

EUV Mask Technology Workshop

Santa Clara, California

February 22, 2004

INTERNATIONAL
SEMATECH

Revised Agenda

8:00		Open
		<i>Mask Handling</i>
8:10	8:35	Mask Fiducial Marks - Pei-yang Yan (Intel)
8:35	9:00	Data Matrix Update - T. White
9:00	9:15	Mask Layout and Handling Areas - T. White
9:15	9:35	ISMT EUV Mask Projects for 2004 - T. White
		<i>Mask Carrier, part 1</i>
9:35	10:00	Results of Carrier Benchmark Study - Jenny Wang (IBM)
10:00	10:25	Alcatel Progress - Magali Davenet (Alcatel)
10:25	10:40	break
		<i>Mask Carrier, part 2</i>
10:40	11:05	New Carrier Materials - T. White
		<i>Mask Blank, part 1</i>
11:05	11:35	4.0mm Thick Substrate Evaluation - Andrew Mikkelson (U.Wisconsin)
11:35	12:00	State of Blanks Development & Thickness Spec - Chris Walton (LLNL)
		Asyst - Ray Martin
		<i>Mask Blank, part 2</i>
13:00	13:20	Overview of Current Commercially Available Blanks - Jan Cavelaars (ISMT)
13:20	13:45	Electrostatic Chucks - Abid Khan (Invax Technologies)
13:45	14:10	PERIS Inspection Tool - David Adler (KLA-Tencor)
		<i>Standards</i>
14:10	14:40	SEMI Standards Update - Scott Hector (ISMT)
14:40	14:55	Mask Standards Roadmap - Thomas White (ISMT)
14:55	15:10	break
		<i>Mask Cleaning</i>
15:10	15:30	Summary from the ISMT Cleaning Workshop - Abbas Rastegar/T. White (ISMT)
15:30	15:55	State of the Mask Cleaning Art - Ahmed Busnaina (Northeastern U.)
open		(tentative; Brian Grenon may be able to join us, if so we'll fit him in)
16:00	16:30	<i>Breakouts:</i> Metrology, Carrier, open topic
16:30	16:55	Breakout summaries
16:55	17:00	Day summary
17:00		Adjourn

Purpose

- **Open discussion of developments and plans related to EUV masks and supporting technology.**
- **Provide guidance on reaching industry standards in selected areas.**
- **Early plan for next workshop.**
 - Nov. '04 @ EUVL Symposium, Japan.
 - Half-day – Sept. '04 @ SPIE BACUS?

Critical Issues for EUV Lithography

(October 2003 IEUVI Steering Committee ranking)

1. Source power and lifetime including condenser optics lifetime
2. Availability of defect free masks
- 3. Reticle protection during storage, handling, and use**
4. Projection and illuminator optics lifetime and contamination
5. Resist resolution, sensitivity, and LWR
6. Optics quality for 32nm node

Information Disclosure

- **All material presented today is considered non-confidential, intended to benefit industry standards.**
- **Proceedings and minutes will be published on the ISMT public website soon after the Workshop.**
- **Links to previous proceedings changed due to ISMT site revision in early February – new links available.**

Export Compliance

- **U.S. export regulations require Foreign Nationals to sign “Written Assurance” that technical information will not be disclosed to Restricted Countries***
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- **“Foreign National” means anyone not a U.S. citizen, Legal Permanent Resident, or INS “protected alien”**
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