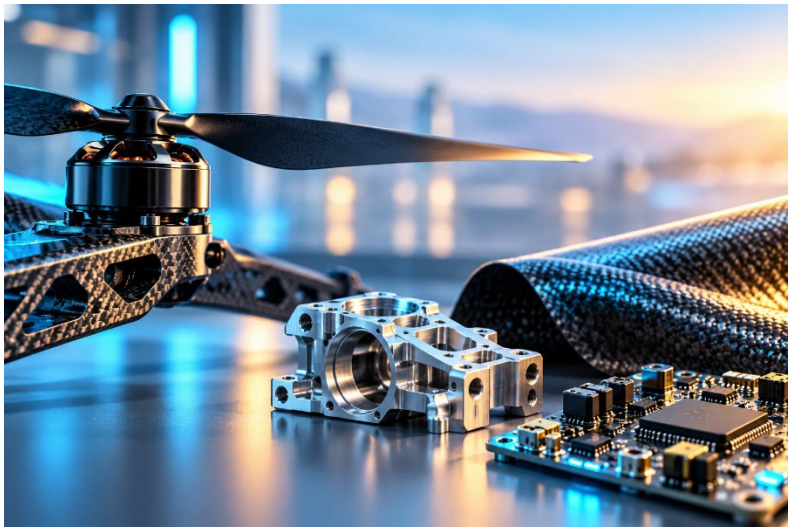
Tech Hubs Supplier Coalition



Updated November 2026

TECH HUBS
U.S. Economic Development Administration

TULSA INNOVATION LABS®

OKLAHOMA MANUFACTURING ALLIANCE
Stronger Industry. Stronger Oklahoma.

Table of Contents

UAS Manufacturing Framework 5

Coalition Capability Overview 6

Precision Machining 7

Composite Fabricators 8

Electronics and PCB Assembly 9

Wiring and Harness 10

Battery and Power Specialists 11

Injection Molding 12

Software / Embedded Systems 13

Testing / QA Labs 14

Additional Integrated Manufacturing 15

Quality, Certifications & Compliance 16

OKLAHOMA MANUFACTURING ALLIANCE

Stronger Industry. Stronger Oklahoma.

ONE UAS MANUFACTURING COALITION.

EIGHT CAPABILITY CATEGORIES.

A coordinated view of the manufacturing ecosystem behind unmanned aircraft systems.

MATCH THE SUBSYSTEM	BUILD THE SUPPLY TEAM
Connect UAS subsystem requirements to the coalition category with the strongest technical fit.	Combine specialized members when a program requires multiple processes, disciplines, or qualification pathways.

UAS MANUFACTURING

SUPPLIER COALITION

Integrated capability from airframe to autonomy

A coalition-level capability statement connecting specialized manufacturing, engineering, integration, and test resources to critical unmanned aircraft system (UAS) subsystems.

CNC Airframe / Gimbals / Mounts	**CMP** Frames / Arms / Landing Gear	**PCB** Controllers / Sensors / Power	**HAR** Power / Telemetry Wiring
PWR Power Systems	**MOL** Propellers / Enclosures	**SW** Flight Control / Autonomy	**QA** Environmental / Vibration / EMI

UAS Manufacturing Framework

EIGHT CAPABILITY CATEGORIES MAPPED TO THE UAS SYSTEM

These eight categories were selected to mirror major manufacturing and integration needs within a UAS platform. The framework provides a practical way to connect subsystem requirements with the coalition's available manufacturing and technical capabilities.

Manufacturing Category	UAS Subsystem Match	Coalition Role
Precision Machining (Aerospace)	Airframe, gimbal housings, motor mounts	Precision structural and mechanical components
Composite Fabricators	Frames, arms, landing gear	Lightweight structures and composite materials
Electronics & PCB Assembly	Flight controllers, sensors, power systems	Electronic assemblies, sensing and controls
Wiring & Harness Manufacturers	Power and telemetry wiring	Electrical interconnect and system wiring
Battery & Power Specialists	Power systems	Power electronics and low-power system support
Injection Molders	Propellers, enclosures, controller housings	Molded plastics, elastomers and housings
Software / Embedded Systems Developers	Flight control, autonomy, ground station	Programming, controls and embedded-system support
Testing / QA Labs	Environmental, vibration, EMI testing	Inspection, qualification and test resources

The UAS subsystem alignment is a strategic mapping of coalition capability. Specific supplier qualification, equipment availability, certifications, and production fit should be confirmed for each opportunity.

Coalition Overview

INTEGRATED MANUFACTURING NETWORK

The coalition brings together complementary capabilities across structures, precision components, electronics, wiring, power-related systems, molded components, software/embedded engineering, and test. It is designed to help UAS developers, OEMs, and defense programs identify domestic manufacturing resources across the product lifecycle.

CORE COALITION CAPABILITIES

- Prototype through production support, including low-volume, high-mix, and repeat production.
- Aerospace and defense manufacturing across metals, plastics, elastomers, composites, and electronic systems.
- Engineering support including CAD/CAM, model-based design, reverse engineering, tooling, process engineering, and configuration control.
- Integrated assembly capability for mechanical, electrical, electronic, composite, and multi-component systems.
- Rapid prototyping and additive manufacturing for polymer, composite, stainless, and superalloy applications.
- MRO, aircraft component/accessory repair, obsolescence support, and re-engineering for legacy systems.
- Turnkey support through machining, fabrication, special processing, inspection, testing, assembly, and supply-chain integration.

COALITION-WIDE TECHNOLOGIES

- Multi-axis CNC machining and turning
- Composite layup, prepreg and filament winding
- SMT / through-hole / PCB and box build
- Harness assembly and electrical integration
- Injection / rubber / silicone molding
- CAD/CAM, software programming and MBD
- CMM, NDT, material and electronic testing

UAS PROGRAM VALUE

- Single view of complementary manufacturing capability
- Potential for multi-supplier teaming on complex programs
- Aerospace / defense quality systems represented across the network

Precision Machining (Aerospace)

MACHINING & METAL MANUFACTURING

UAS SUBSYSTEM ALIGNMENT	Airframe structures • Gimbal housings • Motor mounts

The coalition supports complex aerospace and defense components from prototype and first article through repeat production, using multi-axis machining, turning, Swiss machining, automation, additive manufacturing, and precision inspection.

CORE COALITION CAPABILITIES

- 3-, 4-, and 5-axis CNC milling for complex geometries and mission-critical components.
- CNC turning, multi-tasking mill-turn, live tooling, Y-axis, and horizontal machining.
- High-precision Swiss screw machining for medium-to-high volume production, including long length-to-diameter parts.
- Prototype, low-volume, legacy/MRO, and production machining; flight-critical and life-critical component experience.
- Robotic/FMS machining cells, multi-pallet shuttles, bar-fed automation, and production-oriented workholding.
- EDM, lapping, polishing, laser etching, plasma cutting, waterjet/router processing, and detail machine work.
- Metal additive manufacturing for advanced stainless and superalloy prototypes; polymer/composite 3D printing for prototypes and end-use parts.
- Tooling, fixtures, check gages, reverse engineering, and design-for-manufacturing support.

REPRESENTATIVE EQUIPMENT & TECHNOLOGIES

- 3-, 4- and 5-axis machining centers
- CNC lathes / mill-turn / live tooling
- Swiss-style CNC turning
- Horizontal machining centers
- Robotic/FMS machining cells
- EDM and metal additive manufacturing
- CMM inspection systems

MATERIALS

- Aluminum and high-strength alloys
- Titanium
- Stainless and carbon steels
- Nickel / high-temperature alloys / Inconel
- Copper, brass and bronze
- Engineered thermoplastics and thermosets

Composite Fabricators

ADVANCED COMPOSITE MATERIALS & STRUCTURES

UAS SUBSYSTEM ALIGNMENT	Frames • Arms • Landing gear

Coalition composite capabilities range from advanced material formulation and prepreg manufacture through layup, filament winding, honeycomb structures, bonded assemblies, curing, finishing, and material testing.

CORE COALITION CAPABILITIES

- Advanced prepreg manufacturing, including fabric and uni-directional (UD) prepregs.
- Resin-system and material development, composite tooling materials, technical support, and R&D.
- Composite layup and fabrication of aerospace components, structures, laminates, and minor assemblies.
- Honeycomb and sandwich structures; metallic and composite-bonded honeycomb panels.
- 4-axis filament winding for lightweight composite pressure vessels and structures.
- Autoclave/oven curing, vacuum ovens, platen presses, hot-box A-staging, vacuum molding, and bonded assembly processes.
- Metal bonding, Fiber Metal Laminates (FML), rubber vulcanization, compression molding, and composite-to-metal integration.
- 5-axis CNC routing/trimming, Gerber cutting, laser ply projection, machining of panel/core, and final assembly.

REPRESENTATIVE EQUIPMENT & TECHNOLOGIES

- Filament winding systems
- Curing ovens / vacuum ovens
- Autoclave-style curing processes
- Vacuum molding equipment
- Gerber cutting
- Laser projection systems
- Faro-arm / dimensional inspection
- Composite-compatible 3D printing

MATERIALS / FORMATS

- Carbon fiber, fiberglass and Kevlar
- Fabric and UD prepregs
- Aluminum / copper lightning-strike mesh
- Honeycomb and sandwich cores
- Composite tooling materials

Electronics & PCB Assembly

ELECTRONIC MANUFACTURING & SYSTEMS INTEGRATION

UAS SUBSYSTEM ALIGNMENT	Flight controllers • Sensors • Power-system electronics

The coalition supports electronic assemblies from circuit-board design and assembly through box build, controls, sensing, RF communications, test, repair, and system integration.

CORE COALITION CAPABILITIES

- Surface Mount Technology (SMT) and automated through-hole electronics assembly.
- Circuit-board design and assembly.
- Turnkey box build, system integration, electronic enclosure integration, and final assembly.
- Electronic assemblies, amplifiers, electronic switches, control panels, and power supplies.
- Sensor systems including magnetic, seismic, passive infrared, temperature, pressure, and infrared sensing.
- RF communications products including relays, transmitters, receivers, remote sensor hubs, and satellite/cellular relay pathways.
- Electronic and avionics repair / overhaul support, re-engineering, and obsolescence/DMSMS solutions.
- Encapsulation, ruggedized integration, and final electronic test and inspection.

REPRESENTATIVE EQUIPMENT & TECHNOLOGIES

- SMT assembly equipment
- Through-hole assembly processes
- Circuit-board assembly / rework
- Box-build and system-integration tooling
- Digital oscilloscopes / diagnostics
- Electronic test and inspection equipment

REPRESENTATIVE APPLICATIONS

- Flight-control and sensor electronics
- Remote sensing and RF communications
- Control panels and power supplies
- Ground-support and test equipment

Wiring & Harness Manufacturers

CABLE, HARNESS & ELECTRICAL ASSEMBLY

UAS SUBSYSTEM ALIGNMENT	Power distribution • Telemetry wiring

Coalition members support custom wiring and cable assemblies for OEM, aerospace, defense, industrial, training-device, and control-system applications.

CORE COALITION CAPABILITIES

- Custom wire-harness assembly built to customer drawings and specifications.
- Cable assemblies and electrical interconnect assemblies.
- Automated wire cutting and stripping for repeatable production.
- Precision terminal pressing / crimping using dedicated terminal equipment.
- Control-panel and electronic-system wiring integration.
- Wiring diagrams, 2D/3D design documentation, and interface-control documentation.
- Electrical assembly personnel supporting integrated mechanical/electrical builds.
- Prototype through low- and higher-volume production support, with final inspection and functional verification.

REPRESENTATIVE EQUIPMENT & TECHNOLOGIES

- Automatic wire cutting / stripping
- Terminal presses / crimping equipment
- Harness assembly tooling
- Digital oscilloscopes / signal diagnostics
- Panel / enclosure fabrication equipment

SUPPORTING CAPABILITY

- Box build and control-panel integration
- Engraving, silk-screening and traceability marking
- Mechanical assembly and final test

Battery & Power Specialists

POWER ELECTRONICS & LOW-POWER SYSTEMS

UAS SUBSYSTEM ALIGNMENT	Power systems

The member-provided materials document power electronics, low-power communications, electric motors, electrical components, and power-sector manufacturing. Battery-cell chemistry and battery-pack manufacturing were not specifically documented and are therefore not claimed here.

CORE COALITION CAPABILITIES

- Power-supply manufacturing and repair capability within aerospace/defense electronic systems.
- Electric-motor components and aerospace/defense electric-motor support.
- Low-power RF data-modem technology with microamp-level sleep-mode operation.
- Remote sensor and communications architectures designed for low-power field operation.
- Electronic switches, amplifiers, sensors, relays, transmitters, receivers, and control panels.
- Precision components for power-generation, oil & gas, renewable-energy, and energy-market equipment.
- Electrical insulator components, connector housings, conductive elastomers, EMI-related sealing materials, and rubber-to-metal bonded components.

REPRESENTATIVE EQUIPMENT & TECHNOLOGIES

- Electronic assembly and test equipment
- Power-supply / control-system integration
- RF communications hardware
- Electric-motor and sensor assemblies
- Precision machining and molding resources

DOCUMENTATION NOTE

- Battery-cell production not documented
- Battery-pack assembly not documented
- Section reflects verified power-related capability only

Injection Molders

PLASTICS, ELASTOMERS & MOLDED COMPONENTS

UAS SUBSYSTEM ALIGNMENT	Propellers • Enclosures • Controller housings

Coalition molding capabilities cover plastic, rubber, silicone, micro-molding, overmolding, insert molding, tool design, clean-room processing, thermoforming, rotational molding, and value-added assembly.

CORE COALITION CAPABILITIES

- Plastic injection molding with presses represented from approximately 85 tons through 4,000 tons.
- Part-size range represented from very small components through multi-pound molded parts.
- Overmolding and insert molding with real-time process monitoring (AuthenTIG).
- Rubber injection, transfer and compression molding; wrapped and extruded formed hose capability.
- Liquid silicone / liquid injection molding, two-shot molding, and micro-molding.
- ISO Class 10,000 clean-room compression and liquid injection molding for demanding applications.
- Rotary thermoforming / AAA pressure forming, rotational molding, CNC router trimming.
- Plastic bonding via ultrasonic, spin, hot-plate, and high-frequency vibration welding.
- Mold design, CNC/EDM toolmaking, maintenance, check gages, error-proofing fixtures, and pre-production testing.
- Extrusion blow molding and custom plastic component manufacturing for consumer, commercial, and industrial applications.
- Product development and prototyping support, including tooling and mold coordination.
- Secondary operations including assembly, labeling, packaging, leak testing, quality testing, and finished-goods preparation.
- Flexible production from prototype and pilot runs through production ramp-up and high-volume manufacturing, with warehousing, fulfillment, and EDI-enabled distribution support.

REPRESENTATIVE EQUIPMENT & TECHNOLOGIES

- Injection molding presses (85-4,000 ton represented)
- Thermoforming / pressure-forming equipment
- Rotational molding machines
- 5-axis CNC routers / trimming
- EDM and mold-tooling equipment
- Clean-room molding capability
- Extrusion blow molding

MATERIALS

- Silicone / LSR and fluorosilicone
- EPDM, FKM/FFKM, nitrile and neoprene
- TPE
- ABS, HDPE/HMWPE, PVC, TPO, PEI
- High-temperature and glass-filled plastics

Software / Embedded Systems Developers

ENGINEERING, PROGRAMMING & EMBEDDED-SYSTEM SUPPORT

UAS SUBSYSTEM ALIGNMENT	Flight control • Autonomy • Ground station

Documented coalition capabilities include software programming, electronic-system engineering, RF/data communications, model-based design, configuration control, and engineering support for integrated hardware systems.

CORE COALITION CAPABILITIES

- Mechanical and electrical engineering design with software programming capability.
- Research and development, re-engineering, technology insertion, and obsolescence mitigation.
- Embedded / communications support through RF data-modem technology, ASCII and binary data modes, remote sensor hubs, and relay architectures.
- Systems engineering, configuration management, technical-data development, and Integrated Logistics Support (ILS).
- Model-Based Definition (MBD), GD&T-driven digital manufacturing, 2D drawings, 3D models, assemblies, wiring diagrams, and Interface Control Documents.
- CAD/CAM programming for CNC production and digital-thread support across engineering and manufacturing.
- Control-system engineering and development for custom electronic assemblies and industrial/OEM applications.
- Reverse engineering from scan to CAD/CAM, prototype development, and design-for-manufacturing support.

ENGINEERING & DEVELOPMENT TECHNOLOGIES

- 3D CAD/CAM software
- MBD / GD&T workflows
- Configuration-management systems
- RF / data-modem development resources
- Electronic diagnostics and test tools

REPRESENTATIVE DOMAINS

- Sensors and remote monitoring
- Aerospace / defense electronics
- Control systems and integrated assemblies
- Legacy-system sustainment

Testing / QA Labs

INSPECTION, QUALIFICATION & QUALITY SYSTEMS

UAS SUBSYSTEM ALIGNMENT	Environmental • Vibration • EMI / EMC testing

The coalition includes extensive in-house and partner-supported inspection, test, certification, and quality-system capability. The materials directly document dimensional, NDT, electronic, mechanical, thermal, rheology, weathering, and qualification testing; specific vibration and EMI/EMC lab capability should be confirmed by project.

CORE COALITION CAPABILITIES

- Coordinate Measuring Machine (CMM) inspection and aerospace dimensional verification.
- Dedicated quality laboratories, in-process inspection, check plans, calibration documentation, and final inspection.
- First Article Inspection (FAI), qualification testing, PPAP documentation, and repeatable process verification.
- In-house laboratory and test equipment for aerospace/defense systems and electronics.
- Signal diagnostics, electronic inspection, assembly inspection, and functional testing.
- 3D scanning / metrology, reverse-engineering inspection, and traceability-focused measurement.
- Visual and Magnetic Particle Testing; magnetic-particle and fluorescent-penetrant inspection represented in the coalition.
- Composite/material testing including mechanical testing, specimen preparation, thermal analysis, rheology, accelerated weathering, and infrared analysis.
- Process monitoring and statistical process controls for molded materials and production consistency.

INSPECTION & TEST RESOURCES

- Programmable CMMs
- 3D metrology / Faro-style scanning
- Electronic diagnostic equipment
- Mechanical / thermal material-test equipment
- NDT resources
- Clean-room inspection environments

QUALITY SYSTEMS

- AS9100 / AS9100D / EN9100
- ISO 9001:2015
- ISO 13485, ISO 14001, IATF 16949
- ITAR / FAA / EASA / AWS D17.1 / Nadcap represented

Integrated Manufacturing Support

CROSS-CUTTING COALITION CAPABILITIES

Beyond the eight UAS-aligned categories, coalition members provide complementary processes needed to move programs from engineering through final assembly, qualification, delivery, repair, and sustainment.

CORE COALITION CAPABILITIES

- ***Fabrication***: sheet-metal forming, CNC turret punching, plasma/laser cutting, shear, press brake, rolling, waterjet, and routing.
- ***Welding / Joining***: TIG, MIG, spot, robotic, pulse-arc, flux-core, silver brazing, plastic welding, metal bonding, and rubber-to-metal bonding.
- ***Special Processes***: heat treatment, anodizing, plating, coatings, powder coating, paint, sandblasting, deburring, finishing, and polishing.
- ***Additive Manufacturing***: metal binder printing, FDM, SLA, high-performance polymer/composite printing, prototypes, and end-use parts.
- ***Marking / Identification***: laser etching, engraving, silk-screening, paint fill, barcoding, color coding, and traceability marking.
- ***Assembly***: mechanical assembly, electronic box build, bonded hardware, bearing installation, swaging, and final systems integration.
- ***Tooling / Production Support***: molds, dies, fixtures, check gages, vacuum-form tooling, structures, platforms, and custom manufacturing aids.
- ***Aircraft / Defense Sustainment***: repair, overhaul, re-engineering, accessory/component refurbishment, MRO, and legacy-system support.
- ***Supply-Chain Services***: turnkey processing, kitting, custom packaging, inventory management, and partner-managed outside processes.

REPRESENTATIVE SUPPORT TECHNOLOGIES

- CNC fabrication and forming
- Welding / brazing / bonding
- Heat treat and coatings
- Additive manufacturing
- Engraving / marking / identification
- Assembly and integration tooling
- MRO and repair resources

UAS PROGRAM ADVANTAGE

- Capability can be matched by subsystem need
- Multiple processes can be combined across members
- Coalition view supports team-based sourcing

Quality, Certifications & Compliance

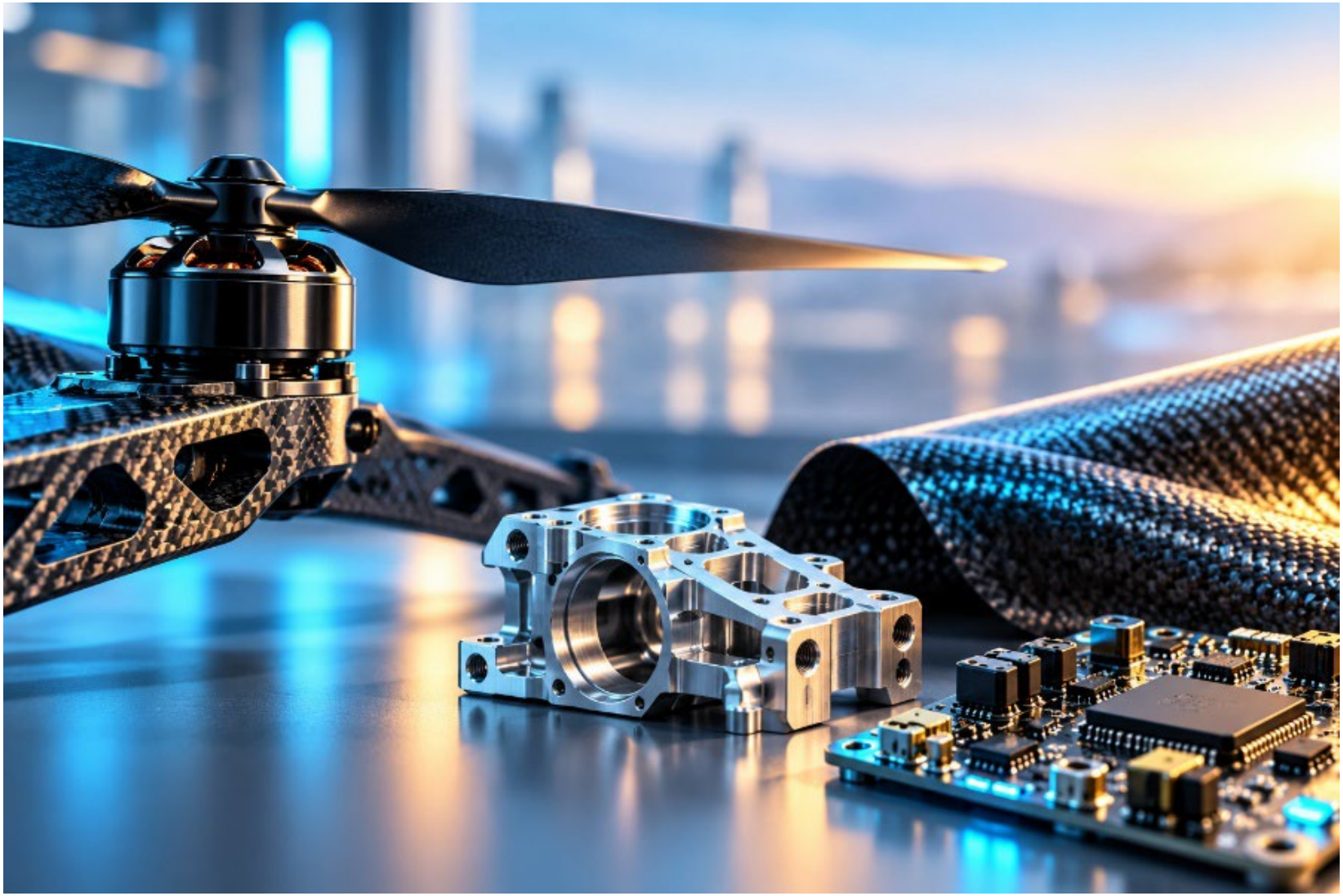
COALITION-LEVEL SUMMARY

Certifications vary by member. The coalition includes organizations operating under multiple aerospace, industrial, medical, environmental, welding, repair-station, and defense-compliance frameworks.

AS9100 / AS9100D Aerospace quality management	**ISO 9001:2015** Quality management systems	**EN9100** Aerospace quality standard	**ISO 13485** Medical-device quality
IATF 16949 Automotive quality	**ISO 14001** Environmental management	**ITAR** Defense/export compliance	**FAA / EASA** Certified repair-station capability

Additional represented qualifications and programs

- AWS D17.1 aerospace welding capability
- Nadcap-approved processes represented
- IPC-A-610-trained electronics inspection/assembly
- SNT-TC-1A visual and magnetic-particle inspection
- Class 10,000 clean-room molding capability
- HUBZone and small-business designations represented
- Tier-1 / aerospace approved-supplier experience represented
- CMM / FAI / PPAP / calibration documentation
- DMSMS / obsolescence support
- Verify exact certification at selected member level for each opportunity



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