

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5723722

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
REDZONE ROBOTICS, INC.	09/13/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MONROE CAPITAL MANAGEMENT ADVISORS, LLC, AS ADMINISTRATIVE AGENT
<b>Street Address:</b>	311 W. WACKER DRIVE, 64TH FLOOR
<b>City:</b>	CHICAGO
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60606
<b>PROPERTY NUMBERS Total: 34</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	7131791
Patent Number:	7720570
Patent Number:	7993469
Patent Number:	8024066
Patent Number:	8041517
Patent Number:	8060257
Patent Number:	8170715
Patent Number:	8525124
Patent Number:	9156105
Patent Number:	9183527
Patent Number:	9482681
Patent Number:	8467049
Patent Number:	9739792
Patent Number:	9784599
Patent Number:	9927354
Patent Number:	10072800
Patent Number:	10115237
Patent Number:	10220423
Patent Number:	10221987
Patent Number:	10309949
<b>PATENT</b>	

Property Type	Number
Application Number:	16184026
PCT Number:	US2018059786
Application Number:	16184054
PCT Number:	US2018059790
Application Number:	16184073
PCT Number:	US2018059795
Application Number:	16145362
Application Number:	16145333
Application Number:	16263052
PCT Number:	US2019015933
Application Number:	16353034
PCT Number:	US2019022183
Application Number:	16249424
Application Number:	16429655

#### CORRESPONDENCE DATA

**Fax Number:** (312)609-5005

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 312-609-7943

**Email:** skowalski@vedderprice.com

**Correspondent Name:** SYLVIA KOWALSKI

**Address Line 1:** 222 N. LASALLE STREET - 24TH FLOOR

**Address Line 4:** CHICAGO, ILLINOIS 60601

**ATTORNEY DOCKET NUMBER:** 36942.00.0048-MCMILLEN

**NAME OF SUBMITTER:** SYLVIA KOWALSKI

**SIGNATURE:** /Sylvia Kowalski/

**DATE SIGNED:** 09/17/2019

#### Total Attachments: 8

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**PATENT SECURITY AGREEMENT**

**THIS PATENT SECURITY AGREEMENT** (this “Agreement”), dated as of September 13, 2019, is executed by the undersigned (the “Grantor”) for the benefit of Monroe Capital Management Advisors, LLC, a Delaware limited liability company, as administrative agent for itself, the Lenders, and certain Affiliates of the Lenders (the “Administrative Agent”), in connection with a Guaranty and Collateral Agreement dated as of June 4, 2018, among Grantors party thereto and Administrative Agent (as amended, restated, supplemented or otherwise modified from time to time, the “Guaranty and Collateral Agreement”). Capitalized terms not otherwise defined in this Agreement are being used in this Agreement as defined in the Guaranty and Collateral Agreement.

Pursuant to the Guaranty and Collateral Agreement, the Grantor has granted to Administrative Agent, for itself and the ratable benefit of the Lenders, a security interest in substantially all of its assets, including all of its right, title, and interest in, to, and under all now owned and hereafter acquired patents, patent applications, patent licenses, and all products and proceeds thereof, as collateral security for the prompt and complete payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of the Secured Obligations. Pursuant to the Guaranty and Collateral Agreement, the Grantor is required to execute and deliver to Administrative Agent, for itself and the ratable benefit of the Lenders, this Agreement.

In consideration of the mutual agreements set forth herein and in the Credit Agreement and the Guaranty and Collateral Agreement, the Grantor does hereby grant to Administrative Agent, for itself and the ratable benefit of the Lenders and (to the extent provided in this Agreement and the Guaranty and Collateral Agreement) their Affiliates, a continuing security interest in all of Grantor’s right, title and interest in, to and under the following, whether presently existing or hereafter created or acquired:

- (1) each Patent and Patent application, including, without limitation, each Patent and Patent application referred to in Schedule 1, together with any reissues, continuations or extensions thereof; and
- (2) all products and Proceeds of the foregoing, including, without limitation, any royalties or any claim by Grantor against third parties for past, present or future infringement of any Patent, including, without limitation, any Patent referred to in Schedule 1 and any Patent issued pursuant to a Patent application referred to in Schedule 1 (items (1) and (2) being herein collectively referred to as the “Patent Collateral”).

This security interest is granted in conjunction with the security interests granted to Administrative Agent pursuant to the Guaranty and Collateral Agreement and subject to limitations set forth therein and in the Credit Agreement. Grantor hereby acknowledges and affirms that the rights and remedies of Administrative Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Credit Agreement and in the Guaranty and Collateral Agreement, the terms and provisions of each of which are incorporated by reference herein as if fully set forth herein.

As used in this Agreement, the capitalized terms “Patents” and “Proceeds” are as defined in Guaranty and Collateral Agreement. Those definitions, in relevant part, *mutatis mutandis*, are provided below for convenience only and do not affect the construction of this Agreement, the Credit Agreement, or the Guaranty and Collateral Agreement:

“Patents” means (a) all letters patent of the United States, any other country or any political subdivision thereof, all reissues and extensions thereof, and all goodwill associated therewith; (b) all applications for letters patent of the United States or any other country and all divisions, continuations, and continuations-in-part thereof; and (c) all rights to obtain any reissues or extensions of the foregoing.


“Proceeds” means all “proceeds” as such term is defined in Section 9-102(a)(64) of the Uniform Commercial Code as in effect on the Closing Date and from time to time in the State of Illinois.

This Agreement is in addition to (a) that certain Patent Security Agreement dated as of June 4, 2018 between the Grantor and the Administrative Agent and (b) that certain Patent Security Agreement dated as of February 22, 2019 between the Grantor and the Administrative Agent (collectively, the “Prior Agreements”) and is not an amendment, restatement or substitution thereof. The Prior Agreements remain in full force and effect, and Grantor hereby ratifies and affirms all terms and conditions in the Prior Agreements.

[Signature Page Follows]

The Grantor is signing this Patent Security Agreement as of the date stated in the introductory clause.

**REDZONE ROBOTICS, INC.,**  
a Delaware corporation  
as a Grantor

By:   
Name: David Petrosky  
Title: Chief Financial Officer

Acknowledged:

**MONROE CAPITAL MANAGEMENT  
ADVISORS, LLC, as Administrative Agent**

By: \_\_\_\_\_  
Name: Alex Parmacek  
Title: Vice President

The Grantor is signing this Patent Security Agreement as of the date stated in the introductory clause.

**REDZONE ROBOTICS, INC.,**  
a Delaware corporation  
as a Grantor

By: \_\_\_\_\_  
Name: David Petrosky  
Title: Chief Financial Officer

Acknowledged:

**MONROE CAPITAL MANAGEMENT  
ADVISORS, LLC** as Administrative Agent

By: \_\_\_\_\_  
Name: Alex Parmacek  
Title: Vice President

**Schedule 1**  
**Patent Collateral**

**US Patents**

<b>Patent No.</b>	<b>Title</b>	<b>Status</b>	<b>CFWWS Docket No.</b>	<b>Owner</b>
7,131,791	PIPELINE REHABILITATION SYSTEMS	Granted.	RedZone_008	RedZone Robotics, Inc.
7,720,570	NETWORK ARCHITECTURE FOR REMOTE ROBOT WITH INTERCHANGEABLE TOOLS	Granted.	RedZone_019	RedZone Robotics, Inc.
7,993,469	SENSOR BASED MICRO-CLEANING OF BURIED INFRASTRUCTURE	Granted.	RedZone_020	RedZone Robotics, Inc.
8,024,066	AUTONOMOUS INSPECTOR MOBILE PLATFORM	Granted.	RedZone_021	RedZone Robotics, Inc.
8,041,517	SPATIO-TEMPORAL AND CONTEXT-BASED INDEXING AND REPRESENTATION OF SUBTERRANEAN NETWORKS AND MEANS FOR DOING THE SAME	Granted.	RedZone_022	RedZone Robotics, Inc.
8,060,257	NETWORK ARCHITECTURE FOR REMOTE ROBOT WITH INTERCHANGEABLE TOOLS	Granted.	RedZone_007	RedZone Robotics, Inc.
8,170,715	METHODS AND DEVICES FOR AUTOMATED WORK IN PIPES BASED ON IMPEDANCE CONTROL	Granted.	RedZone_023	RedZone Robotics, Inc.
8,525,124	DEVICE FOR PIPE INSPECTION AND METHOD OF USING SAME	Granted.	RedZone_024	RedZone Robotics, Inc.

9,156,105	MANAGING INFRASTRUCTURE DATA	Granted.	RedZone_025	RedZone Robotics, Inc.
9,183,527	ANALYZING INFRASTRUCTURE DATA	Granted.	RedZone_026	RedZone Robotics, Inc.; Tyler Foreman
9,482,681	DEVICE FOR PIPE INSPECTION AND METHOD OF USING SAME	Granted.	RedZone_006	RedZone Robotics, Inc.
8,467,049	MANHOLE MODELER USING A PLURALITY OF SCANNERS TO MONITOR THE CONDUIT WALLS AND EXTERIOR	Granted.	RedZone_027	RedZone Robotics, Inc.
9,739,792	DEVICE FOR PIPE INSPECTION AND METHOD OF USING SAME	Granted.	RedZone_005	RedZone Robotics, Inc.
9,784,599	MODULAR INFRASTRUCTURE ASSET INSPECTION ROBOT	Granted.	RedZone_013	RedZone Robotics, Inc.
9,927,354	METHOD AND APPARATUS FOR PIPE IMAGING WITH CHEMICAL ANALYSIS	Granted.	RedZone_016	RedZone Robotics, Inc.
10,072,800	GRAPHICALLY REPRESENTING A CONDITION OF INFRASTRUCTURE	Granted.	RedZone_014	RedZone Robotics, Inc.
10,115,237	VIRTUAL REALITY DISPLAY OF PIPE INSPECTION DATA	Granted.	RedZone_018	RedZone Robotics, Inc.
10,220,423	MOBILE JETTER AND PIPE INSPECTION ROBOT	Granted.	RedZone_015	RedZone Robotics, Inc.
10,221,987	MANAGING INFRASTRUCTURE DATA	Granted.	RedZone_012	RedZone Robotics, Inc.
10,309,949	METHOD AND APPARATUS FOR ROBOTIC, IN-PIPE WATER QUALITY TESTING	Granted.	RedZone_017	RedZone Robotics, Inc.



**US and PCT Pending Patent Applications**

<b>Title</b>	<b>Application No.</b>	<b>CFWWS Docket No.</b>	<b>Filing date</b>	<b>Status</b>	<b>Owner</b>
PIPE IMAGE FEATURE ANALYSIS USING CALIBRATION DATA	16/184,026	RedZone_009	11/8/2018	Pending	RedZone Robotics, Inc.
PIPE IMAGE FEATURE ANALYSIS USING CALIBRATION DATA	PCT/US18/59786	RedZone_009_PCT	11/8/2018	Pending	RedZone Robotics, Inc.
UNDERGROUND INFRASTRUCTURE SENSING USING UNMANNED AERIAL VEHICLE (UAV)	16/184,054	RedZone_010	11/8/2018	Pending	RedZone Robotics, Inc.
UNDERGROUND INFRASTRUCTURE SENSING USING UNMANNED AERIAL VEHICLE (UAV)	PCT/US18/59790	RedZone_010_PCT	11/8/2018	Pending	RedZone Robotics, Inc.
PIPE FEATURE IDENTIFICATION USING PIPE INSPECTION DATA ANALYSIS	16/184,073	RedZone_011	11/8/2018	Pending	RedZone Robotics, Inc.
PIPE FEATURE IDENTIFICATION USING PIPE INSPECTION DATA ANALYSIS	PCT/US18/59795	RedZone_011_PCT	11/8/2018	Pending	RedZone Robotics, Inc.
CONTROLLING ROBOT WITH HEAD MOUNTED CONTROLLER	16/145,362	RedZone_029	9/28/2018	Pending	RedZone Robotics, Inc.
MULTIPLE CAMERA IMAGER FOR INSPECTION OF LARGE DIAMETER PIPES, CHAMBERS OR TUNNELS	16/145,333	RedZone_028	9/28/2018	Pending	RedZone Robotics, Inc.
AUGMENTED REALITY (AR) DISPLAY OF PIPE INSPECTION DATA	16/263,052	RedZone_030	1/31/2019	Pending	RedZone Robotics, Inc.
AUGMENTED REALITY (AR) DISPLAY OF PIPE INSPECTION DATA	PCT/US19/15933	RedZone_030_PCT	1/31/2019	Pending	RedZone Robotics, Inc.

IMAGE PROCESSING TECHNIQUES FOR MULTI-SENSOR INSPECTION OF PIPE INTERIORS	16/353,034	RedZone_031	3/14/2019	Pending	RedZone Robotics, Inc.
IMAGE PROCESSING TECHNIQUES FOR MULTI-SENSOR INSPECTION OF PIPE INTERIORS	PCT/US19/22183	RedZone_031_PCT	3/14/2019	Pending	RedZone Robotics, Inc.
SERVER-BASED MANAGEMENT OF ROBOTIC PIPE INSPECTION DATA AND ANALYSIS REPORTS	16/249,424	RedZone_012_C1	01/16/2019	Pending	RedZone Robotics, Inc.
METHOD AND APPARATUS FOR ROBOTIC, IN-PIPE WATER QUALITY TESTING	16/429,655	RedZone_017_C1	06/3/2019	Pending	RedZone Robotics, Inc.