

EUVL R&D Overview (USA)

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Outline

- EUVL R&D Activities /Products and Services
 - Equipment Suppliers
 - National Labs and Universities
 - Chip Makers
 - Consortium
- Summary

Note: The survey presented in this list is not complete. Please point out any mistakes or omission so that they can be corrected.

Suppliers

- Cymer
- Energetiq
- EUV Technologies
- IRD
- KLA
- Osmic / RIT
- Tinsely
- TREX (SiC Substrate)
- XEI, Inc.
- Resist Suppliers – Dow Chemicals, AZ, Impria
- Scanner Makers - ASML and Nikons US Divisions

National Labs

- CXRO / LBNL
- BNL
- LLNL
- NIST

Universities

- Purdue
 - LPP and DPP modeling
- UIUC
 - Plasma and mask cleaning
 - Debris measurement
- UCSD
 - LPP Development
- U Albany
 - Resist Outgassing
 - SPF development
- University of Massachusetts (Amherst)
 - Resist Development

Chip Makers

- Global Foundries
- IBM
- Intel

Consortium

- EUV Research Center
- SEMATECH
- SRC

Summary

- Active EUVL Research focused around:
 - Commercial product development for HVM
 - Next generation patterning and inspection work
 - Resist development work
 - EUVL Modeling and
 - Process development at Chip Makers
- Limited R&D funds for “University/National lab” research work for new solutions
- Lack of funding for “Innovative solutions” for EUV source development work