

Company Overview

Advanced Magnet Lab Inc. (AML) – a leading permanent magnet innovator and emerging magnet manufacturer in the United States.

Business	Founded in 1995 and now commercializing disruptive permanent magnet manufacturing technologies for U.S. and global customers.
Magnet Products	<ul style="list-style-type: none"> • Samarium-iron-nitride (SmFeN) permanent magnets (Less critical REEs) • Manganese bismuth (MnBi) permanent magnets (Non-REE) • Neodymium-iron-boron (NdFeB) permanent magnets • (Mischmetal-Nd)FeB permanent magnets (Less critical REEs)
Target Solutions	<ul style="list-style-type: none"> • Reducing dependence on heavy rare earth elements (HREEs). • Magnets that are designed for the mission at hand – tactical and useful without limitations. • Better performing applications – less pieces and more control of designs.

Our Innovation Unlocks Bottlenecks

AML can produce permanent magnets that are designed with the applications engineer in mind.

- ✓ **Sized, shaped, and magnetized to optimize performance** – single-pieces, no corrosion, Halbach arrays.
- ✓ **Reduced need for heavy rare earths** – reduced need for Dysprosium (Dy) and Terbium (Tb).
- ✓ **Diverse magnet material selection** – design applications around most suitable magnet material.
- ✓ **Reduced product costs** – ease of assembly with less small magnet pieces and simplified tooling.

Flexible shapes

- Long straight magnets
- Curved magnets

Flexible magnetization directions

- Radial
- Axial
- Continuously changing (PM-360™)

Opens the design space for applications

- Applications no longer constrained to small uniformly magnetized block magnets



Track Record & Partnerships

U.S. Department of Energy (DoE) Support

- ✓ Funding for development of high-power density electrical machines (2021 – 2025)

U.S. Department of War (DoW) Support

- ✓ Defense Innovation Unit (DIU) – Pilot Manufacturing Line (2020 – 2022)
- ✓ Defense Logistics Agency (DLA) – Sintered magnet manufacturing (2022 – Present)

U.S. and Global Supply Chain Partners

- ✓ U.S. rare earth mining firms and magnet recyclers
- ✓ Japan and other regions for magnet materials

Other Collaborations



AML's Supply Chain



Capabilities & Solutions

Project MITUS

- ✓ Building a Better “Magnet In The U.S.”
- ✓ Full-Rate Mfg. – 6 – 12 months at scaling.

Diversified Supply Chain

- ✓ U.S. & Non-China REE (non-REE) Inputs
- ✓ Build out of new magnet material supply chains

Solutions

- ✓ Magnet application analysis and design for tactical objective achievement.
- ✓ On-demand and rapid production capabilities for permanent magnets.
- ✓ ‘Mine / Source to Magnet’ traceability for customers.

	Existing	Scaling	Scaled
Facilities	1	1	2
Tonne/Year	101	+ 1,010	+ 2,000
Magnet Types	SmFeN NdFeB	SmFeN MnBi NdFeB	SmFeN MnBi NdFeB

Modular and rapidly scalable

AML has been funded by the U.S. Department of War and the U.S. Department of Energy for capabilities development.