

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT8412015

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST
CONVEYING PARTY DATA	
Name	Execution Date
ROBOTIC RESEARCH OPCO, LLC	01/29/2024
RECEIVING PARTY DATA	
Name:	CRESCENT COVE OPPORTUNITY LENDING, LLC
Street Address:	1700 MONTGOMERY STREET, SUITE 240
City:	SAN FRANCISCO
State/Country:	CALIFORNIA
Postal Code:	94111
PROPERTY NUMBERS Total: 102	
Property Type	Number
Application Number:	16939451
Application Number:	17701305
Application Number:	18282022
Application Number:	12643170
Application Number:	12398610
Application Number:	13604842
Application Number:	13958537
Application Number:	11867306
Application Number:	13958536
Application Number:	14219834
Application Number:	14538997
Application Number:	14539878
Application Number:	15159469
Application Number:	14734014
Application Number:	14989599
Application Number:	14800502
Application Number:	13952542
Application Number:	15721698
Application Number:	15594569
Application Number:	14874078

Property Type	Number
Application Number:	13662429
Application Number:	15597831
Application Number:	14539921
Application Number:	15134082
Application Number:	14695257
Application Number:	15411976
Application Number:	15882841
Application Number:	16568726
Application Number:	15904787
Application Number:	15905513
Application Number:	16193338
Application Number:	15175094
Application Number:	15245262
Application Number:	16277296
Application Number:	15700080
Application Number:	15976538
Application Number:	16406152
Application Number:	15700082
Application Number:	16365817
Application Number:	16435610
Application Number:	15794944
Application Number:	16547977
Application Number:	15366995
Application Number:	15961792
Application Number:	16797248
Application Number:	16045795
Application Number:	16535455
Application Number:	16566788
Application Number:	16597893
Application Number:	16563157
Application Number:	16679512
Application Number:	16390360
Application Number:	16520456
Application Number:	15928794
Application Number:	16678244
Application Number:	16527199
Application Number:	16679376
Application Number:	16676544

Property Type	Number
Application Number:	16791126
Application Number:	17856485
Application Number:	16452620
Application Number:	63446654
Application Number:	63578688
Application Number:	63546921
Application Number:	63600168
Application Number:	63600263
Application Number:	63458081
Application Number:	63606422
Application Number:	18132539
Application Number:	17231967
Application Number:	17513576
Application Number:	17707667
Application Number:	17839332
Application Number:	17856006
Application Number:	17861995
Application Number:	17871411
Application Number:	17877951
Application Number:	17896725
Application Number:	17948569
Application Number:	18118783
Application Number:	18118435
Application Number:	18200802
Application Number:	18202757
Application Number:	18240165
Application Number:	18568826
Application Number:	18539777
Application Number:	16127001
Application Number:	16676666
Application Number:	17329040
Application Number:	17382823
Application Number:	17678361
Application Number:	17747038
PCT Number:	US2412453
PCT Number:	US2241933
PCT Number:	US2276894
PCT Number:	US2248872

Property Type	Number
PCT Number:	US2023063627
PCT Number:	US2319970
PCT Number:	US2323764
PCT Number:	US2324030
PCT Number:	US2330210
PCT Number:	US2023034923

CORRESPONDENCE DATA

Fax Number:

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: 2027393000

Email: patents@morganlewis.com, robert.goodell@morganlewis.com

Correspondent Name: MORGAN LEWIS & BOCKIUS LLP

Address Line 1: 1111 PENNSYLVANIA AVE., N.W.

Address Line 4: WASHINGTON, D.C. 20004

ATTORNEY DOCKET NUMBER:	115972-01-0048
NAME OF SUBMITTER:	ROBERT J. GOODELL
SIGNATURE:	/Robert J. Goodell/
DATE SIGNED:	01/30/2024

Total Attachments: 7

source=OPCO#page1.tif

source=OPCO#page2.tif

source=OPCO#page3.tif

source=OPCO#page4.tif

source=OPCO#page5.tif

source=OPCO#page6.tif

source=OPCO#page7.tif

PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT (this “Patent Security Agreement”) is made this 29th day of January, 2024, by and among the Grantors listed on the signature pages hereof (collectively, jointly and severally, “Grantors” and each individually “Grantor”), and CRESCENT COVE OPPORTUNITY LENDING, LLC, a Delaware limited liability company, in its capacity as administrative agent for the Lenders (in such capacity, together with its successors and assigns in such capacity, “Agent”).

W I T N E S S E T H:

WHEREAS, pursuant to that certain Credit Agreement, dated as of January 29, 2024 (as amended, restated, amended and restated, supplemented, or otherwise modified from time to time, the “Credit Agreement”), by and among ROBOTIC RESEARCH OPCO, LLC, a Delaware limited liability company (the “Borrower”), the lenders party thereto (each of such lenders, together with its successors and assigns, is referred to hereinafter as a “Lender”), and Agent, the Lenders have agreed to make certain financial accommodations to the Borrower pursuant to the terms and conditions thereof;

WHEREAS, the Lenders are willing to make the financial accommodations to the Borrower as provided for in the Credit Agreement and the other Loan Documents, but only upon the condition, among others, that the Grantors shall have executed and delivered to Agent, for the benefit of the Lenders, that certain Guaranty and Security Agreement, dated as of January 29, 2024 (including all annexes, exhibits or schedules thereto, as from time to time amended, restated, amended and restated, supplemented or otherwise modified, the “Guaranty and Security Agreement”); and

WHEREAS, pursuant to the Guaranty and Security Agreement, Grantors are required to execute and deliver to Agent, for the benefit of the Lenders, this Patent Security Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each Grantor hereby agrees as follows:

1. **DEFINED TERMS**. All initially capitalized terms used but not otherwise defined herein have the meanings given to them in the Guaranty and Security Agreement or, if not defined therein, in the Credit Agreement, and this Patent Security Agreement shall be subject to the rules of construction set forth in Section 1(b) of the Guaranty and Security Agreement, which rules of construction are incorporated herein by this reference, *mutatis mutandis*.

2. **GRANT OF SECURITY INTEREST IN PATENT COLLATERAL**. Each Grantor hereby unconditionally grants, assigns, and pledges to Agent, for the benefit of the Lenders, to secure the Secured Obligations, a continuing security interest (referred to in this Patent Security Agreement as the “Security Interest”) in all of such Grantor’s right, title and interest in and to the following, whether now owned or hereafter acquired or arising (collectively, the “Patent Collateral”):

(a) all of its Patents and Patent Intellectual Property Licenses to which it is a party including those referred to on Schedule I;

(b) all divisionals, continuations, continuations-in-part, reissues, reexaminations, or extensions of the foregoing; and

(c) all products and proceeds of the foregoing, including any claim by such Grantor against third parties for past, present or future infringement of any Patent or any Patent exclusively licensed under any Intellectual Property License, including the right to receive damages, or right to receive license fees, royalties, and other compensation under any Patent Intellectual Property License.

3. SECURITY FOR SECURED OBLIGATIONS. This Patent Security Agreement and the Security Interest created hereby secures the payment and performance of the Secured Obligations, whether now existing or arising hereafter. Without limiting the generality of the foregoing, this Patent Security Agreement secures the payment of all amounts which constitute part of the Secured Obligations and would be owed by Grantors, or any of them, to Agent, the Lenders or any of them, whether or not they are unenforceable or not allowable due to the existence of an Insolvency Proceeding involving any Grantor.

4. SECURITY AGREEMENT. The Security Interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interests granted to Agent, for the benefit of the Lenders, pursuant to the Guaranty and Security Agreement. Each Grantor hereby acknowledges and affirms that the rights and remedies of Agent with respect to the Security Interest in the Patent Collateral made and granted hereby are more fully set forth in the Guaranty and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. To the extent there is any inconsistency between this Patent Security Agreement and the Guaranty and Security Agreement, the Guaranty and Security Agreement shall control.

5. AUTHORIZATION TO SUPPLEMENT. If any Grantor shall obtain rights to any new Patent application or issued Patent or become entitled to the benefit of any Patent application or Patent for any divisional, continuation, continuation-in-part, reissue, or reexamination of any existing Patent or Patent application, the provisions of this Patent Security Agreement shall automatically apply thereto. Grantors shall give prompt notice in writing to Agent with respect to any such new Patent rights. Without limiting Grantors' obligations under this Section, Grantors hereby authorize Agent unilaterally to modify this Patent Security Agreement by amending Schedule I to include any such new Patent rights of each Grantor. Notwithstanding the foregoing, no failure to so modify this Patent Security Agreement or amend Schedule I shall in any way affect, invalidate or detract from Agent's continuing security interest in all Collateral, whether or not listed on Schedule I.

6. COUNTERPARTS. This Patent Security Agreement is a Loan Document. This Patent Security Agreement may be executed by means of (a) an electronic signature that complies with the federal Electronic Signatures in Global and National Commerce Act, state enactments of the Uniform Electronic Transactions Act, or any other relevant and applicable electronic signatures law; (b) an original manual signature; or (c) a faxed, scanned, or photocopied manual signature. Each electronic signature or faxed, scanned, or photocopied manual signature shall for all purposes have the same validity, legal effect, and admissibility in evidence as an original manual signature. Agent reserves the right, in its sole discretion, to accept, deny, or condition acceptance of any electronic signature on this Patent Security Agreement. This Patent Security Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but such counterparts shall, together, constitute only one instrument. Delivery of an executed counterpart of a signature page of this Patent Security Agreement as set forth herein will be as effective as delivery of a manually executed counterpart of this Patent Security Agreement.

7. GOVERNING LAW, CONSENT TO JURISDICTION, JURY TRIAL WAIVER, AND JUDICIAL REFERENCE. THIS PATENT SECURITY AGREEMENT SHALL BE SUBJECT TO THE PROVISIONS REGARDING GOVERNING LAW, CONSENT TO JURISDICTION, JURY TRIAL WAIVER, AND JUDICIAL REFERENCE SET FORTH IN SECTION 25 OF THE GUARANTY AND SECURITY AGREEMENT, AND SUCH PROVISIONS ARE INCORPORATED HEREIN BY THIS REFERENCE, *MUTATIS MUTANDIS*.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have caused this Patent Security Agreement to be executed and delivered as of the day and year first above written.

GRANTORS:

ROBOTIC RESEARCH OPKO, LLC

By: 

Name: Josh Aradjo

Title: Chief Executive Officer

[Patent Security Agreement]

AGENT:

ACCEPTED AND ACKNOWLEDGED BY:

CRESCENT COVE OPPORTUNITY
LENDING, LLC,
a Delaware limited liability company

DocuSigned by:

JUN HONG HENG

C443942759374D6...

By:

Name: Jun Hong Heng

Title: Managing Member

Patent Security Agreement

PATENT
REEL: 066382 FRAME: 0148

SCHEDULE I
to
PATENT SECURITY AGREEMENT

Patents

See attached.

Patent Licenses

None.

Patent Number	Application Number	Country	Grantor	Filing Date	Title
	16/939451	US	RR OpCo	7/27/2020	Paramotor with Contrarotating Propellers
	17/701305	US	RR OpCo	3/22/2022	Carrier-less Radio (Non-Prov)
	18/282022	US	RR OpCo	9/14/2023	Autonomous glad-hand coupler with parallel arm (PCT-US)
8161679	12/643170	US	MULTI	12/21/2009	Open ocean floating algae farm
8301318	12/398610	US	RR OpCo	3/5/2009	Robotic vehicle remote control system having a virtual operator environment
8954853	13/604842	US	RR OpCo	9/6/2012	Method and system for visualization enhancement for situational awareness
9080886	13/958537	US	RR OpCo	8/3/2013	System and Method for Urban Mapping and Positioning
9302678	11/867306	US	MULTI	10/4/2007	Robotic driving system
9372088	13/958536	US	RR OpCo	8/3/2013	CANINE HANDLER OPERATIONS POSITIONING SYSTEM
9519286	14/219834	US	RR OpCo	3/19/2014	Delayed telop aid
9608328	14/538997	US	RR OpCo	11/12/2014	System and method for printing tunable antennas
9649813	14/539878	US	RR OpCo	11/12/2014	Method for enabling the partial printing of a device
9666038	15/159469	US	RR OpCo	5/19/2016	Canine Handler Operations Positioning System
9746330	14/734014	US	RR OpCo	6/9/2015	System and Method for Localizing Two or More Moving Nodes
9880551	14/989599	US	RR OpCo	1/6/2016	Point-and-click control of unmanned, autonomous vehicle using omni-directional visors
9888228	14/800502	US	RR OpCo	7/15/2015	Omni-directional Stereo System
9969081	13/952542	US	RR OpCo	7/26/2013	METHOD AND SYSTEM FOR THE DIRECTED CONTROL OF ROBOTIC ASSETS
10200675	15/721698	US	RR OpCo	9/29/2017	Omni-directional Stereo System
10249151	15/594569	US	RR OpCo	5/13/2017	Canine Handler Operations Positioning System
10324476	14/874078	US	RR OpCo	10/2/2015	Robotic swarm localization using ranging radios
10377379	13/662429	US	RR OpCo	10/27/2012	Method and system for utilizing the energy storage provided by a vehicle's mass in the form of potential and kinetic energy to optimize fuel consumption
10405287	15/597831	US	RR OpCo	5/17/2017	Covert timing synchronization
10406758	14/539921	US	RR OpCo	11/12/2014	System and method for 3D printing parts with additional features
10416270	15/134082	US	RR OpCo	4/20/2016	Detection of multi-rotors using electromagnetic signatures
10565333	14/695257	US	RR OpCo	4/24/2015	Structural analysis for additive manufacturing
10569459	15/411976	US	RR OpCo	1/21/2017	Handheld 3D printer
10613528	15/882841	US	RR OpCo	1/29/2018	Point-and-Click Control of Unmanned, Autonomous Vehicle Using Omni-Directional Visors
10611072	16/568726	US	RR OpCo	10/17/2019	Handheld 3D printer
10624802	15/904787	US	RR OpCo	2/26/2018	System for automating wheelchair user ingress, egress, and securement on a vehicle
10632850	15/905513	US	RR OpCo	2/26/2018	Energy harvester while in tow
10906668	16/193338	US	RR OpCo	11/16/2018	Field Deployable Rapid Prototypable UXVs
11086019	15/175094	US	RR OpCo	6/7/2016	Atomic clock base navigation system for on-the-move radar, obfuscation, sensing, and ad-hoc third party localization
11093603	15/245262	US	RR OpCo	8/24/2016	System and Method for Protecting Software from Buffer Overruns
11161450	16/277296	US	RR OpCo	2/15/2019	AUTONOMOUS HEADLIGHT CONTROL BASED ON ELEVATION PROFILE
11188100	15/700080	US	RR OpCo	9/9/2017	Robotic Swarm Localization Using Ranging Radios
11170106	15/976538	US	RR OpCo	5/10/2018	SYSTEM FOR DETECTING HARDWARE TROJANS IN INTEGRATED CIRCUITS
11169540	16/406152	US	RR OpCo	5/8/2019	Autonomous Convoys Maneuvering "Deformable" Terrain and "Deformable" Obstacles
11194347	15/700082	US	RR OpCo	9/9/2017	Robotic Swarm Localization Using Ranging Radios
11232711	16/365817	US	RR OpCo	3/27/2019	Message Conveying System of Rendezvous Locations for Stranded Autonomous Vehicles
11234201	16/435610	US	RR OpCo	6/10/2019	Broadcast Ranging Radios for Localization and Timing
11247522	15/794944	US	RR OpCo	10/26/2017	Vehicle Capable of Multiple Varieties of Locomotion
11247089	16/547977	US	RR OpCo	8/22/2019	Chemical and Biological Warfare Agent Decontamination Drone
11281207	15/366995	US	RR OpCo	12/1/2016	Delayed Telop Aid
11300649	15/961792	US	RR OpCo	4/24/2018	Vehicle Localization Augmentation for Dismounts
11307433	16/797248	US	RR OpCo	2/21/2020	Acoustically Adjustable Lenses
11194347	16/045795	US	RR OpCo	7/26/2018	Sensising on uavs for mapping and obstacle avoidance
11340618	16/535455	US	RR OpCo	8/8/2019	Drone Based Inspection System At Railroad Crossings
11338634	16/566788	US	RR OpCo	9/10/2019	Vehicle Capable of Multiple Varieties of Locomotion
11345370	16/597893	US	RR OpCo	10/10/2019	Autonomous Ambulance
11353873	16/563157	US	RR OpCo	9/6/2019	Autonomous Street Sweeper Vehicle
11353865	16/679512	US	RR OpCo	11/11/2019	Self-Discovery Mechanism, Scripting Language, and Optimization for Mining and Construction Applications
11364898	16/390360	US	RR OpCo	4/22/2019	Autonomous Vehicle Controlled Crash
11377104	16/520456	US	RR OpCo	7/24/2019	Autonomous Waste Collection Truck
11383282	15/928794	US	RR OpCo	3/22/2018	System and Method for Enabling Fused Deposition Metal 3D Printing
11397438	16/678244	US	RR OpCo	11/8/2019	Driver Aid and Autonomous Tractor-Trailer Parking and Loading Dock Alignment System
11544951	16/527199	US	RR OpCo	7/31/2019	Autonomous Delivery Vehicle
11644843	16/679376	US	RR OpCo	11/11/2019	Learning Mechanism for Autonomous Trucks for Mining and Construction Applications
11656626	16/676544	US	RR OpCo	11/7/2019	Autonomous Truck Loading for Mining and Construction Applications
11708074	16/791126	US	RR OpCo	2/14/2020	Effect of Multiple Rules of the Road At Different Elevation Profiles on Speed Constraints and Fuel Consumption
11774981	17/856485	US	RR OpCo	7/1/2022	Driver Aid and Autonomous Tractor-Trailer Parking and Loading Dock Alignment System (CON1)
11884175	16/452620	US	RR OpCo	6/26/2019	Self-Powered Drone Tether
N/A	PCT/US22/41933	PCT	RR OpCo	8/29/2022	Trailer Door Safety Systems (PCT)
N/A	PCT/US22/76894	PCT	RR OpCo	9/23/2022	Smart Intersections (PCT)
N/A	PCT/US22/48872	PCT	RR OpCo	11/3/2022	Remote Operator Safety Station (PCT)
N/A	63/446654	US	RR OpCo	2/17/2023	ASSESSMENT OF TRAILER BRAKES (Pro)
N/A	PCT/US2023/63627	PCT	RR OpCo	3/2/2023	Guillotine (PCT)
N/A	63/458081	US	RR OpCo	4/7/2023	Trailer Configurations Facilitating Autonomous Operation (Pro)
N/A	PCT/US23/19970	PCT	RR OpCo	4/26/2023	Autonomous glad-hand coupler with parallel arm (PCT)
N/A	PCT/US23/23764	PCT	RR OpCo	5/26/2023	Multi-antenna Single-receiver Time Multiplexing (PCT)
N/A	PCT/US23/24030	PCT	RR OpCo	6/1/2023	Autonomous Trailer Stand (PCT)
N/A	PCT/US23/30210	PCT	RR OpCo	8/15/2023	Region Focusing RADAR (PCT)
N/A	63/578688	US	RR OpCo	8/25/2023	MCODE and GNSS Receiver (Pro)
N/A	PCT/US2023/34923	PCT	RR OpCo	10/11/2023	Trailer Pivot (PCT)
N/A	63/546921	US	RR OpCo	11/1/2023	End Effector Configurations for Autonomous Gladhand Coupling (PRO)
N/A	63/600168	US	NONE	11/17/2023	Autonomous Gladhand Coupling – Air Pressure Features (Pro)
N/A	63/600263	US	NONE	11/17/2023	Autonomous Gladhand Coupling – Laser Tracking Features (Pro)

Patent Number	Application Number	Country	Grantor	Filing Date	Title
N/A	63/606422	US	NONE	12/5/2023	Doppler ground-speed sensing (PRO II)
N/A	PCT/US24/12453	PCT	NONE	1/22/2024	Under-Trailer Sensing (PCT)
	18/132539	US	RR OpCo	8/26/2002	Autonomous Truck Loading for Mining and Construction Applications (CON)
	17/231967	US	RR OpCo	4/15/2021	Self-Sanitizing Systems
	17/513576	US	RR OpCo	10/28/2021	Rear Trailer Hosteler (Non-Provisional)
	17/707667	US	RR OpCo	3/29/2022	Genetically based Blockchain (Non-provisional)
	17/839332	US	RR OpCo	6/13/2022	Opportunistic GPS / Clear Sky (Non-pro)
	17/856006	US	RR OpCo	7/1/2022	Vehicle Following LADAR Projected Patterns (Non-pro)
	17/861995	US	RR OpCo	7/11/2022	Distributed Geographical Search Engine (Non-pro)
	17/871411	US	RR OpCo	7/22/2022	LiDAR Stabilization (Non-pro)
	17/877951	US	RR OpCo	7/31/2022	Autonomous Trailer Couple-Decouple (Non-pro)
	17/896725	US	RR OpCo	8/26/2022	GladHands (Non-pro)
	17/948569	US	RR OpCo	9/20/2022	Off-Grid Crypto Mining (Non-pro)
	18/118783	US	RR OpCo	3/7/2023	Semi-Autonomous Trolley ADAS (Non-provisional)
	18/118435	US	RR OpCo	3/7/2023	Dynamic Autonomous Vehicle Controller for Single Lane Two-Way Traffic (Non-provisional)
	18/200802	US	RR OpCo	5/23/2023	System and Method for Enabling Fused Deposition Metal 3D Printing (CON2)
	18/202757	US	RR OpCo	5/26/2023	Multi-antenna Single-receiver Time Multiplexing (US)
	18/240165	US	RR OpCo	8/30/2023	Driver Aid and Autonomous Tractor-Trailer Parking and Loading Dock Alignment System (CON2)
	18/568826	US	RR OpCo	12/10/2023	Manned Convoy Leader (PCT-US)
	18/539777	US	NONE	12/14/2023	Self-Powered Drone Tether (CON)
	22825645.9	EP	N/A	1/2/2024	Manned Convoy Leader (PCT-EP)
	16/127001	US	RR OpCo	9/10/2018	Ladar for military and harsh environment use
	16/676666	US	RR OpCo	11/7/2019	Autonomous Truck Unloading for Mining and Construction Applications
	17/329040	US	RR OpCo	5/24/2021	Portable Vehicle Barrier
	17/382823	US	RR OpCo	7/22/2021	INERTIAL NAVIGATION UNIT ENHANCED WITH ATOMIC CLOCK
	17/678361	US	RR OpCo	2/23/2022	Autonomous Winter Service Vehicle (non-provisional)
	17/747038	US	RR OpCo	5/18/2022	SYSTEM AND METHOD FOR VERIFYING THAT A SELF-DRIVING VEHICLE FOLLOWS TRAFFIC ORDINANCES
	23724596.4	EP	N/A	10/1/2023	Autonomous glad-hand coupler with parallel arm (PCT-EP)