

**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 (Date of earliest event reported): April 1, 2010

Senesco Technologies, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

001-31326
(Commission File Number)

84-1368850
(I.R.S. Employer
Identification Number)

**303 George Street
Suite 420
New Brunswick, New Jersey 08901**
(Address of principal executive offices)

Registrant's telephone number, including area code: (732) 296-8400

Not applicable
(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)
 - ☒ 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 8.01 Other Events

As previously disclosed in a Form 8-K which was filed on March 29, 2010, Senesco Technologies, Inc. (the “Company”) entered into Securities Purchase Agreements with certain investors for aggregate gross proceeds to the Company in the amount of approximately \$11.5 million and net proceeds to the Company in the amount of approximately \$10.8 million. On April 5, 2010, the Company issued a press release announcing that it had closed on an aggregate of approximately \$10.3 million of the gross proceeds. The remaining \$1.2 million in proceeds cannot be closed upon until to Company receives stockholder approval. A copy of the press release is furnished as Exhibit 99.1 to this periodic report on Form 8-K.

Important Information

In connection with the private placement, the Company will prepare a proxy statement for the Company’s stockholders to be filed with the Securities and Exchange Commission (the “SEC”). The proxy statement will contain information about the Company, the private placement and related matters. STOCKHOLDERS ARE URGED TO READ THE PROXY STATEMENT CAREFULLY WHEN IT IS AVAILABLE, AS IT WILL CONTAIN IMPORTANT INFORMATION THAT STOCKHOLDERS SHOULD CONSIDER BEFORE MAKING A DECISION ABOUT APPROVING THE FINANCING AND TRANSACTIONS CONTEMPLATED THEREBY.

In addition to receiving the proxy statement from the Company by mail, shareholders will be able to obtain the proxy statement, as well as other filings containing information about the Company, without charge, from the SEC’s website (<http://www.sec.gov>) or, without charge, from the Company’s website at www.senesco.com or by directing such request to Senesco Technologies, Inc. 303 George St., Suite 420, New Brunswick, New Jersey 08901 Attention: Joel Brooks.

The Company and its directors and executive officers and other members of management and employees may be deemed to be participants in the solicitation of proxies. Information concerning the Company and its directors and executive officers is set forth in the Company’s proxy statement and Annual Report on Form 10-K previously filed with the SEC.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Description
99.1	Press Release, dated April 5, 2010

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.

SENESCO TECHNOLOGIES, INC.

Date: April 5, 2010

By: /s/ Jack Van Hulst

Name: Jack Van Hulst

Title: President and Chief Executive Officer

**Company Contact:**

Senesco Technologies, Inc.
Joel Brooks
Chief Financial Officer
(jbrooks@senesco.com)
(732) 296-8400

Investor Relations Contact:

FD
Brian Ritchie
(brian.ritchie@fd.com)
(212) 850-5600

Senesco Technologies, Inc. Closes on Previously Announced Financing

NEW BRUNSWICK, N.J. (April 5, 2010) — Senesco Technologies, Inc. (“Senesco” or the “Company”) (NYSE Amex: SNT) today announced that the Company recently closed on approximately \$10.3 million of its previously announced private placements with institutional and accredited investors. The remaining \$1.2 million in gross proceeds will be closed upon following the receipt of stockholder approval.

As previously disclosed, Senesco primarily intends to utilize the proceeds of this private placement to help advance its multiple myeloma research and development program with the goal of initiating a Phase 1b/2a clinical trial for multiple myeloma.

The Company, on March 29, 2010, filed a Form 8-K which described the material terms of the transaction documents.

Ladenburg Thalmann & Co. Inc., a subsidiary of Ladenburg Thalmann Financial Services, Inc. (NYSE Amex:LTS), acted as the sole placement agent for this offering.

Important Information

This press release shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of these securities in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state. The shares of preferred stock and warrants have been sold pursuant to an exemption from state and federal securities laws.

In connection with the private placement, the Company will prepare a proxy statement for the Company’s stockholders to be filed with the Securities and Exchange Commission (the “SEC”). The proxy statement will contain information about the Company, the private placement and related matters. STOCKHOLDERS ARE URGED TO READ THE PROXY STATEMENT CAREFULLY WHEN IT IS AVAILABLE, AS IT WILL CONTAIN IMPORTANT INFORMATION THAT STOCKHOLDERS SHOULD CONSIDER BEFORE MAKING A DECISION ABOUT APPROVING THE FINANCING AND TRANSACTIONS CONTEMPLATED THEREBY.

In addition to receiving the proxy statement from the Company by mail, shareholders will be able to obtain the proxy statement, as well as other filings containing information about the Company, without charge, from the SEC’s website (<http://www.sec.gov>) or, without charge, from the Company’s website at www.senesco.com or by directing such request to Senesco Technologies, Inc. 303 George St., Suite 420, New Brunswick, New Jersey 08901 Attention: Joel Brooks.

The Company and its directors and executive officers and other members of management and employees may be deemed to be participants in the solicitation of proxies. Information concerning the Company and its directors and executive officers is set forth in the Company's proxy statement and Annual Report on Form 10-K previously filed with the SEC.

About Senesco Technologies, Inc.

Senesco Technologies, Inc. is a U.S. biotechnology company, headquartered in New Brunswick, NJ. Senesco has initiated preclinical research to trigger or delay cell death in mammals (apoptosis) to determine if the technology is applicable in human medicine. Accelerating apoptosis may have applications to development of cancer treatments. Delaying apoptosis may have applications to certain inflammatory and ischemic diseases. Senesco takes its name from the scientific term for the aging of plant cells: senescence. Delaying cell breakdown in plants extends freshness after harvesting, while increasing crop yields, plant size and resistance to environmental stress. The Company believes that its technology can be used to develop superior strains of crops without any modification other than delaying natural plant senescence. Senesco has partnered with leading-edge companies engaged in agricultural biotechnology and earns research and development fees for applying its gene-regulating platform technology to enhance its partners' products.

Certain statements included in this press release are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results could differ materially from such statements expressed or implied herein as a result of a variety of factors, including, but not limited to: the ability of the Company to close on the remaining part of the financing; the ability of the Company to file an IND for SNS-01, its multiple myeloma drug candidate; the development of the Company's gene technology; the approval of the Company's patent applications; the successful implementation of the Company's research and development programs and joint ventures; the success of the Company's license agreements; the acceptance by the market of the Company's products; success of the Company's preliminary studies and preclinical research; competition and the timing of projects and trends in future operating performance, as well as other factors expressed from time to time in the Company's periodic filings with the Securities and Exchange Commission (the "SEC"). As a result, this press release should be read in conjunction with the Company's periodic filings with the SEC. The forward-looking statements contained herein are made only as of the date of this press release, and the Company undertakes no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.

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