

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

Assignment ID: PATI725297

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST
CONVEYING PARTY DATA	
Name	Execution Date
ASENSUS SURGICAL, INC.	04/03/2024
ASENSUS SURGICAL US, INC.	04/03/2024
ASENSUS SURGICAL EUROPE S.À R.L.	04/03/2024
ASENSUS SURGICAL ITALIA S.R.L.	04/03/2024
RECEIVING PARTY DATA	
Company Name:	KARL STORZ SE & CO. KG
Street Address:	C/O KARL STORZ UNITED STATES
Internal Address:	2151 E. GRAND AVE.
City:	EL SEGUNDO
State/Country:	CALIFORNIA
Postal Code:	90245
PROPERTY NUMBERS Total: 169	
Property Type	Number
Patent Number:	7674255
Patent Number:	7241289
Patent Number:	7549998
Patent Number:	7833156
Patent Number:	8518024
Patent Number:	9295379
Patent Number:	8414475
Patent Number:	8267958
Patent Number:	8246617
Patent Number:	8827135
Patent Number:	8919348
Patent Number:	8388516
Patent Number:	8870049
Patent Number:	9360934
Patent Number:	9943372
Patent Number:	9204939

Property Type	Number
Patent Number:	10092164
Patent Number:	10638918
Patent Number:	10898064
Patent Number:	9504456
Patent Number:	9757204
Patent Number:	9757206
Patent Number:	9937013
Patent Number:	10028792
Patent Number:	10039609
Patent Number:	10456202
Patent Number:	10052157
Patent Number:	10456010
Patent Number:	11116383
Patent Number:	10251713
Patent Number:	10064691
Patent Number:	10932657
Patent Number:	10201392
Patent Number:	10799302
Patent Number:	10603110
Patent Number:	10299773
Patent Number:	10866783
Patent Number:	11638615
Patent Number:	11199545
Patent Number:	11259892
Patent Number:	11119105
Patent Number:	11135024
Patent Number:	11317980
Patent Number:	11141226
Patent Number:	11457985
Patent Number:	11497481
Patent Number:	10751139
Patent Number:	11148297
Patent Number:	11234781
Patent Number:	11690677
Patent Number:	11224489
Patent Number:	11185315
Patent Number:	11179214
Patent Number:	11134971

Property Type	Number
Patent Number:	11717364
Patent Number:	11690688
Patent Number:	11523730
Patent Number:	11517381
Patent Number:	11607283
Patent Number:	11877721
Patent Number:	11751959
Patent Number:	11471178
Patent Number:	11751967
Patent Number:	11730556
Patent Number:	11850730
Patent Number:	11628028
Patent Number:	11298047
Patent Number:	11937891
Patent Number:	11911125
Patent Number:	11561762
Patent Number:	11730347
Patent Number:	11768204
Patent Number:	11627977
Patent Number:	11771518
Patent Number:	11872687
Patent Number:	11547513
Patent Number:	11540890
Patent Number:	11857278
Patent Number:	11883050
Patent Number:	11819189
Patent Number:	11877817
Patent Number:	11886772
Patent Number:	11832790
Application Number:	18527806
Application Number:	16419140
Application Number:	15917896
Application Number:	15917897
Application Number:	16018039
Application Number:	18119228
Application Number:	16732303
Application Number:	18442034
Application Number:	16732308

Property Type	Number
Application Number:	16733200
Application Number:	18420706
Application Number:	16867423
Application Number:	16920737
Application Number:	16931430
Application Number:	16932665
Application Number:	17002725
Application Number:	17039856
Application Number:	17063941
Application Number:	17063974
Application Number:	17064039
Application Number:	17064334
Application Number:	18416772
Application Number:	18434592
Application Number:	17099757
Application Number:	17099761
Application Number:	17114467
Application Number:	17137275
Application Number:	17368747
Application Number:	17368753
Application Number:	17368756
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Application Number:	17368759
Application Number:	17460128
Application Number:	17475198
Application Number:	18459078
Application Number:	17487646
Application Number:	17488054
Application Number:	17495687
Application Number:	18435145
Application Number:	17495784
Application Number:	17495792
Application Number:	17495803
Application Number:	17563949
Application Number:	17564090
Application Number:	17566622
Application Number:	17566973
Application Number:	17567084

Property Type	Number
Application Number:	17679021
Application Number:	17679032
Application Number:	17679066
Application Number:	17679080
Application Number:	17711023
Application Number:	17944170
Application Number:	17955486
Application Number:	17959614
Application Number:	17962440
Application Number:	17975722
Application Number:	17977348
Application Number:	18427729
Application Number:	18084502
Application Number:	18091282
Application Number:	18092191
Application Number:	18092194
Application Number:	18092288
Application Number:	18092295
Application Number:	18092302
Application Number:	18530103
Application Number:	18120274
Application Number:	18131805
Application Number:	18454043
Application Number:	18457199
Application Number:	18480321
Application Number:	63507440
Application Number:	18582601
Application Number:	18499189
Application Number:	18092921
Application Number:	16733147
Application Number:	63507441
Application Number:	18582642
Application Number:	18436655
Application Number:	18582644
Application Number:	18460458
PCT Number:	US2416576
PCT Number:	US2416579
PCT Number:	US2416582

Property Type	Number
PCT Number:	US2416567

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: 6178542079

Email: jonathan.bradford@ropesgray.com

Correspondent Name: JONATHAN BRADFORD

Address Line 1: Prudential Tower

Address Line 2: 800 BOYLSTON STREET

Address Line 4: Boston, MASSACHUSETTS 02199-3600

ATTORNEY DOCKET NUMBER:	115085-0028
NAME OF SUBMITTER:	Jonathan Bradford
SIGNATURE:	Jonathan Bradford
DATE SIGNED:	12/31/2024

Total Attachments: 32

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This **INTELLECTUAL PROPERTY SECURITY AGREEMENT** (this “**Agreement**”) is entered into as of April 3, 2024, by and among Asensus Surgical, Inc., a Delaware corporation, formerly known as TransEnterix, Inc. (“**Asensus**”), Asensus Surgical US, Inc., a Delaware corporation, formerly known as TransEnterix Surgical, Inc. (“**Asensus US**”), Asensus Surgical Europe S.à r.l., a Luxembourg société à responsabilité limitée formerly known as TransEnterix Europe S.à r.l. (“**Asensus Europe**”), and Asensus Surgical Italia S.r.l., an Italian società a responsabilità limitata formerly known as TransEnterix Italia S.r.l. (“**Asensus Italia**,” together with Asensus, Asensus US, and Asensus Europe, individually and collectively, “**Grantor**”), on the one hand, and Karl Storz SE & CO. KG, a Kommanditgesellschaft organized under the laws of Germany (“**Grantee**”), on the other hand.

RECITALS

A. Grantor and Grantee have entered into that certain Secured Promissory Note, dated as of the date hereof, by and among Grantor, Grantee, and the other Guarantors as defined and identified therein (as the same may be amended, modified, or supplemented from time to time, the “**Secured Promissory Note**”; capitalized terms used herein are used as defined in the Secured Promissory Note). Grantor has agreed to secure all of its obligations under the Secured Promissory Note by granting to Grantee a security interest in certain Copyrights, Trademarks, Patents and Mask Works (as each term is described below) to secure the obligations of Grantor under the Secured Promissory Note.

B. Pursuant to the terms of the Secured Promissory Note, Grantor has granted to Grantee a security interest in all of Grantor’s right, title, and interest, whether presently existing or hereafter acquired, in, to, and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Secured Promissory Note, Grantor hereby represents, warrants, covenants, and agrees as follows:

AGREEMENT

1. Grant of Security Interest. To secure its obligations under the Secured Promissory Note, Grantor grants and pledges to Grantee a security interest in all of Grantor’s right, title, and interest in, to, and under its intellectual property whether presently existing or hereafter acquired (all of which shall collectively be called the “**Intellectual Property Collateral**”), including, without limitation, the following:

(a) Any and all copyright rights, copyright applications, copyright registrations, and like protections in each work or authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired, or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the “**Copyrights**”);

(b) Any and all trade secrets and all confidential and proprietary business and technical information, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired, or held;

(c) Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired, or held;

(d) All patents, patent applications, and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto and any patents and patent applications claiming the priority benefit of the patents and patent applications set forth on Exhibit B attached hereto (collectively, the “**Patents**”);

(e) Any trademark and service mark rights whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the “**Trademarks**”);

(f) All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto (collectively “**Mask Works**”);

(g) Any and all rights in domain names and social media accounts and handles;

(h) Any and all claims for damages by way of past, present, and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(i) All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(j) All amendments, extensions, renewals, and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and

(k) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

Notwithstanding the foregoing, the term “Intellectual Property Collateral” shall not include (i) any intent-to-use trademarks or (ii) rights of Grantor under a license that are not assignable by their terms without the consent of the licensor thereof (but only to the extent such restriction on assignment is enforceable under applicable law).

2. Recordation. Grantor authorizes the Commissioner for Patents, the Commissioner for Trademarks, and the Register of Copyrights and any other government officials to record and register this Agreement upon request by Grantee.

3. Authorization. Grantor hereby authorizes Grantee to (a) modify this Agreement unilaterally by amending the exhibits to this Agreement to include any new Intellectual Property Collateral which Grantor files or obtains subsequent to the date of this Agreement, and (b) file a duplicate original of this Agreement containing amended exhibits reflecting such new Intellectual Property Collateral.

4. Secured Promissory Note. This Agreement has been entered into pursuant to and in conjunction with the Secured Promissory Note, which is hereby incorporated by reference. The provisions of the Secured Promissory Note shall supersede and control over any conflicting or inconsistent provision herein. The rights and remedies of Grantee with respect to the Intellectual Property Collateral are as provided by the Secured Promissory Note and related documents, and nothing in this Agreement shall be deemed to limit such rights and remedies.

5. Execution in Counterparts. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page to this Agreement by facsimile or in electronic (i.e., “pdf” or “tif” format) shall be effective as delivery of a manually executed counterpart of this Agreement.

6. Successors and Assigns. This Agreement will be binding on and shall inure to the benefit of the parties hereto and their respective successors and assigns.


7. Governing Law. This Agreement and any claim, controversy, dispute, or cause of action (whether in contract or tort or otherwise) based upon, arising out of, or relating to this Agreement and the transactions contemplated hereby and thereby shall be governed by, and construed in accordance with, the laws of the United States and the State of New York, without giving effect to any choice or conflict of law provision or rule (whether of the State of New York or any other jurisdiction).

[Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR


ASENSUS SURGICAL, INC.

By: 
Name: Anthony Fernando
Title: Chief Executive Officer

ASENSUS SURGICAL US, INC.

By: 
Name: Anthony Fernando
Title: Chief Executive Officer

ASENSUS SURGICAL EUROPE S.À R.L.

By: 
Name: Anthony Fernando
Title: Class B Manager

ASENSUS SURGICAL ITALIA S.R.L.

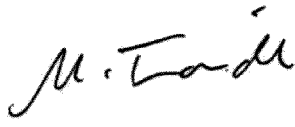
By: 
Name: Anthony Fernando
Title: Director

[Signature Page to Intellectual Property Security Agreement]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTEE

KARL STORZ SE & CO. KG

By: 

Name: Michael Tröndle
Title: Executive Vice President
Global Finance & IT

EXHIBIT A

Copyrights

None.

EXHIBIT B

Patents

Title	Assignee	Status	Application Number	Publication Number
Surgical instrument	Transenterix Europe S.à r.l.	Granted	US10/815395	US7674255
Surgical instrument	Transenterix Europe S.à r.l.	Granted	US10/815411	US7241289
Surgical instrument comprising an instrument handle and zero point adjustment	Transenterix Europe S.à r.l.	Granted	US10/853713	US7549998
Procedural cannula and support system for surgical procedures	Transenterix Surgical, Inc.	Granted	US11/789381	US7833156
System and method for multi-instrument surgical access using a single access port	Transenterix Surgical, Inc.	Granted	US11/804063	US8518024
Device and methods of improving laparoscopic surgery	Transenterix Europe, S.à r.l.	Granted	US11/874534	US9295379
Camera holder device and method thereof	Transenterix Europe, S.à r.l.	Granted	US11/874576	US8414475

Title	Assignee	Status	Application Number	Publication Number
Surgical instrument comprising an instrument handle and zero point adjustment	Transenterix Europe S.à r.l.	Granted	US12/370187	US8267958
Surgical snare with electrosurgical tip and method of use	Transenterix Surgical, Inc.	Granted	US12/469071	US8246617
Hernia stapler with integrated mesh manipulator	Transenterix, Inc.	Granted	US12/880492	US8827135
System and method for multi-instrument surgical access	Transenterix Surgical, Inc.	Granted	US13/007974	US8919348
Camera holder device and method thereof	Transenterix Europe, S.à r.l.	Granted	US13/223767	US8388516
Hernia stapler	Transenterix, Inc.	Granted	US13/425590	US8870049
Robotized surgery system with improved control	Asensus Surgical Italia S.r.l.	Granted	US13/639809	US9360934
Robotized surgery system with improved control	Asensus Surgical Italia S.r.l.	Pending	US18/527,806	US20240099791
Device having a wearable interface for improving laparoscopic surgery and methods for use thereof	Transenterix Europe, S.à r.l.	Granted	US13/736118	US9943372

Title	Assignee	Status	Application Number	Publication Number
Device and method for assisting laparoscopic surgery rule based approach	Transenterix Europe, S.a.r.l.	Granted	US14/150939	US9204939
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/239897	US10092164
Manual control system for maneuvering an endoscope	Transenterix Europe, S.à r.l.	Granted	US14/380082	US10638918
Endoscopic control and maneuvering system in at least two degrees of freedom	Transenterix Europe, S.à r.l.	Granted	US14/380086	US10898064
Device and method for assisting laparoscopic surgery rule based approach	Transenterix Europe, S.a.r.l.	Granted	US14/752947	US9504456
Device and method for assisting laparoscopic surgery rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/752949	US9757204
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/753902	US9757206
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/813170	US9937013

Title	Assignee	Status	Application Number	Publication Number
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/816099	US10028792
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/816127	US10039609
Device and methods of improving laparoscopic surgery	Transenterix Europe, S.à r.l.	Granted	US14/817223	US10456202
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US14/817245	US10052157
Device and methods of improving laparoscopic surgery	Transenterix Europe, S.à r.l.	Granted	US15/046862	US10456010
Articulated structured light based-laparoscope	Transenterix Europe, S.a.r.l.	Granted	US15/129925	US111116383
Robotized surgery system with improved control	Asensus Surgical Italia S.r.l.	Granted	US15/149512	US10251713
Device and method for assisting laparoscopic surgery rule based approach	Transenterix Europe, S.à r.l.	Granted	US15/169990	US10064691

Title	Assignee	Status	Application Number	Publication Number
Endoscope with wide angle lens and adjustable view	Transenterix Europe, S.à r.l.	Granted	US15/232836	US10932657
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US15/289324	US10201392
Interface for laparoscopic surgeries—movement gestures	Transenterix Europe, S.à r.l.	Granted	US15/322452	US10799302
Device and methods of improving laparoscopic surgery	Transenterix Europe, S.à r.l.	Granted	US15/346739	US10603110
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US15/393286	US10299773
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Pending	US 16/419,140	
Vocally activated surgical control system	Transenterix Europe, S.à r.l.	Granted	US15/481496	US10866783
Intelligent surgical tool control system for laparoscopic surgeries	Transenterix Europe, S.à r.l.	Granted	US15/756118	US11638615

Title	Assignee	Status	Application Number	Publication Number
Hydraulic instrument drive system for minimally invasive surgery	Asensus Surgical US, Inc.	Granted	US15/885792	US11199545
Apparatus and method for enhanced tissue visualization	Transenterix Surgical, Inc.	Pending	US15/917896	US20200397266
Communication of detected tissue characterization in a surgical robotic platform	Transenterix Surgical, Inc.	Pending	US15/917897	US20210307861
Instrument for optical tissue interrogation	Asensus Surgical US, Inc.	Granted	US15/917898	US11259892
Fluid actuation of instruments through a sterile barrier	Asensus Surgical US, Inc.	Granted	US15/957679	US11119105
System and method for verifying end effector/instrument engagement to a robotic manipulator	Asensus Surgical US, Inc.	Granted	US15/975760	US11135024
Instrument end effector identification	Asensus Surgical US, Inc.	Granted	US15/975765	US11317980
Method of graphically tagging and recalling identified structures under visualization for robotic surgery	Asensus Surgical US, Inc.	Granted	US16/018037	US11141226

Title	Assignee	Status	Application Number	Publication Number
Method and apparatus for providing procedural information using surface mapping	Transenterix Surgical, Inc.	Pending	US16/018039	US20210307830
Method and apparatus for organ manipulation using a surgical robotic system	Asensus Surgical US, Inc.	Granted	US16/051461	US11457985
Electromechanical surgical system including linearly driven instrument roll	Asensus Surgical US, Inc.	Granted	US16/160960	US11497481
Device and method for assisting laparoscopic surgery—rule based approach	Transenterix Europe, S.à r.l.	Granted	US16/176854	US10751139
Force based gesture control of a robotic surgical manipulator	Asensus Surgical US, Inc.	Granted	US16/236613	US11148297
Dynamic control of surgical instruments in a surgical robotic system	Asensus Surgical US, Inc.	Granted	US16/236636	US11234781
Use of eye tracking for tool identification and assignment in a robotic surgical system	Asensus Surgical US, Inc.	Granted	US16/237418	US11690677
Use of eye tracking input to initiate computer-vision identification of an object in a surgical image	Asensus Surgical US, Inc.	Pending	US18/119228	

Title	Assignee	Status	Application Number	Publication Number
Robotized surgery system with improved control	Transenterix Italia S.r.l.	Granted	US16/378820	US11224489
Device and method for assisting laparoscopic surgery—rule based approach	Asensus Surgical Europe S.à r.l.	Granted	US16/419802	US11185315
Haptic user interface for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Granted	US16/513670	US11179214
Wristed instrument with shared pitch and yaw axes existing at the jaw pivot	Asensus Surgical US, Inc.	Granted	US16/513710	US11134971
Identification and assignment of instruments in a surgical system using camera recognition	Transenterix Surgical, Inc.	Pending	US16/732303	US20200315740
Articulating surgical instrument	Asensus Surgical US, Inc.	Granted	US16/732306	US11717364
Compact actuation configuration and expandable instrument receiver for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Granted	US16/732307	US11690688

Title	Assignee	Status	Application Number	Publication Number
Instrument adapter for robotic surgical instruments	Asensus Surgical US, Inc.	Pending	US18/442034	
Modular robotic system using integrated card modules and/or high mobility wheels	Transenterix Surgical, Inc.	Pending	US16/732308	US20200205923
Optical data transmission in a wireless power transmitter for a surgical robotic system	Asensus Surgical US, Inc.	Granted	US16/732935	US11523730
Interchangeable input handles for a surgeon console of a robotic surgical system	Asensus Surgical US, Inc.	Granted	US16/732945	US11517381
Dynamic control of surgical instruments in a surgical system using repulsion/attraction modes	Asensus Surgical US, Inc.	Granted	US16/733154	US11607283
Determining relative robot base positions using computer vision	Transenterix Surgical, Inc.	Pending	US16/733200	US20200205911
Device and methods of improving laparoscopic surgery	Asensus Surgical Europe S.à r.l.	Granted	US16/836874	US11877721

Title	Assignee	Status	Application Number	Publication Number
Device and methods of improving laparoscopic surgery	Asensus Surgical Europe S.à r.l.	Pending	US18/420706	
Manual control system for maneuvering an endoscope	Transenterix Europe S.à r.l.	Pending	US16/867423	US20210121048
System and method for modulating tissue retraction force in a surgical robotic system	Transenterix Surgical, Inc.	Pending	US16/920737	US20220000568
Dynamic scaling for a robotic surgical system	Asensus Surgical US, Inc.	Granted	US16/931425	US11751959
Augmented reality using eye tracking in a robot assisted surgical system	Transenterix Surgical, Inc.	Pending	US16/931430	US20210038329
Instrument for selectively grabbing and cutting tissue	Asensus Surgical US, Inc.	Granted	US16/931440	US11471178
Fingers-driven haptic interface for robot-assisted surgical system	Asensus Surgical US, Inc.	Granted	US16/931442	US11751967

Title	Assignee	Status	Application Number	Publication Number
Compact actuation configuration and expandable instrument receiver for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Granted	US16/932654	US11730556
Double eye tracker configuration for a robot-assisted surgical system	Asensus Surgical US, Inc.	Granted	US16/932658	US11850730
Method and apparatus for optimizing range of motion of two robotic arms in a robotic surgical system	Transenterix Surgical, Inc.	Pending	US16/932665	US20210038330
Articulating surgical instrument	Asensus Surgical US, Inc.	Granted	US16/999943	US11628028
Device and method for assisting laparoscopic surgery - rule based approach	Transenterix Europe, S.à r.l.	Pending	US17/002725	US20200383736
Overall endoscopic control system	Transenterix Europe S.à r.l.	Pending	US17/039856	US20210015351
Surgical drape with integral emi shielding	Transenterix Surgical, Inc.	Pending	US17/063941	US20210015578
Electromechanical surgical system	Transenterix Surgical, Inc.	Pending	US17/063974	US20210085304

Title	Assignee	Status	Application Number	Publication Number
Electromechanical surgical system	Transenterix Surgical, Inc.	Pending	US17/064039	US20210093311
Method for displaying relative position information of an endoscope image	Asensus Surgical US, Inc.	Granted	US17/064196	US11298047
Systems and methods of controlling surgical robotic system using eye-tracking	Transenterix Surgical, Inc.	Granted	US17/064222	US11937891
Surgeon interfaces using augmented reality	Transenterix Surgical, Inc.	Pending	US17/064334	US20210121245
Articulating surgical instrument	Asensus Surgical US, Inc.	Granted	US17/064376	US11911125
Articulating surgical instrument	Asensus Surgical US, Inc.	Pending	US18/416772	
Articulating surgical instrument	Asensus Surgical US, Inc.	Pending	US18/434592	
Vocally actuated surgical control system	Asensus Surgical Europe S.à r.l.	Granted	US17/064549	US11561762

Title	Assignee	Status	Application Number	Publication Number
Method and system for depth-based illumination correction	Transenterix Surgical, Inc.	Pending	US17/099757	US20210258507
Method and system for providing surgical site measurement	Transenterix Surgical, Inc.	Pending	US17/099761	US20210256719
User interface for a surgical robotic system	Transenterix Surgical, Inc.	Pending	US17/114467	US20210085406
Dynamic scaling of surgical manipulator motion based on surgeon stress parameters	Transenterix Surgical, Inc.	Pending	US17/137275	US20210137624
Endoscope with wide angle lens and adjustable view	Asensus Surgical Europe S.à r.l.	Granted	US17/190310	US11730347
Augmented reality surgery set-up for robotic surgical procedures	Asensus Surgical US, Inc.	Pending	US17/368747	US20220000558
Providing surgical assistance via automatic tracking and visual feedback during surgery	Asensus Surgical US, Inc.	Pending	US17/368753	US20220000559
Automatic tracking of target treatment sites within patient anatomy	Asensus Surgical US, Inc.	Pending	US17/368756	US20220000578

Title	Assignee	Status	Application Number	Publication Number
Image segmentation with kinematic data in a robotic surgical system	Asensus Surgical US, Inc.	Pending	US17/368757	US20220005199
Camera calibration using measured motion	Asensus Surgical US, Inc.	Pending	US17/368759	US20220005226
Tele-collaboration during robotic surgical procedures	Asensus Surgical US, Inc.	Pending	US17/460128	US20220068506
Articulated structured light based-laparoscope	Asensus Surgical Europe S.à r.l.	Pending (Issue Fee Payment Received)	US17/475198	US20220394161
Articulated structured light based-laparoscope	Asensus Surgical Europe S.à r.l.	Pending	US18/459078	
Fluid actuation of instruments through a sterile barrier	Asensus Surgical US, Inc.	Granted	US17/475262	US11768204
Wristed instrument with shared pitch and yaw axes existing at the jaw pivot	Asensus Surgical US, Inc.	Granted	US17/477502	US11627977

Title	Assignee	Status	Application Number	Publication Number
Method and system for providing real time surgical site measurements	Asensus Surgical US, Inc.	Pending	US17/487646	US20220020166
Method and system for combining computer vision techniques to improve segmentation and classification of a surgical site	Asensus Surgical US, Inc.	Pending	US17/488054	US20220101533
Actuation carriage with integrated measurement for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Pending	US17/495687	US20220104892
Actuation carriage with integrated measurement for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Pending	US18/435145	
Camera calibration using fiducial markers on surgical tools	Asensus Surgical US, Inc.	Pending	US17/495784	US20220108475
Surgical record creation using computer recognition of surgical events	Asensus Surgical US, Inc.	Pending	US17/495792	US20220104887
Use of computer vision to determine anatomical structure paths	Asensus Surgical US, Inc.	Pending	US17/495803	US20220104687

Title	Assignee	Status	Application Number	Publication Number
Method of graphically tagging and recalling identified structures under visualization for robotic surgery	Asensus Surgical US, Inc.	Granted	US17/499822	US11771518
Force based gesture control of a robotic surgical manipulator	Asensus Surgical US, Inc.	Granted	US17/505564	US11872687
Haptic user interface for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Granted	US17/523529	US11547513
Haptic user interface for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Granted	US17/523536	US11540890
Instrument for optical tissue interrogation	Asensus Surgical US, Inc.	Pending	US17/563949	US20220117693
Dynamic control of surgical instruments in a surgical robotic system	Asensus Surgical US, Inc.	Pending	US17/564090	US20220117686
Robotized surgery system with improved control	Asensus Surgical Italia S.r.l.	Granted	US17/566596	US11857278
Dynamic scaling for a robotic surgical system	Asensus Surgical US, Inc.	Pending	US17/566622	US20220117687

Title	Assignee	Status	Application Number	Publication Number
Electromechanical surgical system including linearly driven instrument roll	Asensus Surgical US, Inc.	Pending	US17/566973	US20220117683
Correction of horizon tilt in an endoscopic image	Asensus Surgical US, Inc.	Pending	US17/567084	US20220217286
Generating guidance path overlays on real-time surgical images	Asensus Surgical US, Inc.	Pending	US17/679021	US20220265371
Displaying suture force information in surgery	Asensus Surgical US, Inc.	Pending	US17/679032	US20220265372
Generating suture path guidance overlays on real-time surgical images	Asensus Surgical US, Inc.	Pending	US17/679066	US20220265361
Creating surgical annotations using anatomy identification	Asensus Surgical US, Inc.	Pending	US17/679080	US20220354613
Device and method for assisting laparoscopic surgery - directing and maneuvering articulating tool	Asensus Surgical US, Inc.	Pending	US17/711023	US20220395159
Determining relative robot base positions using externally positioned imagers	Asensus Surgical US, Inc.	Pending	US17/944170	US20230080041

Title	Assignee	Status	Application Number	Publication Number
Method and system for using tool width data to estimate measurements in a surgical site	Asensus Surgical US, Inc.	Pending	US17/955486	US20230190135
Method and apparatus for organ manipulation using a surgical robotic system	Asensus Surgical US, Inc.	Pending	US17/959614	US20230080767
Device and method for assisting laparoscopic surgery utilizing a touch screen	Asensus Surgical Europe S.à r.l	Pending	US17/962440	US20230040952
Instrument for selectively grabbing and cutting tissue	Asensus Surgical US, Inc.	Granted	US17/968614	US11883050
Optical data transmission in a wireless power transmitter for a surgical robotic system	Asensus Surgical US, Inc.	Granted	US17/972464	US11819189
Input handles for a surgeon console of a robotic surgical system	Asensus Surgical US, Inc.	Pending	US17/975722	US20230064250
Dynamic scaling for a robotic surgical system	Asensus Surgical US, Inc.	Granted	US17/566634	US11877817
Dynamic scaling for a robotic surgical system	Asensus Surgical US, Inc.	Pending	US17/977348	US20230050243

Title	Assignee	Status	Application Number	Publication Number
Vocally actuated surgical control system	Asensus Surgical Europe S.à r.l.	Granted	US18/084477	US11886772
Vocally actuated surgical control system	Asensus Surgical Europe S.à r.l.	Pending	US18/427729	
Haptic user interface for robotically controlled surgical instruments	Asensus Surgical US, Inc.	Pending	US18/084502	US20230121745
Systems and methos for monitoring proximity between robotic manipulators	Asensus Surgical US, Inc.	Pending	US18/091282	US20230263574
Detection of surgical table movement for coordinating motion with robotic manipulators	Asensus Surgical US, Inc.	Pending	US18/092191	US20230210606
Use of external cameras in robotic surgical procedures	Asensus Surgical US, Inc.	Pending	US18/092194	US20230404702
Camera calibration with a pattern and camera mounted on a robotic manipulator	Asensus Surgical US, Inc.	Pending	US18/092288	US20230210615

Title	Assignee	Status	Application Number	Publication Number
Light field endoscope with look around capability	Asensus Surgical US, Inc.	Pending	US18/092295	US20230379596
Stereo camera calibration using screen based target projections	Asensus Surgical US, Inc.	Pending	US18/092302	US20230217003
Method of alerting a user to off-screen events during surgery	Transenterix Europe, S.à r.l.	Granted	US18/119259	US11832790
Method of alerting a user to off-screen events during surgery	Transenterix Europe, S.à r.l.	Pending	US18/530103	
Dynamic control of surgical instruments in a surgical robotic system using repulsion/attraction modes	Asensus Surgical US, Inc.	Pending	US18/120274	US20230225814
Surgical site measurement, and camera calibration using fiducial markers on surgical tools	Asensus Surgical US, Inc.	Pending	US18/131805	US20230240558
Expandable instrument actuator	Asensus Surgical US, Inc.	Pending	US18/454043	US20230390016




Title	Assignee	Status	Application Number	Publication Number
Fingers-driven haptic interface for robot-assisted surgical system	Asensus Surgical US, Inc.	Pending	US18/457199	US20230397965
Method of graphically tagging and recalling identified structures under visualization for robotic surgery	Asensus Surgical US, Inc.	Pending	US18/480321	US20240024064
Surgeon input system for a surgical robotic system	Asensus Surgical US, Inc.	Pending	PCT/US24/016576	
Surgeon input system for a surgical robotic system	Asensus Surgical US, Inc.	Pending	US63507440	
Surgeon input tool for a surgical robotic system	Asensus Surgical US, Inc.	Pending	US63507441	
Surgical robotic instrument exchange	Asensus Surgical US, Inc.	Pending	PCT/US24/016579	
Slip ring assemblies for coupling electrosurgical energy to robotically manipulated surgical instruments	Asensus Surgical US, Inc.	Pending	PCT/US24/016582	
Surgical robotic manipulator providing enhanced dexterity across the surgical workspace	Asensus Surgical US, Inc.	Pending	PCT/US24/016567	

Title	Assignee	Status	Application Number	Publication Number
Surgical robotic manipulator providing enhanced dexterity across the surgical workspace	Asensus Surgical US, Inc.	Pending	US18582601	
Creation and use of panoramic views of a surgical site	Asensus Surgical US, Inc.	Pending	US18499189	
Method of encoding, analyzing and providing feedback on the motion and position of handheld laparoscopic instruments	Asensus Surgical US, Inc.	Pending	US18092921	
Guidance of robotically controlled surgical instruments along paths defined with reference to auxiliary instruments	Asensus Surgical US, Inc.	Pending	US16733147	US 20200188044
Digital handle using a bend sensor	Asensus Surgical US, Inc.	Pending	US18582642	
Method and system for providing real time surgical site measurements	Asensus Surgical US, Inc.	Pending	US18436655	
Quick disconnect of a distal surgical robotic arm	Asensus Surgical US, Inc.	Pending	US18582644	

Title	Assignee	Status	Application Number	Publication Number
Simultaneous direct relative measurement and calculated positions of equipment bases	Asensus Surgical US, Inc.	Pending	US18460458	US 20240091942A1

EXHIBIT C

Trademarks

<u>Trademark</u>	<u>Status</u>	<u>Current Owner</u>	<u>Application Number</u>	<u>Registration Number</u>
 S	Registered	ASENSUS SURGICAL US, INC.	App 87171164	Reg 5932353
SENHANCE SENHANCE	Registered	ASENSUS SURGICAL US, INC.	App 86953495	Reg 5788108
 TRANSENERIX Cross References: TRANSCENTRICS	Registered	ASENSUS SURGICAL US, INC.	App 77949175	Reg 3860282
 TRANSENERIX Cross References: TRANSCENTERICS	Registered	ASENSUS SURGICAL US, INC.	App 77949209	Reg 3872639
TRANSENERIX TRANSENERIX Cross References: TRANSENERICS	Registered	ASENSUS SURGICAL US, INC.	App 77668326	Reg 3874143

<u>Trademark</u>	<u>Status</u>	<u>Current Owner</u>	<u>Application Number</u>	<u>Registration Number</u>
PERFORMANCE-GUIDED SURGERY	Abandoned	ASENSUS SURGICAL US, INC.	App 90557751	
INTELLIGENT SURGICAL UNIT	Abandoned	TRANSENTERIX SURGICAL, INC.	App 90021303	
ISU	Abandoned	ASENSUS SURGICAL US, INC.	App 90021295	

EXHIBIT D

Mask Works

None.

D-1