

EMCORE CORP
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PROSPECTUS

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Registration Statement No. 333-160437

\$50,000,000

Debt Securities
Common Stock
Preferred Stock
Warrants
Units

This prospectus provides you with a general description of debt and equity securities that we 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.

We 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.

We may also offer from time to time shares of our common stock pursuant to this prospectus and any applicable prospectus supplement in accordance with the terms of a stock purchase agreement we have entered into with Commerce Court Small Cap Value Fund, Ltd., or Commerce Court. The terms of the stock purchase agreement are described in this prospectus under the section entitled "Plan of Distribution." Commerce Court is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended, with respect to the shares of our common stock that we may offer pursuant to the stock purchase agreement, and any profits on the sales of shares of our common stock by Commerce Court and any discounts, commissions or concessions received by Commerce Court may be deemed to be underwriting discounts and commissions under the Securities Act. We agreed to issue to Commerce Court pursuant to the registration statement of which this prospectus forms a part, as payment of a portion of its fees in connection with the stock purchase agreement, 185,185 shares of our common stock and warrants exercisable for an aggregate of 1,600,000 shares of our common stock, and this prospectus covers the sale to the public of those shares and the shares issuable upon exercise of the warrants.

We expect to deliver to Commerce Court the above-referenced shares of common stock on or about October 5, 2009 and the above-referenced warrants on or about October 1, 2009. Our common stock is listed on The Nasdaq Global Market under the symbol "EMKR." On September 30, 2009, the last reported sale price of our common stock on The Nasdaq Global Market was \$1.30.

Investing in our common stock involves risk. See "Risk Factors" on page 4. 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 October 1, 2009

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. The information contained or incorporated by reference in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of securities offered by this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

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 2008 refers to the year ended September 30, 2008. EMCORE is a registered trademark of EMCORE Corporation. This prospectus contains product names, trade names and trademarks of EMCORE and other organizations.

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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:

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

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.

SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This prospectus and the information incorporated by reference include forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, or the Exchange Act. These statements are based on management's current expectations or predictions of future results or events. We make these forward-looking statements in reliance on the safe harbor provisions provided under the Private Securities Litigation Reform Act of 1995.

All statements, other than statements of historical fact, included in this prospectus and information incorporated by reference which relate to performance, development or activities that we expect or anticipate will or may happen in the future, are forward-looking statements. Other forward-looking statements may be identified by the use of forward-looking words such as "believe," "expect," "may," "might," "will," "should," "seek," "could," "approximately," "inter," "estimate," or "anticipate" or the negative of those words or other similar expressions.

Forward-looking statements involve inherent risks and uncertainties and are based on numerous assumptions. They are not guarantees of future performance. A number of important factors could cause actual results to differ materially from those in the forward-looking statement. Some factors include:

- our ability to obtain financing or sell assets and achieve levels of revenue and cost reductions that are adequate to support our capital and operating requirements in order to continue as a going concern;

- our abilities to remain competitive and a leader in our industries and the future growth of the Company, our industries, and the economy in general;

- our ability to achieve structural and material cost reductions without impacting product development or manufacturing execution;

- expected improvements in our product and technology development programs;

- our ability to successfully develop, introduce, market and qualify new products, including our terrestrial solar products;

- our ability to identify and acquire suitable acquisition targets and difficulties in integrating recent or future acquisitions into our operations;

- other risks and uncertainties described in our filings with the SEC such as: cancellations, rescheduling, or delays in product shipments; manufacturing capacity constraints; lengthy sales and qualification cycles; difficulties in the production process; changes in semiconductor industry growth; increased competition; delays in developing and commercializing new products; and other factors.

Forward-looking statements contained herein are made only as of the date made, and we do not undertake any obligation to update them to reflect events or circumstances after the date of this prospectus to reflect the occurrence of unanticipated events.

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: Fiber Optics and Photovoltaics. Our Fiber Optics segment offers optical components, subsystems, and systems that enable the transmission of video, voice, and data over high-capacity fiber optic cables for high-speed data and telecommunications, cable television (“CATV”) and fiber-to-the-premises (“FTTP”) networks. Our Photovoltaics segment provides solar products for satellite and terrestrial applications. For satellite applications, we offer high-efficiency compound semiconductor-based gallium arsenide (“GaAs”) solar cells, covered interconnect cells (“CICs”) and fully integrated solar panels. For terrestrial applications, we offer concentrating photovoltaic (“CPV”) systems for utility scale solar applications as well as our high-efficiency GaAs solar cells and CPV components for use in solar power 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, 2008, 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. 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. To the extent a particular offering implicates additional risk, we will include a discussion of those risks in the applicable prospectus supplement.

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.

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. 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 and preferred stock dividends is the same as the ratio of earnings to fixed charges for the periods indicated.

| Quarter Ended June 30, | Fiscal Year Ended September 30, | | | | |
|---------------------------|---------------------------------|------|------|------|------|
| 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
| N/M* | N/M* | N/M* | 9.0 | N/M* | N/M* |

We are presenting the ratios above pursuant to the requirements set forth in Item 503 of Regulation S-K under the Securities Act of 1933. The earnings and fixed charges in the above ratios are calculated using the definitions set forth by Regulation S-K under the Securities Act of 1933.

*The ratio of earnings to fixed charges for the nine-months ended June 30, 2009 and for the years ended September 30, 2008, 2007, 2005 and 2004 are not meaningful since earnings available for fixed charges is negative for those periods. The shortfall in the earnings available for fixed charges to achieve a ratio of earnings to fixed charges of 1.00 amounted to \$122.5 million for the nine months ended June 30, 2009 and \$80.9 million, \$58.7 million, \$24.7 million, and \$28.4 million for the years ended September 30, 2008, 2007, 2005 and 2004 respectively.

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 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 effect an extraordinary corporate transaction.

General Matters

Our authorized capital stock consists of 200,000,000 shares of common stock, no par value and 5,882,352 shares of preferred stock, \$0.0001 par value. As of September 30, 2009, we had 80,781,775 shares of common stock issued and outstanding and no shares of preferred stock issued and 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 stockholders, 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 stockholders.

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; and

any material limitations on 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.

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;

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 of 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 of 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 of 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;
- (ii) 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
- (iii) 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;
- (d) failure to perform any covenant of ours applicable to that series in the indenture, continued for 60 days after written 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; and

(e) certain events in bankruptcy, insolvency or reorganization.

If an event of default (other than an event of default described in clause (e) 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;

(ii) the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holder or holders have offered reasonable indemnity, to the trustee to institute such proceeding as trustee; and

(iii) 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 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;
- (e) reduce the percentage in principal amount of outstanding debt securities of a particular series, the consent of whose 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 depository or its nominee as the owner of the debt securities represented by these global securities. The depository 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 depository or its nominee identified in the prospectus supplement relating to that series and registered in the name of that depository 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 depository for the registered global security, the nominees of the depository or any successors of the depository or those nominees.

If not described below, any specific terms of the depository 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

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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 depositary or its nominee will be made to the depositary 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 depositary 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 depositary. 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 depositary for any of these securities represented by a registered global security is at any time unwilling or unable to continue as depositary or ceases to be a clearing agency registered under the Exchange Act and a successor depositary 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 depositary. 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 depositary gives to the trustee or other relevant agent of ours or theirs. It is expected that the depositary's instructions will be based upon directions received by the depositary 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 stockholders; 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 initial 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.

Pursuant to a requirement by the Financial Industry Regulatory Authority, or FINRA, the maximum commission or discount to be received by any FINRA member or independent broker/dealer may not be greater than eight percent (8%) of the gross proceeds received by us for the sale of any securities being registered pursuant to SEC Rule 415 under the Securities Act of 1933.

Equity Line of Credit

On October 1, 2009, we entered into what is sometimes termed an equity line of credit arrangement with Commerce Court Small Cap Value Fund, Ltd., or Commerce Court. Specifically, we entered into a Common Stock Purchase Agreement, or the Purchase Agreement, that provides that, upon the terms and subject to the conditions set forth therein, Commerce Court is committed to purchase up \$25 million worth of shares of our common stock over the

24-month term of the Purchase Agreement; provided, however, in no event may we sell under the Purchase Agreement more than 15,971,169 shares of common stock, which is equal to one share less than twenty percent of our outstanding shares of common stock on the closing date of the Purchase Agreement, less the number of shares of common stock we issued to Commerce Court on the closing date in partial payment of its commitment fee. Under the Purchase Agreement, on the closing date, we also issued warrants to purchase up to an aggregate of 1,600,000 shares of our common stock. The terms of the warrants are described below.

From time to time over the term of the Purchase Agreement, and at our sole discretion, we may present Commerce Court with draw down notices to purchase our common stock over ten consecutive trading days or such other period mutually agreed upon by us and Commerce Court, or the draw down period, with each draw down subject to limitations based on the price of our common stock and a limit of 2.5% of our market capitalization at the time of such draw down. We

are able to present Commerce Court with up to 24 draw down notices during the term of the Purchase Agreement, with only one such draw down notice allowed per draw down period and a minimum of five trading days required between each draw down period.

Once presented with a draw down notice, Commerce Court is required to purchase a pro rata portion of the shares on each trading day during the trading period on which the daily volume weighted average price for our common stock exceeds a threshold price determined by us for such draw down. The per share purchase price for these shares will equal the daily volume weighted average price of our common stock on each date during the draw down period on which shares are purchased, less a discount of 5%. If the daily volume weighted average price of our common stock falls below the threshold price on any trading day during a draw down period, the Purchase Agreement provides that Commerce Court will not be required to purchase the pro-rata portion of shares of common stock allocated to that day. However, at its election, Commerce Court may buy the pro-rata portion of shares allocated to that day at the threshold price less the discount described above.

The Purchase Agreement also provides that, from time to time and at our sole discretion, we may grant Commerce Court the right to exercise one or more options to purchase additional shares of our common stock during each draw down period for an amount of shares specified by us based on the trading price of our common stock. Upon Commerce Court's exercise of an option, we would sell to Commerce Court the shares of our common stock subject to the option at a price equal to the greater of the daily volume weighted average price of our common stock on the day Commerce Court notifies us of its election to exercise its option or the threshold price for the option determined by us, less a discount calculated in the same manner as it is calculated in the draw down notices.

In addition to our issuance of shares of common stock to Commerce Court pursuant to the Purchase Agreement, the registration statement to which this prospectus relates also covers the sale of those shares from time to time by Commerce Court to the public. Commerce Court is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act. Commerce Court has informed us that it will use an unaffiliated broker-dealer to effectuate all sales, if any, of common stock that it may purchase from us pursuant to the Purchase Agreement. Such sales will be made on the Nasdaq Global Market at prices and at terms then prevailing or at prices related to the then current market price. Each such unaffiliated broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Commerce Court has informed us that each such broker-dealer will receive commissions from Commerce Court which will not exceed customary brokerage commissions. Commerce Court may also pay other expenses associated with the sale of the common stock it acquires pursuant to the Purchase Agreement.

The shares of common stock issued under the Purchase Agreement may be sold in one or more of the following manners:

ordinary brokerage transactions and transactions in which the broker solicits purchasers; or

a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction.

Commerce Court has agreed that during the term of and for a period of 90 days after the termination of the Purchase Agreement, neither Commerce Court nor any of its affiliates will, directly or indirectly, sell any of our securities except the shares that it owns or has the right to purchase pursuant to the provisions of a draw down notice. Commerce Court has agreed that during the periods listed above neither it nor any of its affiliates will enter into a short position with respect to shares of our common stock except that Commerce Court may sell shares that it is obligated to purchase under a pending draw down notice but has not yet taken possession of so long as Commerce Court covers any such sales with the shares purchased pursuant to such draw down notice. Commerce Court has further agreed that during the periods listed above it will not grant any option to purchase or acquire any right to

dispose or otherwise dispose for value of any shares of our common stock or any securities convertible into, or exchangeable for, or warrants to purchase, any shares of our common stock, or enter into any swap, hedge or other agreement that transfers, in whole or in part, the economic risk of ownership of our common stock, except for the sales permitted by the prior two sentences.

In addition, Commerce Court and any unaffiliated broker-dealer will be subject to liability under the federal securities laws and must comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of common stock by Commerce Court or any unaffiliated broker-dealer. Under these rules and regulations, Commerce Court and any unaffiliated broker-dealer:

may not engage in any stabilization activity in connection with our securities;

must furnish each broker which offers shares of our common stock covered by the prospectus that is a part of our Registration Statement with the number of copies of such prospectus and any prospectus supplement which are required by each broker; and

may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities other than as permitted under the Exchange Act.

These restrictions may affect the marketability of the shares of common stock purchased and sold by Commerce Court and any unaffiliated broker-dealer.

We have agreed to indemnify and hold harmless Commerce Court, any unaffiliated broker-dealer and each person who controls Commerce Court or any unaffiliated broker-dealer against certain liabilities, including certain liabilities under the Securities Act. We have agreed to pay up to \$45,000 of Commerce Court's attorneys' fees and expenses incurred by Commerce Court in connection with the preparation, negotiation, execution and delivery of the Purchase Agreement and related transaction documentation. We have also agreed to pay certain fees and expenses incurred by Commerce Court in connection with any amendments, modifications or waivers of the Purchase Agreement, ongoing due diligence of our company and other transaction expenses associated with fixed requests made by us from time to time during the term of the Purchase Agreement, provided that we shall not be required to pay any reimbursement for any such expenses in any calendar quarter in which we provide a fixed request notice. Further, if we issue a draw down notice and fail to deliver the shares to Commerce Court on the applicable settlement date, and such failure continues for ten trading days, we have agreed to pay Commerce Court liquidated damages in cash or restricted shares of our common stock, at Commerce Court's option.

Commerce Court has agreed to indemnify and hold harmless us and each of our directors, officers and persons who control us against certain liabilities under the Securities Act that may be based upon written information furnished by Commerce Court to us for inclusion in this prospectus or any other prospectus or prospectus supplement related to this transaction.

Upon each sale of our common stock to Commerce Court under the Purchase Agreement, we have also agreed to pay Reedland Capital Partners, an Institutional Division of Financial West Group, a placement fee equal to 1% of the aggregate dollar amount of common stock purchased by Commerce Court. We have agreed to indemnify and hold harmless Reedland against certain liabilities, including certain liabilities under the Securities Act.

As payment of a portion of Commerce Court's fees in connection with the Purchase Agreement, we agreed to issue to Commerce Court upon the execution of the Purchase Agreement 185,185 shares of our common stock and three warrants representing the right to purchase up to an aggregate of 1,600,000 shares of our common stock, as follows: (i) a warrant, pursuant to which Commerce Court may purchase up to 666,667 shares of our common stock at an initial exercise price of \$1.69, which is equal to 125% of the average of the volume weighted average price of our common stock for the three trading days immediately preceding the execution date of the Purchase Agreement, (ii) a warrant, pursuant to which Commerce Court may purchase from up to 666,667 shares of our common stock at an initial exercise price of \$2.02, which is equal to 150% of the average of the volume weighted average price of our common stock for the three trading days immediately preceding the execution date of the Purchase Agreement, and (iii) a warrant, pursuant to which Commerce Court may purchase up to 266,666 shares of our common stock at an initial exercise price of \$2.36, which is equal to 175% of the average of the volume weighted average price of our common stock for the three trading days immediately preceding the execution date of the Purchase Agreement. The warrants may be exercised at any time or from time to time between April 1, 2010 and April 1, 2015. The warrants may not be offered for sale, sold, transferred or assigned without our consent, in whole or in part, to any person other

than an affiliate of Commerce Court. If we (i) pay a stock dividend on our common stock or otherwise make a distribution that is payable in shares of common stock, (ii) subdivide our common stock into a larger number of shares or (iii) combine our then outstanding shares of common stock into a smaller number of shares, then in each case the exercise price of the warrants and the number of shares issuable upon the exercise of the warrants will be proportionately adjusted. If after April 1, 2010, our common stock trades at a price greater than 140% of the exercise price of any warrant for a period of 10 consecutive trading days and we meet certain equity conditions, then we have the right to effect a mandatory exercise of such warrant.

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 following this offering, 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 offered hereby will be passed upon by Jenner & Block LLP and, with respect to matters governed by New Jersey law, by Dillon, Bitar & Luther, L.L.C.

EXPERTS

The consolidated financial statements incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K, and the effectiveness of EMCORE Corporation's internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports which are incorporated herein by reference (which reports (1) express an unqualified opinion on the consolidated financial statements and include an explanatory paragraph relating to the Company's ability to continue as a going concern and (2) express an unqualified opinion on the effectiveness of internal control over financial reporting). Such financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly, and current reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy any document that 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 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.

We have filed with the SEC a registration statement on Form S-3 (together with all amendments and exhibits, the "registration statement") under the Securities Act of 1933, as amended with respect to the offering of common stock. This prospectus, which constitutes part of the registration statement, does not contain all of the information set forth in the registration statement. Certain parts of the registration statement are omitted from the prospectus in accordance with the rules and regulations of the SEC.

Our common stock is listed on The NASDAQ Global Market and similar information can be inspected and copied at the offices of the Financial Industry Regulatory Authority, 1735 K Street, N.W., Washington, D.C. 20006.

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 and 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 until we sell all of the securities (other than filings or portions of filings that are furnished under applicable SEC rules rather than filed):

Annual report on Form 10-K for the fiscal year ended September 30, 2008, filed with the SEC on December 30, 2008, as amended by the Form 10-K/A filed on January 28, 2009.

Definitive Proxy Statement pursuant to Section 14(a) of the Exchange Act, filed with the SEC on March 27, 2009.

Quarterly Reports on Form 10-Q for the quarters ended December 31, 2008, March 31, 2009, and June 30, 2009, filed with the SEC on February 17, 2009, May 11, 2009, and August 17, 2009, respectively.

Current Reports on Forms 8-K filed with the SEC on February 10, 2009, March 6, 2009, May 6, 2009, May 15, 2009, June 4, 2009, August 18, 2009, September 16, 2009, and October 1, 2009.

The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on February 26, 1997.

You may also find additional information about us, including the documents mentioned above, on our website at www.emcore.com. The information included or linked to this website is not a part of this prospectus.

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, other than exhibits to such documents unless such exhibits have been specifically incorporated by reference thereto. Requests for such copies should be directed to our Investor Relations department, at the following address:

EMCORE Corporation
10420 Research Road, SE
Albuquerque, New Mexico 87123

PROSPECTUS
