

OMB APPROVAL	
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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Carlyle Partners VI Cayman Holdings, L.P.</u> <hr/> (Last) (First) (Middle) <u>C/O WALKERS CORPORATE SERVICES LIMITED</u> <u>190 ELGIN AVENUE</u> <hr/> (Street) <u>GEORGE TOWN, GRAND CAYMAN</u> <hr/> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>MKS INSTRUMENTS INC [ MKSI ]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)
	3. Date of Earliest Transaction (Month/Day/Year) <u>05/08/2023</u>	
4. If Amendment, Date of Original Filed (Month/Day/Year)		Rule 10b5-1(c) Transaction Indication <input type="checkbox"/> Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	05/08/2023		S		2,000,000	D	\$86.125	6,482,732	I	See footnotes <sup>(1)</sup> (2)(3)(4)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
						Date Exercisable	Expiration Date					

1. Name and Address of Reporting Person\*  
Carlyle Partners VI Cayman Holdings, L.P.  


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 (Last) (First) (Middle)  
C/O WALKERS CORPORATE SERVICES LIMITED  
190 ELGIN AVENUE  


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 (Street)  
GEORGE TOWN, GRAND CAYMAN  


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 (City) (State) (Zip)

1. Name and Address of Reporting Person\*  
CEP IV Managing GP Holdings, Ltd.  


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 (Last) (First) (Middle)  
C/O WALKERS CORPORATE SERVICES LIMITED  
190 ELGIN AVENUE  


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 (Street)

GEORGE TOWN,  
GRAND E9 KY1-9001  
CAYMAN,

(City) (State) (Zip)

1. Name and Address of Reporting Person\*

[CAP IV General Partner, L.P.](#)

(Last) (First) (Middle)

C/O WALKERS CORPORATE SERVICES LIMITED  
190 ELGIN AVENUE

(Street)

GEORGE TOWN,  
GRAND E9 KY1-9001  
CAYMAN,

(City) (State) (Zip)

1. Name and Address of Reporting Person\*

[Carlyle Asia Partners IV, L.P.](#)

(Last) (First) (Middle)

C/O WALKERS CORPORATE SERVICES LIMITED  
190 ELGIN AVENUE

(Street)

GEORGE TOWN,  
GRAND E9 KY1-9001  
CAYMAN,

(City) (State) (Zip)

1. Name and Address of Reporting Person\*

[Gamma Holding Co Ltd](#)

(Last) (First) (Middle)

C/O WALKERS CORPORATE SERVICES LIMITED  
190 ELGIN AVENUE

(Street)

GEORGE TOWN,  
GRAND E9 KY1-9001  
CAYMAN,

(City) (State) (Zip)

1. Name and Address of Reporting Person\*

[CEP IV Participations, S.a r.l. SICAR](#)

(Last) (First) (Middle)

C/O THE CARLYLE GROUP  
2, AVENUE CHARLES DE GAULLE

(Street)

LUXEMBOURG N4 L-1653

(City) (State) (Zip)

1. Name and Address of Reporting Person\*

[CEP IV Managing GP, L.P.](#)

(Last) (First) (Middle)

C/O THE CARLYLE GROUP INC.  
1001 PENNSYLVANIA AVE. NW, SUITE 220S

(Street)

WASHINGTON DC 20004-2505

(City)	(State)	(Zip)
1. Name and Address of Reporting Person *		
<a href="#">CAP IV, L.L.C.</a>		
(Last)	(First)	(Middle)
C/O THE CARLYLE GROUP INC.		
1001 PENNSYLVANIA AVE. NW, SUITE 220S		
(Street)		
WASHINGTON	DC	20004-2505
(City)		
(State)		
(Zip)		

**Explanation of Responses:**

- Following the transactions reported herein, includes (i) 3,958,719 shares held by Carlyle Partners VI Cayman Holdings, L.P., (ii) 1,726,956 shares held by CEP IV Participations, S.a r.l. SICAR and (iii) 797,057 shares held by Gamma Holding Company Limited.
- The Carlyle Group Inc., which is a publicly traded entity listed on Nasdaq, is the sole member of Carlyle Holdings II GP L.L.C., which is the managing member of Carlyle Holdings II L.L.C., which with respect to the securities reported herein, is the managing member of CG Subsidiary Holdings L.L.C., which is the general partner of TC Group Cayman Investment Holdings, L.P., which is the general partner of TC Group Cayman Investment Holdings Sub L.P., which is the sole shareholder of TC Group VI Cayman, L.L.C., which is the general partner of TC Group VI Cayman, L.P., which is the general partner of Carlyle Partners VI Cayman Holdings, L.P.
- TC Group Cayman Investment Holdings Sub L.P. is also the sole shareholder of CEP IV Managing GP Holdings, Ltd. and the sole member of CAP IV, L.L.C. CEP IV Managing GP Holdings, Ltd. is the general partner of CEP IV Managing GP, L.P., which is the managing general partner of Carlyle Europe Partners IV, L.P., which is the majority shareholder of CEP IV Participations, S.a r.l. SICAR. CAP IV, L.L.C. is the general partner of CAP IV General Partner, L.P., which is the general partner of Carlyle Asia Partners IV, L.P., which is the majority shareholder of Gamma Holding Company Limited.
- Accordingly, each of these entities may be deemed to share beneficial ownership of the securities held of record by Carlyle Partners VI Cayman Holdings, L.P., CEP IV Participations, S.a r.l. SICAR and Gamma Holding Company Limited. Each of them disclaims beneficial ownership of such securities.

**Remarks:**

Due to the limitations of the electronic filing system, each of The Carlyle Group Inc., Carlyle Holdings II GP L.L.C., Carlyle Holdings II L.L.C., CG Subsidiary Holdings L.L.C., TC Group Cayman Investment Holdings, L.P., TC Group Cayman Investment Holdings Sub L.P., TC Group VI Cayman, L.L.C. and TC Group VI Cayman, L.P. are filing a separate Form 4.

[Carlyle Partners VI Cayman Holdings, L.P., By: TC Group VI Cayman, L.P., its general partner, By: TC Group VI Cayman, L.L.C., its general partner, By: /s/ Jeremy W. Anderson, Authorized Person](#) [05/10/2023](#)

[CEP IV Managing GP Holdings, Ltd., By: /s/ Anat Holtzman, Manager](#) [05/10/2023](#)

[CEP IV Managing GP, L.P., By: CEP IV Managing GP Holdings, Ltd., its general partner, By: /s/ Anat Holtzman, Manager](#) [05/10/2023](#)

[Carlyle Europe Partners IV, L.P., By: CEP IV Managing GP, L.P., its general partner, By: CEP IV Managing GP Holdings, Ltd., its general partner, By: /s/ Anat Holtzman, Manager](#) [05/10/2023](#)

[CEP IV Participations, S.a r.l. SICAR, Represented by Andrew Howlett-Bolton and William Cagney, as Managers, By: /s/ Andrew Howlett-Bolton, Manager, By: /s/ William Cagney, Manager](#) [05/10/2023](#)

[CAP IV, L.L.C., By: /s/ Chintan Bhatt, Authorized Person](#) [05/10/2023](#)

[CAP IV General Partner, L.P., By: CAP IV, L.L.C., its general partner, By: /s/ Chintan Bhatt, Authorized Person](#) [05/10/2023](#)

[Carlyle Asia Partners IV, L.P., By: CAP IV General Partner, L.P., its general partner, By: /s/ Chintan Bhatt, Authorized Person](#) [05/10/2023](#)

[Gamma Holding Company Limited, By: /s/ Chintan](#) [05/10/2023](#)

Bhatt, Director

\*\* Signature of Reporting Person    Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.**