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UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

**FORM 8-A/A**  
Amendment No. 1

FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES  
PURSUANT TO SECTION 12(b) OR (g) OF THE  
SECURITIES EXCHANGE ACT OF 1934

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**HORIZON TECHNOLOGY FINANCE CORPORATION**

(Exact name of registrant as specified in its charter)

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**Delaware**

(State of incorporation or organization)

**27-2114934**

(I.R.S. Employer Identification No.)

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**76 Batterson Park Road, Farmington, Connecticut**

(Address of principal executive offices)

**06032**

(Zip Code)

Securities to be registered pursuant to Section 12(b) of the Act:

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**Title of each class to be so registered**

**Common Stock, par value \$0.001 per share**

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**Name of each exchange on which  
each class is to be registered**

**The NASDAQ Stock Market LLC**

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A. (c), check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A. (d), check the following box.

Securities Act registration statement file number to which this Form relates: 333-165570

Securities to be registered pursuant to Section 12(g) of the Act: None

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## EXPLANATORY NOTE

Horizon Technology Finance Corporation (the "Company") hereby amends its registration statement on Form 8-A, which was filed with the Securities and Exchange Commission on October 28, 2010, to correct the par value of the Company's common stock and the file number of the Company's Registration Statement on Form N-2 referenced in "Item 1. Description of Registrant's Securities to be Registered."

### INFORMATION REQUIRED IN REGISTRATION STATEMENT

#### Item 1. Description of Registrant's Securities to Be Registered.

The securities to be registered hereby are shares of common stock, par value \$0.001 per share, of the Company. The description of shares of common stock contained in the section entitled "Description of Capital Stock" in the Prospectus included in the Company's Registration Statement on Form N-2 (File No. 333-165570), filed with the Securities and Exchange Commission on March 19, 2010 (as amended from time to time, the "Registration Statement"), is hereby incorporated by reference herein. Any form of prospectus or prospectus supplement to the Registration Statement that includes such descriptions and that are subsequently filed are hereby also incorporated by reference herein.

#### Item 2. Exhibits.

3.1 Amended and Restated Certificate of Incorporation\*

3.2 Amended and Restated Bylaws\*

4.1 Form of Specimen Certificate\*\*

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\* Incorporated by reference to Amendment No. 2 of the Registration Statement filed on July 2, 2010.

\*\* Incorporated by reference to Amendment No. 3 of the Registration Statement filed on July 20, 2010.

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**SIGNATURE**

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

HORIZON TECHNOLOGY FINANCE CORPORATION

Dated: October 29, 2010

By: /s/ Robert D. Pomeroy, Jr.  
Robert D. Pomeroy, Jr.  
Chief Executive Officer