

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7230285

| <b>SUBMISSION TYPE:</b>                                                                                                                                                                                                                                                                                        | CORRECTIVE ASSIGNMENT                                                                                                                                                                                                  |                |                            |                           |              |            |                       |            |                     |       |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|---------------------------|--------------|------------|-----------------------|------------|---------------------|-------|--|
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                                                                                                                                   | Corrective Assignment to correct the SIGNING DATE FOR ASSIGNOR: CARIOU, DAMIAN previously recorded on Reel 059143 Frame 0262. Assignor(s) hereby confirms the SIGNING DATE OF 04/29/2019 FOR ASSIGNOR: CARIOU, DAMIAN. |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                        |                |                            |                           |              |            |                       |            |                     |       |  |
| <table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>SERGII POLTARETSKYI</td><td>04/24/2019</td></tr><tr><td>JEAN CHAOUI</td><td>04/29/2019</td></tr><tr><td>DAMIEN CARIOU</td><td>04/29/2019</td></tr></tbody></table>                                                | Name                                                                                                                                                                                                                   | Execution Date | SERGII POLTARETSKYI        | 04/24/2019                | JEAN CHAOUI  | 04/29/2019 | DAMIEN CARIOU         | 04/29/2019 |                     |       |  |
| Name                                                                                                                                                                                                                                                                                                           | Execution Date                                                                                                                                                                                                         |                |                            |                           |              |            |                       |            |                     |       |  |
| SERGII POLTARETSKYI                                                                                                                                                                                                                                                                                            | 04/24/2019                                                                                                                                                                                                             |                |                            |                           |              |            |                       |            |                     |       |  |
| JEAN CHAOUI                                                                                                                                                                                                                                                                                                    | 04/29/2019                                                                                                                                                                                                             |                |                            |                           |              |            |                       |            |                     |       |  |
| DAMIEN CARIOU                                                                                                                                                                                                                                                                                                  | 04/29/2019                                                                                                                                                                                                             |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                        |                |                            |                           |              |            |                       |            |                     |       |  |
| <table border="1"><tr><td><b>Name:</b></td><td>IMASCAP SAS</td></tr><tr><td><b>Street Address:</b></td><td>65 PLACE NICOLAS COPERNIC</td></tr><tr><td><b>City:</b></td><td>PLOUZANÉ</td></tr><tr><td><b>State/Country:</b></td><td>FRANCE</td></tr><tr><td><b>Postal Code:</b></td><td>29280</td></tr></table> | <b>Name:</b>                                                                                                                                                                                                           | IMASCAP SAS    | <b>Street Address:</b>     | 65 PLACE NICOLAS COPERNIC | <b>City:</b> | PLOUZANÉ   | <b>State/Country:</b> | FRANCE     | <b>Postal Code:</b> | 29280 |  |
| <b>Name:</b>                                                                                                                                                                                                                                                                                                   | IMASCAP SAS                                                                                                                                                                                                            |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Street Address:</b>                                                                                                                                                                                                                                                                                         | 65 PLACE NICOLAS COPERNIC                                                                                                                                                                                              |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>City:</b>                                                                                                                                                                                                                                                                                                   | PLOUZANÉ                                                                                                                                                                                                               |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>State/Country:</b>                                                                                                                                                                                                                                                                                          | FRANCE                                                                                                                                                                                                                 |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Postal Code:</b>                                                                                                                                                                                                                                                                                            | 29280                                                                                                                                                                                                                  |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |                |                            |                           |              |            |                       |            |                     |       |  |
| <table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td><b>Application Number:</b></td><td>17117654</td></tr></tbody></table>                                                                                                                                            | Property Type                                                                                                                                                                                                          | Number         | <b>Application Number:</b> | 17117654                  |              |            |                       |            |                     |       |  |
| Property Type                                                                                                                                                                                                                                                                                                  | Number                                                                                                                                                                                                                 |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Application Number:</b>                                                                                                                                                                                                                                                                                     | 17117654                                                                                                                                                                                                               |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                        |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Fax Number:</b>                                                                                                                                                                                                                                                                                             | (651)735-1102                                                                                                                                                                                                          |                |                            |                           |              |            |                       |            |                     |       |  |
| <i>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.</i>                                                                                                                |                                                                                                                                                                                                                        |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Phone:</b>                                                                                                                                                                                                                                                                                                  | 651-735-1100                                                                                                                                                                                                           |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Email:</b>                                                                                                                                                                                                                                                                                                  | pairedocketing@ssiplaw.com                                                                                                                                                                                             |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Correspondent Name:</b>                                                                                                                                                                                                                                                                                     | SHUMAKER & SIEFFERT, P.A.                                                                                                                                                                                              |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Address Line 1:</b>                                                                                                                                                                                                                                                                                         | 1625 RADIO DRIVE, SUITE 100                                                                                                                                                                                            |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Address Line 4:</b>                                                                                                                                                                                                                                                                                         | WOODBURY, MINNESOTA 55125                                                                                                                                                                                              |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                                                                                                                                 | 1262-010US01                                                                                                                                                                                                           |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                                                                                                                                      | SHIRLEY A. BETLACH                                                                                                                                                                                                     |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>SIGNATURE:</b>                                                                                                                                                                                                                                                                                              | /Shirley A. Betlach/                                                                                                                                                                                                   |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>DATE SIGNED:</b>                                                                                                                                                                                                                                                                                            | 03/17/2022                                                                                                                                                                                                             |                |                            |                           |              |            |                       |            |                     |       |  |
| <b>Total Attachments: 8</b>                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                        |                |                            |                           |              |            |                       |            |                     |       |  |
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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7180271

|                                                                                                                                                                                                 |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT              |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | ASSIGNMENT                  |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                             |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>       |
| SERGII POLTARETSKYI                                                                                                                                                                             | 04/24/2019                  |
| JEAN CHAOUI                                                                                                                                                                                     | 04/24/2019                  |
| DAMIEN CARIOU                                                                                                                                                                                   | 04/29/2019 04/24/2019       |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                             |
| <b>Name:</b>                                                                                                                                                                                    | IMASCAP SAS                 |
| <b>Street Address:</b>                                                                                                                                                                          | 65 PLACE NICOLAS COPERNIC   |
| <b>City:</b>                                                                                                                                                                                    | PLOUZANE                    |
| <b>State/Country:</b>                                                                                                                                                                           | FRANCE                      |
| <b>Postal Code:</b>                                                                                                                                                                             | 29280                       |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                             |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>               |
| <b>Application Number:</b>                                                                                                                                                                      | 17117654                    |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                             |
| <b>Fax Number:</b>                                                                                                                                                                              | (651)735-1102               |
| <i>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.</i> |                             |
| <b>Phone:</b>                                                                                                                                                                                   | 6517351100                  |
| <b>Email:</b>                                                                                                                                                                                   | pairedocketing@ssiiplaw.com |
| <b>Correspondent Name:</b>                                                                                                                                                                      | SHUMAKER & SIEFFERT, P.A.   |
| <b>Address Line 1:</b>                                                                                                                                                                          | 1625 RADIO DRIVE            |
| <b>Address Line 2:</b>                                                                                                                                                                          | SUITE 100                   |
| <b>Address Line 4:</b>                                                                                                                                                                          | WOODBURY, MINNESOTA 55125   |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                  | 1262-010US01                |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | JACLYN M. SKIBA             |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /Jaclyn M. Skiba/           |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 02/16/2022                  |
| <b>Total Attachments: 5</b>                                                                                                                                                                     |                             |
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### CONFIRMATORY ASSIGNMENT

This Confirmatory Assignment is made by and between:

**Sergii Poltaretskyi**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Plougonvelin, France,

**Jean Chaoui**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Locmaria Plouzané, France,

**Damien Cariou**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Loperhet, France,

**Yannick Morvan**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Saint Renan, France,

**Vincent Abel Maurice Simoes**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Locmaria Plouzané, France,

**Manuel Jean-Marie Urvoy**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Brest, France,

**Florence Delphine Muriel Maillé**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Locmaria Plouzané, France,  
and

**Marie-Charlotte Desseroit**, a citizen of France, having a mailing address at 65 Place Nicolas Copernic, 29280 Plouzané, France, and a resident of Brest, France (the "Inventors")

AND

**IMASCAP SAS**, a French corporation, having a place of business at 65 Place Nicolas Copernic, 29280 Plouzané, France (the "Assignee").

WHEREAS, **Sergii Poltaretskyi**, **Jean Chaoui**, **Damien Cariou**, **Yannick Morvan**, **Vincent Abel Maurice Simoes**, **Manuel Jean-Marie Urvoy**, **Florence Delphine Muriel Maillé**, and **Marie-Charlotte Desseroit**, as employees of **IMASCAP SAS**, have made inventions in the course of their invention mission for which the following U.S. provisional applications have been filed:

1262-002USP3

U.S. provisional application no. 62/778,774, filed December 12, 2018, entitled MIXED-REALITY ENHANCED SURGICAL PLANNING SYSTEM (Attorney Docket No. 1262-002USP3),

U.S. provisional application no. 62/778,789, filed December 12, 2018, entitled AUTOMATED INSTRUMENT OR COMPONENT ASSISTANCE IN ORTHOPEDIC SURGICAL PROCEDURES (1262-003USP1),

U.S. provisional application no. 62/778,764, filed December 12, 2018, entitled VIRTUAL CHECKLISTS FOR ORTHOPEDIC SURGERY (1262-007USP1),

U.S. provisional application no. 62/778,797, filed December 12, 2018, entitled VIRTUAL GUIDANCE FOR ORTHOPEDIC SURGICAL PROCEDURES (1262-008USP1),

U.S. provisional application no. 62/778,778, filed December 12, 2018, entitled MULTI-USER COLLABORATION AND WORKFLOW TECHNIQUES FOR ORTHOPEDIC SURGICAL PROCEDURES USING MIXED REALITY (1262-009USP1),

U.S. provisional application no. 62/778,788, filed December 12, 2018, entitled EXTENDED REALITY VISUALIZATION OF RANGE OF MOTION (1262-011USP1),

U.S. provisional application no. 62/778,760, filed December 12, 2018, entitled DEEP NEURAL NETWORK FOR DIAGNOSIS OF SHOULDER CONDITION (1262-012USP1),

U.S. provisional application no. 62/778,772, filed December 12, 2018, entitled DEEP NEURAL NETWORK FOR RECOMMENDATION OF SHOULDER SURGERY TYPE (1262-013USP1),

U.S. provisional application no. 62/778,796, filed December 12, 2018, entitled CLOSED-LOOP TOOL CONTROL FOR ORTHOPEDIC SURGICAL PROCEDURES (1262-016USP1),

U.S. provisional application no. 62/778,782, filed December 12, 2018, entitled MIXED REALITY-AIDED DEPTH TRACKING IN ORTHOPEDIC SURGICAL PROCEDURES (1262-020USP1),

U.S. provisional application no. 62/778,791, filed December 12, 2018, entitled VISUALIZATION OF INTRAOPERATIVELY MODIFIED SURGICAL PLANS (1262-035USP1),

U.S. provisional application no. 62/804,392, filed February 12, 2019, entitled MIXED REALITY-AIDED EDUCATION RELATED TO ORTHOPEDIC SURGICAL PROCEDURES

1262-002USP3

(1262-010USP1),

U.S. provisional application no. 62/804,402, filed February 12, 2019, entitled MIXED-  
REALITY SURGICAL SYSTEM WITH PHYSICAL MARKERS FOR REGISTRATION OF  
VIRTUAL MODELS (1262-025USP1), and

U.S. provisional application no. 62/804,383, filed February 12, 2019, entitled  
COMPUTING TECHNIQUES FOR PLANNING, GUIDANCE, ANALYSIS, MONITORING,  
REPORTING AND/OR EDUCATION FOR ORTHOPEDIC SURGICAL PROCEDURES  
(1262-041USP1).

WHEREAS, by effect of Article L.611-7 of the French IP Code, the rights to these inventions  
made during the effective inventive mission of the Inventors belong to the Assignee, their  
employer.

WHEREAS, the Inventors and the Assignee desire to confirm the transfer to the Assignee of the  
entire right, title and interest throughout the world in and to the inventions, including the entire  
right, title and interest in and to all U.S. and foreign applications filed for the inventions, and in  
and to all U.S. or foreign patents granted for the inventions.

NOW, THEREFORE, due to their effective inventive mission as employees of the Assignee and  
by effect of French law, the Inventors have sold, assigned, conveyed and transferred and hereby  
do sell, assign, convey and transfer to Assignee, and its successors, legal representatives, and  
assigns, the entire right, title and interest throughout the world in and to the inventions, including  
the entire right, title and interest in and to all applications that have been filed or may be filed for  
the inventions in the U.S. or in any foreign country, countries or organizations, including the  
above-identified U.S. provisional applications and all U.S. or foreign applications claiming  
benefit or priority to the above-identified U.S. provisional applications, and including any other  
provisional applications, non-provisional applications, continuation applications, continuation-  
in-part applications, divisional applications, reissue applications, reexamination applications,  
renewal applications, extension applications, or design applications for any of the inventions, in  
and to all U.S. patents, foreign patents, utility models, design registrations, inventor's certificates  
and other like rights of exclusion granted for the inventions, including all patents granted on any

of the foregoing applications in the U.S. or any foreign country, countries, or organizations, and further including all rights of priority in the inventions and the foregoing applications under international conventions, treaties, laws or agreements, including the right to file any of the foregoing applications and the right to claim priority based on any of the foregoing applications under the International Convention for the Protection of Industrial Property, or any other conventions, treaties, laws or agreements of like purposes, to be held and enjoyed by Assignee and its successors, legal representatives, and assigns, for its own use and benefit and use and benefit of its successors, legal representatives, and assigns, to the full end of the term for which any of the U.S. patents, foreign patents, utility models, design registrations, inventor's certificates or other rights of exclusion are granted.

AND, the Inventors do hereby authorize and request the Commissioner of Patents of the U.S., and any official of any country, countries or organizations foreign to the U.S., having an applicable duty, to issue all patents, utility models, design registrations, inventor's certificates and other like rights of exclusion granted for the inventions to the Assignee, its successors, legal representatives, and assigns as the assignee of the entire, right, title and interest therein.

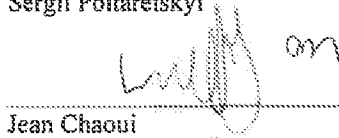
AND, the Inventors do hereby authorize the Assignee to apply in all countries in their names or in its own name for U.S. patents, foreign patents, utility models, design registrations, inventor's certificates and like rights of exclusion for the inventions, and the Inventors agree for themselves and their respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment.

AND the Inventors and Assignee desire that this Confirmatory Assignment be governed by French law.

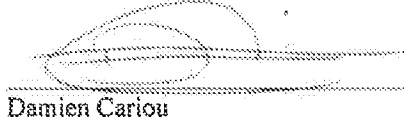
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Sergii Poltaretskyi

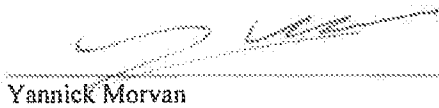
Date: 29/04/2019

  
Jean Chaoui

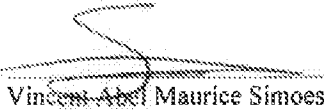
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Damien Cariou

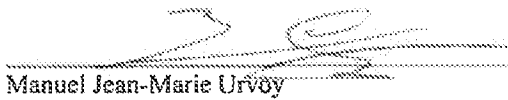
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Yannick Morvan

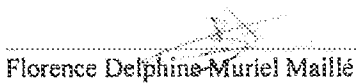
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Vincent Abel Maurice Simoes

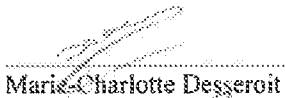
Date: 26/04/2019

  
Manuel Jean-Marie Urvoy

Date: 26/04/2019

  
Florence Delphine-Muriel Maillé

Date: 26/04/2019

  
Marie-Charlotte Desseroit

Date: May 7, 2019

  
On behalf of IMASCAP SAS  
James A. Lightman  
Managing Director