CAPABILITY STATEMENT · WOMAN-OWNED SMALL BUSINESS

ANS COMPOSITE

Adaptive Neuro-Shield™ — Electromagnetic Defense Composite IP Portfolio

Woman-Owned Small Business · Sole Proprietorship (Rachael V. Hager DBA ANS Composite) · Wirtz, Virginia

CORE CAPABILITY

ANS Composite holds a patent-pending portfolio covering a **lightweight, frequency-adaptive composite with thermally-triggered self-healing** — defensive electromagnetic armor for electronics, platforms, shelters, and critical infrastructure against **EMP / HEMP, high-power microwave (HPM), directed-energy, and EMI threats**. It is engineered not merely to block hostile energy but to **absorb the attack, shed it as heat, and use that same heat to trigger its own self-repair** — hostile energy redirected into recovery. The portfolio spans 0.1 Hz–100 GHz, is purely defensive, and is engineered for survivability in contested electromagnetic environments — the countermeasure to the countermeasure.

BUSINESS MODEL — LICENSE-FIRST

- **IP licensing to established defense performers** plus inventor technical advisory — ANS does not seek prime production contracts, making it a fast, low-overhead, conflict-free partner.
- **Seeking: prime and integrator licensees.** Government stakeholders are invited to champion the requirement and connect ANS with prime licensees — including, where appropriate, sponsorship into controlled or classified requirement channels.

DIFFERENTIATORS

- **Self-supporting protection** — no vacuum assist, no active power required for baseline shielding performance.
- **Self-healing & damage-tolerant** — thermally-triggered dynamic-bond chemistry restores shielding effectiveness after damage; the absorbed threat's own heat can serve as the repair trigger.
- **Frequency-adaptive, multi-domain design** — one material family addressing EMP/HEMP transients through GHz-band EMI.
- **High-maturity components, novel integration** — the constituent technologies are independently demonstrated and tested, ranging from laboratory-validated to commercially fielded (component TRL on the order of 4–9: conductive composite feedstocks and frequency-selective surfaces are established art); only the integration is new (TRL 2–3). Low-risk ingredients, high-value recipe — and every technical claim is traceable to published, verifiable sources.
- **MOSA-aligned by design** — the shielding layer is specified as a severable, modular component consistent with DoD Modular Open Systems Architecture preferences, integrating without host-platform redesign.

VALIDATION & TRACTION

- **Lockheed Martin Missiles & Fire Control — signed Letter of Support (June 2026)** following technical review.
- **Four U.S. provisional patent applications filed** (micro-entity, inventor-drafted): #64/020,126 · #64/081,373 · #64/086,584 · #64/087,652 — the complete portfolio is on file, including the 3D-printable single-pass shielding-and-reinforcement ink.
- Navy and prime-contractor transition pathways mapped (NSWC Crane technology-transfer office; ONR Code 312).

COMPANY DATA

UEI	RK38AE8R1EP6
CAGE	1ZST9
EIN	41-5250686
NAICS	541715 — R&D in Physical, Engineering & Life Sciences
SAM.gov	Active (registered; exp. 04/2027)
Status	Woman-owned small business; EDWOSB-eligible

MISSION ALIGNMENT

- EMP / HEMP hardening of mission-critical electronics — the electromagnetic component of nuclear survivability
- Critical-infrastructure resilience against electromagnetic attack (grid, C4ISR, shelters)
- Platform survivability in contested EM environments
- MIL-STD-188-125 / MIL-STD-461-relevant shielding applications

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