43 Member Companies & Advisors

eBeam Initiative

www.ebeam.org

aBeam technologies

ADVANTEST

ADVANCED MASK TECHNOLOGY CENTER

alchip

APPLIED MATERIALS

ARTWORK CONVERSION
CAD Translators
Postprocessors
Plotter Drivers

aselta NANOGRAPHICS

cadence

D2S

DNP Dai Nippon Printing

EQUIcon

eShuttle

FASTRACK DESIGN

eSilicon

Jack Harding
eSilicon

Fraunhofer CNT

FUJITSU

GenISys

Grenon Consulting

HOYA

GLOBALFOUNDRIES

imschips

IMS Nanofabrication

JEOL

KLA-Tencor
Accelerating Yield

cea leti

Colin Harris
PMC-Sierra

Mentor Graphics

MULTIBEAM

NCS

NuFlare

Riko Radojcic
Qualcomm

PETERSEN ADVANCED LITHOGRAPHY INC.

SAMSUNG

SoftJin
Enabling Electronic Design

SYNOPSYS

Tela Innovations

TOOL

tau-Metrix
Performance-based Metrology™

Jean-Pierre Geronimi
ST

TOPPAN

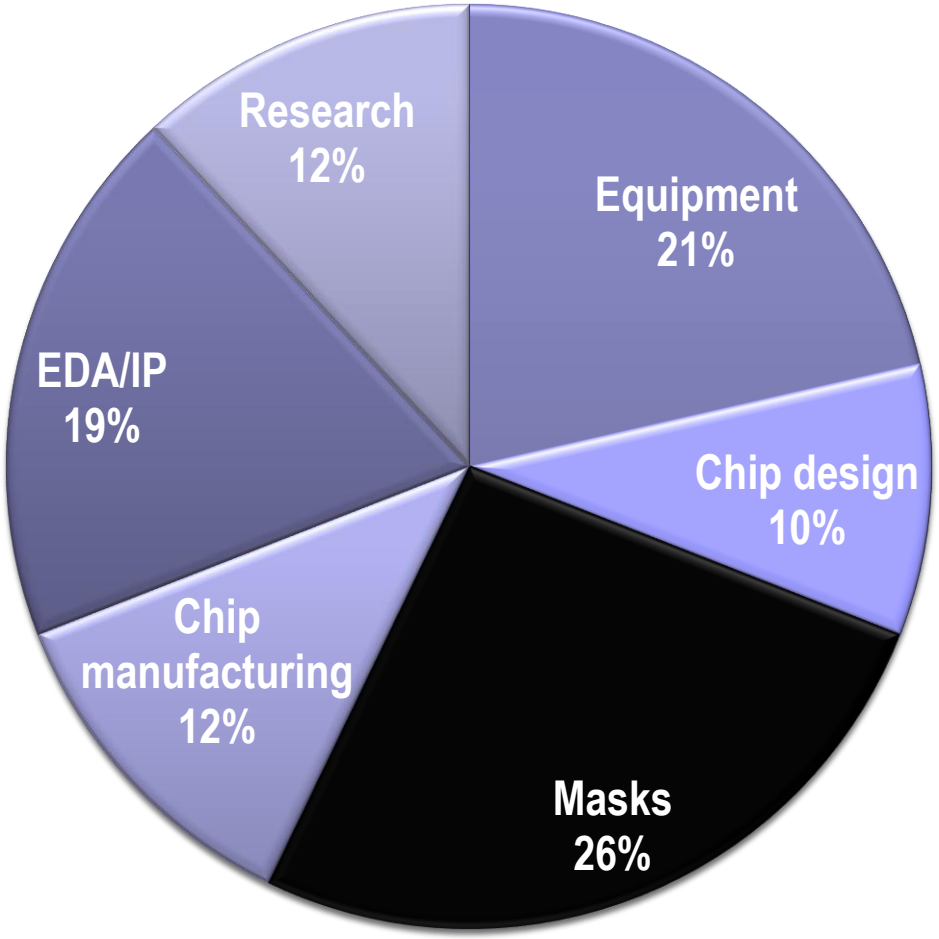
Vistec

XILINX

August 2012 eBeam Initiative Survey

Goals:

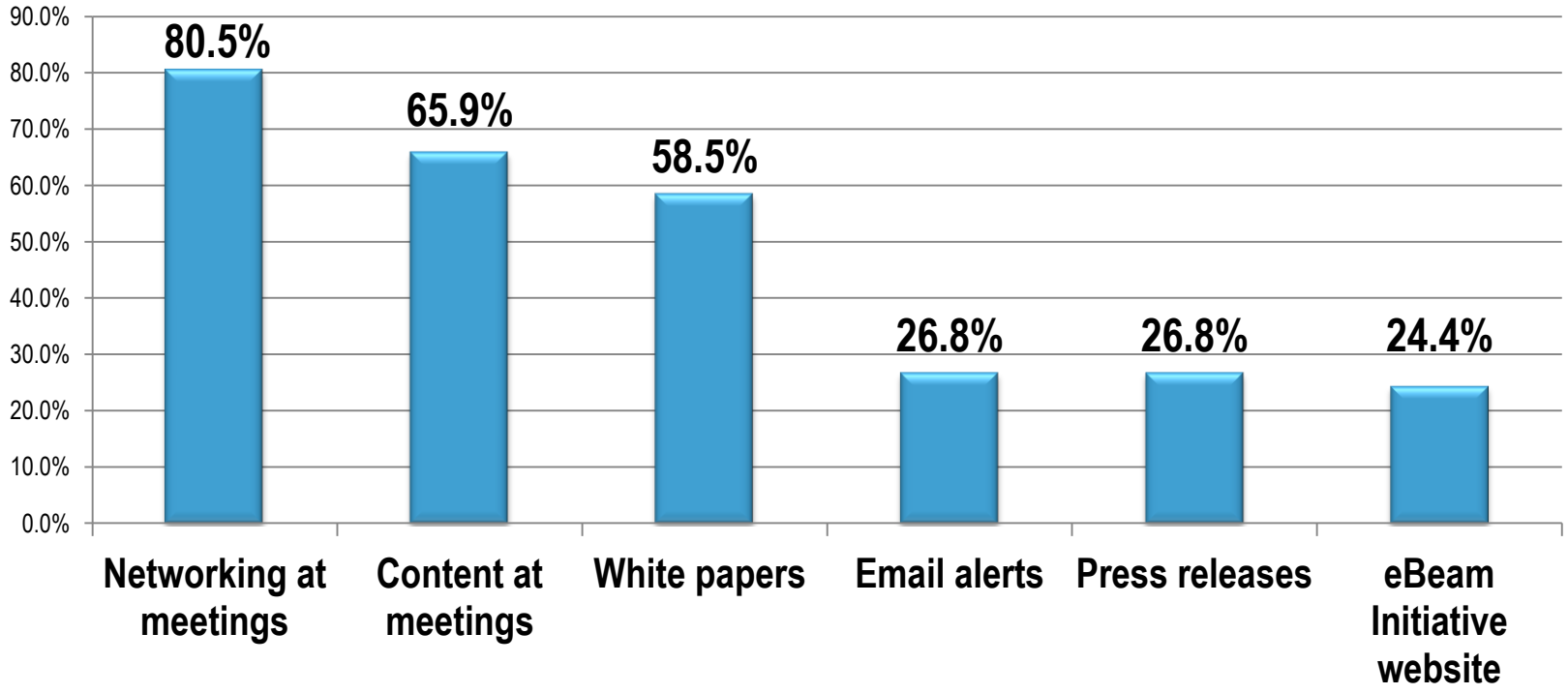
- Increase the voice of the eBeam community
- Two-way communication with members
- Thank you for your participation with 42 responses (n=42)



Activities You Find Useful

August 2012 eBeam Initiative Survey

Q: Indicate which eBeam Initiative activities you find useful.

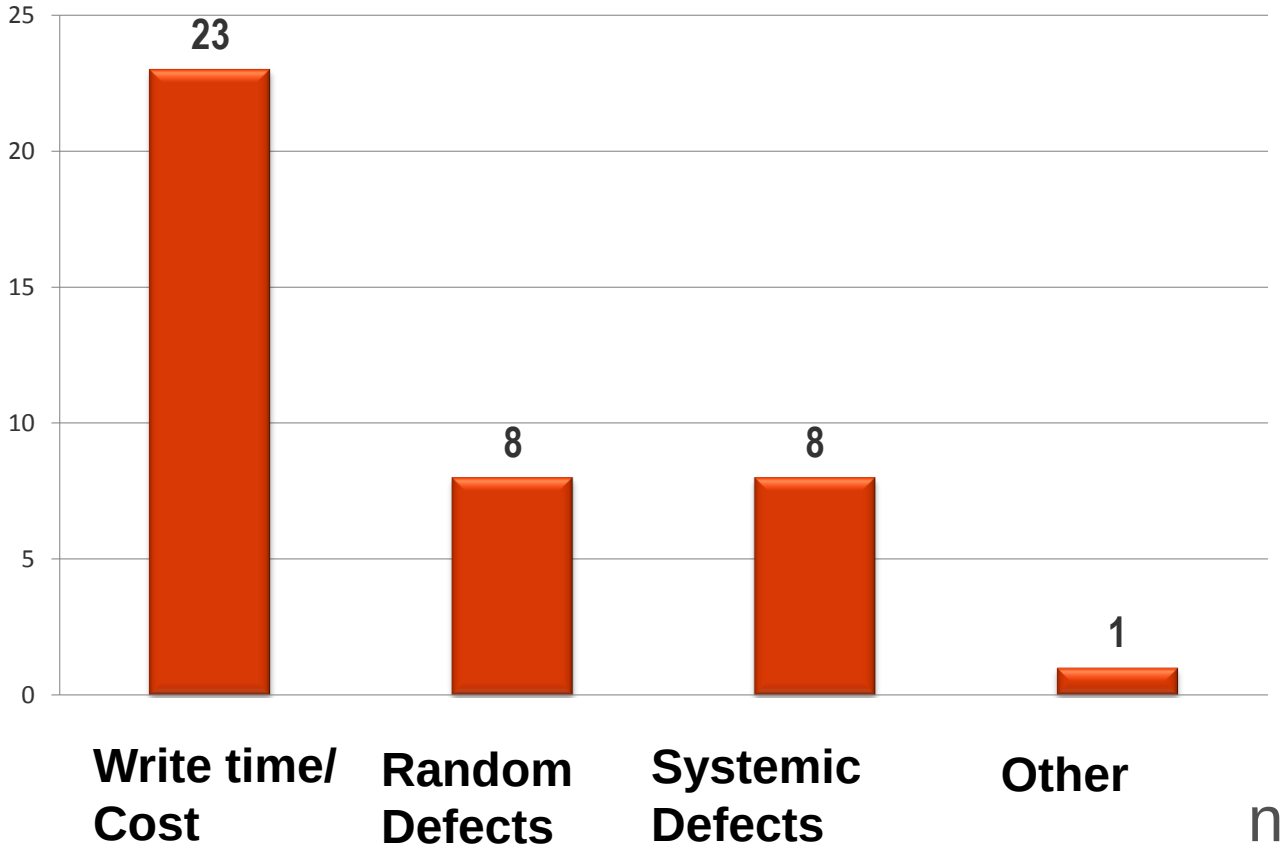


n=42

Write Time/Cost is #1 Mask Issue

August 2012 eBeam Initiative Survey

Q: What are your biggest issues with mask making?
Votes for Number One Ranking



n=40

Your Views on eBeam Investment

August 2012 eBeam Initiative Survey

Q: In which eBeam technologies would you like to see more investment?

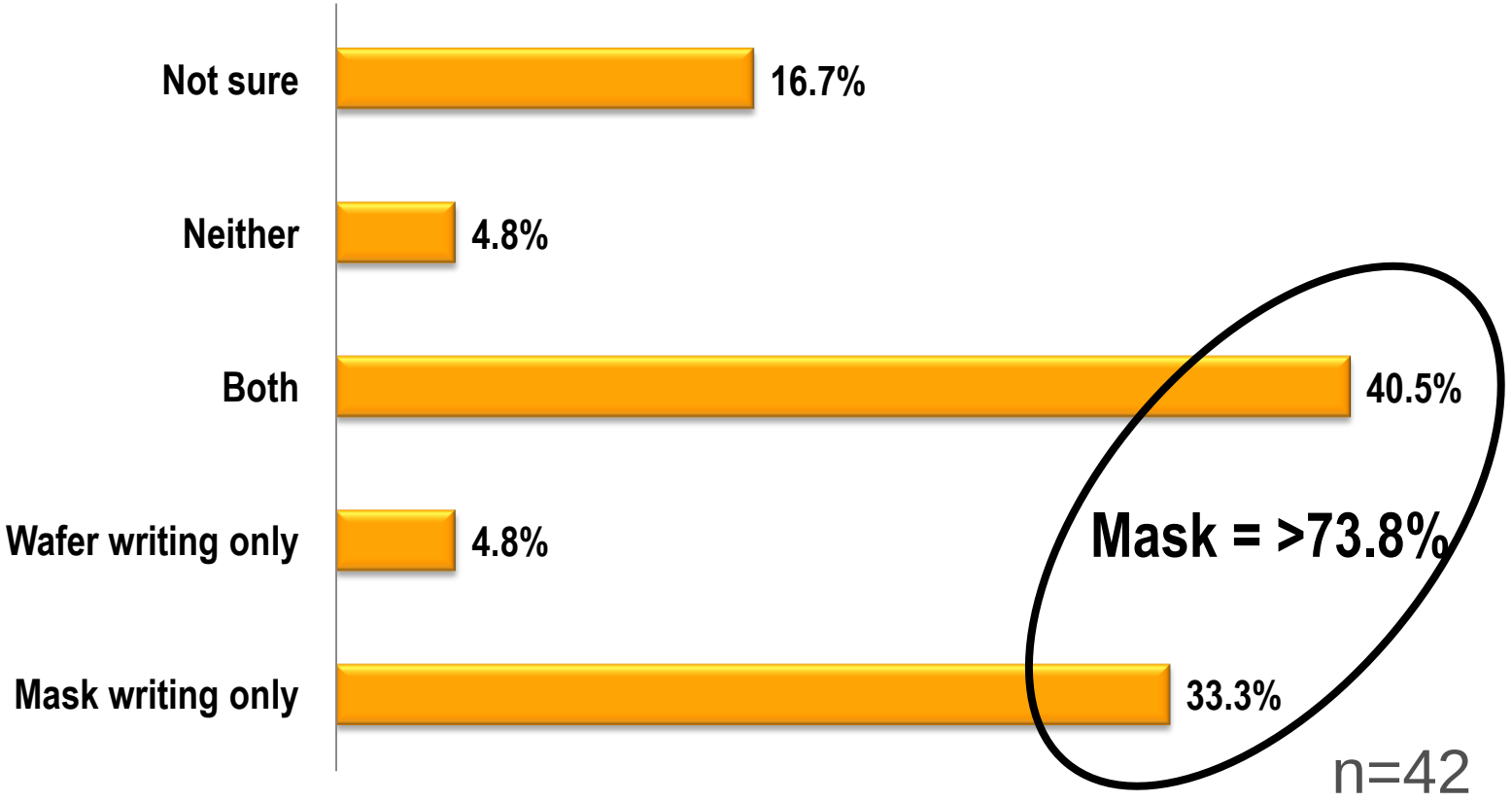
- **What you said most frequently:**
  - **Multi-beam – mask and/or direct write**
  - **Write Time Reduction**
  - **Maskless/direct write**
- **In smaller percentages:**
  - **MDP, PEC, CEBL, multi-beam inspection**

n=42

Multi-Beam Technology

August 2012 eBeam Initiative Survey

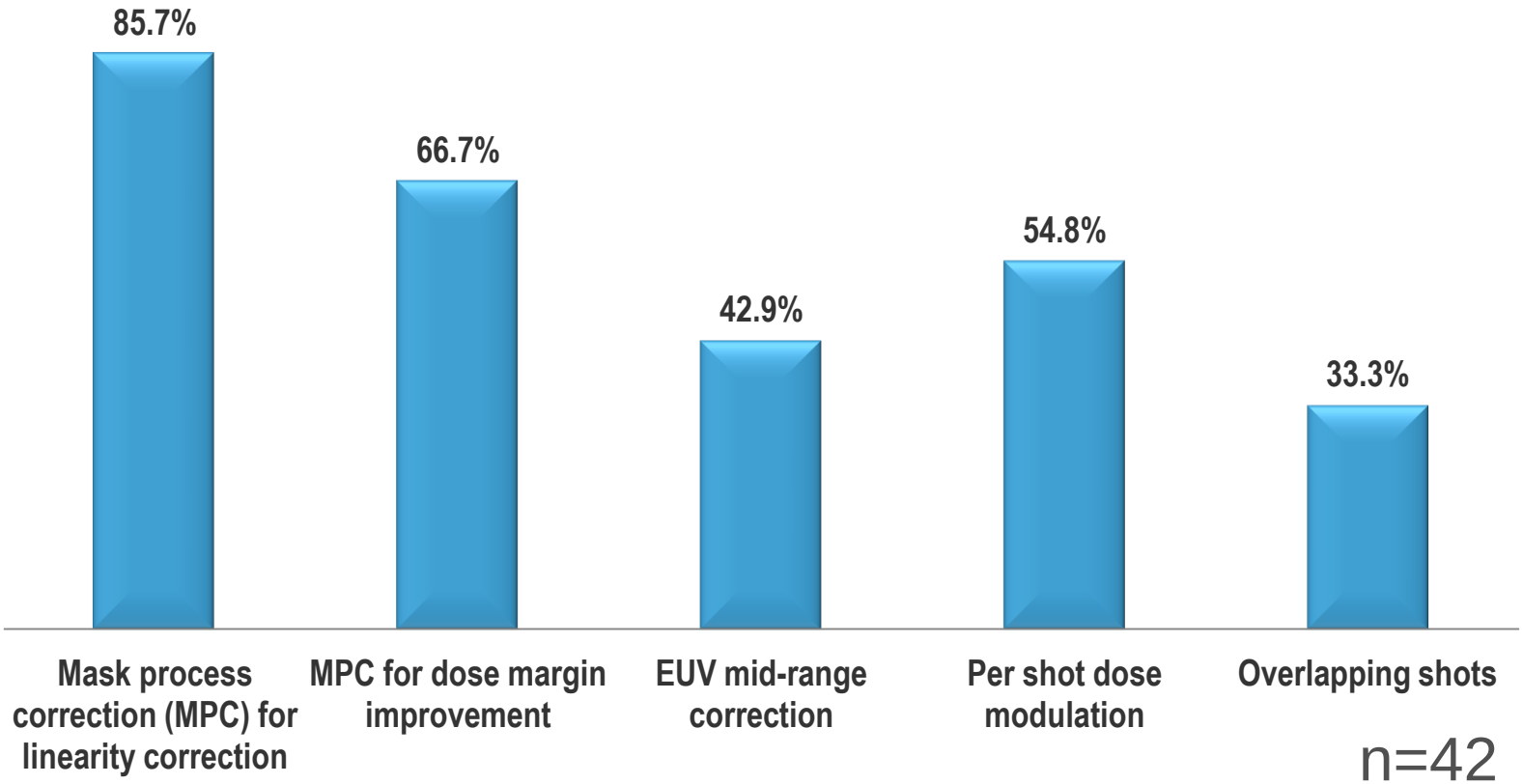
Q: Do you believe that multi-beam technology will be used for mask or wafer writing production by 2016?



New Requirements for Mask Data Prep

August 2012 eBeam Initiative Survey

Q: Leading edge mask data preparation at the end of 2013 will require which of the following? Select all that apply.

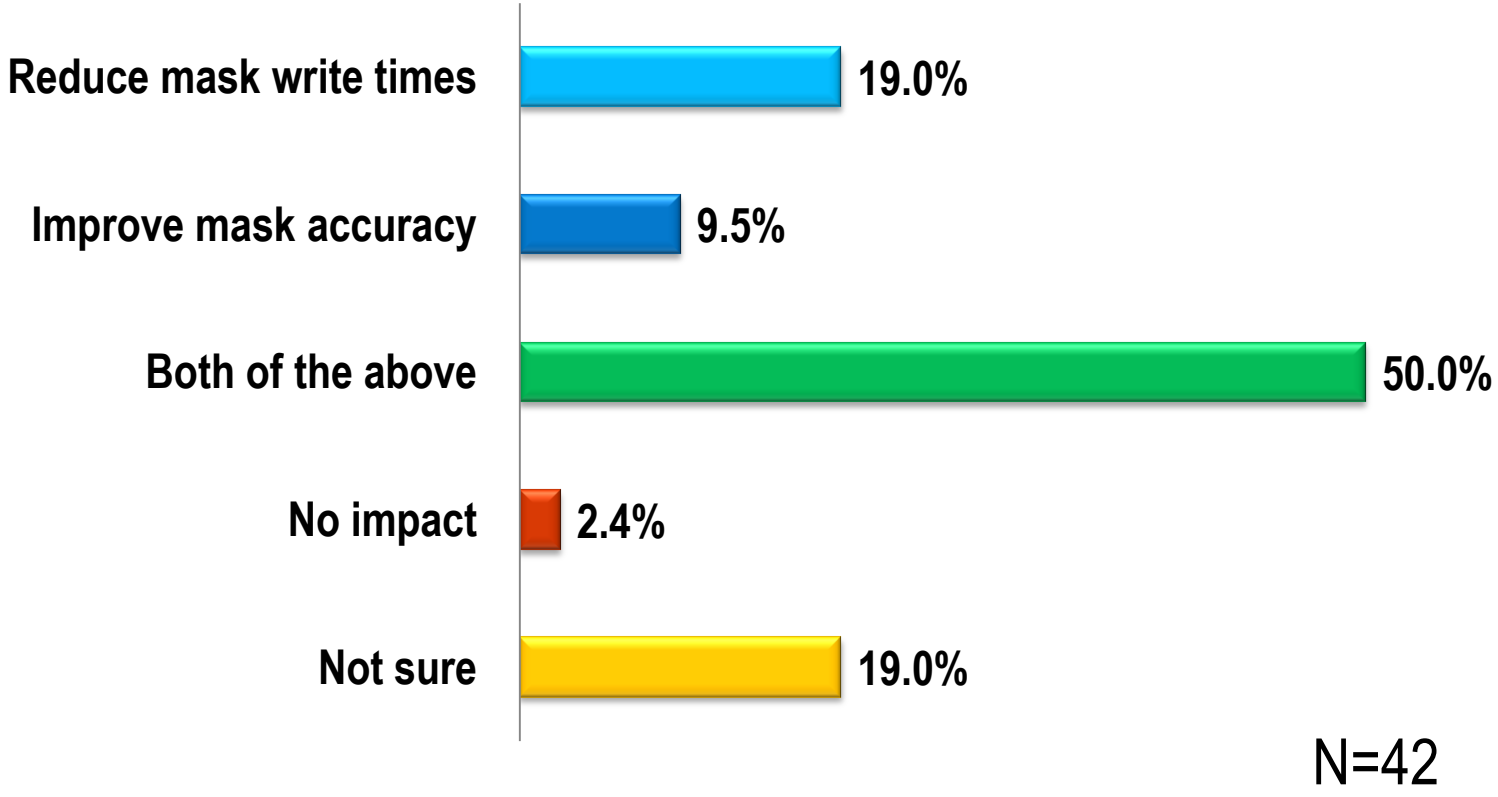


n=42

Overlapping Shots Benefits

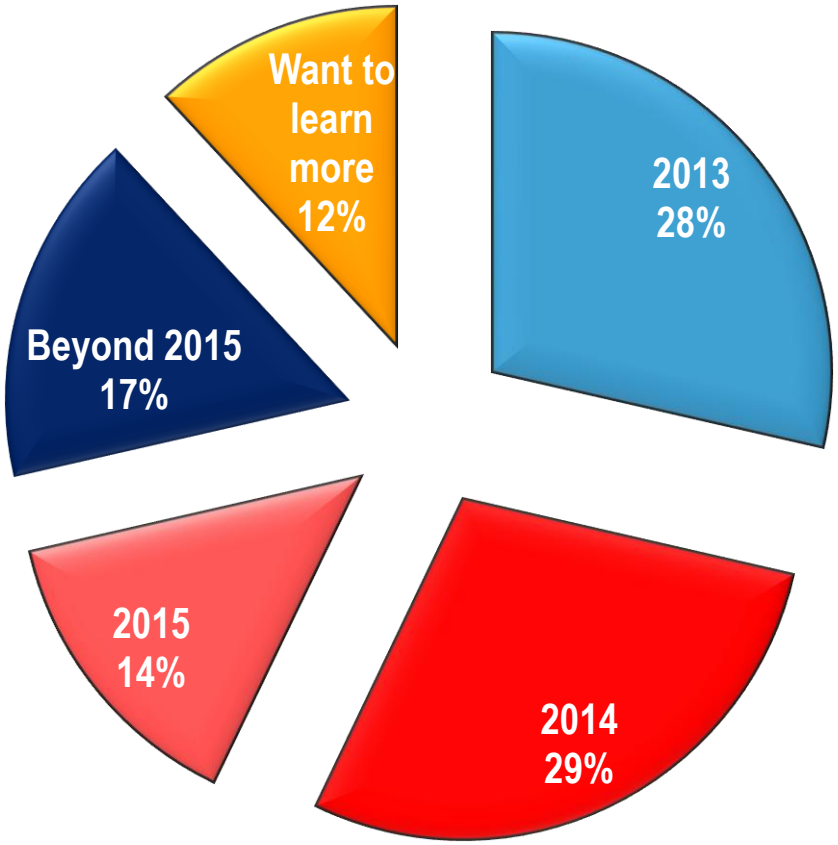
August 2012 eBeam Initiative Survey

Q: How will the usage of overlapping VSB shots impact mask making?



Shape-Dependent Mask CDU Impact

Q: When will MDP need to change in order to account for shape dependent mask CDU?



n=42

Your Views About EUV

August 2012 eBeam Initiative Survey

Q: In what year do you predict EUV will be used in volume production? Please specify for memories, SoC

- **54% said:**
  - EUV for memories *or* SoCs by 2016
  - Majority in this category predicted memory first
- **30% said:**
  - EUV for memories *or* SoCs by 2017 or beyond
  - Several in both groups questioned if ever for SoCs
- **11% said:**
  - never for both

n=42

Thank you to those who participated in the survey!

Feedback and questions for future surveys welcome – send to jan@williscalibra.com