

EMCORE CORP  
 Form 424B5  
 September 28, 2012

Filed pursuant to Rule 424(b)(5)  
 Registration No. 333-183256

The information in this preliminary prospectus supplement and the accompanying prospectus relates to an effective registration statement under the Securities Act of 1933, as amended, but is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated September 27, 2012  
 PROSPECTUS SUPPLEMENT  
 (To Prospectus dated August 23, 2012)

Shares  
 EMCORE Corporation  
 Common Stock

We are offering shares of our common stock pursuant to this prospectus supplement and the accompanying prospectus. The purchase price for each share of common stock is \$ .  
 Our common stock trades on The NASDAQ Global Market under the symbol "EMKR." The last reported sale price of our common stock on September 26, 2012 was \$5.75 per share.  
 Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page S-4 of this prospectus supplement and page 3 of the accompanying prospectus.

	Per Share	Total
Public offering price.....	\$	\$
Underwriting discount.....	\$	\$
Proceeds, before expenses, to us.....	\$	\$

To the extent the underwriter sells more than shares of our common stock, the underwriter has a 30-day option to purchase up to additional shares of our common stock from us at a price of \$ per share.  
 The underwriter expects to deliver the common stock in book-entry form only, through the facilities of The Depository Trust Company, against payment on or about October , 2012.  
 Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed on the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

B. Riley & Co., LLC  
 The date of this prospectus supplement is September , 2012

TABLE OF CONTENTS

Prospectus Supplement	
About This Prospectus Supplement	<u>S-1</u>
Prospectus Supplement Summary	<u>S-2</u>
About EMCORE Corporation	<u>S-2</u>
The Offering	<u>S-3</u>
Risk Factors	<u>S-4</u>
Cautionary Statements Regarding Forward-Looking Statements	<u>S-5</u>
Use Of Proceeds	<u>S-5</u>
Description of Common Stock We Are Offering	<u>S-6</u>
Dilution	<u>S-7</u>
Underwriting	<u>S-8</u>
Legal Matters	<u>S-12</u>
Experts	<u>S-12</u>
Where You Can Find More Information	<u>S-12</u>
Information Incorporated By Reference	<u>S-13</u>
Prospectus	
About This Prospectus	<u>1</u>
Forward Looking Statements	<u>2</u>
EMCORE Corporation	<u>3</u>
Risk Factors	<u>3</u>
Use of Proceeds	<u>3</u>
Dilution	<u>4</u>
Ratio of Earnings to Fixed Charges and Preferred Stock Dividends	<u>4</u>
Description of Common Stock	<u>4</u>
Description of Preferred Stock	<u>5</u>
Description of Debt Securities	<u>6</u>
Description of Warrants	<u>13</u>
Description of Units	<u>14</u>
Plan of Distribution	<u>15</u>
Antitakeover Effects of Provisions of Our Restated Certificate of Incorporation and Amended	<u>16</u>
By-Laws	
New Jersey Shareholders Protection Act	<u>17</u>
Legal Matters	<u>17</u>
Experts	<u>17</u>
Where You Can Find More Information	<u>18</u>
Information Incorporated by Reference	<u>18</u>

## ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is a supplement to the accompanying prospectus, dated August 23, 2012, which is also a part of this document. This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 (File No. 333-183256), which we refer to as the Registration Statement, that we filed with the Securities and Exchange Commission, or the SEC, using the “shelf” registration process, and that was declared effective on August 23, 2012. Under this “shelf” registration process, we may from time to time sell any combination of securities described in the accompanying prospectus in one or more offerings up to a total of \$50,000,000.

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of the offering and also supplements, adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into the accompanying prospectus. The second part is the accompanying prospectus, which provides more general information, some of which may not apply to the securities. Generally, when we refer to this prospectus supplement, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or any document incorporated by reference therein, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

This prospectus supplement contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus supplement is a part, and you may obtain copies of those documents as described below under the section entitled “Where You Can Find More Information.”

Unless stated otherwise, references in this prospectus supplement and the accompanying prospectus to the “Company”, “EMCORE”, “we”, “us”, and “our” refer to EMCORE Corporation and its consolidated subsidiaries. Our fiscal year ends on September 30 of each calendar year. For example, fiscal year 2011 refers to the year ended September 30, 2011.

EMCORE is a registered trademark of EMCORE Corporation. This prospectus supplement and the accompanying prospectus contain product names, trade names and trademarks of EMCORE and other organizations.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with additional information or information different from that contained in this prospectus supplement and the accompanying prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus may be used only in states or jurisdictions where it is legal to sell these securities. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. For investors outside of the United States, neither we nor any other person involved in this offering have done anything that would permit this offering or possession or distribution of this prospectus supplement and the accompanying prospectus in any jurisdiction where action for that purpose is required, other than the United States. You should inform yourself and consult with your own legal advisors about how to observe any restrictions relating to this offering and the distribution of this prospectus supplement and the accompanying prospectus as well as any legal, tax, business, financial and other related aspects of a purchase of such securities.

## PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement. This summary does not contain all the information that you should consider before investing in our securities. You should read the entire prospectus supplement and the accompanying prospectus carefully, including “Risk Factors,” the financial statements and other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus before making an investment decision. This prospectus supplement contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from the results anticipated in these forward-looking statements as a result of factors described under the “Risk Factors” section and elsewhere in this prospectus supplement and in the risk factors set forth under “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended September 30, 2011, any updates to such risk factors in our subsequent Quarterly Reports on Form 10-Q, and elsewhere in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus.

## ABOUT EMCORE CORPORATION

### Our Business

We are a provider of compound semiconductor-based components and subsystems for the broadband, fiber optic, satellite, and terrestrial solar power markets. We were established in 1984 as a New Jersey corporation. We have two reporting segments. Our Fiber Optics segment offers optical components, subsystems and systems for high-speed telecommunications, Cable Television (CATV) and Fiber-To-The-Premise (FTTP) networks, as well as products for satellite communications, video transport and specialty photonics technologies for defense and homeland security applications. Our Solar Photovoltaics business segment provides products for both space and terrestrial solar power applications. For space applications, we offer high-efficiency multi-junction solar cells, Covered Interconnect Cells (CICs) and complete satellite solar panels. For terrestrial applications, we offer a broad portfolio of Concentrator Photovoltaic (CPV) multi-junction solar cells and components.

### Our Corporate Information

Our headquarters and principal executive offices are located at 10420 Research Road, SE, Albuquerque, New Mexico, 87123, and our main telephone number is (505) 332-5000. For specific information about our company, our products or the markets we serve, please visit our website at <http://www.emcore.com>. The information contained in or linked to our website is not part of this prospectus supplement.

THE OFFERING

Common stock offered by us	shares (or shares if the underwriter exercises in full its option to purchase additional shares).
Common stock to be outstanding immediately after this offering	shares (or shares if the underwriter exercises in full its option to purchase additional shares).
Offering price	\$ per share.
Option to purchase additional shares	The underwriter has a 30-day option to purchase up to additional shares of common stock from us at a price of \$ per share.
Proceeds of Offering	We estimate that the net proceeds from the offering, after deducting underwriting discounts and estimated offering expenses, will be approximately \$ million. We intend to use the net proceeds from this offering for general corporate purposes, including research and development expenses, capital expenditures, working capital and general and administrative expenses, and potential acquisitions of or investments in businesses, products and technologies that complement our business, although we have no present commitments or agreements to make any such acquisitions or investments.
Use of Proceeds	See "Use of Proceeds" on page S-5 of this prospectus supplement. Investing in our common stock involves a high degree of risk.
Risk Factors	See "Risk Factors" on page S-4 of this prospectus supplement for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock.
The NASDAQ Global Market Symbol	"EMKR"
Unless otherwise indicated, the information in this prospectus supplement assumes no exercise of the underwriter's option to purchase additional shares of common stock.	
The number of shares of common stock that will be outstanding immediately after this offering is based on 24,042,000 shares of common stock outstanding as of June 30, 2012 and excludes, as of such date:	
2,109,032 shares of our common stock issuable upon exercise of outstanding stock options;	
166,667 shares of our common stock issuable upon exercise of outstanding warrants at \$6.76 per share exercise price;	
166,667 shares of our common stock issuable upon exercise of outstanding warrants at \$8.08 per share exercise price;	
66,666 shares of our common stock issuable upon exercise of outstanding warrants at \$9.44 per share exercise price;	
and,	
350,010 shares of our common stock issuable upon exercise of outstanding warrants at \$60.24 per share exercise price.	

## RISK FACTORS

An investment in our securities involves a high degree of risk. Before you make a decision to invest in our securities, you should consider carefully the risks described below and discussed under the section captioned "Risk Factors" contained in our Annual Report on Form 10-K for the fiscal year ended September 30, 2011, and in any subsequently filed Quarterly Reports on Form 10-Q, which are incorporated by reference in this prospectus supplement and the accompanying prospectus in their entirety, together with other information in this prospectus supplement, the accompanying prospectus, and the information and documents incorporated by reference. If any of these risks actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause the trading price of our securities to decline and you may lose part or all of your investment. Moreover, the risks described are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business, operating results, prospects or financial condition. In addition to the foregoing, risks related to the offering include the following:

Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our new products and cause the price of our common stock to decline.

You will experience immediate dilution in the book value per share of the common stock you purchase.

Because the price per share of our common stock being offered is substantially higher than the book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. After giving effect to the sale by us of shares of common stock in this offering, and based on the public offering price of \$ per share in this offering and a pro forma net tangible book value per share of our common stock of \$ as of June 30, 2012, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$ per share in the net tangible book value of the common stock. If the underwriter exercises its option to purchase additional shares, you will experience additional dilution. See "Dilution" on page S-7 for a more detailed discussion of the dilution you will incur in connection with this offering.

Substantial resales or future issuances of the common stock could depress our stock price.

The market price for the common stock could decline, perhaps significantly, as a result of resales or issuances of a large number of shares of the common stock in the public market or even the perception that such resales or issuances could occur, including resales of the shares being registered hereunder pursuant to the registration statement of which this prospectus is a part. In addition, we have outstanding a substantial number of options and warrants that may be exercised in the future. These factors could also make it more difficult for us to raise funds through future offerings of our equity securities.

You will incur substantial dilution as a result of certain future equity issuances.

We have a substantial number of options and warrants currently outstanding which may be converted into shares of common stock. To the extent that these options, warrants or similar securities are exercised or converted, or to the extent we issue additional shares of common stock in the future, as the case may be, there will be further dilution to holders of shares of the common stock.

We have no present intention of paying dividends on our common stock.

We have never paid any cash dividends on our common stock and have no present plans to do so. In addition, under the terms of our credit facility with Wells Fargo Capital Finance, we are limited in our ability to pay dividends.

## CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus and the documents we have filed with the SEC that are incorporated by reference contain “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. These forward-looking statements are largely based on our current expectations and projections about future events and financial trends affecting the financial condition of our business. Such forward-looking statements include, in particular, projections about our future results, statements about our plans, strategies, business prospects, changes and trends in our business and the markets in which we operate. These forward-looking statements may be identified by the use of terms and phrases such as “anticipates”, “believes”, “can”, “could”, “estimates”, “expects”, “forecasts”, “intends”, “may”, “plans”, “projects”, “targets”, “will”, and similar expressions or variations of terms and similar phrases. Additionally, statements concerning future matters such as the development of new products, enhancements or technologies, sales levels, expense levels, and other statements regarding matters that are not historical are forward-looking statements. Management cautions that these forward-looking statements relate to future events or our future financial performance and are subject to business, economic, and other risks and uncertainties, both known and unknown, that may cause actual results, levels of activity, performance, or achievements of our business or our industry to be materially different from those expressed or implied by any forward-looking statements, including without limitation: (a) the impact on us, our customers and our suppliers from the effects of the floods in Thailand; (b) delays and other difficulties in commercializing new products; (c) the failure of new 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; (d) our ability to increase our liquidity; (e) uncertainties concerning the extent of our insurance recovery from damage to our contract manufacturer's facilities and our and our contract manufacturer's equipment; (f) uncertainties concerning the availability and cost of commodity materials and specialized product components that we do not make internally; and (g) actions by competitors. Factors that could cause or contribute to differences in results and outcomes also include, but are not limited to, those discussed under the section entitled “Risk Factors” in this prospectus supplement and the accompanying prospectus and any documents incorporated by reference herein or therein, including, without limitation, the risks we discuss in greater detail in our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC or in any Current Report on Form 8-K. Readers should carefully review this prospectus supplement, the accompanying prospectus and the registration statement of which this prospectus supplement and the accompanying prospectus are a part, together with the information incorporated herein and therein by reference, completely and with the understanding that our actual future results may be materially different from what we expect. We can give no assurances that any of the events anticipated by the forward-looking statements will occur or, if any of them do, what impact they will have on our results of operations and financial condition.

Neither management nor any other person assumes responsibility for the accuracy and completeness of any forward-looking statement. All forward-looking statements in this prospectus supplement and the accompanying prospectus are made as of the date hereof and thereof, based on information available to us as of the date hereof and thereof, and subsequent facts or circumstances may contradict, obviate, undermine, or otherwise fail to support or substantiate such statements. We caution you not to rely on these statements without also considering the risks and uncertainties associated with these statements and our business. We assume no obligation to update any forward-looking statement to conform such statements to actual results or to changes in our expectations, except as required by applicable law or regulation. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

## USE OF PROCEEDS

We estimate that our net proceeds from this offering, after underwriting discounts and estimated offering expenses, will be approximately \$ million (approximately \$ million if the underwriter exercises in full its option to purchase additional shares).

We intend to use the net proceeds from this offering for general corporate purposes, including research and development expenses, capital expenditures, working capital and general and administrative expenses, and potential acquisitions of or investments in businesses, products and technologies that complement our business, although we have no present commitments or agreements to make any such acquisitions or investments.

S-5

---



## DESCRIPTION OF COMMON STOCK WE ARE OFFERING

### General Matters

Our authorized capital stock consists of 50,000,000 shares of common stock, no par value, and 5,882,352 shares of preferred stock, \$0.0001 par value. As of September 26, 2012, we had 24,308,650 shares of common stock issued and outstanding and no shares of preferred stock issued or outstanding.

### Common Stock

Holders of common stock are entitled to one vote per share on matters to be voted upon by the shareholders of the Company. Subject to the preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably such dividends, if any, as may be declared by the Board of Directors out of funds legally available therefor. In the event of liquidation, dissolution or winding up of the Company, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to the prior liquidation rights of any outstanding shares of preferred stock. The common stock has no preemptive, redemption, conversion or other subscription rights. The outstanding shares of common stock are, and the shares offered by the Company in the offering will be, when issued and paid for, fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that the Company may designate and issue in the future.

### Transfer Agent and Registrar

The Transfer Agent and Registrar for our common stock is American Stock Transfer & Trust Company, New York, New York.

### Listing

Our shares of common stock are quoted on The NASDAQ Global Market under the symbol "EMKR".

**DILUTION**

If you purchase our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share and the pro forma net tangible book value per share of our common stock after this offering. Net tangible book value per share is determined by dividing the number of outstanding shares of our common stock into our net tangible book value, which consists of total tangible assets (total assets less intangible assets) less total liabilities. As of June 30, 2012, we had a historical net tangible book value of approximately \$49,200,000, or approximately \$2.04 per share.

Investors participating in this offering will incur immediate, substantial dilution. After giving effect to the sale of our common stock in this offering at the public offering price set forth on the cover page of this prospectus supplement, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our net tangible book value as of June 30, 2012 would have been approximately \$ , or approximately \$ per share of common stock. This represents an immediate increase in net tangible book value of approximately \$ per share to existing stockholders, and an immediate dilution of approximately \$ per share to investors participating in this offering.

The following table illustrates this per share dilution:

Public offering price per share		\$
Historical net tangible book value per share as of June 30, 2012	\$2.04	
Increase in net tangible book value per share after this offering	\$	
Net tangible book value per share after this offering		\$
Dilution per share to investors participating in this offering		\$

If the underwriter exercises in full its option to purchase additional shares of common stock at an assumed public offering price of \$ per share, after deducting estimated offering expenses payable by us, our net tangible book value as of June 30, 2012 would have been approximately \$ million, or approximately \$ per share of common stock. This represents an immediate increase in net tangible book value of approximately \$ per share to existing stockholders, and an immediate dilution of approximately \$ per share to investors participating in this offering.

The above discussion and tables also does not take into account as of June 30, 2012:

• 2,109,032 shares of our common stock issuable upon exercise of outstanding stock options;

• 166,667 shares of our common stock issuable upon exercise of outstanding warrants at \$6.76 per share exercise price;

• 166,667 shares of our common stock issuable upon exercise of outstanding warrants at \$8.08 per share exercise price;

• 66,666 shares of our common stock issuable upon exercise of outstanding warrants at \$9.44 per share exercise price; and,

• 350,010 shares of our common stock issuable upon exercise of outstanding warrants at \$60.24 per share exercise price.

To the extent that stock options or warrants are exercised, new stock awards are issued under our equity benefit plans, or we issue additional shares of common stock in the future, there may be further dilution to our shareholders. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.



## UNDERWRITING

Under the terms and subject to the conditions to be set forth in an underwriting agreement by and between us and B. Riley & Co., LLC, as the sole underwriter, we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, all of the      shares offered hereby.

The underwriting agreement provides that the obligations of the underwriter are subject to certain conditions precedent such as the receipt by the underwriter of officers' certificates and a legal opinion. The underwriting agreement provides that the underwriter will purchase all of the shares if any of them are purchased. We have agreed to indemnify the underwriter and certain of its controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriter may be required to make in respect of those liabilities.

The underwriter is offering the shares subject to its acceptance of the shares from us and subject to prior sale. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

### Option to Purchase Additional Shares

We have granted the underwriter an option, exercisable no later than 30 calendar days after the date of the underwriting agreement, to purchase up to an aggregate of      additional shares of our common stock at the public offering price, less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement and as indicated below. We will be obligated to sell these shares of our common stock to the underwriter to the extent the option is exercised. The underwriter may exercise this option if the underwriter sells more shares of our common stock than the total number set forth in the first paragraph above.

Commission and Expenses

The underwriter has advised us that it proposes to offer our common stock directly to the public at the offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of \$     per share. After the offering, the initial public offering price and the concession to dealers may be reduced by the underwriter. No such reduction will change the amount of proceeds to be received by the offering as set forth on the cover page of this prospectus supplement.

The following table shows the per share and total underwriting discounts and commissions that we will pay to the underwriter and the proceeds we will receive before expenses. These amounts are shown assuming both no exercise and full exercise of the underwriter's option to purchase additional shares of our common stock.

	Per Share	Total Without Option Exercise	Total With Option Exercise
Public offering price	\$	\$	\$
Underwriting discounts and commissions	\$	\$	\$
Proceeds to EMCORE Corporation, before expenses	\$	\$	\$

We have also agreed to reimburse the underwriter for up to \$30,000 of the underwriter's expenses. We estimate the total offering expenses of this offering that will be payable by us, excluding the underwriting discounts and commissions, will be approximately \$     , which includes legal costs, various other fees and reimbursement of certain of the underwriter's expenses.

No Sales of Similar Securities

We have agreed, subject to specified exceptions, not to directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock during the 90 day period after the date of this prospectus supplement. We have also agreed not to file any registration statement, preliminary prospectus or prospectus, or any amendment or supplement thereto, under the Securities Act for any such transaction or which registers, or offers for sale, our common stock or any securities convertible into or exercisable or exchangeable for our common stock, except for registration statements on Form S-8 relating to employee benefit plans.

Certain of our executive officers and directors have agreed, subject to specified exceptions, not to directly or indirectly:

offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of our common stock or securities convertible into or exercisable or exchangeable for our common stock (including, without limitation, shares of our common stock or any such securities which may be deemed to be beneficially owned by such officers and directors in accordance with the rules and regulations promulgated under the Exchange Act, as the same may be amended or supplemented from time to time (such shares or securities, the "Beneficially Owned Shares"));

enter into any swap, hedge or other agreement or arrangement that transfers in whole or in part, the economic risk of ownership of any Beneficially Owned Shares, our common stock or securities convertible into or exercisable or exchangeable for our common stock; or,

engage in any short selling of any Beneficially Owned Shares, our common stock or securities convertible into or exercisable or exchangeable for our common stock.

These restrictions terminate after the close of trading of the common shares on and including the 90 days after the date of this prospectus supplement.

However, subject to certain exceptions, in the event that either:

during the last 17 days of the 90-day restricted period, we issue an earnings release or material news or a material event relating to us occurs; or,

prior to the expiration of the 90-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 90-day restricted period;

S-9

---

then in either case the expiration of the 90-day restricted period will be extended until the expiration of the 18-day period beginning on the date of the issuance of an earnings release or the occurrence of the material news or event, as applicable, unless B. Riley & Co., LLC waives, in writing, such extension.

B. Riley & Co., LLC may, in its sole discretion and at any time or from time to time before the termination of the 90-day restricted period, without public notice, release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriter and us, providing consent to the sale of shares prior to the expiration of the lock-up period.

#### Listing

Our common stock is traded on the NASDAQ Global Market under the symbol "EMKR."

#### Price Stabilization and Short Positions

Until the distribution of the shares of common stock is completed, SEC rules may limit the underwriter from bidding for and purchasing shares of our common stock.

In connection with this offering, the underwriter may engage in transactions that stabilize, maintain or otherwise make short sales of our common stock and may purchase our common stock in the open market to cover positions created by short sales. Short sales involve the sale by the underwriter of a greater number of shares than it is required to purchase in this offering. The underwriter may close out any short position by purchasing shares in the open market or exercising its option to purchase additional shares. A short position is more likely to be created if the underwriter is concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in this offering. The underwriter may also engage in "stabilizing bids," which are bids for or the purchase of our common stock on behalf of the underwriter in the open market prior to the completion of this offering for the purpose of fixing or maintaining the price of the shares of our common stock. The underwriter's purchases to cover short sales, as well as other purchases by the underwriter for its own account, and stabilizing bids may have the effect of raising or maintaining the market price of our shares or preventing or retarding a decline in the market price of our shares. As a result, the price of our shares may be higher than the price that might otherwise exist in the open market.

In connection with this offering, the underwriter may also engage in passive market making transactions in our common stock on the NASDAQ Global Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

Neither we, nor the underwriter, make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriter makes any representation that the underwriter will engage in these transactions or that any transaction, if commenced, will not be discontinued without notice.

#### Electronic Distribution

A prospectus supplement in electronic format may be made available by e-mail or on the websites or through online services maintained by the underwriter or its affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriter may agree with us to allocate a specific number of shares for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriter on the same basis as other allocations. Other than the prospectus supplement in electronic format, the information on the underwriter's website and any information contained on any other website maintained by the underwriter is not part of this prospectus supplement, has not been approved and/or endorsed by us or the underwriter and should not be relied upon by investors.





Relationships with the Underwriter

The underwriter or its affiliates have in the past performed, and may in the future perform, investment banking, brokerage and other financial services for us or our affiliates for which they received, or will receive, advisory or transaction fees, as applicable, plus out-of-pocket expenses, of the nature and in the amounts customary in the industry for these financial services.

S-11

---

## LEGAL MATTERS

The validity of the securities being offered hereby will be passed upon for us by Stradling Yocca Carlson & Rauth, P.C., Newport Beach, California. The underwriter is being represented in connection with this offering by Sullivan & Cromwell LLP, Los Angeles, California.

## EXPERTS

The consolidated financial statements of EMCORE Corporation as of September 30, 2011 and 2010 and for each of the years in the two-year period ended September 30, 2011, and management's assessment of the effectiveness of internal control over financial reporting as of September 30, 2011 have been incorporated by reference herein, in the accompanying prospectus and in the registration statement in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The audit report on the effectiveness of internal control over financial reporting as of September 30, 2011, expresses an opinion that EMCORE Corporation did not maintain effective internal control over financial reporting as of September 30, 2011 because of the effect of material weaknesses on the achievement of the objectives of the control criteria and contains an explanatory paragraph that states material weaknesses related to certain inventory reserves transactions and certain inventory held by third parties have been identified and included in management's assessment. The report of KPMG LLP dated December 29, 2011 on the consolidated financial statements refers to a change in the annual testing date for goodwill impairment.

The consolidated financial statements of EMCORE Corporation for the year ended September 30, 2009 incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for the year ended September 30, 2011, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly, and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities we are offering under this prospectus supplement and the accompanying prospectus. This prospectus supplement and the accompanying prospectus do not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus supplement and the accompanying prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You may read and copy the registration statement, as well as our reports, proxy statements and other information, we file at the Public Reference Room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site at [www.sec.gov](http://www.sec.gov) that contains reports, proxy and information statements and other information regarding registrants that file electronically, including us. Except as expressly set forth under "Information Incorporated by Reference," we are not incorporating the contents of the SEC website into this prospectus supplement. You may also find additional information about us, including the documents mentioned above, on our website at [www.emcore.com](http://www.emcore.com). The information included or linked to this website is not a part of this prospectus supplement.

#### INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference in this prospectus supplement the information in documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information in this prospectus supplement updates (and, to the extent of any conflict, supersedes) information incorporated by reference that we have filed with the SEC prior to the date of this prospectus supplement. You should read all of the information incorporated by reference because it is an important part of this prospectus supplement. We incorporate by reference the documents listed below (SEC File No. 000-22175), excluding any portions of any Current Report on Form 8-K that are not deemed “filed” pursuant to the General Instructions of Form 8-K: Annual Report on Form 10-K for the fiscal year ended September 30, 2011, filed with the SEC on December 29, 2011;

The information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended September 30, 2011 from our definitive proxy statement on Schedule 14A for our 2012 Annual Meeting of Shareholders filed with the SEC on January 27, 2012;

Quarterly Reports on Form 10-Q for the quarters ended December 31, 2011, March 31, 2012, and June 30, 2012 filed with the SEC on February 14, 2012, May 3, 2012 (as amended by our 10-Q/A filed with the SEC on August 7, 2012), and August 8, 2012, respectively;

Current Reports on Forms 8-K filed with the SEC on November 9, 2011, December 28, 2011, January 27, 2012, February 16, 2012, March 13, 2012, March 28, 2012, May 8, 2012, June 20, 2012, August 9, 2012, September 19, 2012 and September 24, 2012; and,

The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on February 26, 1997, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference any future filings made with the SEC by us under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than filings or portions of filings that are “furnished” under applicable SEC rules rather than “filed”), including those made after the date of this prospectus supplement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus supplement. Information in such future filings updates and supplements the information provided in this prospectus supplement. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We hereby undertake to provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus supplement is delivered, upon written or oral request of any such person, a copy of any and all of the reports or documents that have been incorporated by reference in this prospectus supplement but not delivered with the prospectus supplement, including exhibits which are specifically incorporated by reference into such documents. Requests for such copies should be directed to our Investor Relations department, at the following address or telephone number:

Attention: Investor Relations  
EMCORE Corporation  
10420 Research Road, SE  
Albuquerque, New Mexico 87123  
(505) 332-5000



PROSPECTUS

EMCORE Corporation

\$50,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

Units

This prospectus provides you with a general description of debt and equity securities that EMCORE Corporation may offer and sell from time to time. Each time we sell securities we will provide a prospectus supplement that will contain specific information about the terms of that sale and may add to or update the information in this prospectus. You should carefully read this prospectus and the applicable prospectus supplement as well as any documents incorporated or deemed to be incorporated in this prospectus before you invest in any of our securities offered hereby. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement.

EMCORE Corporation may offer and sell securities to or through one or more underwriters, dealers and/or agents on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution." If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable discounts or commissions and over-allotment options will be set forth in the prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on The NASDAQ Global Market under the symbol "EMKR." On August 8, 2012, the last reported sale price of our common stock on The NASDAQ Global Market was \$5.37. All applicable share, per share and related information in this prospectus have been adjusted retroactively for the 4:1 reverse stock split on shares of our common stock effected on February 15, 2012.

Investing in our common stock involves a high degree of risk. See "Risk Factors" on page 2. You should carefully review the risks and uncertainties described under the heading "Risk Factors" contained in the applicable prospectus supplement and under similar headings in the documents that are incorporated by reference in this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is August 23, 2012

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with additional information or information different from that contained in this prospectus. This prospectus may be used only in states or jurisdictions where it is legal to sell these securities. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus outside the United States. For investors outside of the United States, neither we, the selling stockholder nor any other person involved in the offering have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. You should inform yourself and consult with your own legal advisors about how to observe any restrictions relating to this offering and the distribution of the prospectus as well as any legal, tax, business, financial and other related aspects of a purchase of such securities. In this prospectus, the “Company”, “EMCORE”, “we”, “us”, and “our” refer to EMCORE Corporation and its subsidiaries. Our fiscal year ends on September 30 of each calendar year. For example, fiscal year 2011 refers to the year ended September 30, 2011. EMCORE is a registered trademark of EMCORE Corporation. This prospectus contains product names, trade names and trademarks of EMCORE and other organizations.

xvi

---

TABLE OF CONTENTS

	Page
About This Prospectus	<u>1</u>
Forward Looking Statements	<u>2</u>
EMCORE Corporation	<u>3</u>
Risk Factors	<u>3</u>
Use of Proceeds	<u>3</u>
Dilution	<u>4</u>
Ratio of Earnings to Fixed Charges and Preferred Stock Dividends	<u>4</u>
Description of Common Stock	<u>4</u>
Description of Preferred Stock	<u>5</u>
Description of Debt Securities	<u>6</u>
Description of Warrants	<u>13</u>
Description of Units	<u>14</u>
Plan of Distribution	<u>15</u>
Antitakeover Effects of Provisions of Our Restated Certificate of Incorporation and Amended	<u>16</u>
By-Laws	<u>17</u>
New Jersey Shareholders Protection Act	<u>17</u>
Legal Matters	<u>17</u>
Experts	<u>17</u>
Where You Can Find More Information	<u>18</u>
Information Incorporated by Reference	<u>18</u>

About this Prospectus

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission (the “SEC” or “Commission”) using a “shelf” registration process. Under this shelf process, we may sell:

- Common stock;
- Preferred stock;
- Debt securities;
- Warrants; and
- Units

We may sell those securities noted above either separately or in units, in one or more offerings. This prospectus provides you with a general description of those securities. We will offer our securities in amounts, at prices and on terms to be determined at the time we offer such securities. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. Before purchasing any securities, you should carefully read this prospectus and the applicable prospectus supplement and any applicable free writing prospectus together with the additional information described under the heading “Where You Can Find More Information.” Under no circumstances should the delivery to you of this prospectus or any offering or sales made pursuant to this prospectus create any implication that the information contained in this prospectus is correct as of any time after the date of this prospectus.



## Forward Looking Statements

This prospectus and the documents we have filed with the SEC that are incorporated by reference contain “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. These forward-looking statements are largely based on our current expectations and projections about future events and financial trends affecting the financial condition of our business. Such forward-looking statements include, in particular, projections about our future results, statements about our plans, strategies, business prospects, changes and trends in our business and the markets in which we operate. These forward-looking statements may be identified by the use of terms and phrases such as “anticipates”, “believes”, “can”, “could”, “estimates”, “expects”, “forecasts”, “intends”, “plans”, “projects”, “targets”, “will”, and similar expressions or variations of these terms and similar phrases. Additionally, statements concerning future matters such as the development of new products, enhancements or technologies, sales levels, expense levels, and other statements regarding matters that are not historical are forward-looking statements. Management cautions that these forward-looking statements relate to future events or our future financial performance and are subject to business, economic, and other risks and uncertainties, both known and unknown, that may cause actual results, levels of activity, performance, or achievements of our business or our industry to be materially different from those expressed or implied by any forward-looking statements, including without limitation: (a) the impact on the Company, our customers and our suppliers from the effects of the floods in Thailand; (b) delays and other difficulties in commercializing new products; (c) the failure of new 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; (d) our ability to increase our liquidity; (e) uncertainties concerning the extent of our insurance recovery from damage to our contract manufacturer's facilities and the Company's and our contract manufacturer's equipment; (f) uncertainties concerning the availability and cost of commodity materials and specialized product components that we do not make internally; and (g) actions by competitors. Factors that could cause or contribute to differences in results and outcomes also include, but are not limited to, those discussed under the section entitled “Risk Factors” in this prospectus and in any applicable prospectus supplement or free writing prospectus and any documents incorporated by reference herein or therein, including, without limitation, the risks we discuss in greater detail in our most recent annual report on Form 10-K and in our most recent quarterly report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC. Readers should carefully review this prospectus, any applicable supplement to this prospectus and any related free writing prospectus, together with the information incorporated herein by reference completely and with the understanding that our actual future results may be materially different from what we expect. We can give no assurances that any of the events anticipated by the forward-looking statements will occur or, if any of them do, what impact they will have on our results of operations and financial condition.

Neither management nor any other person assumes responsibility for the accuracy and completeness of any forward-looking statement. All forward-looking statements in this prospectus are made as of the date hereof, based on information available to us as of the date hereof, and subsequent facts or circumstances may contradict, obviate, undermine, or otherwise fail to support or substantiate such statements. We caution you not to rely on these statements without also considering the risks and uncertainties associated with these statements and our business. We assume no obligation to update any forward-looking statement to conform such statements to actual results or to changes in our expectations, except as required by applicable law or regulation. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

## EMCORE Corporation

We are a provider of compound semiconductor-based components and subsystems for the broadband, fiber optic, satellite, and terrestrial solar power markets. We were established in 1984 as a New Jersey corporation. We have two reporting segments. Our Fiber Optics segment offers optical components, subsystems and systems for high-speed telecommunications, Cable Television (CATV) and Fiber-To-The-Premise (FTTP) networks, as well as products for satellite communications, video transport and specialty photonics technologies for defense and homeland security applications. Our Solar Photovoltaics business segment provides products for both space and terrestrial solar power applications. For space applications, we offer high-efficiency multi-junction solar cells, Covered Interconnect Cells (CICs) and complete satellite solar panels. For terrestrial applications, we offer a broad portfolio of Concentrator Photovoltaic (CPV) multi-junction solar cells and components, as well as commercial rooftop solar concentrator systems.

Our headquarters and principal executive offices are located at 10420 Research Road, SE, Albuquerque, New Mexico, 87123, and our main telephone number is (505) 332-5000. For specific information about our company, our products or the markets we serve, please visit our website at <http://www.emcore.com>. The information contained in or linked to our website is not part of this prospectus.

## Risk Factors

Investing in our securities involves risks. You should carefully read and consider the risk factors and other disclosures relating to any investment in securities issued by EMCORE Corporation described in our Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as updated by annual, quarterly and other reports and documents we file with the SEC after the date of this prospectus and that are incorporated by reference herein. Before making an investment decision, you should carefully consider those risks as well as other information we include or incorporate by reference in this prospectus and the applicable prospectus supplement. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or part of your investment. Moreover, the risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also affect our business operations.

## Use Of Proceeds

Unless otherwise specified in the applicable prospectus supplement, we will use the net proceeds from the sale of securities for one or more of the following:

- repayment of debt;
- acquisitions;
- capital expenditures;
- redemption or repurchase of any preferred stock or debt outstanding; and,
- working capital and general corporate purposes.

Pending any specific application, we may initially invest funds in marketable short-term, interest-bearing securities.



#### Dilution

We will set forth in a prospectus supplement the following information regarding any material dilution of the equity interests of investors purchasing securities in an offering under this prospectus:

• the net tangible book value per share of our equity securities before and after the offering;

• the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers in the offering; and

• the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

#### Ratio of Earnings to Fixed Charges and Preferred Stock Dividends

The following table sets forth our ratio of earnings to fixed charges for the periods indicated. Fixed charges consist of interest expense and the portion of net rental expense deemed representative of interest. No shares of preferred stock were outstanding during the periods indicated and we did not pay preferred stock dividends during these periods. Consequently, the ratio of earnings to fixed charges is the same as the ratio of earnings to fixed charges and preferred stock dividends for the periods indicated.

(in thousands)	Nine Months Ended June 30, 2012	Fiscal Year Ended September 30,				
		2011	2010	2009	2008	2007
Ratio of earnings to fixed charges	*	*	*	*	*	*
Deficiency of earnings available to cover fixed charges	\$29,758	\$32,377	\$23,694	\$138,801	\$80,860	\$58,722

\*Our earnings were insufficient to cover fixed charges for the period indicated. Additional information regarding the computation of the deficiency of earnings available to cover fixed charges is included in Exhibit 12.1.

#### Description of Common Stock

The following is a description of our common stock. It does not purport to be complete and is subject to, and qualified in its entirety by, the provisions of our Restated Certificate of Incorporation, as amended, and Amended By-Laws, forms of which have previously been filed and are incorporated by reference into this prospectus, and by the applicable provisions of New Jersey law. See “Anti-takeover Effects of Provisions of Our Restated Certificate of Incorporation and Amended By-laws” for more information regarding the provisions of our Restated Certificate of Incorporation and Amended By-laws that could affect an extraordinary corporate transaction.

#### General Matters

Our authorized capital stock consists of 50,000,000 shares of common stock, no par value and 5,882,352 shares of preferred stock, \$0.0001 par value. As of August 3, 2012, we had 24,060,945 shares of common stock issued and outstanding and no shares of preferred stock issued or outstanding.

### Common Stock

Holders of common stock are entitled to one vote per share on matters to be voted upon by the shareholders of the Company. Subject to the preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably such dividends, if any, as may be declared by the Board of Directors out of funds legally available therefor. In the event of liquidation, dissolution or winding up of the Company, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to the prior liquidation rights of any outstanding shares of preferred stock. The common stock has no preemptive, redemption, conversion or other subscription rights. The outstanding shares of common stock are, and the shares offered by the Company in the offering will be, when issued and paid for, fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock currently outstanding or which the Company may designate and issue in the future.

### Transfer Agent and Registrar

The Transfer Agent and Registrar for our common stock is American Stock Transfer & Trust Company, New York, New York.

### Listing

Our shares of common stock are quoted on the NASDAQ Global Market under the symbol "EMKR".

### Description of Preferred Stock

The Board of Directors has the authority, without action by the shareholders, to designate and issue preferred stock in one or more series and to designate the rights, preferences and privileges of each series, which may be greater than the rights of the common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of the common stock until the Board of Directors determines the specific rights of the holders of this preferred stock. However, the effects might include, among other things:

- restricting dividends on the common stock;
- diluting the voting power of the common stock;
- impairing the liquidation rights of the common stock; or
- delaying or preventing a change in control of the company without further action by the shareholders.

No shares of preferred stock are outstanding. The summary above is qualified by provisions of applicable law. If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent required, this description will include:

- the title and stated value;
- the number of shares offered, the liquidation preference per share and the purchase price;
- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;



- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of EMCORE;
- any material limitations on the issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of EMCORE; and,
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

#### Description of Debt Securities

The following description of the terms of the debt securities sets forth certain general terms and provisions of the debt securities to which any prospectus supplement may relate. The particular terms of the debt securities offered by any prospectus supplement and the extent, if any, to which these general provisions may apply to those debt securities will be described in the prospectus supplement relating to those debt securities. Accordingly, for a description of the terms of a particular issue of debt securities, reference must be made to both the prospectus supplement relating thereto and to the following description.

##### General

We may issue debt securities from time to time in one or more series. The debt securities will be general obligations of EMCORE Corporation. The debt securities may be fully and unconditionally guaranteed on a secured or unsecured senior or subordinated basis, jointly and severally, by guarantors, if any. In the event that any series of debt securities will be subordinated to other indebtedness that we have outstanding or may incur, the terms of the subordination will be set forth in the prospectus supplement relating to the subordinated debt securities. Debt securities will be issued under one or more indentures between us and one or more trustees named in the prospectus supplement, which we refer to as the trustee. The statements made in this prospectus relating to the indenture and the debt securities to be issued under the indenture are summaries of certain terms and provisions of the form of indenture that has been filed as Exhibit 4.2 to the registration statement of which this prospectus forms a part and are not complete. You should read the indenture for provisions that may be important to you.

The prospectus supplement relating to a particular series of debt securities will describe the terms of such debt securities being offered, including:

the title;

the maturity date;

the interest rate, if any, and the method for calculating the interest rate;

6

---



- the interest payment dates and the record dates for the interest payments;
- any mandatory or optional redemption terms or prepayment, conversion, and sinking fund terms;
- the place where we will pay principal and interest;
- if other than denominations of \$1,000 or multiples of \$1,000 in excess thereof, the denominations the debt securities will be issued in;
- whether the debt securities will be issued in the form of global securities or certificates;
- additional provisions, if any, relating to defeasance;
- the currency or currencies, if other than the currency of the United States, in which principal and interest will be paid;
- any United States federal income tax consequences;
- the dates on which premium, if any, will be paid;
- our right, if any, to defer payment of interest and the maximum length of this deferral period;
- any listing on a securities exchange;
- limits on aggregate principal amount;
- terms of subordination of any subordinated debt securities;

the initial public offering price; and

other specific terms, including any additional events of default or covenants.

We may, from time to time, without notice to or the consent of registered holders of a particular series of debt securities, create and issue further securities ranking pari passu with that series of debt securities in all respects (or in all respects except for the payment of interest accruing prior to the issue date of such further debt securities or except for the first payment of interest following the issue date of such further debt securities) and so that such further debt securities shall be consolidated and form a single series with that particular series of debt securities and shall have the same terms as to status, redemption or otherwise as that series of debt securities.

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. The indenture does not limit our ability to issue convertible or subordinated debt securities. Any conversion or subordination provisions of a particular series of debt securities will be set forth in the officer's certificate or supplemental indenture related to that series of debt securities and will be described in the relevant prospectus supplement. Such terms may include provisions for conversions, either mandatory, at the option of the holder or at our option, in which case the number of shares of common stock, preferred stock or other securities to be received by the holders of debt securities would be calculated as of a time and in the manner stated in the prospectus supplement.

The debt securities will be issuable only in fully registered form without coupons or in the form of one or more global securities, as described below under “-Global Securities”. Unless the prospectus supplement specifies otherwise, debt securities denominated in U.S. dollars will be issued only in denominations of U.S.\$1,000 and any integral multiple of U.S.\$1,000 in excess thereof. The prospectus supplement relating to debt securities denominated in a foreign or composite currency will specify the authorized denominations.

If the amount of payments of principal and premium, if any, or any interest on debt securities of any series is determined with reference to any type of index or formula or changes in prices of particular securities or commodities, the federal income tax consequences, specific terms and other information with respect to these debt securities and this index or formula, securities or commodities will be described in the relevant prospectus supplement.

If the principal and premium, if any, or any interest on debt securities of any series are payable in a foreign or composite currency, the restrictions, elections, federal income tax consequences, specific terms and other information with respect to such debt securities and such currency will be described in the relevant prospectus supplement.

Payment of principal and premium, if any, on debt securities will be made in the designated currency against surrender of any debt securities at the Corporate Trust Office of the trustee in The City of New York. Unless otherwise indicated in the prospectus supplement, payment of any installment of interest on debt securities will be made to the person in whose name a relevant debt security is registered at the close of business on the regular record date for such interest. Unless otherwise indicated in the prospectus supplement, payments of such interest will be made at the Corporate Trust Office of the trustee in The City of New York or by a check in the designated currency mailed to the holder at such holder's registered address.

Debt securities may be issued as original issue discount securities to be offered and sold at a substantial discount below their stated principal amount. Federal income tax consequences and other special considerations applicable to any original issue discount securities will be described in the relevant prospectus supplement. “Original issue discount security” means any debt security that provides for an amount less than the principal amount thereof to be due and payable upon a declaration of acceleration of the maturity thereof upon the occurrence of an event of default and the continuation thereof.

## Covenants

### Consolidation, Merger and Sale of Assets

We will agree under the indenture that we will not consolidate with or merge into, or convey, transfer or lease all or substantially all of our properties and assets to, any Person (a "Successor Person"), and will not permit any Person to merge into us in a transaction in which we are not the surviving entity, unless:

- (i) the Successor Person (if not EMCORE) is a corporation, limited liability company, partnership or trust organized and validly existing under the laws of any domestic jurisdiction and assumes our obligations on any outstanding debt securities and under the indenture;  
immediately after giving effect to the transaction, and treating any indebtedness which becomes our obligation as a result of the transaction as having been incurred by us at the time of the transaction, no event of default and no event which, after notice or lapse of time or both, would become an event of default, shall have occurred and be continuing; and
- (ii) the trustee receives an officers' certificate and an opinion of counsel stating that such action complies with this covenant.

### Events of Default

The indenture specifies that each of the following will constitute an event of default with respect to the debt securities of a particular series:

- (a) failure to pay principal of any debt security of that series at its maturity;
- (b) failure to pay any interest on any debt security of that series when due, continued for 30 days;
- (c) failure to deposit any sinking fund payment, when and as due by the terms of that series;  
failure to perform any covenant of ours applicable to that series in the indenture, continued for 60 days after written
- (d) notice of such failure is given by the trustee or the holders of at least 25% in principal amount of the outstanding debt securities of that series, as provided in the indenture;
- (e) certain events in bankruptcy, insolvency or reorganization; and  
the occurrence of any other event of default with respect to debt securities of that series as provided in a
- (f) supplemental indenture applicable to such series or a resolution of Board of Directors of the Company pursuant to which such series of debt securities is established.

If an event of default (other than an event of default described in items (e) or (f) above) shall occur and be continuing, either the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series by notice as provided in the indenture may declare the principal amount of such series of the debt securities to be due and payable immediately. If an event of default described in clause (e) above shall occur, the principal amount of all the outstanding debt securities of that series will automatically, and without any action by the trustee or any holder, become immediately due and payable. After any such acceleration, but before a judgment or decree for payment of the money due, the holders of a majority in aggregate principal amount of the outstanding debt securities of a particular series may, under certain circumstances, rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, have been cured or waived as provided in the indenture. For information as to waiver of defaults, see "-Modification and Waiver."

Subject to the provisions of the indenture relating to the duties of the trustee in case an event of default shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request or direction of any of the holders, unless such holders shall have offered to the trustee reasonable indemnity. Subject to such provisions for the indemnification of the trustee, the holders of a majority in aggregate principal amount of the outstanding debt securities of that series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to such series of the debt securities.

No holder of a debt security will have any right to institute any proceeding with respect to the indenture, or for the appointment of a receiver or a trustee, or for any other remedy thereunder, unless:

- (i) such holder has previously given to the trustee written notice of a continuing event of default with respect to such series of the debt securities;  
the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have
- (ii) made written request, and such holder or holders have offered reasonable indemnity, to the trustee to institute such proceeding as trustee; and  
the trustee has failed to institute such proceeding, and has not received from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series a direction inconsistent with such request, within
- (iii) 60 days after such notice, request and offer. However, such limitations do not apply to a suit instituted by a holder of a debt security for the enforcement of payment of the principal of or interest on such debt security on or after the applicable due date specified in such debt security.

#### Modification and Waiver

Together with the trustee, we may modify the indenture without the consent of any holder for certain purposes, including evidencing the succession of another person to us and such person's assumption of our obligations under the indenture, adding to our covenants or events of default, establishing forms or terms of debt securities, curing ambiguities and other purposes which do not adversely affect the holders in any material respect.

Other modifications and amendments of the indenture may be made by us and the trustee with the consent of the holders of at least a majority in aggregate principal amount of each series of the outstanding debt securities that is affected by such modification or amendment, all holders of all such affected series voting together as one class.

No such modification or amendment may, without the consent of the holder of each outstanding debt security affected thereby:

- (a) change the stated maturity of the principal of, or any installment of interest on, or the redemption price of, any such debt security;
- (b) reduce the principal amount of or interest on, any such debt security;
- (c) change currency of payment of principal of or interest on, any such debt security;
- (d) impair the right to institute suit for the enforcement of any payment on any such debt security;  
reduce the percentage in principal amount of outstanding debt securities of a particular series, the consent of whose
- (e) holders is required for modification or amendment of the indenture, or for waiver of compliance with certain provisions of the indenture or waiver of certain defaults; or
- (f) modify such provisions with respect to modification and waiver.

The holders of at least a majority in principal amount of each series of the outstanding debt securities that is affected by such waiver, all holders of all such affected series voting together as one class, may waive our compliance with certain restrictive provisions of the indenture, and may waive any past default under the indenture, except a default in the payment of principal or interest and certain covenants and provisions of the indenture which cannot be amended without the consent of the holder of each outstanding debt security affected by such default.

#### Defeasance and Discharge; Covenant Defeasance

Unless the terms of a particular series provide otherwise, we may elect, at our option at any time, to have the indenture provisions relating to defeasance and discharge of indebtedness, or relating to defeasance of certain restrictive covenants in the indenture, applied to any series of the outstanding debt securities.

#### Defeasance and Discharge

The indenture provides that upon our exercise of our option to have the provisions relating to defeasance and discharge applied to a particular series of the debt securities, we will be discharged from all our obligations with respect to such series of the debt securities (except for certain obligations to exchange or register the transfer of debt securities, to replace stolen, lost or mutilated debt securities, to maintain paying agencies and to hold moneys for payment in trust) upon the deposit in trust for the benefit of the holders of the debt securities of such series of money or U.S. government obligations, or both, which, through the payment of principal and interest in respect thereof in accordance with their terms, will provide money in an amount sufficient to pay the principal of and interest on the debt securities of such series at maturity in accordance with the terms of the indenture and such debt securities. Such defeasance or discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the United States Internal Revenue Service a ruling, or there has been a change in tax law, in either case to the effect that holders of the debt securities of such series will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge were not to occur.

#### Defeasance of Certain Covenants

The indenture provides that, upon our exercise of our option to have the provisions relating to defeasance of certain restrictive covenants applied to a particular series of the debt securities, we may, with respect to such series, omit to comply with certain restrictive covenants, including those described under “-Consolidation, Merger and Sale of Assets,” and the occurrence of certain events of default, which are described above in clause (d) under “Events of Default,” will be deemed not to be or result in an event of default, in each case with respect to such series.

We, in order to exercise such option, will be required, among other things:

- (1) to deposit, in trust for the benefit of the holders of such series of the debt securities, money or U.S. government obligations, or both, which, through the payment of principal and interest in respect thereof in accordance with their terms, will provide money in an amount sufficient to pay the principal of and interest on such series of the debt securities at maturity in accordance with the terms of the indenture and such debt securities, and
- (2) to deliver to the trustee an opinion of counsel to the effect that holders of such series of the debt securities will not recognize gain or loss for federal income tax purposes as a result of such deposit and defeasance of certain obligations and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit and defeasance were not to occur.

In the event we exercise this option and the debt securities are declared due and payable because of the occurrence of any event of default, the amount of money and U.S. government obligations so deposited in trust would be sufficient to pay amounts due on that series of the debt securities at maturity but may not be sufficient to pay amounts due on that series of the debt securities upon any acceleration resulting from such event of default. In such case, we would remain liable for such payments.

#### Regarding the Trustee

The indenture provides that, except during the continuance of an event of default, the trustee will perform only such duties as are specifically set forth in the indenture. During the existence of an event of default, the trustee will exercise such rights and powers vested in it under the indenture and use the same degree of care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of such person's own affairs.

The indenture and provisions of the Trust Indenture Act incorporated by reference therein contain limitations on the rights of the trustee, should it become a creditor of us, to obtain payment of claims in certain cases or to realize on certain property received by it in respect of any such claim as security or otherwise. The trustee is permitted to engage in other transactions with us or any affiliate of us; provided, however, that if it acquires any conflicting interest (as defined in the indenture or in the Trust Indenture Act), it must eliminate such conflict or resign.

The trustee for any debt securities will be set forth in the applicable prospectus supplement.



#### Form of Debt Securities

Each debt security will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Certificated securities in definitive form and global securities will be issued in registered form.

Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable.

Global securities name a depositary or its nominee as the owner of the debt securities represented by these global securities. The depositary maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

#### Global Securities

We may issue the debt securities in whole or in part in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the prospectus supplement relating to that series and registered in the name of that depositary or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depositary for the registered global security, the nominees of the depositary or any successors of the depositary or those nominees.

If not described below, any specific terms of the depositary arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a registered global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in registered global securities.

So long as the depositary, or its nominee, is the registered owner of a registered global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the indenture. Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the indenture. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depositary for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the indenture. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the indenture, the depositary for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.





Principal, premium, if any, and interest payments on debt securities represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of EMCORE, the trustee or any agent of EMCORE or agent of the trustee will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment of principal, premium or interest to holders on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of those participants.

If the depository for any of these securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. In addition, we may at any time and in our sole discretion decide not to have any of the securities represented by one or more registered global securities. If we make that decision, we will issue securities in definitive form in exchange for all of the registered global security or securities representing those securities. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the trustee or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

#### Description of Warrants

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in the applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the warrant agreements and the prospectus supplement to the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

• the title of the warrants;

• the offering price of the warrants;

• the aggregate number of the warrants;

• the currency or currency units in which the offering price, if any, and the exercise price are payable;

• the designation, amount and terms of the securities purchasable upon exercise of the warrants;

• if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;

• if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that series of our preferred stock;



if applicable, the exercise price for our debt securities, the amount of debt securities to be received upon exercise, and a description of that series of debt securities;

the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;

whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;

any applicable material U.S. federal income tax consequences;

the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;

the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;

if applicable, the date from and after which the warrants and the common stock, preferred stock and/or debt securities will be separately transferable;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

information with respect to book-entry procedures, if any;

the anti-dilution provisions of the warrants, if any;

any redemption or call provisions;

whether the warrants are to be sold separately or with other securities as parts of units; and

any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

#### Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

#### Description of Units

We may issue units consisting of common stock, preferred stock, debt securities and/or warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. In this prospectus, we have summarized certain general features of the units. We urge you, however, to read the prospectus supplements related to the series of units being offered, as well as the unit agreements that contain the terms of the units. We will file as exhibits to an amendment to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, as applicable, the form of unit agreement and any supplemental agreements that describe the terms of the series of units we are offering before the issuance of the related series of

units.

We will evidence each series of units by unit certificates that we will issue under a separate agreement. We will enter into the unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

#### Plan of Distribution

Any of the securities being offered hereby and in any accompanying prospectus supplement may be sold in any one or more of the following ways from time to time:

• directly to purchasers;

• through agents;

• to or through underwriters;

• through dealers;

• directly to our shareholders; or,

• through a combination of any such methods of sale.

The distribution of the securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices.

We may solicit offers to purchase directly. Offers to purchase securities also may be solicited by agents designated by us from time to time. Any such agent involved in the offer or sale of the securities in respect of which this prospectus is delivered will be named, and any commissions payable by us to such agent will be set forth, in the applicable prospectus supplement. Unless otherwise indicated in such prospectus supplement, any such agent will be acting on a reasonable best efforts basis for the period of its appointment. Any such agent may be deemed to be an underwriter, as that term is defined in the Securities Act, of the securities so offered and sold.

If securities are sold by means of an underwritten offering, we will execute an underwriting agreement with an underwriter or underwriters at the time an agreement for such sale is reached, and the names of the specific managing underwriter or underwriters, as well as any other underwriters, the respective amounts underwritten and the terms of the transaction, including commissions, discounts and any other compensation of the underwriters and dealers, if any, will be set forth in the applicable prospectus supplement which will be used by the underwriters to make resales of the securities in respect of which this prospectus is being delivered to the public. If underwriters are utilized in the sale of any securities in respect of which this prospectus is being delivered, such securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at fixed public offering prices, at market prices prevailing at the time of sale or at varying prices determined by the underwriters at the time of sale. Securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more underwriters. If any underwriter or underwriters are utilized in the sale of securities, unless otherwise indicated in the applicable prospectus supplement, the underwriting agreement will provide that the obligations of the underwriters are subject to certain conditions precedent and that the underwriters with respect to a sale of such securities will be obligated to purchase all such securities if any are purchased.

We may grant to the underwriters options to purchase additional securities, to cover over-allotments, if any, at the public offering price (with additional underwriting commissions or discounts), as may be set forth in the prospectus supplement relating thereto. If we grant any over-allotment option, the terms of such over-allotment option will be set forth in the prospectus supplement for such securities.

If a dealer is used in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale. Any such dealer may be deemed to be an underwriter, as such term is defined in the Securities Act, of the securities so offered and sold. The name of the dealer and the terms of the transaction will be set forth in the prospectus supplement relating thereto.



Offers to purchase securities may be solicited directly by us and the sale thereof may be made by us directly to institutional investors or others, who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale thereof. The terms of any such sales will be described in the prospectus supplement relating thereto.

We may offer our equity securities into an existing trading market on the terms described in the applicable prospectus supplement. Underwriters and dealers who may participate in any at-the-market offerings will be described in the prospectus supplement relating thereto.

Agents, underwriters and dealers may be entitled under relevant agreements with us to indemnification by us against certain liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which such agents, underwriters and dealers may be required to make in respect thereof.

Any underwriter may engage in stabilizing and syndicate covering transactions in accordance with Rule 104 under Regulation M. Rule 104 permits stabilizing bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. The underwriters may over-allot shares of the securities in connection with an offering of securities, thereby creating a short position in the underwriters' account. Syndicate covering transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions. Stabilizing and syndicate covering transactions may cause the price of the securities to be higher than it would otherwise be in the absence of such transactions. These transactions, if commenced, may be discontinued at any time.

We may elect to list any series of securities on an exchange but, unless otherwise specified in the applicable prospectus supplement, we shall not be obligated to do so. No assurance can be given as to the liquidity of the trading market for any of the securities.

Agents, underwriters and dealers may be customers of, engage in transactions with, or perform services for, us and our subsidiaries in the ordinary course of business.

The anticipated date of delivery of securities will be set forth in the applicable prospectus supplement relating to each offer.

#### Antitakeover Effects of Provisions of Our Restated Certificate of Incorporation and Amended By-Laws

Our Board of Directors is divided into three classes. As a result of this provision, at least two annual meetings of shareholders may be required for shareholders to change a majority of the Board of Directors. Our by-laws provide that the Board of Directors shall consist of not less than six nor more than twelve members, with the exact number to be determined by the vote of not less than 66 2/3 % of the Board of Directors from time to time. Directors are elected to serve staggered three-year terms and are not subject to removal except for cause by the vote of the holders of at least 80% of our capital stock. Unless otherwise required by law, vacancies on the Board of Directors, including vacancies resulting from an increase in the number of directors or the removal of directors, may only be filled by an affirmative vote of 66 2/3% of the directors then in office. The classification of directors, the ability of the Board of Directors to increase the number of directors, the inability of the shareholders to remove directors without cause or fill vacancies on the Board of Directors and the inability of holders of less than 80% of our capital stock to remove directors even with cause will make it more difficult to change the Board of Directors, and will promote the continuity of existing management.

These and other provisions also may have the effect of deterring, preventing or delaying changes in control or management. These provisions are intended to enhance the likelihood of continued stability in the composition of the Board of Directors and in the policies furnished by the Board of Directors and to discourage types of transactions that may involve an actual or threatened change of control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. These provisions also may have the effect of preventing changes in our management.





#### New Jersey Shareholders Protection Act

The New Jersey Shareholders Protection Act, NJSA 14A:10A-1 et seq., which we refer to as New Jersey Act, prohibits certain New Jersey corporations, such as us, from entering into certain “business combinations” with an “interested shareholder” (any person who is the beneficial owner of 10% or more of such corporation's outstanding voting securities) for five years after such person became an interested shareholder, unless the business combination or the interested shareholder's acquisition of stock was approved by the corporation's Board of Directors prior to such interested shareholder's stock acquisition date. After the five-year waiting period has elapsed, a business combination between such corporation and an interested shareholder will be prohibited unless the business combination is approved by the holders of at least two-thirds of the voting stock not beneficially owned by the interested shareholder, or unless the business combination satisfies the New Jersey Act's fair price provision intended to provide that all shareholders (other than the interested shareholders) receive a fair price for their shares.

The New Jersey Act defines “business combination” to include the following transactions between a corporation or a subsidiary and an interested shareholder or such interested shareholder's affiliates: (1) the merger or consolidation of the corporation with the interested shareholder or any corporation that after the merger or consolidation would be an affiliate or associate of the interested shareholder; (2) any sale, lease, exchange, mortgage, pledge, transfer or other disposition to or with the interested shareholder, which has an aggregate market value equal to 10% or more of the aggregate market value of all of the assets or of the outstanding stock, or 10% or more of the income of the corporation or its subsidiaries; (3) the issuance or transfer to the interested shareholder of any stock of the corporation having an aggregate market value equal to or greater than 5% of the corporation's outstanding stock; (4) the adoption of a plan or proposal for the liquidation or dissolution of the corporation proposed by the interested shareholder; (5) any reclassification of securities proposed by the interested shareholder that has the effect, directly or indirectly, of increasing any class or series of stock that is owned by the interested shareholder; and (6) the receipt by the interested shareholder of any loans or other financial assistance from the corporation.

The New Jersey Act does not apply to certain business combinations, including those with persons who acquired 10% or more of the voting power of the corporation prior to the time the corporation was required to file periodic reports pursuant to the Exchange Act or prior to the time the corporation's securities began to trade on a national securities exchange.

#### Legal Matters

The validity of the shares of common stock and matters governed by New Jersey law will be passed upon by Dillon, Bitar & Luther, L.L.C. Certain other legal matters will be passed upon by Jenner & Block LLP.

#### Experts

The consolidated financial statements of EMCORE Corporation as of September 30, 2011 and 2010 and for each of the years in the two-year period ended September 30, 2011, and management's assessment of the effectiveness of internal control over financial reporting as of September 30, 2011 have been incorporated by reference herein and in the registration statement in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The audit report on the effectiveness of internal control over financial reporting as of September 30, 2011, expresses an opinion that EMCORE Corporation did not maintain effective internal control over financial reporting as of September 30, 2011 because of the effect of material weaknesses on the achievement of the objectives of the control criteria and contains an explanatory paragraph that states material weaknesses related to certain inventory reserves transactions and certain inventory held by third parties have been identified and included in management's assessment.

The report of KPMG LLP dated December 29, 2011 on the consolidated financial statements refers to a change in the annual testing date for goodwill impairment.



The consolidated financial statements of EMCORE Corporation for the year ended September 30, 2009 incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for the year ended September 30, 2011, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

#### Where You Can Find More Information

We are a reporting company and file annual, quarterly, and current reports, proxy statements and other information with the Securities and Exchange Commission. We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities we are offering under this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You may read and copy the registration statement, as well as our reports, proxy statements and other information, we file at the Public Reference Room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site at [www.sec.gov](http://www.sec.gov) that contains reports, proxy and information statements and other information regarding registrants that file electronically, including EMCORE. Except as expressly set forth under "Information Incorporated by Reference," we are not incorporating the contents of the SEC website into this prospectus. You may also find additional information about us, including the documents mentioned above, on our website at [www.emcore.com](http://www.emcore.com). The information included or linked to this website is not a part of this prospectus.

#### Information Incorporated by Reference

The SEC allows us to incorporate by reference in this prospectus the information in documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information in this prospectus updates (and, to the extent of any conflict, supersedes) information incorporated by reference that we have filed with the SEC prior to the date of this prospectus. You should read all of the information incorporated by reference because it is an important part of this prospectus.

We incorporate by reference the documents listed below (SEC File No. 000-22175), excluding any portions of any Current Report on Form 8-K that are not deemed "filed" pursuant to the General Instructions of Form 8-K:

• Annual report on Form 10-K for the fiscal year ended September 30, 2011, filed with the SEC on December 29, 2011;

• The information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended September 30, 2011 from our definitive proxy statement on Schedule 14A for our 2012 Annual Meeting of Shareholders filed with the SEC on January 27, 2012;

• Quarterly Reports on Form 10-Q for the quarters ended December 31, 2011, March 31, 2012, and June 30, 2012 filed with the SEC on February 14, 2012, May 3, 2012 (as amended by our 10-Q/A filed with the SEC on August 7, 2012), and August 8, 2012, respectively;

• Current Reports on Forms 8-K filed with the SEC on November 9, 2011, December 28, 2011, January 27, 2012, February 16, 2012, March 13, 2012, March 28, 2012, May 8, 2012, June 20, 2012, and August 9, 2012; and,

• The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on February 26, 1997, including any amendments or reports filed for the purpose of updating such description.



We also incorporate by reference any future filings made with the SEC by us under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 (other than filings or portions of filings that are furnished under applicable SEC rules rather than filed), including those made after the date of filing of the initial registration statement of which this prospectus is a part and prior to its effectiveness, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We hereby undertake to provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request of any such person, a copy of any and all of the reports or documents that have been incorporated by reference in this prospectus but not delivered with the prospectus, including exhibits which are specifically incorporated by reference into such documents. Requests for such copies should be directed to our Investor Relations department, at the following address or telephone number:

Attention: Investor Relations  
EMCORE Corporation  
10420 Research Road, SE  
Albuquerque, New Mexico 87123  
(505) 332-5000

Shares

EMCORE Corporation  
Common Stock

---

PROSPECTUS SUPPLEMENT

---

B. RILEY & CO., LLC  
September , 2012

20