OMB No. 0651-0027 (exp. 6/30/2008)	- 12 - 2006  U.S. DEPARTMENT OF COMMI
RE	
To the Director of the U.S. Patent and Trauemank Onice: Pie	3157067 ase record the attached documents or the new address(es) bel
1. Name of conveying party(ies)	2. Name and address of receiving party(ies)
ENI Technology, Inc. 100 Highpower Road	Name:
Rochester, NY 14623-3498	Internal Address: MKS Instruments, Inc.
Additional name(s) of conveying party(ies) attached? Yes	
3. Nature of conveyance/Execution Date(s):	Street Address: 90 Industrial Way
Execution Date(s) December 31, 2005	_
Assignment ✓ Merger	City: Wilmington
Security Agreement Change of Name	Oity. William groun
Joint Research Agreement	State: Massachusetts
Government Interest Assignment	Country: US Zip:01887-4610
Executive Order 9424, Confirmatory License	
Other	Additional name(s) & address(es) attached? Yes
4. Application or patent number(s):	is document is being filed together with a new appli
A. Patent Application No.(s)	B. Patent No.(s)
	See Schedule A
Additional numbers	attached? ✓ Yes No
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 24
Name: Lawrence G. Kurland	7. Total fee (37 CFR 1.21(h) & 3.41) \$ 960.00
Internal Address: BRYAN CAVE LLP	Authorized to be charged by credit card
mornary toda osos.	Authorized to be charged to deposit accour
Charact Address 4000 Avenue of the America	1 <b>=</b>
Street Address: 1290 Avenue of the Americas	_
	1 <b>=</b>
City: New York	Enclosed  None required (government interest not affect
	Enclosed None required (government interest not affect  8. Payment Information
City: New York	Enclosed None required (government interest not affect  8. Payment Information  a. Credit Card Last 4 Numbers
City: New York State: NY Zip: 10104	Enclosed     None required (government interest not affect      Repayment Information     a. Credit Card Last 4 Numbers     Expiration Date      b. Deposit Account Number 02-4467
City:         New York           State:         NY           Zip:         10104           Phone Number:         212-541-2000	Enclosed     None required (government interest not affect      8. Payment Information     a. Credit Card Last 4 Numbers     Expiration Date
City: New York  State: NY Zip: 10104  Phone Number: 212-541-2000  Fax Number: 212-541-4630  Email Address:	Enclosed     None required (government interest not affect      Repayment Information     a. Credit Card Last 4 Numbers     Expiration Date      b. Deposit Account Number 02-4467
City: New York  State: NY Zip: 10104  Phone Number: 212-541-2000  Fax Number: 212-541-4630  Email Address:	None required (government interest not affect      None required (government interest not affect)      None required (government interest n

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

# **SCHEDULE A**

No.	Patent No.	Issue <u>Date</u>
1.	5,187,457	2/16/93
2.	5,189,601	2/23/93
3.	5,195,045	3/16/93
4.	5,249,141	9/28/93
5.	5,323,329	6/21/94
6.	5,477,188	12/19/95
7.	5,537,080	7/16/96
8.	5,584,974	12/17/96
9.	5.627,738	5/6/97
10.	5,651,865	7/29/97
11.	5,717,293	2/10/98
12.	5,726,603	3/10/98
13.	5,737,169	4/7/98
14.	5,770,023	6/23/98
15.	5,770,922	6/23/98
16.	5,810,982	9/22/98
17.	5,971,591	10/26/99
18.	6,020,636	2/1/00
19.	6,020,794	2/1/00
20.	6,046,641	4/4/00
21.	6,449,568	9/10/02
22.	6,708,123	3/16/04
23.	6,718,272	4/6/04
24.	6,970,700	11/29/05



P.C.

# The Commonwealth of Massachusetts

### William Francis Galvin

Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

**FORM MUST BE TYPED** 

### **Articles of Merger**

**FORM MUST BE TYPED** 

# Involving Domestic Corporations,

Foreign Corporations or Foreign Other Entities

(General Laws Chapter 156D, Section 11.06; 950 CMR 113.37)

Exact name, jurisdiction and date of organizati	ion of each party to the merger:		
(1) EXACT NAME	(2) JURISDICTION	DATE OF ORGANIZATION	
MKS Instruments, Inc. 042277512	Massachusetts	June 14, 1961	6-14-61
ENI Technology, Inc. 000809570	Delaware	October 10, 1996	<u>1-2</u> 9-02 ( 5-4-87 (
Applied Science and Technology, Inc.	Delaware	January 12, 1987	5-4-87
	are  **/Klistor* authorized to conduct business in the coopy, Inc.	Commonwealth.	
(4) Exact name of the surviving entity: MKS	Instruments, Inc.		
(6) The merger shall be effective at the time an	reviving entity will be organized: Massachusetts  and on the date approved by the Division, unless a la  specified: at 11:59 p.m. on Decembe	iter effective date not n r 31, 2005	nore than
(7-8) For each domestic corporation that is a pa	arty to the merger:**	;	
(check appropriate box)			
☐ The plan of merger was duly approved vided by G.L. Chapter 156D and the	i by the shareholders, and where required, by each articles of organization.	separate voting group	as pro-
OR			
.  The plan of merger did not require th	ne approval of the shareholders.		
(9) Participation of each other domestic entity, which the other entity or foreign corporation	foreign corporation, or foreign other entity was due to its organized and by its organizational document	aly authorized by the la s.	w under
* Check appropriate box ** Provide this information for each domestic corp	voration separately		

PATENT REEL: 017435 FRAME: 0290

c158de119895011337 01/18/05

(10) Attach any amendment to artition.	icles of organization of the surviving entiry, where the survivor is a domestic business corpora-
	tion of the surviving entity, where the survivor is a NEW domestic business corporation, information required by 950 CMR 113.16.
(12) State the executive office addressoring jurisdiction:	ess of the surviving foreign other entity if such information is not on the public record in the
	(manufacture at the control of the c

Signed by: Kathlen J. Bru			
(signature of authorized individual)			
Chairman of the board of directors,	599		
☐ President.			
Other officer, Applied Science and Technology, Inc.			
☐ Court-appointed fiduciary,			
on this day of	, 2005		
Signed by: Mulel Wey			
(signature of authorized individual)			
Chairman of the board of directors,			
☐ President,			
Other officer, ENI Technology, Inc.			
☐ Court-appointed fiduciary,			
on this day of	2005		

Signed by:				
	(signature of authorized individual)			
	Chairman of the board of directors,	<b>-</b>		
<i>È</i> (				
	Other officer,	•		
	Court-appointed fiduciary,			
on this	day of	<u>, 2005</u>		
Signed i	ру:			
_	(signature of authorized individual)			
	Chairman of the board of directors,			
	President,			
	Other officer,			
	Court-appointed fiduciary,			
on this	day of	, 2005		

### **COMMONWEALTH OF MASSACHUSETTS**

#### William Francis Galvin

Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

### Articles of Merger Involving Domestic Corporations, Foreign Corporations or Foreign Other Entities (General Laws Chapter 156D, Section 11.06; 950 CMR 113.37)

	to me, it appears that the provisions of the General Laws relative thereto have bee complied with, and I hereby approve said articles; and the filing fee in the amount of having been paid, said articles are deemed to have been filed with me this day of 2005 20 20 at a.m./p.m.
	Effective date:
	WILLIAM FRANCIS GALVIN
	Secretary of the Commonwealth
L'aminer	Filing fee: Minimum \$250
Vame approval	
	TO BE FILLED IN BY CORPORATION
	Contact Information:
A.R.	Sheila M. Morabito, Paralegal
	Wilmer Cutter Pickering Hale and Dorr LLP
	60 State Street, Boston, Massachusetts 02109
	Telephone: (617) 526-5134
	Email: sheila.morabito@wilmerhale.com
	Upon filing, a copy of this filing will be available at www.sec.state.ma.us/cor. If the document is rejected, a copy of the rejection sheet and rejected document will be available in the rejected queue.

PAGE 1

# The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"APPLIED SCIENCE AND TECHNOLOGY, INC.", A DELAWARE CORPORATION,

WITH AND INTO "MKS INSTRUMENTS, INC." UNDER THE NAME OF "MKS INSTRUMENTS, INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF MASSACHUSETTS, AS RECEIVED AND FILED IN THIS OFFICE THE THIRTEENTH DAY OF DECEMBER, A.D. 2005, AT 2:28 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 2005, AT 11:59 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

4076181 8100M

Harriet Smith Windson, Secretary of State

Harriet Smith Windsor, Secretary of State

AUTHENTICATION: 4371182

DATE: 12-14-05

State of Delaware Secretary of State Division of Corporations Delivered 03:11 PN 12/13/2005 FILED 02:28 PM 12/13/2005

#### FILED 02:28 FM 12/13/2005 SRV 051014791 - 2114631 FILECERTIFICATE OF OWNERSHIP AND MERGER

#### **MERGING**

# Applied Science and Technology, Inc. (a Delaware corporation)

#### INTO

# MKS Instruments, Inc. (a Massachusetts corporation)

MKS Instruments, Inc., a Massachusetts corporation (the "Corporation"), does hereby certify:

FIRST: That the Corporation owns all of the outstanding shares of each class of the stock of Applied Science and Technology, Inc., a corporation incorporated on the 12th day of January, 1987 pursuant to the General Corporation Law of the State of Delaware.

**SECOND**: That the merger is to become effective at fifty nine minutes after eleven on December 31, 2005.

<u>THIRD</u>: That on October 24, 2005, the Board of Directors of the Corporation, duly adopted the following votes:

VOTED:

That, the Board of Directors of the Corporation deems it advisable and in the best interests of the Corporation that:

- (1) Applied Science and Technology, Inc., a Delaware corporation and wholly-owned subsidiary of the Corporation ("ASTeX"), merge with and into the Corporation, whereby (i) the separate existence of ASTeX shall cease and the Corporation shall continue as the surviving entity in the merger (the "ASTeX Merger"), and (ii) all outstanding shares of capital stock of ASTeX shall be canceled without consideration; and
- (2) ENI Technology, Inc., a Delaware corporation and wholly-owned subsidiary of the Corporation ("ENI"), merge with and into the Corporation, whereby (i) the separate existence of ENI shall cease and the Corporation shall continue as the surviving entity in the merger (collectively with the ASTeX Merger, the "Mergers"), and (ii) all outstanding shares of capital stock of ENI shall be canceled without consideration.

#### **FURTHER**

VOTED:

That the Agreement and Plan of Merger with ASTeX, in the form attached hereto as Exhibit A, and the Agreement and Plan of Merger with ENI, in the form attached hereto as Exhibit B (collectively, the Merger Agreements"), be,

1 offware engagence

and they hereby are, authorized and approved in all respects, and that the proper officers of the Corporation be, and each of them hereby is, authorized and directed to execute and deliver the Merger Agreements on behalf of and in the name of the Corporation, with such changes as such proper officers shall deem necessary or advisable (such determination to be conclusively evidenced by their execution and delivery thereof), and to perform the Merger Agreements in accordance with their respective terms.

### **FURTHER** VOTED:

That the proper officers of the Corporation be and are, and each of them acting singly hereby is, authorized, empowered and directed, in the name and on behalf of the Corporation, to execute and file, or cause to be filed. Articles of Merger of Parent and Subsidiary Corporation (the "Massachusetts Articles of Merger"), pursuant to which each of ASTeX and ENI will merge with and into the Corporation pursuant to Section 11.05(a) of Chapter 156D of the Massachusetts General Laws, and any and all additional documents or instruments necessary to effect the Mergers with the Secretary of the Commonwealth of the Commonwealth of Massachusetts, each of which Massachusetts Articles of Merger shall become effective at such time and on such date as may be designated by the officer or officers executing the same; and that such officers be and are, and each of them acting singly hereby is, further authorized, empowered and directed to take any and all additional actions necessary to implement the Massachusetts Articles of Merger, the taking of such actions by such officer or officers to be conclusive evidence of his or their determination and approval thereof and of his or their due authorization hereunder.

#### **FURTHER** VOTED:

That the proper officers of the Corporation be and are, and each of them acting singly hereby is, authorized, empowered and directed, in the name and on behalf of the Corporation, to execute and file, or cause to be filed, Certificates of Ownership and Merger Pursuant to Section 103 and 253 of the Delaware General Corporation Law (the "Delaware Certificate of Merger"), pursuant to which each of ASTeX and ENI shall merge with and into the Corporation, and any and all additional documents or instruments necessary to effect the Mergers with the Secretary of State of the State of Delaware, which Delaware Certificates of Merger shall become effective at such time and on such date as may be designated by the officer or officers executing the same; and that such officers be and are, and each of them acting singly hereby is, further authorized, empowered and directed to take any and all additional actions necessary to implement such Certificates of Merger, the taking of such actions by such officer or officers to be conclusive evidence of his or their determination and approval thereof and of his or their due authorization hereunder.

**FURTHER** 

- 2 -

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VOTED:

That the appropriate officers of the Corporation be, and each of them acting singly hereby is, authorized, empowered and directed, in the name and on behalf of the Corporation, to execute and deliver any and all agreements, instruments, documents and certificates, and to take any and all actions, which they or any of them may deem necessary or appropriate in connection with the Merger and the other actions contemplated by the foregoing votes, the execution and delivery of such agreements, instruments, documents and certificates and the taking of such actions by such officer or officers to be conclusive evidence of his or their determination and approval thereof and of his or their due authorization hereunder.

FOURTH: That the surviving corporation agrees that it may be served with process in the State of Delaware in any proceeding for enforcement of any obligation of the surviving corporation arising from this merger, including any suit or other proceeding to enforce the rights of any stockholders as determined in appraisal proceedings pursuant to the provisions of Section 262 of the Delaware General Corporation laws, and irrevocably appoints the Secretary of State of Delaware as its agent to accept services of process in any such suit or proceeding. The Secretary of State shall mail any such process to the surviving corporation at 90 Industrial Way, Wilmington, MA 01887.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by its authorized officer this 13th day of December, 2005.

MKS Instruments, Inc.

By: /s/ Leo Berlinghieri

Title: President

- 3 -

# The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"ENI TECHNOLOGY, INC.", A DELAWARE CORPORATION,

WITH AND INTO "MKS INSTRUMENTS, INC." UNDER THE NAME OF "MKS INSTRUMENTS, INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF MASSACHUSETTS, AS RECEIVED AND FILED IN THIS OFFICE THE THIRTEENTH DAY OF DECEMBER, A.D. 2005, AT 3:11 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 2005, AT 11:59 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

4076181 8100M

051014807

Harriet Smith Windson, Secretary of State

AUTHENTICATION: 4371197

DATE: 12-14-05

State of Delaware Secretary of State Division of Corporation Delivered 03:11 PM 12/13/2005 FILED 03:11 PM 12/13/2005 SRV 051014807 - 2671100 FILECERTIFICATE OF OWNERSHIP AND MERGER

#### **MERGING**

ENI Technology, Inc. (a Delaware corporation)

#### INTO

### MKS Instruments, Inc. (a Massachusetts corporation)

MKS Instruments, Inc., a Massachusetts corporation (the "Corporation"), does hereby certify;

FIRST: That the Corporation owns at least 90% of the outstanding shares of each class of the stock of ENI Technology, Inc., a corporation incorporated on the 10th day of October, 1996 pursuant to the General Corporation Law of the State of Delaware,

SECOND: That the merger is to become effective at fifty nine minutes after eleven on December 31, 2005.

THIRD: That on October 24, 2005, the Board of Directors of the Corporation, duly adopted the following votes:

#### VOTED:

That, the Board of Directors of the Corporation deems it advisable and in the best interests of the Corporation that:

- (1) Applied Science and Technology, Inc., a Delaware corporation and wholly-owned subsidiary of the Corporation ("ASTeX"), merge with and into the Corporation, whereby (i) the separate existence of ASTeX shall cease and the Corporation shall continue as the surviving entity in the merger (the "ASTeX Merger"), and (ii) all outstanding shares of capital stock of ASTeX shall be canceled without consideration; and
- (2) ENI Technology, Inc., a Delaware corporation of which at least 90% of the outstanding shares of each class of the stock is owned by the Corporation ("ENI"), merge with and into the Corporation, whereby (i) the separate existence of ENI shall cease and the Corporation shall continue as the surviving entity in the merger (collectively with the ASTeX Merger, the "Mergers"), and (ii) all outstanding shares of capital stock of ENI shall be canceled without consideration.

### **FURTHER**

VOTED:

That the Agreement and Plan of Merger with ASTeX, in the form attached hereto as Exhibit A, and the Agreement and Plan of Merger with ENI, in the

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form attached hereto as Exhibit B (collectively, the Merger Agreements"), he, and they hereby are, authorized and approved in all respects, and that the proper officers of the Corporation be, and each of them hereby is, authorized and directed to execute and deliver the Merger Agreements on behalf of and in the name of the Corporation, with such changes as such proper officers shall deem necessary or advisable (such determination to be conclusively evidenced by their execution and delivery thereof), and to perform the Merger Agreements in accordance with their respective terms.

# FURTHER VOTED:

That the proper officers of the Corporation be and are, and each of them acting singly hereby is, authorized, empowered and directed, in the name and on behalf of the Corporation, to execute and file, or cause to be filed, Articles of Merger of Parent and Subsidiary Corporation (the "Massachusetts Articles of Merger"), pursuant to which each of ASTeX and ENI will merge with and into the Corporation pursuant to Section 11.05(a) of Chapter 156D of the Massachusetts General Laws, and any and all additional documents or instruments necessary to effect the Mergers with the Secretary of the Commonwealth of the Commonwealth of Massachusetts, each of which Massachusetts Articles of Merger shall become effective at such time and on such date as may be designated by the officer or officers executing the same; and that such officers be and are, and each of them acting singly hereby is, further authorized, empowered and directed to take any and all additional actions necessary to implement the Massachusetts Articles of Merger, the taking of such actions by such officer or officers to be conclusive evidence of his or their determination and approval thereof and of his or their duc authorization hereunder.

# FURTHER VOTED:

That the proper officers of the Corporation be and are, and each of them acting singly hereby is, authorized, empowered and directed, in the name and on behalf of the Corporation, to execute and file, or cause to be filed, Certificates of Ownership and Morger Pursuant to Section 103 and 253 of the Delaware General Corporation Law (the "Delaware Certificate of Merger"), pursuant to which each of ASTeX and ENI shall merge with and into the Corporation, and any and all additional documents or instruments necessary to effect the Mergers with the Secretary of State of the State of Delaware, which Delaware Certificates of Merger shall become effective at such time and on such date as may be designated by the officer or officers executing the same; and that such officers be and are, and each of them acting singly hereby is, further authorized, empowered and directed to take any and all additional actions necessary to implement such Certificates of Merger, the taking of such actions by such officer or officers to be conclusive evidence of his or their determination and approval thereof and of his or their due authorization hereunder.

FURTHER VOTED:

That the appropriate officers of the Corporation be, and each of them acting singly hereby is, authorized, empowered and directed, in the name and on behalf of the Corporation, to execute and deliver any and all agreements, instruments, documents and certificates, and to take any and all actions, which they or any of them may deem necessary or appropriate in connection with the Merger and the other actions contemplated by the foregoing votes, the execution and delivery of such agreements, instruments, documents and certificates and the taking of such actions by such officer or officers to be conclusive evidence of his or their determination and approval thereof and of his or their due authorization hereunder.

FOURTH: That the surviving corporation agrees that it may be served with process in the State of Delaware in any proceeding for enforcement of any obligation of the surviving corporation arising from this merger, including any suit or other proceeding to enforce the rights of any stockholders as determined in appraisal proceedings pursuant to the provisions of Section 262 of the Delaware General Corporation laws, and irrevocably appoints the Secretary of State of Delaware as its agent to accept services of process in any such suit or proceeding. The Secretary of State shall mail any such process to the surviving corporation at 90 Industrial Way, Wilmington, MA 01887.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by its authorized officer this 13th day of December, 2005.

MKS Instruments, Inc.

By: /s/ Leo Berlinghieri

Title: President

## **SCHEDULE A**

No.	Patent No.	<u>Issue Date</u>
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2.	5,189,601	2/23/93
3.	5,195,045	3/16/93
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7.	5,537,080	7/16/96
8.	5,584,974	12/17/96
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10.	5,651,865	7/29/97
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22.	6,708,123	3/16/04
23.	6,718,272	4/6/04
24.	6,970,700	11/29/05

1

**RECORDED: 01/06/2006**