ICAD INC
Form 424B4
January 20, 2012
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Registration No. 333-178952

PROSPECTUS

iCAD, INC.

2,750,000 shares of Common Stock Issuable Upon Exercise of Warrants

This prospectus relates to the resale of up to 2,750,000 of our shares of common stock, par value $0.001 per share, for sale by the selling securityholders set forth herein. The shares to be offered hereby may be acquired by the selling securityholders by exercising certain warrants (the Warrants).

The selling securityholders or their pledgees, donees, transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. We are not selling any common stock under this prospectus. We will not receive any proceeds from the sale of the shares. To the extent the Warrants are exercised for cash, if at all, we will receive the exercise price for the Warrants. The selling securityholders will sell the shares in accordance with the Plan of Distribution set forth in this prospectus. The selling securityholders will bear all commissions and discounts, if any, attributable to the sales of shares. We will bear all costs, expenses and fees in connection with the registration of the shares.

Our common stock is traded on NASDAQ Capital Market under the symbol ICAD. On January 19, 2012, the closing price of our common stock was $0.57.

The selling securityholders and any broker-dealer executing sell orders on behalf of the selling securityholders, may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended (the Securities Act). Commissions received by any broker-dealer may be deemed to be underwriting commissions under the Securities Act. See Plan of Distribution.

Investing in our common stock involves significant risks. You should invest in our common stock only if you can afford to lose your entire investment. For a discussion of some of the risks involved, see Risk Factors beginning on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is January 20, 2012

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PROSPECTUS SUMMARY

This summary is a brief discussion of material information contained in, or incorporated by reference into, this prospectus as further described below. This summary does not contain all of the information that you should consider before investing in our securities. We urge you to read carefully this entire prospectus, the documents incorporated by reference into this prospectus and all applicable prospectus supplements before making an investment decision.

About iCAD, Inc.

Unless the context requires otherwise, reference in this prospectus to we , us , our , iCAD , or Company refers to iCAD, Inc. and its subsidiarie

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in the prospectus but not delivered with the prospectus. You may request a copy of these filings, excluding the exhibits to such filings which we have not specifically incorporated by reference in such filings, at no cost, by writing us at the following address: 98 Spit Brook Road, Suite 100, Nashua, NH 03062 and our telephone number is (603) 882-5200.

iCAD is an industry-leading provider of advanced image analysis and workflow solutions that enable radiologists and other healthcare professionals to better serve patients by identifying pathologies and pinpointing cancer earlier. iCAD offers a comprehensive range of high-performance, expandable Computer-Aided Detection (CAD) systems and workflow solutions for mammography (film-based, digital radiography (DR) and computed radiography (CR), Magnetic Resonance Imaging (MRI), and Computed Tomography (CT)). iCAD s solutions aid in the early detection of the most prevalent cancers including breast, prostate and colon cancer. Early detection of cancer is the key to better prognosis, less invasive and lower treatment costs, and higher survival rates. Performed as an adjunct to mammography screening, CAD has quickly become the standard of care in breast cancer detection, helping radiologists improve clinical outcomes while enhancing workflow. Computer-enhanced breast and prostate MRI analysis streamlines case interpretation workflow and generates more robust information for more effective patient treatment. CAD for mammography screening is also reimbursable in the U.S. under federal and most third-party insurance programs.

iCAD s CAD systems include proprietary algorithm and other technology together with standard computer and display equipment. CAD systems for the film-based analog mammography market also include a radiographic film digitizer, either manufactured by us or others for the digitization of film-based medical images.

We intend to apply our core competencies in pattern recognition and algorithm development in disease detection to our future product development efforts. Our focus is on the development and marketing of cancer detection products for disease states where there are established or emerging protocols for screening as a standard of care. We expect to pursue development or acquisition of products for select disease states that demonstrate one or more of the following: it is clinically proven that screening has a significant positive impact on patient outcomes, where there is an opportunity to lower health care costs, where screening is non-invasive or minimally invasive and where public awareness is high. We also intend to pursue opportunities beyond CAD through possible strategic acquisitions as part of our growth strategy, as such we continue to actively evaluate strategic opportunities in adjacent markets that could leverage our opportunities for growth beyond our historic core markets.

We have applied our patented detection technology and algorithms to the development of CAD solutions for use with virtual colonoscopy or CT Colonography (CTC) to improve the detection of colonic polyps. Our pattern recognition and image analysis expertise are readily applicable to colonic polyp detection and we have developed a CTC CAD solution. Virtual colonoscopy (CTC) is a technology that has evolved rapidly in recent years. Based on

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the results of the National CT Colonography trial, we expect that the market for virtual colonoscopy will grow along with the procedures for early detection of colon cancer. This trial demonstrated that CTC is highly accurate for the detection of intermediate and large polyps and that the accuracy of CTC is similar to a colonoscopy. CT Colonography or CTC is emerging as an alternative imaging procedure for evaluation of the colon. We have developed Veralook ® , a product for computer aided detection of polyps in the colon using CTC and completed the clinical testing of its CTC CAD product in the first quarter of 2009. We filed a 510(k) application with the U.S. Food and Drug Administration, or FDA, in May 2009 seeking FDA clearance to market Veralook in the U.S. and received FDA clearance on August 4, 2010.

The acquisition of Xoft, on December 30, 2010, brought an isotope-free cancer treatment platform technology to the Company s product line. Xoft designs, develops, manufactures, markets and sells electronic brachytherapy (eBx) products for the treatment of breast and other cancers, used in a broad range of clinical settings. The portable Axxent System which delivers electronically controlled radiation therapy directly to cancer sites with minimal radiation exposure to surrounding healthy tissue is FDA-cleared. Electronic Brachytherapy (eBx) is a type of brachytherapy that utilizes a miniaturized high dose rate X-ray source to apply radiation directly to the cancerous site. The goal is to direct the radiation dose to the size and shape of the cancerous area, sparing healthy tissue and organs. The Xoft technology delivers similar clinical dose rates to traditional radio-active systems. Electronic Brachytherapy can be delivered during an operative procedure and may be used as a primary or secondary modality over a course of days. This technology enables radiation oncology departments in hospitals, clinics and physician offices to perform traditional radiotherapy treatments and offer advanced treatments such as Intra-Operative Radiation Therapy (IORT). Current customers for the Xoft eBx system include university research and community hospitals, private and governmental institutions, doctors offices and cancer care clinics.

We were incorporated under the laws of the State of Delaware in 1984 under the name Howtek, Inc. and changed our name to iCAD, Inc. in June 2002. Our principal executive offices are located at 98 Spit Brook Road, Suite 100, Nashua, NH 03062, and our telephone number is (603) 882-5200.

THE OFFERING

This prospectus relates to the sale by certain of our securityholders of our common stock issuable upon the exercise of the Warrants.

Common stock offered by selling securityholders:	2,750,000 shares
Common stock outstanding immediately prior to this offering:	53,825,355 shares as of the date of this Prospectus
Common stock outstanding after this offering (assuming full exercise of the Warrants):	56,575,355 shares
Use of proceeds:	We will not receive any of the proceeds from the sale of the shares by the selling securityholders. However, to the extent that the Warrants are exercised for cash, we will receive proceeds from any exercise of the Warrants up to an aggregate of $1,925,000. We intend to use any proceeds received from the exercise of the Warrants for working capital and other general corporate purposes.
NASDAQ Capital Markets symbol:	ICAD

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Risk factors:	The securities offered by this prospectus are speculative and involve a high degree of risk and investors purchasing securities should not purchase the securities unless they can afford the loss of their entire investment. See Risk Factors beginning on page 4 of this prospectus.

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RISK FACTORS

An investment in our securities involves a high degree of risk. You should consider carefully the risk factors described below, together with the other information contained in this prospectus, including the consolidated financial statements and notes thereto, before deciding to invest in our common stock. We operate in a changing environment that involves numerous known and unknown risks and uncertainties that could materially adversely affect our operations. If any of the following risks occur, our business, financial condition and results of operations and the value of our common stock could be materially and adversely affected. The following highlights some of the factors that have affected, and/or in the future could affect, our operations.

We have incurred significant losses from inception through September 30, 2011 and there can be no assurance that we will be able to achieve and sustain future profitability.

We have incurred significant losses since our inception, much of which were attributable to our former business lines. We incurred a net loss of $6,224,000 and $24,983,000 during the fiscal year ended December 31, 2010 and nine months ended September 30, 2011, respectively. We may not be able to achieve profitability.

Our existing and future debt obligations could impair our liquidity and financial condition, and in the event we are unable to meet our debt obligations the lenders could foreclose on our assets.

In connection with a Facility Agreement entered into with the selling securityholders on December 29, 2011, we incurred $15,000,000 principal amount of long-term debt. Our debt obligations:

- could impair our liquidity and significantly increase interest expense;
- could make it more difficult for us to satisfy our other obligations;
- require us to dedicate a substantial portion of our cash flow to payments on our debt obligations, which reduces the availability of our cash flow to fund working capital, capital expenditures and other corporate requirements;
- impose restrictions on our ability to incur indebtedness, other than permitted indebtedness, and could impede us from obtaining additional financing in the future for working capital, capital expenditures, acquisitions and general corporate purposes;
- impose restrictions on us with respect to the use of our available cash, including in connection with future acquisitions;
- require us to maintain at least $5,000,000 of cash and cash equivalents as of the last day of each calendar quarter;
- make us more vulnerable in the event of a downturn in our business prospects and could limit our flexibility to plan for, or react to, changes in our licensing markets; and
- could place us at a competitive disadvantage when compared to our competitors who have less debt.

We have pledged substantially all of our assets to secure our obligations under the Facility Agreement. In the event that we were to fail in the future to make any required payment under agreements governing our indebtedness or fail to comply with the financial and operating covenants contained in those agreements, we would be in default regarding that indebtedness. A debt default would enable the lenders to foreclose on the assets securing such debt and could significantly diminish the market value and marketability of our common stock and could result in the acceleration of the payment obligations under all or a portion of our consolidated indebtedness.

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A limited number of customers account for a significant portion of our total revenues. The loss of a principal customer could seriously hurt our business.

Our principal sales distribution channel for our digital products is through our OEM partners. Our digital product revenue accounted for 55% and 65% of our total revenue for the years ended December 31, 2010 and 2009, respectively. In 2010 we had two major customers, GE Healthcare and Fuji Medical Systems, with 38% and 13% of our revenues, respectively. A limited number of major customers have in the past and may continue in the future to account for a significant portion of our revenues. The loss of our relationships with principal customers or a decline in sales to principal customers could materially adversely affect our business and operating results.

Recurring disruptions in the capital and credit markets have recently adversely impacted, and could continue to, adversely impact our results of operations, cash flows and financial condition, or those of our customers and suppliers.

Disruptions in the capital and credit markets have recently adversely impacted, and could continue to, adversely impact, our results of operations, cash flows and financial condition, or those of our customers and suppliers. Recurring disruptions in the capital and credit markets as a result of uncertainty, changing or increased regulation, reduced alternatives or failures of significant financial institutions could adversely affect our access to liquidity needed to conduct or expand our business, conduct acquisitions or make other discretionary investments. Such disruptions may also adversely impact the capital needs of our customers and suppliers, which, in turn, could adversely affect our results of operations, cash flow and financial condition.

Our business is dependent upon future market growth of full field digital mammography systems and digital computer aided detection products as well as advanced image analysis and workflow solutions for use with MRI and CT and to the market growth of electronic brachytherapy.

Our future business is substantially dependent on the continued growth in the market for full field digital mammography systems and digital computer aided detection products as well as advanced image analysis and workflow solutions for use with MRI and CT and to the market growth of electronic brachytherapy The market for these products may not continue to develop or may develop at a slower rate than we anticipate due to a variety of factors, including, general economic conditions, delays in hospital spending for capital equipment, the significant cost associated with the procurement of full field digital mammography systems and CAD products and MRI and CT systems and the reliance on third party insurance reimbursement. In addition we may not be able to successfully develop or obtain FDA clearance for our proposed product.

If goodwill and/or other intangible assets that we have recorded in connection with our acquisitions incur additional impairment, we could have to take additional charges against earnings.

In connection with the accounting for our acquisitions, we have recorded a significant amount of goodwill and other intangible assets. In September 2011 we recorded a significant partial impairment. Under current accounting guidelines, we must assess, at least annually and potentially more frequently, whether the value of goodwill and other intangible assets has been impaired. Any further reduction or impairment of the value of goodwill or other intangible assets will result in additional charges against earnings which could materially adversely affect our reported results of operations in future periods.

We may not be able to obtain regulatory approval for any of the other products that we may consider developing.

We have received FDA approvals only for our currently offered CAD products. Before we are able to commercialize any other product, we must obtain regulatory approvals for each indicated use for that product. The process for satisfying these regulatory requirements is lengthy and costly and will require us to comply with complex standards for research and development, clinical trials, testing, manufacturing, quality control, labeling, and promotion of products. We may not be able to obtain FDA or other required regulatory approval and market any further products we may develop during the time we anticipate, or at all.

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Our products and manufacturing facilities are subject to extensive regulation with potentially significant costs for compliance.

Our CAD systems for the computer aided detection of cancer and Axxent eBx systems are medical devices subject to extensive regulation by the FDA under the Federal Food, Drug, and Cosmetic Act. In addition, our manufacturing operations are subject to FDA regulation and we are also subject to FDA regulations covering labeling, adverse event reporting, and the FDA s general prohibition against promoting products for unapproved or off-label uses.

Our failure to fully comply with applicable regulations could result in the issuance of warning letters, non-approvals, suspensions of existing approvals, civil penalties and criminal fines, product seizures and recalls, operating restrictions, injunctions, and criminal prosecution. Moreover, unanticipated changes in existing regulatory requirements or adoption of new requirements could increase our application, operating and compliance burdens and adversely affect our business, financial condition and results of operations.

Sales of our CAD products in certain countries outside of the U.S. are also subject to extensive regulatory approvals. Obtaining and maintaining foreign regulatory approvals is an expensive and time consuming process. We cannot be certain that we will be able to obtain the necessary regulatory approvals timely or at all in any foreign country in which we plan to market our CAD products and Axxent eBx systems, and if we fail to receive such approvals, our ability to generate revenue may be significantly diminished.

We recalled the Axxent Flexishield Mini and our other products may be recalled even after we have received FDA or other governmental approval or clearance.

In February 2011, the Company in cooperation with the FDA, voluntarily recalled its Axxent Flexishield Mini recently acquired as part of its acquisition of Xoft in December 2010. The voluntary recall was prompted after the Company was notified in January 2011 of the presence of microscopic particles found in certain patients breasts during post surgery follow up imaging exams, which were later determined to be tungsten and alleged to be originating from the Axxent Flexishield Mini, an optional accessory device to the Company s Axxent eBx system. Based upon the Company s preliminary analysis, it believes that the particles were non-toxic. The Company cooperated with the FDA on this matter. We cannot assure you that the recall will not continue to adversely affect our ability to market our Axxent eBx system due to market perception or otherwise.

If the safety or efficacy of any of our products is called into question, the FDA and similar governmental authorities in other countries may require us to recall our products, even if our product received approval or clearance by the FDA or a similar governmental body. Such a recall would divert the focus of our management and our financial resources and could materially and adversely affect our reputation with customers and our financial condition and results of operations.

Our quarterly operating and financial results and our gross margins are likely to fluctuate significantly in future periods.

Our quarterly and annual operating and financial results are difficult to predict and may fluctuate significantly from period to period. Our revenues and results of operations may fluctuate as a result of a variety of factors that are outside of our control including, but not limited to, general economic conditions, the timing of orders from our OEM partners, our OEM partners ability to manufacture and ship their digital mammography systems, our timely receipt by the FDA for the clearance to market our products, our ability to timely engage other OEM partners for the sale of our products, the timing of product enhancements and new product introductions by us or our competitors, the pricing of our products, changes in customers budgets, competitive conditions and the possible deferral of revenue under our revenue recognition policies.

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We may need additional financing to implement our strategy and expand our business.

We may need additional debt or equity financing beyond the amounts we have raised to continue to pursue our strategy and increase revenue or to finance our business. Any additional financing that we need may not be available and, if available, may not be available on terms that are acceptable to us. Our failure to obtain financing on a timely basis, or on economically favorable terms, could prevent us from continuing our strategy or from responding to changing business or economic conditions, and could cause us to experience difficulty in withstanding adverse operating results or prevent us from competing effectively.

Changes in or non-reimbursement of procedures by Medicare or other third-party payers may adversely affect our business.

In the U.S., Medicare and a number of commercial third-party payers provide reimbursements for the use of CAD in connection with mammography screening and diagnostics and eBx systems in connection with the treatment of breast and other cancers. In the future, however, these reimbursements may be unavailable, reduced or inadequate due to changes in applicable legislation or regulations, changes in attitudes toward the use of mammograms for broad screening to detect breast cancer or due to changes in the reimbursement policies of third-party payers. As a result, healthcare providers may be unwilling to purchase our CAD products or eBx systems or any of our future products, which could significantly harm our business, financial condition and operating results.

There is no guaranty that any of the products which we are developing or are contemplating developing will become eligible for reimbursements or health insurance coverage at favorable rates or even at all or maintain eligibility.

We cannot be certain of the future effectiveness of our internal controls over financial reporting or the impact of the same on our operations or the market price for our common stock.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we are required to include in our Annual Report on Form 10-K our assessment of the effectiveness of our internal controls over financial reporting. We have dedicated a significant amount of time and resources to ensure compliance with this legislation for the year ended December 31, 2010 and will continue to do so for future fiscal periods. Although we believe that we currently have adequate internal control procedures in place, we cannot be certain that future material changes to our internal controls over financial reporting will be effective. If we cannot adequately maintain the effectiveness of our internal controls over financial reporting, we might be subject to sanctions or investigation by regulatory authorities, such as the SEC. Any such action could adversely affect our financial results and the market price of our common stock.

Our business is subject to The Health Insurance Portability and Accountability Act of 1996, or HIPAA, and changes to or violations of these regulations could negatively impact our revenues.

HIPAA mandates, among other things, the adoption of standards to enhance the efficiency and simplify the administration of the nation s healthcare system. HIPAA requires the U.S. Department of Health and Human Services to adopt standards for electronic transactions and code sets for basic healthcare transactions such as payment, eligibility and remittance advices, or transaction standards, privacy of individually identifiable health information, or privacy standards, security of individually identifiable health information, or security standards, electronic signatures, as well as unique identifiers for providers, employers, health plans and individuals and enforcement. Final regulations have been issued by DHHS for the privacy standards, certain of the transaction standards and security standards.

As a covered entity, we are required to comply in our operations with these standards and are subject to significant civil and criminal penalties for failure to do so. In addition, in connection with providing services to customers that also are healthcare providers, we are required to provide satisfactory written assurances to those customers that we will provide those services in accordance with the privacy standards and security standards. HIPAA has and will require significant and costly changes for us and others in the healthcare industry. Compliance with the privacy standards became mandatory in April 2003 and compliance with the security standards became mandatory in April 2005.

Like other businesses subject to HIPAA regulations, we cannot fully predict the total financial or other impact of these regulations on us. The costs associated with our ongoing compliance could be substantial, which could negatively impact our profitability.

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The markets for many of our products are subject to changing technology.

The markets for many products we sell are subject to changing technology, new product introductions and product enhancements, and evolving industry standards. The introduction or enhancement of products embodying new technology or the emergence of new industry standards could render our existing products obsolete or result in short product life cycles or our inability to sell our products without offering a significant discount. Accordingly, our ability to compete is in part dependent on our ability to continually offer enhanced and improved products.

We depend upon a limited number of suppliers and manufacturers for our products, and certain components in our products may be available from a sole or limited number of suppliers.

Our products are generally either manufactured and assembled for us by a sole manufacturer, by a limited number of manufacturers or assembled by us from supplies we obtain from a limited number of suppliers. Critical components required to manufacture our products, whether by outside manufacturers or directly by us, may be available from a sole or limited number of component suppliers. We generally do not have long-term arrangements with any of our manufacturers or suppliers. The loss of a sole or key manufacturer or supplier would impair our ability to deliver products to our customers in a timely manner and would adversely affect our sales and operating results. Our business would be harmed if any of our manufacturers or suppliers could not meet our quality and performance specifications and quantity and delivery requirements.

We rely on intellectual property and proprietary rights to maintain our competitive position and may not be able to protect these rights.

We rely heavily on proprietary technology that we protect primarily through licensing arrangements, patents, trade secrets, proprietary know-how and non-disclosure agreements. There can be no assurance that any pending or future patent applications will be granted or that any current or future patents, regardless of whether we are an owner or a licensee of the patent, will not be challenged, rendered unenforceable, invalidated, or circumvented or that the rights will provide a competitive advantage to us. There can also be no assurance that our trade secrets or non-disclosure agreements will provide meaningful protection of our proprietary information. There can also be no assurance that others will not independently develop similar technologies or duplicate any technology developed by us or that our technology will not infringe upon patents or other rights owned by others.

In addition, in the future, we may be required to assert infringement claims against third parties, and there can be no assurance that one or more parties will not assert infringement claims against us. Any resulting litigation or proceeding could result in significant expense to us and divert the efforts of our management personnel, whether or not such litigation or proceeding is determined in our favor. In addition, to the extent that any of our intellectual property and proprietary rights were ever deemed to violate the proprietary rights of others in any litigation or proceeding or as a result of any claim, we may be prevented from using them, which could cause a termination of our ability to sell our products. Litigation could also result in a judgment or monetary damages being levied against us.

We have been named as a defendant in an action alleging personal injury resulting from gross negligence and product liability by patients that were treated with the Axxent eBx system and we may be exposed to additional significant product liability for which we may not be able to procure sufficient insurance coverage.

Our business exposes us to potential product liability risks which are inherent in the testing, manufacturing, marketing and sale of medical devices.

On February 18, 2011, in the Orange County Superior Court (Docket No. 30-2011-00451816-CU-PL-CXC), named plaintiffs Jane Doe and John Doe filed a complaint against Xoft, the Company, and Hoag Memorial Hospital Presbyterian asserting causes of action for general negligence, breach of warranty, and strict liability and seeking unlimited damages in excess of $25,000. On March 2, 2011, the Company received a Statement of Damages specifying that the damages being sought aggregated an amount of at least approximately $14.5 million. On April 6, 2011, plaintiffs Jane Doe and John Doe amended their complaint alleging only medical malpractice against Hoag Memorial Hospital Presbyterian. On April 8, 2011, another complaint was filed in the Orange County

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Superior Court (Docket No. 30-2011-00465448-CU-MM-CXC) on behalf of four additional Jane Doe plaintiffs and two John Doe spouses with identical allegations against the same defendants. One John Doe spouse from this group of plaintiffs was later dismissed on August 18, 2011. On April 19, 2011, a sixth Jane Doe plaintiff filed an identical complaint in the Orange County Superior Court (Docket No. 30-2011-00468687-CU-MM-CXC), and on May 4, 2011, a seventh Jane Doe and John Doe spouse filed another complaint in the Orange County Superior Court (Docket No. 30-2011-00473120-CU-PO-CXC), again with identical allegations against the same defendants. On July 12, 2011, an eighth Jane Doe plaintiff and John Doe spouse filed a complaint in the Orange County Superior Court (Docket No. 30-2011-00491068-CU-PL-CXC), and on July 14, 2011, a ninth Jane Doe and John Doe spouse filed another complaint in the Orange County Superior Court (Docket No. 30-2011-00491497-CU-PL-CXC), each with identical allegations as the previously filed complaints. On August 18, 2011, these two groups of Jane Doe plaintiffs and John Doe spouses amended their complaints to correct minor deficiencies. Additionally on August 18, 2011, a tenth Jane Doe plaintiff and two additional John Doe spouses filed a complaint in the Orange County Superior Court (Docket No. 30-2011-501448-CU-PL-CXC), again with identical allegations against the same defendants.

It is alleged that each plaintiff Jane Doe was a patient who was treated with the Axxent Electronic Brachytherapy System that incorporated the Axxent Flexishield Mini. The Company believes that all of the Jane Doe plaintiffs were of the 29 patients treated using the Axxent Flexishield Mini as part of a clinical trial. The Axxent Flexishield Mini is the subject of a voluntary recall. Because of the preliminary nature of the complaints, the Company is unable to evaluate the merits of the claims; however, based upon its preliminary analysis, it plans to vigorously defend the lawsuits. There can be no assurances that we will be able to defend or settle these claims on favorable terms or that additional claims will not be made by other patients treated with the Axxent Flexishield Mini.

The Company acquired the Axxent eBx systems and Axxent Flexishield Mini as part of its acquisition of Xoft in December 2010. From the initial commercial sale of the Axxent Flexishield Mini in August 2009 until the recall, this accessory was sold on a very limited basis. The Company has developed the Axxent Radiation Shield Rigid, which is an optional radiation shielding accessory to the Axxent eBx System, intended to protect tissue and/or organs from unwanted radiation, as a replacement for the recalled accessory.

If available at all, product liability insurance for the medical device industry generally is expensive. Our existing product liability and general liability insurance coverage may not be adequate for us to avoid or limit our liability exposure in the pending action or in future claims and adequate insurance coverage may not be available in sufficient amounts or at a reasonable cost in the future. In any event, the pending and any future product liability claims could be costly to defend and/or costly to resolve and could harm our reputation and business.

Our future prospects depend on our ability to retain current key employees and attract additional qualified personnel.

Our success depends in large part on the continued service of our executive officers and other key employees. We may not be able to retain the services of our executive officers and other key employees. The loss of executive officers or other key personnel could have a material adverse effect on us.

In addition, in order to support our continued growth, we will be required to effectively recruit, develop and retain additional qualified personnel. If we are unable to attract and retain additional necessary personnel, it could delay or hinder our plans for growth. Competition for such personnel is intense, and there can be no assurance that we will be able to successfully attract, assimilate or retain sufficiently qualified personnel. The failure to retain and attract necessary personnel could have a material adverse effect on our business, financial condition and results of operations.

We distribute our products in highly competitive markets.

We operate in highly competitive and rapidly changing markets that contain competitive products available from nationally and internationally recognized companies. Many of these competitors have significantly greater financial, technical and human resources than us and are well established. In addition, some companies have

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developed or may develop technologies or products that could compete with the products we manufacture and distribute or that would render our products obsolete or noncompetitive. In addition, our competitors may achieve patent protection, regulatory approval, or product commercialization that would limit our ability to compete with them. These and other competitive pressures could have a material adverse effect on our business.

Our international operations expose us to various risks, any number of which could harm our business.

During the past year our sales of product outside of the U.S. has increased. We are subject to the risks inherent in conducting business across national boundaries, any one of which could adversely impact our business. In addition to currency fluctuations, these risks include, among other things: economic downturns; changes in or interpretations of local law, governmental policy or regulation; restrictions on the transfer of funds into or out of the country; varying tax systems; and government protectionism. One or more of the foregoing factors could impair our current or future operations and, as a result, harm our overall business.

We do not anticipate paying cash dividends on our common stock.

We have not paid cash dividends on our common stock in the past, and we do not intend to do so in the foreseeable future. Any payment of dividends will be in the sole discretion of our Board of Directors.

If we fail to maintain compliance with applicable NASDAQ Rules and our stock is de-listed from the NASDAQ Stock Market, it may become subject to Penny Stock Regulations and there will be less interest for our stock in the market.

On September 9, 2011, we received notice that we were not in compliance with Marketplace Rule 5450(a)(2), which requires a minimum $1.00 closing bid price for common stock. The company s common stock closing bid had dropped below, and remained below this required threshold. As of the date of this report, our common stock bid price remains below $1.00. If the closing bid price of our common stock does not meet or exceed $1.00 per share for at least ten consecutive business days, we may be de-listed from the NASDAQ stock market in the future. Any such delisting could adversely affect the liquidity or market pricing of our stock.

If our stock is not listed on NASDAQ and fails to maintain a price of $5.00 or more per share, our stock would become subject to the Securities and Exchange Commission s Penny Stock rules. These rules require a broker to deliver, prior to any transaction involving a Penny Stock, a disclosure schedule explaining the Penny Stock Market and its risks. Additionally, broker/dealers who recommend Penny Stocks to persons other than established customers and accredited investors must make a special written suitability determination and receive the purchaser s written agreement to a transaction prior to the sale. If our common stock becomes subject to these rules, broker-dealers may find it difficult to effectuate customer transactions and trading activity in our securities may be adversely affected. As a result, the market price of our securities may be depressed and security holders may find it more difficult to sell their securities.

The market price of our common stock has been, and may continue to be, volatile which could reduce the market price of our common stock.

The publicly traded shares of our common stock have experienced, and may experience in the future, significant price and volume fluctuations. This market volatility could reduce the market price of our common stock without regard to our operating performance. In addition, the trading price of our common stock could change significantly in response to actual or anticipated variations in our quarterly operating results, announcements by us or our competitors, factors affecting the medical imaging industry generally, changes in national or regional economic conditions, changes in securities analysts estimates for us or our competitors or industry s future performance or general market conditions, making it more difficult for shares of our common stock to be sold at a favorable price or at all. The market price of our common stock could also be reduced by general market price declines or market volatility in the future or future declines or volatility in the prices of stocks for companies in our industry.

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Future sales of shares of our common stock may cause the prevailing market price of our shares to decrease and could harm our ability to raise additional capital. The sale of common stock issued upon the exercise of our convertible securities could also dilute the holdings of our existing securityholders

We have previously issued a substantial number of shares of common stock, which are eligible for resale under Rule 144 of the Securities Act of 1933, and may become freely tradable. In addition, shares of our common stock issued upon conversion of our convertible debt are also eligible for sale under Rule 144. We have also registered shares that are issuable upon the exercise of options. If holders of options choose to exercise their purchase rights and sell shares of common stock in the public market, or if holders of currently restricted common stock or common stock issued upon conversion of convertible debt choose to sell such shares of common stock in the public market under Rule 144 or otherwise, or attempt to publicly sell such shares all at once or in a short time period, the prevailing market price for our common stock may decline. The sale of shares of common stock issued upon the exercise of our securities could also dilute the holdings of our existing securityholders. As a result of our entry into the facility agreement in December 2011, up to 2,750,000 shares of common stock are issuable upon the exercise of the Warrants issued under the facility agreement. The market price of our common stock could drop due to sales of a large number of shares or the perception that such sales could occur. These factors also could make it more difficult to raise funds through future offerings of common stock.

Provisions in our corporate charter and in Delaware law could make it more difficult for a third party to acquire us, discourage a takeover and adversely affect existing securityholders.

Our certificate of incorporation authorizes the Board of Directors to issue up to 1,000,000 shares of preferred stock. The preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by our Board of Directors, without further action by securityholders, and may include, among other things, voting rights (including the right to vote as a series on particular matters), preferences as to dividends and liquidation, conversion and redemption rights, and sinking fund provisions. Although there are currently no shares of preferred stock outstanding, future holders of preferred stock may have rights superior to our common stock and such rights could also be used to restrict our ability to merge with, or sell our assets to a third party.

We are also subject to the provisions of Section 203 of the Delaware General Corporation Law, which could prevent us from engaging in a business combination with a 15% or greater securityholder for a period of three years from the date such person acquired that status unless appropriate board or securityholder approvals are obtained.

These provisions could deter unsolicited takeovers or delay or prevent changes in our control or management, including transactions in which securityholders might otherwise receive a premium for their shares over the then current market price. These provisions may also limit the ability of securityholders to approve transactions that they may deem to be in their best interests.

We could be exposed to unknown pre-existing liabilities of Xoft, which could cause us to incur substantial financial obligations and harm our business.

In connection with the acquisition, we may have assumed liabilities of Xoft of which we are not aware and may have little or no recourse against Xoft with respect thereto. To date, we have voluntarily recalled Xoft s Axxent Flexishield Mini and have been named in an action alleging personal injury resulting from general negligence and product liability seeking unlimited damages by two plaintiffs, one of whom was a patient at a hospital who was treated with the Axxent eBx system that incorporated the Axxent Flexishield Mini. If we were to discover that there were intentional misrepresentations made to us by Xoft, or its representatives as to these or other matters, we would explore all possible legal remedies to compensate us for any loss, including our rights to indemnification under the merger agreement that we entered into with Xoft upon the closing of the Xoft acquisition. However, there is no assurance that in such case legal remedies would be available or collectible. If such unknown liabilities exist and we are not fully indemnified for any loss that we incur as a result thereof, we could incur substantial financial obligations, which could negatively impact our financial condition and harm our business.

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FORWARD-LOOKING STATEMENTS

Certain statements in this Registration Statement or the documents incorporated by reference in this Registration Statement constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of iCAD to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among others, those set forth under the caption Risk Factors. The words believe, expect, anticipate, intend, continue, go demonstrate, likely, seek, estimate, would, could, should and plan and similar expressions identify forward-looking statements. Rea cautioned not to place undue reliance on any of these forward-looking statements, which speak only as of the date of the statement was made. Except as required by law, iCAD undertakes no obligation to update any forward-looking statement.

All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirely by these cautionary statements.

DESCRIPTION OF FINANCING TRANSACTION AND WARRANTS

On December 29, 2011, iCAD, Inc. (the Company) entered into several agreements with the selling securityholders, pursuant to which the selling securityholders agreed to provide $15 million in funding to the Company. Pursuant to the terms of a Facility Agreement, dated as of December 29, 2011 (the Facility Agreement), on January 6, 2012 (the Funding Date) the Company issued to the selling securityholders promissory notes in the aggregate principal amount of $15 million (the Notes). Under a Revenue Purchase Agreement, dated as of December 29, 2011 (the Revenue Purchase Agreement), the Company agreed to pay the selling securityholders a portion of the Company s revenues until the maturity date of the Notes, whether or not the Notes are outstanding through that date. On the Funding Date, the Company issued to the selling securityholders (i) six-year warrants to purchase up to 2,250,000 shares of common stock at an exercise price of $0.70 per share and (ii) a second Warrant (the B Warrant) to purchase an additional 500,000 shares of Common Stock at a exercise price of $0.70 per share, which may become exercisable if certain conditions are met, as described below. Collectively, these transactions are referred to as the Transactions. The Company received net proceeds of $14,775,000 from the Transactions (including the Revenue Purchase Agreement), representing $15,000,000 of gross proceeds, less a $225,000 facility fee, before deducting other expenses of the Transactions.

Facility Agreement

Under the terms of the Facility Agreement, the Company issued the Notes in the aggregate principal amount of $15 million. The Notes bear interest at an annual rate of 5.75%.

The maturity date of the Notes is the fifth anniversary of the date of the Facility Agreement, unless the Company notifies the lenders prior to the fourth anniversary of the date of the Facility Agreement that the Company would like to extend the maturity date for another year, in which the case the maturity date will be the sixth anniversary of the date of the Facility Agreement. The Company must pay 25% of the original principal amount of the Notes on each of the third and fourth anniversaries of the date of the Facility Agreement and 50% of such principal amount on the fifth anniversary of the date of the Facility Agreement. If, however, the final payment date is extended to the sixth anniversary of the date of the Facility Agreement, then the Company must pay 25% of the principal amount on each of the fifth and sixth anniversaries of the date of the Facility Agreement. There is no penalty for prepayment and the Notes are due on the earlier of the final payment date or an event of default. The selling securityholders have the option to require the Company to repay the Notes if the Company completes a major transaction, which includes, but is not limited to, a merger or sale of the Company.

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Security Agreement

In connection with the Facility Agreement, on the Funding Date, the selling securityholders and each of the Company and Xoft, Inc. (Xoft), a wholly owned subsidiary of the Company, entered into Security Agreements on the Funding Date (the Security Agreements), pursuant to which each of the Company and Xoft has granted to Deerfield a security interest in substantially all of their respective assets, including their respective intellectual property, accounts, receivables, equipment, general intangibles, inventory and investment property, and all of the proceeds and products of the foregoing.

Revenue Purchase Agreement

In connection with the Facility Agreement, the Company entered into a Revenue Purchase Agreement with Deerfield Private Design Fund II, L.P. (a selling securityholder) and Deerfield Special Situations Fund, L.P. (a selling securityholder) and Horizon Sante TTNP SARL (these entities collectively referred to as the Purchasers). Pursuant to the Revenue Purchase Agreement, the Purchasers will pay to the Company $4,107,900 in exchange for the Purchasers right to receive a percentage of the Company s revenues. For the first three quarters of each fiscal year during the term of the Revenue Purchase Agreement, the Company must pay to the Purchasers the greater of the applicable percentage of revenues for such quarter and the applicable quarterly minimum, which is $125,000 per quarter. In the final quarter of each calendar year during the term of the Revenue Purchase Agreement, the Company must pay to the Purchasers the amount equal to the difference between the greater of the applicable percentage of revenues for the applicable calendar year and the applicable annual minimum of $500,000 minus the aggregate revenue participation payments the Company made for the first three quarters of the applicable year. If the Company extends the maturity date of the Facility Agreement, then the Company must pay the Purchasers the revenue payments through 2017. The applicable percentage for the calendar years 2012, 2013 and 2014 are 4.25% of revenues up to $25 million in annual revenues for the calendar year, 2.75% of revenues from $25 million in annual revenues up to $50 million in annual revenues for such calendar year and 1.0% of revenues in excess of $50 million in annual revenues for such calendar year. The applicable percentage for the calendar years 2015, 2016, and, if applicable, 2017, are 4.25% of revenues up to $25 million in annual revenues for such calendar year, 2.25% of revenues from $25 million up to $50 million in annual revenues for such calendar year and 1.0% of revenues in excess of $50 million in annual revenues for such calendar year. Additionally, if the Company sells assets in excess of $500,000 in the aggregate during the term of the Revenue Purchase Agreement, the proceeds of which are not recorded as revenue in accordance with generally Accepted Accounting Principles in the United States of America, the Company must pay the Purchasers certain percentages of the gross proceeds of any such asset sale. The percentage of any such payment varies with the total amount of the gross proceeds and when the asset sale takes place.

Warrant to Purchase Common Stock and Registration Rights Agreement

In connection with the Transactions, on the Funding Date, the Company issued to the selling securityholders six-year warrants to purchase an aggregate of 2,750,000 shares of common stock at an exercise price of $0.70 per share (the Warrants). On the Funding Date, the Warrants to purchase 2,250,000 shares of the Company s common stock became immediately exercisable. If the Company extends the maturity date of the Facility Agreement, the 500,000 shares of common stock underlying the B Warrants will become exercisable. The B Warrants will become exercisable on the first business day following the four year anniversary of the date of the Facility Agreement. The B Warrants shall otherwise have the same terms, including exercise price and expiration date, as the Warrants. The exercise price may be paid, at the election of the holder, in cash, by a reduction of the principal amount of the holder s Note outstanding under the Facility Agreement or, pursuant to certain cashless exercise provisions. If the Company declares and pays dividends or makes other distributions to the holders of its common stock, the holders of the Warrants are entitled to receive the dividends or distributions as if the holders had exercised the Warrants and held common stock. All Warrants issued under the Facility Agreement expire on the six year anniversary of the Funding Date and contain certain limitations that prevent the holder from acquiring shares upon exercise of a Warrant that would result in the number of shares beneficially owned by it to exceed 9.985% of the total number of shares of the Company s common stock then issued and outstanding. Upon certain change of control transactions, or upon certain events of default (as defined in the Warrants), each holder has the right to net exercise the Warrants for an amount of shares of the Company s common stock equal to the Black-Scholes value of

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the shares issuable under the Warrants divided by 95% of the closing price of the Company s common stock on the day immediately prior to the consummation of such change of control or event of default, as applicable. In certain circumstances where a Warrant or portion of a Warrant is not net exercised in connection with a change of control or event of default, the holder will be paid an amount in cash equal to the Black-Scholes value of such portion of the Warrant not treated as a net exercise.

In connection with the Transactions, the Company entered into a registration rights agreement with the selling securityholders, pursuant to which the Company agreed to register for resale all of the shares issuable under the Warrants upon exercise or otherwise, including the B Warrants. The Company is required to use its commercially reasonable best efforts to have the registration statement declared effective as soon as practicable (but in no event later than sixty (60) days after the Funding Date).

The Company is required to file additional registration statements to register the resale of any shares underlying warrants which are not included in the registration statement. The Company s registration obligations terminate on the earlier of (i) the date on which all of the shares of common stock covered by an applicable registration statement have been sold and (ii) the date on which all of such shares (in the opinion of counsel to the selling securityholders) may be immediately sold to the public (other than pursuant to a Cash Exercise (as defined in the Warrants)) without registration or restriction (including without limitation as to volume by each holder thereof) under the Securities Act.

The maximum number of shares of common stock the Company may issue under the Transactions may not exceed 19.9% of the Company s outstanding stock immediately prior to the Transactions.

The sale of the Warrants was exempt from registration pursuant to Section 4(2) of the Securities Act of 1933, as amended (the Securities Act). The Warrants and the securities to be issued upon exercise of the Warrants have not been registered under the Securities Act or state securities laws and may not be offered or sold in the United States absent registration with the SEC or an applicable exemption from the registration requirements.

UNAUDITED PRO FORMA COMBINED CONDENSED FINANCIAL INFORMATION

On December 30, 2010, we completed our acquisition of Xoft, Inc., or Xoft, a privately held company based in California. Xoft designs, develops, manufactures, markets and sells electronic brachytherapy (eBx) products for the treatment of breast and other cancers, used in a broad range of clinical settings. The acquisition was made pursuant to an Agreement and Plan of Merger dated December 15, 2010, by and between us, XAC, Inc., our wholly-owned subsidiary, Xoft and Jeffrey Bird as the representative of the stockholders of Xoft, referred to as the Merger Agreement. Upon the terms of the Merger Agreement, Xoft was merged with and into the XAC, Inc. with XAC, Inc. surviving the merger, referred to as the Merger.

We acquired 100% of the outstanding stock of Xoft in exchange for approximately 8.35 million shares of our common stock and approximately $1.2 million in cash, for a total consideration at closing of approximately $12.9 million based on a per share value of $1.40, the closing price of our common stock on the closing date. We also paid certain transaction expenses of Xoft totaling approximately $1.0 million which is included in our statement of operations.

Under the Merger Agreement, there is an additional earn-out potential for the sellers that is tied to cumulative net revenue of Xoft products for the three year period ending December 31, 2013, payable at the end of the period. The threshold for earn-out consideration begins at $50 million of cumulative revenue of Xoft Products (as defined in the Merger Agreement) over the three year period immediately following the closing. The targeted earn-out consideration of $20 million will occur at $76 million of cumulative revenue of Xoft Products and the maximum earn-out consideration of $40 million would be achieved at $104 million of cumulative revenue of Xoft Products over the three year period. We recorded a contingent consideration liability of $4.9 million.

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At closing, 10% of the cash amount and 10% of the amount of our common stock comprising the merger consideration was placed in escrow. It will remain in escrow for a period of 15 months following the closing of the Merger to secure post-closing indemnification obligations of Xoft stockholders.

The following unaudited pro forma combined condensed financial information gives effect to the Merger using the purchase method of accounting, as required by Accounting Standards Codification 805, Business Combinations. Under this method of accounting, we allocated the purchase price to the fair value of assets acquired, including identified intangible assets and goodwill. The unaudited pro forma combined condensed statements of operations assume that the Merger took place as of January 1, 2010.

The financial information presented in the unaudited pro forma combined condensed financial statements is based on amounts and adjustments that our management believes to be factually supportable. We have made no attempt to included forward looking assumptions in such information.

Certain reclassifications have been made to Xoft s historical presentation to conform to our presentation. These reclassifications do not materially impact the unaudited pro forma condensed consolidated results of operations for the period presented.

The unaudited pro forma adjustments, which are based upon available information and upon certain assumptions that we believe are reasonable, are described in the accompanying notes. We are providing the unaudited pro forma condensed consolidated financial information for informational purposes only. The companies may have performed differently had they been combined during the periods presented. You should not rely on the unaudited pro forma combined condensed financial information as being indicative of the historical results that would have been achieved had the companies actually been combined during the periods presented or the future results that the combined companies will experience. The unaudited pro forma combined condensed statements of operations do not give effect to any cost savings or operating synergies expected to result from the acquisitions or the costs to achieve such cost savings or operating synergies.

See the unaudited pro forma combined condensed financial statements included in the Form 8-K/A filed with the Securities and Exchange Commission on March 17, 2011 and Note 2 to our consolidated financial statements for the year ended December 31, 2010 contained in our Form 10-K for such year, each of which are incorporated by reference herein.

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Unaudited Pro Forma Combined Condensed Statement of Operations

For the year ended December 31, 2010

(Unaudited)

(In thousands except for per share data)

	Historical			Proforma
	iCAD	Xoft	Proforma Adjustments	Combined Total
Total revenue	$ 24,575	$ 5,723		$ 30,298
Total cost of revenue	3,147	6,462	(2,077)(a)	8,446
			913(b)	
Gross margin	21,428	(739)	2,077	21,853
Operating expenses:				
Engineering and product development	6,596	2,266	1,746(a)	10,608
Sales, general and administrative	21,405	7,757	331(a)	
			(2,145)(c)	27,348
Total operating expenses	28,001	10,023	(68)	37,956
Loss from operations	(6,573)	(10,762)	2,145	(16,104)
Interest and other income (expense), net	348	(2,216)	1,647(d)	(221)
Loss before provision (benefit) for income taxes	(6,225)	(12,978)	3,792	(16,325)
Provision (benefit) for income taxes				
Net loss	$ (6,225)	$ (12,978)	$ 3,792	$ (16,325)
Net loss per share:				
Basic and diluted	$ (0.14)			$ (0.31)
Weighted average number of shares used in computing loss per share:				
Basic and diluted	45,759		8,349(e)	54,108

See accompanying introduction and notes to unaudited pro forma combined condensed financial statements.

(a) Represents the reclassification of expenses recorded in cost of sales to operating expenses.

(b) Represents amortization of increase in value of acquired identifiable intangible assets of Xoft based upon average estimated useful lives of ten years (13,700,000/15 years = $913,333 per year).

(c) Represents the elimination of transaction costs related to the acquisition of Xoft

(d) Reflects the elimination of borrowings by Xoft converted to equity prior to closing and the associated interest expense.

(e) Reflects the increase in weighted average basic and diluted shares outstanding for the Company s common stock issued in connection with the Merger. Pro forma basic and diluted loss per share was calculated assuming that the 8,348,501 shares of the Company s common stock

issued in connection with the Merger were issued at the beginning of the period presented.

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USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares by the selling securityholders. The selling securityholders are not obligated to exercise their Warrants and we cannot predict whether holders will choose to exercise all or any of their Warrants or if they will do so for cash or on a cashless basis. In the event that all of the Warrants are exercised for cash, we will receive gross proceeds of $1,925,000. We expect to use the proceeds received from the exercise of the Warrants, if any, for general working capital purposes.

SELLING SECURITYHOLDERS

We are registering for resale shares of our common stock that are issuable upon exercise of outstanding Warrants held by the selling securityholders identified below. We are registering the shares to permit the selling securityholders and their pledgees, donees, transferees and other successors-in-interest that receive their shares from a selling securityholder as a gift, partnership distribution or other non-sale related transfer after the date of this prospectus to resell the shares when and as they deem appropriate in the manner described in the Plan of Distribution.

On December 29, 2011, we entered into several agreements with the selling securityholders and certain of their affiliates, pursuant to which the selling securityholders agreed to provide $15 million in funding to the Company. The selling securityholders funded the transaction on January 6, 2012. In connection with the funding transaction, we issued to the selling securityholders Warrants to purchase shares of common stock at an exercise price of $0.70 per share. Pursuant to a registration rights agreement with the selling securityholders, we agreed to file a registration statement covering the resale of the shares underlying the Warrants with the SEC on or prior to the date that is 10 calendar days from the date the applicable Warrant was issued. We are required to keep the registration statement continuously effective under the Securities Act until the earlier of (i) the date on which all of the shares of common stock covered by an applicable registration statement have been sold and (ii) the date on which all of such shares (in the opinion of counsel to the selling securityholders) may be immediately sold to the public (other than pursuant to a Cash Exercise (as defined in the Warrants)) without registration or restriction (including without limitation as to volume by each holder thereof) under the Securities Act.

The following table sets forth:

- the name of the selling securityholders,
- the number of shares of our common stock that the selling securityholders beneficially owned prior to the offering for resale of the shares under this prospectus,
- the maximum number of shares of our common stock that may be offered for resale for the account of the selling securityholders under this prospectus, and
- the number and percentage of shares of our common stock to be beneficially owned by the selling securityholders after the offering of the shares (assuming all of the offered shares are sold by the selling securityholders).

None of the selling securityholders has been an officer or director of our company or any of its predecessors or affiliates within the last three years, nor has any selling securityholder had a material relationship with us.

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	Shares of Common Stock Beneficially Owned Prior to Offering(1)	Maximum Number of Shares to be Sold	Shares of Common Stock Beneficially Owned After Offering	Percentage Ownership After Offering
Deerfield Private Design Fund II, L.P. (2)	1,025,200	1,025,200	0	0
Deerfield Private Design International II, L.P. (2)	1,174,800	1,174,800	0	0
Deerfield Special Situations Fund, L.P. (2)	214,500	214,500	0	0
Deerfield Special Situations Fund International Limited (2)	335,500	335,500	0	0
Total	2,,750,000	2,750,000		

(1) Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, securities that are currently convertible or exercisable into shares of our common stock, or convertible or exercisable into shares of our common stock within 60 days of the date hereof are deemed outstanding. Such shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. Except as indicated in the footnotes to the following table, each securityholder named in the table has sole voting and investment power with respect to the shares set forth opposite such securityholder s name.

(2) The number of shares beneficially owned prior to the offering represents shares of common stock that may be issued upon exercise of Warrants. James E. Flynn, with an address at 780 Third Avenue, 37th Floor, New York, New York 10017 has voting and disposition power over these securities.

PLAN OF DISTRIBUTION

We are registering 2,750,000 shares of our common stock on behalf of the Selling Securityholders. We are required to pay certain fees and expenses that we incur incident to the registration of the shares of the common stock. As used in this prospectus, selling securityholders includes the selling securityholders named in the table above and pledgees, donees, transferees or other successors-in-interest selling shares received from a named selling securityholder as a gift, partnership distribution or other non-sale-related transfer after the date of this prospectus. The selling securityholders may, from time to time, sell any or all of their shares of common stock on the NASDAQ Capital Markets or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. The selling securityholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. A selling securityholder may use any one or more of the following methods when selling shares:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

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an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;

broker-dealers may agree with the selling securityholders to sell a specified number of such shares at a stipulated price per share;

a combination of any such methods of sale;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; or

any other method permitted pursuant to applicable law.

Broker-dealers engaged by the selling securityholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling securityholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the common stock or interests therein, the selling securityholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling securityholders may also sell shares of the common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling securityholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling securityholders and any broker dealers or agents that are involved in selling the shares may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling securityholder has informed the us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8.0%).

Because selling securityholders may be deemed to be underwriters within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. There is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the selling securityholders.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

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Under applicable rules and regulations under the Securities Exchange Act of 1934, as amended (the Exchange Act), any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling securityholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of the common stock by the selling securityholders or any other person. We will make copies of this prospectus available to the selling securityholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

We have agreed to indemnify the selling securityholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

DESCRIPTION OF COMMON STOCK

We are authorized to issue 85,000,000 shares of common stock. As of January 6, 2012, there were 53,825,355 shares of common stock outstanding.

Each share of common stock is entitled to one vote on all matters to be voted on by securityholders. There are no cumulative voting rights in the election of directors, with the result that the holders of more than 50% of the shares voting for the election of directors can elect all of the directors then up for election. The holders of common stock are entitled to receive dividends when, as and if declared by our Board of Directors out of funds legally available therefor. In the event of liquidation, dissolution or winding up of our company, the holders of common stock are entitled to share in all assets remaining, if any, which are available for distribution to them after payment of liabilities and after provision has been made for each class of stock, if any, having preference over the common stock. Holders of shares of common stock have no conversion, preemptive or other subscription rights, and there are no redemption provisions applicable to the common stock. All outstanding shares of common stock are fully paid and nonassessable.

Transfer Agent

The transfer agent and registrar for the common stock is Continental Stock Transfer & Trust Company.

Anti-Takeover Provisions

Our certificate of incorporation authorizes the Board of Directors to issue up to 1,000,000 shares of preferred stock. The preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by our Board of Directors, without further action by securityholders, and may include, among other things, voting rights (including the right to vote as a series on particular matters), preferences as to dividends and liquidation, conversion and redemption rights, and sinking fund provisions. Although there are currently no shares of preferred stock outstanding, future holders of preferred stock may have rights superior to our common stock and such rights could also be used to restrict our ability to merge with, or sell our assets to a third party.

We are also subject to the provisions of Section 203 of the Delaware General Corporation Law, which could prevent us from engaging in a business combination with a 15% or greater securityholder for a period of three years from the date such person acquired that status unless appropriate board or securityholder approvals are obtained.

These provisions could deter unsolicited takeovers or delay or prevent changes in our control or management, including transactions in which securityholders might otherwise receive a premium for their shares over the then current market price. These provisions may also limit the ability of securityholders to approve transactions that they may deem to be in their best interests.

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LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon for us by Blank Rome LLP of New York, New York and for any underwriters, dealers or agents by counsel named in the applicable prospectus supplement.

EXPERTS

The financial statements of iCad, Inc. and Subsidiary as of December 31, 2010 and 2009 and for each of the three years in the period ended December 31, 2010 incorporated by reference in this Prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

The audited historical financial statements of Xoft, Inc. included in iCAD Inc s Current Report on Form 8-K/A dated December 30, 2010 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934 and we file reports and other information with the SEC.

You may read and copy any of the reports, statements, or other information we file with the SEC at the SEC s Public Reference Section at 100 F Street, N.E., Washington, D.C. 20549 at prescribed rates. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains a Web site at http://www.sec.gov that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC. Our SEC File Number for documents we filed under the Securities Exchange Act of 1934 is 001-09341.

Our web site address is icadmed.com. We have included our web site address in this document as an inactive textual reference only, and the information contained in, or that can be accessed through, our web site does not constitute part of this prospectus.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

This prospectus constitutes a part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act of 1933, as amended. This prospectus does not contain all of the information set forth in the registration statement, certain parts of which are omitted in accordance with the rules and regulations of the SEC. For further information about us and our securities we refer you to the registration statement and the accompanying exhibits and schedules. The registration statement may be inspected at the Public Reference Room maintained by the SEC at the address set forth in the first paragraph of this section. Statements contained in this prospectus regarding the contents of any contract or any other document filed as an exhibit are not necessarily complete. In each instance, reference is made to the copy of such contract or document filed as an exhibit to the registration statement, and each statement is qualified in all respects by that reference.

The SEC allows us to incorporate by reference the information we file with them. This means that we can disclose important information to you by referring you to other documents that are legally considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede the information in this prospectus and the documents listed below. We incorporate by reference the documents listed below, and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until we sell all the shares.

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1. Our Annual Report on Form 10-K for the fiscal year ended December 31, 2010;

2. Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2011;

3. Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2011;

4. Our Quarterly Report on Form 10-Q for the quarter ended September 30, 2011;

5. Our Current Reports on Forms 8-K filed with the SEC on January 5, 2011, March 8, 2011, March 17, 2011, April 27, 2011, July 21, 2011, July 27, 2011, September 12, 2011, December 23, 2011 and January 3, 2012;

6. The description of our common stock contained in our Registration Statements on Form 8-A filed with the SEC and any amendments thereto;

7. All documents filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 subsequent to the date of this prospectus and prior to the termination of this offering, except any Compensation Committee Report on Executive Compensation included in any Proxy Statement filed by us pursuant to Section 14 of the Securities Exchange Act of 1934 (information furnished under either Item 2.02 or Item 7.01 of any Current Report on Form 8-K shall not be deemed incorporated by reference); and

You may request and we will provide a copy of these filings to you at no cost, by writing or telephoning us at iCAD, Inc., 98 Spit Brook Road, Suite 100, Nashua, New Hampshire 03062, telephone number (603) 882-5200. Attention: Kevin C. Burns.

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2,750,000 shares of Common Stock

iCAD, Inc.

Prospectus

January 20, 2012