BlackboxStocks (NASDAQ: BLBX) Merger Target, REalloys and Mission Critical Materials Form Strategic Partnership to Build First U.S. Mine-Waste-to-Magnet Supply Chain

REalloys utilizes its first-to-market processing and metallization capabilities to secure a sovereign supply of heavy rare earths for U.S. defense agencies on an accelerated timeline.

Strategic alliance would establish the United States' first fully domestic mine-waste-to-magnet ecosystem, leveraging federally funded upstream innovation to break reliance on foreign supply chains.

Blackboxstocks (NASDAQ: BLBX) Merger Target, REalloys Inc. ("REalloys") announced today that it has signed a Memorandum of Understanding ("MOU") with Mission Critical Materials LLC ("MCM") to establish a framework for the first fully domestic supply chain converting acid mine drainage into heavy rare earth metals and magnets for defense related manufacturing and strategic stockpiles.

The partnership links MCM's upstream technology developed at West Virginia University ("WVU") and funded extensively by the U.S. Department of Energy ("DOE") and Department of War ("DOW") (f/k/a Department of Defense) with REalloys' first-to-market integrated midstream and downstream capabilities, including rare earth separation, HF-free metallization, alloy production, and U.S.-based magnet manufacturing, for planned delivery to U.S. government clientele, including the DLA, DOW and DOE.

Under the non-binding MOU, REalloys becomes MCM's preferred downstream and offtake partner for rare earth materials recovered from acid mine drainage ("AMD"), a hazardous wastewater stream long viewed as only an environmental burden. MCM's process recovers high-purity mixed rare earth oxides, including strategically important heavy elements such as dysprosium, terbium, yttrium, and gadolinium, as well as magnet-critical light rare earths like neodymium-praseodymium.

"This collaboration acts as a transformational bridge between America's upstream innovation and the downstream industrial capacity required to finally rebuild a sovereign rare earth supply chain," said Steve duMont, Non-Executive Chairman Elect of REalloys and President of GM Defense. "The alignment of REalloys' first-to-market processing capabilities and MCM's recovery technology will strengthen supply chain security and resilience for the defense industrial base, while further positioning REalloys to meet the heavy rare earths needs of U.S. strategic and protected markets on an accelerated timeline."

MCM is assessing several potential U.S. domestic coal- and hard-rock-based AMD sites for commercial production. They plan to leverage continued DOW and DOE support to accelerate the industrialization of this recovery technology. Many of these sites have unusually high concentrations of the strategically important heavies; grades rarely found in U.S. deposits. MCM has already produced high-purity concentrates (>95% REO) from these materials, and anticipates being able to supply several hundred tonnes of heavies to the REalloys supply chain over the

coming years. REalloys will now conduct separation, metallization and magnet-grade evaluations to demonstrate a complete U.S. production pathway—from wastewater to finished NdFeB magnets—using fully domestic infrastructure.

“This partnership represents a new model for American industrial strategy,” said Leonard Sternheim, Chief Executive Officer of REalloys. “By turning environmental liability into strategic sources of rare earth feedstock, we are securing domestic access to Dy, Tb, Y, and NdPr - the elements at the heart of U.S. defense technologies and advanced manufacturing. This U.S. Technology can also potentially be licensed, expanded, and further monetized through our international allied feedstock partnership network.”

This collaboration aligns with federal priorities to re-shore supply chains for critical minerals and reduce reliance on Chinese processing. By linking environmental remediation with advanced manufacturing, the REalloys–MCM partnership offers a template for building a resilient U.S. magnet supply chain. The companies expect to negotiate a definitive multi-year offtake agreement in 2026.

“For years, the United States has led in rare earth research but lacked a fully domestic pathway to convert that innovation into industrial output,” said Steve Dunmead, Chief Executive Officer of Mission Critical Materials. “Our partnership with REalloys changes that. By integrating our AMD-derived rare earth concentrates with REalloys’ processing and magnet-making capabilities, we are demonstrating that America can build a complete, resilient rare earth supply chain on its own soil. This is exactly the type of public–private collaboration envisioned by DOE and DOW.”

The companies plan to coordinate closely on technical optimization, flowsheet integration, and joint federal funding proposals. Both intend to pursue DOE and DOW opportunities in 2026 to accelerate commercial deployment.

About REalloys:
REalloys Inc. (“REA”) is a leading North American mine-to-magnet rare earth company, uniting its upstream resource at Hoidas Lake, with first-to-market midstream processing in partnership with the Saskatchewan Research Council (“SRC”), and downstream production of metals, alloys and magnet materials in Euclid, Ohio. The Hoidas Lake deposit is distinguished by its unique combination of both Heavy Rare Earth Elements and Light Rare Earth Elements. Through its historic partnership with the SRC, REA has established a first to market midstream processing capability that feeds into its Ohio metallization and magnet materials manufacturing facility, which then sells into U.S. strategic and protected markets including to the Defense Logistics Agency (the procurement agency for the DOW, DOE and NASA). With a near-term commercial ready North American supply chain, REA is uniquely positioned to meet U.S. Protected Market demands on an accelerated timeline. REalloys is also moving forward with its planned merger with Blackboxstocks Inc. (NASDAQ: BLBX), positioning the combined company for accelerated growth in the North American rare earth market.

For more information, go to www.realloys.com or email info@realloys.com

About Mission Critical Materials (MCM):

MCM was established to accelerate the commercialization of a portfolio of technologies developed by West Virginia University ("WVU") associated with the recovery of rare earth elements ("REE") and other critical minerals ("CM") from acid mine drainage ("AMD"). This technology was developed with extensive funding from DOE and DOW. WVU/MCM operate the first U.S. integrated pilot facility for recovery of REE's and CM's from AMD. MCM has demonstrated production of high-purity mixed rare earth oxides ("MREO"), including both lights ("LREO") and heavies ("HREO"), from multiple AMD sources, including a DOW-supported program in Butte, Montana and a DOE-supported program in Mount Storm, West Virginia.

For more information, go to www.missioncriticalmaterials.com or email info@missioncriticalmaterials.com