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EMCORE Announces Significant Performance Advancements of Multi-Junction High-Efficiency Solar Cells for Space and Terrestrial Applications

Achievements of 31% Conversion Efficiency for a New Class of Advanced Space Solar Cells and 37% Production Efficiency for the Terrestrial Concentrator Cell Affirm EMCORE's Position As a Leader in PhotoVoltaic Technology.

ALBUQUERQUE, N.M., May 16 /PRNewswire-FirstCall/ -- EMCORE Corporation (Nasdaq: EMKR), announced today that its PhotoVoltaics Division has attained a record solar conversion efficiency of 31% for an entirely new class of advanced multi-junction solar cells optimized for space applications. Additionally, EMCORE announced that it has reached 37% peak conversion efficiency on its terrestrial concentrating solar cell products currently in volume production.

The new solar cell, referred as the Inverted Metamorphic (IMM) design, is composed of a novel combination of compound semiconductors that enables a superior response to the solar spectrum compared to conventional multi- junction solar cells. Due to its revolutionary design, the IMM cell is approximately one fifteenth the thickness of the conventional multi-junction solar cell. The IMM cell, developed in conjunction with the Vehicle Systems Directorate of US Air Force Research Laboratory, will enable a new class of extremely lightweight, high-efficiency, and flexible solar arrays that power the next generation of spacecrafts and satellites and will also form a platform of future generations of terrestrial concentrator products.

EMCORE's production terrestrial concentrator cell has also reached a new level of performance, attaining 37% peak conversion efficiency under concentrated illumination conditions. This advance is an evolution of EMCORE's proven Concentrator Triple Junction (CTJ) production technology with which several million CTJ solar cells have been produced and shipped to Concentrator PhotoVoltaic system manufacturers worldwide. EMCORE's continuing investment in technology innovation will enable the introduction of concentrator solar cell products with conversion efficiency of 40% and as a part of planned high- volume product roadmap.

David Danzilio, Vice President and General Manager of EMCORE's PhotoVoltaics Division stated, "We are very pleased that EMCORE PhotoVoltaics has again shown its technological leadership in the field of multi-junction solar cells. The successful demonstration of this new class IMM cell represents the most significant improvement in terms of watts/kg and $/watts in the past decade, which will enable never before envisioned space power applications. Our industry leading scientists and engineers continue to refine and optimize our terrestrial

concentrator products and production capabilities to meet our customers' needs and enable CPV systems to achieve the lowest cost of power."

EMCORE is the world's largest manufacturer of highly efficient and radiation hard solar cells for space power applications. With a beginning-of- life (BOL) conversion efficiency of 28.5% and the option for a patented, onboard monolithic bypass diode, EMCORE's industry leading, high reliability multi-junction solar power products are the preferred solution for demanding space power applications. This advanced solar cell technology has also been adapted for use in terrestrial concentrator applications and have attained conversion efficiencies of 37%. To date, EMCORE has delivered more than 1 million multi-junction solar cells for space applications and over 3 million CTJ cells for terrestrial CPV applications. EMCORE's terrestrial products will make possible cost competitive concentrating PhotoVoltaic systems for use in utility scale solar power deployments.

"EMCORE PhotoVoltaics Division continues to drive technology advancement and operation excellence. Achievement of 31% conversion efficiency will enable new space power applications in addition to the fact that the IMM cells offer the most sought-after performance characteristics. EMCORE is committed to continuing performance improvement of CTJ cells as the most effective means to improve the cost competitiveness of our product portfolio," added Hong, Q. Hou, President and COO of EMCORE.

About EMCORE

EMCORE Corporation offers a broad portfolio of compound semiconductor- based products for the broadband, fiber optic, satellite and solar power markets. EMCORE's Fiber Optic segment offers optical components, subsystems and systems for high speed data and telecommunications networks, cable television (CATV) and fiber-to-the-premises (FTTP). EMCORE's PhotoVoltaic segment provides products for both satellite and terrestrial applications. For satellite applications, EMCORE offers high efficiency Gallium Arsenide (GaAs) solar cells, Covered Interconnect Cells (CICs) and panels. For terrestrial applications, EMCORE is adapting its high-efficiency GaAs solar cells for use in solar concentrator systems. For further information about EMCORE, visit http://www.emcore.com.

The information provided herein may include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements include, but are not limited to, any statement or implication that the products described in this press release (i) will be successfully introduced or marketed, (ii) will be qualified and purchased by our customers, or (iii) will perform to any particular specifications or performance or reliability standards. Such forward-looking statements involve risks and uncertainties that, if realized, could materially impair the Company's results of operations, business, and financial condition. These risks and uncertainties include, but are not limited to, (a) the failure of the products (i) to perform as expected without material defects, (ii) to be manufactured at acceptable volumes, yields, and cost, (iii) to be qualified and accepted by our customers, and (iv) to successfully compete with products offered by our competitors, and (b) factors discussed from time to time in reports filed by the Company with the Securities and Exchange Commission. The forward-looking statements contained in this news release are made as of the date hereof and EMCORE does not assume any obligation to update the reasons why actual results could differ materially from those projected in the forward-looking statements.

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