MOULDING, FORMING & STRUCTURAL MANUFACTURING

Supplier Capability Brief

Moulding, forming and structural manufacturing processes produce many of the critical components used across air, land, naval and missile systems — from lightweight housings and internal structures to large-format protective enclosures and impact-resistant parts. As defence production accelerates across Europe, OEMs and Primes require suppliers who can deliver high-integrity, repeatable, compliant components using advanced polymer, composite and hybrid structures.

Core subcategories

- **Injection moulding:** high-performance polymers, structural housings, precision components
- **Compression moulding:** composite structures, high-strength and heat-resistant moulded parts
- **Thermoforming & vacuum forming:** lightweight panels, enclosures, UAV structures
- **Composite layup & forming:** complex shapes, hybrid structures, multi-material assemblies
- **Structural panels & large-format mouldings:** protective housings, interior/exterior components
- **Tooling design & production:** moulds, dies and fixtures for defence-grade manufacturing.
- **Hybrid moulding processes:** polymer–metal structures, overmoulding, insert moulding

Market outlook

Demand for moulded, formed and structural components is rising rapidly across defence and aerospace as OEMs look for lightweight, durable, corrosion-resistant and scalable alternatives to traditional metal assemblies.

Overall, structural moulding and forming for defence platforms represent an annual market well above $30B, driven by platform modernisation, UAV expansion, naval upgrades and mobility/weight-reduction requirements.

Key market indicators:

- **Military polymer components:** ~$13B in 2024 : ~$18B by 2030 (CAGR ~5–6%)
- **Composite structural components:** ~$27B in 2024 : ~$40B by 2030 (CAGR ~7%)
- **Aerospace & defence thermoformed components:** ~$3B in 2024, growing at ~6–7% CAGR
- **Injection moulding for aerospace/defence:** ~$10B market across the EU & US
- **Lightweighting materials for defence platforms:** projected growth ~8–10% through 2030

Typical defence applications

- UAV and UGV bodies, panels and structural shells
- Radomes, antenna housings and RF-transparent structures
- Missile and guided-system covers, shrouds and protective casings
- Structural panels and composite parts for naval environments
- Lightweight interior and exterior components for land and air platforms
- Heat-resistant moulded components for propulsion and exhaust systems
- Enclosures for electronics, sensors, communication systems and C4ISR equipment
- Protective housings, fairings and aerodynamic components

Who should exhibit

- Injection moulding companies (high-performance or defence-grade polymers)
- Compression and composite moulding specialists
- Thermoforming and vacuum forming manufacturers
- Composite forming and hybrid structure suppliers
- Large-format moulding and structural panel manufacturers
- Tooling, die-making and fixture design companies
- Manufacturers capable of multi-material and overmoulded assemblies

What primes & OEMs are looking for

- High-integrity moulded and formed components with defence-grade repeatability
- Lightweight, corrosion-resistant and high-strength structural options
- Suppliers with expertise in advanced polymers, composites and hybrid materials
- Rapid prototyping to production-scale moulding capability
- Tooling partners able to support short-run, long-run or surge production
- REACH-compliant materials and secure European supply
- Proven capability for large-format, complex or precision moulded components
- Structural solutions for UAVs, ground vehicles, naval platforms and missile systems

Showcase your MOULDING, FORMING and STRUCTURAL MANUFACTURING CAPABILITIES to defence engineering, procurement and programme teams who are actively IDENTIFYING and ONBOARDING new suppliers across Europe.

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