

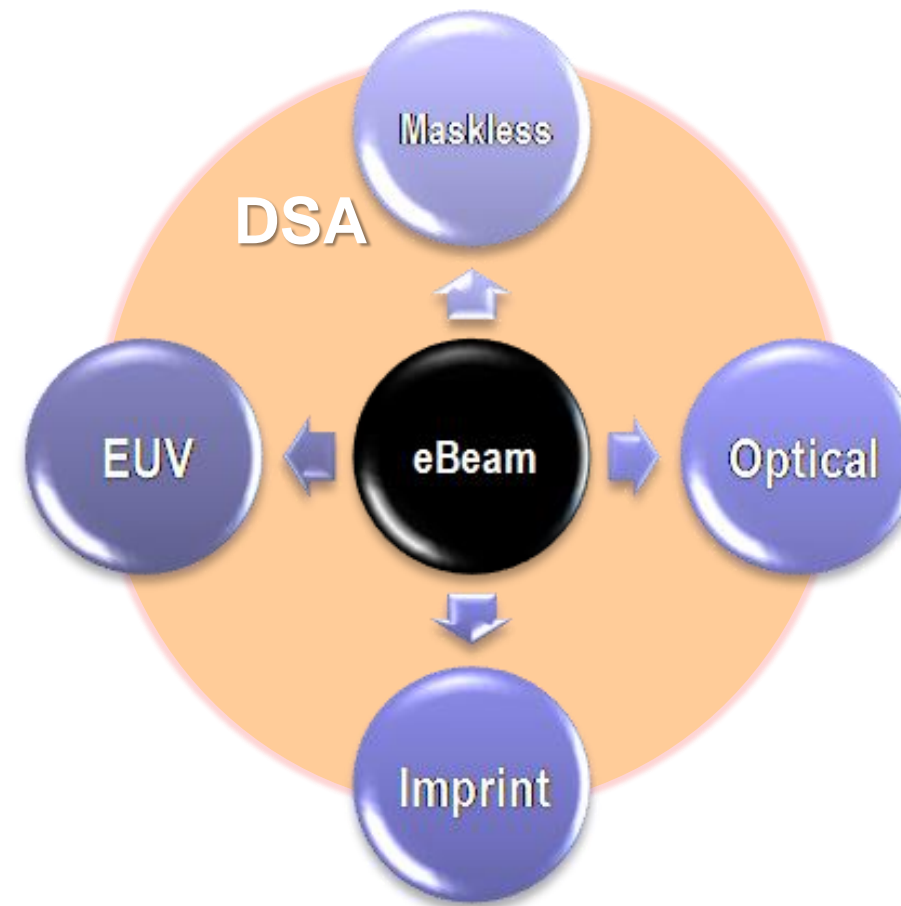
An Invitation to Join Us

Please contact Jan Willis
jan@williscalibra.com

eBeam Writes All Chips

The eBeam Initiative:

- Is an educational platform for eBeam technology and its impact on all lithography approaches
- Open to any company in the semiconductor design chain with an interest in eBeam technologies



49+ Member Companies & Advisors



John Chen



Hugh Durdan



Jean-Pierre Geronimi



Colin Harris

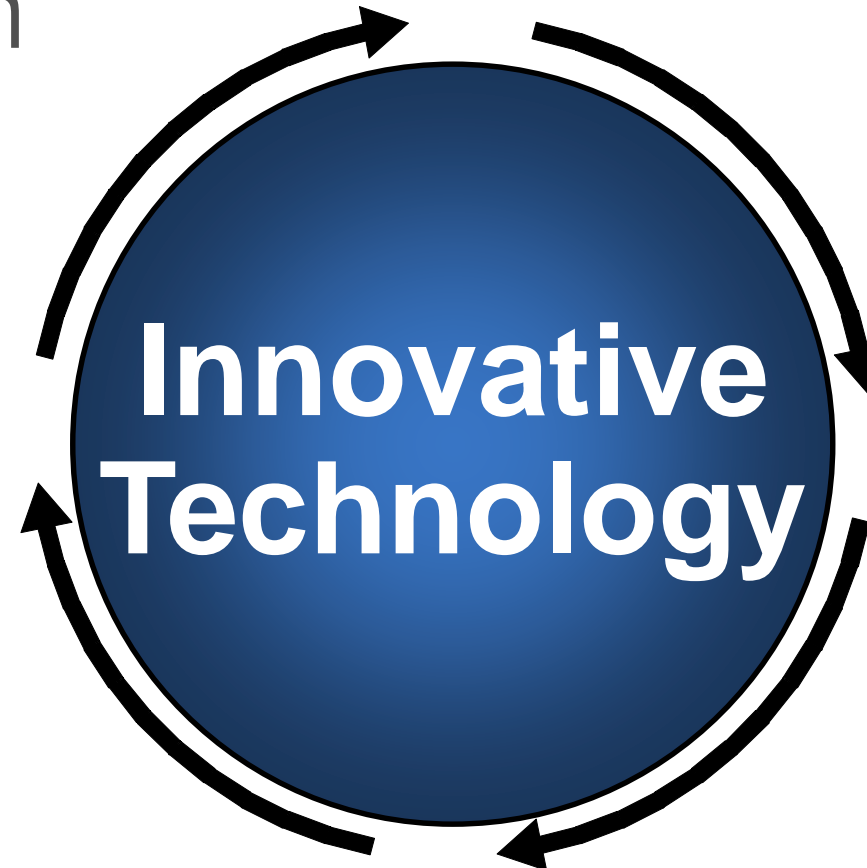


Riko Radojcic



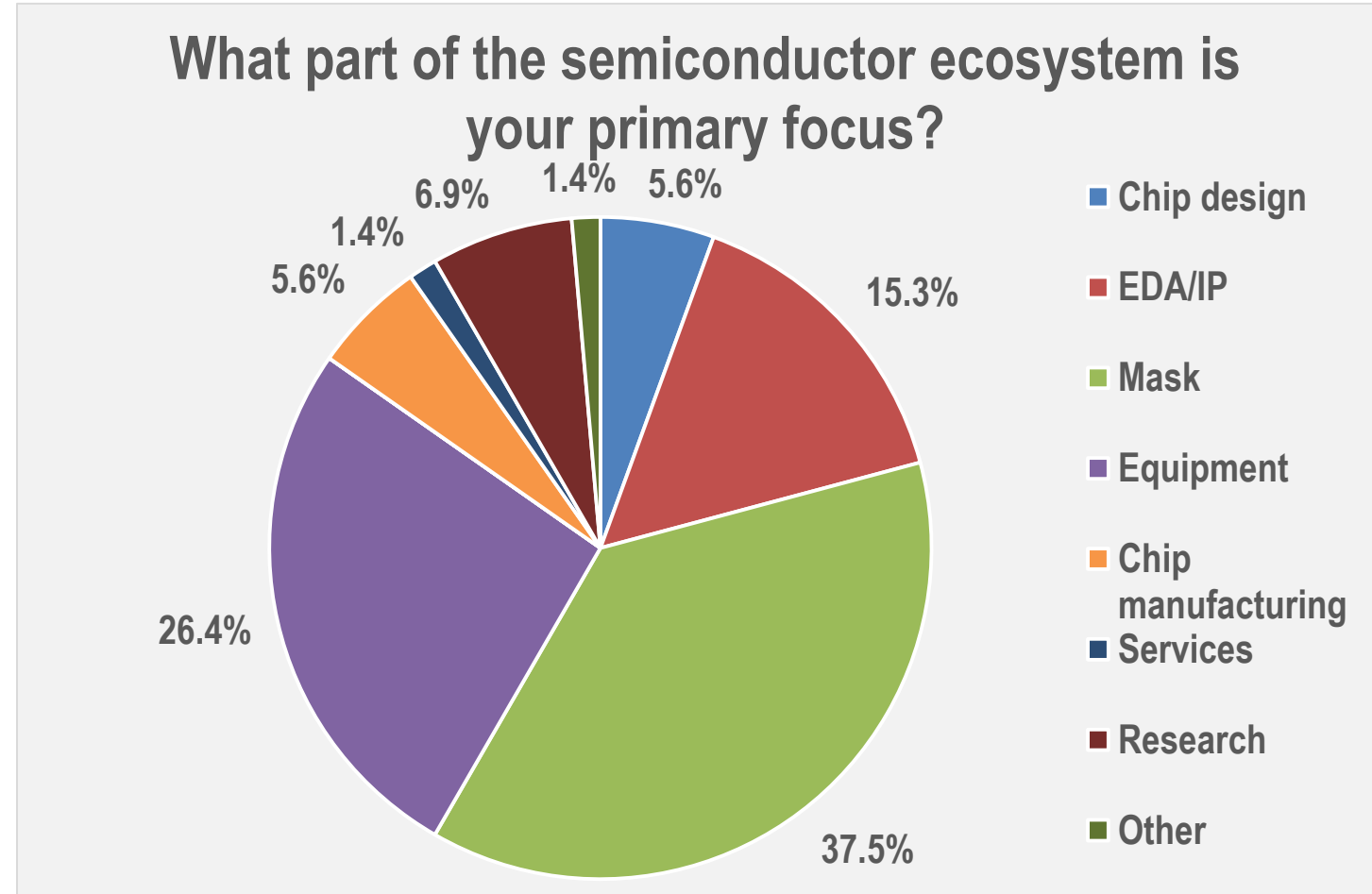
Collaboration is our Goal

- Accelerates Technology Momentum
- Removes Barriers to Adoption
- Requires leadership



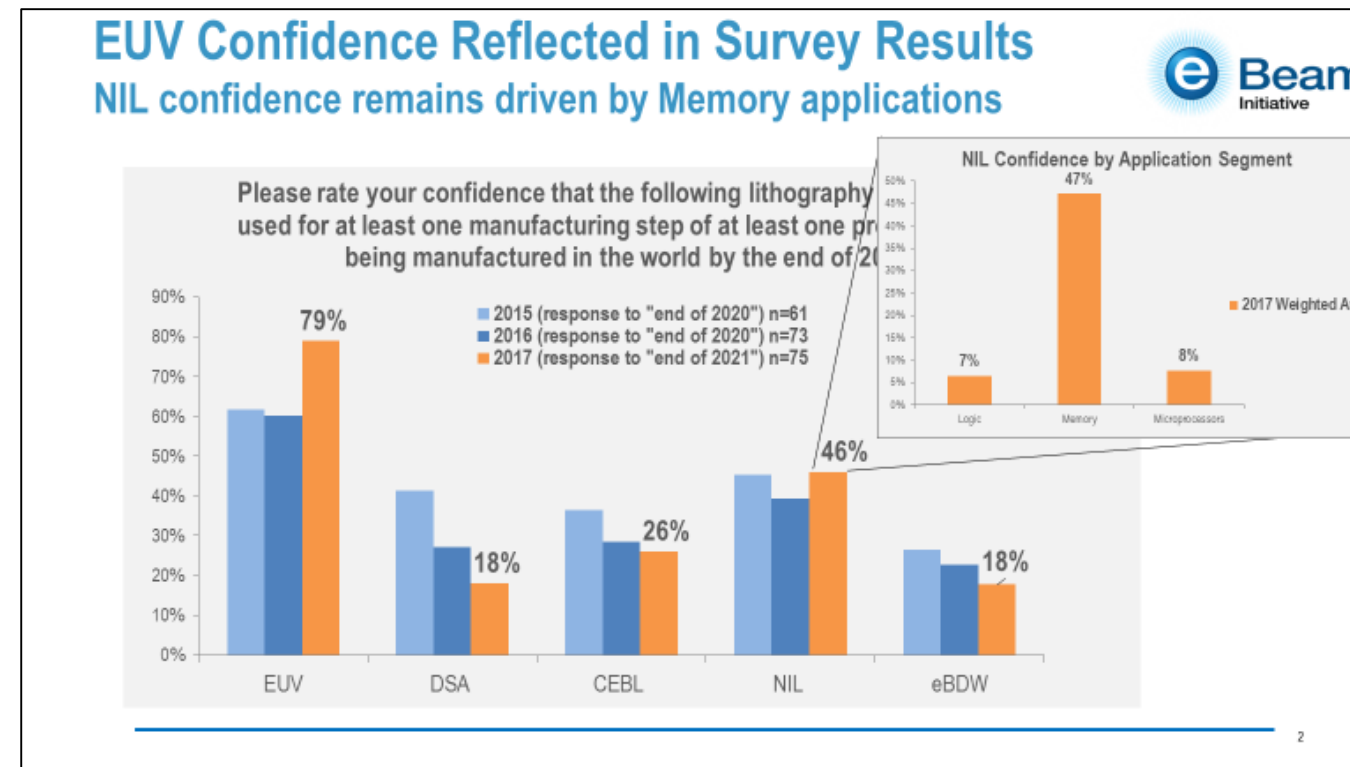
We Survey Luminaries Annually

- Unique survey of industry luminaries
- 72 participated representing 39 companies in 2018



“Chip Execs More Bullish on EUV”

- “Survey takes temperature on litho, masks”
 - Article by Rick Merritt, EE Times, Sept. 11, 2017
- See All Perceptions Surveys at www.ebeam.org



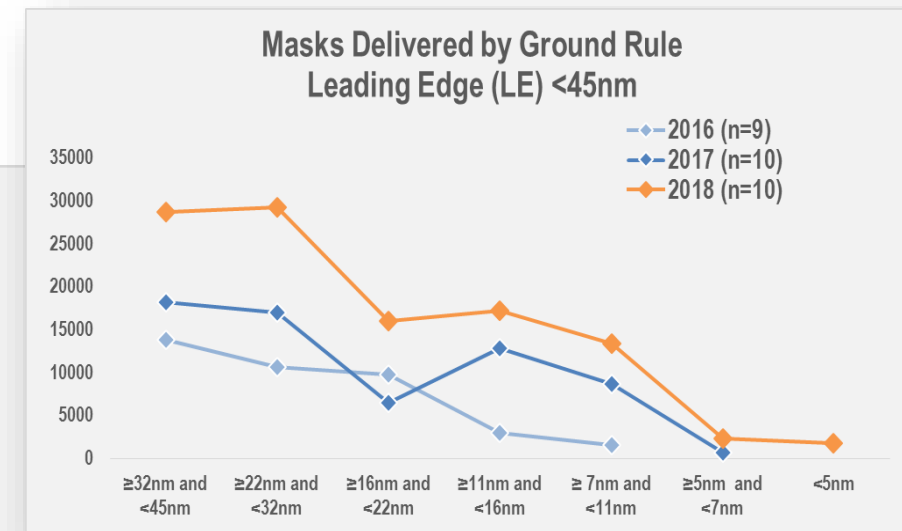
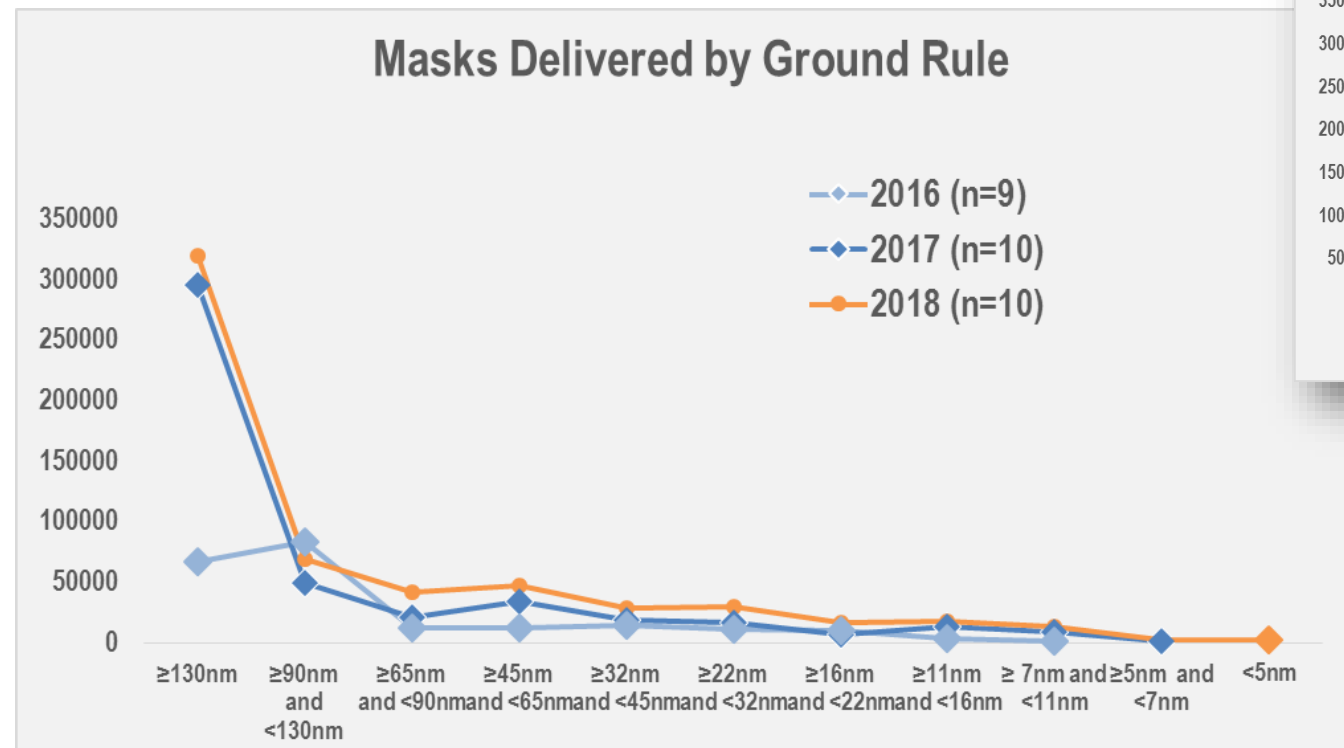
We Were Asked to Run Industry Mask Survey



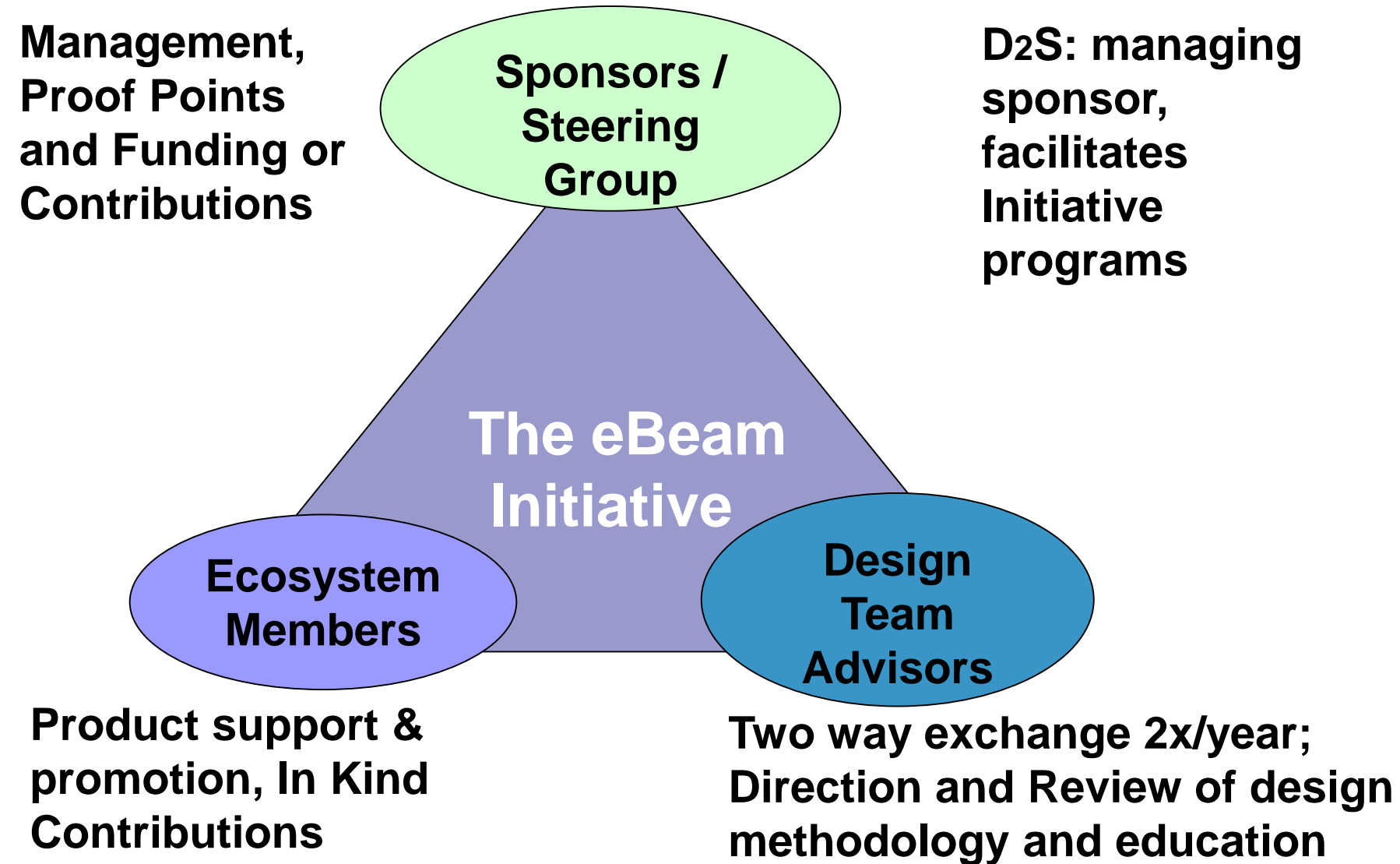
- **2015: A few questions and 8 participating mask makers**
 - AMTC, DNP, GLOBALFOUNDRIES, HOYA, Photronics, Samsung, SMIC and Toppan
- **2016: More questions and more mask makers added**
 - AMTC, DNP, GLOBALFOUNDRIES, HOYA, Intel, PDMC, Photronics, Samsung, SMIC and Toppan participated
- **2017: 10 participating mask makers**
 - AMTC, DNP, GLOBALFOUNDRIES, Intel, PDMC, Photronics, Samsung, SMIC, TMC and Toppan
 - ~118% increase in masks reported => year-to-year comparisons need some care
 - Collected data are “for the last 12 months (July 2016-June 2017)”
- **2018: Same 10 participating mask makers**
 - AMTC, DNP, GLOBALFOUNDRIES, Intel, PDMC, Photronics, Samsung, SMIC, TMC and Toppan
 - 27% increase in masks reported
 - Collected data are “for the last 12 months (July 2017-June 2018)”

Anonymity Protected by 3rd Party

- David Powell, Inc collects the survey data
- Full Mask Maker Surveys at www.ebeam.org



The eBeam Initiative Structure



Ecosystem In Kind Contributions

No Fees - This is the goal



Negotiated in each case:

- Methodology/Education:
 - Contributes to and/or reviews methodology guides/white papers
 - At least one technical paper, presentation, video contribution on eBeam solutions at www.ebeam.org
- Marketing:
 - New member listed in eBeam Initiative announcement
 - New member name included in boilerplate
 - New member logo on the website



Beam
Initiative