments, these ready-to-install metallic details eliminate on-site trimming and shimming, reducing labor hours and speeding up customer assembly lines.

ArianeGroup: Supporting Europe’s premier heavy-lift space launch vehicles, the facility delivers specialized structural core details for the Ariane rocket program. TGC-France fabricates core structures engineered to withstand extreme cryogenic temperatures and intense acoustic launch vibrations.

Alstom (TGV High-Speed Rail): In the rail sector, TGC-France manufactures heavy-duty aluminum honeycomb impact absorbers designed to protect TGV high-speed train passengers. Powered by our proprietary ALPHEX™ core, our multi-layer bonding process permanently fuses specialized materials under extreme heat and pressure. This tailored bonding prevents layers from peeling apart, allowing the honeycomb to crush in a predictable, uniform pattern that safely absorbs the high forces generated during a crash.

ADVANCED PRODUCT PORTFOLIO

To support these demanding applications, TGC-France maintains a diverse portfolio of core products engineered for specific environmental and structural challenges.

Product	Description	Key Benefits	Typical Applications
ALPHEX™	Commercial-grade metallic honeycomb core manufactured from corrosion-resistant aluminum alloy, optimized for non-flight applications.	• Exceptional strength-to-weight ratio in cost-sensitive projects. • Excellent moisture and environmental degradation resistance. • Highly adaptable to standard sandwich panel cold-forming and bonding.	High-speed railway interiors, marine bulkheads, architectural wall panels, and commercial transit sub-flooring.
DURA-CORE®	Premium aerospace-grade aluminum honeycomb core treated with a specialized chemical conversion coating for enhanced environmental protection.	• Superior node-bond flexibility prevents splitting during tight-radius forming. • Proven 30-day salt-fog corrosion resistance (ASTM B-117 / AMS-C-7438). • Provides a high-integrity substrate for structural adhesive bonding.	Lightweight aircraft primary and secondary flight structures, military enclosures, and secondary control surfaces.
PAA-CORE®	Industry-standard metallic honeycomb core treated via a proprietary Phosphoric Acid Anodization (PAA) process.	• Outstanding corrosion resistance in hot/wet environments (AMS-C-7438). • Maximizes long-term bond durability when paired with carbon-fiber or metallic skins. • Prevents galvanic corrosion at the core-to-skin interface.	Commercial aircraft engine nacelles, thrust reverser translating sleeves, trailing edges, and high-performance military flight surfaces.
HIGRID®	An ultra-high-density metallic honeycomb core, engineered from multi-layer bonded corrugated foil for extreme load-bearing performance.	• Exceptional compressive and uniform crush strength. • Serves as an excellent rigid structural insert. • High energy-absorption efficiency during impact events.	Localized fastener reinforcement zones, structural edge closures, composite panel joints, and crashworthy structures.
TRUSSGRID®	Revolutionary three-dimensional cross-laminated corrugated aluminum structure that eliminates traditional hexagonal cell walls.	• Provides true isotropic strength with multidirectional mechanical stability. • Outstanding uniform energy absorption upon impact. • Allows for omnidirectional fluid or gas venting if required.	High-velocity kinetic impact absorbers, military vehicle blast mitigation panels, and specialized aerospace crush zones.

Train Energy Absorber

Business Jet Machined Part

Highway Safety Barrier

Special Processed Core for Engine Nacelles Structure

Aircraft Crash Pad Assembly

QUALITY, CERTIFICATION & TESTING

At TGC-France, quality is built into every step. Our European hub holds Nadcap certifications for Quality Systems and Core Processing, alongside EN 9100 compliance and AMS-C-7438 standards for chrome-free foil surface treatments, ensuring comprehensive validation for every component.

Seamlessly integrated with TGC-Maryland and our global Centers of Excellence, TGC pairs regional engineering expertise with international manufacturing scale. From raw metallic cores to finished, mission-critical assemblies, we deliver the complex, lightweight, and contoured composite structures required by today’s aerospace, defense, and transit sectors.



5-Axis CNC Machining



Inspection



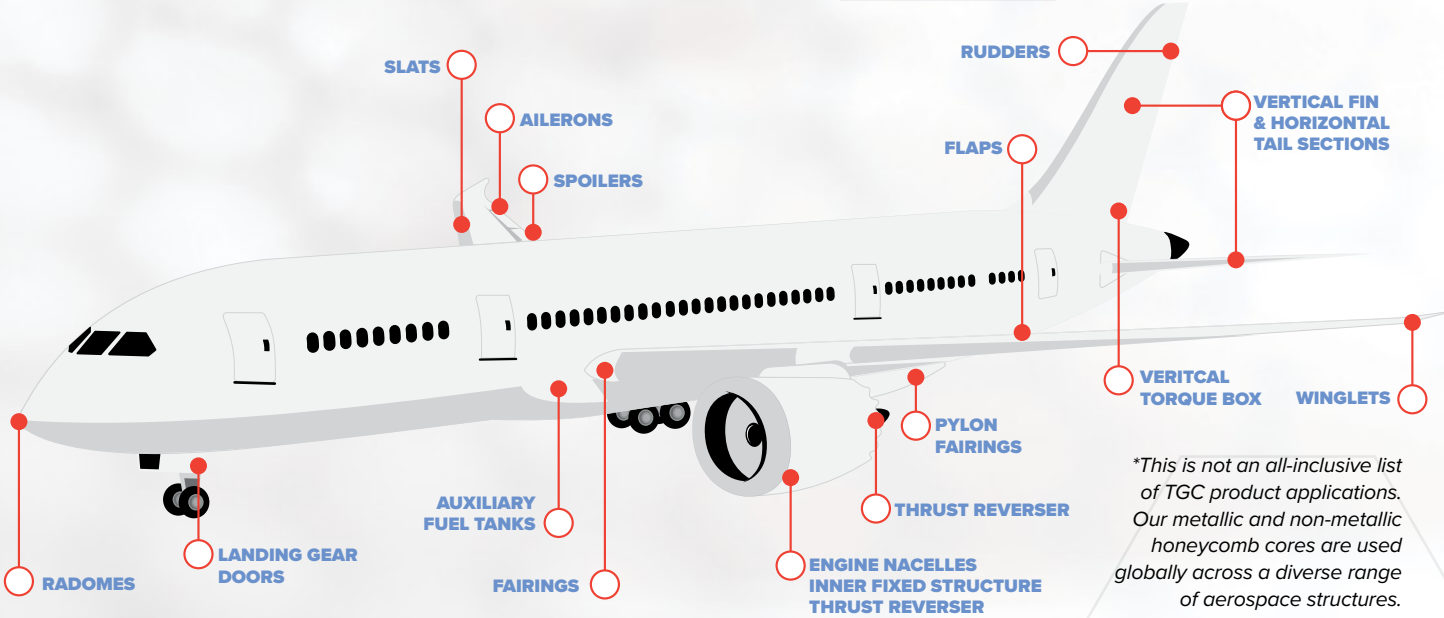
5-Axis machined core inspected in customer frame

Original Equipment Manufacturer	Specification	Product
Airbus	AIMS 11-02-001	Dura-Core® Aluminum Honeycomb - 5052 Alloy
Airbus	AIMS 11-02-002	Dura-Core® Aluminum Honeycomb - 5056 Alloy
Airbus Helicopters	ECS2449-A	Dura-Core® or PAA Aluminum Honeycomb - 5056 Alloy
Airbus Helicopters	ECS2447-A	Dura-Core® or PAA Aluminum Honeycomb - 5056 Alloy
Airbus Helicopters	ECS2451-A	Dura-Core® or PAA Aluminum Honeycomb - 5056 Alloy
Airbus Helicopters	ECS2450-A	Dura-Core® or PAA Aluminum Honeycomb - 5056 Alloy
Airbus Helicopters	ECS2448-A	Dura-Core® or PAA Aluminum Honeycomb - 5056 Alloy
Bell Textron	299-947-059	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Boeing	BMS 4-4	Dura-Core® or PAA Aluminum Honeycomb - 5052 Alloy
Boeing	BMS 4-25	PAA Aluminum Honeycomb - 5056 Alloy
Boeing St. Louis	MMS701, 714, 728	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
COMAC	CMS-CP-401	PAA Aluminum Honeycomb - 5052 Alloy
Decrane/Pats	PS-028	Dura-Core® Aluminum Honeycomb - 5052 Alloy
General Dynamics	P190	Dura-Core® Aluminum Honeycomb - 5052 Alloy
Goodrich	RMS026	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Hispano Suiza	BLGG 500601	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Hispano Suiza	BLGG 500801	PAA Aluminum Honeycomb - 5052 Alloy
Leonardo	MMS8010	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Lockheed	FMS 3010	Dura-Core® Aluminum Honeycomb - 5052 Alloy
Lockheed	STM Y1071	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Northrop Grumman	GC100B, GC100F	Dura-Core® Aluminum Honeycomb - 5052 Alloy
Northrop Grumman	NAI-1171	Dura-Core® Aluminum Honeycomb - 5052 Alloy
MRAS	STMM-Y100	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Raytheon	BS 25017	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
SAAB	STD 124230	PAA Aluminum Honeycomb - 5056 Alloy
SAE	AMS-4348, AMS-4349	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
SAE	AMS-C-7438	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Safran	HMRC 3001D	PAA Aluminum Honeycomb - 5056 Alloy
Safran	HMRC 3005	PAA Aluminum Honeycomb - 5052 Alloy
Safran	HMRC 3007	Dura-Core® Aluminum Honeycomb - 5052 Alloy
Shorts Brothers	SMS 58	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Shorts Brothers	SMS 78	Dura-Core® or PAA Aluminum Honeycomb - 5052 or 5056 Alloy
Sonaca	SMS1003	PAA Aluminum Honeycomb - 5052 Alloy
Sonaca	SMS1005	Dura-Core® Aluminum Honeycomb - 5056 Alloy
Thales Alenia Space	10903820-5, 11014180-1	Dura-Core® or PAA Aluminum Honeycomb 5056 Alloy

Please scan the QR code to view the full Metallic Honeycomb Customer Qualifications Chart.



AEROSPACE APPLICATIONS



*This is not an all-inclusive list of TGC product applications. Our metallic and non-metallic honeycomb cores are used globally across a diverse range of aerospace structures.

Fun Facts

The first Primark store opened in Dublin in June 1969 under the name Penney's.

Ron Swanson's character on Parks and Recreation is based on a real person—a woman in a high-level bureaucratic position who is also anti-government.

Captive tigers in the U.S. alone outnumber the number of wild tigers worldwide.

The 1831 London Bridge was sold in 1962 when it needed to be replaced. It was bought by Lake Havasu City, Arizona, to boost tourism.

Scrappy-Doo, widely considered to be one of the most hated characters in fiction, has not appeared in an animated Scooby-Doo production since 1988 due to audience backlash.

Roughly 33% of cats are not affected by catnip. The euphoric reaction commonly associated with catnip is hereditary.

Bubble wrap was originally invented to be wallpaper. The creators tried to make plastic wallpaper with a paper backing, but it came out with plastic backing.

The longest cricket Test match, played between England and South Africa, lasted over 12 days. It only ended because the English team would have missed their boat home.

MIT, often cited as one of the world's most prestigious universities, puts almost all of its course materials online for anyone to access for free.

Albert Einstein had mastered calculus by the tender age of 15.

Madagascar got its name when Marco Polo misspelled it. The name stuck, and the island was christened to the name in 1500.

Tom Hanks had an asteroid named after him which was called "12818 tomhanks."

The number of stars on the EU flag doesn't represent anything. Twelve stars were chosen as a number with no political association and as a symbol of unity.

High heels are nothing new to the world. In the 18th century, they were fashionable even for children.

Elephants think people are cute in the same way people think puppies or kittens are cute.

Cats that have blue eyes for the duration of their lives are likely to be deaf.

The manager of Guinness started the Guinness Book of World Records when he got annoyed that he couldn't find out what the fastest game bird ever recorded was.

Barry Manilow wrote many famous jingles for companies like McDonald's, State Farm, and Band-Aids.



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