PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------------|----------------|
| Marco J.J. WIELAND | 12/02/2010 |
| Remco JAGER | 12/02/2010 |
| Alexander H.V. VAN VEEN | 11/30/2010 |
| Stijn W.H.K. STEENBRINK | 04/29/2010 |

RECEIVING PARTY DATA

| Name: | MAPPER LITHOGRAPHY IP B.V. | |
|-----------------|----------------------------|--|
| Street Address: | Computerlaan 15 | |
| City: | Delft | |
| State/Country: | NETHERLANDS | |
| Postal Code: | 2628 XK | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12911911 |

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: 03147.0046.USN0

NAME OF SUBMITTER: David P. Owen

Total Attachments: 7

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PATENT REEL: 026663 FRAME: 0036 40.00 129119

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> PATENT REEL: 026663 FRAME: 0037

Patent

Docket Number: 03147.0046.00PC00

Client Reference: M51

ASSIGNMENT BETWEEN:

WIELAND, Marco Jan-Jaco Boeroestraat 23 2612 GD DELFT The Netherlands

and

JAGER, Remco Wijnbrugstraat 239 3011 XW ROTTERDAM The Netherlands

and

VAN VEEN, Alexander Hendrik Vincent Stadhoudersplein 27c 3039 ER ROTTERDAM The Netherlands

and

STEENBRINK, Stijn Willem Herman Karel Gerard Reijnstraat 14 2593 EC DEN HAAG The Netherlands

("the Assignor(s)")

and:

MAPPER LITHOGRAPHY IP B.V. Computerlaan 15 2628 XK DELFT The Netherlands

("the Assignee(s)")

Initials Assignor(

Initial Assignees(s)_

- 1 --

Claren MW by

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PATENT REEL: 026663 FRAME: 0038 Docket Number: 03147.0046.00PC00

Client Reference: M51

WHEREAS:-

(A) The Assignor(s) is/are the inventor(s) of the Invention(s) known as CHARGED PARTICLE MULTI-BEAMLET LITHOGRAPHY SYSTEM WITH MODULATION DEVICE for which patent protection has been applied for in the form of the patent application(s) listed in the schedule below.

- The Assignor(s) agreed to assign to the Assignee(s) all right, title and interest in the Invention(s) and in any and all applications filed thereon, throughout the world and in particular in the United States of America (as defined in 35 U.S.C. § 100) and any territories indicated in the schedule below, including the right to apply for the grant of patents together with the right to apply for the grant of any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) arising from the Invention(s), the right to claim convention priority, the right to be granted patents along with extensions and renewals thereof and the right to enforce any patent(s) granted for the Invention(s) to the full end of the term(s) for which such patent(s) issue, including all claims, if any, that may have arisen for infringement prior to the date of assignment, such entire right, title and interest to be held and enjoyed by the Assignee to the same extent as they would have been held and enjoyed by the Assignor(s) had the assignment and sale not been made.
- **(C)** The Assignor(s) further agreed to assign any copyright, design right, know how, or other intellectual properties associated with the Invention(s) to the Assignee(s).

NOW THEREFORE, in consideration of the good and valuable sum of EURO 1.00 and other good and valuable consideration paid by the Assignee(s) to the Assignor(s), the receipt of which is hereby acknowledged, the Assignor(s) hereby confirms/confirm effective of 26 October 2009 to have sold, assigned, and transferred, and to the extent not already done so, do hereby sell, assign, and transfer, all of the rights set out under (B) and (C) above to the Assignee(s).

The Assignor(s) agrees/agree to promptly take any action, including the execution of any papers and the provision of any evidence, required by the Assignce(s) or its/their agent(s) to further the grant of any patent application(s) associated with the Invention(s) and any continuing (continuation, divisional, or continuation-in-part), reissue, re-examination or corresponding application(s) filed therefrom, and the subsequent maintenance and enforcement of any patent(s) granted on such application(s), and to execute separate assignment(s) in connection with such application(s) as the Assignee(s) may deem necessary or expedient.

The Assignor(s) agrees/agree to execute all papers necessary in connection with any interference proceedings that may be declared in the United States of America concerning any patent application(s), patent(s) or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) associated therewith, and to cooperate with the Assignee(s) in every way possible in obtaining evidence and going forward with such interference.

The Assignor(s) agrees/agree to promptly take any action, including the execution of any papers, required by the Assignee(s) or its/their agent(s) in order to record this assignment document in any national/regional/international intellectual property register throughout the world.

The Assignor(s) hereby represents/represent that at the time of conveyance he/she/they had the full right to convey the entire right, title and interest so assigned, and that the undersigned has not executed and will not execute, any agreement in conflict herewith.

Initials Assignor(s) W U - 2
Initial Assignces(s)

Patent

Docket Number: 03147.0046.00PC00

Client Reference: M51

Patent

It is hereby agreed that the terms of this assignment shall be interpreted under the laws of **The Netherlands** and disputes arising under this agreement shall be adjudicated before the courts in **The Netherlands**

The undersigned hereby grants David P. Owen, USPTO Reg. No. 43,344; Michael J. Bell, USPTO Reg. No. 39,604; Derek J. Jardieu, USPTO Reg. No. 44,483; Robert C. Laurenson, USPTO Reg. No. 34,206; Coraline J. Haitjema, USPTO Reg No. 63,192; Wilbert H. P. Derks EPO Reg No. 100038986; Matthew J. Hampton EPO Reg No. 100051409; Jeroen H. J. Den Hartog EPO Reg No. 100059970; Christopher J. Pierce EP Reg No. 09218580; Maarten Mooij EP Reg No. 09226770; each an attorney or agent with the law firm of Howrey LLP, power to insert in this Assignment any further identification that may be necessary or desirable in order to comply with the rules for recordation of this document, in particular in the United States Patent and Trademark Office.

SCHEDULE

| Country | Application No. | Filing Date |
|---|-------------------|-------------|
| United States of America | US 61/254,779 | 2009.10.26 |
| PCT (including all designated/elected states and regions) | PCT/EP2010/066199 | 2010.10.26 |
| United States of America | US 12/911,911 | 2010.10.26 |
| The Netherlands | 200584 | 2010.10.26 |

IN WITNESS WHEREOF, executed by the undersigned on the date(s) opposite their name(s).

Darles Muy -3-

| SIGNATURE OF ASSIGNEE: MILLOWAL | Date: 2 dec 2010 | _(dd.mm.yyyy) |
|---|-------------------------|---|
| МАРРЕR LITHOGRAPHY IP В. | V. | |
| | | |
| | | |
| STATEMENT OF WITNESS: | | |
| Signed at <u>Pelft</u> (city) <u>//ether/nnd/s</u> (country) | | |
| on 2 (day) de cember (month) 2010 (year) | | |
| I, Cohny Sturm whose full re | sidence address is | |
| LAGA UPA WATERINGSE VELD 1142, 2540 CT | OEH HANGAS | |
| personally present and did see the person named above, Marco Wi | eland, | |
| execute the above assignment on 2 (day) de and (month) 2 | <u>3 (0</u> (year), and | |
| such assignor is personally known to me to be the person described in this as | signment. | . The same of the |
| Signature of Witness | unn | — ************************************ |
| | | |

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Initial Assignees(s)

Docket Number: 03147.0046.00PC00 **Patent**

Client Reference: M51

IN WITNESS WHEREOF, executed by the undersigned on the date(s) opposite their name(s).

: 1 V W Well Date: 2 dec 26(1) (dd.mm.yyyy)

Marco Jan-Jaco WIELAND SIGNATURE OF ASSIGNOR:

| STATEMENT OF WITNESS: |
|---|
| Signed at Delft (city) Netherlands (country) |
| on 2 (day) de Cember (month) 2010 (year) |
| I, Conon Sorm whose full residence address is |
| LAM UPO WATERINGSC VEID 1142,2540 CT OENHAMS |
| personally present and did see the person named above, MACCO Wieland, |
| execute the above assignment on <u>2</u> (day) <u>de ambr</u> (month) <u>2010</u> (year), and |
| such assignor is personally known to me to be the person described in this assignment. |
| Ch (hop) |
| Signature of Witness |

Docket Number: 03147.0046.00PC00 Patent

Client Reference: M51

IN WITNESS WHEREOF, executed by the undersigned on the date(s) opposite their name(s).

SIGNATURE OF ASSIGNOR:

Date: 2-12-2010 (dd.mm.yyyy)

STATEMENT OF WITNESS:

Signed at **Celft** (city) **IletherlandS** (country)

on 2 (day) deamber (month) 2016 (year)

whose full residence address is

personally present and did see the person named above, Merico Jager

execute the above assignment on 2 (day) Necember (month) 2610(year), and

such assignor is personally known to me to be the person described in this assignment.

Signature of Witness

Docket Number: 03147.0046.00PC00 Patent

Client Reference: M51

IN WITNESS WHEREOF, executed by the undersigned on the date(s) opposite their name(s).

SIGNATURE OF ASSIGNOR: Date: 30/11/200 (dd.mm.yyyy)

Alexander Hendrik Vincent VAN VEEN

Signature of Witness

- 6 -

Docket Number: 03147.0046.00PC00

Client Reference: M51

Patent

IN WITNESS WHEREOF, executed by the undersigned on the date(s) opposite their name(s).

STATEMENT OF WITNESS:

personally present and did see the person named above, Stip Steenth

execute the above assignment on 24 (day) november (month)2010 (year), and such assignor is personally known to me to be the person described in this assignment.