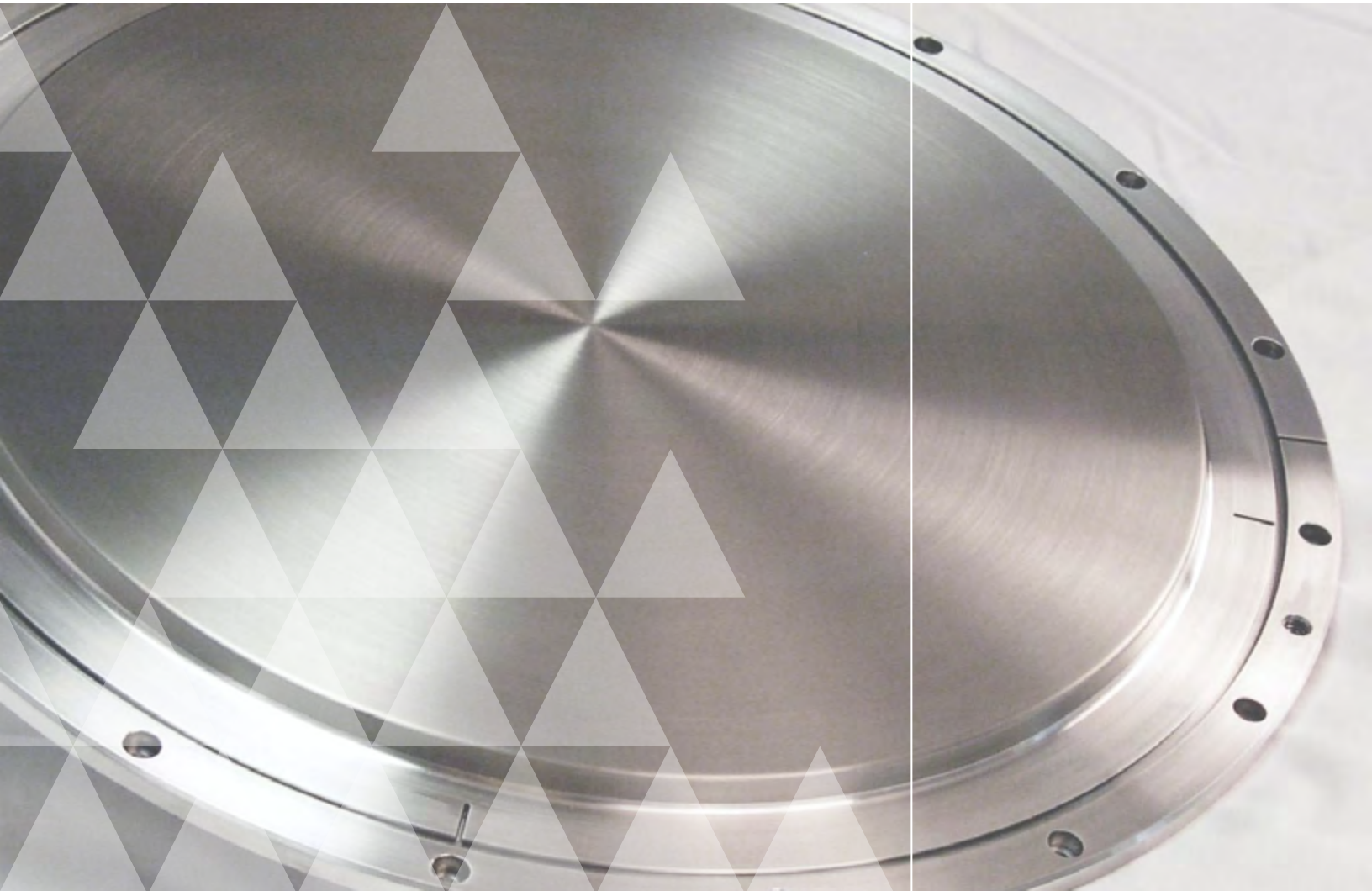




MATERION



**ADVANCED
MATERIALS GROUP**

**STT-RAM
Materials**

STT-RAM Materials

The Challenge

There is an increased demand for high quality magnetic tunnel junction (MTJ) materials to support the expanding market for mobile platforms, mass storage, and other automotive/industrial applications. These materials lay the cornerstone for the transition to STT-RAM (Spin-Transfer-Torque Random-Access memory) technology. As the Number One global supplier of MTJ materials, Materion manufactures critical components for the advanced memory and data storage industry.

The Solution

While it can be difficult working with brittle magnetic alloys, we produce the widest range of high purity thin film materials to meet STT-RAM requirements. Our advanced vacuum casting technology and other processes, produce alloys with very low oxygen impurity.

- Vacuum Cast Alloys
 - Cobalt and CoFe
 - High purity, low oxygen FeCoB and CoFeB alloys
 - FeCoB with >30% Boron
 - Platinum and Palladium alloys
 - Conflict Free Tantalum
 - Titanium, Zirconium, Tungsten, Molybdenum, Iron, Hafnium
- Powder Metallurgy Alloys
 - MgO with density >99.7%
 - Ruthenium
 - Rhodium

Materion ... Materials to Advance the World's Technologies

Enabling the STT-RAM Industry with High Purity Thin Film Materials...

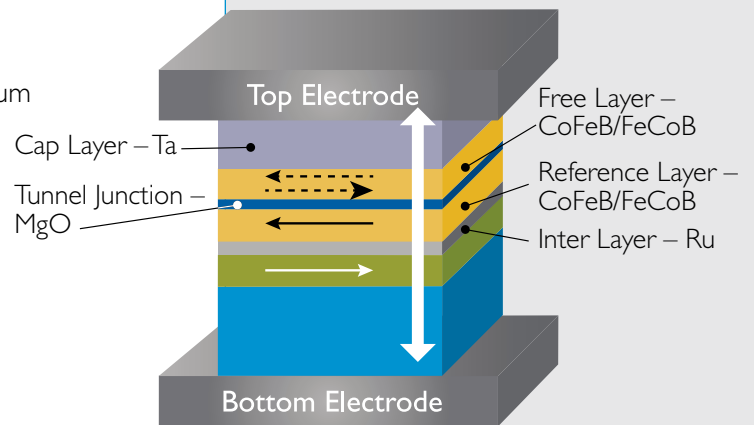
BENEFITS

In addition to our unique materials & processes, we offer a number of other advantages:

- Scalable from R&D to production
- Technical expertise in developing alloys
- Availability of local service
- Tight process controls for superior quality control
- Compatible with all standard OEMs

SPECIALIZED EXPERTISE

- Long-life Magnetic Targets
- Pt and Pd Alloys
- Precious & Valuable Metal Management
- Low Oxygen CoFeB Alloys
- High Purity MgO
- Antiferromagnetic Materials



Simplified Representation



MATERION

ADVANCED MATERIALS GROUP

2978 Main Street
Buffalo, NY 14214 USA
Phone: +1 800.327.1355
advancedmaterials@materion.com
www.materion.com/advancedmaterials

MATERION ADVANCED MATERIALS TECHNOLOGIES AND SERVICES KOREA

#1044, 10F, ITECO Bldg, 762 Dukupung-Dong
Hanam-Si, Kyunggi-Da, Korea 465-736
peter.kim@materion.com or suktaek.kim@materion.com

MATERION CORPORATION

www.materion.com



MATERION ADVANCED MATERIALS GROUP is a global supplier of premier specialty materials and services for the LED, semiconductor, advanced memory, optical coatings, and large area glass markets. Our offerings include precious and non-precious thin film deposition materials, inorganic chemicals, microelectronic packaging products, precision parts cleaning, and precious and valuable metal reclamation. Because of our industry experts and extensive manufacturing capabilities, we are able to meet our customers' specific material requirements today and assist with their innovative Research and Development projects.