

MagDrive Technologies Awarded NASA Contract to Advance Electromagnetic Zero-Emission Valve Drive for Aerospace

MagDrive's E-Drive selected by NASA to redefine valve technology for aerospace, defense, and critical industrial markets.

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Nick Runyon, CEO

[Technologies](#), Inc., a leader in next-generation valve actuation systems, today announced its selection by [NASA](#) for a prestigious Small Business Innovation Research (SBIR) Phase II award. The contract supports the development of the company's E-Drive: Electromagnetic [Zero-Emission Valve](#) Drive, a groundbreaking technology designed to eliminate valve leaks through a hermetically sealed, electromagnetically actuated design.

The Phase II award builds on MagDrive's successful Phase I work and will fund the transition from digital models to

fully functional prototypes. The E-Drive aims to deliver zero-emission cryogenic valve operation, enabling precise flow control, miniaturization, and enhanced reliability in extreme aerospace environments. By eliminating external dynamic seals, the technology addresses one of the most persistent challenges in both spaceflight and terrestrial applications: fugitive emissions from industrial valves.

“This recognition from NASA validates the transformative potential of our technology,” said Nick Runyon, CEO of MagDrive Technologies. “The E-Drive is engineered to solve critical leakage and reliability challenges that impact not only aerospace missions but also industries like oil & gas, chemicals, and refining. With NASA's support, we are accelerating the path to a zero-emission future for valve systems in the most demanding environments.”

During Phase II, MagDrive Technologies will fabricate and test E-Drive motor components, integrate them into a cryogenic valve system, and validate performance under space-relevant conditions. The company's commercialization strategy includes licensing agreements, pilot programs, and partnerships with aerospace, defense, and energy leaders. Target markets extend beyond NASA and the U.S. Space Force to include private spaceflight operators and terrestrial

industries where zero-emission, leak-free valve performance is mission-critical.

This project underscores MagDrive's mission to deliver reliable, efficient, and sustainable valve technology that enhances safety and reduces environmental impact across industries.

About MagDrive Technologies MagDrive Technologies, based in Bozeman, Montana, is pioneering magnetically actuated, zero-emission valve systems that eliminate fugitive emissions and improve reliability in the most extreme environments. With applications spanning aerospace, energy, and industrial sectors, MagDrive is redefining valve technology for a sustainable future.

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