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PRESS RELEASE

ALBUQUERQUE, NM, Oct., 8, 2021 -- As part of its on-going effort to step up to the needs of the Directed Energy weapons community for deployable High Energy Laser (HEL) beam control solutions, MZA Associates Corporation announced that it has acquired full interest in McCarter Machine, Inc., a precision machining company that specializes in the innovative design and fabrication of complex Single Crystal Silicon (SCSi) light-weight optics and components, as well as precision metal machining for heavy industries. McCarter Machine will be operated out of its longtime La Porte, Texas facility as a Division of MZA.

McCarter Machine was founded by Doug and Ellie McCarter in 1981 and has been a leading provider of silicon optics and components to numerous NASA, DoD, and DoE high-technology programs for more than thirty years. "The acquisition by MZA will advance McCarter's technology into the next generation of high-power optical systems," said Doug McCarter, the foremost contributor to the field of precision silicon component fabrication. "The excellent polishability, low density, and high thermal stability and stiffness of silicon make it the most attractive candidate for demanding optical applications." Not only optics, but other ultra-stable silicon components offered by McCarter have significant utility in numerous demanding applications, including in space payloads requiring cryostability and where it is desirable to replace the use of beryllium. MZA's President, Robert Praus said, "The McCarter's have established an excellent organization with a record of innovation and reliable delivery of precision components."

McCarter Machine also provides precision-machined custom metal parts to heavy industries, in general, and the petrochemical industry, specifically. The new Operations Manager for McCarter Machine, MZA's Shawn Praus, said, "My most important job is to maintain the productivity and quality of all McCarter operations while supporting the advancement of the silicon technology needed for MZA to facilitate the development of large HEL beam directors." However, machining of metal, not just silicon, also provides significant benefits to MZA in the delivery of high-power beam control systems. "I anticipate that the McCarter capabilities will reduce the cost and schedule of fabricating our beam control systems. MZA beam control system designs incorporate a lot of custom precision-machined metal parts and it is often expensive and time-consuming to get them made. Moreover, we'll be able to better control

the quality of the machined components." All of the skilled machinists working for McCarter have transitioned to full-time employees of MZA and to help ensure the success of the transition, Doug and Ellie McCarter will continue to consult to MZA concerning general operations and the design and fabrication of silicon components. "Our current customers can continue to rely on McCarter because, for the time being, we plan to operate McCarter just as it has been successfully operated in the past. We'll make adjustments in the future to increase production and implement innovations, but not at the expense of quality or timeliness," explained Shawn Praus.

MZA is the leading provider of high-power beam control systems for HEL weapons. MZA developed the US Navy's Helicopter Beam Director Subsystem (HBDS), the most compact and lightweight high-power beam control system in existence. And while HBDS never made it onto its originally-intended rotary platform, its performance was demonstrated in aero-effects mitigation flight tests on a Falcon aircraft and other ground tracking and scoring tests. Since developing HBDS, MZA has designed, developed, tested, and delivered HEL beam control solutions for ground-based, sea-based, and flight weapons applications for a number of DoD components.

MZA is one of only two commercial suppliers of high-power Deformable Mirrors (DMs), a key component necessary for the mitigation of atmospheric and aero-optical disturbances in imaging and laser projection systems. One of MZA's novel developments in this area has been that of Active Primary Mirrors (APMs), large DMs which also serve as the telescope primary mirror. "APMs are challenging to manufacture because the curved face sheet must be sufficiently thin that it can be deformed at high rates while being large enough to concentrate energy on a target at range," said Dr. Justin Mansell, MZA's Chief Technology Officer. "The McCarter acquisition provides an enabling capability for making Active Primary Mirrors at larger sizes required for the next generation of HEL weapons systems."

MZA will continue to offer silicon optics to the general HEL community, including its competitors. MZA says that the primary goal in the acquisition of McCarter is to improve the availability and reduce the cost of high-power precision optics for HEL weapons beam directors and beam control systems. "In the hands of MZA, McCarter's world-class silicon optics fabrication capabilities will improve the industry's ability to fulfill the promise of HEL weapons," said Robert Praus. "Presently, the government does not have reliable options for acquiring the large gimbaled telescopes necessary for the toughest HEL

missions. We plan to combine McCarter's capabilities with our own to provide the directed energy community with low-risk and lower-cost options for the development of HEL weapons."