

### INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL

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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934  
or Section 30(h) of the Investment Company Act of 1940

<b>1. Name and Address of Reporting Person*</b> <u>Mathieu Christopher M.</u> <hr/> (Last) (First) (Middle) <u>76 BATTERSON PARK ROAD</u> <hr/> (Street) <u>FARMINGTON CT 06032</u> <hr/> (City) (State) (Zip)	<b>2. Date of Event Requiring Statement (Month/Day/Year)</b> <u>10/28/2010</u>	<b>3. Issuer Name and Ticker or Trading Symbol</b> <u>Horizon Technology Finance Corp [ HRZN ]</u> <hr/> <b>4. Relationship of Reporting Person(s) to Issuer (Check all applicable)</b> Director <span style="float: right;">10% Owner</span> <input checked="" type="checkbox"/> Officer (give title below) <span style="float: right;">Other (specify below)</span> <p style="text-align: center;"><u>SVP, CFO &amp; Treasurer</u></p>	<b>5. If Amendment, Date of Original Filed (Month/Day/Year)</b> <hr/> <b>6. Individual or Joint/Group Filing (Check Applicable Line)</b> <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person
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#### Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
<u>Common Stock</u>	<u>46,875</u>	<u>I</u>	<u>By HTF-CHF Holdings LLC<sup>(1)</sup></u>

#### Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			

**Explanation of Responses:**

1. The Reporting Person disclaims beneficial ownership of these securities except to the extent of his pecuniary interest therein. The reported securities are owned directly by HTF-CHF Holdings LLC.

**Remarks:**

/s/ Christopher M. Mathieu      10/28/2010

\*\* Signature of Reporting Person      Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

POWER OF ATTORNEY

I, Christopher M. Mathieu, Senior Vice President, Chief Financial Officer and Treasurer of Horizon Technology Finance Corporation (the "Corporation"), hereby authorize and designate Robert D. Pomeroy, Jr. as my agent and attorney-in-fact, with full power of substitution to:

(1) prepare and sign on my behalf any Form 3, Form 4 or Form 5 under Section 16 of the Securities Exchange Act of 1934, as amended, and file the same with the Securities and Exchange Commission and each stock exchange on which the securities of the Corporation are listed;

(2) prepare and sign on my behalf any Form 144 Notice under the Securities Act of 1933, as amended, and file the same with the Securities and Exchange Commission; and

(3) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted.

The undersigned acknowledges that the foregoing attorney-in-fact, in serving in such capacity at the request of the undersigned, is not assuming, nor is the Corporation assuming, any of the undersigned's responsibilities to comply with Section 16 of the Securities Exchange Act of 1934, as amended, or Section 5 of the Securities Act of 1933, as amended, or Rule 144 promulgated under such Act. This Power of Attorney shall remain in effect until the undersigned is no longer required to file Forms 3, 4, 5 and 144 with respect to the undersigned's holdings of and transactions in securities issued by the Corporation, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorney-in-fact.

Dated: October 18, 2010  
/s/ Christopher M. Mathieu  
Christopher M. Mathieu