



BLOOH SOLUTION
LTD.

SCANDIUM ALLOYS FOR
**STRUCTURAL COMPONENTS
OF ELECTRIC VEHICLES**

LIGHTWEIGHT PERFORMANCE FOR THE MO-
BILITY OF THE FUTURE



DRIVEN BY SCANDIUM PERFECTED BY BLOOH SOLUTION

The electric vehicle (EV) revolution demands more than just better batteries. Manufacturers are pursuing greater range, improved efficiency, and enhanced safety. As a result, structural materials for chassis, housings, and components are coming into sharper focus. Every kilogram saved means more range and lower energy consumption.

Traditional materials like steel or standard aluminum are reaching their limits—either too heavy or lacking in strength-to-weight performance.

BLOOH Solution Ltd. meets this challenge with scandium-reinforced alloys that redefine the potential of lightweight automotive design.

REDEFINING THE BACKBONE OF E-MOBILITY

BLOOH Solution's advanced scandium-aluminum alloys offer a superior alternative to conventional materials. The addition of scandium significantly enhances mechanical strength, corrosion resistance, and manufacturability—ideal for both mass-market vehicles and high-performance models.



Lighter



Stronger

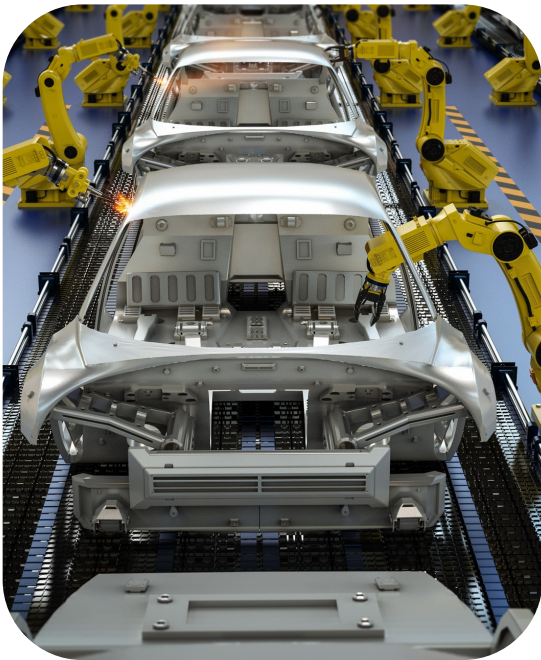


Safer



Smarter

With up to 20% weight savings compared to standard aluminum, BLOOH Solution alloys enable safer, more efficient, and longer-range electric vehicles—without compromising safety.



ENGINEERED FOR THE DEMANDS OF MODERN EVs

Our materials are specifically designed for the stress zones and functional requirements of today's EV platforms:

- Battery enclosures and underbody protection
- Crash structures and crumple zones
- Chassis frames and subframes
- Motor housings and load-bearing components

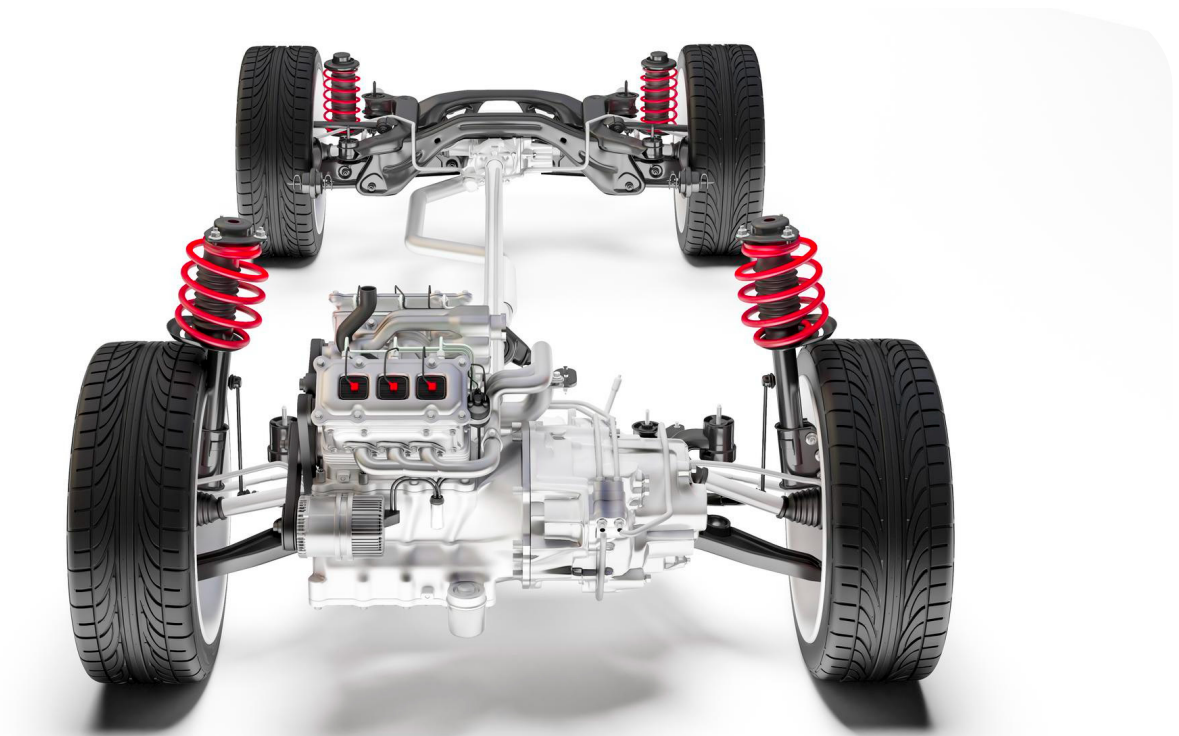
Sustainable Manufacturing

BLOOH Solution integrates scandium sourcing into its lithium value chain, ensuring every lightweight component contributes to a better environmental footprint. This approach supports circular economy principles and meets the expectations of sustainability-focused automotive manufacturers.



SC-AL AUTO 1 – HIGH-DUCTILITY CHASSIS MATERIAL

This alloy is optimized for safety-critical areas of EV chassis design. It offers high ductility and excellent energy absorption in crash scenarios. Its superior elongation makes it ideal for crumple zones and structural frames.



TECHNICAL SPECIFICATION

Scandium Content: ~0.8–1.5%

Yield Strength: ~340 MPa

Elongation: 16–18%

Crash Energy Absorption: Excellent

Fatigue Strength: High

Available Forms: Extrusions, rolled sheets

Weldability: Excellent (suitable for automated chassis manufacturing)

Application Areas: Front and rear frames, crumple structures

SC-AL AUTO 2 – RIGID MODULE HOUSING ALLOY

This high-stiffness alloy is specifically engineered for structural housings in EVs. It offers excellent rigidity, vibration damping, and thermal conductivity—ideal for battery packs and drivetrain components.



TECHNICAL SPECIFICATION

Scandium Content: 1.5–2.0%

Hardness: 110–130 HV

Thermal Conductivity: High

Elastic Modulus: ~73 GPa

Available Forms: Cast parts, precision-milled blocks

Corrosion Resistance: Excellent (urban and automotive environments)

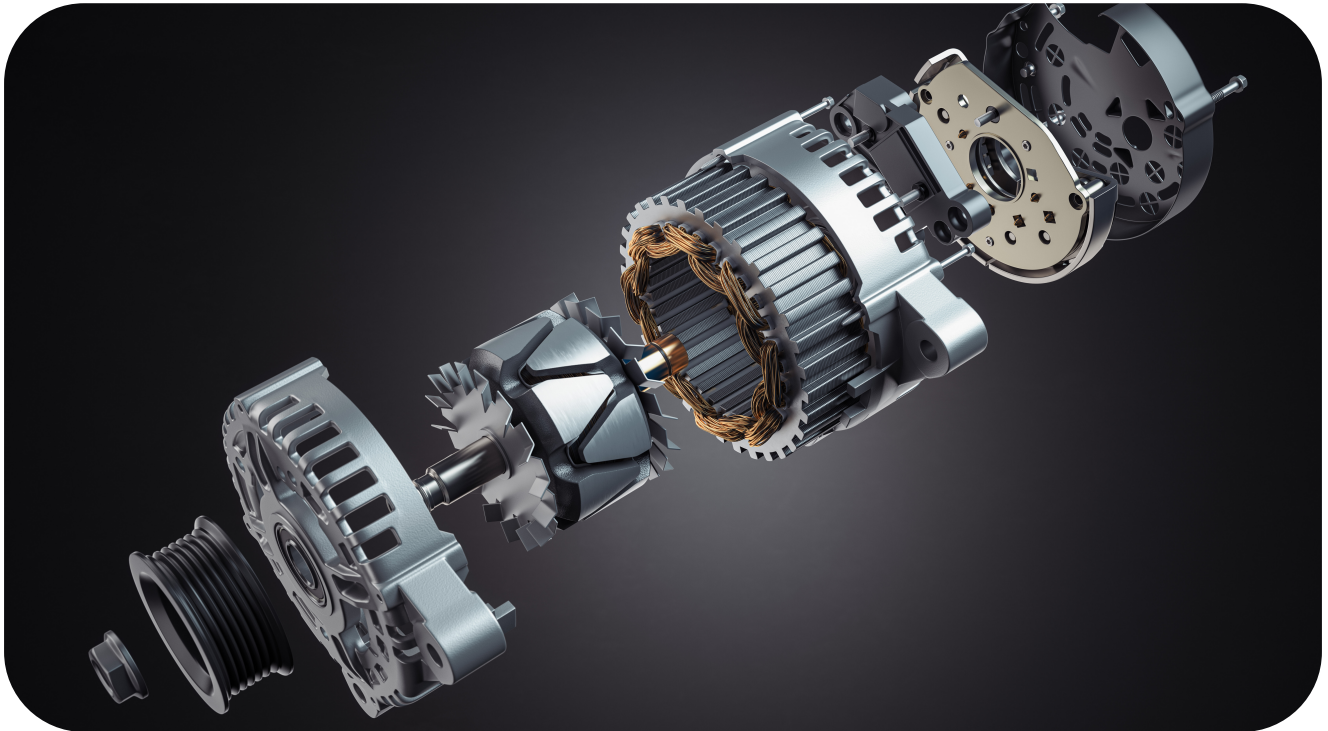
Machinability: High (CNC-compatible)

Application Areas: Battery housings, motor housings, center tunnels

PORTFOLIO

SC-AL 3D AUTO POWDER – PRINTABLE COMPONENTS

This printable scandium powder enables rapid prototyping and the production of high-precision EV components with complex designs. It supports modern additive manufacturing processes and ensures high part density and fatigue resistance.



TECHNICAL SPECIFICATION

Form: Spherical powder (15–45 μm)

Processes: LPBF, Binder Jetting, DED

Tensile Strength (As Printed): ~450 MPa

Part Density: $\geq 99.5\%$ of theoretical density

Surface Roughness (Printed): $< 10 \mu\text{m Ra}$

Heat Treatability: T6, HIP-compatible

Microstructure: Uniform grain distribution

Application Areas: Engine mounts, housing reinforcements, brackets with complex geometries

DRIVING INNOVATION FORWARD!



**FOR MORE INFORMATION
PLEASE CONTACT:**



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