What is the International EUV Initiative (IEUVI)?

Europe
- MEDEA+ CATRENE
- ENIAC
- LETI
- IMEC
- ASML

USA
- EUV LLC
- SEMATECH
- SRC
- Albany

Japan
- EUVA
- Nikon
- Canon
- Selete

IEUVI
http://www.ieuvi.org

Chair: Paolo Gargini
- Regular coordination meetings
- Technical Working Groups
- Benchmarking data exchange
- Co-sponsorship of workshops
Goals and Objectives of Resist TWG

- Goal—increased cooperation among EUV resist community world wide

- Objectives—share data and information to speed development of EUV resist
Confidentiality Notice
- Non-Confidential Meetings-

• This is a Non-Confidential Meeting
• This meeting may be open to non-members
• If proprietary or confidential information is disclosed,
  – The discloser does so at his/her own risk
  – The discloser does so with the knowledge that the audience may include non-members
  – SEMATECH will not accept presentation materials marked “confidential” or “proprietary” for distribution
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- U.S. export regulations require Foreign Nationals to sign a “Written Assurance” that technical information will not be disclosed to Restricted Countries*
  - Not required of member personnel with confirmed registration
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- Foreign Nationals of Restricted Countries* may not attend without the approval of the SEMATECH Export Manager
  - Applies to all, even member personnel
- *Albania, Armenia, Azerbaijan, Belarus, Cambodia, China (PRC), Cuba, Georgia, Iran, Iraq, Kazakhstan, Kyrgyzstan, Laos, Libya, Macau, Moldova, Mongolia, North Korea, Russia, Sudan, Syria, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Vietnam.
Questions?

• Please see your meeting chairperson IF
  – You are a Foreign National who did not sign an Export Written Assurance
  • Unless pre-registered and a member employee
  – You are a Foreign National of a Restricted Country
  – You have questions about confidentiality or export requirements
**Today TWG objective**

Good progress in CAR resists have been shown:

- As a consequence resist has been dropped from the 2nd to the 3rd place on the focus list
- But if specs are almost there for 32 nm hp we need to address 22 hp and beyond

What are the key (the knobs) to optimize RLS?
- Materials
- Processing
- Under layer
- Mask
  ......

Does LER< 1 nm could be reached?

Please don’t hesitate to interact!
# Agenda

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>12:00 PM – 1:00 PM</td>
<td>Lunch</td>
<td>Alpine Ballroom</td>
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<tr>
<td>1:00 PM – 1:10 PM</td>
<td>Welcome and Introduction</td>
<td>Serge Tedesco, CEA-LETI</td>
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<tr>
<td>1:10 PM – 1:20 PM</td>
<td>Intro Focus Topic &amp; Targets: What are keys to Optimizing RLS?</td>
<td>Jacque Georg, SEMATECH</td>
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<td>1:20 PM – 1:35 PM</td>
<td>Resist Based Dose Calibrations Update</td>
<td>Noreen Harned, ASML</td>
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<td>1:35 PM – 2:00 PM</td>
<td>Optimizing RLS</td>
<td>Selichi Tagawa, Osaka University</td>
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<td>2:00 PM – 2:25 PM</td>
<td>Optimizing RLS</td>
<td>Alex Robinson, Birmingham University</td>
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<td>2:25 PM – 2:50 PM</td>
<td>Optimizing RLS</td>
<td>Naoto Ohshima, FujiFilm EM</td>
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<td>2:50 PM – 3:05 PM</td>
<td>Break</td>
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<td>3:05 PM – 3:30 PM</td>
<td>Optimizing RLS</td>
<td>Robert Brainard, University at Albany, CNSE</td>
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<td>3:30 PM – 3:55 PM</td>
<td>Optimizing RLS</td>
<td>Mieke Goethals, IMEC</td>
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<td>3:55 PM – 4:20 PM</td>
<td>Optimizing RLS</td>
<td>Todd Younkin, Intel</td>
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<td>4:20 PM – 5:00 PM</td>
<td>Open Discussion</td>
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<tr>
<td>5:00 PM</td>
<td>Adjourn</td>
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Wrap Up
Progress towards 16nm resists

• Recommendations: Report process windows, not just resolution. Standardize feature size reported for dose and LWR.

• LER/LWR of devices or etched features (EUV)—

• Effects of 450 wafer size on resist processing?

• Aspect ratio, thin film effects
Plans for Next TWG Meeting

SPIE 22-27 February 2009 in San Jose