# Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
INSTITUT NATIONAL D'OPTIQUE	12/22/2009

### **RECEIVING PARTY DATA**

Name:	LEDDARTECH INC.	
Street Address:	291 rue des Violettes	
City:	Saint-Nicolas, Quebec	
State/Country:	CANADA	
Postal Code:	G7A 3M9	

### PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	12604824
Application Number:	12604846

### **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER:	05202821-GEN-QUE
NAME OF SUBMITTER:	Isabelle Chabot

**Total Attachments: 8** 

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## UNIVERSAL ASSIGNMENT OF INVENTIONS

THIS AGREEMENT IS MADE AND ENTERED INTO THIS 22<sup>st</sup> DAY OF DECEMBER 2009 (THE: "EFFECTIVE DATE")

BETWEEN:

INSTITUT NATIONAL D'OPTIQUE, a legal person duly incorporated and organized under the Québec laws, having its head office at 2740, Einstein Street, Quebec City, Quebec, G1P 4S4, herein acting and represented by Mr. Martin Larrivée, Vice-President – Finance and Treasurer;

(hereinafter referred to the "Assignor")

AND:

LEDDARTECH INC., a company duly incorporated and organized under the Quebec laws, having its head office at 291 Des Violettes Street, St-Nicolas, Québec, G7A 3M9, herein acting and represented by Mr. Marc Tremblay, President and Chief Executive Officer;

(hereinafter referred to as the "Assignee")

## AND IS MADE WITH REFERENCE TO THE FOLLOWING FACTS:

WHEREAS the Assignor is the owner of the Intellectual Property Rights related to the inventions described in Appendix 1 hereof;

WHEREAS that pursuant to that certain Intellectual Property Assignment Agreement dated December 22, 2009, by and between the Assignor and Assignee, the Assignee agreed to acquire from Assignor the entire rights, titles and interests in and to the said inventions as well as in the Intellectual Property Rights related thereto, including all patents issued and pending patent applications related thereto;

WHEREAS the parties wish to confirm the terms and conditions of the assignment of Assignor's Intellectual Property Rights to the Assignee.

NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES AND COVENANTS CONTAINED HEREIN, THE PARTIES HERETO AGREE AS FOLLOWS:

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## 1. RECITALS AND SCHEDULES

The recitals found hereinabove and the attached appendixes are incorporated by reference and are deemed part of this agreement.

## 2. **DEFINITIONS**

Unless otherwise specifically provided herein, the following terms shall have the following meaning:

- 2.1. "Agreement": shall mean this Assignment Agreement and the attached appendix;
- 2.2. "Intellectual Property" or "Intellectual Property Rights": shall mean any rights regarding intellectual property that is or may be granted or recognized under any Canadian or foreign legislation regarding, but not limited to, patents, copyrights, neighboring rights, industrial designs and design patents, trade secrets, know-how, confidential information, mask work, and any other legislation or common or civil law principle regarding intellectual and industrial property, whether registered or unregistered, and including rights in any application for any of the foregoing;
- 2.3. "Inventions": shall mean the following five (5) inventions: (1) « Object detecting-lighting and method », (2) «Digital signal processing in optical systems used for ranging applications », (3) « Light-Integrating range finding device and method », (4) « Method for detecting objects with visible light », and (5) « Method and apparatus for optical level sensing of agitated fluid surfaces ».

### 3. ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, the Assignor does hereby sell, assign and transfer to the Assignee, its successors and assigns, the entire rights, titles and interests in and to the Inventions and in to the Intellectual Property Rights related thereto including in and to any and all patent applications, patents, reissues or extensions thereof to be obtained and any divisional, continuation, continuation-in-part, substitute application(s) or supplementary disclosure(s) which may be filed upon said Inventions, in any country; and the Assignor hereby authorizes and requests the issuing authority to issue any and all patents on said patent applications to said Assignee.

Furthermore, the Assignor agrees without any payment by said Assignee other than expenses incurred by the Assignor, to communicate to said Assignee, its representatives or agents, any facts relating to said Inventions, including evidence for interference purposes or for other proceedings, whenever requested; testify in any interference, litigation or other proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective, and likewise make these provisions binding upon the heirs, legal representatives, administrators and assigns of the Assignor.

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#### 4. GENERAL PROVISIONS

#### 4.1. Governing Laws

This Agreement shall be governed by, interpreted, construed and enforced in accordance with the Provincial and Federal laws applicable in the Province of Québec, Canada, which laws shall apply and bind the parties for any matter relating thereto. Without limitation, this Agreement excludes any conflict of laws or principle that might refer the governance or construction of this Agreement to the laws of another jurisdiction.

#### 4.2. Language

The parties hereto have requested that the present Agreement be drawn up in English. Les parties aux présentes ont exigé que la présente convention soit rédigée en anglais.

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE CAUSED THIS AGREEMENT TO BE DULY EXECUTED WITH EFFECT FROM THE EFFECTIVE DATE.

By:

INSTITUT NATIONAL D'OPTIQUE

Martin Larrivee, Vice-President - Finance

and Treasurer

LEDDARTECH INC

Marc Tremblay President and Chief

Executive Officer

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## **ACKNOWLEDGMENT**

# PROVINCE OF QUÉBEC, CANADA, JUDICIAL DISTRICT OF QUÉBEC

On this 22<sup>nd</sup> day of December 2009, before me personally appeared Mr. Martin Larrivée, known to be the person named in and who executed the above instrument and acknowledged to me that he executed the same for the uses and purposes set forth therein, pursuant to due authority.

INSTITUT NATIONAL D'OPTIQUE

Martin Larrivée, Vice-President - Finance and Treasurer

Solemnly declared before me this 22<sup>nd</sup> day of December 2009

Commissioner of Oaths for the District of

Quebec (Canada)

#194551-3

**PATENT** 

## ACKNOWLEDGMENT

# PROVINCE OF QUÉBEC, CANADA, JUDICIAL DISTRICT OF QUÉBEC

On this 22<sup>nd</sup> day of December 2009, before me personally appeared Mr. Marc Tremblay, known to be the person named in and who executed the above instrument and acknowledged to me that he executed the same for the uses and purposes set forth therein, pursuant to due authority.

LEDDARTECH INC.

Marc Tremblay President and and Chief

Executive Officer

Solemnly declared before me this 22<sup>nd</sup> day of December 2009

Commissioner of Oaths for the District of

Quebec (Canada)

#194551-3

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# APPENDIX "1"

# LIST OF INVENTIONS

Title of invention	Details on the applications/patents	Abstract
	in this family	
#1 Object detecting lighting system and method	CA 2,633;377 US 11/612;678 CN 200680048009.3 EP 06840494.6 JP 2008-546050 all pending)	An object detecting lighting system (10) comprises a light source (12) emitting visible light. A source controller (14) is connected to the light source (12) to drive the light source (12) into emitting the visible light in a predetermined mode. An optical detector (16) is positioned with respect to the light source (12) and is adapted to detect the visible light as reflected/backscattered by an object (A). A data/signal processor (18) is connected to the source controller (14) and the optical detector (16) to receive detection data from the optical detector (16). The data/signal processor (18) produces a data output associated to the object (A) as a function of the predetermined mode and the
#2 Digital Signal Processing in Optical Systems Used For Ranging Applications	PCT/CA2007/002001 US 11/936,502 (INO has confirmed: granted on 2009-09-30, patent number not available)	Methods and apparatuses for reducing the response time along with increasing the probability of ranging of optical rangefinders that digitize the signal waveforms obtained from the pulse echoes returned from various types of objects to be ranged, the pulse echoes being too weak to allow successful ranging from a single waveform or the objects being possibly in motion during the capture of the pulse echoes. In a first embodiment of the invention, the response time at close range of a digital optical rangefinder is reduced by using a signal averaging process wherein the number of data to be averaged varies with the distance according to a predetermined function. In a second embodiment of the invention, the probability of ranging objects in motion along the line of sight of a digital optical rangefinder is increased and the object velocity measured by performing a range shift of each acquired signal waveform prior to averaging. In a third embodiment of the invention, the signal waveforms acquired in the line of sight of a digital optical rangefinder are scanned over a predetermined zone and range shifted and averaged to allow for early detection and ranging of objects that enter in the zone.
#3 Light integrating Range finding device and	US Pateni 7554652 PCT/CA2008/000408	A range finding device and a method for determining the range of an object from a range finding device are provided.

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method		A train of light pulses each having an
	i .	emission time and a pulse duration is
		generated. The pulse duration is set to
		twice the round trip time to a maximum
		range of the device. The light pulses are
		reflected back toward the device by the
•		object and detected according to three time
		intervals, respectively determined by a
,		background gate, a ranging gate and a pulse
		energy gate. The light energy received
		during each interval is integrated and the
		integrated light value corresponding to the
	l l	ranging gate is normalized using the values
		from the other two intervals. The range of
		the object is determined from the normalized
		ranging measurement and calibration data.
#4 Method for	US 12/141.282	A method for detecting an object using
detecting	CA 2,635,155	visible light comprises providing a visible
objects with		light source having a function of illuminating
visible light		an environment. The visible light source is
Third is	1	driven to emit visible light in a
		predetermined mode, with visible light in the
		predetermined mode being emitted such that
		the light source maintains said function of
		illuminating an environment. A
	]	reflection/backscatter of the emitted
	1	visible light is received from an object. The
		reflection/backscatter is filtered over a
		selected wavelength range as a function of a
•		desired range of detection from the light
		source to obtain a light input. The presence
		or position of the object is identified with the
		desired range of detection as a function of
		the light input and of the predetermined mode.
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#5 Method and	US 12/169,872	A method and apparatus for non-contact
apparatus for	PCT/CA2008/001275	optical measurement of the level of a fluid
optical level	(INO has confirmed:	stored in a tank or container, the surface of
sensing of	granted on 2009-06-	the fluid being possibly agitated.
agitated fluid	11, patent number not	The method consists in processing
surfaces	available)	numerically the digitized signal waveforms
		generated by a lidar apparatus based on a
		pulsed time-of-flight modulation scheme. A
		key step of the numerical processing is the
		computation of a waveform in which each
		data point is obtained from a statistical
		estimator of the variability of the amplitude
		signal echo measured at the distance from
		the lidar apparatus that corresponds to the
		rank of the data point in the waveform.
		The statistical estimator is preferably the
	1	standard deviation. By using a statistical
		estimator of the variability of the captured
		signal amplitude, the specific signal echo
		returned from an agitated fluid surface can
	1	be greatly amplified as compared to the

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signal echoes returned from any obstacle or medium that could be present along the path of the optical beam radiated by the lidar apparatus. The method then allows for an efficient retrieval of the useful signal echo from which the level of the fluid surface can be reliably measured with greater accuracy, particularly in situations where the useful signal echo would be buried in a strong signal echo returned from any optically scattering or absorbing medium that would fill in the volume of the tank above the fluid surface.

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**RECORDED: 02/16/2010** 

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