



INTEGRATED MEASUREMENT ASSOCIATION

Respondent Information:

Date submitted: _____

1. Name _____

2. Company _____

3. Title _____

4. E-mail _____

5. Phone _____

6. APC designation

User Supplier Other _____

7. May we contact you for a follow-up interview?

Yes No

8. Would you like to designate someone else in your organization for follow-up?

i. Name _____

ii. E-mail _____

iii. Phone _____

9. May we include your name and your company name when presenting this information outside of the IMA?

i. Yes No

ii. E-mail _____

Questions: Part I—Virtual Metrology

1.) What is Virtual Metrology? A complete definition is not necessary, but include aspects of the definition that you feel are important

2.) Virtual Metrology capabilities

- Utilizes equipment and/or process fault detection or SPC summary data as an input?
 - i. Yes No Optionally

- Utilizes equipment and/or process trace data as an input?
 - i. Yes No Optionally

- Provides output in a form and frequency consistent with a real metrology system (e.g., that could measure every wafer with near-zero delay)?
 - i. Yes Provides outputs in a different form and/or frequency;

- Provides the following outputs?
 - i. Metrology prediction Required Optional
 - ii. Prediction accuracy indication Required Optional
 - iii. Other 1: Required Optional

 - iv. Other 2: Required Optional

 - v. Any other comments on outputs:

- Communications structured to augment existing metrology?
 - i. Yes No (never) Optionally

4.) Virtual Metrology communications standardization

- An extension of E133 (PCS standard) seems like a natural place for a virtual metrology standard. Are there any other standards that should be impacted by a virtual metrology standard? How?

5.) Additional comments. Feel free to provide any additional information you feel is important, including additional questions that you feel the survey should include.

Questions: Part II—Emerging Markets for APC

1.) What semiconductor emerging markets (e.g., Solar, LED display, LCD, etc.) do you see APC providing benefit. If possible please rank these markets in terms of where you think APC would have the most impact. Include in the ranking “semiconductor manufacturing” as one of the markets so we can compare impacts. Provide additional information on each market except for semiconductor.

- Market #1: _____
 - i. What key pain points would be addressed by APC?
 - ii. Rank importance of APC technologies (R2R control, FDC, SPC, and possibly fault prediction) as to their expected impact on the market
 - iii. Are you aware of any APC implementations in this market? If so, what processes, technologies, benefits, etc.?

iv. What do you think this market should do next with respect to APC, e.g., what technology, process, and/or pain point should be the focus?

v. Are you aware of any organizations similar to SEMI or the ITRS, that should be involved in the development/standardization of these technologies in this new market? If so please provide name and contact info of the organization if possible

➤ Market #2: _____

i. What key pain points would be addressed by APC?

ii. Rank importance of APC technologies (R2R control, FDC, SPC, and possibly fault prediction) as to their expected impact on the market

iii. Are you aware of any APC implementations in this market? If so, what processes, technologies, benefits, etc.?

iv. What do you think this market should do next with respect to APC, e.g., what technology, process, and/or pain point should be the focus?

➤ Market #4: _____

- i. What key pain points would be addressed by APC?

- ii. Rank importance of APC technologies (R2R control, FDC, SPC, and possibly fault prediction) as to their expected impact on the market

- iii. Are you aware of any APC implementations in this market? If so, what processes, technologies, benefits, etc.?

- iv. What do you think this market should do next with respect to APC, e.g., what technology, process, and/or pain point should be the focus?

- v. Are you aware of any organizations similar to SEMI or the ITRS, that should be involved in the development/standardization of these technologies in this new market? If so please provide name and contact info of the organization if possible

➤ Market #5: _____

- i. What key pain points would be addressed by APC?

- ii. Rank importance of APC technologies (R2R control, FDC, SPC, and possibly fault prediction) as to their expected impact on the market

