

# e-Manufacturing Workshop Summary

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# References

- **SEMI EDA standards: E120, E125, E132, E134**  
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# Key ISMI Member Company Messages

1. **Interface A (aka EDA) provides rich data at high throughput to enable both IC makers and suppliers to improve manufacturing performance. This will be THE data acquisition mechanism going forward.**
2. **Interface A standardization is complete, supplier community is implementing, & IC makers are deploying.**
3. **The ISMI member companies are collaborating with suppliers to mature and deploy Interface A implementations for mutual success.**
4. **ISMI is evaluating production-level Interface A implementations.**
5. **ISMI member companies and non-members requiring Interface A on equipment purchases.**

# Value Proposition

Interface A utilizes mainstream computing technology

- Common interface based on web technology
- Operating system and network neutral standard way for complex equipment and factory applications to interoperate
  - Security mechanisms ensures only authorized access to equipment
  - Moves forward from the proprietary SECS model of communication starting with low-risk high-value data acquisition while retaining equipment control
- Eases the recruiting, training, and retention of software engineers
- High throughput data (of the order of 10,000 values per second)
  - Support for high data rate consumers: FDC, R2R
  - Satisfies data collection requirement for fast process steps

# Value Proposition

Interface A separates data acquisition from SECS equipment control

- Frees up control port for more consistent and speedier response
  - Enables tighter, more fine grained process control
- Allows data consumers to interrogate equipment to determine its structure and data, and then have direct access to equipment data and be in control of their own data collection
  - Discovery and usage of data (e.g., configuration, parameters, events, alarms, trace data, state models) can be automated, without requiring human intervention
    - Reduces equipment characterization and integration time
  - Reduces need for hardcopy manuals
  - Provides context (job, chamber, lot) which makes the data usable
    - Reduces dependence on error-prone manual operator input
- Supports customized data collection plans
  - Collect trace data at less than 1 second
    - Trigger start/stop based on an event
  - Reduces load on equipment as all data need not be collected always
  - Real-time definition supporting ad hoc data collection, frees up waiting for IT staff
- Supports sharing equipment data with multiple Interface A Clients simultaneously

# Value Proposition

Interface A allows independent, multiple clients

- Add clients without sharing SECS data stream
- Creation of new applications are now possible based on more and better data, e.g., preventive/predictive maintenance, tool-to-tool matching, spare parts management
  - Enabler for remote diagnostics, thereby reducing equipment downtime and MTTR
- Applications can access data without being part of the MES
- Allows both application and equipment suppliers to develop systems and applications independently, supporting productivity improvements
- Provides the ability to leverage applications from other industries
- Unified application interface for data collection

# Conclusion

- *Interface A enables transmission of process and equipment data for e-Manufacturing, APC, equipment health monitoring, and other equipment productivity enhancement applications*
  
- **Interface A is being deployed!**