



MRI Interventions, Inc.

29,356,679 Shares of Common Stock

This prospectus supplement relates to the prospectus dated January 29, 2016, as supplemented by prospectus supplement no. 1 dated March 22, 2016 and prospectus supplement no. 2 dated March 25, 2016, which permits the resale of up to 16,309,270 outstanding shares of our common stock, and 13,047,409 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, 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 Current Report on Form 8-K filed with the Securities and Exchange Commission on April 4, 2016 (the "8-K"). Accordingly, we have attached the 8-K 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 April 1, 2016, the last reported sale price of our common stock was \$0.31 per share.

We are an "emerging growth company" under the federal securities laws and will be 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 21 of our Annual Report on Form 10-K for the year ended December 31, 2015, which is included in prospectus supplement no. 2, to read about factors you should consider before buying shares of our common stock.

Neither the Securities and Exchange Commission 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 April 4, 2016.

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

FORM 8-K

CURRENT REPORT

**Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934**

Date of Report: April 4, 2016
(Date of earliest event reported)

MRI INTERVENTIONS, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation or organization)

000-54575
(Commission File
Number)

58-2394628
(I.R.S. Employer
Identification No.)

5 Musick
Irvine, CA 92618
(Address of principal executive offices, zip code)

(949) 900-6833
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 1.01. Entry into a Material Definitive Agreement.

On April 4, 2016, MRI Interventions, Inc. (the “Company”) completed the note restructuring transaction with Brainlab AG (“Brainlab”), which was previously disclosed on Form 8-K filed with the SEC on March 22, 2016. At the closing of the note restructuring transaction and pursuant to the securities purchase agreement, dated as of March 22, 2016, by and between the Company and Brainlab (the “Purchase Agreement”), the Company: (i) paid to Brainlab all accrued and unpaid interest in the amount of \$739,323.46 on the unregistered, amended and restated secured note issued to Brainlab in March 2013 (the “Old Note”); (ii) issued Brainlab an unregistered, amended and restated secured note (the “New Note”), which has the same terms and conditions as the Old Note, except that: (a) the principal amount of the New Note was reduced to \$2,000,000; (b) interest on the New Note shall be paid quarterly in arrears; and (c) the maturity date was extended to December 31, 2018; (iii) entered into a patent and technology license agreement with Brainlab, in consideration for the cancellation of \$1,000,000.00 of the principal amount of the Old Note, for the development of software relating to the Company’s SmartFrame® device; (iv) issued to Brainlab, in consideration for the cancellation of \$1,289,444.44 of the principal amount of the Old Note, 3,972,410 units, each unit consisting of: (a) one share of the Company’s common stock, par value \$0.01 per share (the “Common Stock”); (b) warrants to purchase 0.40 shares of Common Stock (the “Series A Warrants”); and (c) warrants to purchase 0.30 shares of Common Stock (the “Series B Warrants”) (the “Units” and the issuance of the Units, the “Unit Transaction”); and (v) entered into a Registration Rights Agreement (the “Registration Rights Agreement”) with Brainlab, 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 Purchase Agreement, as well as the shares of common stock that are issuable upon exercise of the Series A Warrants and Series B Warrants.

The foregoing description of the terms and conditions of the Purchase Agreement, Registration Rights Agreement, License Agreement, Series A Warrants, Series B Warrants and New Note is only a summary and is qualified in its entirety by the full text of the Purchase Agreement, Registration Rights Agreement, License Agreement, Series A Warrants, Series B Warrants and New Note, the forms of which were previously filed as Exhibits 10.1, 10.2, 10.3, 4.1, 4.2 and 4.3, respectively, to the Company’s Current Report on Form 8-K filed with the SEC on March 22, 2016.

Item 2.03. Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.

The information set forth under Item 1.01 of this Current Report on Form 8-K above is incorporated herein by reference.

Item 3.02. Unregistered Sales of Equity Securities.

The information set forth under Item 1.01 of this Current Report on Form 8-K above is incorporated herein by reference.

The Units were issued to Brainlab in reliance upon exemptions from registration afforded by Section 4(a)(2) and Regulation S promulgated under the Securities Act of 1933, as amended. The Purchase Agreement contains representations to support the Company’s reasonable belief that Brainlab had access to information concerning the Company’s operations and financial condition, Brainlab did not acquire the securities with a view to the distribution thereof in the absence of an effective registration statement or an applicable exemption from registration, and that Brainlab is a “Non-U.S. Person,” as that term is defined under the Securities Act of 1933, as amended. The Company relied upon the representations made by Brainlab in the Purchase Agreement in determining that such exemptions were available.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

See Exhibit Index immediately following signature page.

SIGNATURE

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 hereunto duly authorized.

MRI INTERVENTIONS, INC.

By: /s/ Harold A. Hurwitz
Harold A. Hurwitz
Chief Financial Officer

Date: April 4, 2016

EXHIBIT INDEX

Exhibit No.	Description
4.1	Form of Series A Warrant ⁽¹⁾
4.2	Form of Series B Warrant ⁽²⁾
4.3	Form of Amended and Restated 5.5% Promissory Note, Due December 31, 2018, issued to Brainlab AG by MRI Interventions, Inc. ⁽³⁾
10.1	Securities Purchase Agreement, dated March 22, 2016, by and between MRI Interventions, Inc. and Brainlab AG ⁽⁴⁾
10.2	Form of Registration Rights Agreement by and between MRI Interventions, Inc. and Brainlab AG ⁽⁵⁾
10.3	Form of Patent and Technology License Agreement by and between MRI Interventions, Inc. and Brainlab AG ⁽⁶⁾

⁽¹⁾ Filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2016 and incorporated herein by reference.

⁽²⁾ Filed as Exhibit 4.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2016 and incorporated herein by reference.

⁽³⁾ Filed as Exhibit 4.3 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2016 and incorporated herein by reference.

⁽⁴⁾ Filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2016 and incorporated herein by reference.

⁽⁵⁾ Filed as Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2016 and incorporated herein by reference.

⁽⁶⁾ Filed as Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2016 and incorporated herein by reference.
