PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT2962131

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ASM LASER SEPARATION INTERNATIONAL (ALSI) B.V.	03/05/2014

RECEIVING PARTY DATA

Name:	ASM TECHNOLOGY SINGAPORE PTE. LTD.
Street Address:	2 YISHUN AVENUE 7
City:	SINGAPORE
State/Country:	SINGAPORE
Postal Code:	768924

PROPERTY NUMBERS Total: 1

Property Type	Number
Patent Number:	5922224

CORRESPONDENCE DATA

Fax Number: (703)770-7901

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: 7037707900
Email: dexter.forbes@pillsburylaw.com
Correspondent Name: PILLSBURY WINTHROP SHAW PITTMAN LLP
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ATTORNEY DOCKET NUMBER:	026734-0433302
NAME OF SUBMITTER:	DEXTER FORBES
SIGNATURE:	/Dexter Forbes/
DATE SIGNED:	07/31/2014

Total Attachments: 8
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THIS DEED OF ASSIGNMENT ("**Deed**") is entered into as of **5th March 2014,**

BETWEEN:

(1) **ASM Laser Separation International (ALSI) B.V.**, a private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated under the laws of the Netherlands having its corporate seat in Amsterdam, the Netherlands, its registered office at Prins Bernardplein 200, 1097 JB Amsterdam, the Netherlands and registered with the Trade Register of the Chamber of Commerce under number 59991909 (the "**Assignor**"); and

(2) **ASM Technology Singapore Pte. Ltd.**, a private company with limited liability incorporated under the laws of the Republic of Singapore having its corporate seat in Singapore, its registered office at 2 Yishun Avenue 7, Singapore 768924 (the "**Assignee**"),

The parties to this Deed are hereinafter collectively referred to as the "**Parties**" and individually as a "**Party**".

RECITALS:

(1) The Assignor, having acquired certain assets of Advanced Laser Separation International (ALSI) N.V. in liquidation, including, without limitation, the patents and patent applications identified and set forth in the schedules attached hereto (all such patents and patent applications collectively the "**Patents**") by means of a Deed of Assignment of an asset purchase agreement, dated 12 February 2014; and

(2) The Assignor has agreed to assign to Assignee, and Assignee has agreed to acquire the said Patents.

IT IS AGREED as follows:

1. THE PATENT ASSIGNMENT

1.1. The Assignor hereby assigns, transfers and delivers to the Assignee and the Assignee hereby accepts the assignment, transfer and delivery of, all right, title and interest in, to and under the Patents for the full term or terms for which they may be granted, together with:

(a) all non-provisionals, divisionals, continuations, continuations in part, substitutes, extensions, renewals, reissues, re-examinations, other applications and related cases (in each instance, whether pending, issued, abandoned or filed in the future) that have been or shall be filed anywhere in the world and that are based upon and claim priority to any of the Patents ("**Related Cases**");

(b) any inventions and improvements claimed or disclosed in any of the Patents or Related Cases, and any and all letters patent, certificates of invention, design registrations and utility models which may be granted therefor; and

(c) all causes of action, enforcement rights, infringement, misappropriation or other claims and all other rights (including all rights to pursue damages, injunctive relief and other remedies for past, present and future infringement) based upon, arising

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out of or relating to any of the Patents or Related Cases

(the "**Patent Assignment**").

1.2. The Patent Assignment includes, for the avoidance of doubt and without limitation, (i) the right to register or apply in all countries and regions in the Assignee's name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; (ii) the right to apply for, prosecute, maintain and defend the Patents and Related Cases (including the right to continue any such action underway and to revive any such action previously abandoned) before any public or private agency, office or registrar including by filing reissues, re-examinations, divisions, continuations, continuations-in-part, substitutes, extensions and all other applications included in the Patents and Related Cases; and (iii) the right, if any, to claim priority based on the filing dates of any of the Patents or Related Cases under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, the Paris Convention, and all other treaties of like purpose.

1.3. The Assignor hereby covenants that no assignment, sale, agreement or encumbrance will be made or entered into which would conflict with this assignment and, to the best knowledge of the Assignor (which includes any knowledge of any person that was a director of or employed by the Assignor immediately before the Assignor was declared bankrupt, and assumes due and careful enquiry of such persons) no such assignment, sale, agreement or encumbrance has been made or entered into.

2. PURCHASE PRICE

The purchase price for the said Patents is
Euros).

3. FURTHER ASSURANCES

The Assignor shall, at Assignee's cost and expense, take all actions and execute and deliver such other documents that Assignee may reasonably request to effect the terms of this Assignment and to perfect Assignee's title in, to and under the Patents and the Related Cases, including, without limitation, entering into individual patent assignment agreements for the purposes of evidencing and recording Assignee's rights in the Patents and the Related Cases and filing such assignment agreements at national and regional patent registration offices.

4. RECORDATION

The Parties agree that Assignee may record this Deed with the relevant patent registration offices.

5. MISCELLANEOUS

5.1. This Deed may be executed in any number of counterparts.

5.2. The invalidity or unenforceability of any provision of this Deed shall not affect the validity or enforceability of any other provision of this Deed. Any such invalid or unenforceable provision shall be replaced or be deemed to be replaced with a provision that is valid and enforceable and reflects as closely as possible the intent of the invalid or unenforceable provision

5.3. This Deed and all agreements resulting therefrom are governed by the laws of the Netherlands.

5.4. The competent court in Amsterdam, the Netherlands, shall have exclusive jurisdiction to settle any dispute in connection with this Deed, or any agreements resulting therefrom, without prejudice to the right of appeal, including an appeal to the Supreme Court.

[*signature page follows*]

THUS AGREED AND SIGNED ON THE DATE FIRST WRITTEN ABOVE,

ASM Laser Separation International (ALSI) B.V.

By: R. Boulanger
Title: jointly authorized director

ASM Laser Separation International (ALSI) B.V.

By: R. Ng
Title: jointly authorized director

ASM Technology Singapore Pte. Ltd.

By: Lee Wai Kwong
Title: Managing Director

SCHEDULE A – PATENTS GRANTED

Title	Country	Application number	Patent number	Status	Priority date	Filing date	Grant date
Laser separation of semiconductor elements formed in a wafer of semiconductor material P-001.EP Basis octrooi EP	European Patent Office	97900077.5	2203/0820640	Granted	09/02/96	17/01/97	17/06/11
Laser separation of semiconductor elements formed in a wafer of semiconductor material P-001.EP Basis octrooi US	United States of America	08/795,717	5,922,224	Granted	09/02/96	04/02/97	13/07/99
Laser separation of semiconductor elements formed in a wafer of semiconductor material P-001.EP Basis octrooi KR	Korea (South)	97-707125	479962	Granted	09/02/96	17/01/97	22/03/05
Laser separation of semiconductor elements formed in a wafer of semiconductor material P-001. TW Basis octrooi TW	Taiwan	86101263	NI-094043	Granted	04/02/97	04/02/97	01/05/98
P-006.EP 'multi lance dicing'- EP	European Patent Office	5077493.4	1779961	Granted	31/10/05	31/10/05	15/06/11
P-006.EP 'multi lance dicing'- USA	United States of America	11/554,380	US7,947,920	Granted	31/10/05	31/10/05	24/05/11
P-006.EP 'multi lance dicing'- EP	European Patent Office	10185261.4	EP 2260967A2	Granted	31/10/05	31/10/05	05/09/13
P-006.EP2 'multi lane dicing'- DE	Germany	237470	2260967	Granted	31/10/05	2/10/2013	10/10/2013
P-007.US 'Recast layer etching'	United States of America	11/286,432	7,682,937	Granted	25/11/05	25/11/05	23/03/10

SCHEDULE B1 PATENTS PENDING

Title	Country	Application number	Patent number	Status	Priority date	Filing date
Laser separation of semiconductor elements formed in a wafer of semiconductor material P-001.MY Basic octrooi MY	Malaysia	PI9700474	-	Pending, status unclear	09/2/96	06/02/97
Method and apparatus for scribing a substantially semiconductor substrate with on-the-fly control of scribing alignment P-009.SG	Singapore	201300660-6	-	Pending, published in the USA	2/18/2012	1/28/2013
Method and apparatus for scribing a substantially semiconductor substrate with on-the-fly control of scribing alignment P-009.TW	Taiwan	102105404	-	Pending, published in the USA	2/18/2012	2/8/2013
Method and apparatus for scribing a substantially semiconductor substrate with on-the-fly control of scribing alignment P-009.KR	Korea	2013-0015930	-	Pending, published in the USA	2/18/2012	2/14/2013
Method and apparatus for scribing a substantially semiconductor substrate with on-the-fly control of scribing alignment P-009.US	United States of America	13/764406	-	Pending, published in the USA	2/18/2012	2/11/2013
Method of singulating a thin semiconductor wafer P-010.SG	Singapore	201301447-7	-	Pending, published in the USA	3/16/2012	2/26/2013
Method of singulating a thin semiconductor wafer P-010.US	United States of America	13/796,384	-	Pending, published in the USA	3/16/2012	12/03/2013

SCHEDULE B2 PATENTS PENDING

Title	Country	Application number	Patent number	Status	Priority date	Filing date
Beam alignment fiducial P-011.TW	Taiwan	Not yet known	-	Pending, but not yet published	25/02/2013	21/2/2014
Beam alignment fiducial P-011.KR	Korea (South)	2014-0020706	-	Pending, but not yet published	25/02/2013	12/2/2014
Multi-beam grooving P-012.TW	Taiwan	103102518	-	Pending, but not yet published	05/14/2013	23/2/2014
Multi-beam grooving P-012.KR	Korea (South)	2014-0009232	-	Pending, but not yet published	05/14/2013	24/1/2014
Multi-beam grooving P-012.US	United States of America	14/165029	-	Pending, but not yet published	05/14/2013	27/2/2014

SCHEDULE C PROVISIONAL PATENTS

Title	Country	Application number	Patent number	Status	Priority date	Remark
Method and apparatus for scribing a substantially planar substrate (schokgolven) P-008.EPP	European Patent Office	EP13196760.6 (this is the European number assigned to the provisional filing, however it is not publicly published and cannot be found by any third parties)	-	Provisional filing, valid until 12/11/2014	12/11/2013	Refiled as provisional for 3rd time. First priority date 11/18/2011, then refiled in 2012 and 2013.
P-009.EPP	European Patent Office	EP12001095.4 (this is the European number assigned to the provisional filing, however it is not publicly published and cannot be found by any third parties)	-	Provisional filing has expired but was followed up by regular patent filing (see schedule B1)	2/18/2012	
Method of singulating a thin semiconductor wafer P-010.EPP	European Patent Office	EP12001831.2 (this is the European number assigned to the provisional filing, however it is not publicly published and cannot be found by any third parties)	-	Provisional has expired, but was followed up by regular patent filing (see schedule B1)	3/16/2012	
Multi-beam grooving p-012.EPP	European Patent Office	EP13167717.1 (this is the European number assigned to the provisional filing, however it is not publicly published and cannot be found by any third parties)	-	Provisional filing still valid until 5/12/2014. Has already been followed-up by regular patent filing (see schedule B2)	5/14/2013	Company can decide to pursue regular patent filing in other countries until 5/12/2014
Adjustable spatial filter for laser scribing apparatus P-013.EPP	European Patent Office	EP 13189003.0 (this is the European number assigned to the provisional filing, however it is not publicly published and cannot be found by any third parties)	-	Provisional filing, valid until 16/10/2014	16/10/2013	