UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

SECORTIE	JAND EXCHANGE CO	
	Washington, D.C. 20549	
	FORM 8-K	
	CURRENT REPORT	
Pursuant to Sect	ion 13 or 15(d) of the Securities Exchar	nge Act of 1934
Date of 1	Report (Date of earliest event reported): May 18	3, 2005
		
]	Novoste Corporation	
	Exact name of registrant as specified in its charter)	
Florida (State or other jurisdiction	0-20727 (Commission File Number)	59-2787476 (IRS Employer
of incorporation)		Identification No.)
4350 International Blvd		
Norcross, GA		30093
(Address of principal executive of	offices)	(Zip Code)

Registrant s telephone number, including area code: (770) 717-0904

N/A

(Former name or former address, if changed since last report)

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 (see General Instruction A.2. below):

- " Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- x 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))

Item 1.01. Entry into a Material Definitive Agreement.

On May 18, 2005, Novoste Corporation (Novoste or the Company) entered into a definitive merger agreement (the Merger Agreement) with ONI Medical Systems, Inc., a privately held Delaware corporation (ONI). ONI is engaged in the design and manufacture of dedicated purpose magnetic resonance imaging, or MRI, systems.

Summary of the terms of the Merger Agreement:

Form of transaction. ONIA Acquisition Corp. (Merger Sub), a newly formed wholly-owned subsidiary of Novoste, will merge with and into ONI (the Merger), with ONI remaining as the surviving corporation and a wholly-owned subsidiary of Novoste.

Merger consideration. Novoste will issue shares of its common stock in the Merger in exchange for, and in cancellation of, all of the outstanding shares of ONI capital stock.

The total number of shares issuable to the holders of ONI capital stock will equal (i) the number of outstanding shares of Novoste common stock outstanding at the time of the Merger (including shares issuable pursuant to certain Novoste options) <u>multiplied by</u> (ii) (A) the ONI Valuation (described below) <u>divided by</u> (B) the Novoste Valuation (described below).

Under the Merger Agreement, the ONI Valuation has been set at \$20,000,000, subject to adjustment upward to a maximum of \$23,000,000 and downward to a minimum of \$17,000,000 based on the aggregate number of orders for, and shipments of (as these terms are defined under the Merger Agreement), ONI MRI machines during the period from January 1, 2005 through May 31, 2005. If certain maximum thresholds for the aggregate number of ONI orders and shipments are achieved during this period, ONI will have the right to terminate the Merger Agreement or accept an ONI Valuation of \$23,000,000. If certain minimum thresholds for the aggregate number of ONI orders and shipments are not achieved during this period, Novoste may either terminate the Merger Agreement or accept an ONI Valuation of \$17,000,000.

The Novoste Valuation will equal the value of Novoste's net cash assets at the time of the closing (the Closing) of the Merger, subject to calculation in accordance with the terms of the Merger Agreement and further subject to certain conditions as set forth below (the Novoste Net Cash Assets).

If the amount of the Novoste Net Cash Assets is between \$11,750,000 and \$13,250,000, the Novoste Valuation will be fixed at \$12,500,000. If the amount of the Novoste Net Cash Assets is less than \$11,750,000, then the Novoste Valuation will be the actual amount of the Novoste Net Cash Assets, provided that if the amount of the Novoste Net Cash Assets is less than \$10,000,000, ONI will have the right to either terminate the Merger Agreement or accept a Novoste Valuation of \$10,000,000. If the amount of Novoste Net Cash Assets is greater than \$13,250,000 but less than the ONI Valuation, then the Novoste Valuation will be the actual amount of the Novoste Net Cash Assets. If the amount of the Novoste Net Cash Assets is equal to or greater than the ONI Valuation, the Novoste Valuation will equal the ONI Valuation minus one dollar; however, Novoste will have the right to issue a dividend to its shareholders for the amount, if any, by which the Novoste Net Cash Assets exceeds the ONI Valuation.

At the effective time of the Merger, each outstanding ONI option and warrant not exercised (whether or not vested) will be assumed by Novoste. However, such outstanding ONI options and warrants will be counted in the determination of the number of ONI shares of capital stock that are outstanding, and as a result, they will be factored into the exchange ratio even if they are not exercised prior to the Closing.

The Merger Agreement contains customary representations, warranties and covenants of Novoste and ONI. The representations and warranties of each party set forth in the Merger Agreement have been made solely for the benefit of the other party to the Merger Agreement and such representations and warranties should not be relied on by any other person. In addition, such representations and warranties (i) have been qualified by disclosures made to the other party in connection with the Merger Agreement, (ii) will not survive consummation of the Merger and cannot be the basis for any claims under the Merger Agreement by the other party after termination of the Merger Agreement except if willfully false as of the date of the Merger Agreement, (iii) are subject to the materiality standards contained in the Merger Agreement which may differ from what may be viewed as material by investors and (iv) were made only as of the date of the Merger Agreement or such other date as is specified in the Merger Agreement.

Required Novoste shareholder approvals. One of the conditions to the consummation of the Merger is that Novoste shareholders approve an amendment to the Novoste articles of incorporation that increases the number of authorized shares of Novoste common stock to 75,000,000 from 25,000,000 (the Novoste Share Increase Charter Amendment), and an amendment to the Novoste articles of incorporation that changes the name of Novoste to ONI Medical Systems, Inc., effective upon the effective time of the Merger (the Novoste Name Change Charter Amendment and, together with the Novoste Share Increase Charter Amendment, the Novoste Charter Amendments). In addition, the issuance by Novoste of the shares of Novoste common stock in connection with the Merger must be approved by Novoste shareholders.

ONI shareholder approval. Holders of a majority of the outstanding shares of the ONI capital stock have approved the Merger Agreement through written consent.

Loan Agreement.

Concurrent with the execution of the Merger Agreement, Novoste extended to ONI an 18-month senior unsecured loan in the principal amount of \$3,000,000, bearing interest at a rate of 8% per annum (the Loan), which Loan is evidenced by a promissory note of ONI dated as of the same date (the Promissory Note). Principal and interest on the Loan will be due at maturity in November 2006. Under certain circumstances in which ONI terminates the Merger Agreement, repayment of the Loan will accelerate at the time of such termination. The Novoste Net Cash Assets (as defined above) shall include the principal amount of the Loan at the time of Closing.

Warrant.

In connection with the Loan, ONI granted to Novoste a warrant to purchase up to an aggregate of 2,325,581 shares of ONI Series A preferred stock (which is convertible into ONI common stock), at an exercise price of \$1.29 per share (the Warrant). Novoste may exercise the warrant either by paying cash or by surrendering the Promissory Note. Under certain circumstances in which Novoste terminates the Merger Agreement, Novoste must surrender the Warrant if it has not yet been exercised at the time of such termination.

* * *

The above descriptions of the Merger Agreement, the Promissory Note and the Warrant do not purport to be complete statements of the parties rights and obligations under those agreements and the transactions contemplated thereby. The above descriptions are qualified in their entirety by reference to the definitive agreements, copies of which are attached to this Current Report on Form 8-K as Exhibits 2.1, 10.1 and 99.1, respectively, and are incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(c) Exhibits

- 2.1 Merger Agreement, dated May 18, 2005 by and among Novoste Corporation, ONIA Acquisition Corp. and ONI Medical Systems, Inc.
- 10.1 Promissory Note, dated May 18, 2005.
- 99.1 Stock Purchase Warrant, dated May 18, 2005.
- 99.2 Press Release, dated May 18, 2005.

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 hereunto duly authorized.

NOVOSTE CORPORATION

By: /s/ Daniel G. Hall

Daniel G. Hall Vice President, Secretary and General Counsel

Date: May 18, 2005

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