PROSPECTUS SUPPLEMENT NO. 5
(to Prospectus dated October 11, 2016)

Filed Pursuant to Rule 424(b)(3)
Registration No. 333-213896

MRI Interventions, Inc.

1,589,580 Shares of Common Stock

This prospectus supplement relates to the prospectus dated October 11, 2016, as supplemented by prospectus supplement no. 1 dated November 9, 2016, prospectus supplement no. 2 dated March 9, 2017, prospectus supplement no. 3 dated April 27, 2017 and prospectus supplement no. 4 dated April 28, 2017, which permits the resale of up to 821,000 outstanding shares of our common stock, and 768,580 shares of our common stock issuable upon the exercise of outstanding warrants, by the selling securityholders identified in the prospectus, as amended and supplemented from time to time. We will pay the expenses of registering the shares of our common stock, but we are not selling any shares of common stock in this offering and therefore will not receive any proceeds from this offering. We will, however, receive the exercise price of the warrants, if and when the warrants are exercised for cash by the securityholders.

This prospectus supplement is being filed to update, amend and supplement the information previously included in the prospectus with the information contained in our Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (the "SEC") on May 9, 2017 (the "10-Q"). Accordingly, we have attached the 10-Q to this prospectus supplement. You should read this prospectus supplement together with the prospectus, which is to be delivered with this prospectus supplement.

Our common stock is traded in the over-the-counter market and is quoted on the OTCQB Marketplace and the OTC Bulletin Board under the symbol MRIC. On May 8, 2017, the last reported sale price of our common stock was $6.40 per share.

We are an "emerging growth company" under the federal securities laws and are subject to reduced public company reporting requirements. Investing in our common stock involves risk. See "Risk Factors" beginning on page 6 of the prospectus, as amended and supplemented by the "Risk Factors" beginning on page 22 of our Annual Report on 10-K, filed with the SEC on March 9, 2017, to read about factors you should consider before buying shares of our common stock.

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

The date of this prospectus supplement is May 9, 2017.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2017

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from_____to _____

Commission file number: 001-34822

MRI Interventions, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**58-2394628**
(State or Other Jurisdiction of Incorporation or Organization)	(IRS Employer Identification Number)
5 Musick Irvine, California	**92618**
(Address of Principal Executive Offices)	(Zip Code)

(949) 900-6833
(Registrant's Telephone Number, Including Area Code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files.)

☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☐	Smaller Reporting Company☒
(Do not check if smaller reporting company)	Emerging Growth Company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☒ No

As of May 9, 2017, there were 3,710,365 shares of common stock outstanding.

MRI INTERVENTIONS, INC.

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Trademarks, Trade Names and Service Marks

ClearPoint®, *ClearTrace*®, *MRI Interventions*® and *SmartFrame*® are trademarks of MRI Interventions, Inc. Any other trademarks, trade names or service marks referred to in this Quarterly Report on Form 10-Q (this "Quarterly Report") are the property of their respective owners. As used in this Quarterly Report, Brainlab refers to Brainlab AG and its affiliates.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report contains "forward-looking statements" as defined under the United States federal securities laws. The forward-looking statements are contained principally in the section of this Quarterly Report entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations." These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our ability to obtain additional financing;
- estimates regarding the sufficiency of our cash resources;
- future revenues from sales of ClearPoint system products; and
- our ability to market, commercialize and achieve broader market acceptance for our ClearPoint system products.

In some cases, you can identify forward-looking statements by terms such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would," and similar expressions intended to identify forward-looking statements, although not all forward-looking statements contain these words. Although we believe that we have a reasonable basis for each forward-looking statement contained in this Quarterly Report, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. You should refer to the section titled "Risk Factors" of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, which we filed with the SEC on March 9, 2017, for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by the forward-looking statements contained in this Quarterly Report. As a result of these factors, we cannot assure you that the forward-looking statements in this Quarterly Report will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We do not undertake to update any of the forward-looking statements after the date of this Quarterly Report, except to the extent required by applicable securities laws.

PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

MRI INTERVENTIONS, INC.
Condensed Consolidated Balance Sheets
(Unaudited)

	March 31, 2017	December 31, 2016
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 1,969,597	$ 3,315,774
Accounts receivable	1,009,775	865,943
Inventory, net	1,809,020	1,768,382
Prepaid expenses and other current assets	95,625	134,996
Total current assets	4,884,017	6,085,095
Property and equipment, net	383,534	328,249
Software license inventory	906,900	976,900
Other assets	16,300	10,641
Total assets	$ 6,190,751	$ 7,400,885
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$ 1,308,056	$ 1,546,926
Accrued compensation	811,951	666,060
Other accrued liabilities	618,839	450,424
Derivative liabilities	224,219	131,173
Deferred product and service revenues	263,097	223,117
Total current liabilities	3,226,162	3,017,700
Accrued interest	577,125	647,500
Senior secured note payable	2,000,000	2,000,000
2014 junior secured notes payable, net of unamortized discount and deferred issuance costs of $160,688 and $180,774 at March 31, 2017 and December 31, 2016, respectively	1,814,312	1,794,226
2010 junior secured notes payable, net of unamortized discount of $2,221,936 and $2,302,472 at March 31, 2017 and December 31, 2016, respectively	778,064	697,528
Total liabilities	8,395,663	8,156,954
Commitments and contingencies		
Stockholders' deficit:		
Preferred stock, $0.01 par value; 25,000,000 shares authorized at March 31, 2017 and December 31, 2016; none issued and outstanding at March 31, 2017 and December 31, 2016	-	-
Common stock, $0.01 par value; 200,000,000 shares authorized at March 31, 2017 and December 31, 2016; 3,622,032 shares issued and outstanding at March 31, 2017 and December 31, 2016	36,220	36,220
Additional paid-in capital	93,283,370	93,076,475
Accumulated deficit	(95,524,502)	(93,868,764)
Total stockholders' deficit	(2,204,912)	(756,069)
Total liabilities and stockholders' deficit	$ 6,190,751	$ 7,400,885

See accompanying notes.

MRI INTERVENTIONS, INC.
Condensed Consolidated Statements of Operations
(Unaudited)

	For The Three Months Ended March 31,	
	2017	**2016**
Revenues:		
Product revenues	$ 1,922,215	$ 1,366,153
Other service revenues	84,857	27,981
Total revenues	2,007,072	1,394,134
Cost of product revenues	752,464	696,546
Research and development costs	557,699	657,192
Selling, general, and administrative expenses	2,050,529	1,974,249
Operating loss	(1,353,620)	(1,933,853)
Other income (expense):		
Gain (loss) on change in fair value of derivative liabilities	(93,046)	160,118
Other income, net	4,127	75,142
Interest expense, net	(213,199)	(345,225)
Net loss	$ (1,655,738)	$ (2,043,818)
Net loss per share attributable to common stockholders:		
Basic and diluted	$ (0.46)	$ (0.89)
Weighted average shares outstanding:		
Basic and diluted	3,622,032	2,291,147

See accompanying notes.

MRI INTERVENTIONS, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	For The Three Months Ended March 31,	
	2017	**2016**
Cash flows from operating activities:		
Net loss	$ (1,655,738)	$ (2,043,818)
Adjustments to reconcile net loss to net cash flows from operating activities:		
Depreciation and amortization	36,121	41,022
Share-based compensation	206,896	260,149
Expenses paid through the issuance of common stock	-	192,166
(Gain) loss on change in fair value of derivative liabilities	93,046	(160,118)
Amortization of debt issuance costs and original issue discounts	100,622	151,759
Increase (decrease) in cash resulting from changes in:		
Accounts receivable	(143,832)	(279,494)
Inventory	(62,043)	217,873
Prepaid expenses and other current assets	39,371	(18,114)
Other assets	(5,659)	(58,473)
Accounts payable and accrued expenses	5,059	52,790
Deferred revenue	39,980	35,697
Net cash flows from operating activities	(1,346,177)	(1,608,561)
Cash flows from investing activities:		
Purchases of property and equipment	-	(77,649)
Net cash flows from investing activities	-	(77,649)
Cash flows from financing activities:		
Payment of 2015 private placement financing costs	-	(140,086)
Net cash flows from financing activities	-	(140,086)
Net change in cash and cash equivalents	(1,346,177)	(1,826,296)
Cash and cash equivalents, beginning of period	3,315,774	5,408,523
Cash and cash equivalents, end of period	$ 1,969,597	$ 3,582,227
SUPPLEMENTAL CASH FLOW INFORMATION		
Cash paid for:		
Income taxes	$ -	$ -
Interest	$ 146,611	$ 223,500

See accompanying notes.

MRI INTERVENTIONS, INC.
Condensed Consolidated Statements of Cash Flows (continued)
(Unaudited)

NON-CASH INVESTING AND FINANCING TRANSACTIONS:

- During the three months ended March 31, 2017, the Company recorded net transfers of ClearPoint reusable components having an aggregate net book value of $91,405 from inventory to loaned systems, which are included in property and equipment in the accompanying condensed consolidated balance sheet. During the three months ended March 31, 2016, the Company recorded net transfers of ClearPoint reusable components having an aggregate net book value of $24,223 from loaned systems to inventory.

1. Description of the Business and Liquidity

MRI Interventions, Inc. (the "Company") is a medical device company focused on the development and commercialization of technology that enables physicians to see inside the brain and heart using direct, intra-procedural magnetic resonance imaging ("MRI") guidance while performing minimally invasive surgical procedures. The Company was incorporated in the state of Delaware in March 1998. The Company's principal executive office and principal operations are located in Irvine, California. The Company established MRI Interventions (Canada) Inc., a wholly-owned subsidiary incorporated in Canada, in August 2013. This subsidiary was established primarily for the purpose of performing software development, and its activities are reflected in these condensed consolidated financial statements.

The Company's ClearPoint system, an integrated system comprised of reusable and disposable products, is designed to allow minimally invasive procedures in the brain to be performed in an MRI suite. The Company received 510(k) clearance from the U.S. Food and Drug Administration ("FDA") in 2010 to market the ClearPoint system in the United States for general neurological interventional procedures. The Company's ClearTrace system is a product candidate under development that is designed to allow catheter-based minimally invasive procedures in the heart to be performed in an MRI suite. Although still a product candidate, the Company has suspended its efforts to commercialize the ClearTrace system.

Liquidity and Management's Plans

The cumulative net loss from the Company's inception through March 31, 2017 was approximately $96 million. Net cash used in operations was $1.3 million for the three months ended March 31, 2017. Since inception, the Company has financed its operations principally from the sale of equity securities, the issuance of notes payable and license arrangements. Recent financing activities consist of: (i) a September 2016 private placement of equity, which resulted in net cash proceeds of $3.8 million and the conversion of $1.75 million in debt (the "2016 PIPE"); (ii) a December 2015 private placement of equity, which resulted in net cash proceeds of $4.7 million (the "2015 PIPE"); (iii) a December 2014 private placement of equity, which resulted in net cash proceeds of $9.4 million (the "2014 PIPE"); and (iv) a March 2014 private placement of debt and warrants, which resulted in net cash proceeds of $3.5 million (the "2014 Secured Notes").

In addition, as discussed in Note 4:

- On April 4, 2016 (the "Closing Date"), the Company and Brainlab AG ("Brainlab") finalized a securities purchase agreement (the "2016 Purchase Agreement") that provided, among other items, for the restructuring of a senior secured note payable to Brainlab, which was originally issued to Brainlab on April 5, 2011, and subsequently amended and restated on March 6, 2013 (the "Brainlab Note"). The restructuring of the Brainlab Note resulted in a reduction of the principal amount outstanding under the Brainlab Note, which is reflected in a new, amended and restated note payable to Brainlab that matures on December 31, 2018 (the "New Brainlab Note").

- Pursuant to amendments executed on August 31, 2016 by the Company and certain noteholders (the "2014 Convertible Note Holders") upon completion of the 2016 PIPE, an aggregate $1.75 million of principal balance of such holders' 2014 junior secured notes automatically converted into units, each unit consisting of one share of the Company's common stock and one warrant to purchase 0.90 share of the Company's common stock, based on the offering price per unit in the 2016 PIPE.

The Company's plans for the next twelve months reflect management's anticipation of increases in revenues from sales of the ClearPoint system and related disposable products as a result of greater utilization at existing installed sites and the installation of the ClearPoint system at new sites. Management also anticipates maintaining recurring operating expenses at historical levels, with expected decreases in general and administrative expenses being offset by increases in selling and marketing expenses associated with the anticipated growth in revenues. However, there is no assurance that the Company will be able to achieve its anticipated results, and even in the event such results are achieved, the Company expects to continue to consume cash in its operations over at least the next twelve months.

As a result of the foregoing, the Company believes it will be necessary to seek additional financing from the sale of equity or debt securities, which would result in dilution to the Company's current stockholders, the establishment of a credit facility, or the entry into an agreement with a strategic partner or some other form of collaborative arrangement. There is no assurance, however, that the Company will be able to obtain such additional financing on commercially reasonable terms, if at all, and there is no assurance that any additional financing that the Company does obtain will be sufficient to meet its needs. If the Company is not able to obtain the additional financing on a timely basis, the Company may be unable to achieve its anticipated results, and the Company may not be able to meet its other obligations as they become due. As such, there is substantial doubt as to the Company's ability to continue as a going concern within one year after the issuance date of these financial statements.

The accompanying condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

2. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation and Use of Estimates

In the opinion of management, the accompanying unaudited condensed consolidated financial statements have been prepared on a basis consistent with the Company's December 31, 2016 audited consolidated financial statements, and include all adjustments, consisting of only normal recurring adjustments, necessary to fairly state the information set forth therein. These condensed consolidated financial statements have been prepared in accordance with United States ("U.S.") Securities and Exchange Commission ("SEC") rules for interim financial information, and, therefore, omit certain information and footnote disclosures necessary to present such statements in accordance with generally accepted accounting principles in the U.S. ("GAAP"). The preparation of these condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and the related disclosures at the date of the financial statements and during the reporting period. Actual results could materially differ from these estimates. These condensed financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2016, which was filed with the SEC on March 9, 2017 (our "2016 Form 10-K"). The accompanying unaudited condensed consolidated balance sheet as of December 31, 2016 has been derived from the audited consolidated financial statements at that date, but does not include all information and footnotes required by GAAP for a complete set of financial statements. The results of operations for the three months ended March 31, 2017 may not be indicative of the results to be expected for the entire year or any future periods.

Reverse Stock Split

As discussed in Note 5, the Company effectuated a 1-for-40 reverse stock split of its issued common stock on July 26, 2016. All disclosure of common shares and per share data in the accompanying condensed consolidated financial statements and related notes have been adjusted retroactively to reflect the reverse stock split for all periods presented.

Derivative Liabilities

Derivative liabilities represent the fair value of conversion features of certain notes and of certain warrants to purchase common stock (see Note 6). These derivative liabilities are calculated utilizing the Monte Carlo simulation valuation method. Changes in the fair values of these warrants are recognized as other income or expense in the related condensed consolidated statements of operations.

Fair Value Measurements

The Company measures and records certain financial assets and liabilities at fair value on a recurring basis. GAAP provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority, referred to as Level 1, to quoted prices in active markets for identical assets and liabilities. The next priority, referred to as Level 2, is given to quoted prices for similar assets or liabilities in active markets or quoted prices for identical or similar assets or liabilities in markets that are not active; that is, markets in which there are few transactions for the asset or liability. The lowest priority, referred to as Level 3, is given to unobservable inputs. The table below reflects the level of the inputs used in the Company's fair value calculations:

	Quoted Prices in Active Markets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
March 31, 2017				
Derivative liabilities - warrants	$ -	$ -	$ 176,719	$ 176,719
Derivative liabilities – debt conversion feature			47,500	47,500
December 31, 2016				
Derivative liabilities - warrants	$ -	$ -	$ 91,173	$ 91,173
Derivative liabilities – debt conversion feature	$ -	$ -	$ 40,000	$ 40,000

Inputs used in the Company's Level 3 calculation of fair value include the assumed dividend rate on the Company's common stock, risk-free interest rates and stock price volatility, all of which are further discussed in Note 6.

Carrying amounts of the Company's cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to their short maturities.

The table below reflects the carrying values and the estimated fair values, based on Level 3 inputs, of the Company's outstanding notes payable, including the related accrued interest, at March 31, 2017:

	Carrying Values	Estimated Fair Values
Senior secured note payable, including accrued interest	$ 2,027,500	$ 2,027,500
2014 junior secured notes payable, including accrued interest	1,822,687	1,983,375
2010 junior secured notes payable, including accrued interest	1,451,814	2,858,412

Inventory

Inventory is carried at the lower of cost (first-in, first-out method) or net realizable value. Items in inventory relate predominantly to the Company's ClearPoint system. Software license inventory that is not expected to be utilized within the next twelve months is classified as a non-current asset. The Company periodically reviews its inventory for obsolete items and provides a reserve upon identification of potential obsolete items.

Revenue Recognition

The Company's revenues are comprised of: (1) product revenues resulting from the sale of ClearPoint system reusable products and disposable products; and (2) other service revenues. The Company recognizes revenue when persuasive evidence of an arrangement exists, the selling price or fee is fixed or determinable, collection is reasonably assured, and, for product revenues, risk of loss has transferred to the customer. For all sales, the Company requires either a purchase agreement or a purchase order as evidence of an arrangement. The Company analyzes revenue recognition on a case-by-case basis, and determines if the deliverables under the arrangement represent separate units of accounting as defined by GAAP. Application of GAAP regarding multiple-element arrangements requires the Company to make subjective judgments about the values of the individual elements and whether delivered elements are separable from the other aspects of the contractual relationship.

(1) *Product Revenues*

Sales of ClearPoint system reusable products: The predominance of ClearPoint system reusable product sales (consisting primarily of integrated computer hardware and software) are preceded by customer evaluation periods, generally with 90-day terms. During these evaluation periods, installation of, and training of customer personnel on, the systems have been completed and the systems have been in operation. Accordingly, reusable product sales following such evaluation periods are recognized on the basis of an executed purchase agreement or purchase order that provide for risk of loss to pass to the customer. Sales of reusable products not having been preceded by an evaluation period are recognized on an individual agreement basis as described in the preceding paragraph.

Sales of ClearPoint system disposable products: Revenues from the sale of disposable products, including ClearPoint system disposable products, are recognized at the time risk of loss passes to the customer, which is generally at the shipping point or upon delivery to the customer's location, depending on the agreed upon terms with the customer.

(2) *Other Service Revenues*

Other service revenues are comprised of installation fees, training fees, shipping fees and service fees charged in connection with ClearPoint system installations and ClearPoint system service agreements. Typically, the Company bills upfront for service agreements, which have terms ranging from one to three years. These amounts are recognized as revenue ratably over the term of the related service agreement.

Net Loss Per Share

The Company computes net loss per share using the weighted-average number of common shares outstanding during the period. Basic and diluted net loss per share are the same because the conversion, exercise or issuance of all potential common stock equivalents, which comprise the entire amount of the Company's outstanding common stock options and warrants as described in Note 5, would be anti-dilutive.

Concentration Risks and Other Risks and Uncertainties

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. The Company holds its cash and cash equivalents on deposit with financial institutions in the U.S. insured by the Federal Deposit Insurance Corporation. At March 31, 2017, the Company had no bank balances that were in excess of the insured limits.

At March 31, 2017, two customers represented 20% and 13% of the Company's accounts receivable balance. At December 31, 2016, three customers represented 20%, 13% and 10% of the Company's accounts receivable balance. No other customer represented more than 9% of total accounts receivable at each of March 31, 2017 and December 31, 2016.

For the three months ended March 31, 2017, sales to one customer represented 12% of product revenues, and for the three months ended March 31, 2016, sales to one customer represented 11% of product revenues. In each of the three-month periods ended March 31, 2017 and 2016, no other single customer accounted for more than 9% of product revenues. Prior to granting credit, the Company performs credit evaluations of its customers' financial condition, and generally does not require collateral from its customers. The Company will provide an allowance for doubtful accounts when collections become doubtful. The allowance for doubtful accounts at March 31, 2017 and December 31, 2016 was $31,000 and $25,000, respectively.

The Company is subject to risks common to emerging companies in the medical device industry, including, but not limited to: new technological innovations; acceptance and competitiveness of its products; dependence on key personnel; dependence on key suppliers; changes in general economic conditions and interest rates; protection of proprietary technology; compliance with changing government regulations; uncertainty of widespread market acceptance of products; access to credit for capital purchases by customers; and product liability claims. Certain components used in manufacturing have relatively few alternative sources of supply, and establishing additional or replacement suppliers for such components cannot be accomplished quickly. The inability of any of these suppliers to fulfill the Company's supply requirements may negatively impact future operating results.

Recent Accounting Pronouncements

In August 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2015-14 as an amendment to ASU 2014-09, "Revenue from Contracts with Customers," which created a new Topic, Accounting Standards Codification ("ASC") Topic 606. The standard is principle-based and provides a five-step model to determine when and how revenue is recognized. The core principle is that an entity should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This standard, and ASUs 2016-10, 2016-12 and 2016-20 discussed below, are effective for the Company beginning in 2018. Earlier application is permitted only as of 2017.

- In April 2016, the FASB issued ASU 2016-10, "Revenues from Contracts With Customers (Topic 606): Identifying Performance Obligations and Licensing," which clarified guidance related to identifying performance obligations and licensing implementation guidance contained in ASC Topic 606 as promulgated by ASU 2015-14 discussed above.

- In May 2016, the FASB issued ASU 2016-12, "Revenues from Contracts With Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients," which address narrow-scope improvements to the guidance on collectability, noncash consideration, and completed contracts at transition. Additionally, the amendments in this ASU provide a practical expedient for contract modifications at transition and an accounting policy election related to the presentation of sales taxes and other similar taxes collected from customers.

- In December 2016, the FASB issued ASU 2016-20, "Technical Corrections and Improvements to Topic 606, Revenue from Contracts With Customers," which provided for minor corrections and minor improvements that are not expected to have a significant effect on the Company's current accounting practice.

The Company believes, based on a preliminary assessment in which the Company considered such factors as the short duration of its contract terms with customers, that the adoption of ASU 2015-14, and the subsequently issued related ASUs discussed above, will not have a material effect on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, "Leases," which created a new Topic, ASC Topic 842 and established the core principle that a lessee should recognize the assets, representing rights-of-use, and liabilities to make lease payments, that arise from leases. For leases with a term of 12 months or less, a lessee is permitted to make an election under which such assets and liabilities would not be recognized, and lease expense would be recognized generally on a straight-line basis over the lease term. This standard is effective for the Company beginning in 2019, and early application is permitted. The Company currently has two leases, for manufacturing and office space, that would be subject to the provisions of ASU 2016-02. The Company believes that adoption of ASC Topic 842 will result in the establishment on the Company's consolidated balance sheet of an asset and liability for each such lease, but that neither such assets and liabilities, nor the resulting lease expense recognition, will have a material effect on the Company's consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments," which addresses eight specific cash flow issues with the objective of reducing existing diversity in practice. The standard is effective for the Company beginning in 2018, and early adoption is permitted. The Company believes that adoption of ASU 2016-15 will not have a material effect on its consolidated financial statements.

3. Inventory

Inventory consists of the following as of:

	March 31, 2017	December 31, 2016
Raw materials and work in process	$ 1,214,884	$ 1,025,368
Software licenses	105,000	70,000
Finished goods	489,136	673,014
Inventory included in current assets	1,809,020	1,768,382
Software licenses – non-current	906,900	976,900
	$ 2,715,920	$ 2,745,282

4. Notes Payable

Senior Secured Note Payable

Indebtedness outstanding under the New Brainlab Note at March 31, 2017 and December 31, 2016 was $2.0 million and matures on December 31, 2018. The New Brainlab Note bears interest at 5.5% per annum payable quarterly in arrears, and is collateralized by a senior security interest in the assets of the Company.

2016 Purchase Agreement

Under the 2016 Purchase Agreement, the Company, among other items: (i) paid to Brainlab all accrued and unpaid interest on the Brainlab Note, in the amount of approximately $740,000; (ii) amended and restated the Brainlab Note on the terms described below; (iii) entered into a patent and technology license agreement with Brainlab (the "License Agreement") for software relating to the Company's SmartFrame device, in consideration for the cancellation of $1.0 million of the principal amount of the Brainlab Note; (iv) issued to Brainlab, in consideration for the cancellation of approximately $1.3 million of the principal amount of the Brainlab Note, 99,310 units, with each unit consisting of: (a) one share of the Company's common stock; (b) a warrant to purchase 0.4 share of common stock (the "2016 Series A Warrants"); and (c) a warrant to purchase 0.3 shares of common stock (the "2016 Series B Warrants"); and (v) entered into a Registration Rights Agreement (the "2016 Registration Rights Agreement"), pursuant to which the Company agreed to file a registration statement with the SEC covering the resale of the shares of common stock issued to Brainlab under the 2016 Purchase Agreement, as well as the shares of common stock that are issuable upon exercise of the 2016 Series A Warrants and 2016 Series B Warrants (together, the "2016 Warrants").

The 2016 Purchase Agreement contains covenants, representations and warranties by the Company and Brainlab (including indemnification from the Company in the event of breaches of its representations and warranties), which the Company believes are customary for transactions of this type.

2016 Registration Rights Agreement

The 2016 Registration Rights Agreement imposed deadlines by which the Company was required to file the 2016 Registration Statement and use its best efforts to have the 2016 Registration Statement declared effective. The 2016 Registration Statement was filed, and declared effective on June 20, 2016, within the deadlines imposed by the 2016 Registration Rights Agreement. The 2016 Registration Rights Agreement also required the Company to continuously maintain the effectiveness of the 2016 Registration Statement for a period that ended on the first anniversary of the Closing Date, with which the Company was in compliance for the required period. The 2016 Registration Rights Agreement also contains mutual indemnifications by the Company and Brainlab, which the Company believes are customary for transactions of this type.

2016 Warrants

The 2016 Series A Warrants and 2016 Series B Warrants are exercisable, in full or in part, at any time prior to the fifth anniversary of their issuance, at an exercise price of $16.23 per share (before giving effect to the Note Conversion as defined below) and $21.10 per share, respectively. The 2016 Warrants provide for certain adjustments that may be made to the exercise price and the number of shares issuable upon exercise due to future corporate events or otherwise. In the case of certain fundamental transactions affecting the Company, the holder of such 2016 Warrants, upon exercise of such warrants after such fundamental transaction, will have the right to receive, in lieu of shares of the Company's common stock, the same amount and kind of securities, cash or property that such holder would have been entitled to receive upon the occurrence of the fundamental transaction, had the 2016 Warrants been exercised immediately prior to such fundamental transaction. The 2016 Warrants contain a "cashless exercise" feature that allows the holders to exercise the warrants without a cash payment to the Company upon the terms set forth in the respective 2016 Warrant agreements.

Non-Exclusive License Agreement

On the Closing Date and pursuant to the 2016 Purchase Agreement, the Company and Brainlab entered into the License Agreement, for software relating to the Company's SmartFrame device, for use in neurosurgery. The License Agreement does not affect the Company's ability to continue to independently develop, market and sell its own software for the SmartFrame device.

2014 Junior Secured Notes Payable

In March 2014, the Company entered into securities purchase agreements for the private placement of: (i) the 2014 Secured Notes, which were second-priority secured non-convertible promissory notes; and (ii) warrants to purchase 0.01 shares of the Company's common stock for each dollar in principal amount of the 2014 Secured Notes sold by the Company. Pursuant to those securities purchase agreements, the Company sold 2014 Secured Notes in a total aggregate principal amount of $3,725,000, together with warrants to purchase up to 27,937 shares of common stock, for aggregate gross proceeds of $3,725,000, before placement agent commissions and other expenses.

The 2014 Secured Notes have a five-year term and bear interest at a rate of 12% per year, payable semi-annually, in arrears. The 2014 Secured Notes are not convertible into shares of the Company's common stock. Following the third anniversary of the issuance date, the 2014 Secured Notes may be prepaid, without penalty or premium, provided that all principal and unpaid accrued interest under all 2014 Secured Notes is prepaid at the same time. Prior to the third anniversary of the issuance date, the Company may prepay all, but not less than all, of the principal and unpaid accrued interest under the 2014 Secured Notes at any time, subject to the Company's payment of the additional prepayment premium stated in the notes. The 2014 Secured Notes are collateralized by a security interest in the Company's property and assets, which security interest is junior and subordinate to the security interest that collateralizes the New Brainlab Note.

The warrants issued to the investors (the "investor warrants") are exercisable, in full or in part, at any time prior to the fifth anniversary of the issuance date, at an original exercise price of $70.00 per share, subject to adjustment from time-to-time for stock splits or combinations, stock dividends, stock distributions, recapitalizations and other similar transactions. Assumptions used in calculating the fair value of the investor warrants using the Black-Scholes valuation model were:

Dividend yield	0%
Expected volatility	47.5% - 47.7%
Risk free interest rates	1.73% - 1.76%
Expected life (in years)	5.0

Under GAAP, the Company allocated the $3,725,000 in proceeds proportionately between the 2014 Secured Notes and the investor warrants based on their relative fair values, with $413,057 being allocated to the fair value of the investor warrants, recorded as equity. The 2014 Secured Notes were recorded at the principal amount, less a discount equal to $413,057. After giving effect to the conversions discussed below under the heading *"August 31, 2016 Amendments,"* the unamortized discount at March 31, 2017 and December 31, 2016 was $108,431 and $121,985, respectively. This discount is being amortized to interest expense over the five-year term of the 2014 Secured Notes using the effective interest method. The carrying amount of the 2014 Secured Notes in the accompanying condensed consolidated balance sheets is also presented net of issuance costs, as discussed further below.

Non-employee directors of the Company purchased a total of $1,100,000 of the 2014 Secured Notes, either directly or through a trust. The Company's placement agents earned cash commissions of $145,500 as well as warrants (the "placement agent warrants") to purchase 1,818 shares of the Company's common stock. The placement agent warrants have the same terms and conditions as the investor warrants.

The placement agent cash commissions, the $30,210 fair value of the placement agent warrants, and other offering expenses, aggregating $76,186, were recorded as deferred financing costs and are presented as reductions of the carrying amount of the 2014 Secured Notes in the accompanying condensed consolidated balance sheets. These deferred financing costs, having an unamortized balance of $52,257 and $58,789 at March 31, 2017 and December 31, 2016, respectively, are being amortized to interest expense over the term of the 2014 Secured Notes using the effective interest method.

2010 Junior Secured Notes Payable

In November 2010, the Company issued units consisting of a junior secured note (the "2010 Secured Notes") and one share of the Company's common stock. An aggregate of 267,857 units were issued, and the Company received proceeds of $3,000,000 representing the aggregate principal amount of the 2010 Secured Notes. The 2010 Secured Notes mature in November 2020, accrue interest at the rate of 3.5% per year, and are collateralized by a security interest in the assets of the Company, which security interest is junior and subordinate to the security interests that collateralize the New Brainlab Note and the 2014 Secured Notes. All outstanding principal and interest on the 2010 Secured Notes will be due and payable in a single payment upon maturity.

Under GAAP, the Company allocated the $3 million in proceeds from the sale of the units between the 2010 Secured Notes and the shares of common stock based on their relative fair values, with the fair value of the notes being estimated based on an assumed market interest rate for notes of similar terms and risk, and the fair value of the Company's common stock being estimated by management using a market approach, with input from a third-party valuation specialist. The allocation of such relative fair values resulted in $2,775,300 being allocated to the value of the shares of common stock, which was recorded as equity. The 2010 Secured Notes were recorded at the principal amount of $3,000,000, less a discount equal to $2,775,300. The unamortized discount at March 31, 2017 and December 31, 2016 was $2,221,936 and $2,302,472, respectively. This discount is being amortized to interest expense over the 10-year term of the notes using the effective interest method.

Four then-serving officers of the Company purchased an aggregate of 22,068 units in the offering for $247,164. In addition, three non-employee directors of the Company also purchased an aggregate of 14,180 units in the offering for $158,816.

June 30, 2016 Amendments

On June 30, 2016, the Company entered into amendments (the "First Amendments") with: (a) Brainlab, with respect to the New Brainlab Note; and (b) the 2014 Convertible Note Holders, one of which is a trust for which one of the Company's non-employee directors serves as a trustee, having an aggregate principal balance of $3 million. Pursuant to the First Amendments, the parties agreed that, in the event the Company closes a qualified public offering: (i) $500,000 of the principal balance of the New Brainlab Note and an aggregate $1.5 million of the principal balance of the 2014 Secured Notes, plus all unpaid accrued interest on such principal amounts, would automatically convert into the security offered in the qualified public offering, based on the public offering price of that security; and (ii) the exercise price for 34,957 shares of common stock underlying warrants issued in connection with the New Brainlab Note and 11,250 shares of common stock underlying warrants issued in connection with the 2014 Secured Notes would be reduced to equal the greater of (x) the public offering price of the security offered in the qualified public offering, or (y) if the security offered in the qualified public offering is or includes convertible stock or common stock warrants, the highest price per whole share for which the Company's common stock is issuable upon conversion of such convertible stock or upon exercise of such common stock warrants. As discussed under the heading "*August 31, 2016 Amendments,*" the 2014 Convertible Note Holders subsequently entered into the Second Amendments (defined below), which superseded the First Amendments, and converted the 2014 Principal (defined below), under the terms of the Second Amendments.

The provisions of the First Amendments created: (a) a conversion feature allowing for the principal balances described above, plus all unpaid related accrued interest, to be converted into the security offered in the public offering, and at a price that may be less than the market value per share of the Company's common stock; and (b) down round strike price protection with respect to the warrants, both of which, under GAAP, are required to be accounted for as derivatives, the calculation and accounting for which is described in Note 6.

August 31, 2016 Amendments

On August 31, 2016, the Company entered into second amendments (the "Second Amendments") with the 2014 Convertible Note Holders.

Pursuant to the Second Amendments, the parties agreed that, in the event the Company closes a PIPE Transaction (as that term is defined in the Second Amendments; the "2016 PIPE"): (i) an aggregate $1.75 million of aggregate principal balance of the 2014 Convertible Note Holders' 2014 Secured Notes (the "2014 Principal") would automatically convert into the security offered by the Company in the 2016 PIPE, based on the offering price of that security in the 2016 PIPE (the "Note Conversion"); and (ii) the exercise price for 13,125 shares of common stock that may be purchased upon exercise of warrants issued in connection with the issuance of the 2014 Secured Notes (the "2014 Warrants") will be reduced to equal the greater of (x) the offering price of the security offered in the 2016 PIPE, or (y) if the security offered in the 2016 PIPE is or includes convertible stock or common stock warrants, the highest price per whole share for which the Company's common stock is issuable upon conversion of such convertible stock or upon exercise of such common stock warrants. These provisions maintained but modified: (a) the conversion feature allowing for the 2014 Principal to be converted into the security offered in the 2016 PIPE, and at a price that may be less than the market value per share of the Company's common stock; and (b) the down round strike price protection with respect to the 2014 Warrants, both of which, under GAAP, are required to be accounted for as derivatives, the calculation and accounting for which is described in Note 6.

As described in Note 5, the 2016 PIPE (which constituted a "PIPE Transaction" as defined in the Second Amendments) was completed on September 2, 2016, resulting in (i) conversion of the 2014 Principal, and (ii) establishment of a fixed exercise price and elimination of the down round price protection with respect to the 2014 Warrants, in conformity with the terms set forth in the Second Amendments. Accordingly, concurrent with completion of the 2016 PIPE, derivative liabilities associated with the conversion feature of the 2014 Principal and the down round price protection for the 2014 Warrants were reduced by $1,207,813, with a corresponding amount being recorded as an increase to stockholders' equity.

Scheduled Notes Payable Maturities

Scheduled principal payments as of March 31, 2017 with respect to notes payable are summarized as follows:

Years ending December 31,	
2018	$ 2,000,000
2019	1,975,000
2020	3,000,000
Total scheduled principal payments	6,975,000
Less: Unamortized discounts	(2,330,367)
Unamortized deferred financing costs	(52,257)
	$ 4,592,376

5. Stockholders' Equity

Reverse Stock Split

On July 26, 2016, the Company effectuated a 1-for-40 reverse stock split of its issued common stock. The reverse stock split did not cause an adjustment to the par value of the authorized shares of common stock. As a result of the reverse stock split, the share and per-share amounts under the Company's various share-based compensation plans, share-based compensatory contracts and warrants with third parties were adjusted. No fractional shares were issued in connection with the reverse stock split. All disclosure of common shares and per share data in the accompanying condensed consolidated financial statements and related notes have been adjusted retroactively to reflect the reverse stock split for all periods presented.

Issuance of Common Stock in Lieu of Cash Payments

Under the terms of the Amended and Restated Non-Employee Director Compensation Plan, each non-employee member of the Company's Board of Directors may elect to receive all or part of his or her director fees in shares of the Company's common stock. Director fees, whether paid in cash or in shares of common stock, are payable quarterly on the last day of each fiscal quarter. The number of shares of common stock issued to directors is determined by dividing the product of: (i) the fees otherwise payable to each director in cash, times (ii) the percentage of fees the director elected to receive in shares of common stock, by (iii) the volume weighted average price per share of common stock over the last five trading days of the quarter. During the three months ended March 31, 2016, 2,824 shares were issued to directors as payment for director fees in lieu of cash. No shares were issued to directors as payment for director fees during the three months ended March 31, 2017.

Stock Incentive Plans

The Company has various share-based compensation plans and share-based compensatory contracts (collectively, the "Plans") under which it has granted share-based awards, such as stock grants, and incentive and non-qualified stock options, to employees, directors, consultants and advisors. Awards may be subject to a vesting schedule as set forth in individual award agreements. Certain of the Plans also have provided for cash-based performance bonus awards.

Since June 2015, the Company has granted share-based awards under the MRI Interventions, Inc. Amended and Restated 2013 Incentive Compensation Plan (the "Amended 2013 Plan"). Under the Amended 2013 Plan, a total of 156,250 shares of the Company's common stock are reserved for issuance. Of this amount, stock grants of 41,794 shares have been awarded and option grants, net of options terminated, expired or forfeited, of 102,700 shares were outstanding as of March 31, 2017. Accordingly, 11,756 shares remained available for grants under the Amended 2013 Plan as of that date.

Stock option activity under all of the Company's equity compensation plans during the three months ended March 31, 2017 is summarized below:

	Shares	**Weighted - Average Exercise Price**
Outstanding at December 31, 2016	337,441	$ 42.07
Granted	2,000	2.55
Forfeited	(23,875)	45.53
Outstanding at March 31, 2017	315,566	$ 42.33

The estimated grant date fair values of options granted during the three months ended March 31, 2017 were calculated using the Black-Scholes valuation model, based on the following assumptions:

Dividend yield	0%
Expected volatility	51.79%
Risk free interest rates	2.11%
Expected lives (in years)	6.0

The Company records share-based compensation expense on a straight-line basis over the related vesting period. For the three months ended March 31, 2017 and 2016, share-based compensation expense related to options was:

Three Months Ended March 31,	
2017	**2016**
$ 206,896	$ 260,149

As of March 31, 2017, there was unrecognized compensation expense of $670,911 related to outstanding stock options, which is expected to be recognized over a weighted average period of 1.23 years.

Warrants

Warrants have generally been issued for terms of up to five years. Common stock warrant activity for the three months ended March 31, 2017 was as follows:

	Shares	Weighted - Average Exercise Price
Outstanding at December 31, 2016	1,991,293	$ 13.00
Issued	-	-
Exercised	-	-
Terminated	(57,720)	38.43
Outstanding at March 31, 2017	1,933,573	$ 12.71

6. Derivative Liabilities

As discussed in Note 4, on June 30, 2016, the Company entered into the First Amendment with respect to the New Brainlab Note, the provisions of which created: (a) a conversion feature allowing for $500,000 of the principal balance of the New Brainlab Note to be converted into the security offered in a qualified public offering, and at a price that may be less than market value per share of the Company's common stock; and (b) down round protection with respect to the exercise price for 34,957 shares of common stock underlying warrants issued in connection with the New Brainlab Note.

In addition, warrants issued in 2012 and 2013 financing transactions contain either or both net-cash settlement and down round exercise price protection provisions.

Under GAAP, the conversion feature and the down round price protection described in the two preceding paragraphs are required to be accounted for as derivatives, thus necessitating that they each be adjusted to estimated fair value at each balance sheet date and shown as liabilities in the accompanying condensed consolidated balance sheets. The fair values of these derivatives were calculated using the Monte Carlo simulation valuation method.

Assumptions used in calculating the fair value of the conversion feature at March 31, 2017 include the following:

Risk free interest rates	1.21%
Volatility	60%

Assumptions used in calculating the fair value of the warrants described in this Note 6 at March 31, 2017 include the following:

Dividend yield	0%
Expected volatility	50% - 60%
Risk free interest rates	0.76% - 1.72%
Expected remaining term (in years)	0.25 – 4.00

In addition to the assumptions above, the Company also estimates the likelihood of whether it will participate in a future round of qualifying equity financing, as defined in either the amended note or warrant agreements, as applicable, that would trigger the conversion feature or the repricing of warrants, and, if so, the estimated timing and pricing of its offering of common stock.

The fair values and the changes in fair values of derivative liabilities as of, and during the three months ended March 31, 2017 and 2016 are as follows:

	Three Months Ended March 31,	
	2017	**2016**
Balance, beginning of period	$ 131,173	$ 658,286
(Gain) loss on change in fair value for the period	93,046	(160,118)
Balance, end of period	$ 224,219	$ 498,168

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following discussion and analysis of our financial condition and results of operations should be read together with our Condensed Consolidated Financial Statements and related notes thereto included elsewhere in this Quarterly Report. Historical results and trends that might appear in this Quarterly Report should not be interpreted as being indicative of future operations.

Overview

We are a medical device company that develops and commercializes innovative platforms for performing minimally invasive surgical procedures in the brain and heart under direct, intra-procedural MRI guidance. We have two product platforms. Our ClearPoint system, which is in commercial use, is used to perform minimally invasive surgical procedures in the brain. We anticipate that our ClearTrace system, which is a product candidate still in development, will be used to perform minimally invasive surgical procedures in the heart. In 2015, we suspended development of the ClearTrace system so that we could focus our resources on the ClearPoint system. Both systems utilize intra-procedural MRI to guide the procedures and are designed to work in a hospital's existing MRI suite. We believe that our two product platforms, subject to appropriate regulatory clearance and approval, will deliver better patient outcomes, enhance revenue potential for both physicians and hospitals, and reduce costs to the healthcare system.

In 2010, we received regulatory clearance from the FDA to market our ClearPoint system in the U.S. for general neurological procedures. In 2011, we also obtained CE marking approval for our ClearPoint system, which enables us to sell our ClearPoint system in the European Union. Substantially all of our product revenues for the three months ended March 31, 2017 and 2016 relate to sales of our ClearPoint system products. We do not have regulatory clearance or approval to sell our ClearTrace system for commercial use. We have financed our operations and internal growth primarily through the sale of equity securities, the issuance of convertible and other secured notes, and license arrangements. We have incurred significant losses since our inception in 1998 as we have devoted substantial efforts to research and development. As of March 31, 2017, we had accumulated losses of approximately $96 million. We may continue to incur operating losses as we commercialize our ClearPoint system products, continue to develop our ClearTrace system, and expand our business.

Factors Which May Influence Future Results of Operations

The following is a description of factors which may influence our future results of operations, and which we believe are important to an understanding of our business and results of operations.

Revenues

In 2010, we received 510(k) clearance from the FDA to market our ClearPoint system in the U.S. for general neurological procedures. Future revenues from sales of our ClearPoint system products are difficult to predict and may not be sufficient to offset our continuing research and development expenses and our increasing selling, general and administrative expenses. We cannot sell our ClearTrace system for commercial use until we receive regulatory clearance or approval.

Generating recurring revenues from the sale of disposable products is an important part of our business model for our ClearPoint system. We anticipate that, over time, recurring revenues will constitute an increasing percentage of our total revenues as we leverage installations of our ClearPoint system to generate recurring sales of our ClearPoint disposable products. Our product revenues were approximately $1.9 million for the three months ended March 31, 2017 and were almost entirely related to our ClearPoint system.

Our revenue recognition policies are more fully described in Note 2 to the Condensed Consolidated Financial Statements included elsewhere in the Quarterly Report.

Cost of Product Revenues

Cost of product revenues includes the direct costs associated with the assembly and purchase of components for disposable products and ClearPoint system reusable products which we have sold, and for which we have recognized the revenue in accordance with our revenue recognition policy. Cost of product revenues also includes the allocation of manufacturing overhead costs and depreciation of loaned systems installed under our ClearPoint Placement Program, as well as provisions for obsolete, impaired, or excess inventory.

Research and Development Costs

Our research and development costs consist primarily of costs associated with the conceptualization, design, testing, and prototyping of our ClearPoint system products and our ClearTrace system components (prior to the suspension of such development). Such costs include salaries, travel, and benefits for research and development personnel, including related share-based compensation; materials and laboratory supplies in research and development activities; consultant costs; sponsored research and product development with third parties; and licensing costs related to technology not yet commercialized. We anticipate that, over time, our research and development costs may increase as we: (i) continue to develop enhancements to our ClearPoint system; (ii) resume our ClearTrace system product development efforts; and (iii) seek to expand the application of our technological platforms. From our inception through March 31, 2017, we have incurred approximately $49 million in research and development expenses.

Product development timelines, likelihood of success, and total costs can vary widely by product candidate. There are also risks inherent in the regulatory clearance and approval process. At this time, we are unable to estimate with any certainty the costs that we will incur in either the further development of our ClearTrace system for commercialization, or in our efforts to expand the application of our technological platforms.

Selling, General and Administrative Expenses

Our selling, general and administrative expenses consist primarily of salaries, incentive-based compensation, travel and benefits, including related share-based compensation; marketing costs; professional fees, including fees for attorneys and outside accountants; occupancy costs; insurance; medical device excise taxes; and other general and administrative expenses, which include, but are not limited to, corporate licenses, director fees, hiring costs, taxes, postage, office supplies and meeting costs. Our selling, general and administrative expenses are expected to increase due to costs associated with the commercialization of our ClearPoint system and the increased headcount necessary to support growth in operations.

Critical Accounting Policies and Significant Judgments and Estimates

There have been no significant changes in our critical accounting policies during the three months ended March 31, 2017 as compared to the critical accounting policies described in our 2016 Form 10-K.

Results of Operations

Three Months Ended March 31, 2017 Compared to the Three Months Ended March 31, 2016

	Three Months Ended March 31,		
	2017	2016	Percentage Change
Product and other service revenues	$ 2,007,072	$ 1,394,134	44%
Cost of product revenues	752,464	696,546	8%
Research and development costs	557,699	657,192	(15)%
Selling, general and administrative expenses	2,050,529	1,974,249	4%
Other income (expense):			
Gain (loss) on change in fair value of derivative liabilities	(93,046)	160,118	(158)%
Other income, net	4,127	75,142	(95)%
Interest expense, net	(213,199)	(345,225)	(38)%
Net loss	$ (1,655,738)	$ (2,043,818)	(19)%

Product and Other Service Revenues. Product and other service revenues were $2.0 million for the three months ended March 31, 2017, and $1.4 million for the same period in 2016, an increase of $613,000, or 44%. This increase was due primarily to an increase in our disposable product sales.

ClearPoint disposable product sales for the three months ended March 31, 2017 were $1.7 million, compared with $1.1 million for the same period in 2016, representing an increase of $559,000, or 51%. This growth in disposable sales reflected a greater number of ClearPoint procedures performed during the three months ended March 31, 2017, compared to the same period in 2016. Disposable product price increases implemented during the three months ended March 31, 2017 did not extend to the entire product line and averaged less than 1% for a typical customer order.

ClearPoint reusable product sales for the three months ended March 31, 2017 were $259,000, which were relatively unchanged from such sales of $262,000 for the same period in 2016. Sales of our reusable products, which consist primarily of computer hardware and software bearing sales prices that are appreciably higher than those for disposable products, may vary, sometimes significantly, from quarter to quarter. Reusable product price increases implemented during the three months ended March 31, 2017 did not extend to the entire disposable product line and averaged approximately 2% for a typical customer order.

Cost of Product Revenues. Cost of product revenues was $752,000 for the three months ended March 31, 2017, representing gross margin on product revenues of 61%, compared to $697,000 for the same period in 2016, representing gross margin of 49%. The increase in gross margin was due primarily to favorable product mix related to reusable product sales and greater production efficiencies achieved during the three months ended March 31, 2017 due to higher sales and production volumes relative to the same period in 2016.

Research and Development Costs. Research and development costs were $558,000 for the three months ended March 31, 2017, compared to $657,000 for the same period in 2016, a decrease of $99,000, or 15%. The decrease was due primarily to decreases in: (a) compensation and related expenses of $44,000 due to headcount reductions and recruiting costs incurred in 2016 that did not recur in 2017; (b) regulatory legal and consulting expenses of $21,000 that are project-based and vary from period to period; and (c) product development costs of $17,000.

Selling, General and Administrative Expenses. Selling, general and administrative expenses were $2.1 million for the three months ended March 31, 2017 as compared with $2.0 million for the same period in 2016, an increase of $76,000, or 4%. The increase was primarily attributable to increases in: (a) compensation and recruiting costs of $63,000 primarily associated with additions to our clinical specialist group; and (b) professional fees of $45,000 primarily related to accounting and legal fees. These increases were partially offset by a $42,000 decrease in stock-based compensation costs.

Other Income (Expense). During the three months ended March 31, 2017, we recorded a loss of $93,000, and during the three months ended March 31, 2016, we recorded a gain of $160,000, in each case resulting from changes in the fair value of our derivative liabilities. For the three months ended March 31, 2017, such derivative liabilities related to: (a) the issuance of warrants in connection with 2012 and 2013 private placement transactions; and (b) an amendment, in June 2016, of the note payable to Brainlab to add contingent conversion terms and potential down round pricing protection of warrants issued in connection with that note as discussed in Note 4 to the Condensed Consolidated Financial Statements included elsewhere in this Quarterly Report. For the three months ended March 31, 2016, derivative liabilities were limited to the issuance of warrants in connection with the 2012 and 2013 private placement transactions.

Net other income was relatively insignificant, amounting to $4,000 and $75,000 for the three months ended March 31, 2017 and 2016, respectively.

Net interest expense for the three months ended March 31, 2017 was $213,000, compared with $345,000 for the same period in 2016, a decrease of $132,000, or 38%. This decrease was due to the reduction of principal balances of: (a) the New Brainlab Note under the terms of the 2016 Purchase Agreement and the New Brainlab Note; and (b) the 2014 Secured Notes resulting from the Note Conversion, both as described in Note 4 to the Condensed Consolidated Financial Statements included elsewhere in this Quarterly Report.

Liquidity and Capital Resources

The cumulative net loss from our inception through March 31, 2017 was approximately $96 million. Net cash used in operations was $1.3 million for the three months ended March 31, 2017. Since inception, we have financed our operations principally from the sale of equity securities, the issuance of notes payable and license arrangements. Recent financing activities consist of: (i) the 2016 PIPE, which resulted in net cash proceeds of $3.8 million and the conversion of $1.75 million in debt; (ii) the 2015 PIPE, which resulted in net cash proceeds of $4.7 million; (iii) the 2014 PIPE, which resulted in net cash proceeds of $9.4 million; and (iv) the private placement of the 2014 Secured Notes and related warrants, which resulted in net cash proceeds of $3.5 million.

In addition, as discussed in Note 4 to the Condensed Consolidated Financial Statements included elsewhere in the Quarterly Report:

- On April 4, 2016, entered into the 2016 Purchase Agreement with Brainlab, which resulted in a reduction of the principal amount outstanding under the Brainlab Note, and which is reflected in the New Brainlab Note that matures on December 31, 2018.

- Pursuant to amendments we executed on August 31, 2016 with the 2014 Convertible Note Holders, upon completion of the 2016 PIPE an aggregate $1.75 million of principal balance of such holders' 2014 Secured Notes automatically converted into units, each unit consisting of one share of the Company's common stock and one warrant to purchase 0.90 share of our common stock, based on the offering price per unit in the 2016 PIPE.

Our plans for the next twelve months reflect management's anticipation of increases in revenues from sales of the ClearPoint system and related disposable products as a result of greater utilization at existing installed sites and the installation of the ClearPoint system at new sites. Management also anticipates maintaining recurring operating expenses at historical levels, with expected decreases in general and administrative expenses being offset by increases in selling and marketing expenses associated with the anticipated growth in revenues. However, there is no assurance that we will be able to achieve our anticipated results, and even in the event such results are achieved, we expect to continue to consume cash in our operations over at least the next twelve months.

As a result of the foregoing, we believe it will be necessary to seek additional financing from the sale of equity or debt securities, which would result in dilution to our current stockholders, the establishment of a credit facility, or the entry into an agreement with a strategic partner of some other form of collaborative relationship. There is no assurance, however, that we will be able to obtain such additional financing on commercially reasonable terms, if at all, and there is no assurance that any additional financing that we do obtain will be sufficient to meet our needs. If we are not able to obtain the additional financing on a timely basis, we may be unable to achieve our anticipated results, and we may not be able to meet our other obligations as they become due. As such, there is substantial doubt as to our ability to continue as a going concern.

Cash Flows

Cash activity for the three months ended March 31, 2017 and 2016 is summarized as follows:

	Three Months Ended March 31,	
	2017	**2016**
Cash used in operating activities	$ (1,346,177)	$ (1,608,561)
Cash used in investing activities	-	(77,649)
Cash used in financing activities	-	(140,086)
Net decrease in cash and cash equivalents	$ (1,346,177)	$ (1,826,296)

Net Cash Flows from Operating Activities. We used $1.3 million and $1.6 million of cash for operating activities during the three months ended March 31, 2017 and 2016, respectively.

During the three months ended March 31, 2017, uses of cash in operating activities primarily consisted of: (i) our $1.7 million net loss; and (ii) increases in accounts receivable of $144,000, inventory of $62,000 and other assets of $6,000. These uses were partially offset by: (a) a decrease in prepaid expenses and other current assets of $39,000; (b) increases in accounts payable and accrued expenses of $5,000 and in deferred revenue of $40,000; and (c) non-cash expenses included in our loss from operations aggregating $437,000 and consisting of depreciation and amortization, share-based compensation, loss on change in fair value of derivative liabilities, and amortization of debt issuance costs and original issue discounts.

During the three months ended March 31, 2016, uses of cash in operating activities primarily consisted of: (i) our $2.0 million net loss; and (ii) increases in accounts receivable of $279,000, prepaid expenses and other current assets of $18,000, and other assets of $58,000. These uses were partially offset by: (a) a decrease in inventory of $218,000; (b) increases in accounts payable and accrued expenses of $53,000, and in deferred revenue of $36,000; and (c) non-cash expenses included in our loss from operations aggregating $645,000 and consisting of depreciation and amortization, share-based compensation, expenses paid through the issuance of common stock, and amortization of debt issuance costs and original issue discounts, partially offset by a $160,000 decrease in the fair value of our derivative liabilities.

Net Cash Flows from Investing Activities. Net cash flows used in investing activities for the three months ended March 31, 2016 were $78,000, and consisted of equipment acquisitions. There were no investing activities affecting cash during the three months ended March 31, 2017.

Net Cash Flows from Financing Activities. Net cash used in financing activities for the three months ended March 31, 2016 of $140,000 consisted of costs paid in connection with December 2015 PIPE. There were no financing activities affecting cash during the three months ended March 31, 2017.

Operating Capital and Capital Expenditure Requirements

To date, we have not achieved profitability. We could continue to incur net losses as we continue our efforts to expand the commercialization of our ClearPoint system products, develop our ClearTrace system, and pursue additional applications for our technology platforms. Our cash balances are typically held in a variety of interest bearing instruments, including interest bearing demand accounts and certificates of deposit. Cash in excess of immediate requirements is invested primarily with a view to liquidity and capital preservation.

Because of the numerous risks and uncertainties associated with the development and commercialization of medical devices, we are unable to estimate the exact amounts of capital outlays and operating expenditures necessary to successfully commercialize our ClearPoint system products, complete the development of our ClearTrace system and pursue additional applications for our technology platforms. Our future capital requirements will depend on many factors, including, but not limited to, the following:

- the timing of broader market acceptance and adoption of our ClearPoint system products;
- the scope, rate of progress and cost of our ongoing product development activities relating to our ClearPoint system;
- the cost and timing of expanding our sales, clinical support, marketing and distribution capabilities, and other corporate infrastructure;
- the cost and timing of establishing inventories at levels sufficient to support our sales;
- the effect of competing technological and market developments;
- the terms and timing of future collaborative and licensing arrangements we have entered into, or of other arrangements we may establish;
- the scope, rate of progress and cost of our research and development activities relating to our ClearTrace system;
- the cost and timing of any clinical trials;
- the cost and timing of regulatory filings, clearances and approvals; and
- the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights.

Off-Balance Sheet Arrangements

We are not a party to any off-balance sheet arrangements that have, or are reasonably likely to have, a material current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Interest Rate Risk

Our exposure to market risk is limited primarily to interest income sensitivity, which is affected by changes in the general level of U.S. interest rates, because all of our investments are in short-term bank deposits and institutional money market funds. The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive without significantly increasing risk. Due to the nature of our short-term investments, we believe that we are not subject to any material market risk exposure.

Foreign Currency Risk

To date, we have recorded no product sales in currencies other than U.S. dollars. We have only limited business transactions in foreign currencies. We do not currently engage in hedging or similar transactions to reduce our foreign currency risks, which at present, are not material. We believe we have no material exposure to risk from changes in foreign currency exchange rates at this time. We will continue to monitor and evaluate our internal processes relating to foreign currency exchange, including the potential use of hedging strategies.

ITEM 4. CONTROLS AND PROCEDURES.

Disclosure Controls and Procedures

We have established disclosure controls and procedures, as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, or the Exchange Act. Our disclosure controls and procedures are designed to ensure that material information relating to us is made known to our principal executive officer and principal financial officer by others within our organization. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures as of March 31, 2017 to ensure that the information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of March 31, 2017.

Changes in Internal Control Over Financial Reporting

During the quarter ended March 31, 2017, there were no changes in our internal control over financial reporting that materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

None.

ITEM 1A. RISK FACTORS.

Our business, future financial condition and results of operations are subject to a number of factors, risks and uncertainties, which are disclosed in Item 1A, "Risk Factors," in Part I of our 2016 Form 10-K. Additional information regarding some of those risks and uncertainties is contained in the notes to the condensed consolidated financial statements appearing in Part I, Item 1 of this Quarterly Report, and in "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing in Part I, Item 2 of this Quarterly Report. The risks and uncertainties disclosed in our 2016 Form 10-K, our quarterly reports on Form 10-Q and other reports filed with the SEC are not necessarily all of the risks and uncertainties that may affect our business, financial condition and results of operations in the future.

There have been no material changes to the risk factors as disclosed in our 2016 Form 10-K.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

None.

ITEM 4. MINE SAFETY DISCLOSURES.

None.

ITEM 5. OTHER INFORMATION.

None.

ITEM 6. EXHIBITS.

The exhibits listed in the accompanying Exhibit Index are filed, furnished or incorporated by reference as part of this Quarterly Report.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: May 9, 2017

MRI INTERVENTIONS, INC.

By: /s/ Francis P. Grillo
Francis P. Grillo
Chief Executive Officer
(Principal Executive Officer)

By: /s/ Harold A. Hurwitz
Harold A. Hurwitz
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

EXHIBIT INDEX

Exhibit Number	Exhibit Description
10.1†*	License and Collaboration Agreement, dated April 25, 2017, by and between MRI Interventions, Inc. and Acoustic Medsystems, Inc.
10.2*	Amendment No. 2, dated April 1, 2017, to Consulting Agreement dated April 1, 2015 between MRI Interventions, Inc. and Kimble L. Jenkins
31.1*	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) Under the Securities Exchange Act of 1934
31.2*	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) Under the Securities Exchange Act of 1934
32+	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Rule 13a-14(b) under the Securities Exchange Act of 1934 and Section 1350 of Chapter 60 of Title 18 of the United States Code
101.INS*	XBRL Instance
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation
101.DEF*	XBRL Taxonomy Extension Definition
101.LAB*	XBRL Taxonomy Extension Labels
101.PRE*	XBRL Taxonomy Extension Presentation

* Filed herewith.

\+ This certification is being furnished solely to accompany this Quarterly Report pursuant to 18 U.S.C. Section 1350, and it is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

† Confidential treatment requested under Rule 24b-2 under the Securities Exchange Act of 1934. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been filed separately with the Securities and Exchange Commission pursuant to the confidential treatment request.